
**CONTROL USER
GUIDE**

PROJECT COST MANAGEMENT

INEIGHT 

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INEIGHT CONTROL OVERVIEW

LESSON DURATION: 30 MINUTES

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Describe the InEight cloud platform and how it relates to your project management process
- Define InEight Control and its purpose

LESSON TOPICS

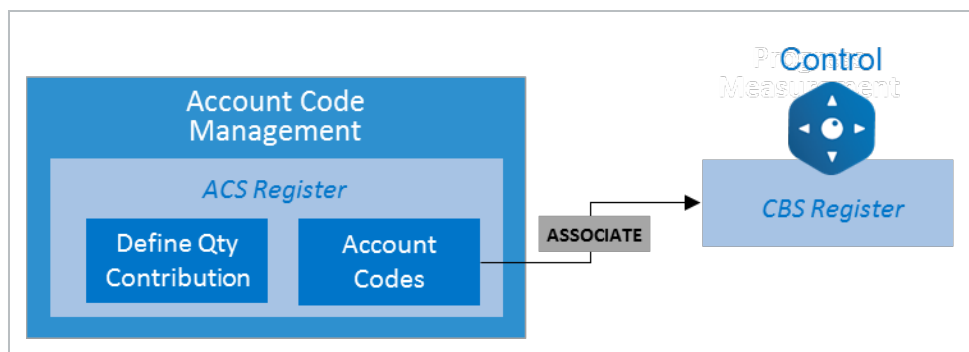
1.1 INEIGHT CONTROL OVERVIEW

As one of the applications within the InEight portfolio of products, InEight Control is a project management tool used for:

- Managing account codes
- Measuring progress
- Forecasting final man-hours and costs
- Managing revenue
- Managing budget/contract changes

1.1.1 ACCOUNT CODE MANAGEMENT

Within InEight Control, you can define and assign account codes to your cost items. This association can be synced to your ERP, and can also be used to benchmark data with other projects.

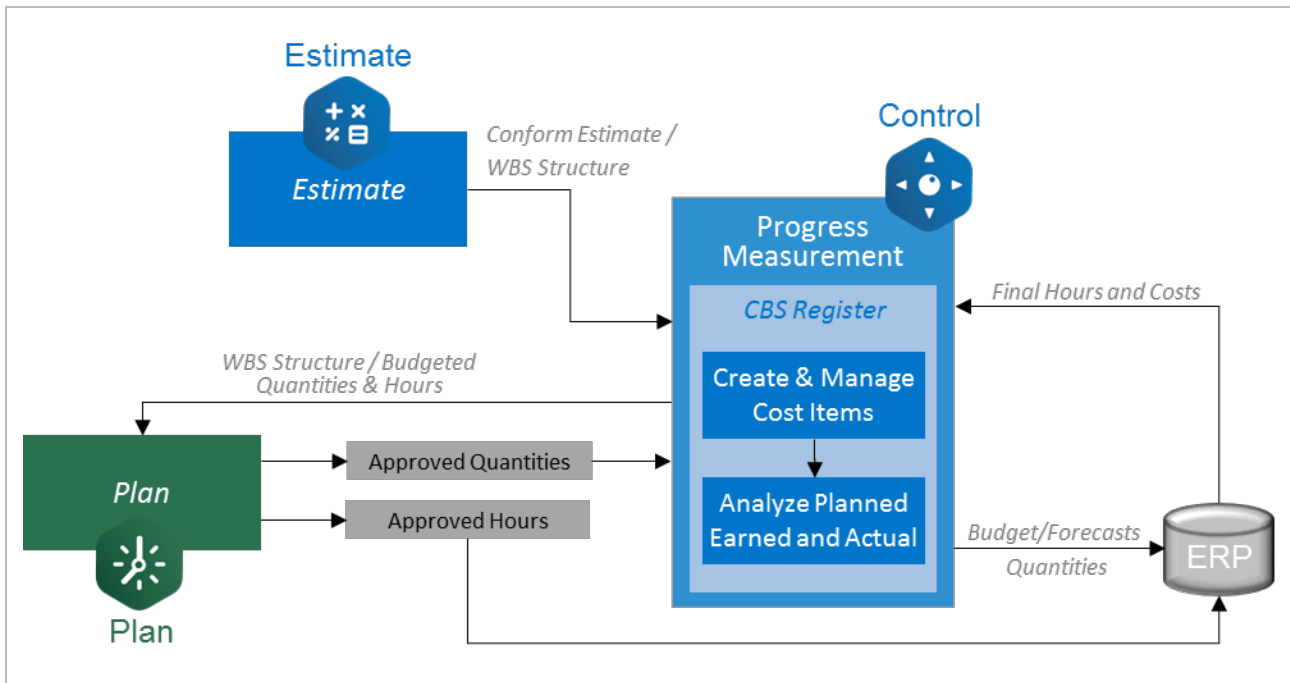


1.1.2 PROGRESS MEASUREMENT

InEight Control is the application where your Cost Breakdown Structure and budget are established and where you can monitor project progress. You can:

- Import your conformed estimate and structure from InEight Estimate
- Create and manage cost items
- Import approved quantities from InEight Plan
- Import final hours and costs from your ERP system
- Track your actuals and compare them against your Current Budget and earned values

The following workflow illustrates how these functions relate and pass information between systems.



You can utilize this information to analyze trends, track productivity factors, and measure progress.

Tasks			Progress Overview				
CBS Pos..	Description	% Complete	C B-Total C..	C B-Earned Total ...	Total Cost (To Date)	C B-Total Cost G/L (T..	
▼1	Infrastructure	0.01	\$14,193,548.20	\$80,054.65	\$3,000.00	\$77,051.61	
1.1	Mobilization	0.00	\$10,794.00	\$0.00	\$0.00	\$0.00	
▼1.2	West Screen Demolition	0.38	\$4,605.59	\$1,772.88	\$3,000.00	(\$1,227.13)	
1.2.1	West - Removal-Conduit	0.34	\$3,448.93	\$1,172.88	\$3,000.00	(\$1,827.12)	

1.1.3 FORECASTING

InEight Control provides options for forecasting final costs, man-hours, and productivity for your project.

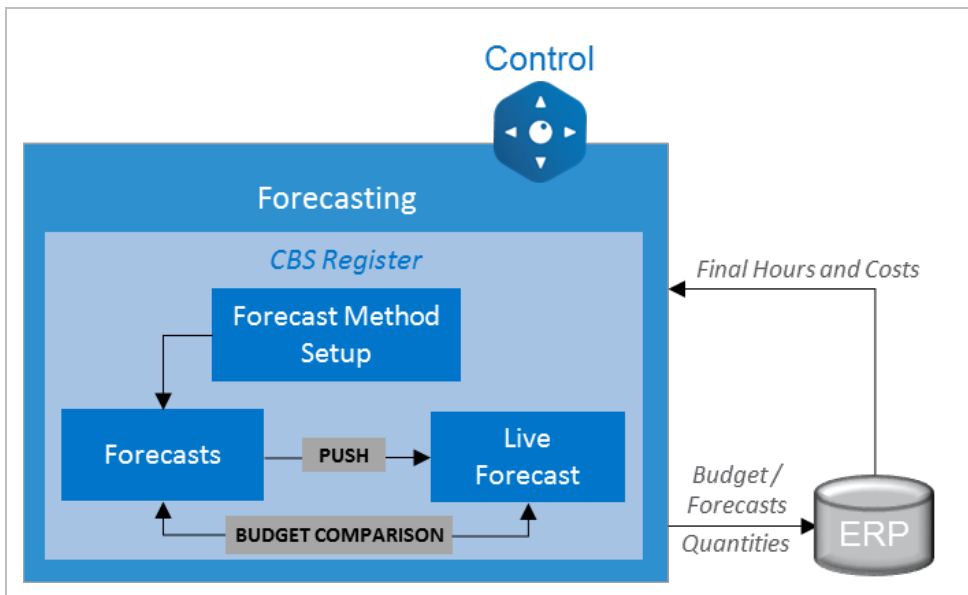
Tasks		Task details			Forecast Created from Live forec...			
CBS position	Description	Resource	Forecast (T/O) quantity	UoM	Forecast final cost	Forecast final Mhrs	Forecast final man hours/Unit	Forecast final productivity factor
2	Earthwork	5	10,000.00	CY	\$ 400,000.00	8,000.00	0.80	1.00
3	Concrete	6	10,000.00	CY	\$ 1,500,000.00	30,000.00	3.00	1.00
4	Structural Steel		1,000.00	Ton	\$ 1,000,035.71	20,000.71	20.00	1.00
4.1	Erect Steel - Heavy	5	800.00	Ton	\$ 800,000.00	16,000.00	20.00	1.00
4.2	Erect Steel - Light	5	200.00	Ton	\$ 200,000.00	4,000.00	20.00	1.00
4.3	Bolted Connections	8	2,000.00	Ea	\$ 35.71	0.71	0.00	1.00

You can forecast your remaining work based on any of the following Forecast Methods:

- Current Budget
- Current Estimate
- Average performance
- Committed Cost
- Manual Entry

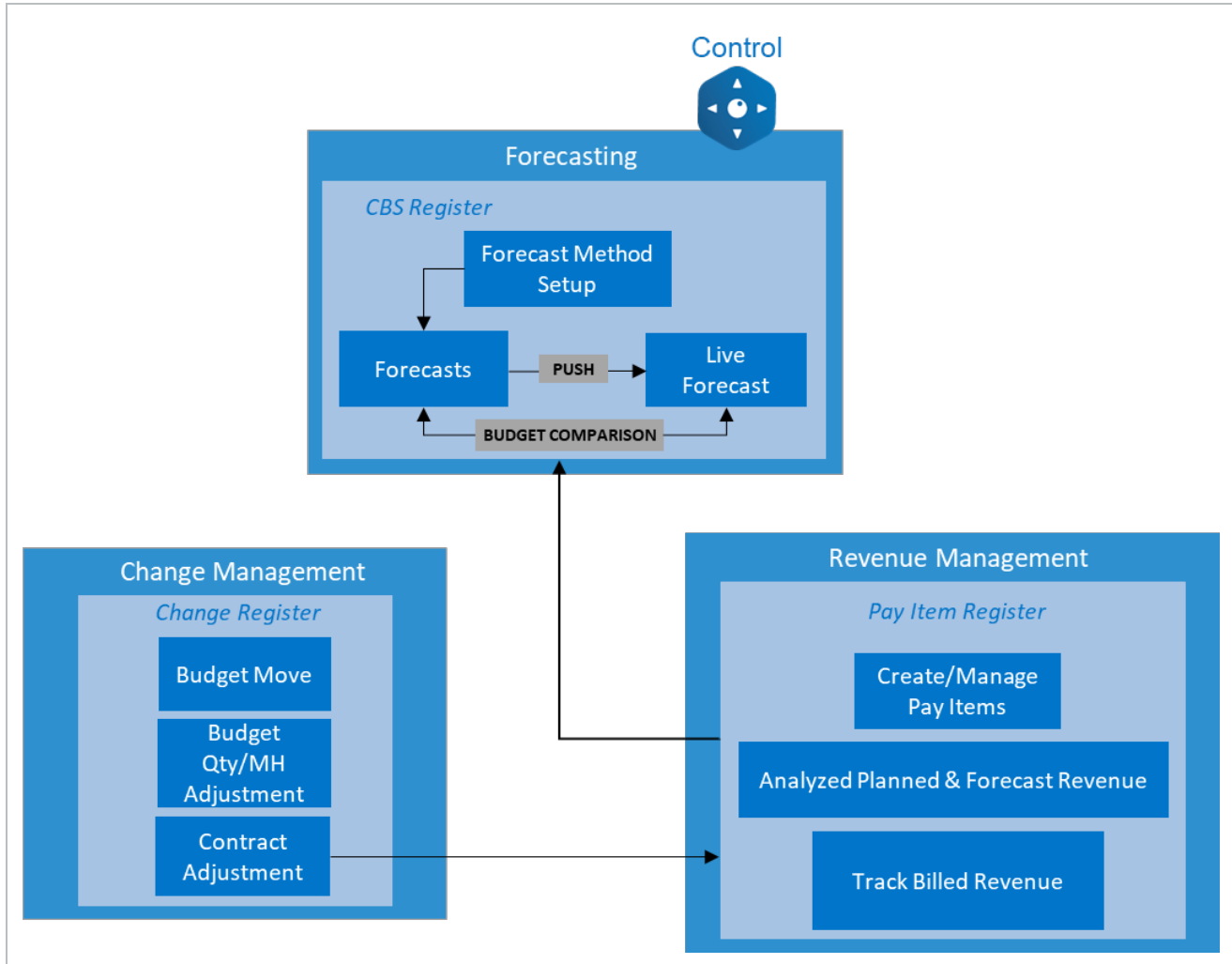
You can save private forecasts, share them with others, and push them to a “live” forecast which can be reviewed by all and used for official reporting. You can also compare the Live Forecast to other forecasts created, for example to compare to the previous month’s forecast.

The workflow diagram below illustrates how forecasting functions relate to the rest of InEight Control and other systems.



1.1.4 REVENUE MANAGEMENT

Within InEight Control, you can create and manage pay items for tracking pay quantities, actual and forecasted revenue, and how much has been billed to the client.



1.1.5 CHANGE MANAGEMENT

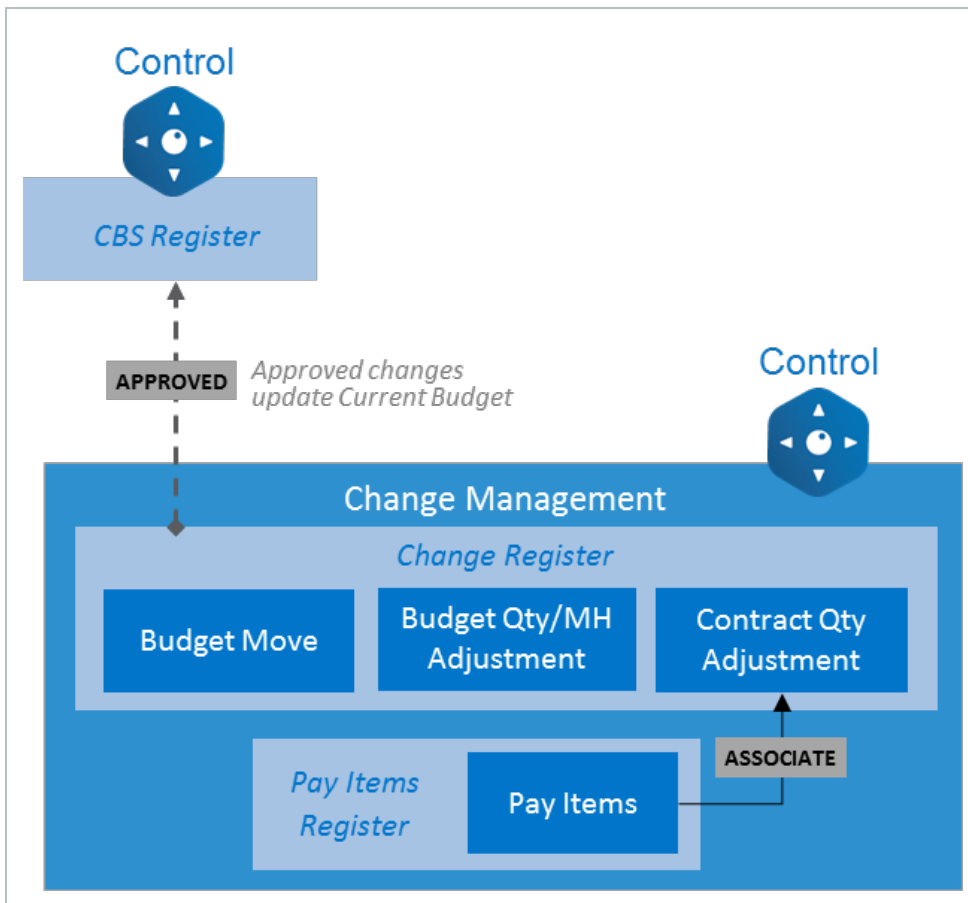
InEight Control allows you to manage changes to quantities, man-hours, and costs in each cost item as needed during the execution of the project. You can make three different kinds of changes within the Change Management register:

- **Budget move** – Movement of costs between cost items where the total dollars moved must balance to zero. There is no revenue associated with this type of change

- **Budget quantity and man-hour adjustment** – change to quantities or man-hours within the project without changing costs
- **Contract adjustment** – both the budget and the revenue either increase or decrease and are not required to be a net zero transaction. You will associate pay items with the change order to reflect the revenue change

Approved changes update your Current Budget within the CBS register.

The below workflow shows the relationship of Change Management to the rest of InEight Control.

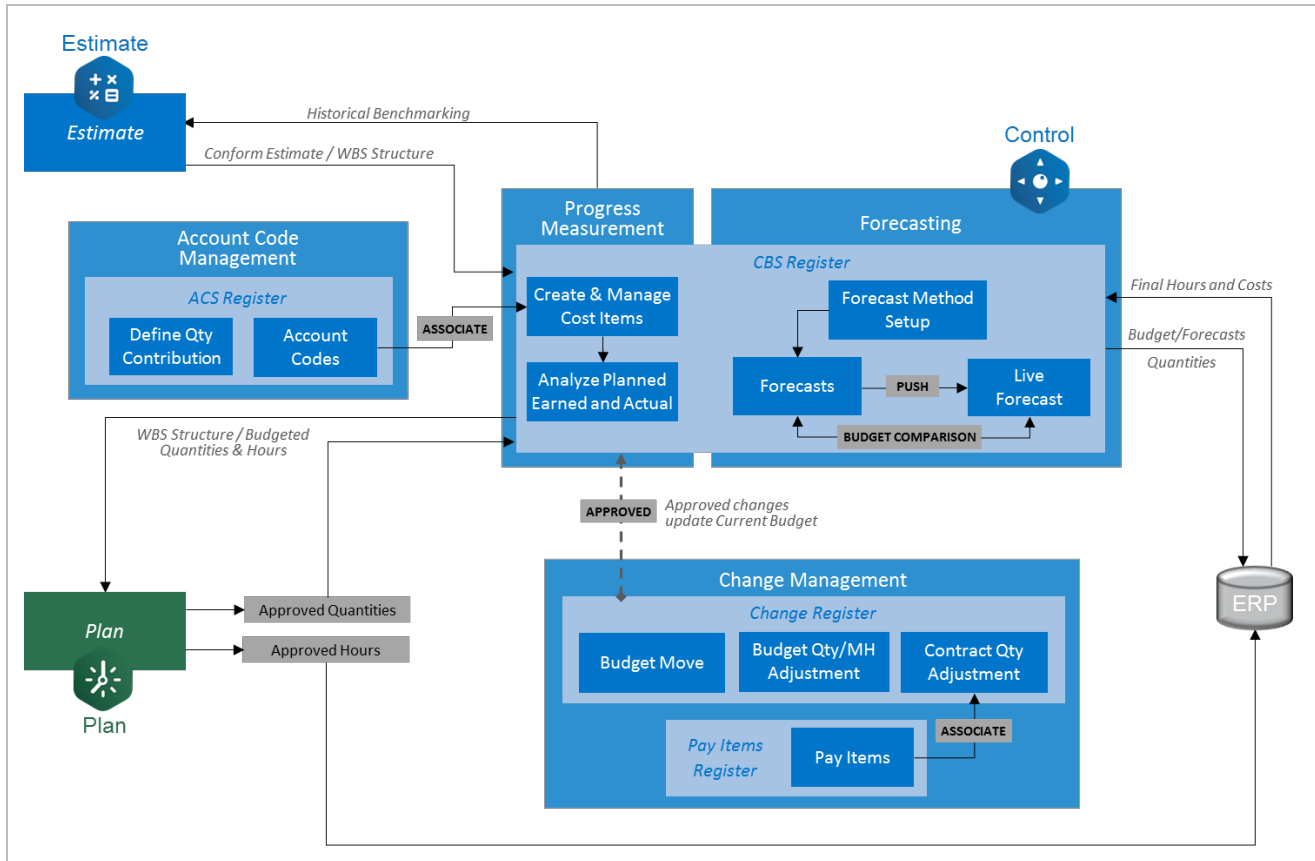


Below is an example of what the Change Register looks like in InEight Control.

Change Register						
ID	CCO	Issue #	Description	Type	Discipline	Total Budget \$ adjust
20.0	001	001	Increase budget in the code for Plan and Progress	Contract adjustment	1	\$4,800.00
21.0			Increase budget quantity for proper production factor	Budget Qty&MH adjustment	1	\$0.00

1.1.6 INEIGHT CONTROL WORKFLOW

The following workflow illustrates how all the functions of InEight Control work together.



REVIEW

1. Which InEight application do you use for capturing time and quantities in the field?
 - a. InEight Control
 - b. InEight Plan
 - c. InEight Progress
 - d. InEight Inspect

2. What key data is imported from the ERP system into InEight Control? (Select all that apply.)
 - a. Costs
 - b. Quantities
 - c. Hours
 - d. Notes

3. Which of the following is NOT a function of InEight Control?
 - a. Budget Management
 - b. Daily Planning
 - c. Change Management
 - d. Progress Measurement
 - e. Forecasting

SUMMARY

As a result of this lesson, you can:

- Describe the InEight cloud platform and how it relates to your project management process
- Define InEight Control and its purpose



GENERAL NAVIGATION

LESSON DURATION: 45 MINUTES

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Navigate the InEight Control Workspaces page
- Manage columns
- Group Pay Items
- Manage data blocks
- Create viewsets
- Change row density

LESSON TOPICS

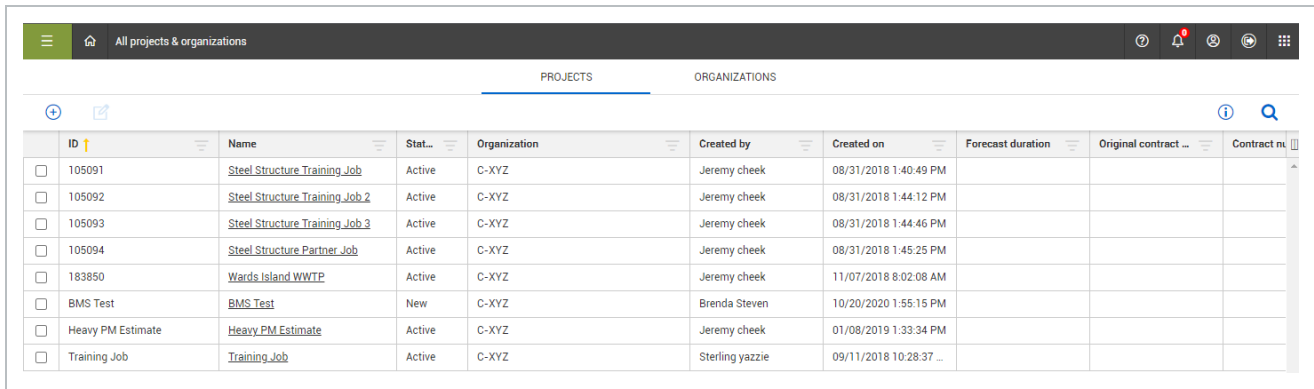
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2.1 PAGE NAVIGATION

In the following lesson, you will open the InEight cloud platform to explore the layout and start to navigate around the application. You will access InEight through your web browser, using the link provided by your manager or facilitator.

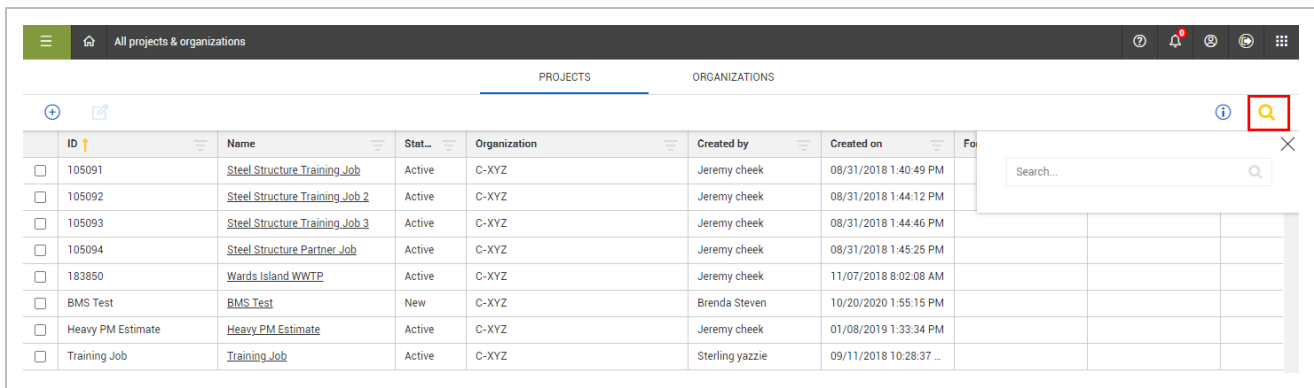
This takes you to the All projects & organizations page, where you can select any project you are associated with.



The screenshot shows the 'All projects & organizations' page in the InEight cloud platform. The page has a dark header with a home icon and the text 'All projects & organizations'. Below the header, there are two tabs: 'PROJECTS' (selected) and 'ORGANIZATIONS'. A search icon is visible in the top right corner. The main content is a table with the following columns: ID, Name, Stat..., Organization, Created by, Created on, Forecast duration, Original contract..., and Contract nu... The table contains several rows of project data.

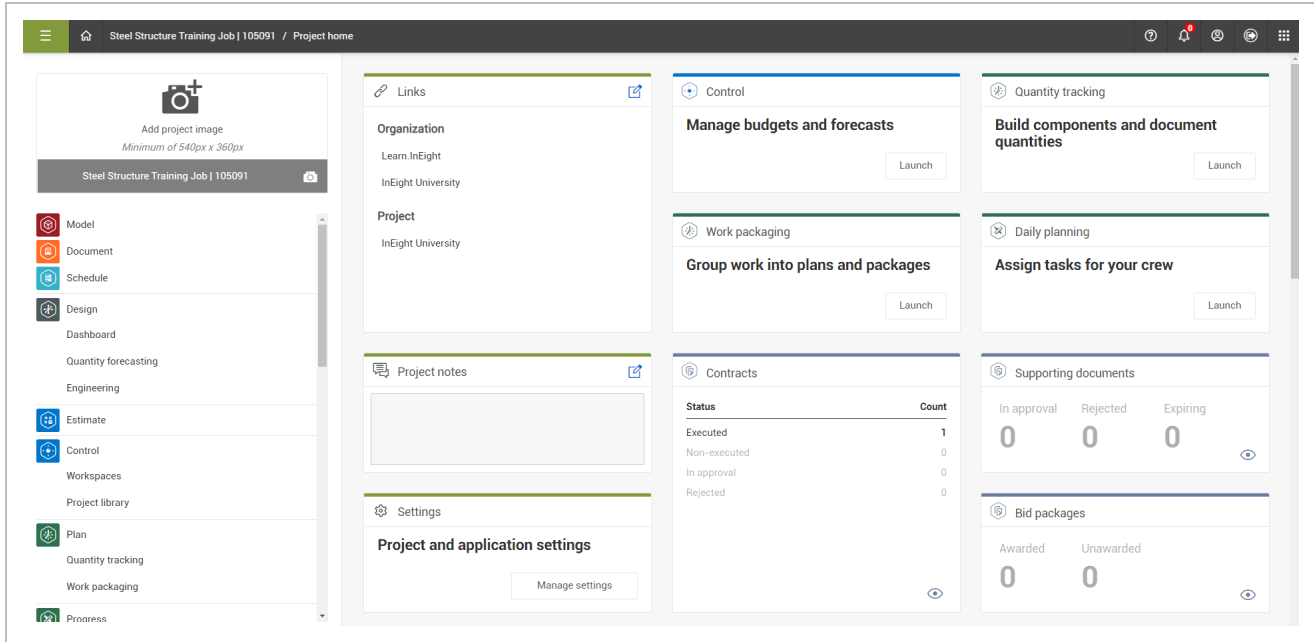
ID	Name	Stat...	Organization	Created by	Created on	Forecast duration	Original contract ...	Contract nu...
105091	Steel Structure Training Job	Active	C-XYZ	Jeremy cheek	08/31/2018 1:40:49 PM			
105092	Steel Structure Training Job 2	Active	C-XYZ	Jeremy cheek	08/31/2018 1:44:12 PM			
105093	Steel Structure Training Job 3	Active	C-XYZ	Jeremy cheek	08/31/2018 1:44:46 PM			
105094	Steel Structure Partner Job	Active	C-XYZ	Jeremy cheek	08/31/2018 1:45:25 PM			
183850	Wards Island WWTP	Active	C-XYZ	Jeremy cheek	11/07/2018 8:02:08 AM			
BMS Test	BMS Test	New	C-XYZ	Brenda Steven	10/20/2020 1:55:15 PM			
Heavy PM Estimate	Heavy PM Estimate	Active	C-XYZ	Jeremy cheek	01/08/2019 1:33:34 PM			
Training Job	Training Job	Active	C-XYZ	Sterling yazzie	09/11/2018 10:28:37 ...			

If your project is not displayed on the initial screen, you can search by selecting the magnifying glass icon in the top right corner. This search function will search all terms in all columns.



This screenshot is identical to the previous one, but with a search box open in the top right corner. The search box is highlighted with a red square, and the magnifying glass icon next to it is also highlighted. The search box contains the text 'Search...' and a search icon.

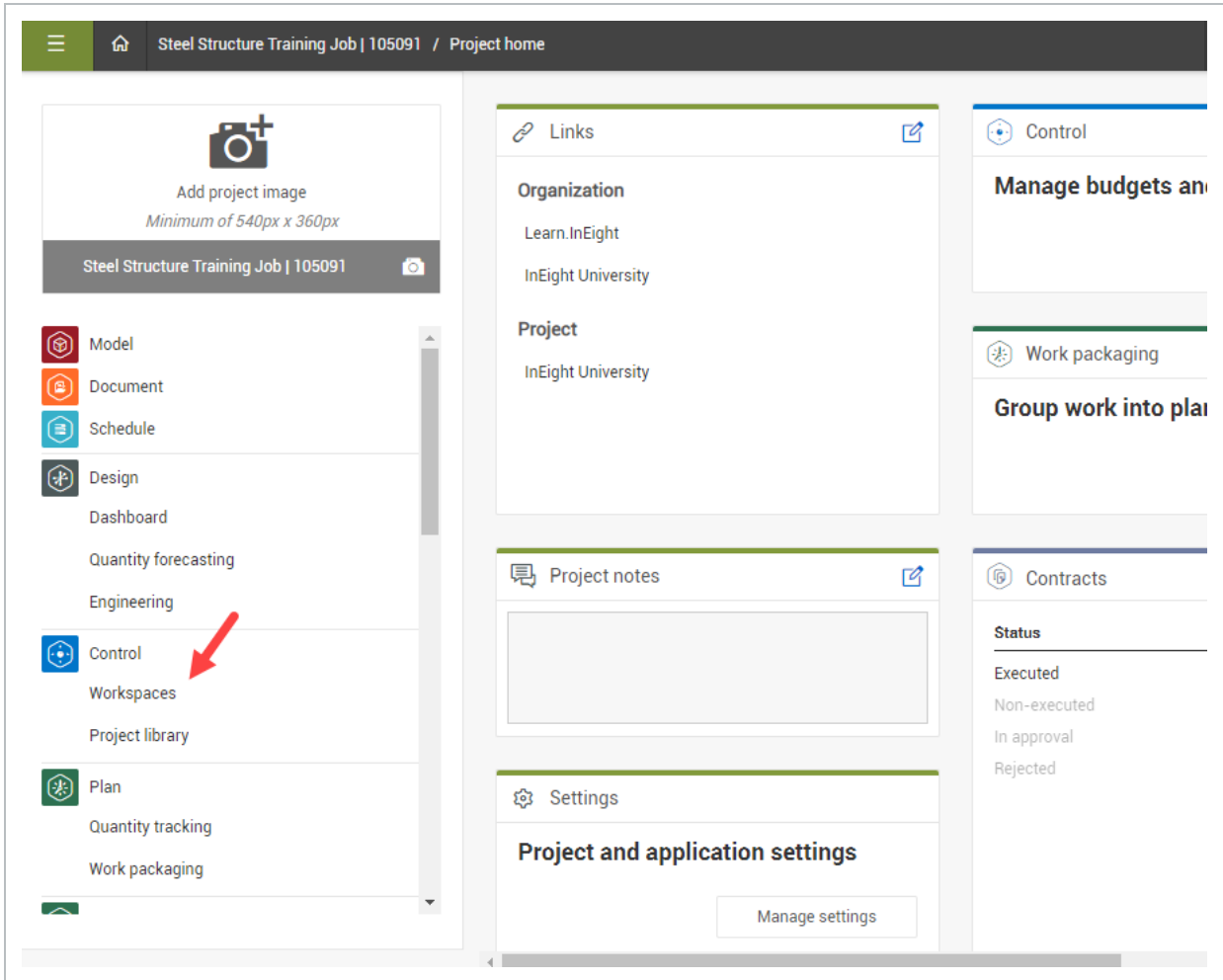
When you select a project, it takes you to the **Project home** landing page.



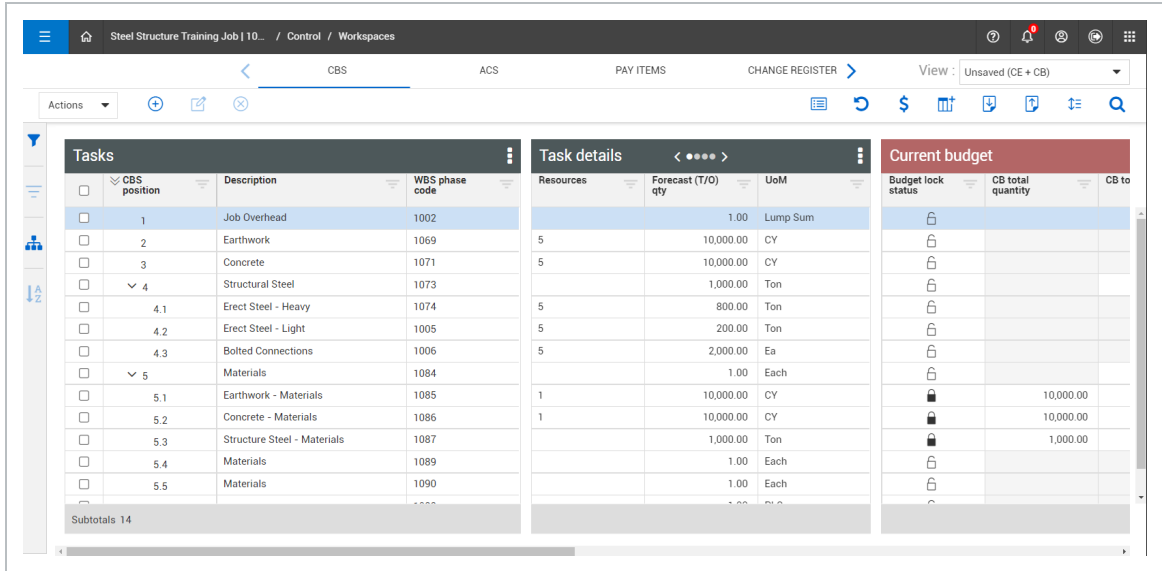
From here, you can navigate to InEight Control.

NAVIGATE THE INEIGHT CONTROL WORKSPACES PAGE

1. On the Project home screen, select **Control > Workspaces**.



- This brings you to the Workspaces page within the Control application

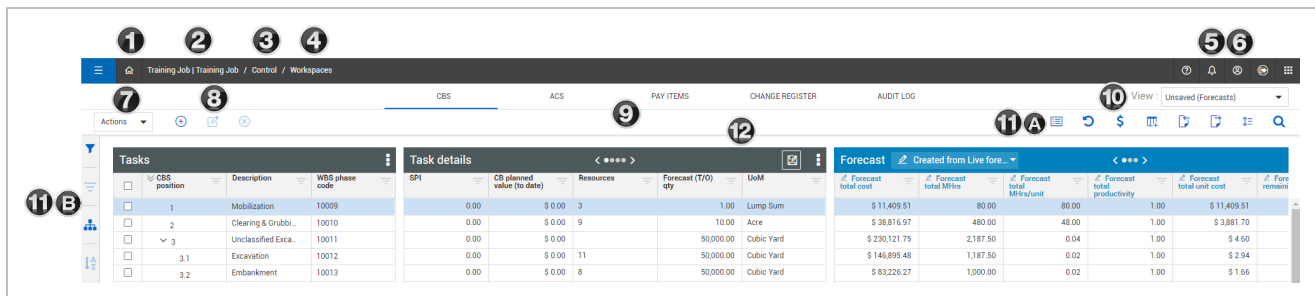


Overview - Control Workspaces Page

Title		Description
1	Home Menu	Returns to the Organization or Project home landing page
2	First Level Menu	Select an organization or project, along with other master data libraries, suite administration, and other settings, depending on your role and access.
3	Second Level Menu	Select what application you want to use (Control, Plan, etc.), as well as other project settings.
4	Third Level Menu	Navigate to separate individual modules inside each application (e.g., Contract > Bid packages, Plan > Quantity tracking). Options in this menu change based on what application you are currently using.
5	Notifications	View notifications.
6	User Profile	User profile and log out.
7	Actions Menu	Select available actions for the current register tab you are viewing.
8	Left Toolbar	Contains 3 main buttons used most commonly throughout the suite. In this case, add is used to add cost items, Edit to edit cost items, and

Overview - Control Workspaces Page (continued)

Title	Description
	delete to remove a cost item from the project.
9	Tabs Navigate to the CBS (Cost Breakdown Structure), ACS (Account Code Structure), Pay items, Change register and Audit log register pages.
10	Viewset Menu Display different preset views or create your own viewsets.
11a	Right Toolbar Contains functions for the register page you are currently viewing. (Additional information shown below).
11b	Side Toolbar Contains a filtering, CBS Tree, and sorting option.
12	Register content Where the page content displays in rows and columns, grouped together in customizable Data Blocks.



2.1.1 RIGHT TOOLBAR OVERVIEW

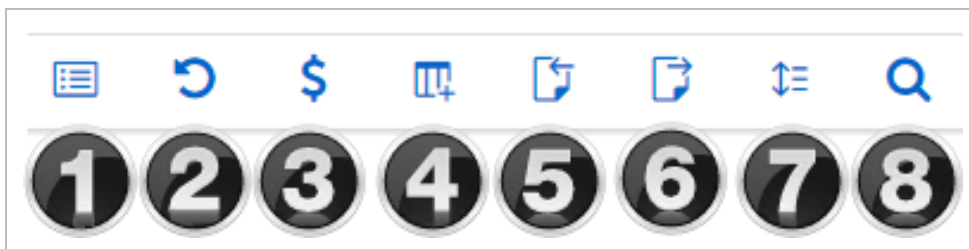
The right toolbar allows you to use functions for the register page displayed. The toolbar options will change depending on what tab you have selected (CBS, ACS, Pay Items, Change Register, Audit Log). You will most commonly use the right toolbar for the CBS register page:

Overview - Workspaces Page CBS Tab - Right Toolbar

Icon	Function
1	Group Columns Allows users the ability to group rows of the cost breakdown structure by like information from selected columns.
2	Undo Undo button to undo changes.

Overview - Workspaces Page CBS Tab - Right Toolbar (continued)

Icon		Function
3	Display Currency	Change currency displayed in data blocks.
4	Add Data Block	Add a data block to your register view.
5	Import	Import CBS Data or Actuals from an Excel File.
6	Export	Export your register view to an Excel file. Only the data blocks currently displayed on the page will be exported to the file.
7	Row Density	Adjust the line height at which the register content is displayed. Options are relaxed, narrow, or tight. Allows for more lines to be viewed on the page if desired.
8	Find	Find value in register content by selecting a data block column, selecting either the Begins with or Contains criteria, then entering the value to search for.



2.2 COLUMNS/GROUPING/SORTING

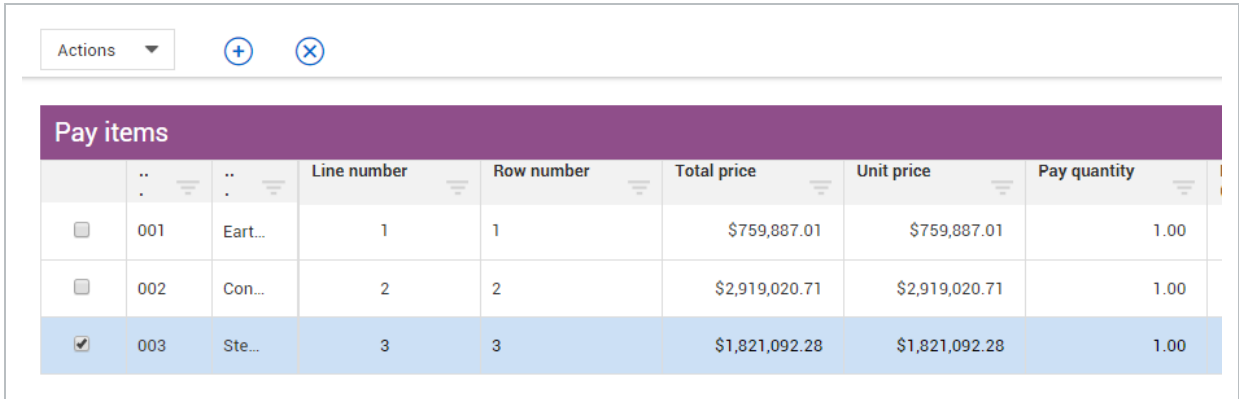
InEight Control allows you to customize columns in your data blocks according to your preferences. Changes made to the placement of your columns will be retained the next time you access any page you have customized.

2.2.1 MOVE COLUMNS

You can move a column from one place to another to customize your view using drag and drop.

MOVE COLUMNS

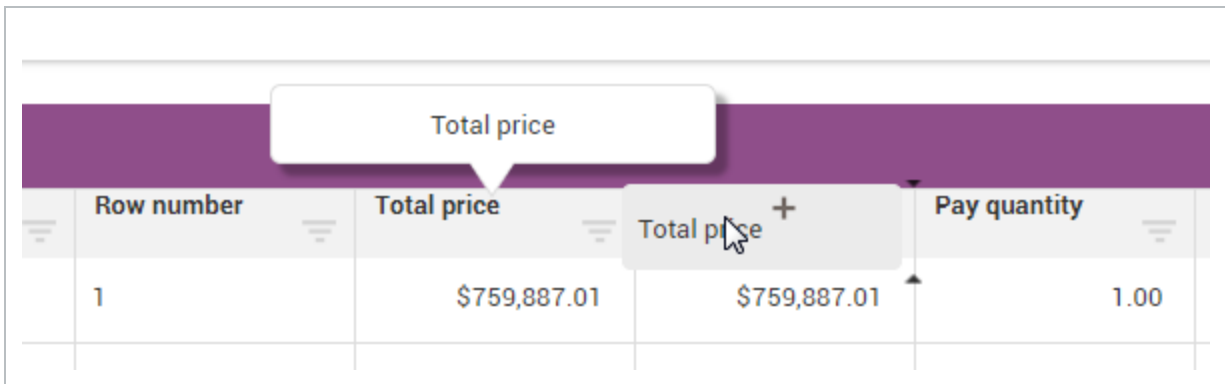
1. On the Pay Items tab, click and hold any column.



The screenshot shows a table titled "Pay items" with a purple header. The table has columns for "Line number", "Row number", "Total price", "Unit price", and "Pay quantity". The row with "Line number" 003 and "Total price" \$1,821,092.28 is selected, highlighted in blue. Above the table, there is an "Actions" dropdown menu and two circular icons: a plus sign (+) and a minus sign (-).

	Line number	Row number	Total price	Unit price	Pay quantity
<input type="checkbox"/>	001	Eart...	1	1	\$759,887.01	\$759,887.01	1.00
<input type="checkbox"/>	002	Con...	2	2	\$2,919,020.71	\$2,919,020.71	1.00
<input checked="" type="checkbox"/>	003	Ste...	3	3	\$1,821,092.28	\$1,821,092.28	1.00

2. Drag it to the left of right of another column.



The screenshot shows a close-up of the table headers. A callout box labeled "Total price" is positioned over the "Total price" header. A mouse cursor is hovering over the "Total price" header, and a grey tooltip with a plus sign (+) is visible. Two black arrows point to the left and right of the "Total price" header, indicating the drop location. The "Pay quantity" header is visible to the right.

Row number	Total price	Pay quantity
1	\$759,887.01	1.00

- Two black arrows appear to guide you to the location the column will be dropped

2.2.2 SORT COLUMNS

You can sort columns in ascending or descending order for both for alpha and numeric fields on any column by clicking once on the column header.

SORT COLUMNS

- On the CBS tab, select any **column header**.
 - A yellow arrow appears, facing downward, indicating that you are sorting that column alphabetically from A-Z or numerically.
- To revert the sort, select the **column header** again.
 - The yellow arrow faces upward indicating the reverse sort.
- Select the **column header** once more to return the column to the original sort.

2.2.3 FILTER COLUMNS

You can filter your column data to show only specific, pertinent information that you need. There are two ways to set a filter:

2.2.3.1 METHOD 1: FILTER FROM COLUMN HEADER

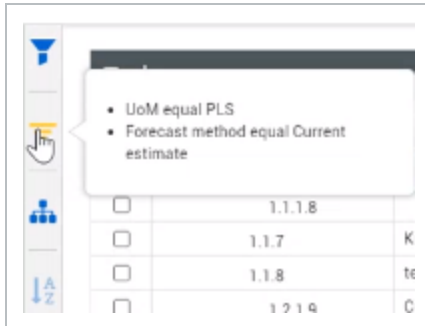
You can set a filter for a column by clicking on the filter icon on any column header. This brings up a drop down list of items that you can filter by to apply to that specific column.

The screenshot shows a table titled "Task details" with columns: Resource, Forecast (T/O) quantity, and UoM. A filter dropdown menu is open over the "UoM" column header. The menu displays the text "Show items with value that:" followed by several dropdown options: "Equal", "Select value" (with a mouse cursor pointing to it), "AND", "Equal", and "Select value". At the bottom of the menu are "Clear" and "Apply" buttons. The table data includes rows with values like "1.00000 PLS", "1.00000 PK-UoM-01", "10.00000 K\$", "1 450.00000 QA_Test-01", "1 200.00000 #NAME?d", "1 100.00000 K\$", "10.00000 K\$", "1 0.00000 Lb", "1.00000 PLS", "1.00000 PLS", and "1.00000 PLS".

NOTE

If you wanted to remove a single filter, locate the column you filtered, click the filter icon, and select the **Clear** button.

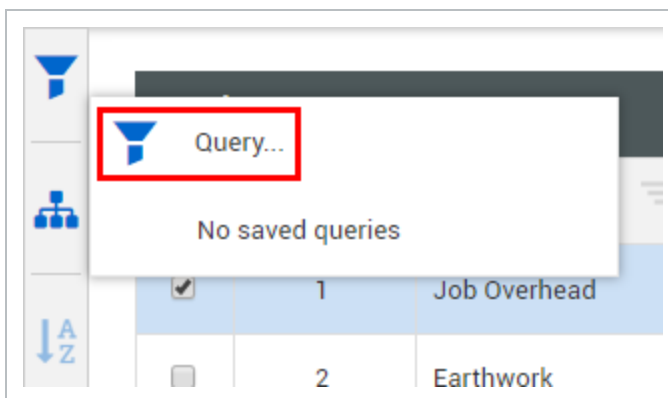
On the resulting filter, you can hover over the filter icon on the right icon selection to view which filters are applied.



Selecting the filter icon will remove all the filters applied to the columns.

2.2.3.2 METHOD 2: FILTER FROM RIGHT TOOLBAR

You can also set a filter by selecting the Filter icon from the right toolbar and selecting **Query**.



This option is helpful when you:

- Need to search for the column you need to filter
- Need to apply filters to more than one column

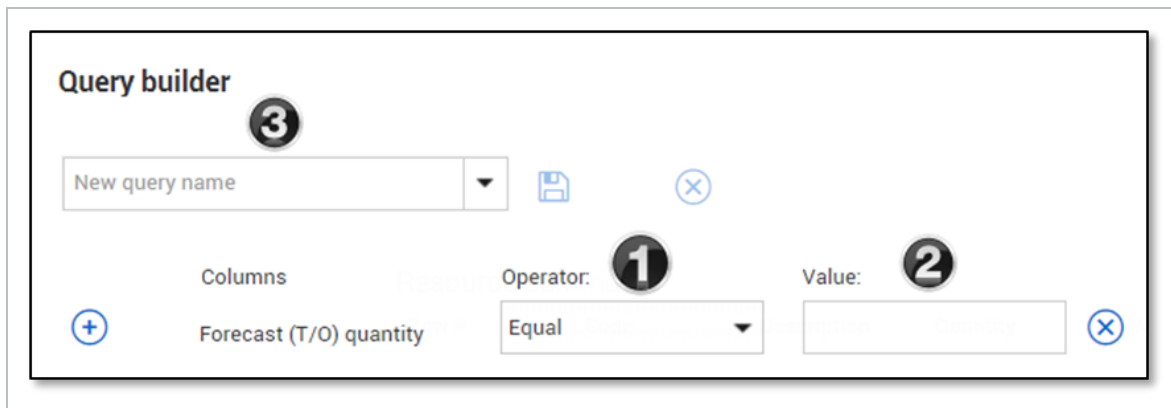
Selecting the Filter icon from the right toolbar opens the Query builder slide out panel, where you can set the filter value.

2.2.3.3 FILTER SLIDE OUT PANEL

The Filter slide out panel contains three key settings:

Filter Settings

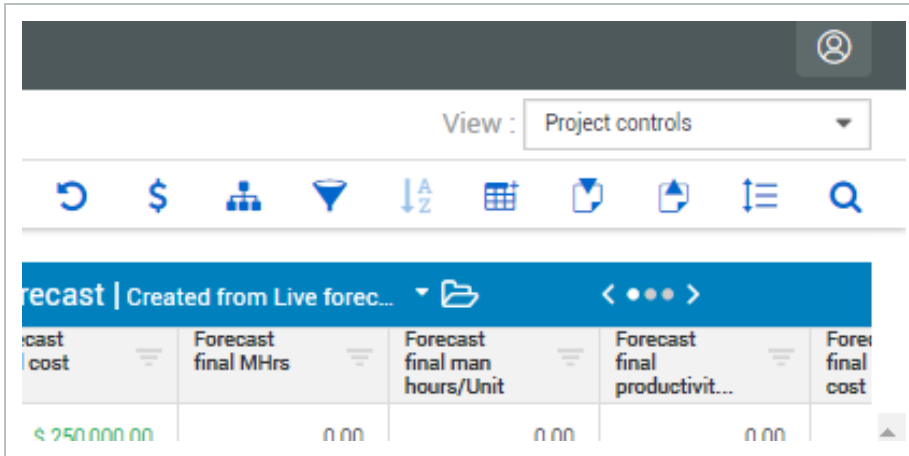
	Title	Description
1	Columns	Drop-down list to select the column to filter.
2	Operator	Determines what kind of filter to apply. Includes the following: <ul style="list-style-type: none"> • Equal • Greater than • Greater than or equal • Is not null • Is null • Less than • Less than or equal • Not equal
3	Query Name	Name of query.



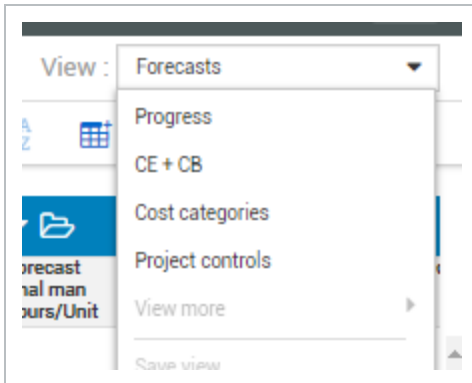
The following steps walk you through how to set a filter using the filter icon on the right toolbar.

FILTER COLUMNS

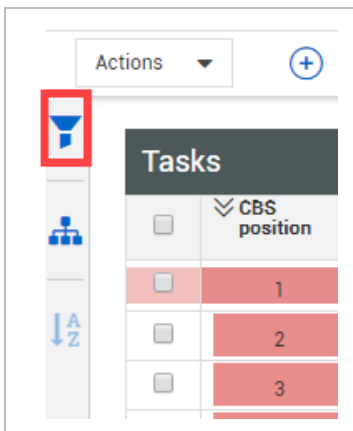
1. From the CBS tab of the Control Workspaces page, click on the **View drop-down arrow**.



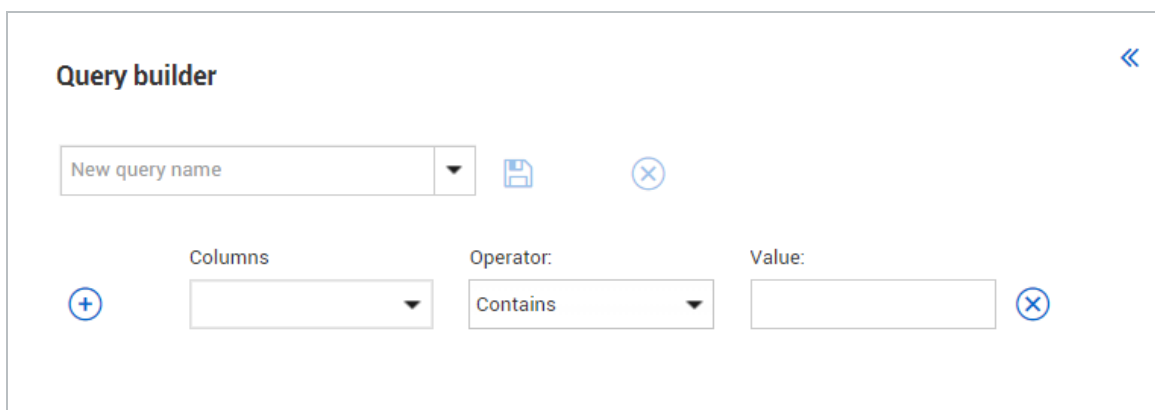
2. Select the **Project controls** viewset.



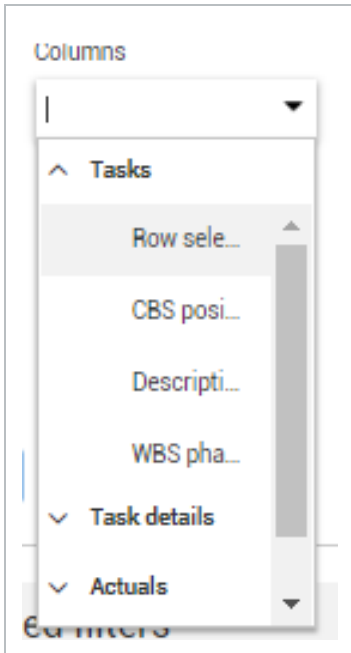
3. Select the **Filter**, then **Query** icon from the left toolbar.



- The Query builder slide out panel appears



4. Click on the **Columns drop-down arrow** to select a column.

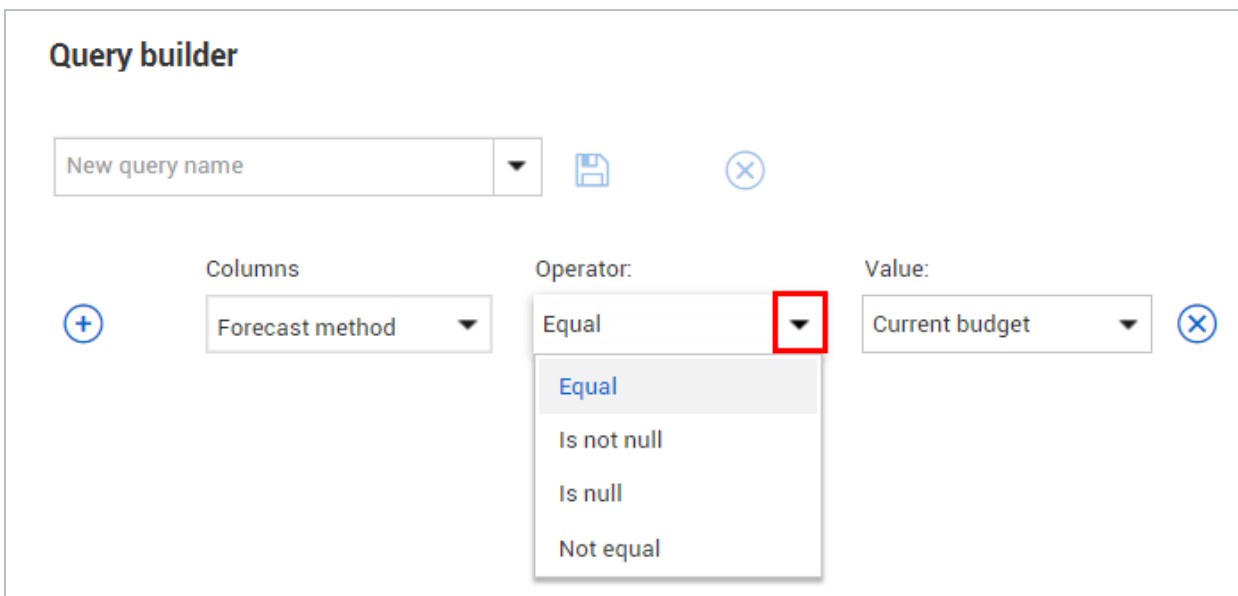


- Notice that the column titles are grouped by the data block in which they are housed

5. Select the **Forecast Method** column.

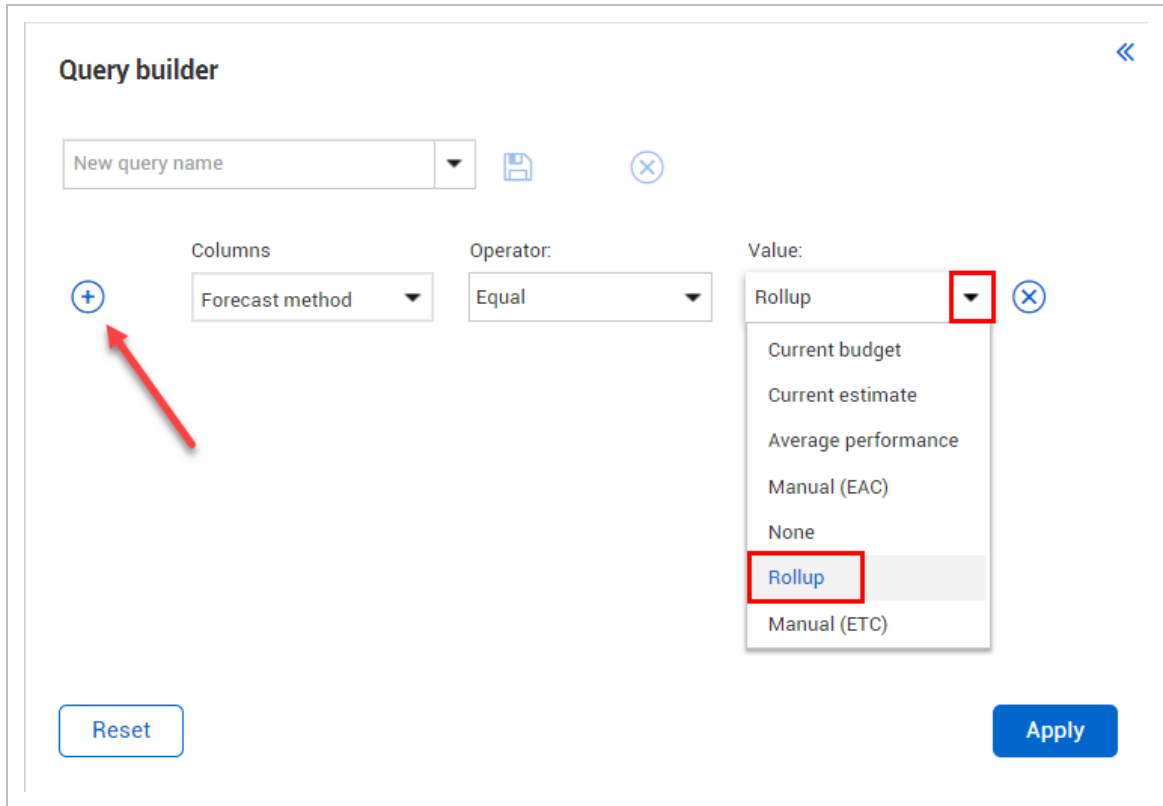
- This can also be typed into the text box to search for the column you need

6. Click on the **Operator drop-down arrow** and select **Equal**.



7. Click on the **Value drop-down arrow** and select **Rollup**.

- Note that you can add additional filter criteria by clicking the plus icon



- Note that you can click **Save** to add the filter to the My saved filter section for future use

8. Click **Apply** to apply the filter.

2.2.4 PAY ITEM GROUPING

Pay item grouping allows you to group your data in the most efficient way that makes sense to you. This is useful if you want the option to group certain columns, and subtotal pay items.

Pay item number	Di	Line number	Row number	Total price	Unit price	Pay quantit	Foreca: (T/O) Qty	UoM	Is billed	Billing methoc	Chan... order
Billing methods: Cost Plus											
P 1	Test	2	2	\$ 40.0000000	\$ 40.0000000	1.0000000	0.0000000	AU	<input type="checkbox"/>	Cost Plus	
asdf	fawd...	3	3	\$ 3,630.000...	\$ 30.0000000	121.0000000	120.0000000	AU	<input type="checkbox"/>	Cost Plus	(3)
				\$3,670.000...							
Billing methods: Fixed Final Price											
333		4	4	\$ 24,032.00...	\$ 400.0000...	60.0800000	90.0000000	Bag	<input checked="" type="checkbox"/>	Fixed Final ...	
P_1	P_Test	7	7	\$ 250.0000...	\$ 22.0000000	11.3636364	150.0000000	K\$	<input type="checkbox"/>	Fixed Final ...	(1)
				\$24,282.000...							

The following steps walk you through how to set a pay item group by using drag and drop.

PAY ITEM GROUPING

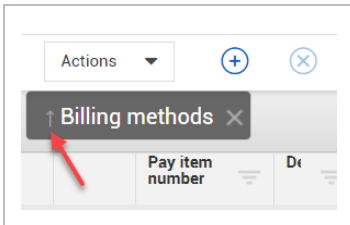
1. From the Pay Items tab of the Control Workspaces page, click and drag the **Billing methods** column header, and drop it in the space above.

Pay item number	Di	Line number	Row number	Total price	Unit price	Pay quantity	Forecast (T/O) Qty	UoM	Is billed	Billing methods	Change
P 1	Test	2	2	\$ 40.0000000	\$ 40.0000000	1.0000000	0.0000000	AU	<input type="checkbox"/>	Cost Plus	
asdf	fawd...	3	3	\$ 3,630.0000000	\$ 30.0000000	121.0000000	120.0000000	AU	<input type="checkbox"/>	Cost Plus	(3)
333		4	4	\$ 24,032.0000000	\$ 400.0000000	60.0800000	90.0000000	Bag	<input checked="" type="checkbox"/>	Fixed Final Price	
dsvsdv		5	5	\$ 10.0000000	\$ 10.0000000	1.0000000	0.0000000	!Acre	<input type="checkbox"/>	Unit Price	(3)
P_1	P_Test	7	7	\$ 250.0000000	\$ 22.0000000	11.3636364	150.0000000	K\$	<input type="checkbox"/>	Fixed Final Price	(1)
S_123	123	8	8	\$ 10.0000000	\$ 10.0000000	1.0000000	10.0000000	!Acre	<input type="checkbox"/>	Unit Price	(3)





- Your Pay Items are now grouped by Billing methods

Pay item number	Dr	Line number	Row number	Total price	Unit price	Pay quantity	Forecast (T/O) Qty	UoM	Is billed	Billing methods
Billing methods: Cost Plus										
P 1	Test	2	2	\$ 40.0000000	\$ 40.0000000	1.0000000	0.0000000	AU	<input type="checkbox"/>	Cost Plus
asdf	fawd...	3	3	\$ 3,630.0000000	\$ 30.0000000	121.0000000	120.0000000	AU	<input type="checkbox"/>	Cost Plus
				\$3,670.0000000						
Billing methods: Fixed Final Price										
333		4	4	\$ 24,032.0000000	\$ 400.0000000	60.0800000	90.0000000	Bag	<input checked="" type="checkbox"/>	Fixed Final Price
P_1	P_Test	7	7	\$ 250.0000000	\$ 22.0000000	11.3636364	150.0000000	K\$	<input type="checkbox"/>	Fixed Final Price
				\$24,282.0000000						
Billing methods: Unit Price										
dsvsdv		5	5	\$ 10.0000000	\$ 10.0000000	1.0000000	0.0000000	!Acre	<input type="checkbox"/>	Unit Price
S_123	123	8	8	\$ 10.0000000	\$ 10.0000000	1.0000000	10.0000000	!Acre	<input type="checkbox"/>	Unit Price

- Click on the **sort arrow** to the left of Billing methods column header to reverse the order of the sort grouping.



- Your **Billing methods** are now sorted, and the Unit Price displays as the first Billing Methods grouping

Forecast (T/O) Qty	UoM	Is billed	Billing methods	Change order
0.0000000	!Acre	<input type="checkbox"/>	Unit Price	 (2)
10.0000000	!Acre	<input type="checkbox"/>	Unit Price	 (2)
90.0000000	Bag	<input checked="" type="checkbox"/>	Fixed Final Price	
150.0000000	K\$	<input type="checkbox"/>	Fixed Final Price	 (1)
0.0000000	AU	<input type="checkbox"/>	Cost Plus	
120.0000000	AU	<input type="checkbox"/>	Cost Plus	 (3)

2.2.5 SUBTOTAL GROUPING

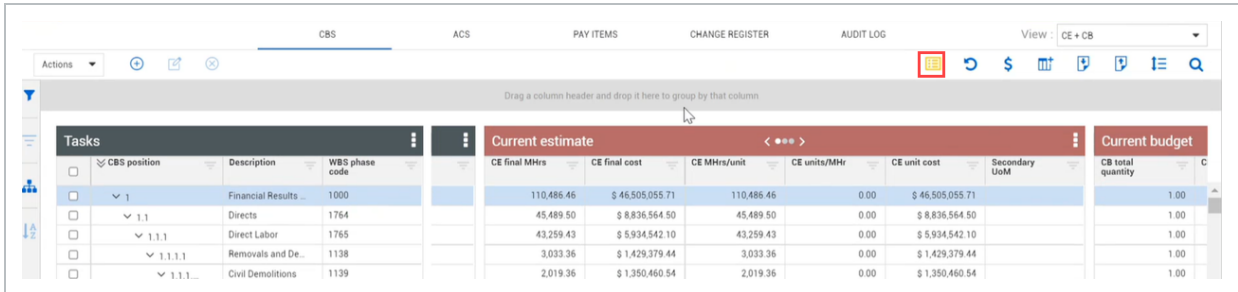
Subtotal grouping lets you group your data based on the subtotals in the CBS. This is useful if you want the option to group certain columns. You can group the following columns:

- Forecasting columns
- Current Estimate
- Current Budget
- Actual columns
- Cost columns
- Man Hour columns

The following steps walk you through how to group by subtotals using drag and drop.

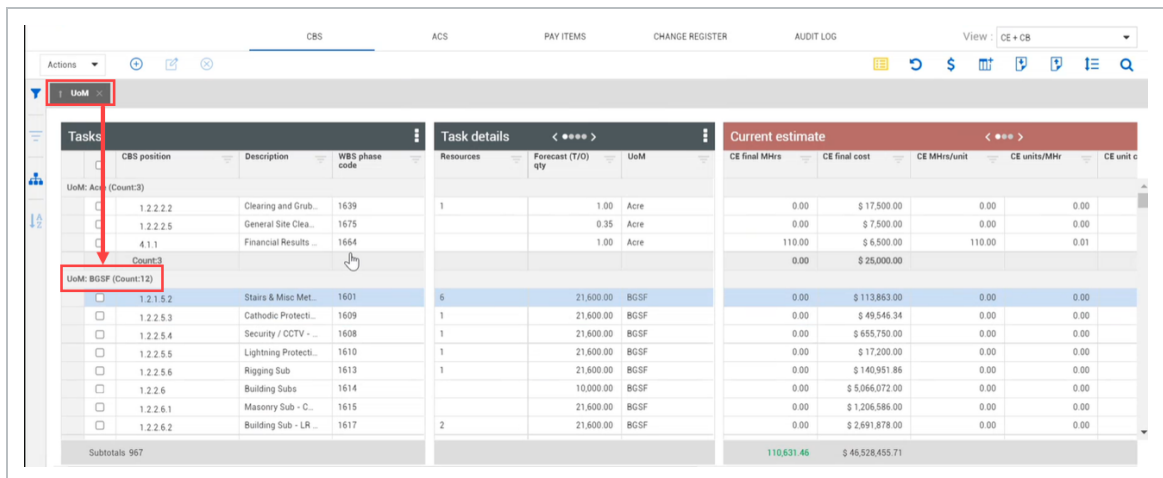
SUBTOTAL GROUPING

1. From the CBS tab of the Control Workspaces page, click the **Group By** icon.



2. Click and drag the **Unit of Measure** column header, and drop it in the space above.

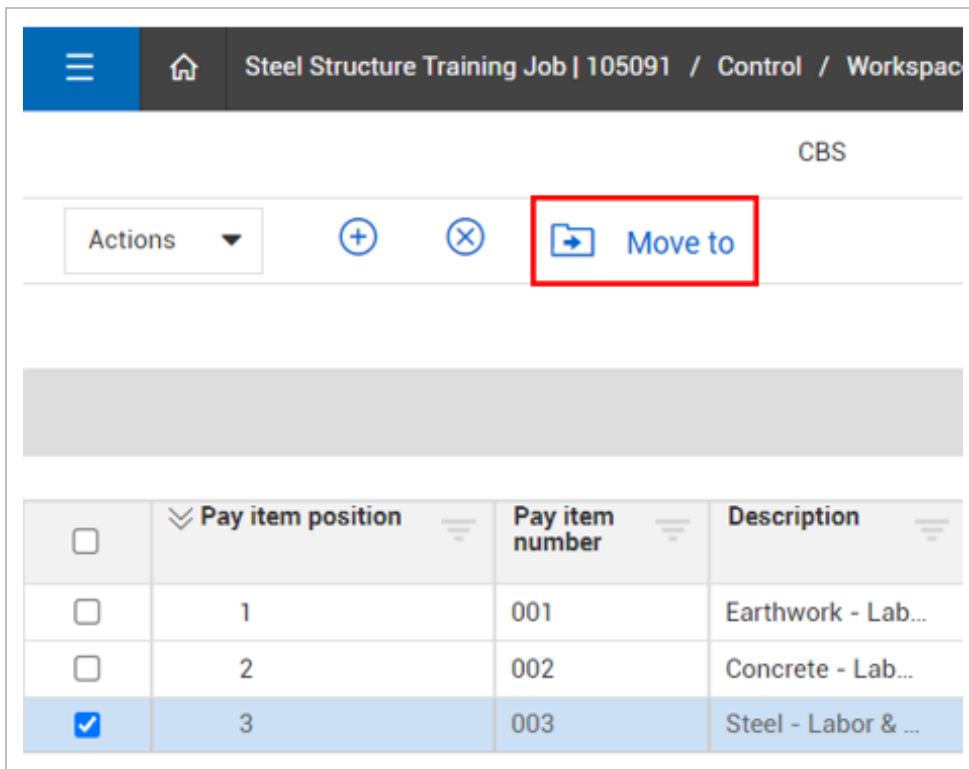
- Your columns are now sorted by Unit of Measure.



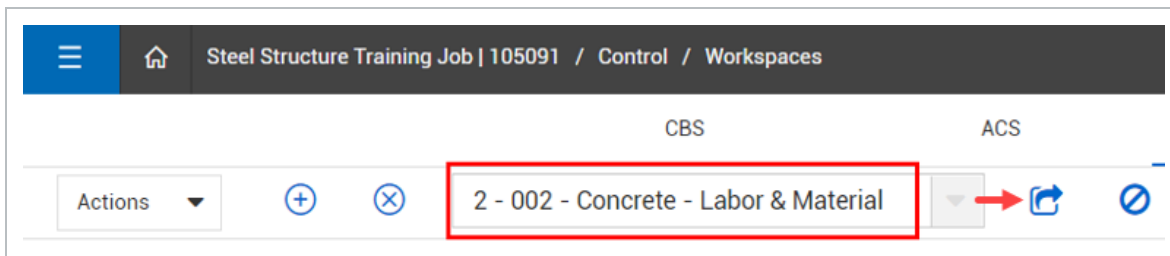
2.2.6 PAY ITEM MOVE OPTION

The move to feature is the only way to adjust the pay item order. This feature is similar to the adjust CBS position feature in the CBS register. For a pay item to become a parent, billed revenue, billed quantity, and current price must be zero, and no cost items can be assigned to it.

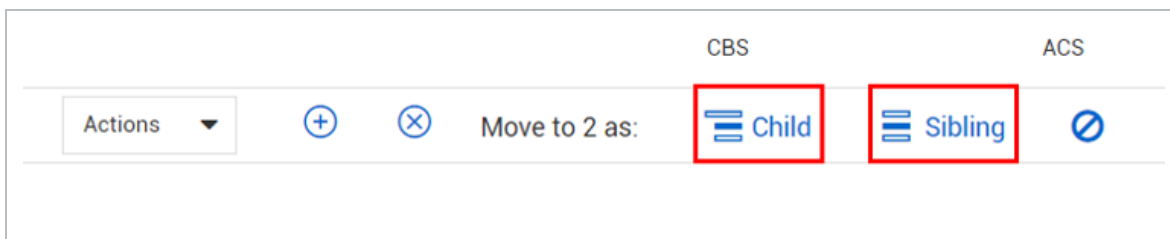
Selecting one or many pay items activates the Move to icon.



Selecting the move to icon opens the move-to field, where you can select the pay item you want to move your selected pay item to.



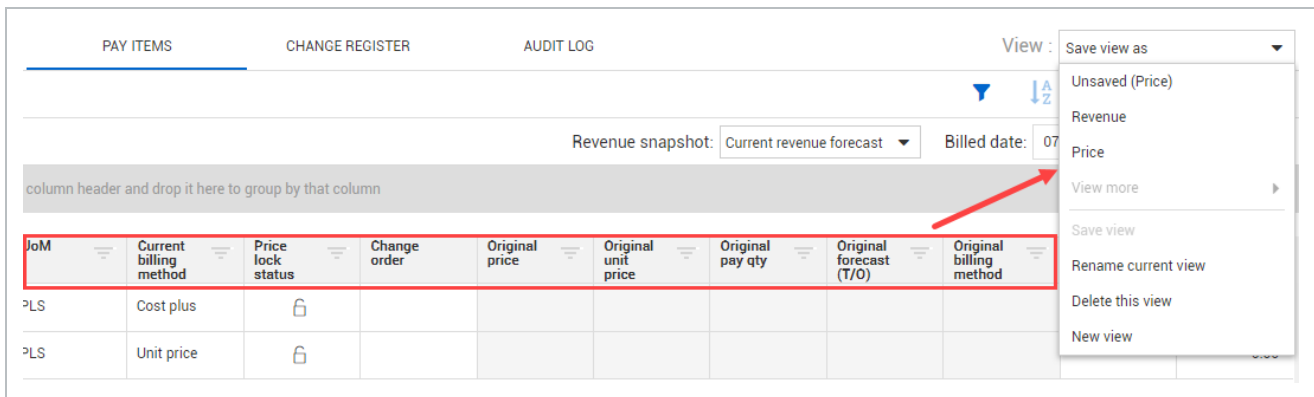
After selecting the move to pay item and then clicking on the Move to icon, you have the option to move the pay item as a child or a sibling.



2.2.7 PAY ITEM VIEWS

After your page view is arranged to your preference in the Pay Items page, you can create and save pay item views.

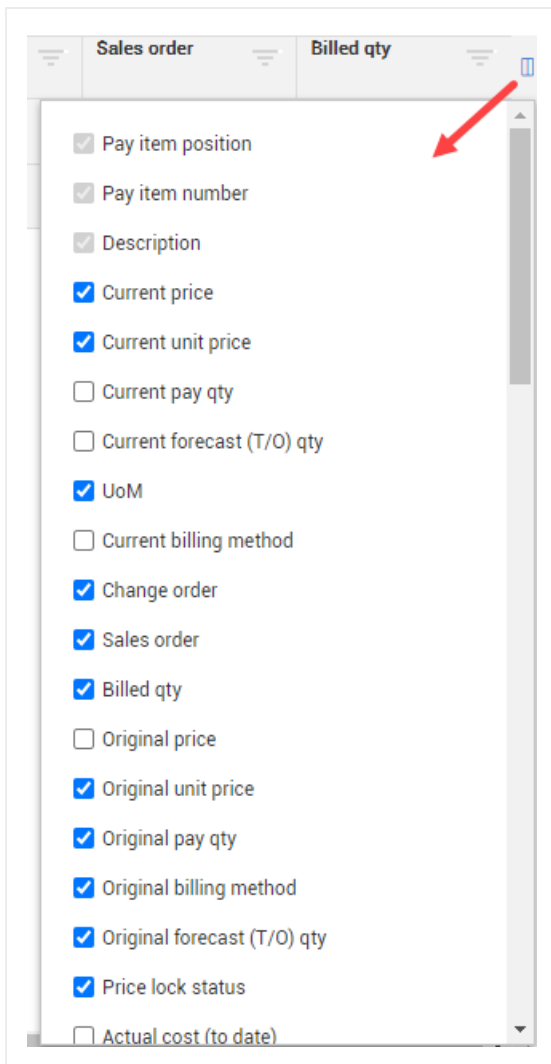
The pay item view feature lets you select which columns to display in the current Pay item view, with the Price and Revenue views as the default views.



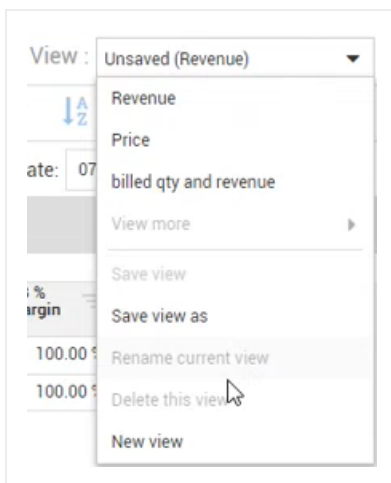
The screenshot shows the 'PAY ITEMS' page with a table of pay items. The table has columns: JoM, Current billing method, Price lock status, Change order, Original price, Original unit price, Original pay qty, Original forecast (T/O), and Original billing method. A red box highlights the first three columns. A 'View' dropdown menu is open, showing options: Save view as, Unsaved (Price), Revenue, Price, View more, Save view, Rename current view, Delete this view, and New view. A red arrow points from the 'View more' option to the 'Price lock status' column header.

JoM	Current billing method	Price lock status	Change order	Original price	Original unit price	Original pay qty	Original forecast (T/O)	Original billing method
>LS	Cost plus	🔒						
>LS	Unit price	🔒						

You can click the pay item column selection icon to choose which fields to include in your view.



Like the view feature in the CBS, you can create, save, rename, and delete views.



2.3 DATA BLOCKS

Each data block is a set of columns grouped together based on categories of information. Using data blocks helps you organize and manage all the columns on a page.

Data blocks are customizable, and you can view them side by side and move them around in the register. The information in each data block displays in a grid like format, maintaining a spreadsheet look and feel.

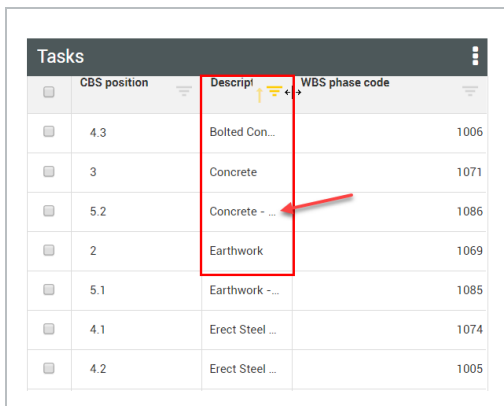
Tasks			Task details			Forecast				
CBS position	Description	WBS phase code	Resource	Forecast (T/O) quantity	UoM	Forecast final cost	Forecast final MHours	Forecast final man hours/Unit	Forecast final productivity factor	Forecast final unit cost
1	Job Overhead	1002	16	1.00	Lump Sum	\$ 695.00	11.00	11.00	0.00	
2	Earthwork	1069	5	10,000.00	CY	\$ 400,000.00	8,000.00	0.80	1.00	
3	Concrete	1071	6	10,000.00	CY	\$ 1,500,000.00	30,000.00	3.00	1.00	
4	Structural Steel	1073		1,000.00	Ton	\$ 1,000,035.71	20,000.71	20.00	1.05	\$
4.1	Erect Steel - Heavy	1074	5	800.00	Ton	\$ 800,000.00	16,000.00	20.00	1.00	\$
4.2	Erect Steel - Light	1005	5	200.00	Ton	\$ 200,000.00	4,000.00	20.00	1.00	\$
4.3	Bolted Connections	1006	8	2,000.00	Ea	\$ 35.71	0.71	0.00	1,400.00	
5	Materials	1084		1.00	Each	\$ 1,750,000.00	0.00	0.00	0.00	\$ 1.75
5.1	Earthwork - Materials	1085	1	10,000.00	CY	\$ 250,000.00	0.00	0.00	0.00	
5.2	Concrete - Materials	1086	1	10,000.00	CY	\$ 1,000,000.00	0.00	0.00	0.00	
5.3	Structure Steel - Mat...	1087		1,000.00	Ton	\$ 500,000.00	0.00	0.00	0.00	
5.4	Iron Trailer	1088		1.00	PI S	\$ 0.00	0.00	0.00	0.00	
Subtotals 13						\$ 4,650,730.71	58,011.71			

Each type of data block has its own unique default settings such as date range selectors and date preset options (for financial periods). You can choose the total number of columns and panels for each data block.

2.3.1 RESIZE COLUMN WIDTH

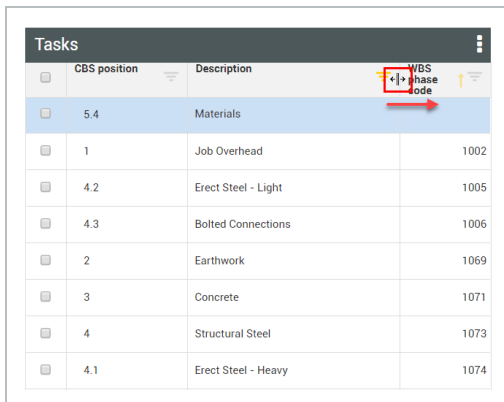
Data blocks can be customized based on your viewing preferences.. You can resize the columns widths within a data block, so you are able to see all the data within a column.

In the below example, the Tasks Data block contains a column called Description. There are values in the Description column which have the capability of being expanded for better visibility. The shortened descriptions to be expanded are denoted by a '...' after the shortened description name.



	CBS position	Description	WBS phase code
	4.3	Bolted Con...	1006
	3	Concrete	1071
	5.2	Concrete - ...	1086
	2	Earthwork	1069
	5.1	Earthwork - ...	1085
	4.1	Erect Steel ...	1074
	4.2	Erect Steel ...	1005

If you want to resize and move the Description column to the right, select the Description column border, and drag it to the right. Stop dragging the column when you're satisfied with the column width.



	CBS position	Description	WBS phase code
	5.4	Materials	
	1	Job Overhead	1002
	4.2	Erect Steel - Light	1005
	4.3	Bolted Connections	1006
	2	Earthwork	1069
	3	Concrete	1071
	4	Structural Steel	1073
	4.1	Erect Steel - Heavy	1074

2.3.2 DATA BLOCK CATEGORIES

There are three categories of data blocks: Standard, Cost Category and Custom data blocks.

2.3.2.1 STANDARD DATA BLOCK

These include the following default data blocks:

- Task Details
- Actuals
- Current Budget & Estimate
- Forecast
- Forecast Delta

- Live Forecast
- Schedule

You can customize the columns grouped within each of these data blocks.

2.3.2.2 COST CATEGORY DATA BLOCK

These data blocks organize key project progress information by cost category, and include the following:

- Cost categories: Actuals
- Cost categories: Current Budget
- Cost categories: Current Estimate
- Cost categories: Forecast

You can change the columns in Cost Category data blocks.

2.3.2.3 CUSTOM DATA BLOCK

There are nine types of custom data blocks, each with their own unique characteristics:

You have the freedom to choose the type that best meets your needs. You will then select which columns go into the custom data block.

2.3.3 ADD A DATA BLOCK

The following step by step walks you through adding a standard or cost category data block to the CBS tab of the Workspaces page.

ADD A STANDARD DATA BLOCK

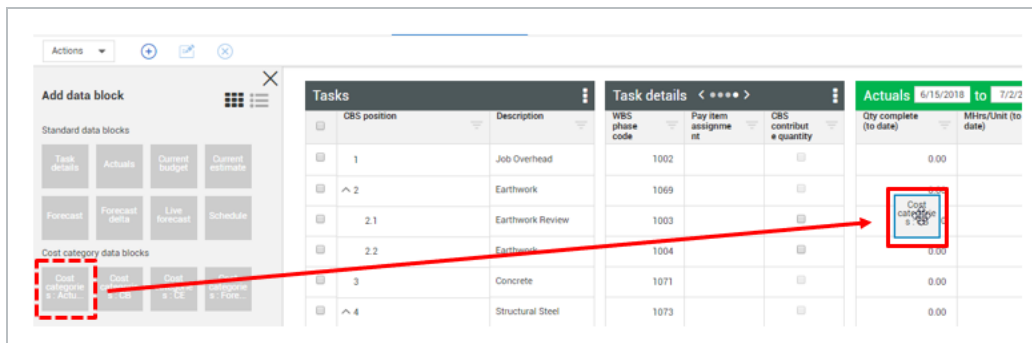
1. On the CBS tab of the Workspaces page, click on the **Add data block** button on the right toolbar to open the Data block slide out panel.



2. On the slide out panel on the left, drag and drop the **Cost categories: CB** data block into the register page on the right.

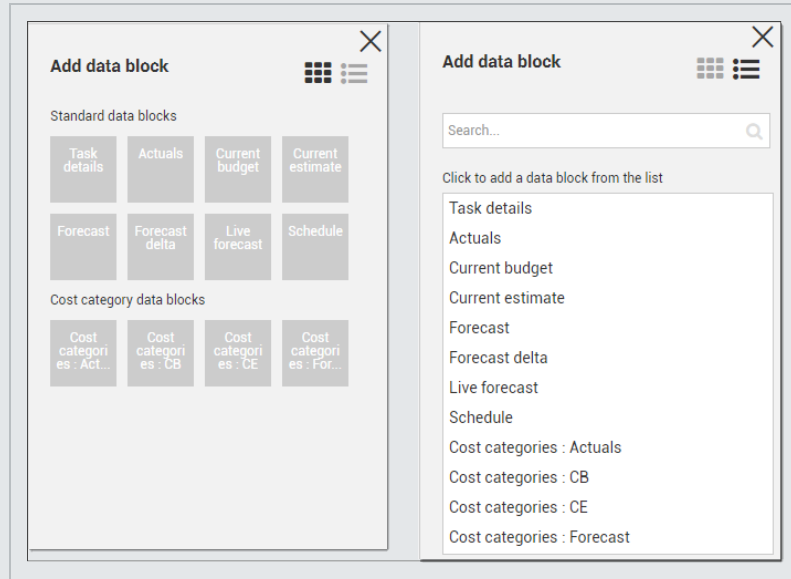
NOTE Each view holds a maximum of five data blocks.

- This will drop the data block at the very far right side and you can then move it via drag and drop in the register



TIP

You can view currently active project data blocks by either a thumbnail or list.



2.3.4 CREATE A CUSTOM DATA BLOCK

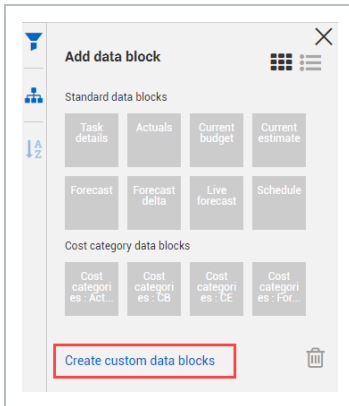
The following steps walk you through creating a custom data block from scratch.

CREATE A CUSTOM DATA BLOCK

1. On the CBS register page, click on the **Add data block** button, to open the data block slide out panel.



2. At the bottom of the Data Block menu, select **Create custom data blocks**.



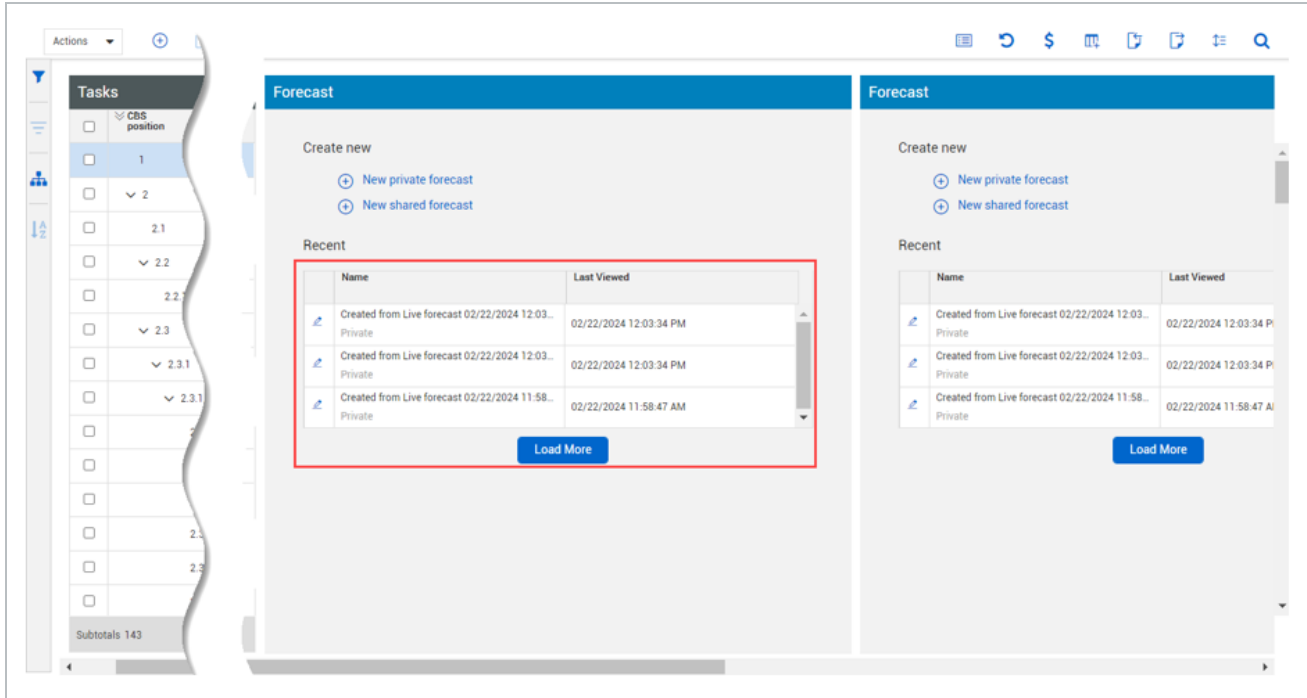
3. Select Data Block Type: **General**.
4. In the Data block title, enter in **[your initials] Training – Unit Cost**.
5. Select **Next**.
6. Using one of the methods above, add the following columns to the data block on the right:
 - Unit Cost (To Date)
 - CE Unit Cost (To Date)
 - Forecast Remaining Unit Cost
 - Forecast Final Unit Cost
 - CE Forecast Unit Cost G/L
7. Once your data block is finalized, click **Save** at the bottom right of the slide out panel.

NOTE

On the Add data blocks slide out panel, you will only see the Custom data blocks you create. Custom data blocks created by other users will only show up under their respective logins.

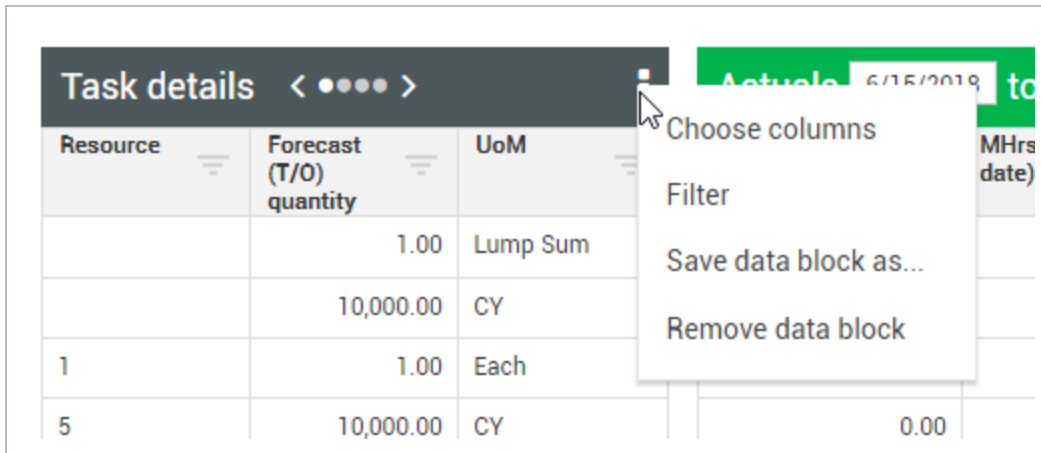
2.3.5 FORECAST DATA BLOCK

When you open the Forecasts view, you can select existing private forecasts or choose to create a new private or shared forecast. This helps to create a more manageable list of private and shared forecasts.



2.3.6 DATA BLOCK CONTEXT MENU

The data block Context Menu allows you to perform different operations specific to the data block you select.



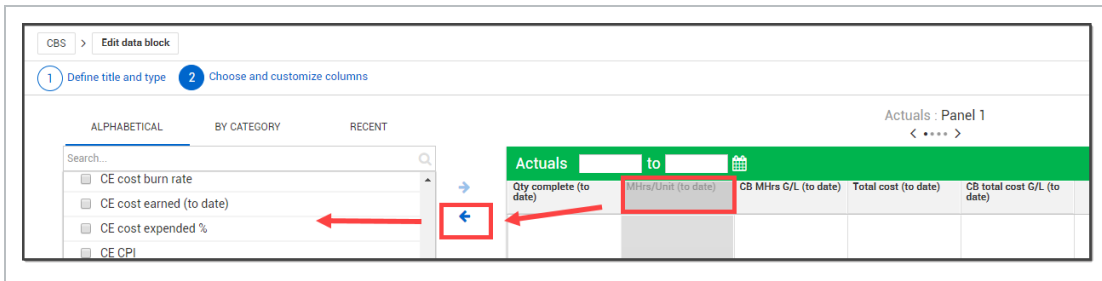
The following table provides an overview of Context Menu options:

Data Block Context Menu	
Title	Description
Choose columns	Open the column chooser menu and move, add, and remove columns from the data block.
Filter	Filter data within a data block.
Save data block as	Create a copy of the existing data block and save it.
Remove data block	Remove the data block from the current view.
Color coded terminal items (Tasks data block only)	Add colors to terminal items of your current data block.
Color-coded CBS position (Tasks data block only)	Adds colors to all CBS lines.
Show/Hide WBS Phase Code (Tasks data block only)	Display or remove the WBS Phase Code column within the Tasks data block.

In the following step by step, you will learn how to modify a custom or an existing data block using the Context Menu.

EDIT A DATA BLOCK

1. In the CBS register, select the **Context Menu** icon of the custom data block you created.
2. Select **Choose columns** from the context menu.
3. Add a new column to your custom data block.
4. Remove a column from your custom data block by selecting the header and clicking the left-facing arrow to return it to the left column.



5. To close the slide out panel, click the **APPLY** button on the bottom right of the slide out.

2.3.7 FILTER DATA BLOCK DATA

You can filter the columns in your data blocks to see relevant information pertaining to your specific needs.

The following Step by Step walks you through filtering data block columns.

FILTER DATA IN A DATA BLOCK COLUMN

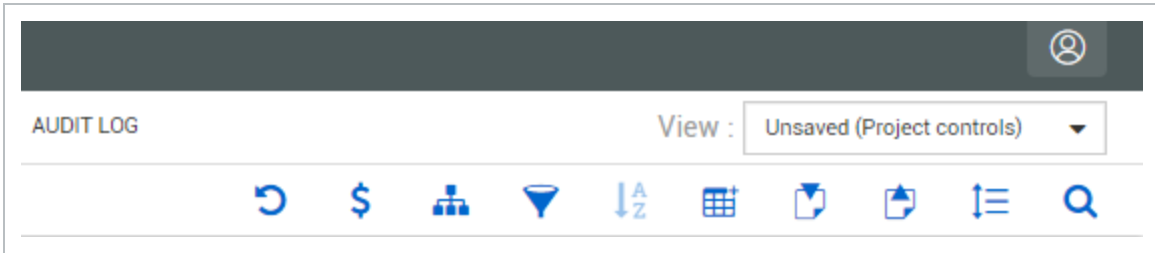
1. From any tab, on any column header, select the **yellow arrow** icon.
2. Select your desired **operator** from the first drop-down list.
3. Enter the **value** in the next field.
4. Select the next fields for **filters logic** and **additional operator**.
5. Select **Apply**. The pyramid turns yellow.
6. To clear the filter, select the same **column header** and **yellow arrow**.
7. Select **Clear**.

2.4 VIEWSETS

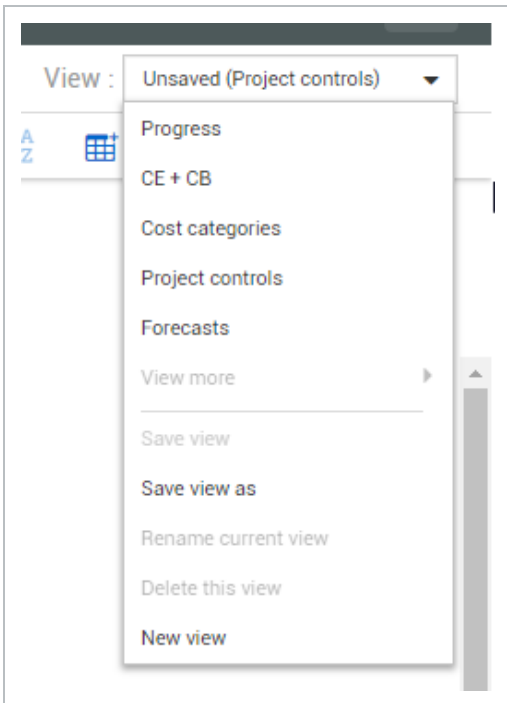
Once you have all desired data blocks organized to your liking, you can create a saved view of your page so that you can always revert to it. This saved view is called a Viewset. The viewset can also be shared with other users.

CREATE AND SAVE A VIEWSET

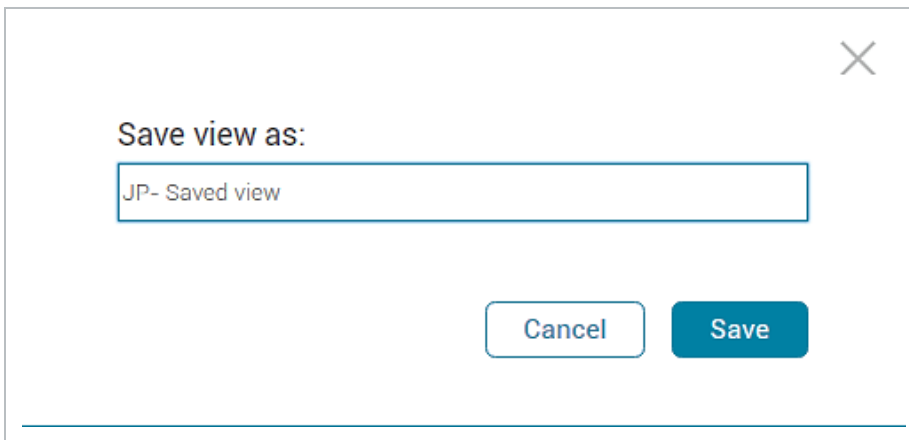
1. From the CBS register page, click on the **View** drop-down arrow.



2. From the Viewset drop-down list, select **Save view as**.



3. Name your view **[your initials] – Saved view**.



Save view as:

JP- Saved view

Cancel Save

4. Click **Save**.

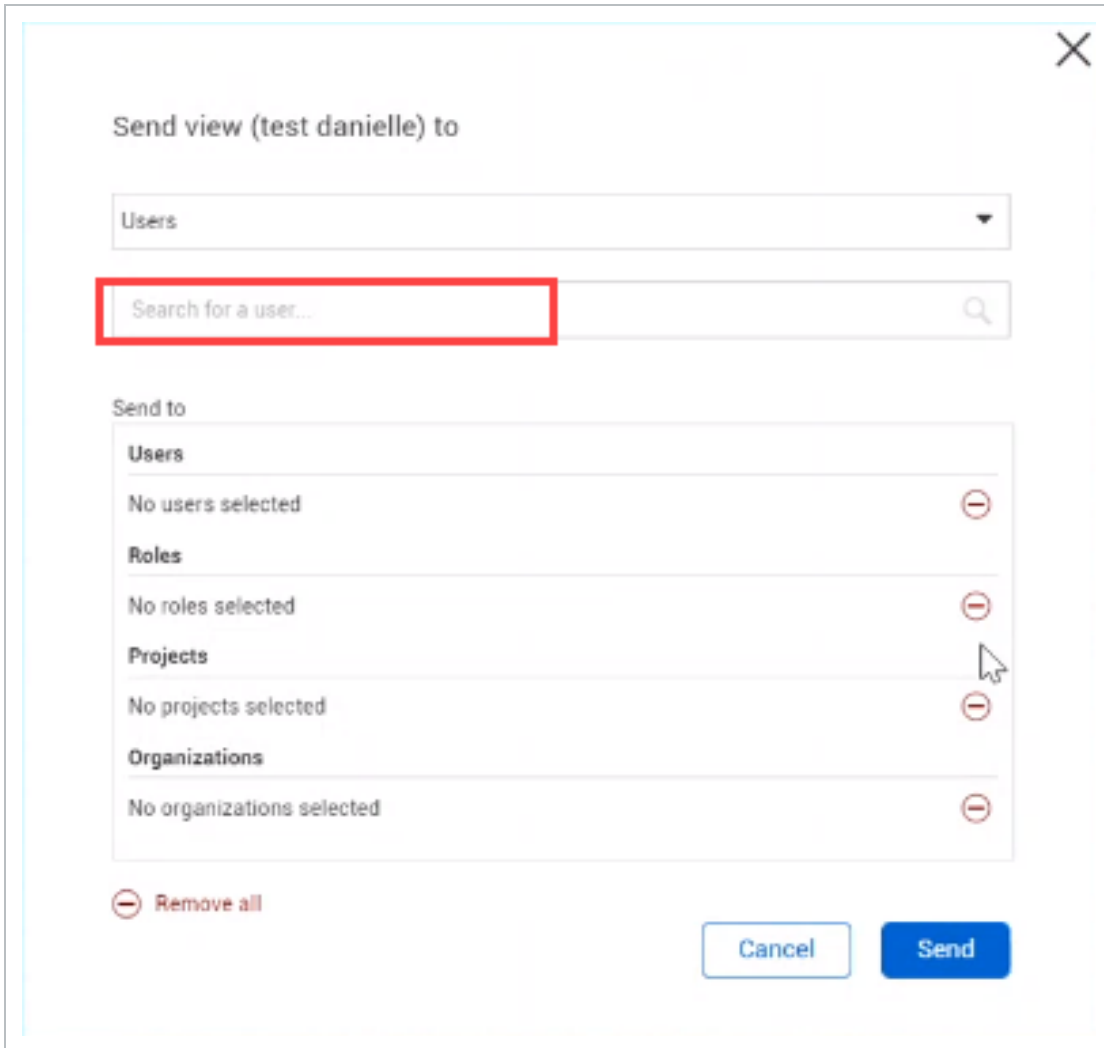
2.4.1 SENDING VIEWS AND DATA BLOCKS

NOTE Certain permissions are needed to send views and data blocks to roles.

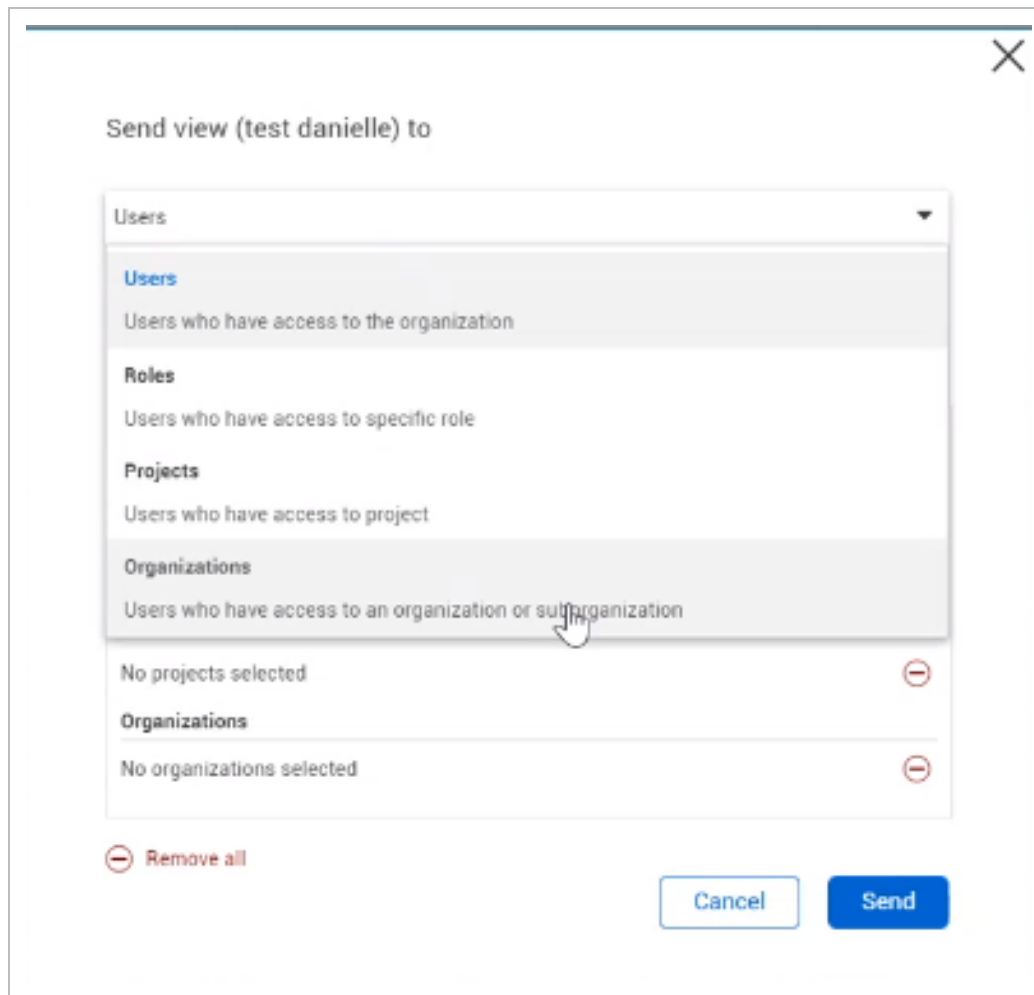
You can send views to all users that have a certain role. You can also send it to specific projects or full organizations. To send to a project, you have to be a user on that project or in that organization.

SEND A VIEWSET

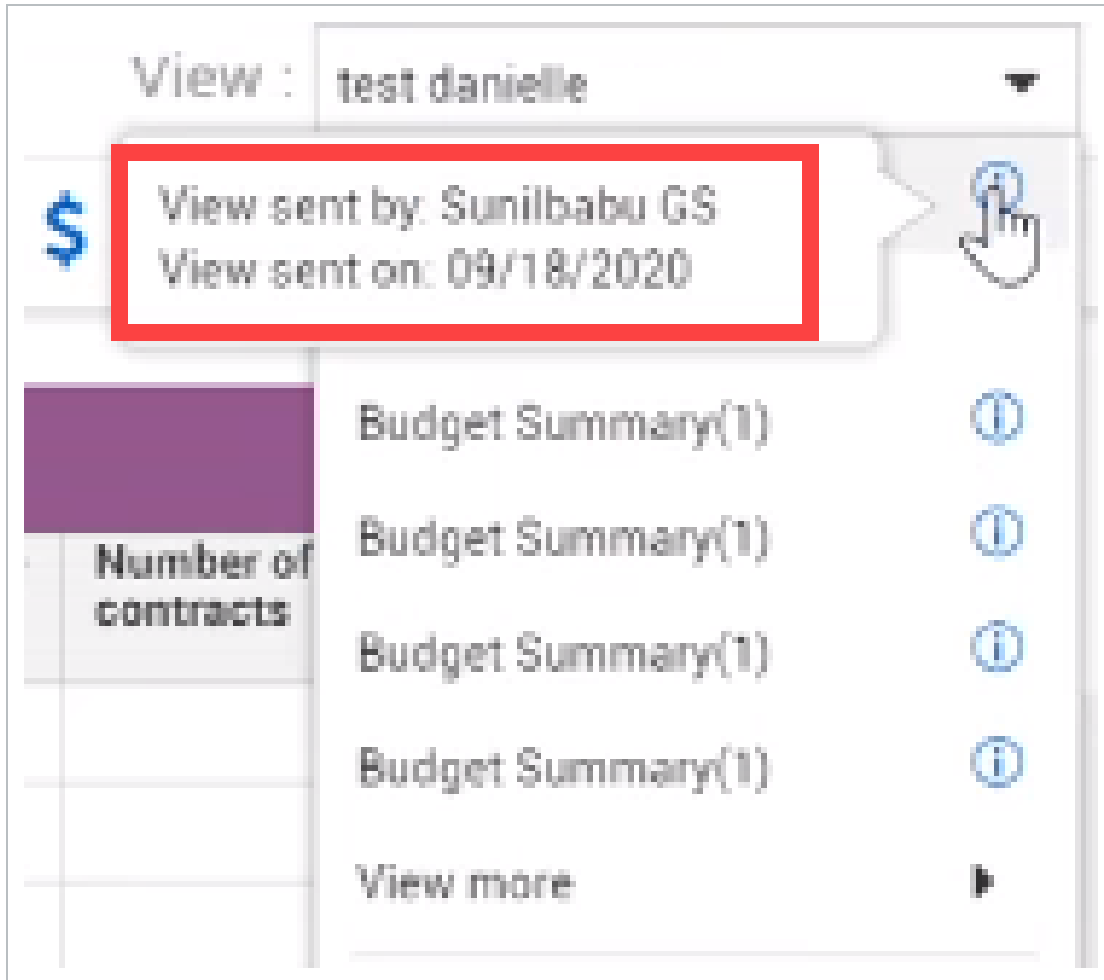
1. With the Viewset selected and shown, from the Viewset drop-down list, select **Send view**.
2. In the **Search for a User** field, type an employee's name and select their name from the list.



- To send to a project, you have to be a user on that project or organization. Then select the Send View to drop down list and select the option you want.



3. Click **Send**.
4. The selected Viewset will send a notification to the selected employee, and will be available in their drop-down list with sender's name and when the Viewset was sent.



NOTE If the user does not have the proper permissions to view all the columns in the view that was sent to them, then the employee will only be able to view the columns for which they have permissions.

2.5 ROW DENSITY

The row density feature allows you to change the spacing between rows within the various pages and slide out panels in Control, allowing you to view your data with the amount of spacing you prefer.

There are three options available:

- Relaxed

Tasks			Task details < ●●●● >		
<input type="checkbox"/>	CBS position	Description	Resource	Forecast (T/O) quantity	UoM
<input type="checkbox"/>	1	Job Overhead		1.00	Lump Sum
<input type="checkbox"/>	^ 2	Earthwork		10,000.00	CY
<input type="checkbox"/>	2.1	Earthwork Review	1	1.00	Each
<input type="checkbox"/>	2.2	Earthwork	5	10,000.00	CY

- Narrow

Tasks			Task details < ●●●● >		
<input type="checkbox"/>	CBS position	Description	Resource	Forecast (T/O) quantity	UoM
<input type="checkbox"/>	1	Job Overhead		1.00	Lump Sum
<input type="checkbox"/>	^ 2	Earthwork		10,000.00	CY
<input type="checkbox"/>	2.1	Earthwork Review	1	1.00	Each
<input type="checkbox"/>	2.2	Earthwork	5	10,000.00	CY
<input type="checkbox"/>	3	Concrete	5	10,000.00	CY

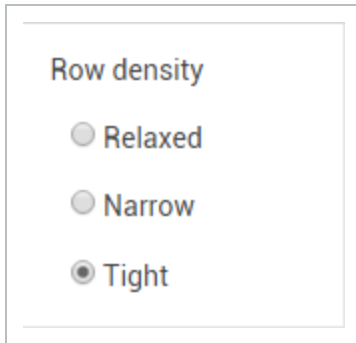
- Tight

Tasks			Task details < ●●●● >		
<input type="checkbox"/>	CBS position	Description	Resource	Forecast (T/O) quantity	UoM
<input type="checkbox"/>	1	Job Overhead		1.00	Lump Sum
<input type="checkbox"/>	^ 2	Earthwork		10,000.00	CY
<input type="checkbox"/>	2.1	Earthwork Review	1	1.00	Each
<input type="checkbox"/>	2.2	Earthwork	5	10,000.00	CY
<input type="checkbox"/>	3	Concrete	5	10,000.00	CY
<input type="checkbox"/>	^ 4	Structural Steel		1,000.00	Ton

The Row density icon is available on the CBS, ACS, Pay Items, Change Register, and Audit Log tabs.



When you select the Row density icon, a drop-down menu appears, where you can select the row density (space between rows) you prefer.



The row density you select applies to all registers within Control, including all tabs and slide out panels on the Workspaces and Project Library pages.

Row density is user-specific, so different users can apply different row densities within Control, and the row density option you select will remain the next time you log in.

NOTE

Row density is independent from the Viewsets you create. The row density you select is therefore not saved as part of your viewsets.

2.6 AUDIT LOG

The **Audit Log** tab within the CBS register is used to capture changes that were made within InEight Control and is broken down into five sub-tabs located on a left sidebar menu. Each log is designed to capture the changes that happened within each of the different registers and during synchronization.

All five audit logs can be accessed by selecting the Audit log tab on the menu bar, then selecting each individual audit log on the far left.

		CBS	ACS	PAY ITEMS	CHANGE REGISTER	AUDIT LOG							
Actions ▾													
CBS	Audit ID	Data type	Item type	Desc:	WBS	Attrit	Chan by	Chan date	Value befor	Value after	Actuz comp	Forec total co...	Forec total co...
ACS	4871359	CBS	Cost Item	Concrete	1071	Schedule ...	Michael M...	07/23/20...	False	True			
Pay items	4871358	CBS	Cost Item	Earthwork	1069	Schedule ...	Michael M...	07/23/20...	False	True			
Integration	4871357	CBS	Cost Item	Job Overh...	1002	Schedule ...	Michael M...	07/23/20...	False	True			
Import history	4871356	CBS	Cost Item	Structural...	1073	Scheduled	Michael M...	07/23/20...	False	True			

2.6.1 CBS

You can access the CBS audit log by selecting CBS from the left side menu.

The **CBS audit Log** captures changes in the CBS register and utilizes an attribute field to identify what type of change was made. Other columns include:

- Changed By (who made the change)
- Change Date (the date and time the change was made)
- The attribute value before and after
- Forecast cost before and after
- Forecast man-hours before and after
- Posting date before and after

CBS	Audit ID	Data type	Item type	Desc:	WBS	Attrit	Chan by	Chan date	Value befor	Value after
ACS	4871359	CBS	Cost Item	Concrete	1071	Schedule ...	Michael M...	07/23/20...	False	True
Pay items	4871358	CBS	Cost Item	Earthwork	1069	Schedule ...	Michael M...	07/23/20...	False	True
Integration	4871357	CBS	Cost Item	Job Overh...	1002	Schedule ...	Michael M...	07/23/20...	False	True
Import history	4871356	CBS	Cost Item	Structural...	1073	Scheduled	Michael M...	07/23/20...	False	True

2.6.2 ACS

You can access the ACS Audit Log by selecting **ACS** from the left side menu.

The **ACS Audit Log** functions similarly to the CBS Audit Log, but contains the changes that were made within the ACS (Account Code Structure) tab. The fields utilized to capture what changes were made are:

- Change attribute
- Changed By (who made the change)
- Changed Date (the date and time the change was made)
- Attribute value before and after

CBS	Audit ID	Data type	Item type	Description	AC No.	Attribute	Changed by	Changed date	Value before	Value after
ACS	177	ACS	Account Code	Structural Steel industrial...	62.03.02.004.02	Primary Auto Quantity	Paul Benson	11/19/2018 12:28 PM	False	True
Pay items	176	ACS	Account Code	Structural Steel industrial...	62.03.02.004.02	Primary Auto Quantity	Paul Benson	11/19/2018 12:04 PM	True	False
Integration	175	ACS	Account Code	Structural Steel industrial...	62.03.02.004.06	Primary Quantity	Paul Benson	11/19/2018 12:21 PM	806.00	406.00
Import history	174	ACS	Account Code	Structural Steel industrial...	62.03.02.004.06	Primary Auto Quantity	Paul Benson	11/19/2018 12:21 PM	True	False
	170	ACS	Account Code	Structural Steel industrial...	62.03.02.004	Contribute Primary To Pr...	Paul Benson	11/19/2018 11:39 AM	False	True

2.6.3 PAY ITEMS

You can access the Pay Item Audit Log by selecting **Pay Items** from the left side menu.

CBS	Audit ID	Data type	Item type	Description	Pay item No.	Attribute	Changed by	Changed date	Value before	Value after
ACS	4873330	Pay Item	Pay Item	Pay Item 1	001	Billing Method	Renee Japp	07/26/2019 01:...	Cost Plus	Fixed Final Price
Pay Items	4872029	Pay Item	Pay Item		1	Pay item tag 8	Renee Japp	07/24/2019 02:...		PY 8
Integration	4872028	Pay Item	Pay Item		1	Pay item tag 6	Renee Japp	07/24/2019 02:...		PY 6
Import history	4872027	Pay Item	Pay Item		1	Pay item tag 4	Renee Japp	07/24/2019 02:...		PY 4

The **Pay Item Log** again functions similarly but contains changes that were made to the pay items. The fields utilized to capture what changes were made are:

- Attribute
- Changed By (who made the change)
- Changed Date (the date and time the change was made)
- Value before and Value after
- Total price before and after

Audit ID	Description	Attribute	Changed by	Changed date	Value before	Value after	Total price before
1333638	Testing 07/31	Description	paul trippi	07/31/2019 08:...	Test	Testing 07/31	\$1040.00000000...
1333637	Testing 07/31	Sales Order	paul trippi	07/31/2019 08:...		S1	\$40.0000000000...

2.6.4 INTEGRATION

You can access the Integration/Sync Audit Log by selecting **Integration** from the left side menu.

	Audit ID	Interface	Status	Processing details	Start	Finish	User name	Log Handle
CBS								
ACS	65639	ActualQty	Succeeded	4 of 4	07/29/2019 03:23 PM	07/29/2019 03:24 PM	pavithra.baskaran1	4a2a98f6-eaa6-431b-81f...
Pay Items	65638	LiveForecast	Succeeded	4 of 4	07/29/2019 03:23 PM	07/29/2019 03:24 PM	pavithra.baskaran1	ce90c8df-f916-4a50-847...
Integration	65637	Budget	Succeeded	4 of 4	07/29/2019 03:23 PM	07/29/2019 03:24 PM	pavithra.baskaran1	43b8dc1c-6825-413a-9c...
Import history	65636	CBS	Succeeded	4 of 4	07/29/2019 03:23 PM	07/29/2019 03:24 PM	pavithra.baskaran1	0985605a-745c-4f27-88...

The **Sync Audit Log** is different from the other three. This log is used to capture:

- Whether the synchronization process between InEight Control and the ERP system was completed successfully
- How long the sync process took to complete and who requested the sync

It keeps track of the functions performed under the Actions > Sync menu.

The syncing process will be discussed further in the *11.3 Audit Log Integration on page 490*.

To help troubleshoot sync issues, you can click the link under the Processing details column to get more information on which steps succeeded, are suspended, or failed.

Last updated: 08/29/2018 01:03 PM
Use shortcut key F5 to refresh status

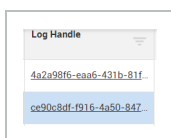
Completed details - - Plan quantities pull: 31570

Step	Status
Step 1: Receiving data	Complete
Step 2: Populating data	Complete

Close

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INEIGHT

If a sync error should occur, you can click on the Log Handle link to obtain troubleshooting information.



This brings you into the InEight **Suite App Logs screen**, where you can see information relating to the error including Level, Time, Domain, Area, Exception Message, Exception Type and Correlation Id, which can help you determine the cause of the sync error.

2.6.5 IMPORT HISTORY

You can access the Import history audit log by selecting **Import history** from the left side menu.

The Import history log contains status information for all imports coming into all InEight products. For example, cost item and actuals import processes can both be viewed in the Import history log for status, then you can eventually make corrections and reprocess.

CBS	File name	Status	Processi Details	Total line items	Errors	Total imported	Added estimate resource	Added pay items	Created by	Created date	Last edited by	Last edited date
ACS	Market_St_9_8_17_GMP_Baseline.xer (Mark...	Failed	Step 3	1842	0	0	0	0	Renee Japp	07/24/2019 1...	Renee Japp	07/24/2019 1...
Pay items	Market_St_9_8_17_GMP_Baseline.xer (Mark...	Failed	Step 3	1842	0	0	0	0	Renee Japp	07/23/2019 1...	Renee Japp	07/23/2019 1...
Integration	Book1.xlsx	Pe. >>>		2	2	0	0	0	Renee Japp	07/12/2019 0...	paul trippi	07/30/2019 0...
Import history	Market_St_9_8_17_GMP_Baseline.xer (Mark...	Cancelled	Step 5	0	0	0	0	0	Renee Japp	07/10/2019 0...	Renee Japp	07/23/2019 1...

The Import history audit log allows you to take action on import and sync failures, based on error messages. Error messages are contained within the error file for those imports that have failed import.

You can view progress in sync longs, view error messages, and then resolve issues in effort to continue with your import.

Control – Audit Log

Section	Description
1 File name	The name of the actual import file being used to import data.
2 Status	The current status of the import file. There are six import status that can define the current state of an import process.
3 Processing Details	This column describes the processing state in which the file is being processed. This column is not applicable for all statuses.
4 Total line items	This is the total line items that are included within the Excel import file.
5 Errors	This is a count of the number of errors during import.
6 Total import	This is the total amount of records that were successfully imported from the Excel import file.
7 Added	This is the total amount of added estimate resources that were added in

Control – Audit Log (continued)

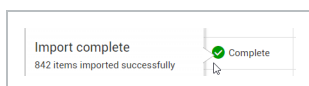
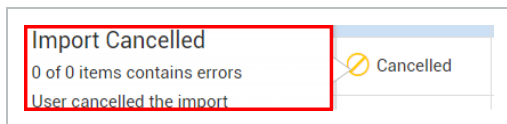
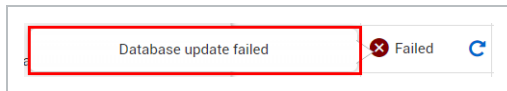
Section		Description
	estimate resources	the CBS.
8	Added pay items	This is the total amount of pay items successfully imported from the Excel import file.
9	Created by	This is user responsible for importing the Excel upload file.
10	Created date	This is the actual date the Excel upload file was imported.
11	Last edited by	This is the last user to edit the Excel upload file.
12	Last edited date	This is the last date the Excel upload file was edited.

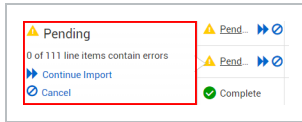
File name ¹	Status ²	Processing Details ³	Total line items ⁴	Errors ⁵	Total imported ⁶	Added estimate resources ⁷	Added pay items ⁸	Created by ⁹	Created date ¹⁰	Last edited by ¹¹	Last edited date ¹²
NEWPROJ.xer (D...	Pend...	Step_5	18	0	0	0	0	paul trippi	08/02/2019 12:1...	paul trippi	08/02/2019 12:1...
NEWPROJ.xer (D...	Cancelled	Step_5	0	0	0	0	0	paul trippi	08/02/2019 12:1...	paul trippi	08/02/2019 12:1...
NEWPROJ.xer (D...	Cancelled	Step_5	0	0	0	0	0	paul trippi	08/02/2019 12:0...	paul trippi	08/02/2019 12:1...
NEWPROJ.xer (D...	Cancelled	Step_5	0	0	0	0	0	paul trippi	08/02/2019 12:0...	paul trippi	08/02/2019 12:0...

If you hover over one of these Status symbols below, it provides you with a brief explanation of the selected status.



Here are some examples:





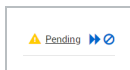
There are six possible import statuses listed below.

Import history Statuses

Status	Status Icon	Definition
Failed		Import failed due to a duplicate row within the Excel file.
Failed with errors		Import failed with an attachment to download with further information.
Pending		The Excel import file is pending, further action is needed. The double blue arrows will open a new window where you can correct and re-process the Excel import file. The blue circle with the line through it will cancel the import completely.
Cancelled		The Excel import file has been cancelled.
Processing		The Excel import is still processing. Once this is complete, the status will move into one of the other five statuses.
Complete		Processing of the Excel import files is complete.

2.6.5.1 PENDING STATUS

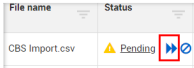
When an import is in a **Pending** status, this means that further action is needed to complete the Excel file import.



There are two options:

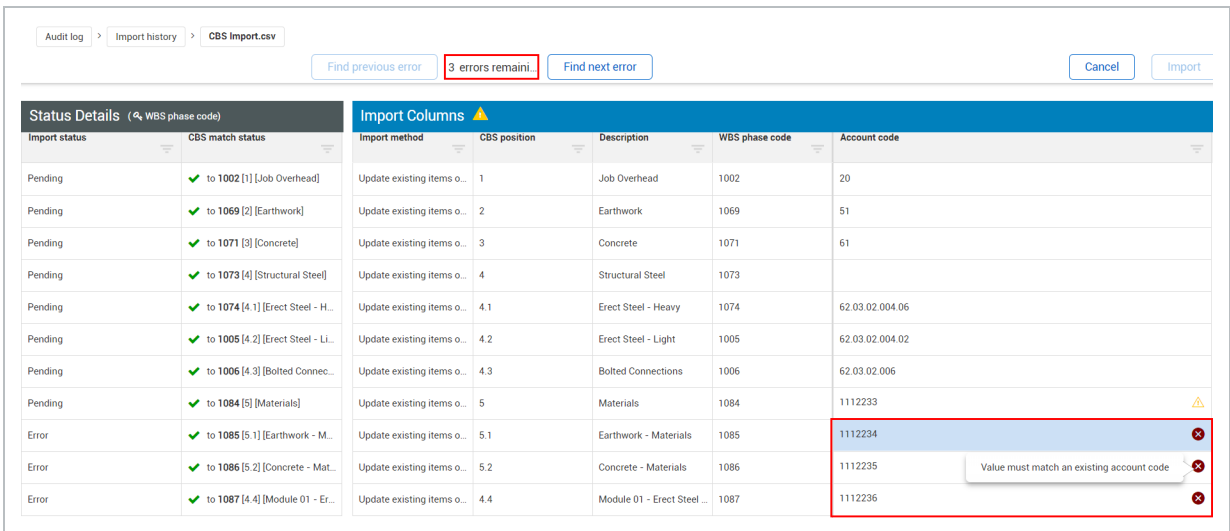
OPTION 1

1. By selecting the double blue errors, you will be taken to another window to continue processing the faulty records.



As an example, in the below screenshot, there are 3 existing errors. If you hover over one of the errors, it will tell you what needs to be corrected.

In this case, there is an issue with the account code assignment, as the pop-up hover suggests.



The screenshot shows the 'Import Columns' table with the following data:

Import status	CBS match status	Import method	CBS position	Description	WBS phase code	Account code
Pending	✓ to 1002 [1] [Job Overhead]	Update existing items o...	1	Job Overhead	1002	20
Pending	✓ to 1069 [2] [Earthwork]	Update existing items o...	2	Earthwork	1069	51
Pending	✓ to 1071 [3] [Concrete]	Update existing items o...	3	Concrete	1071	61
Pending	✓ to 1073 [4] [Structural Steel]	Update existing items o...	4	Structural Steel	1073	
Pending	✓ to 1074 [4.1] [Erect Steel - H...]	Update existing items o...	4.1	Erect Steel - Heavy	1074	62.03.02.004.06
Pending	✓ to 1005 [4.2] [Erect Steel - Li...]	Update existing items o...	4.2	Erect Steel - Light	1005	62.03.02.004.02
Pending	✓ to 1006 [4.3] [Bolted Connec...]	Update existing items o...	4.3	Bolted Connections	1006	62.03.02.006
Pending	✓ to 1084 [5] [Materials]	Update existing items o...	5	Materials	1084	1112233
Error	✓ to 1085 [5.1] [Earthwork - M...]	Update existing items o...	5.1	Earthwork - Materials	1085	1112234
Error	✓ to 1086 [5.2] [Concrete - Mat...]	Update existing items o...	5.2	Concrete - Materials	1086	1112235
Error	✓ to 1087 [4.4] [Module 01 - Er...]	Update existing items o...	4.4	Module 01 - Erect Steel ...	1087	1112236

A red box highlights the last three rows (rows 1085, 1086, and 1087). A tooltip is visible over the '1112235' account code cell, stating 'Value must match an existing account code'.

2. When you double click into one of the 3 errors, it will take you directly into an account code assignment screen where you can make the correction.

From here you can select an account code and click on Assign.

Assign account code

Search...

Select	Account code	Description	UoM
<input type="radio"/>	00	Overhead.6233 EDIT	PLS
<input type="radio"/>	00.03	OH - Get Work	MWk
<input type="radio"/>	00.03.02	OH - Estimating	MWk
<input checked="" type="radio"/>	00.03.02.002	OH - Estimating - Engineering (Pr...	MWk
<input type="radio"/>	00.03.02.006	OH - Estimating - Research & Qu...	MWk
<input type="radio"/>	00.03.02.008	OH - Estimating - Prepare Estima...	MWk
<input type="radio"/>	00.03.02.010	OH - Estimating - Review (Pre-Bid)	MWk
<input type="radio"/>	00.03.02.014	OH - Estimating - Post Bid	MWk
<input type="radio"/>	00.03.02.016	OH - Estimating - Management	MWk
<input type="radio"/>	00.03.02.018	OH - Estimating - 2nd Estimates	MWk

Cancel **As**

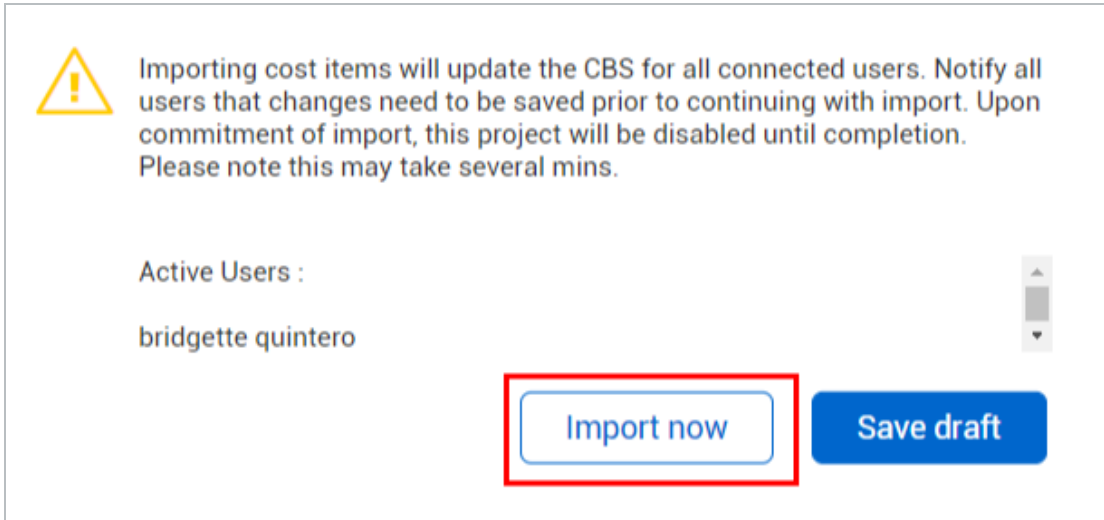
- 3. After all corrections have been made to the existing errors, you can select the Import button on the top right on the screen.

Find next error

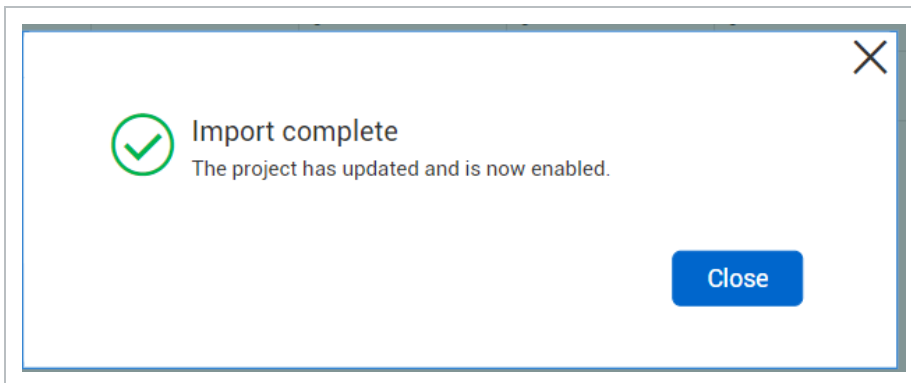
Cancel **Import**

Description	WBS phase code	Account code
Job Overhead	1002	20
Earthwork	1069	51
Concrete	1071	61
Structural Steel	1073	

- 4. A warning message appears stating that changes will be made, and this project will be disabled until completion.



- 5. Once processing has finished, you will receive an Import complete message.






- 6. The Import history page now shows that the imported file is now successfully imported and updates the Last edited date.

File name	Status	Total line items	Errors	Total imported	Added estimate resources	Added pay items	Created by	Created date	Last edited by	Last edited date
CBS Import.csv	Complete	11	0	0	0	0	Keith Anderson	06/19/2019 06:30 ...	paul trippi	07/31/2019 10:32 ...

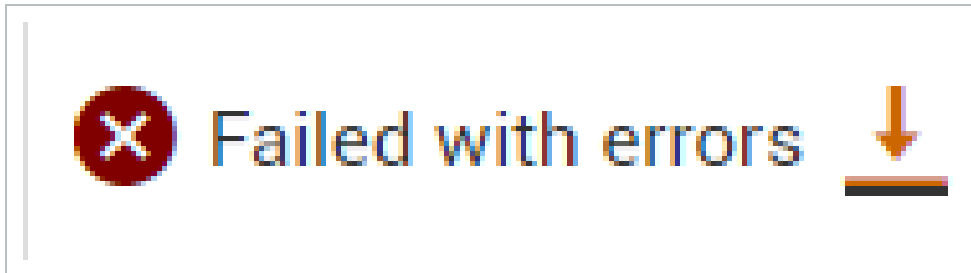
OPTION 2

1. Selecting cancel, the blue circle with the line through it, will cancel the import completely.

File name	Status
CBS Import.csv	 Pending  

2.6.5.2 FAILED WITH ERRORS STATUS

When an import is in a **Failed with errors** status, the system will generate a Word error report. The document displays detected errors while attempting to import the Excel file values. Errors will need to be reviewed within the Word document



An example of the Failed with errors Word **error file** provides direction on how to proceed with correcting the Excel import errors, and a course of action to run the import again

```
Import actuals CBS data: CBS import.xls
File Import attempted on: 7/31/2019 3:45:03 PM

The following errors were detected while attempting to import actual
values into control.
Review the errors below, once all the errors have been resolved,
reattempt the import to Control.

Error 1: Posting date in external system must be valid (this error
affects 10 WBS/CBS items out of 10 total attempted imported WBS/CBS items
and 10 rows out of 10 total attempted imported rows)

WBS: 2904
CBS: 10
Row: 7

WBS: 2905
CBS: 11
Row: 8

WBS: 2906
CBS: 12
Row: 9

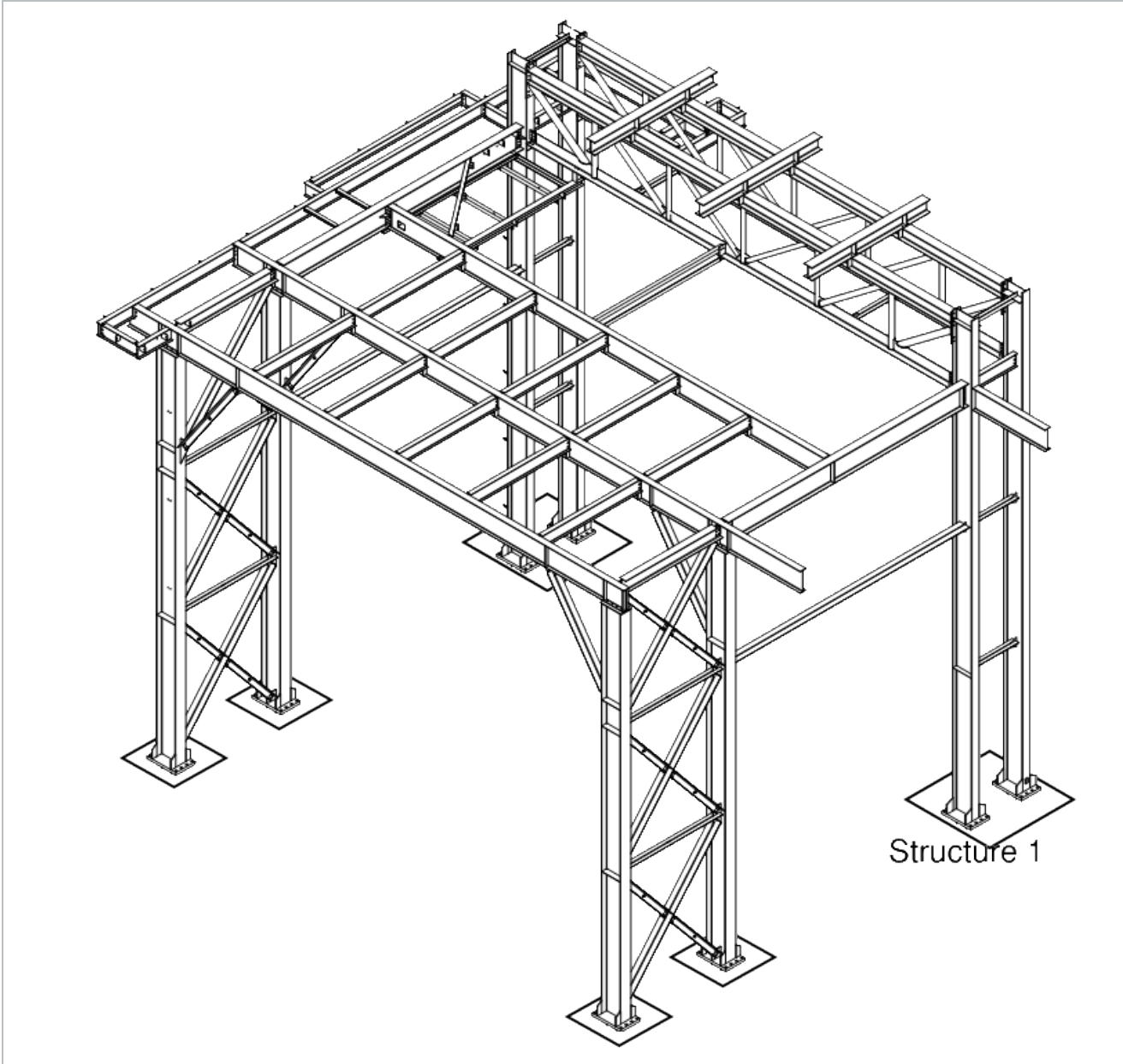
WBS: 2907
CBS: 13
Row: 10
```

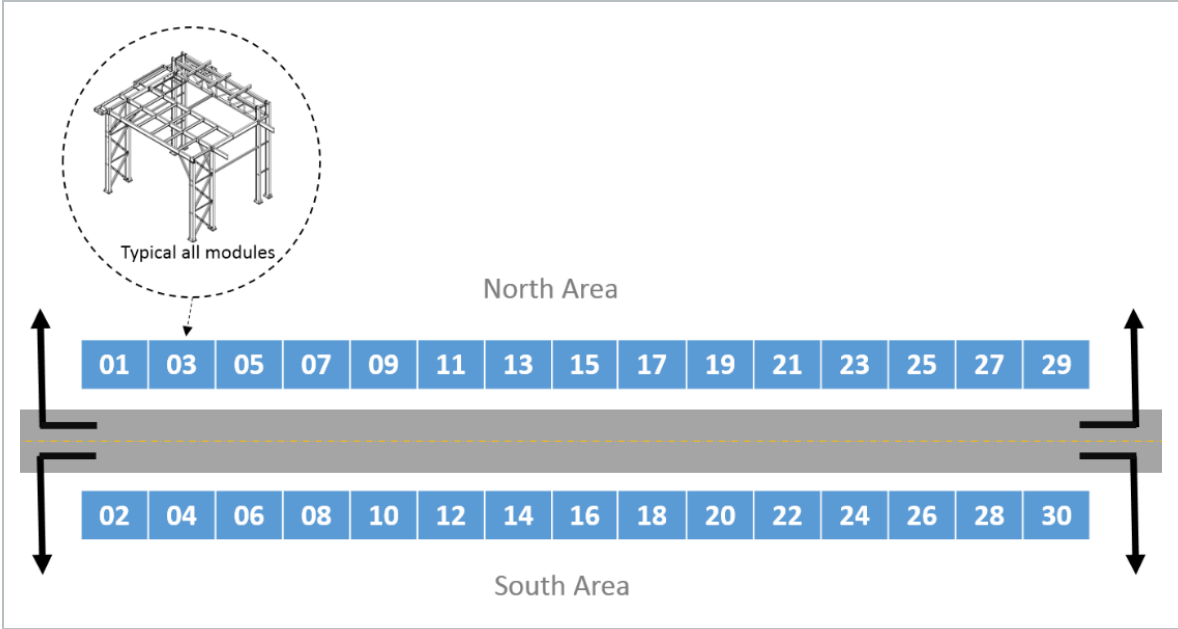
The only option with a Failed with errors status is to review the errors, resolve them within the initial Excel file import, and then re-import the file.

2.7 PROJECT INTRODUCTION

You will be using the project titled “**Steel Structure Training Job**” for the InEight Control training. Within this Control training, you will create cost items and other data that will be utilized in trainings covering the other InEight products (Plan, Progress, etc.)

The project consists of the construction of multiple steel support platforms in a greenfield site. The project scope ranges from site preparations, concrete foundation and footing pours, steel erection, and bolted connections.





REVIEW

1. Match each term to its correct definition:

<u>Term</u>	<u>Definition</u>
Home Menu	Select available actions for the current register tab you are viewing.
Actions Menu	Navigate to the CBS, ACS, Pay Items, Change Register and Audit Log register pages.
Tabs	Select what application you want to use (Control, Plan, etc.), as well as other project settings.
Right Toolbar	Contains functions for the register page you are currently viewing.
Second Level Menu	Returns to the Organization or Project home landing page

2. Which two of the following are not a data block category?

- a. Standard
- b. Unique
- c. Cost category
- d. Custom
- e. Audit

3. How are filtered columns in InEight Control indicated in the content register's data blocks?

- a. Column header is highlighted green
- b. Column will shade red

- c. Sort/Filter button in column header is yellow
 - d. No indication is given
-
4. How do you change the spacing of your rows in Control?
 - a. Select the Row density icon from the right toolbar
 - b. Select Row density from the Actions menu
 - c. Change Row density in the Project settings

SUMMARY

As a result of this lesson, you can:

- Navigate the InEight Control Workspaces page
- Manage data blocks
- Group Pay Items
- Manage columns
- Create viewsets
- Change row density

COST ITEM SETUP

LESSON DURATION: 45 MINUTES

LESSON OBJECTIVES

After completing this lesson, you will be able to:

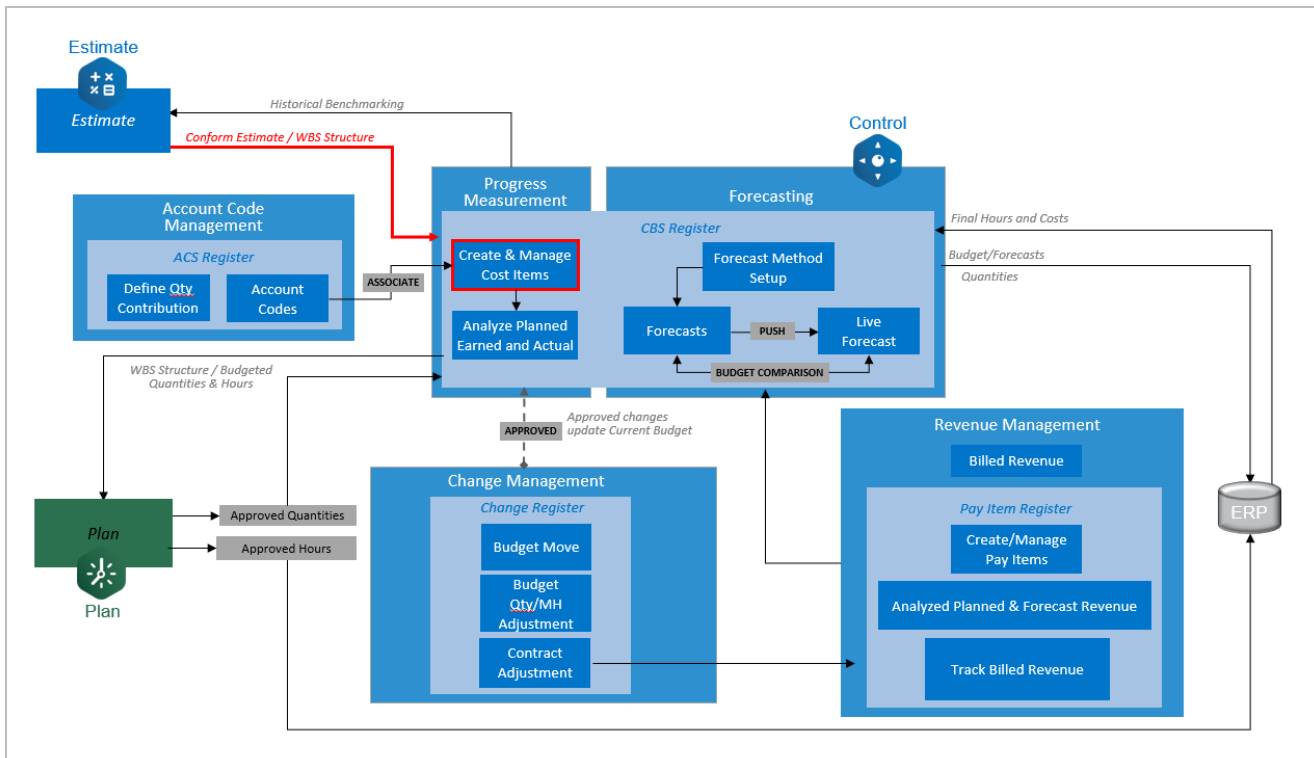
- Explain the Cost Breakdown Structure and its purpose
- Create, arrange and delete cost items
- Import cost items

LESSON TOPICS

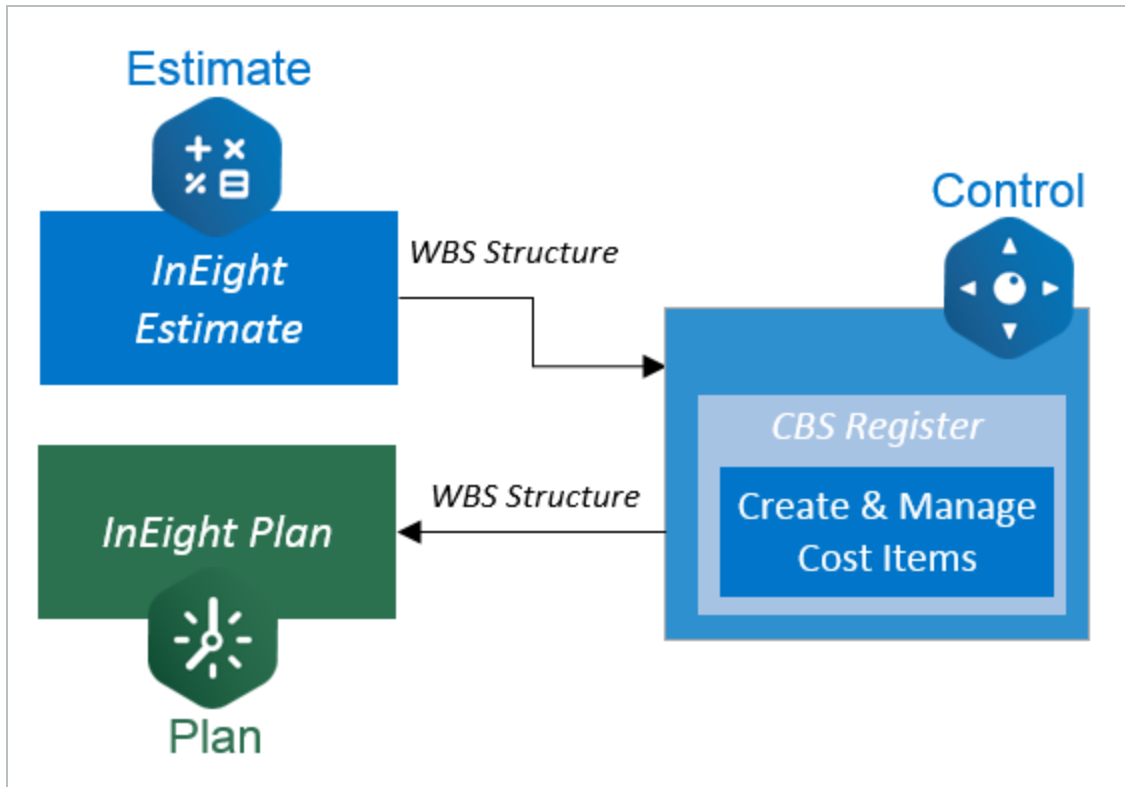
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3.1 INEIGHT CONTROL WORKFLOW - COST ITEM SETUP



InEight Control is the application used to create and manage cost items. The cost breakdown structure developed and maintained in Control is utilized by other InEight applications which inherently share the same data set to eliminate duplicate data entry.



3.2 COST ITEM OVERVIEW

3.2.1 COST BREAKDOWN STRUCTURE

The CBS (Cost Breakdown Structure) is the main tab of the Workspaces page in Control and is the tab where you typically spend most of your time. Each row in the CBS represents a work activity and is called a cost item. In Lesson 2 – General Navigation, you learned how to customize data blocks of the CBS register to only the columns you need to manage your project.

Tasks			Task details			Cost categories : Actuals		
CBS position	Description	WBS phase code	Resource	Forecast (T/O) quantity	UoM	Labor total cost (to date)	Construction equipment total cost (to...)	Field o and maint
1	Job Overhead	1002	16		1.00 Lump Sum	USD \$ 1,958,088.00	USD \$ 1,275,613.00	USC
2	Earthwork	1069	5		10,000.00 CY	USD \$ 2,157,313.00	USD \$ 1,057,874.00	USC
3	Concrete	1071	6		10,000.00 CY	USD \$ 2,105,378.00	USD \$ 989,283.00	USC
4	Structural Steel	1073			1,000.00 Ton	USD \$ 6,208,007.00	USD \$ 3,543,115.00	USC
4.1	Erect Steel - Heavy	1074	5		800.00 Ton	USD \$ 2,060,138.00	USD \$ 1,089,968.00	USC

The CBS is organized in a hierarchy of superior and subordinate cost items. A cost item is superior and/or subordinate based on its relationship to other cost items. This is similar to a parent and a child relationship where an individual can be both a parent and a child at the same time. The CBS is color coded to identify which level of the hierarchy a specific cost item is located.

Tasks				Task details		
CBS position	Description	WBS phase code	Resource	Forecast (T/O) quantity	UoM	
1	Job Overhead	1002			1.00 Lump Sum	
2	Earthwork	1069			10,000.00 CY	
2.1	Earthwork Review	1003	1		1.00 Each	
2.2	Earthwork	1004	5	10,000.00	CY	
3	Concrete	1071	5	10,000.00	CY	
4	Structural Steel	1073			1,000.00 Ton	
4.1	Erect Steel - Heavy	1074	5		800.00 Ton	
4.2	Erect Steel - Light	1005	5		200.00 Ton	
4.3	Bolted Connections	1006	5		2,000.00 Ea	
5	Materials	1084			1.00 Each	
5.1	Earthwork - Materials	1085	1		10,000.00 CY	
5.2	Concrete - Materials	1086	1		10,000.00 CY	
5.3	Structure Steel - Materials				1,000.00 Ton	

Tasks				Task details < ●●●● >		
	CBS position	Description	WBS phase code	Resource	Forecast (T/O) quantity	UoM
	1	Job Overhead	1002		1.00	Lump Sum
	^ 2	Earthwork	1069		10,000.00	CY
	2.1	Earthwork Review	1003	1	1.00	Each
	2.2	Earthwork	1004	5	10,000.00	CY
	3	Concrete	1071	5	10,000.00	CY
	^ 4	Structural Steel	1073		1,000.00	Ton
	4.1	Erect Steel - Heavy	1074	5	800.00	Ton
	4.2	Erect Steel - Light	1005	5	200.00	Ton
	4.3	Bolted Connections	1006	5	2,000.00	Ea
	^ 5	Materials	1084		1.00	Each
	5.1	Earthwork - Materials	1085	1	10,000.00	CY
	5.2	Concrete - Materials	1086	1	10,000.00	CY
	5.3	Structure Steel - Materials			1,000.00	Ton

Subordinate

If a cost item has no subordinates it is considered a terminal cost item. Terminal cost items are where cost is tracked. All superior items are a roll up of the budget, manhours, and cost of the cost items below. Terminal items are identified with a special symbol located at the first column of each data block.

Tasks				Task details < ●●●● >	
	CBS position	Description	WBS phase code	WBS phase code	Pay item assignment
	1	Job Overhead	1002	1002	
	^ 2	Earthwork	1069	1069	
	2.1	Earthwork Review	1003	1003	
	2.2	Earthwork	1004	1004	
	3	Concrete	1071	1071	
	^ 4	Structural Steel	1073	1073	
	4.1	Erect Steel - Heavy	1074	1074	
	4.2	Erect Steel - Light	1005	1005	
	4.3	Bolted Connections	1006	1006	
	^ 5	Materials	1084	1084	
	5.1	Earthwork - Materials	1085	1085	
	5.2	Concrete - Materials	1086	1086	
	5.3	Structure Steel - Materials			

Terminal

This terminology and associated graphics provide a way to communicate and understand the hierarchy of the Cost Breakdown Structure. The following table provides definitions for each of these terms.

Term	Definition
Superior	Cost item that has subordinate subcost items that roll up under it.
Subordinate	Cost item that is a child to a superior cost item.
Terminal	Cost item that has no subordinate beneath it. Costs and hours are defined at the terminal level.

As accurate as estimators try to build the estimate, changes occur during the project's execution that affect the CBS register in Control. To learn how to maintain, improve, and use the CBS register properly, this topic focuses on the fundamentals of the Cost Breakdown Structure.

3.2.2 CBS TREE

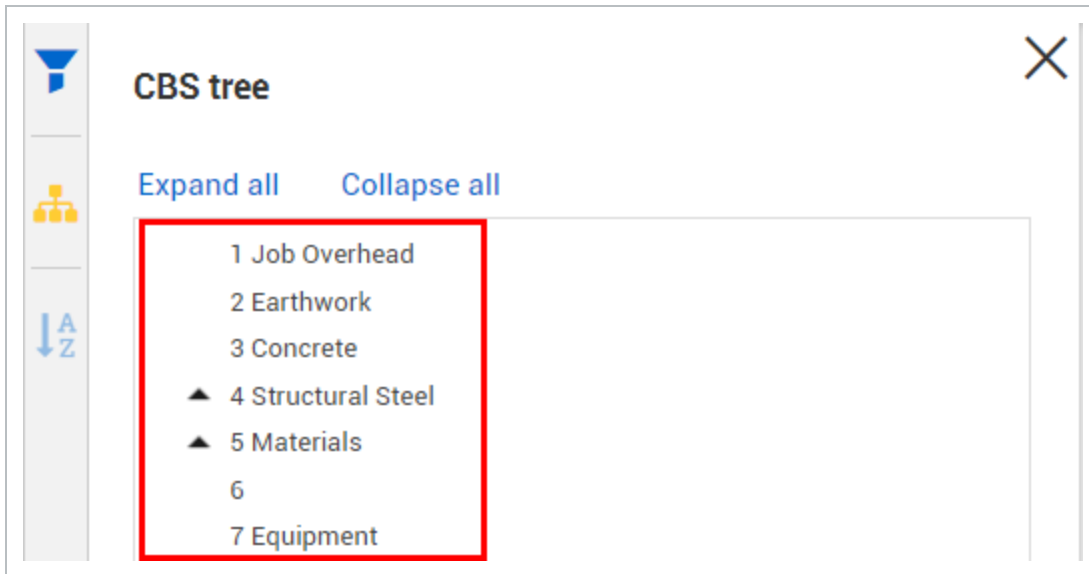
The CBS tree provides a way to navigate up and down your Cost Breakdown Structure and a way to filter down to a subset of the structure.

You open the CBS tree slide out panel by clicking on the CBS Tree icon on the Side Toolbar.

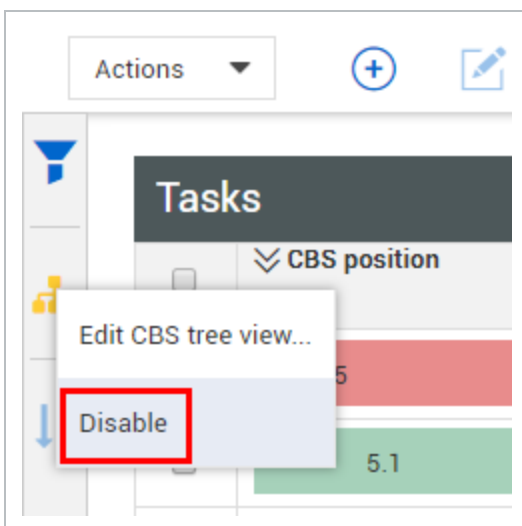
The screenshot shows the CBS Tree interface. At the top, there is an 'Actions' dropdown menu and three icons: a plus sign (+), a pencil (edit), and a close sign (X). Below this is a side toolbar with several icons: a funnel (filter), a list icon, a CBS tree icon (highlighted with a red box), and an 'AZ' icon with arrows. The main area displays a table titled 'Tasks' with the following columns: 'CBS position' and 'Description'. The table contains five rows:

	CBS position	Description
<input type="checkbox"/>	1	Job Overhead
<input type="checkbox"/>	2	Earthwork
<input type="checkbox"/>	3	Concrete
<input type="checkbox"/>	4	Structural Steel

When selected, the CBS tree icon turns yellow and the slide out panel appears.



- Select Expand all to expand the entire Cost Breakdown Structure
- Select Collapse all to collapse the entire Cost Breakdown Structure
- Click on the arrow icons to expand a cost item to view its subordinates
- Select a cost item and then click **Apply** to filter your view to that cost item and its subordinates
- To clear the CBS filter, click the CBS tree icon and then click Disable

**TIP**

You can select more than one cost item on the tree to create a customized view.

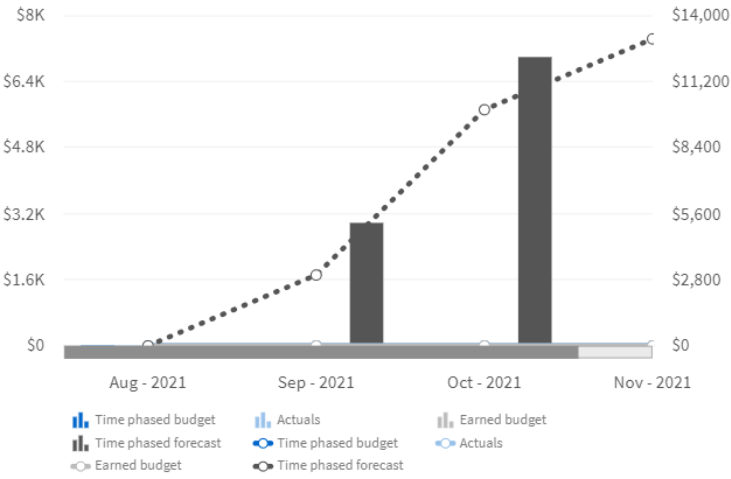
3.2.3 COST ITEM DASHBOARD

The Cost Item Dashboard slide-out panel shows multiple cost item affiliated graphs. These graphs let you further analyze cost item past and current performance trends related to time-phased distribution, current budget changes, value over time, completion progress indicators, and a CBS audit history log.

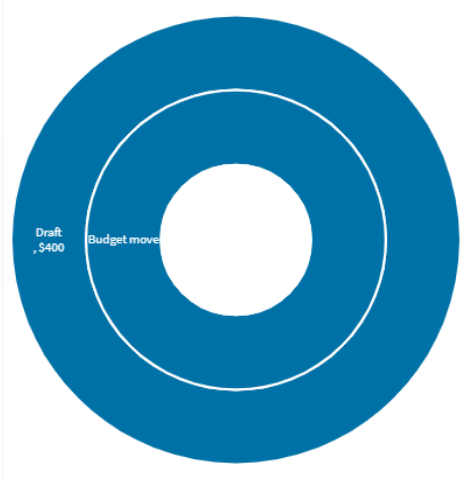
1074

Erect Steel - Heavy

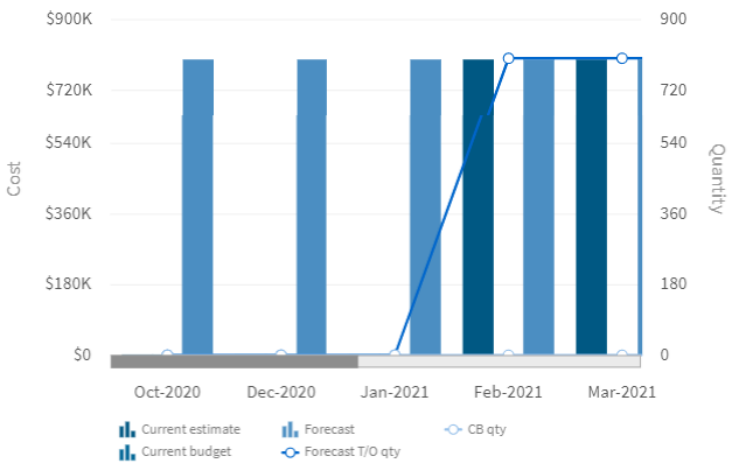
Time phased distribution



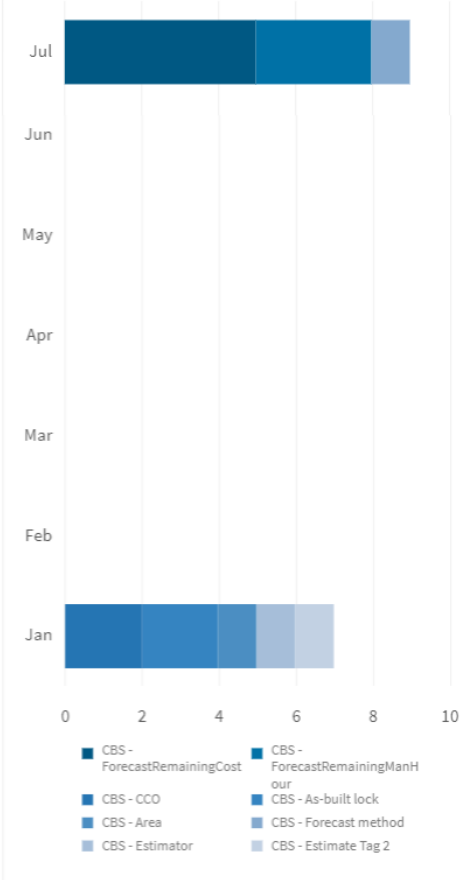
Current budget changes



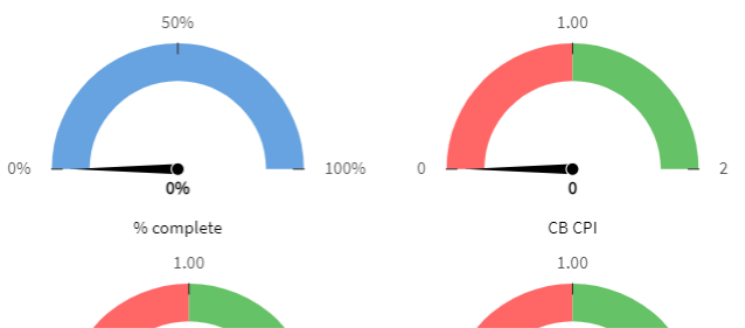
Value change over time



CBS audit log history



Completion progress



You open the Cost Item dashboard slide out panel by right-clicking on a cost item, and then selecting **Cost item dashboard**.

Tasks			Task details
<input type="checkbox"/>	CBS position	Description	Resources
<input checked="" type="checkbox"/>	1	Job Overhead	
<input type="checkbox"/>	2	Earthwork	
<input type="checkbox"/>	3	Concrete	
<input type="checkbox"/>	4	Structural Steel	
<input type="checkbox"/>	4.1	Erect Steel - Heavy	
<input type="checkbox"/>	4.2	Erect Steel - Light	
<input type="checkbox"/>	4.3	Bolted Connections	
<input type="checkbox"/>	5	Materials	
<input type="checkbox"/>	5.1	Earthwork - Mater...	
<input type="checkbox"/>	5.2	Concrete - Materi...	
<input type="checkbox"/>	5.3	Structure Steel - ...	
<input type="checkbox"/>	6		

Subtotals 12 (1 rows selected)

3.3 COST ITEM SETUP

3.3.1 COST ITEM CREATION

While typically most of your structure imports from your estimating system, you may need to revise the CBS to reflect the way the work will be performed in the field. You may also encounter contract changes or new work. To accommodate these needs, you can add, edit and arrange cost items as needed.

If you need to build additional structure from scratch, you can create new level one cost items as needed. If needed, this would allow you to create an entire new structure from scratch on a blank project, giving you the flexibility to create a complete project structure within Control.

The New cost item window includes a section where you can add multiple cost items. Newly added cost items become positioned at the bottom of the CBS hierarchy. As part of the cost item creation process, you can quickly create multiple cost items and then click Save when you are finished.

New cost item

New cost item

+ Add new cost item

Forecast T/O qty	UoM	CE unit cost	CE total cost
1.00	PLS	\$0.00	\$0.00

Description

• Forecast T/O qty: 1.00

• UoM: PLS

WBS phase code: Generated on Save

• Cost source: Plug

CE total cost: \$0.00

CE total MHours: 0.00

CE total equipment Hrs: 0.00

CE unit cost

CE MHours/Unit

CE Units/MHours

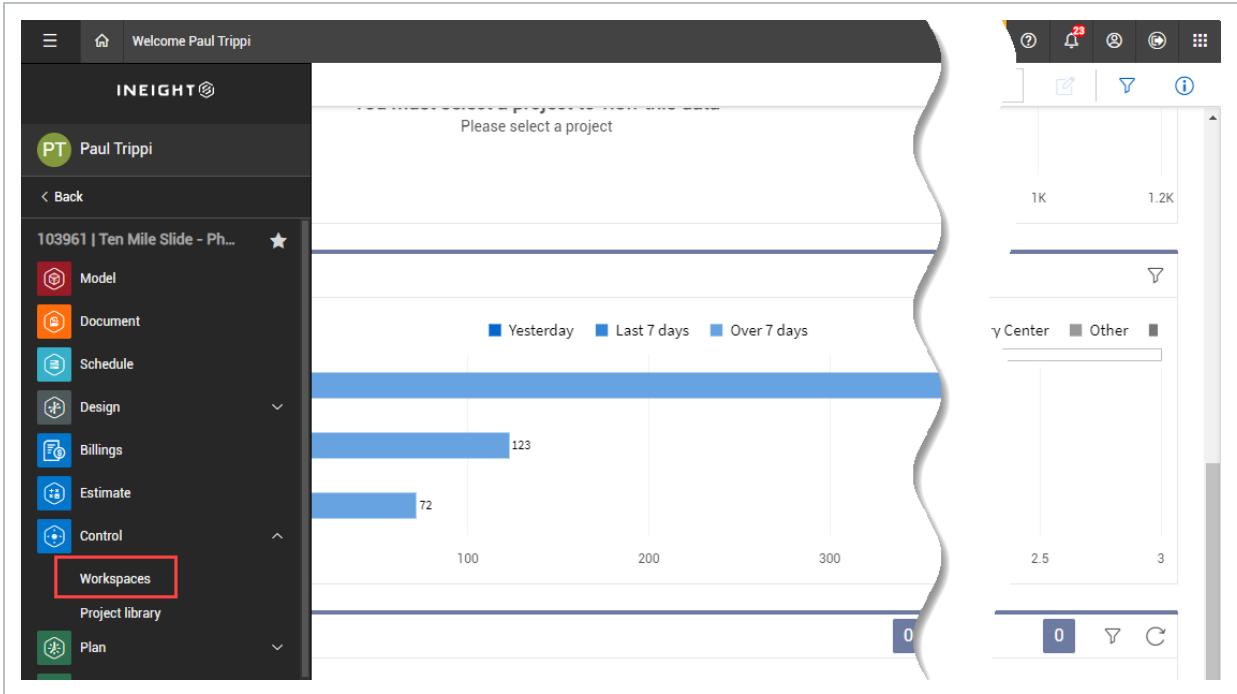
CE labor cost/MHours

Cancel Save

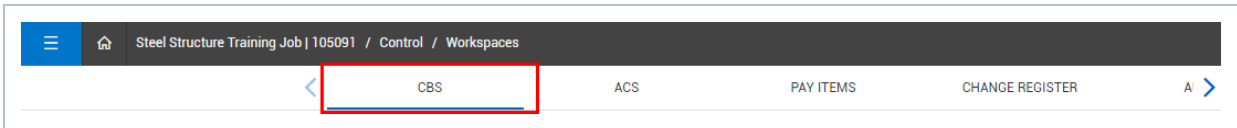
The following steps walk you through how to create cost items.

CREATE NEW COST ITEMS

1. From the project's home page menu, select **Control**.
2. Select **Control > Workspaces** on the left side of the Main menu.



3. Select the **CBS** tab to open the CBS register of your project.

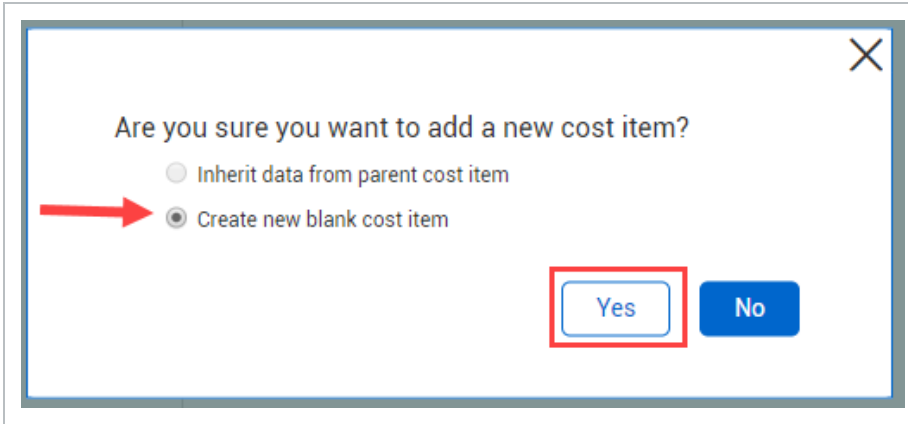


4. Select the **Add Cost Item** icon on the top left of the page.

The screenshot shows the 'CBS' register interface. At the top, the breadcrumb path is 'Steel Structure Training Job | 105091 / Control / Workspaces'. Below this, there are tabs for 'CBS' and 'ACS'. In the 'Actions' bar, there are three icons: a plus sign in a circle (highlighted with a red arrow), a document icon, and a close icon. Below the actions bar is a table with the following data:

Tasks				Task det
<input type="checkbox"/>	CBS position	Description	WBS phase code	SPI
<input type="checkbox"/>	1	Job Overhead	1002	
<input type="checkbox"/>	2	Earthwork	1069	

5. Select **Create a new blank cost item**, then click **Yes**.



- This opens the Cost item details page where you can enter the pertinent information for the new cost item

New cost item

DETAILS ATTRIBUTES

Forecast T/O qty	UoM	CE unit cost	CE total cost
1.00	PLS	\$0.00	\$0.00

Description: Forecast T/O qty: UoM: WBS phase code:

Cost source: CE total cost: CE total Mhrs: CE total equipment Hrs:

CE unit cost: CE Mhr/Unit: CE Units/Mhrs: CE labor cost/Mhrs:

Cost segment: Pay item assignment: Account code: Live forecast method:

Allow as-built: Quantity driver: Currency:

Cancel Save

6. On the Details tab, enter the following information:

- Description: [enter a cost item description]
 - UoM: **Lump Sum**
 - Cost Segment: **Direct Cost**
 - Allow as-built: **All**
7. Click **Add new cost item** on the new cost item list in the left-side panel to add an additional cost item.
8. Enter the following information:
- Description: [enter a cost item description]
 - UoM: **Lump Sum**
 - Cost Segment: **Direct Cost**
 - Allow as-built: **All**

The screenshot shows a software interface for setting up a cost item. On the left, a sidebar lists existing items: 'Crane' and 'Crane engine fluid'. The 'Crane engine fluid' item is selected, and a blue button with a plus sign and the text 'Add new cost item' is visible below it. The main area of the window is titled 'Crane engine fluid' and contains several input fields and dropdown menus. A vertical wavy line separates the sidebar from the main area. The fields include: 'Forecast T/O' with a value of 1.00; 'Description' with a dropdown menu showing 'Crane engi...'; '* Cost sou' with a dropdown menu showing 'Plug' and a value of 0.00; 'CE total cost' with a value of \$0.00; 'WBS phase code' with a dropdown menu showing 'Generated on Save'; 'CE total equipment Hrs' with a value of 0.00; and 'CE unit cost'. At the bottom right, there are two buttons: 'Cancel' and 'Save'.

9. Click **Save**.

- Your new cost items are now created in the CBS

Tasks		Task details		
<input type="checkbox"/>	CBS position	Description	Forecast (T/O) qty	UoM
<input type="checkbox"/>	3.1.7	YVR Dewatering	1.00	PLS
<input type="checkbox"/>	3.1.8	EWC Training	1.00	PLS
<input type="checkbox"/>	5	Crane	1.00	Lump Sum
<input type="checkbox"/>	6	Crane engine fluid	1.00	PLS
Subtotals 141				

CREATE A NEW SUBORDINATE COST ITEM

- From the project's home page menu, select **Control**.
- Select **Workspaces**.
- On the CBS tab, scroll down and find a **superior cost item** in the Tasks data block where multiple subordinate cost items exist.
- Right click the **superior cost item** to bring up the options menu.
- Select **New Subordinate Cost Item** to create a subordinate cost item to your superior cost item.
- Select the **Inherit data from parent cost item** radio button, then click **Yes**.
 - This allows you to copy the parent item's information and avoid entering common information a second time.

TIP

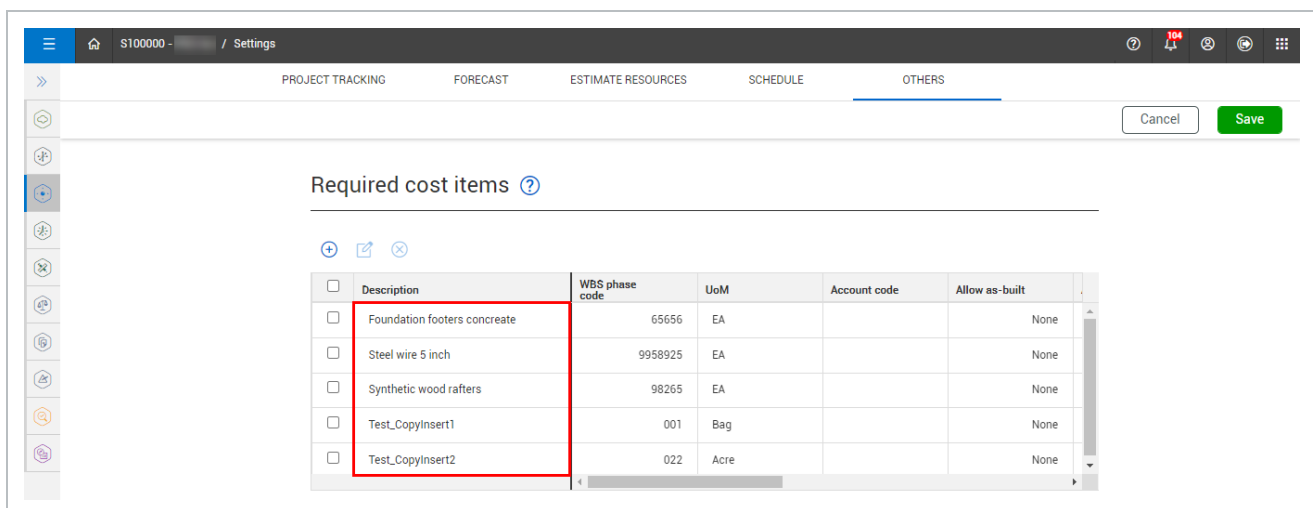
You can create a new cost item in two ways:

- **New Cost Item:** This creates a new cost item with the next available number at the current hierarchy level that you selected. Example: If you select 1.6 it creates 1.7 if available.
- **New Subordinate Cost Item:** This creates a new subordinate cost item with the next number available one level lower than the current level selected. Example: If you selected 1.6, it will create the next 1.6.x where X is the next number available.

3.3.2 REQUIRED COST ITEMS

The Required cost items feature lets you create standardized or commonly used cost items at the organization level, and then add them at the project CBS level. Changing any of the required cost items at the organization level, such as the account code or UoM, also updates the cost items at the project level.

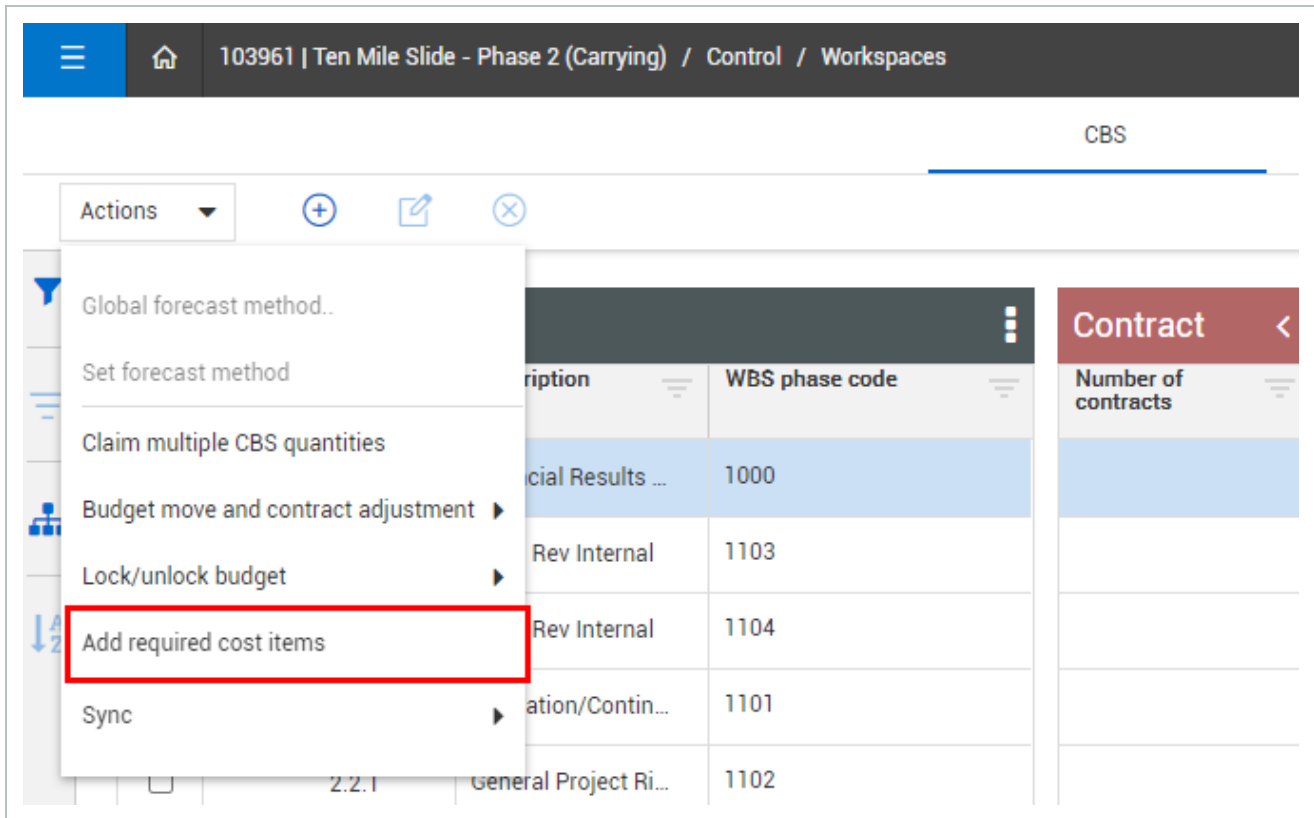
When required cost items are added in Settings > Control > Others > **Required cost items**, the feature provides standardization across all projects for those cost items that are commonly used.



The screenshot displays the 'Required cost items' configuration interface. At the top, there are navigation tabs: PROJECT TRACKING, FORECAST, ESTIMATE RESOURCES, SCHEDULE, and OTHERS. Below the tabs, there are 'Cancel' and 'Save' buttons. The main content area is titled 'Required cost items' and contains a table with the following data:

<input type="checkbox"/>	Description	WBS phase code	UoM	Account code	Allow as-built
<input type="checkbox"/>	Foundation footers concrete	65656	EA		None
<input type="checkbox"/>	Steel wire 5 inch	9958925	EA		None
<input type="checkbox"/>	Synthetic wood rafters	98265	EA		None
<input type="checkbox"/>	Test_CopyInsert1	001	Bag		None
<input type="checkbox"/>	Test_CopyInsert2	022	Acre		None

This feature can be a substitute for copying and pasting cost items from one project into another and ensures the same WBS phase code is being used regardless of the project a team member is working on.



3.3.3 DESIGN TOTAL QTY AND MAN-HOURS COLUMNS IN CBS

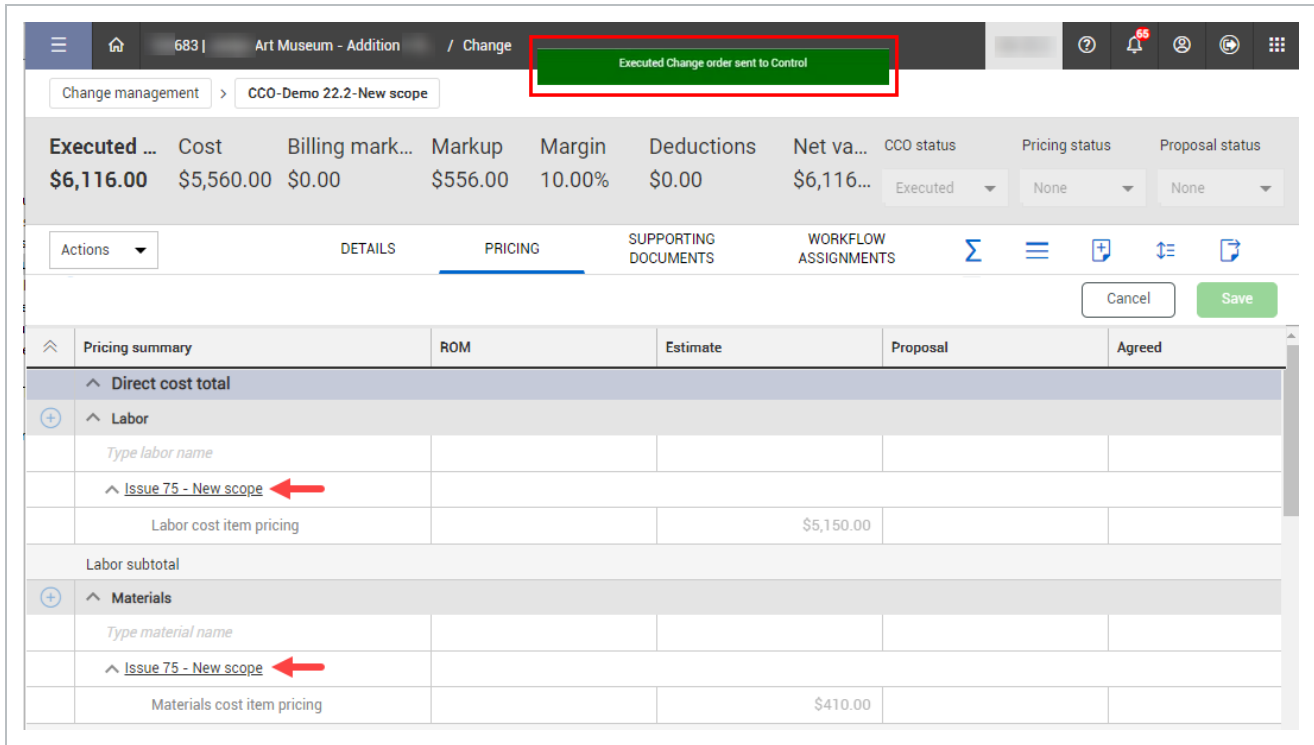
Control displays the sum of the Forecast T/O quantity from the associated InEight Design items against the attributed cost items. You can compare the Design total quantity and Design total man-hours to the Forecast (T/O) quantity and Forecast hours columns, to make sure the values match up with what is in Design.

	Design total qty Forecast T/O qty as determined and pulled from the Design application (Quantity item - Forecast TO qty)	Design total MHrs Current estimate man hours as determined and pulled from the Design application (Quantity item - CE MHrs)	
Forecast remaining cost	Design total qty	Design total MHrs	Forecast method
\$ 52,598,900.46	53,898.000	0.993	Rollup
\$ 5,760,886.07	370.000	0.651	Rollup

3.3.4 CREATE COST ITEMS IN INEIGHT CHANGE

You can also create cost items with resources in Change, and then have them created in Control upon the approval of a contract adjustment. This reduces the amount of extra steps needed for creating cost items in multiple areas.

Creating cost items in Change is performed by first creating an issue with your newly created cost items, then executing your change order.



In Control, go into the Change Register and click on the change order to review the new cost items that originated from Change.

The screenshot displays the 'CHANGE REGISTER' interface. On the left, a table lists change orders with columns for Ch., ID, Description, CCO, Crea. date, and Issue #. The main area shows details for change order 28.0, including its type (New scope), status (CCO-Approved), and originator (Morgan Smith). Below this, two tables provide further details:

Pay item number	Description	Current billing method	Adjusted current price	Adjusted current unit price	Adjusted current pay qty	Locked date
2	Amendment #2	Fixed final price	\$ 6,116.00	\$ 0.00	6,116.00	
			\$ 6,116.00	\$ 0.00		

CBS position	Description	WBS phase code	Adjusted CB total cost	Adjusted CB total Mhrs	Adjusted CB total Qty	Locked date
4.36	New scope - Plug values	1353	\$ 5,150.00	50.00	1.00	02/28/2022
4.37	New scope - Resources	1354	\$ 410.00	0.00	1.00	02/28/2022

Revise the change order to make any further adjustments, such as associating pay items to your cost items. Notice how the cost category assignments have all come over to Control that originated from the change document.

The screenshot shows the 'Assign cost to' dialog box. At the top, it displays summary statistics for the change order, including CCO total budget, unassigned budget, net budget change, and approval probability. Below this, a table lists 'Unassigned cost items' with columns for CBS position, Description, WBS phase code, CB total cost, Adjusted CB total cost, and Markup %.

CBS position	Description	WBS phase code	CB total cost	Adjusted CB total cost	Markup %
	New scope - Plug values		\$ 0.00	\$ 5,150.00	
	New scope - Resources		\$ 0.00	\$ 410.00	

A red box highlights the 'New scope - Resources' item in the table, with a red arrow pointing to a detailed view of its cost categories. This view shows a table with columns for Cost category, CB total cost, and Pending:

Cost category	CB total cost	Pending
Total	\$ 0.00	\$ 5,150.00
Labor	\$ 0.00	\$ 50.00
Construction Equipment	\$ 0.00	\$ 0.00
FOM Rented Equipment	\$ 0.00	\$ 0.00
Supplies	\$ 0.00	\$ 0.00
Materials	\$ 0.00	\$ 5,100.00
Subcontract	\$ 0.00	\$ 0.00
Fees	\$ 0.00	\$ 0.00
Allowance	\$ 0.00	\$ 0.00
G & A	\$ 0.00	\$ 0.00
Undefined	\$ 0.00	\$ 0.00
Totals	\$ 0.00	\$ 5,150.00

Approving the change order creates the new cost items with the resources specified in Change, and places them within the hierarchy specified in the contract adjustment, and if none is specified, then they are placed at the bottom of the CBS.

		CBS	ACS	PAY ITEMS	CHANGE REGISTER				
Actions ▾									
ID	Description	Cre... date	Last cha... by	Last cha... on	Notes	Status	Cha... man... tag 1	Cha... man... tag 2	Cha... man... tag 3
28.0	New scope	02/28/2022		02/28/2022		CCO-Pending			
27.0	Budget Move: IWO/...	11/29/2021	Details	11/29/2021		Approved			
26.0	Budget Allowance M...	11/29/2021	Revise	11/29/2021		Approved			
25.0	Buyout Gain: PVS; M...	11/23/2021	Approve	11/23/2021		Approved			
24.0	Budget Move: Temp ...	11/04/2021	Review	11/04/2021		Approved			
23.0	Budget Move: Temp ...	11/04/2021		11/04/2021		Approved			
22.1	Budget Move: Morol...	11/04/2021		11/04/2021		Draft			

Tasks			
<input type="checkbox"/>	CBS position	Description	WBS phase code
<input type="checkbox"/>	4.13	Visqueen Material - Available	1229
<input type="checkbox"/>	4.14	LICENSES, PERMITS, & BONDS	1039
<input type="checkbox"/>	4.15	Security Personnel IWO - Available	1320
<input type="checkbox"/>	4.16	Available	1169
<input type="checkbox"/>	4.17	Available	1171
<input type="checkbox"/>	4.18	Available	1172
<input type="checkbox"/>	4.19	Available	1183
<input type="checkbox"/>	4.20	Available	1158
<input type="checkbox"/>	4.21	Available	1349
<input type="checkbox"/>	4.22	Available	1143
<input type="checkbox"/>	4.23	Available	1147
<input type="checkbox"/>	4.24	Available	1150
<input type="checkbox"/>	4.25	Available	1126
<input type="checkbox"/>	4.26	Available	1127
<input type="checkbox"/>	4.27	Available	1131
<input type="checkbox"/>	4.28	Available	1132
<input type="checkbox"/>	4.29	Available	1136
<input type="checkbox"/>	4.30	Available	1107
<input type="checkbox"/>	4.31	Available	1110
<input type="checkbox"/>	4.32	Available	1339
<input type="checkbox"/>	4.33	Construction Equipment	1070
<input type="checkbox"/>	4.34	FINISH CARPENTRY	1188
<input type="checkbox"/>	4.35	SHEAR CORE WALLS	1121
<input type="checkbox"/>	4.36	New scope - Plug values	1353
<input type="checkbox"/>	4.37	New scope - Resources	1354
Subtotals 41			

3.3.5 COST ITEM ARRANGEMENT

As the project progresses, you may need to rearrange cost items to accommodate project changes.

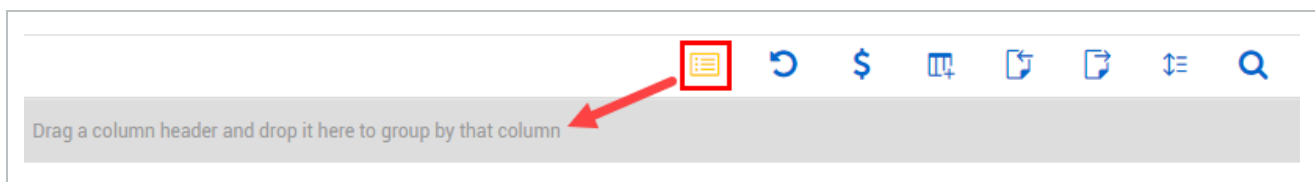
MOVE A COST ITEM

1. On the CBS register tab, highlight the new subordinate cost item you created.
2. Right click on the cost item of your choice.
3. Click on Adjust CBS position.
4. Click and drag your cost item and move it directly under the superior cost item you want it to go under.
5. Click **Save**.
 - Your subordinate cost item should now be moved.

3.3.6 VIEWING THE CBS GROUPED BY COLUMN

Navigating throughout the CBS can be difficult and tedious when searching for specific information, as data is spread across the entire CBS. Jobs can contain a lot of various data, and can be difficult to sort through and view the desired information, especially in a list format. The CBS Group by feature allows users to display the CBS in groups of "like" information. This feature allows you to drag and drop columns that you are interested in grouping.

The Group Columns by feature is invoked by selecting the Group Columns icon in the upper the right set of action icons, which opens up a gray bar above the CBS data blocks. Clicking the Group Columns icon a second time disables the feature.



Once you navigate away from the page, the groupings will still exist. Selecting a different view will retain the same groupings as well.

CBS GROUP BY COLUMN

1. On the CBS register tab, select the **Group Columns** icon on the right toolbar.
2. Drag the **column header** of a column and drop it into the grey bar area.













3. Drag and drop a second column header into the grey bar area.
4. Your project cost items are now grouped by both columns.

3.3.7 COST ITEM DELETION

You can delete one cost item or multiple cost items by selecting the cost items, right clicking, and then selecting **Delete Cost Item**.




When deleting cost items from the CBS, deleting the forecast, clearing out the account code, or changing attributes to delete a cost item is not necessary.

<input checked="" type="checkbox"/>	2	Earthwork	1069
<input type="checkbox"/>	3	Concrete	
<input type="checkbox"/>	▼ 4	Structura	
<input type="checkbox"/>	4.1	Erect Ste	
<input type="checkbox"/>	4.2	Erect Ste	
<input type="checkbox"/>	4.3	Bolted C	
<input type="checkbox"/>	▼ 5	Material	
<input type="checkbox"/>	5.1	Earthwo	
<input type="checkbox"/>	5.2	Concrete	
<input type="checkbox"/>	5.3	Structur	
<input type="checkbox"/>	5.4	Material	
<input type="checkbox"/>	5.5	Material	
<input type="checkbox"/>	6		

-  Copy
-  Paste
-  Insert copied cost items
-  New cost item
-  New subordinate cost item
-  Delete cost items(s)
-  Adjust CBS position
-  Cost item details
-  Actuals details
-  Change summary
-  Contract details
-  Cost item dashboard

Subtotals 14 (1 rows selected)

You can also select a cost item and click the **Delete** icon on the left toolbar.

Actions ▼




Tasks

	CBS position	Description
<input type="checkbox"/>		

NOTE

A cost item must meet the following conditions to be deleted:

- Total Cost (To Date) = 0, MH (To Date) = 0, Eqp Hours (To Date) = 0, Qty Complete (To Date)=0
- C B-Total Cost = 0, C B-Total MH = 0, CB-Total Quantity = 0, C B-Qty Remaining = 0
- If the cost item is a parent item, all the subordinate cost items will also need to be checked to see if they can be deleted

If you are deleting multiple cost items and do not meet the following conditions for deletion, a downloadable file appears that lists all of the validations and why they failed.

3.3.8 COPYING COST ITEMS WITH RESOURCES

You can copy and paste entire cost items with resources from the CBS tab to any cost item you select.

NOTE

When you copy a cost item, you cannot copy the current budget because the current budget must be approved in a contract adjustment or budget move.

Follow the step by step to copy a cost item.

COPY AND PASTE COST ITEMS

1. From the CBS tab, select one or more cost items that you want to copy that contain a resource.

NOTE

This can be checked in the Resources column. If the cost item has a 1 or higher, then a resource is attached to that cost item.

2. Right-click your selected cost items.
3. Hover over the Copy selection and select **Copy cost item**.

<input checked="" type="checkbox"/>	3.1	Excavation	<div style="border: 1px solid #ccc; padding: 5px;"> <div style="border-bottom: 1px solid #ccc; padding: 2px 5px;">Copy ▶</div> <div style="border-bottom: 1px solid #ccc; padding: 2px 5px;">Paste</div> <div style="border-bottom: 1px solid #ccc; padding: 2px 5px;">Insert copied cost items ▶</div> <div style="border-bottom: 1px solid #ccc; padding: 2px 5px;">New cost item</div> <div style="border-bottom: 1px solid #ccc; padding: 2px 5px;">New subordinate cost item</div> <div style="border-bottom: 1px solid #ccc; padding: 2px 5px;">Delete cost items(s)</div> <div style="border-bottom: 1px solid #ccc; padding: 2px 5px;">Adjust CBS position</div> <div style="border-bottom: 1px solid #ccc; padding: 2px 5px;">Cost item details</div> <div style="border-bottom: 1px solid #ccc; padding: 2px 5px;">Actuals details</div> <div style="border-bottom: 1px solid #ccc; padding: 2px 5px;">Change summary</div> <div style="border-bottom: 1px solid #ccc; padding: 2px 5px;">Contract details</div> <div style="border-bottom: 1px solid #ccc; padding: 2px 5px;">Cost item dashboard</div> </div>
<input checked="" type="checkbox"/>	3.2	Embankm	
<input checked="" type="checkbox"/>	▼ 4	Aggregate	
<input type="checkbox"/>	4.1	Furnish &	
<input type="checkbox"/>	4.2	Finegrade	
<input type="checkbox"/>	▼ 4.3	Install Agg	
<input type="checkbox"/>	4.3.1	Place Agg	
<input type="checkbox"/>	4.3.2	Blue Top A	
<input type="checkbox"/>	▼ 5	Asphalt Co	
<input type="checkbox"/>	5.1	Furnish &	
<input type="checkbox"/>	5.2	Install Hot	
<input type="checkbox"/>	▼ 6	36 Inch RC	
<input type="checkbox"/>	6.1	Furnish RC	
<input type="checkbox"/>	6.2	Excavate F	
<input type="checkbox"/>	6.3	Install RCF	
Subtotals 96 (3 rows selected)			

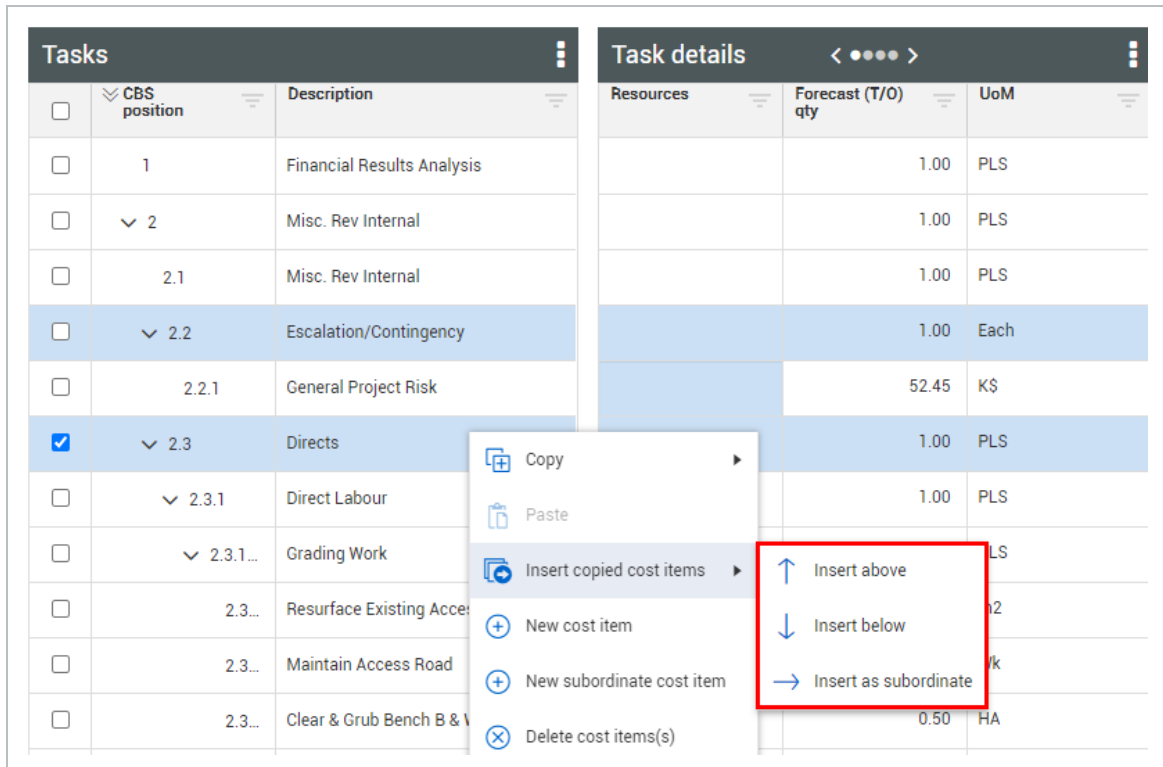
Copy cost item

Copy selection

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WZGsy

4. Right-click on another cost item in the CBS tab.
5. Hover over the option **Insert copied cost items**. You have three options as to where to place the copied cost items:
 - Insert above
 - Insert below

- Insert as a subordinate

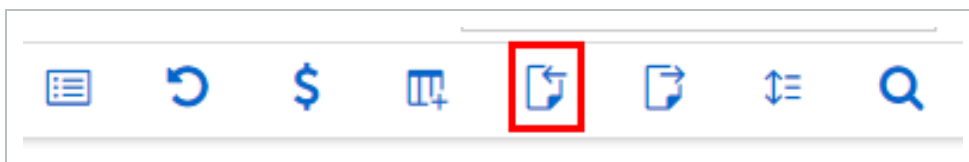


You can also view the pasted cost items in the Resources tab of the Cost item details slide-out panel.

3.4 COST ITEM EXCEL IMPORT

When you need to add multiple cost items to your project, adding them manually can be tedious and time consuming. To save time, if you can export your cost items to Microsoft Excel (e.g., export to Excel from your estimating software), you can import them into Control, allowing you to update your estimate in bulk, without needing to manually enter data into individual cells.

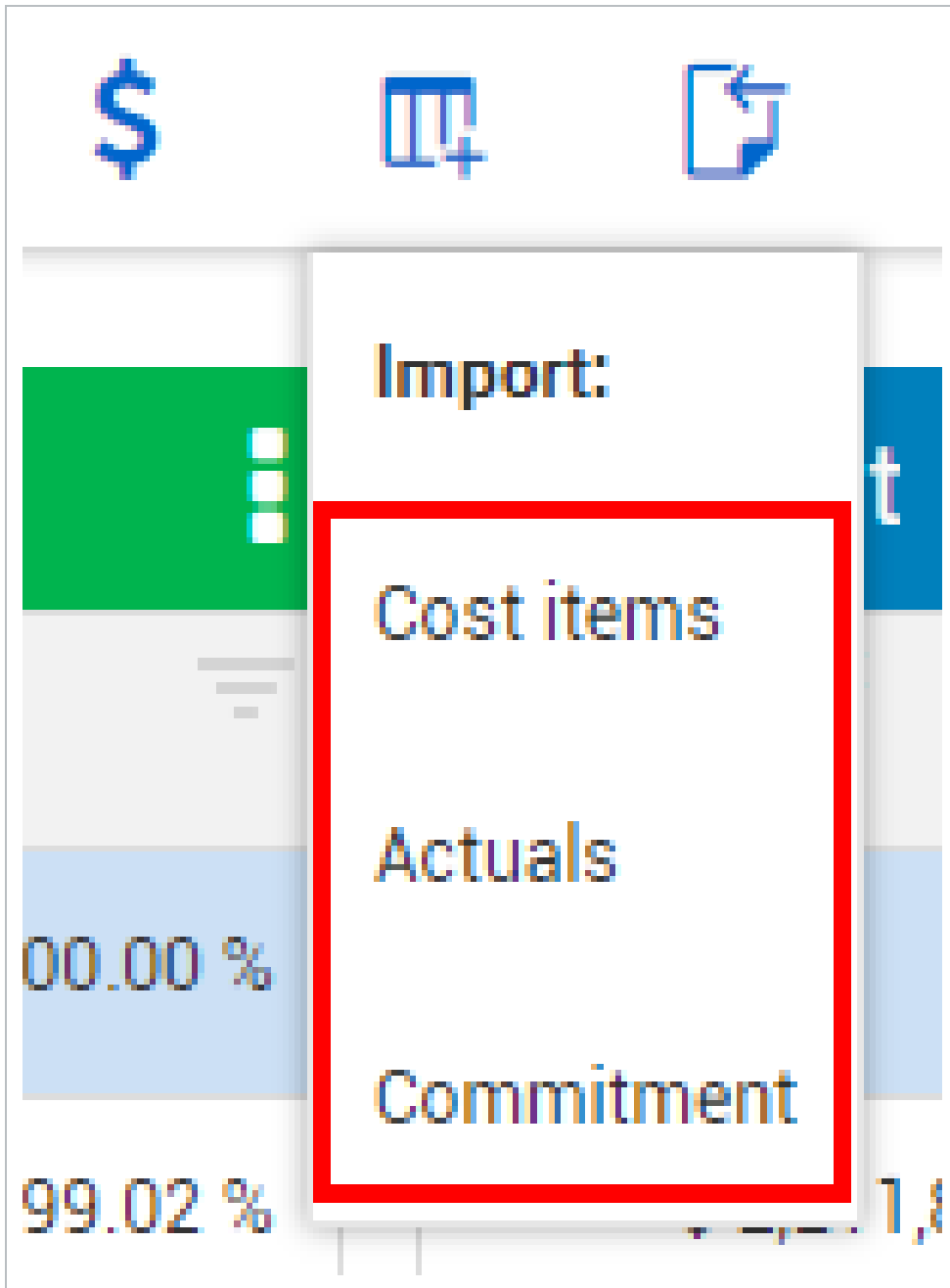
Click the **Import** icon on the right toolbar of the Control > **Workspaces** page to go access the Excel import feature.



The table below indicates the data you can import into Control from Excel.

Data Type	CBS Columns
Tasks	CBS position, Description, UoM, code-related fields, user-defined fields, other settings found in the Task details data block in Control.
Schedule	Schedule ID, schedule dates, Scheduled, Schedule plug days, Plug days, Cost curve, Roll up schedule
Current Estimate	CE final MHrs, final costs, total equipment hours, MHR/Unit, units/MHR, equipment hour/unit, labor cost/MHR, equipment cost/MHR, Secondary Qty, Scales 1, 2, and 3.
Cost Categories	Total and unit costs.

When you click on the **Import** icon on the CBS tab of the Workspaces page, you have three import type options. You can import cost items, actuals, or a schedule.



After you make a selection, the Import CBS data window opens.

Overview - Import CBS Dialog box

Title		Description
1	Import from Excel	You can either drag and drop or browse to the file to import. Microsoft Excel files (.xlsx, .xls) and Comma Separated Value (.csv) files can be

Overview - Import CBS Dialog box (continued)

Title		Description
		imported.
2	Options	You can add new cost items and update cost items that already exist in the project, choose to only update existing cost items, or only add new.
3	Cost item matching criteria	When adding and updating cost items, the structure in the spreadsheet you are importing from may be in a different order than the structure in Control. By specifying a code for matching your cost items, the import routine will know which cost items in the spreadsheet are new when adding new items, and which cost items to update with data from the spreadsheet when updating cost items.
4	Information message	This information provides a description of available functionality and instructions for proceeding to the next step.

Import CBS data

Import from Excel (.xlsx, .xls) or Comma separated value (.csv)

Drag and drop the file here
or browse

[Browse](#)

Options

* Import type

Update existing and new items

Cost item matching criteria

Update existing items

New items

i Once the import file is read, Cost item match options and field mapping can be specified. Mapping uses row 1 headers from the source document. New cost items are inserted to the bottom of the CBS.

Clicking Next opens the Map columns dialog box, where you can map your Excel columns to the appropriate column in Control.

Overview - Map Columns Window

Title	Description
1	Template
2	Control field
3	Mapped

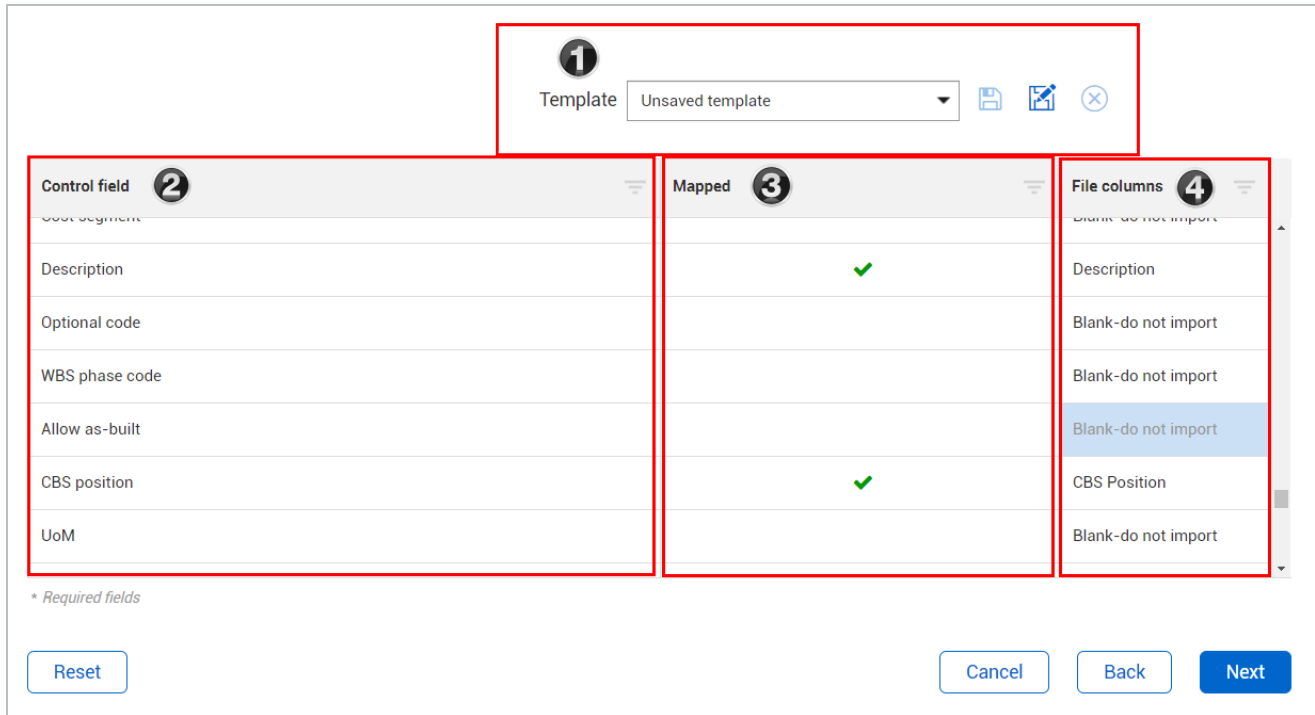
After you map the import file columns to the CBS columns in Control, you can save your settings as a template for future use. This is helpful when you need to make scope changes or updates on a regular basis.

The names of the column headers in Control that you can map your data to.

A green checkmark indicates the column in your import file is mapped correctly to the CBS column. The Green key indicates the matching code

Overview - Map Columns Window (continued)

Title	Description
	you specified is locked.
4 File columns	The names of the column headers in your import file that you can map to the CBS columns in Control.






3.4.1 FORECAST EXCEL IMPORT

When manually importing cost items by either updating existing cost items or importing new cost items, you can also import forecast values via Excel. How the fields are mapped in Excel determines which CBS forecast columns are populated.

Examples of some forecast columns that can be mapped via the Excel CBS import cost item process include, Forecast total cost, Forecast total MHrs, and Forecast total unit cost. Cost categories can also be selected for importing into Control.

Import CBS data - ALL PERMISSION LC_12102021054633.xlsx

Map columns

Template Unsaved template   

Control field	Mapped	File columns
Live Forecast		
Forecast method		Blank-do not import
Forecast total Cost		Blank-do not import
Forecast total Mhrs		Blank-do not import
Forecast total Mhr/Unit		Blank-do not import
Forecast total productivity		Blank-do not import
Forecast total unit cost		Blank-do not import
Forecast remaining cost		Blank-do not import
Forecast remaining Mhrs		Blank-do not import

* Required fields

3.4.2 SPREADSHEET RULES

For the import process to work correctly, the items in your Excel spreadsheet must be formatted in a certain way so that Control can recognize the items. The following table indicates important spreadsheet rules to follow to make sure your data imports successfully.

Attribute	Rules
Import	Reads the first worksheet within the referenced workbook.

Attribute	Rules
function	
First row of data	<p>Considered to be the header row of the data. This imports as titles which are referenced during the mapping process.</p> <p>The import stops reading headers if it encounters a blank header cell.</p>
Numbers	<p>Needs to be the actual number, and not the summation of cells.</p> <p>Values cannot contain the \$ symbol or other currency symbols.</p>
Second row of data	<p>Considered the first row of data to be imported.</p>

NOTE If you make changes in the spreadsheet, you must save the spreadsheet before importing (only saved data will be imported).

Below is a list of items to be aware of during the population of the import template.

1. The Excel file should not be open while simultaneously using the import wizard.
 - a. If there are any edits made to the spreadsheet, it must be saved and closed prior to importing.
2. CBS positions cannot be duplicates. They must be unique to each cost item.
 - a. The system will show an error if there are any duplicates.
3. The WBS phase codes are not required during the import but must also be unique per cost item.
4. Cost categories are spelling and case sensitive, and must match directly to the cost categories spelling.
 - a. The cost categories list can be exported from the import wizard.
5. The Excel sheet cannot contain any blank cells during the import. Blank cells show an error and cause the import to stall.
6. Make sure any blank columns from an export file are removed before importing again.
7. Date formats must match spreadsheet date formats. The Import Wizard will prompt you to chose a date format used in the spreadsheet.
 - a. The Import wizard will prompt you to chose a date format prior to initiating the import.

3.4.3 BEST PRACTICES AND RECOMMENDATIONS

1. Use WBS phase code as the matching criteria for updating existing items.
 - a. WBS phase code are tied 1:1 for each cost item. The CBS position can be changed, but the WBS phase code remains the same regardless of CBS position.
2. Set up the views for exporting of data to match the import template created. Views are customizable for flexibility in what is being imported/exported.
3. Import template mapping is unique to each individual user. Master mapping cannot be set at a global level. It is recommended to provide users with a step-by-step import mapping document to set up data mapping initially during the on-boarding of InEight.
4. When exporting data in Control, current system drops trailing zeros on CBS positions. Example: 1.10 exports as 1.1.
 - a. One way to get around this is opening data as a CSV file in Excel.
5. Once you have downloaded the export file, proceed to the following steps.
 - Open blank Excel sheet
 - Navigate to **Data** tab
 - Click **Get Data > From File > From Text/CSV**
 - Choose downloaded export file
 - Click **Import**
 - Click **Load**

Your data will now be imported into the sheet where updates are made. Once you have completed your updates, you may save and re-import the same file.

3.4.4 CBS HIERARCHY

If you select CBS position as the matching criteria for the import, the import routine recognizes the hierarchy of your structure by the numbering of the codes.

	A	B	C
1	CBS position	Description	Forecast T/O qty
2	1.1.1.5	Parent	1
3	1.1.1.5.1	Child 1	10
4	1.1.1.5.2	Child 2	1
5	1.1.1.5.2.1	Child 2.1	15
6	1.1.1.5.2.2	Child 2.2	20
7	1.1.1.5.3	Child 3	1

After the import is complete, if the CBS position for the new cost items match existing cost items in the CBS, your new CBS cost items will import as you have defined them. The existing CBS cost items will shift down and be relabeled to match the next corresponding number.

When adding new cost items to an existing CBS position, a warning message displays informing you the CBS positions you have picked already exist. The message then asks you to confirm if you would like to continue with this import.

3.4.4.1 CBS PREDICTIVE HIERARCHY

New cost items created via the import process automatically adjust the CBS structure hierarchy to match your import as needed and predict the movements in the current hierarchy, and the hierarchy that is being added via the Excel import.

Tasks			
<input type="checkbox"/>	CBS position	Description	WBS phase code
<input type="checkbox"/>	1	A - Road materials	1000
<input type="checkbox"/>	1.1	B - Rock	1001
<input type="checkbox"/>	1.1.1	C - Mix	1002

For example, you have three cost items that you want to import, as shown below. Positions 1 and 1.1 already exist in the CBS, and position 2.1.2 is new.

	A	B
1	CBS position	Description
2	1	D - Maintenance
3	1.1	E - Equipment
4	2.1.2	F - Subcontracts

The import process imports Excel CBS positions 1 and 1.1, and places 2.1.2 at the bottom of the hierarchy.

Tasks			
<input type="checkbox"/>	CBS position	Description	WBS phase code
<input type="checkbox"/>	1	D - Maintenance	1003
<input type="checkbox"/>	1.1	E - Equipment	1004
<input type="checkbox"/>	2	A - Road materials	1000
<input type="checkbox"/>	2.1	B - Rock	1001
<input type="checkbox"/>	2.1.1	C - Mix	1002
<input type="checkbox"/>	2.1.2	F - Subcontracts	1005

The following steps walk you through the import process.

NOTE

The following steps are only applicable when importing new cost items.

Options

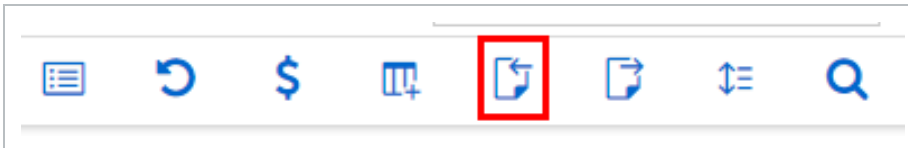
* Import type

Cost items and cost item attributes

- Update existing and new items
- Update existing items
- New items

IMPORT CBS DATA

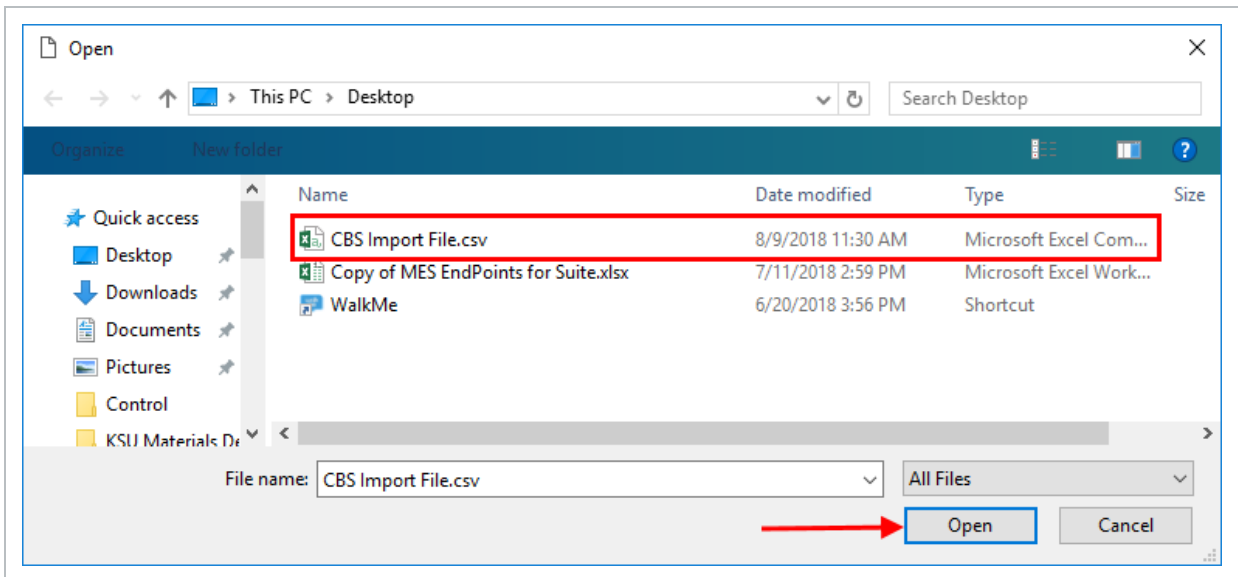
1. From the Control > Workspaces page, on the CBS tab, click on the **Import** icon on the right toolbar.



2. Select **Cost Items** when the Import CBS data window appears.
3. Click on the **Browse** button to select a file to import.



4. Browse to the Excel file you wish to import.
 - The file and its location should be indicated by your instructor if you're in a classroom setting, otherwise you can select one of your own
5. Select the import file and click **Open**.



- The import file is now selected

Import CBS data **CBS Import File.csv** ;

Import from Excel (.xlsx, .xls) or Comma separated value (.csv)

Drag and drop the file here or browse

Browse...

6. Under Options, select **New Items** (if not already selected).
7. For the Cost item matching criteria, select **Cost items and cost item attributes** from the drop-down list.

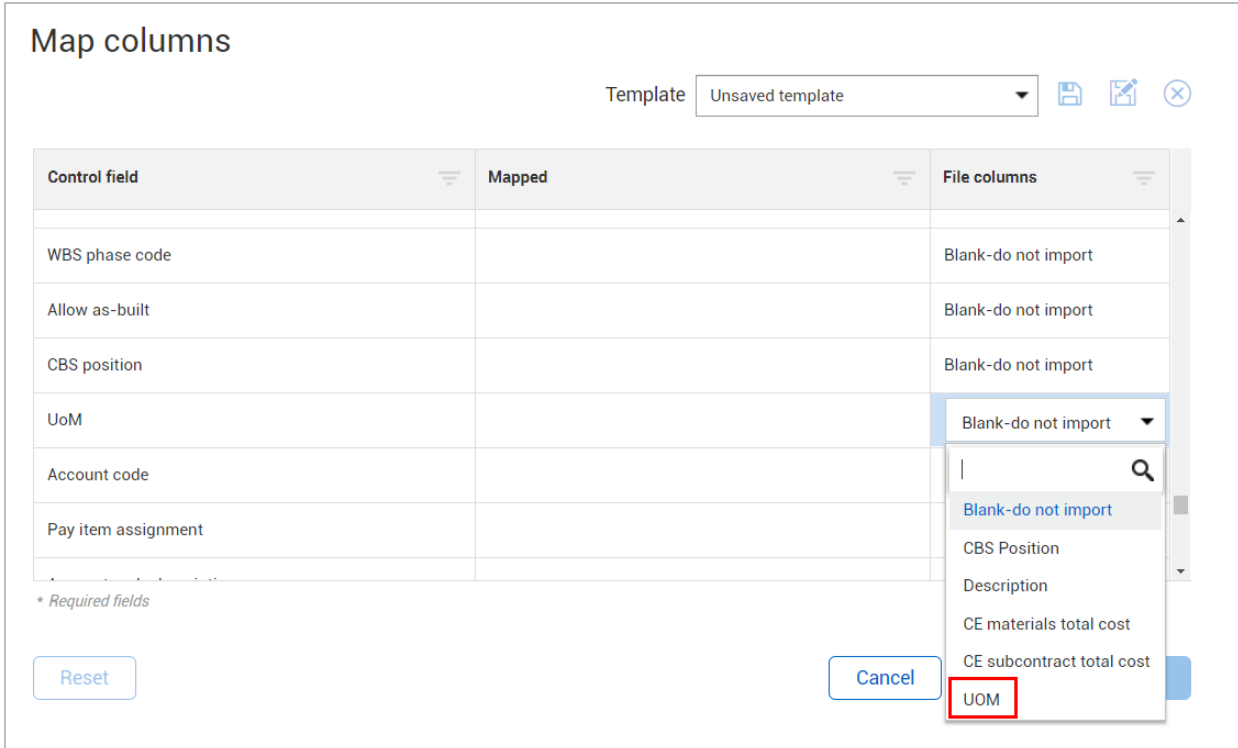
Options

* Import type

Cost items and cost item attributes ▼

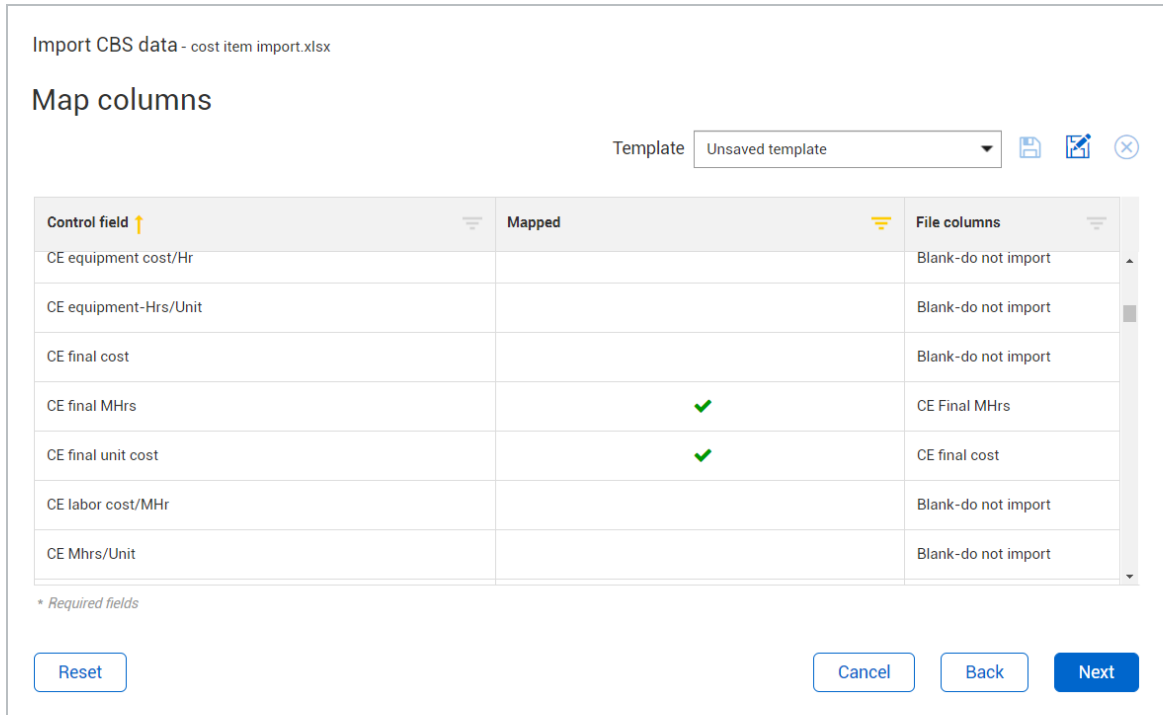
Update existing and new items
 Update existing items
 New items

8. Click **Next**.
 - This takes you to the **Map columns** window
 - Note that the File columns fields are set to **Blank-do not import by default**
9. Under File columns, click in the field on the same row as the UoM CBS column, then click again to expand the drop-down list for that field.

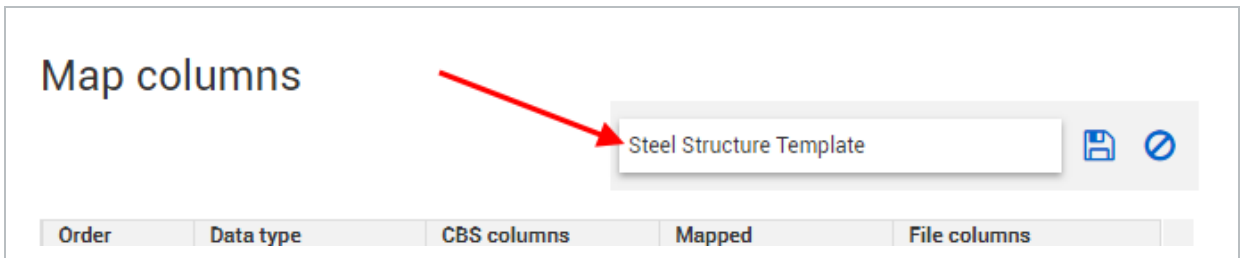


10. Select UOM from the drop-down list to map the UOM column in the Excel file to the UoM CBS column.
11. Repeat the selection process to select the appropriate File columns to map to the following CBS columns:
 - CBS position
 - Description
 - WBS Phase Code
 - Forecast (T/O) quantity
 - CE Final MHrs
 - CE final cost

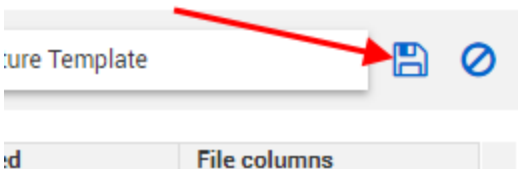
- A green check mark indicates successful mapping of your file columns



12. To save these settings for future use, click in the Template field and type **Steel Structure Template**.

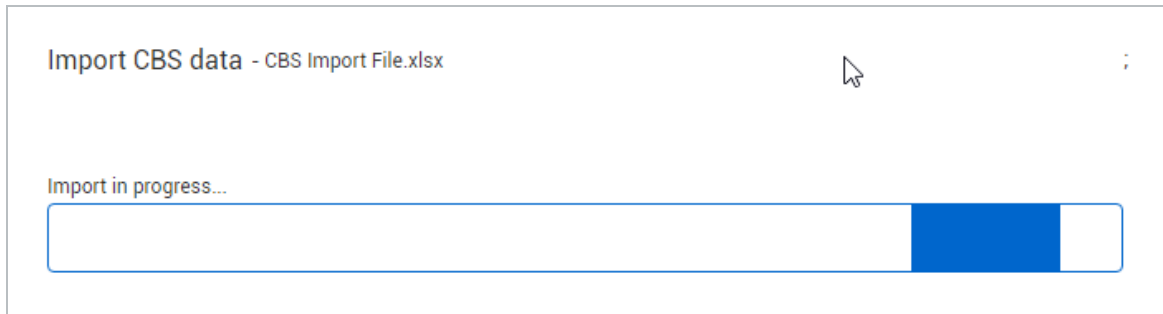


13. Click the **Save** icon to save the template.

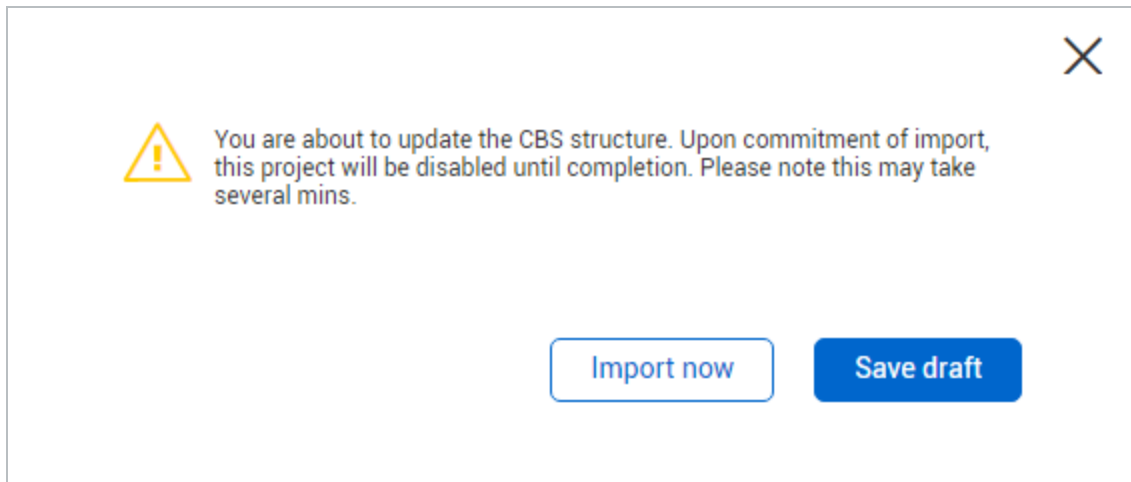


14. Click **Next**.

- A progress bar appears informing you the import is in progress

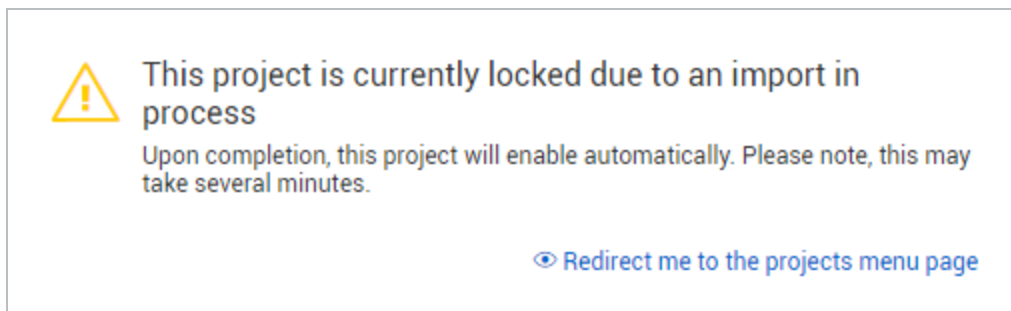


- A prompt appears, indicating the project will be disabled from use during the importing process

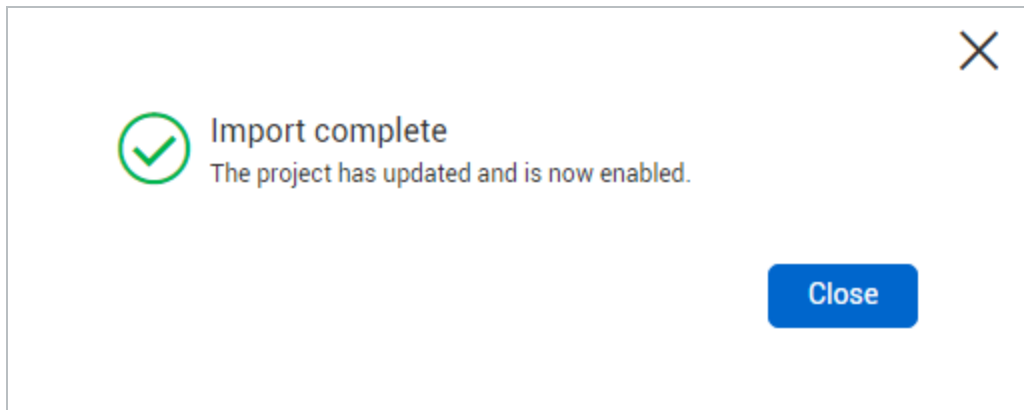


15. Click **Import now**.

- A prompt appears informing you that the project is currently locked for the importing process

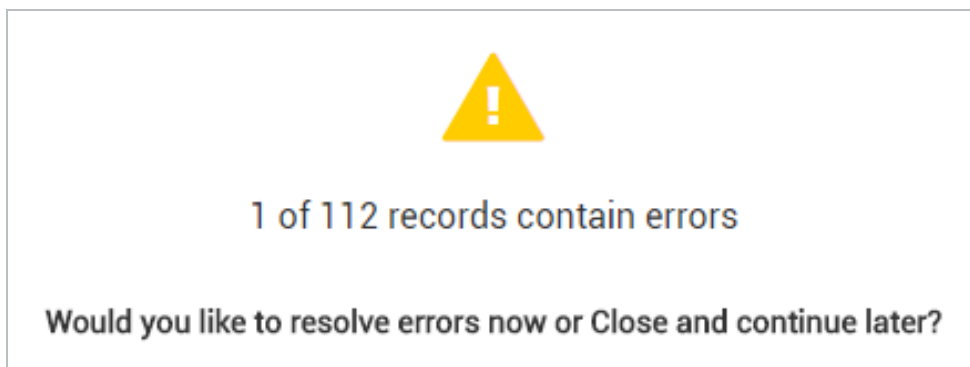


- Once completed, you will receive the following prompt, informing you the data imported successfully



3.4.5 RESOLVING IMPORT ERRORS


When conducting the import, you may run into errors. This will be indicated when you attend to run the import routine by the following prompt:



The prompt window includes a Review errors and items for import link, which you can click on to resolve any issues prior to final import. An error resolution page opens where you can identify and resolve your errors.

Audit log > Import history > CBS Import File.xlsx

Find previous error 1 errors remain... Find next error Cancel import Import

Status Details (CBS position)		Import Columns				
Import status	CBS match status	Import method	CBS position	Description	WBS phase code	CE final Mhrs
Pending	No match found, new item	Add new items and upd...		Bolted Connections		1000
Pending	No match found, new item	Add new items and upd...		Module 01 - Erect Steel...		16000
Pending	No match found, new item	Add new items and upd...		Structural Steel		0
Pending	No match found, new item	Add new items and upd...		Structural Steel		0
Pending	No match found, new item	Add new items and upd...		Module 001 - Erect Ste...		0
Error	No match found, new item	Add new items and upd...		Structural Steel		0 
Pending	No match found, new item	Add new items and upd...		Materials		0
Pending	No match found, new item	Add new items and upd...		Equipment		0

NOTE

There can be situations where the cost item Excel import process will successfully process some cost items, but fail to import other cost items. In this situation the process will show as failed. For example, you imported 100 cost items, and 90 of the cost items import successfully. There are 10 cost items that did not import successfully. In this scenario you would need to resolve the import errors.

3.4.6 EXCEL IMPORT FOR COMMITTED COST

Importing committed cost mainly helps to keep track of subcontract cost items where you would have a purchase order that would drive all of your cost.

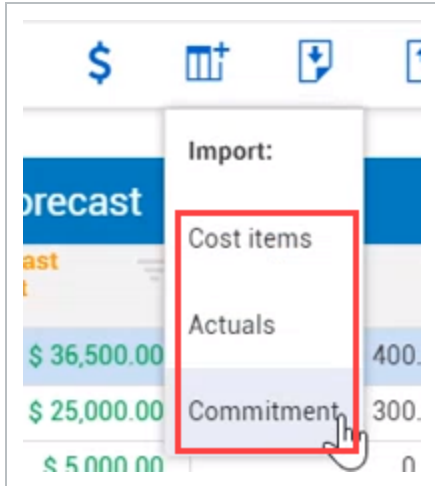
You can import two types of committed cost:

- Open/Remaining Committed Cost
- Total committed cost

Open/Remaining Committed Cost is the cost you still have left to pay on the purchase order. Total committed cost is the total purchase order amount for the purchase order.

Committed cost were previously located in different areas of Control. You can have Open and Total committed cost columns in your CBS. The same columns are also in the Commitments tab of the Actual Details Slideout where you can make manual edits to the committed costs. Columns in CBS for Open and Total committed costs only reflects the manual edits you made in the Actual Details Slideout. Open and Total committed costs are also shown in cost item details slideout cost categories tab.

You can import committed costs using the import icon on the CBS and selecting **Commitment**.



3.4.6.2 GENERATING THE COMMITMENT COST EXCEL SPREADSHEET

To bring in committed cost from the excel import, you first need an existing value in your CBS that matches the Excel Spreadsheet value. This can be one of two options:

- WBS phase code
- CBS position

You will also need the **Type** of committed cost you want to import, either Open/Remaining Committed Cost or Total commitment.

	A	B	C	D	E	F
1	WBS phase code		Cost	Category	Type	
2	1003		100	Undefined	Open commitment	
3	1003		100	Undefined	Total commitment	
4	1004		450	Undefined labor	Open commitment	
5	1004		750	Undefined labor	Total commitment	

NOTE Open/Remaining Committed Cost and Total commitment types need to be spelled exactly word for word as it is written in the screenshot. If you shorten any of the wording in the Type column, the system will not accept the import and you will receive an error.

Each Type of committed cost has to be its own line item on the Excel spreadsheet. You can do multiple transactions for one cost item, but only one commitment type per line item. If they are different types, you need to separate them out into different line items.

	A	B	C	D	E	F
1	WBS phase code		Cost	Category	Type	
2	1003		100	Undefined	Open commitment	
3	1003		100	Undefined	Total commitment	
4	1003		100	Undefined labor	Total commitment	
5	1004		450	Undefined labor	Open commitment	
6	1004		750	Undefined labor	Total commitment	

Each column needs to be created and defined if you are to do a Commitment Excel Import. You must include a Cost column and a Category column as shown in the above image.

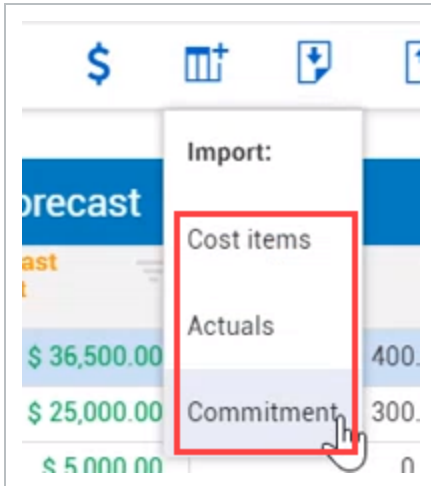
NOTE Open/Remaining Committed Cost should never be greater than your total.
Open/Remaining Committed Cost cost should either be equal or less than the Total commitment cost.

3.4.6.3 IMPORTING COMMITMENT DATA

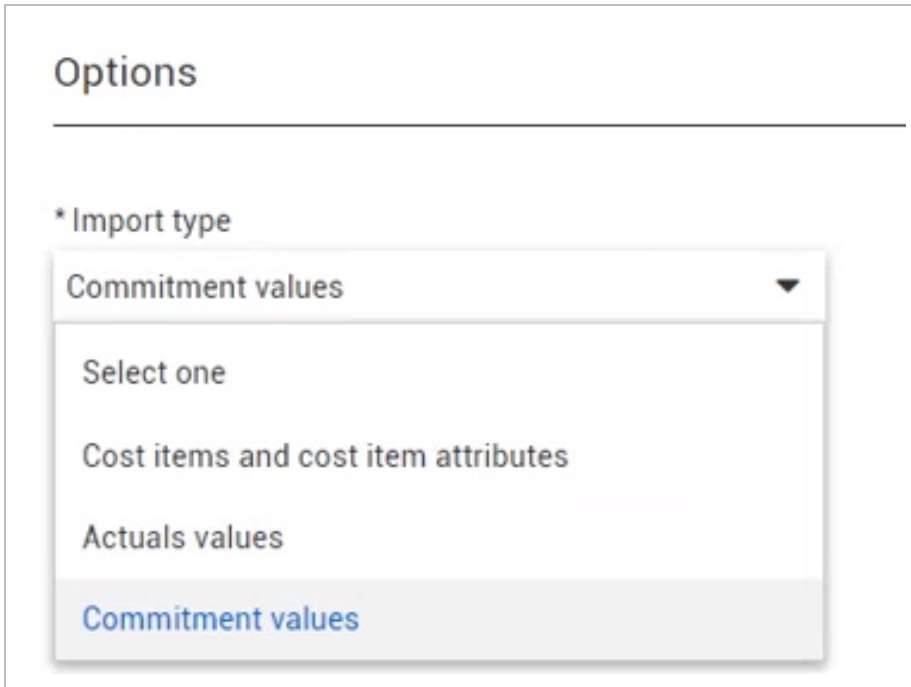
Follow the step by step to Import commitment data.

IMPORT COMMITMENT COSTS

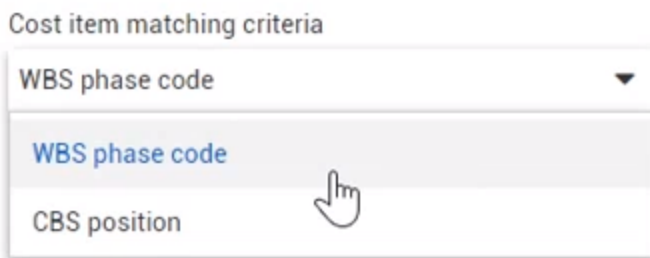
1. From Control's CBS tab, select the import icon. Then select **Commitment**.



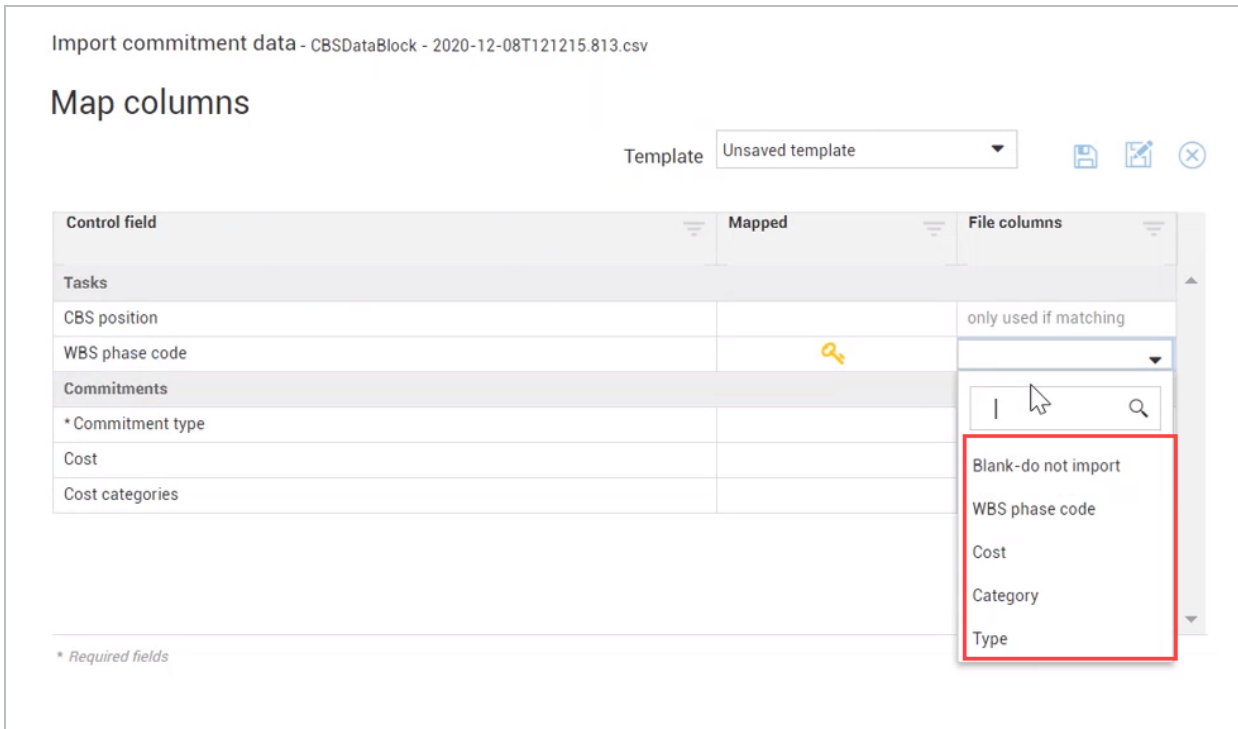
2. After you have created your Excel spreadsheet with your commitment costs, select **Browse** from the Import from Excel window. Then select the Excel file name you saved.
3. After you return to the Import commitment data window, under the Options section, select the **Import type** drop down arrow. If it is not already selected, select the **Commitment values** option.



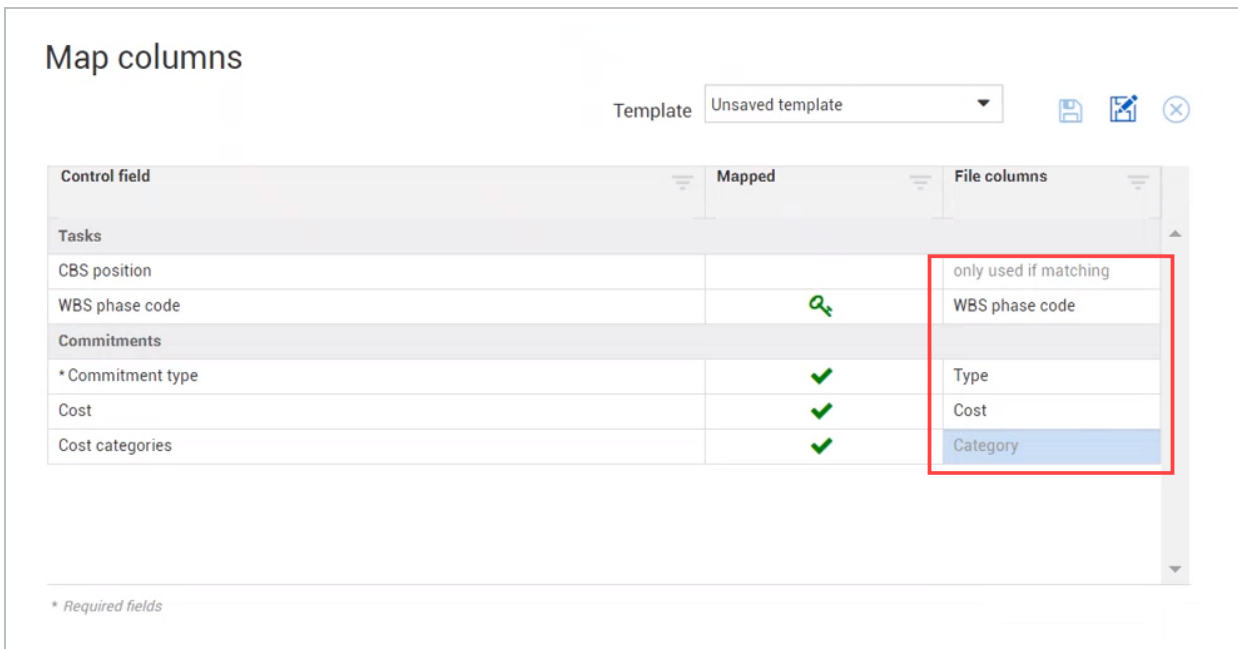
- 4. Select the Cost item matching criteria drop down and choose either WBS phase code or CBS position.



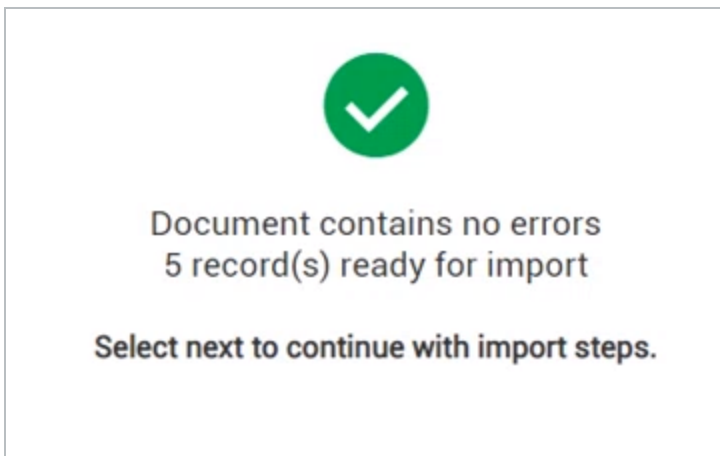
- 5. After selecting the drop down options, select **Next** in the bottom right corner.
- 6. From the Map columns screen, select the columns you are importing from your Excel spreadsheet.



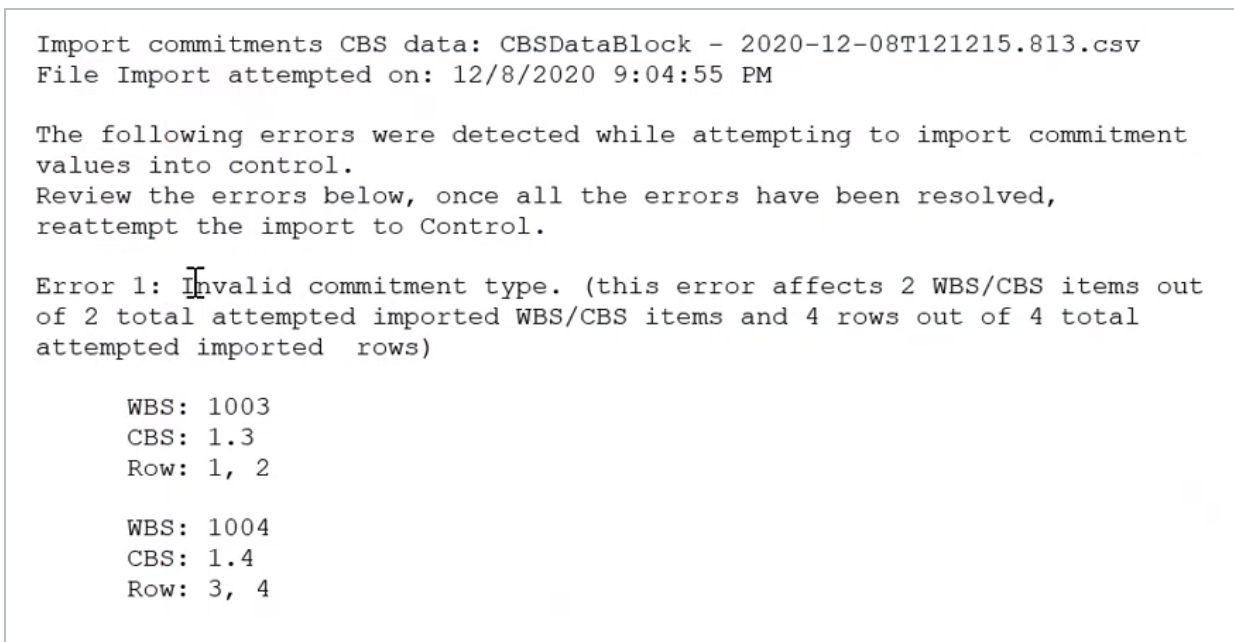
- The Control field should match the File columns. For example, Commitment type in Control field should match Type in File columns as shown below. Once done, select **Next**.



8. If there are no errors in the mapping stage, you should see a green check mark on the next screen, indicating everything is ready to be imported.



If you receive any errors in the mapping stage, you will receive an error with a download option to download a word document that shows you all the errors.



9. Click **Next** and then select **Import now**. This will create a line item in the Import history section of the Audit Log tab.
10. From Control, go to the Audit Log tab. Then select **Import history**. Hover over the yellow triangle to view the information on the pending import item.

The screenshot shows a software interface for cost item import. On the left, there is a sidebar with navigation options: CBS, ACS, Pay items, Integration, and Import history. The 'Import history' option is selected. In the center, a dialog box is open with a yellow warning triangle icon and the text 'Pending' and '0 of 5 line items contain errors'. Below this text are three buttons: 'Continue Import' (blue right-pointing arrow), 'Cancel' (blue circle with a slash), and a partially visible 'Pe...' button. On the right, there is a table with a 'Status' column. The table contains five rows of data:

		Status
CBSDataBloc...	Commitment	⚠️ Pe... ➡️ ⛔
CBSDataBloc...	Commitment	⚠️ Pe... ➡️ ⛔
CBSDataBloc...	Commitment	❌ Failed ... ↓
CBSDataBloc...	Commitment	❌ Failed ... ↓
CBSDataBloc...	Commitment	✅ Complete

NOTE

After the pending import is Complete, the committed costs populate in the Cost Categories Details tab, as well as the CBS. It the costs also appear in the Commitments tab from the Actuals Details Slideout and populates into the new Open and Total cost committed columns.

If the imported commitment costs fail to import, the Audit Log Import history would show that the import failed completely.

REVIEW

1. Which of the following is how can you identify a terminal cost item on the CBS register page? (Select all that apply.)
 - a. The row is highlighted a different color
 - b. A symbol displays on certain cost item fields
 - c. The row is indented
 - d. The 'Is Terminal' column is checked

2. When moving a cost item to be above another cost item at the same level, which icon should display when you drag and drop the cost item?
 - a. The one with a subordinate bar
 - b. The one with three equal bars
 - c. The one with an equal sign
 - d. The one with a plus sign

3. If you make changes to your spreadsheet, you must _____ the spreadsheet prior to importing it into Control.
 - a. close
 - b. copy
 - c. save
 - d. refresh

SUMMARY

As a result of this lesson, you can:

- Explain the Cost Breakdown Structure and its purpose
- Create, arrange and delete cost items
- Import cost items

This page intentionally left blank.

COST ITEM MANAGEMENT

LESSON DURATION: 30 MINUTES

LESSON OBJECTIVES

After completing this lesson, you will be able to:

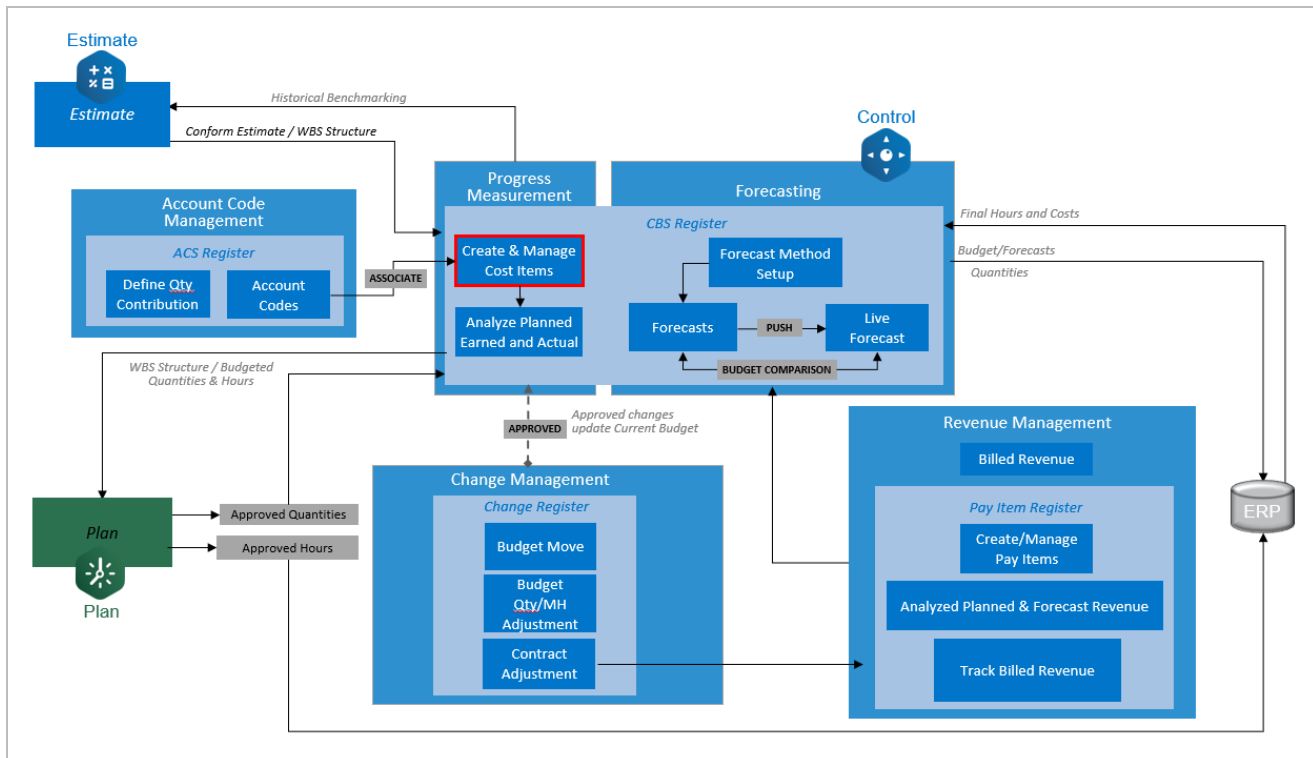
- Manage estimate resources
- Gain visibility into resource billing rates
- Manage cost item details
- Lock the budget

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4.1 INEIGHT CONTROL WORKFLOW - COST ITEM MANAGEMENT



4.2 ESTIMATE RESOURCES

InEight Control refers to labor, equipment, material, installed equipment, and supplies as resources. You will use these resources as the basic building blocks for detailing the estimated costs which creates your budget.

The Project library contains all resources used to estimate costs for the cost items within the CBS.

TIP

Most of your CBS cost detail will import directly from InEight Estimate, but you may need to create additional cost item detail for conforming your budget and creating change orders.

Estimate resources in the Project library are organized into seven resource types:

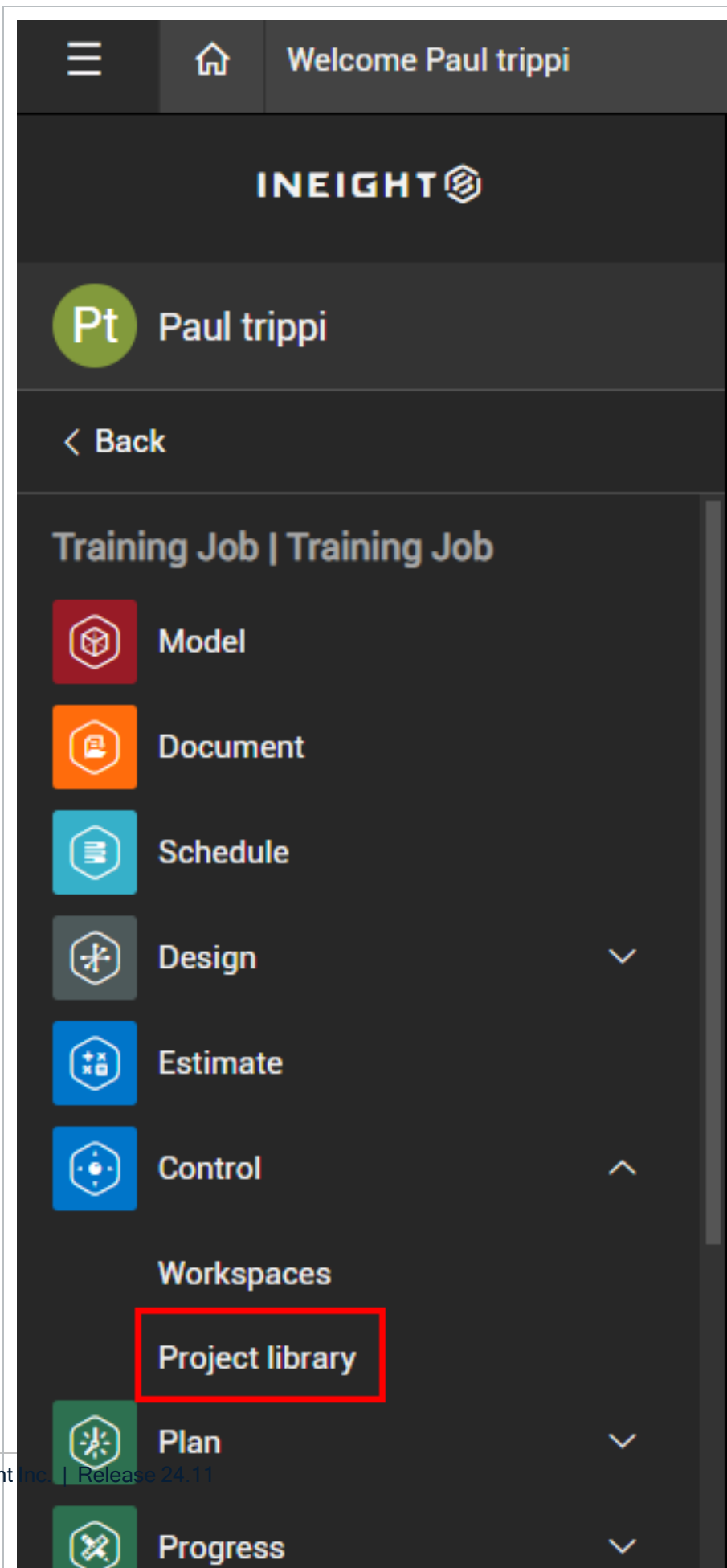
Resource	Description
Labor	The human resources that do the work, classified by trade (e.g., pipefitters, electricians, iron workers).
Construction Equipment	Owned construction equipment.
Rented Construction Equipment	Construction equipment rented from a third party.
Installed Material	Materials that will remain installed on site after the project is completed, (e.g., concrete, piping, aggregate).
Installed Equipment	Equipment that will remain installed on site after the project is completed, (e.g., boilers, heat exchangers, vessels, cooling towers).
Supplies	Expendable items that will not be permanently installed (e.g., small tools, consumables).
Unique	Resources that are of a “unique” nature and do not fit well into the other types (e.g., dump fees, hauling charges and equipment rented by the month, and subcontracted work).

TIP

Estimate resources are the equivalent of the Resource Rate Register in InEight Estimate.

You can access the Estimate resources page from the home page slide-out menu:

1. From **Menu > Control > Workspaces > Project Library** and then selecting the Estimate Resources tab.



Labor	Resource code	Description	Default Quanti...	Unit of m...	Utiliza... count	C I co (S)
Construction equipment	LC1	Carpenter Apprentice	1.00	Hour	594.37	
	LC2	Carpenter Journeyman	1.00	Hour	1,188.73	
Rented construction equipment	LC3	Carpenter Foreman	1.00	Hour	594.37	

- Another way to access Estimate Resources is from the CBS page. Highlight a **line item** and hovering over the number in the Resource column for that cost item, as shown below.

Tasks	CBS Position	Description	Resource	Foreca (TO) Quanti
	1	Job Overhead		
	2	Earthwork	1	10,00
	3	Concrete	1	10,00

- As a result, the Resource Summary window appears, where you can select **Resource Library** to open the Project library

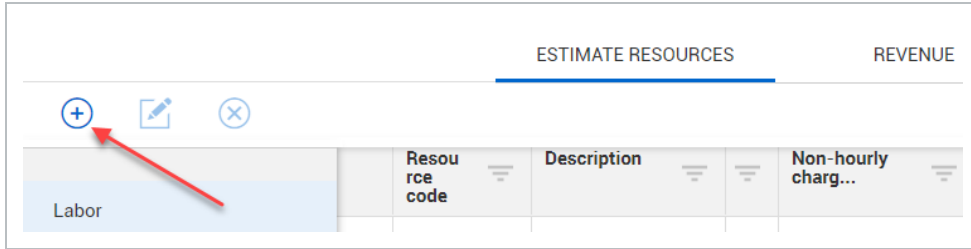
Row #	Code	Description	Quantity	UOM	Work Hrs	C E-Unit Cost	CE - Total Cost
1	L001	General Labor	1	Hour	14000	50	700000

Overview - Estimate Resources

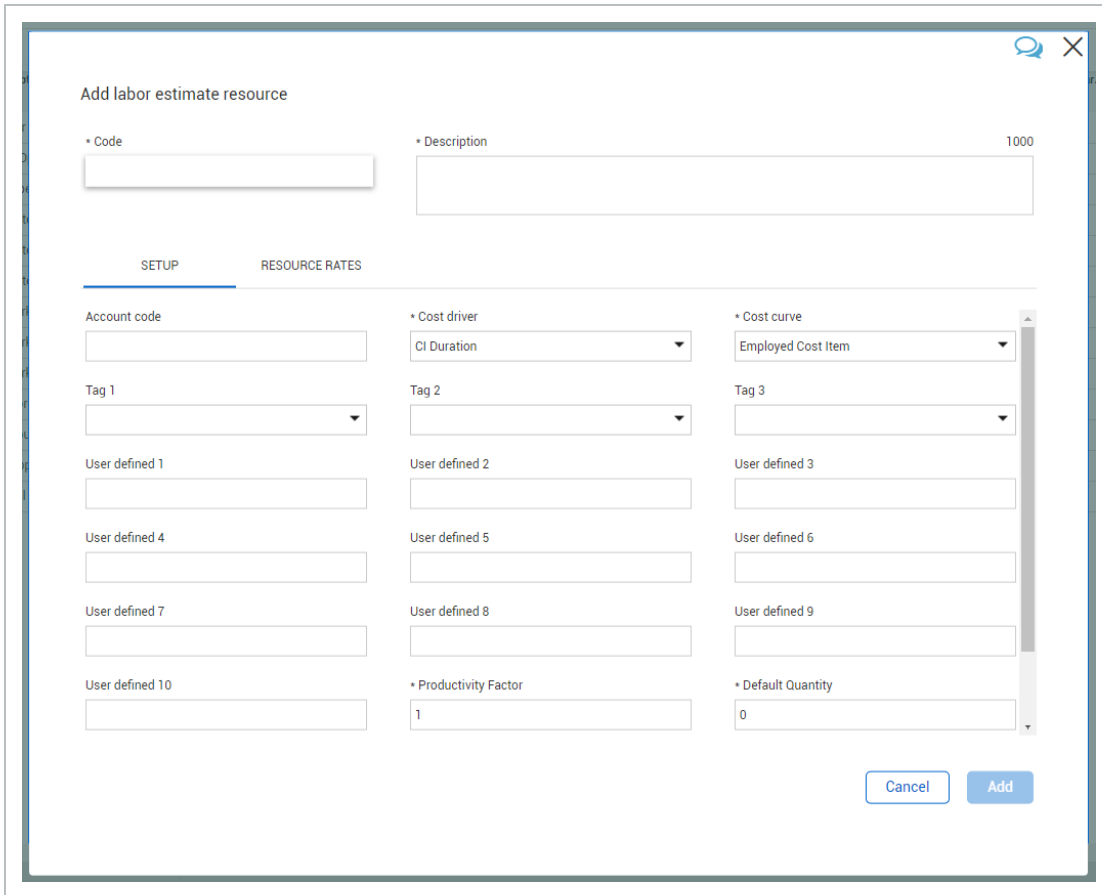
	Resource	Description
1	Resource Type	The seven resource categories for organizing your resources.
2	Resource Code	Alphanumeric label to quickly identify resources.
3	Description	Additional label to provide more resource detail.
4	Default Quantity	The quantity the resource will have by default when it is assigned to a cost item.
5	Unit of Measure	The unit the resource is measured by.
6	Utilization Count	The number of units of that resource being used in the project.
7	C E-Unit Cost (Scale 1)	The resource's rate per unit.
8	Cost Driver	Tells you what drives the cost for that resource when it is assigned to a cost item (cost, quantity, or fixed).
9	Account Code	Code assigned to resources for accounting and benchmarking purposes.

	Resource code	Description	Default quantity	Unit of...	Utilization count	C E-unit cost (Scale 1)	Cost driver	Account code
Labor	1.C.01.1.05	Laborer	0	Hour	12381.81818	\$ 35.00	CI Duration	
Construction equipment	1.C.01.1.06	Crane Operator	0	Hour	5100	\$ 65.00	CI Duration	
Rented construction equipment	1.C.01.1.07	Civil Operator	0	Hour	1454.54545	\$ 65.00	CI Duration	
Installed material	1.C.04.1.02	Concrete Foreman	0	Hour	3000	\$ 65.00	CI Duration	
Installed equipment	1.C.04.1.03	Concrete Journeyman	0	Hour	9000	\$ 55.00	CI Duration	
Supplies	1.C.04.1.04	Concrete Apprentice	0	Hour	9000	\$ 45.00	CI Duration	
Unique	1.C.05.1.02	Ironworker Foreman	0	Hour	2100	\$ 65.00	CI Duration	
	1.C.05.1.03	Ironworker Journeyman	0	Hour	6300	\$ 55.00	CI Duration	
	1.C.05.1.04	Ironworker Apprentice	0	Hour	6300	\$ 45.00	CI Duration	
	1.C.05.1.08	Civil Foreman	0	Hour	1047.27272	\$ 65.00	CI Duration	
	1.C.05.1.09	Civil Journeyman	0	Hour	1454.54545	\$ 57.50	CI Duration	
	1.C.05.1.23	Civil Apprentice	0	Hour	2181.81818	\$ 45.00	CI Duration	
	L001	General Labor	0	Hour	0	\$ 50.00	CI Duration	

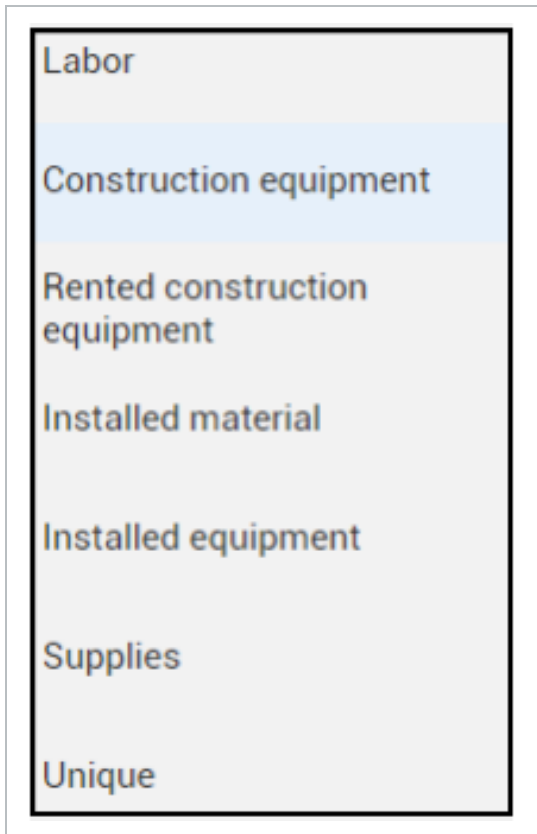
You can add additional estimate resources to the library by selecting the **Add estimate resource** icon.



- The Add labor estimate resource screen opens.



To add a resource to the correct resource type, make sure you are on the appropriate resource type tab (Labor, Construction Equipment, etc.) before clicking on the Add icon.



4.2.1 RESOURCE BILLABLE RATES

Within the Resource Rates tab, you can import, modify and add billable rates to estimate resources. This is particularly helpful on time and material or cost plus contracts to drive accurate invoicing.

Resource billing rates are also used for Forecast final revenue, as it will rely on the billing rates of the resources on the cost items that are assigned to pay items. These values generate revenue forecast for cost items that are associated to a cost plus or time & material (billing method) pay item.

Add labor estimate resource

* Code: Lab001 -PB * Description: Welder 99

SETUP RESOURCE RATES

Allowance	\$ 0.00	\$ 0.00	\$ 0.00
G & A	\$ 0.00	\$ 0.00	\$ 0.00
Undefined	\$ 0.00	\$ 0.00	\$ 0.00
Billing rate	\$ 50.00	\$ 0.00	\$ 0.00
Billing rate markup	\$ 0.00	\$ 0.00	\$ 0.00
Billing rate markup %	0.00%	0.00%	0.00%

CREATE A LABOR RESOURCE

1. In the Steel Structure Training Job, select **Menu > Control > Workspaces** and make sure you are on the CBS tab.
2. Hover over the number under the Resource column of the Task Details data block for a **subordinate cost item**.
3. Select **Resource Library** from the Resource summary window.
4. With the Labor resource type selected, click on the **Addestimate resource** icon.
5. Fill in the blanks with the following:
 - Code: **Lab001-XX** (XX your initials)
 - Description: **Welder**
6. Scroll down to Default Quantity and change the value from 0 to **1**.
7. Select the **Resource Rates** tab.
8. Select the **Labor** cost category and type **50.00** in the Scale 1 unit cost.
9. Scroll down to the Resource Rates and enter in values for the following **Billing Rates**:

- Scale 1
- Scale 2
- Scale 3

1. Click **Add** to add the new resource to the register of estimated resources.

Now that you have created a resource, you will add this resource to the Erect Steel – Heavy cost item in your Project.

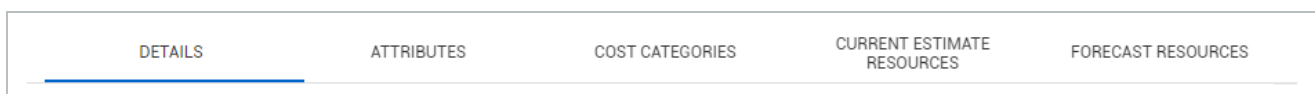
ADD RESOURCE TO JOB

1. From the Steel Structural Training Job, make sure you are in the CBS.
2. Right click on your **subordinate cost item**.
3. Select **Cost item details**.
4. Select the **Resources** tab.
5. Select **Add estimate resource**.
6. Click **Add**.

4.3 COST ITEM DETAILS

The cost item detail slide out panel contains many different fields to edit and enter cost item-related information. To access this screen, select the cost item and right-click to open the menu. Select **Cost item details**. There are four tabs to select from:

- Details tab
- Attributes tab
- Cost Categories tab
- Current Estimate Resources
- Forecast Resources tab



NOTE All editable cells in the cost item detail slide-out panel are single click.

4.3.1 DETAILS TAB

The Details tab contains the values and settings related to the cost detail of the item.

1069
Earthwork

DETAILS	ATTRIBUTES	COST CATEGORIES	CURRENT ESTIMATE RESOURCES	FORECAST RESOURCES
Forecast T/O qty	UoM	CE unit cost	CE total cost	CBS position
10,000.00	CY	\$ 40.00	\$ 400,000.00	2
Last changed on	Last changed by			
06/08/2022 09:53 AM	Service Account			

Description <input type="text" value="Earthwork"/>	Account code <input type="text" value="51"/>	* Cost source <input type="text" value="Detail"/>
* Forecast T/O qty <input type="text" value="10,000.00"/>	* UoM <input type="text" value="CY"/>	<input type="checkbox"/> As-built lock
CE total cost \$ 400,000.00	CE unit cost \$ 40.00	Live forecast method <input type="text" value="Current estimate"/>
CE total Mhrs 8,000.00	CE total equipment Hrs 0.00	CE labor cost/Mhrs \$ 50.00
CE Mhr/Unit 0.80	CE Units/Mhrs 1.25	* Cost segment <input type="text" value="Direct Cost"/>
* Allow as-built <input type="text" value="All"/>	Pay item assignment <input type="text" value="001"/>	* Currency <input type="text" value="USD \$"/>
* Quantity driver <input type="text"/>	<input type="checkbox"/> CBS contribute qty	<input type="checkbox"/> Hide in plan/Progress
<input type="checkbox"/> Pay item contribute qty		

Below is an explanation of some of the key settings on the Details tab.

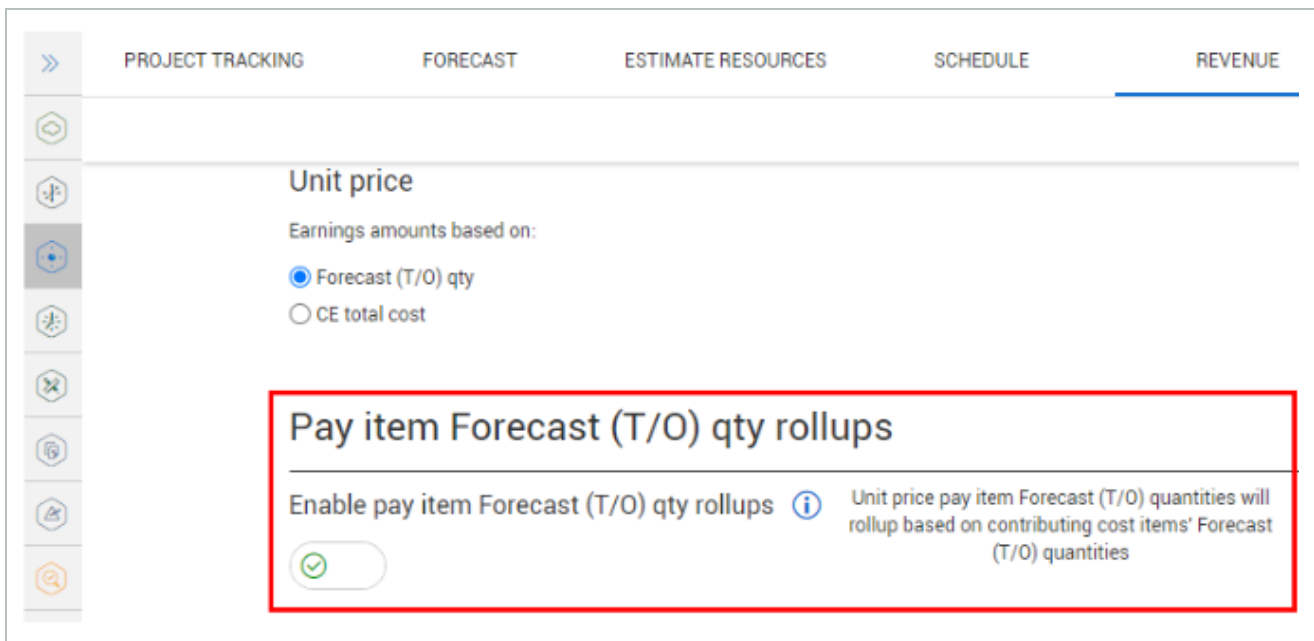
Term	Function
Cost source	<p>Indicates how costs are entered on the cost item.</p> <ul style="list-style-type: none"> • Detail - Resources and duration defined to determine costs • Plug - Unit and total costs entered at the cost category level
Live Forecast method	<p>Determines the Forecast Method for the cost item. (See <i>Lesson 9 - Forecasting</i> for more Forecast Method details).</p>
Cost segment	<p>Categorizes whether the cost item is a direct or indirect cost.</p> <ul style="list-style-type: none"> • Direct Cost - costs that directly pertain to the deliverables (pay items) of the job • Job Overhead - Overhead costs associated with running and managing the job (e.g., management, jobsite facilities) • Business Overhead - Overhead costs associated with running the business (not directly related to running the job) • Subcontract - subcontract associated costs
Allow as-built	<p>Determines whether you can enter actual costs and quantities for a cost item.</p> <ul style="list-style-type: none"> • None - Cost item does not accept cost or quantities. This is typically seen in Superior cost items • All - Allows a cost item to accept both direct costs and quantities • Quantities - Cost item only accepts quantities • Cost - Cost item only accepts costs, man hours, and equipment hours.
Quantity driver	<p>Superior cost item will have the Forecast T/O qty update when the superior cost item (parent cost item) receives an update. The change to the qty will be the original value multiplied by the same multiplier that was applied to the superior cost item.</p> <p>For example: if the superior cost item qty doubles, the item with Superior CI will double as well. Cost items with Fixed as the selection will not be affected by changes to the parent cost item.</p>
Cost item contribute quantity	<p>Checked cost items will have the Forecast T/O qty roll-up to the parent cost item if the UoM on both of the items are the same.</p>
Pay item contribute quantity	<p>Checking this box lets you choose which cost items contribute to the Pay item's forecast (T/O) quantity and can affect earnings rules for the associated pay item. This field is only visible if you have the Enable Pay item Forecast (T/O)</p>

Term	Function
	quantity rollups setting turned on in Settings > Control > Revenue .

4.3.1.1 PAY ITEM CONTRIBUTE QUANTITY

The Pay item contribute qty function works only when the Pay item Forecast (T/O) qty rollups toggle is set to *On* in Settings > Control > **Revenue**. If you have a unit price pay item, its forecast (T/O) quantity is the sum of all the contributing cost items forecast (T/O) quantities.

This function lets you define which cost items roll up their quantities to a pay ite



In the CBS, you can quickly modify the pay item contribute quantity either in bulk or by selecting a single cost item.

Multiple cost items selected

Tasks		Multiple cost items selected				
<input type="checkbox"/>	CBS position	De...	DETAILS	ATTRIBUTES	COST CATEGORIES	CURRENT ESTIMATE RESOURCES
<input checked="" type="checkbox"/>	3	Misc. I	Last changed on 05/23/2022 11:49 PM	Last changed by rakesh.gunda-ptr@inei...		
<input checked="" type="checkbox"/>	3.1	Misc. I				
<input checked="" type="checkbox"/>	3.1.6	B/C 88				
<input type="checkbox"/>	3.1.6.1	8888 C	Description (Varies)	Account code	* Cost source Detail	
<input type="checkbox"/>	3.1.6.2	8888 C	* Forecast T/O qty 1.00000000000	* UoM PLS	<input type="checkbox"/> As-built lock	
<input type="checkbox"/>	3.1.6.3	8888 C	CE total cost \$ 0.00000000000	CE unit cost \$ 0.00000000000	<input checked="" type="checkbox"/> Live forecast method	
<input type="checkbox"/>	3.1.6.4	Bower	CE total MHRs 0.00000000000	CE total equipment Hrs 0.00000000000	Rollup	
<input type="checkbox"/>	3.1.6.5		CE MHR/Unit 0.00000000000	CE Units/MHrs 0.00000000000	CE labor cost/MHrs \$ 0.00000000000	
			* Allow as-built None	Pay item assignment 2	* Cost segment (Varies)	
			* Quantity driver Superior CI	<input type="checkbox"/> CBS contribute qty	* Currency CAD \$	
			<input checked="" type="checkbox"/> Pay item contribute qty		<input type="checkbox"/> Hide in plan/Progress	

Selecting the Pay item contribute qty check box updates both the Current forecast (T/O) and the Update earning rules, only if Earnings rules are set to calculate based on Forecast (T/O) qty value in Pay items.

Pay item position	Pay item number	Descri...	Line num...	Row num...	Current price	Current forecast (T/O) qty
1	2	2	2	2	\$ 100.00000000...	3.0000000000
2	4	D4	4	4	\$ 1,000.000000...	
2.1	1		1	1	\$ 1,000.000000...	0.0000000000

Pay item ID: 2, Description: 2

Calculate earning amounts by:
 Forecast (T/O) qty
 CE total cost

CBS Position	Descri...	Pay item contrib. quantity	Earning %
3	Misc. Rev Ext...	<input checked="" type="checkbox"/>	5.0000000000 %
3.1	Misc. Rev Ext...	<input checked="" type="checkbox"/>	0.0000000000 %
3.1.6	B/C 8888 Osle...	<input checked="" type="checkbox"/>	0.0000000000 %
3.1.6.5		<input type="checkbox"/>	0.0000000000 %
3.1.6.1	8888 Osler La...	<input type="checkbox"/>	15.0000000000 %
3.1.6.4	Bowen Island ...	<input type="checkbox"/>	0.0000000000 %
3.1.6.2	8888 Osler Eq...	<input type="checkbox"/>	0.0000000000 %
3.1.6.3	8888 Osler 3rd...	<input type="checkbox"/>	0.0000000000 %
			20.0000000000 %

Default Earning Rules

Deselecting the Pay item contribute qty check box in the CBS also updates both the Current forecast (T/O) and the Update earning rules.

Pay item position	Pay item number	Descri...	Line num...	Row num...	Current price	Current forecast (T/O) qty
1	2	2	2	2	\$ 100.00000000...	0.0000000000
2	4	D4	4	4	\$ 1,000.000000...	
2.1	1		1	1	\$ 1,000.000000...	0.0000000000

Pay item ID: 2, Description: 2

Calculate earning amounts by:
 Forecast (T/O) qty
 CE total cost

CBS Position	Descri...	Pay item contrib. quantity	Earning %
3	Misc. Rev Ext...	<input type="checkbox"/>	5.0000000000 %
3.1	Misc. Rev Ext...	<input type="checkbox"/>	0.0000000000 %
3.1.6	B/C 8888 Osle...	<input type="checkbox"/>	0.0000000000 %
3.1.6.5		<input type="checkbox"/>	0.0000000000 %
3.1.6.1	8888 Osler La...	<input type="checkbox"/>	15.0000000000 %
3.1.6.4	Bowen Island ...	<input type="checkbox"/>	0.0000000000 %
3.1.6.2	8888 Osler Eq...	<input type="checkbox"/>	0.0000000000 %
3.1.6.3	8888 Osler 3rd...	<input type="checkbox"/>	0.0000000000 %
			20.0000000000 %

Default Earning Rules

4.3.2 ATTRIBUTES TAB

The Attributes tab allows you to tag the new cost item with user-defined entries.

1. **User-Defined Fields** –free text fields that you can type values into manually
2. **Tags** – Many of these fields are validated fields (known as tags), meaning you can choose from options in a drop-down list

The screenshot shows the '1074 Erect Steel - Heavy' Cost Item Details window. The window is divided into four tabs: DETAILS, ATTRIBUTES, COST CATEGORIES, and RESOURCES. The ATTRIBUTES tab is selected, displaying a grid of 15 fields. Fields 1-5 are CBS tags (16-25), fields 6-15 are CBS user defined fields. Field 6 is highlighted with a red box and a '1' in a circle. Field 18 is highlighted with a red box and a '2' in a circle, and its dropdown menu is open, showing options: Hand Place, Machine Finish, Other, Shoulder Barrier - Walls, Cut Off Pile, Splice Pile, and a 'Clear' button.

Some of these tags and their drop-down values are defined at the organizational level and others are customizable via the Project Settings under the Configure tag list value.

4.3.3 COST CATEGORIES TAB

The Cost Categories tab allows you to view your current budget, actuals, live forecast and forecast remaining cost, broken down into more detailed cost categories (e.g., labor, construction equipment, supplies, materials, etc.).

The header in the Cost Categories tab shows the % **Complete**, **Live forecast method**, and the **Latest actuals in forecast values**.

DETAILS		ATTRIBUTES		COST CATEGORIES		RESOURCES
% Complete	★ Live forecast method	Latest actuals in forecast values				
297.77777778 %	Committed cost	08/21/2020				
		TOTAL	PER UNIT			
Cost category	Current budget	Total cost (to date)	Current estimate	★ Live forecast	★ Forecast remaining cost	
^ Total	\$ 100.00000	\$ 30,565.15556	\$ 100.00000	\$ 31,565.15556	\$ 1,000.00000	
∨ Labor	\$ 0.00000	\$ 44,111.00000	\$ 0.00000	\$ 45,111.00000	\$ 1,000.00000	
∨ Construction...	\$ 0.41477	\$ 0.02304	\$ 0.41477	\$ 0.02304	\$ 0.00000	
∨ FOM Rented ...	\$ 0.04148	\$ 0.00230	\$ 0.04148	\$ 0.00230	\$ 0.00000	
∨ Supplies	\$ 0.00000	(\$ 14,000.00000)	\$ 0.00000	(\$ 14,000.00000)	\$ 0.00000	
∨ Materials	\$ 0.00000	(\$ 51.40000)	\$ 0.00000	(\$ 51.40000)	\$ 0.00000	
∨ Subcontract	\$ 0.00000	\$ 0.00000	\$ 0.00000	\$ 0.00000	\$ 0.00000	
∨ Fees	\$ 99.54376	\$ 5.53021	\$ 99.54376	\$ 5.53021	\$ 0.00000	

If you have the correct permissions, you can change the Live forecast method. You can also change the view of the Cost Categories values to show either **Total** or **Per Unit** cost.

The screenshot shows the 'COST CATEGORIES' tab for a cost item. A dropdown menu is open for the 'Live forecast method' field, which is currently set to 'Committed cost'. The menu options are: 'Current budget', 'Current estimate', 'Average performance', 'None', and 'Committed cost'. The 'Committed cost' option is highlighted with a red box. Below the dropdown, a table shows cost category details with columns for 'Total cost (to date)', 'Current estimate', 'Live forecast', and 'Forecast remaining cost'. The table data is partially visible, showing values for 'Total', 'Labor', and 'Construction' categories.

This is also where you enter the estimated cost into the different cost categories for the plug cost source.

You can expand the labor category and enter your cost at the appropriate level (e.g., Labor Base wages). You need to enter the cost under the appropriate level of the category. For example, if you

enter the cost at the Labor category level, the cost will appear in Undefined Labor level because you did not enter it at a specific sub-category level.

DETAILS	ATTRIBUTES	COST CATEGORIES	RESOURCES		
4.1 - Erect Steel - Heavy					
Cost category	Current Budget	Total Cost (To Date)	Current Estimate	★ Live Forecast	★ Forecast Remaining Cost
▲ Total	\$800,000.00	\$0.00	\$800,000.00	\$800,000.00	\$800,000.00
▲ Labor	\$800,000.00	\$0.00	\$800,000.00	\$800,000.00	\$800,000.00
Labor Base	\$800,000.00	\$0.00	\$800,000.00	\$800,000.00	\$800,000.00
▶ Labor Burden	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Undefined Labor		\$0.00	\$0.00	\$0.00	\$0.00
▶ Construction Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

The following Step by Step walks you through adding costs to the Cost Categories tab of the Cost item details slide out panel.

ENTER COSTS IN COST CATEGORIES

1. Within the InEight Control main page, on the CBS tab, right click on the cost item you created.
2. Select **Cost Item Details** to open the Cost item details slide out panel.
3. Click on the **Cost Categories** sub tab.
4. Under the Current Estimate column, expand the **Labor** cost category.
5. In the Current Estimate column, enter a value in the Current Estimate column for Labor Base, then press the **Tab** key.

4.3.4 CURRENT ESTIMATE RESOURCES TAB

The Current Estimate Resources tab is where you can view and manage the CE resources for terminal cost items.

From the Current Estimate Resources tab you can view and manage:

- Cost item details
- Current estimate resources
- Productivity and overall settings

- Resource details

DETAILS
ATTRIBUTES
COST CATEGORIES
CURRENT ESTIMATE RESOURCES
FORECAST RESOURCES

Cost item details

Forecast T/O qty	UoM	CE total cost	CE remaining cost	CBS position	Cost source
10,000.00	CY	\$ 1,000,000.00	\$ 1,000,000.00	5.2	Detail

Current estimate resources

Row #	Code	Description	Quantity	UoM	Work hours	CE unit cost
1	C01.04	Concrete Bulk Commodities	10000	CY		0

Productivity and overall settings

	Remaining	Total
Remaining hours	0.00	0.00
Remaining units/hour	0.00	0.00
Remaining hours/unit	0.00	0.00
Remaining man hours	0.00	0.00
Remaining units/man hour	0.00	0.00
Remaining man hours/unit	0.00	0.00

Resource details

C01.04
Concrete Bulk Commodities

When

Cost category	Amount
▼ Total	\$ 100.00
Billing rate	\$ 100.00
Billing rate markup	\$ 0.00
Billing rate markup %	0.00 %
Charge rate	\$ 100.00
Markup amount	\$ 0.00
Markup %	0.00 %

TIP

To see a total sum of the resources in Current estimate resources, you must have the Cost Source set to **Detail**.

DETAILS	ATTRIBUTES	COST CATEGORIES	CURRENT ESTIMATE RESOURCES	FORECAST RESOURCES
Cost item details ^				
Forecast T/O qty	UoM	CE total cost	CE remaining cost	CBS position
<input type="text" value="800.00"/>	Ton	\$ 800,000.00	\$ 800,000.00	4.1
Cost source				
<div style="border: 1px solid gray; padding: 2px;"> Detail ▼ Detail Plug ▼ </div>				
Current estimate resources ▼				
Productivity and overall settings ▼				
Resource details ▼				

NOTE

When the cost item's cost source is set to **Plug**, you will not use the Current Estimate Resources tab. Instead, costs are "plugged" or entered directly into cost categories on the Cost Categories tab of the cost item.

4.3.4.2 COST DRIVER

Each type of resource has a default cost driver. For example, Labor resources are duration driven so their default cost driver is CI Duration, meaning their costs are driven by the duration of the cost item. If you want a resource to only be assigned to a specific cost item or work activity for half the time, you can change its quantity to .5 and it will be driven by half of the cost item's hours.

1005
Erect Steel - Light

DETAILS ATTRIBUTES COST CATEGORIES **CURRENT ESTIMATE RESOURCES** FORECAST RESOURCES

Cost item details

Forecast T/O qty	UoM	CE total cost	CE remaining cost	CBS position	Cost source
<input type="text" value="200.00"/>	Ton	\$ 155,000.00	\$ 155,000.00	4.2	<input type="text" value="Detail"/>

Current estimate resources

<input type="checkbox"/>	Row #	Code	Description	Quantity	UoM	Work hours	CE unit cost
<input type="checkbox"/>	1	1.C.01.1.05	Laborer	2	Each	800	
<input type="checkbox"/>	2	1.C.05.1.04	Ironworker Apprentice	0.5	Each	200	
<input type="checkbox"/>	3	1.C.01.1.06	Crane Operator	1	Each	400	
<input type="checkbox"/>	4	1.C.05.1.03	Ironworker Journeyman	3	Each	1200	
<input type="checkbox"/>	5	1.C.05.1.02	Ironworker Foreman	1	Each	400	

NOTE Updating the total quantity of a resource with CI quantity as the cost driver will not auto-update the hours.

To enter work hours manually for the employed resource, you can change the Cost Driver option to CI Quantity or Fixed.

DETAILS	ATTRIBUTES	COST CATEGORIES	CURRENT ESTIMATE RESOURCES	FORECAST RESOURCES		
Cost item details						
Forecast T/O qty	UoM	CE total cost	CE remaining cost	CBS position		
800.00	Ton	\$ 800,000.00	\$ 800,000.00	4.1		
Cost source: Detail						
Current estimate resources						
<input checked="" type="checkbox"/>	Row #	Code	Description	CE total cost	Cost driver	Cost curve
<input type="checkbox"/>	1	1.C.05.1.04	Ironworker Apprentice	45.00	\$ 216,000.00	CI Duration
<input type="checkbox"/>	2	1.C.05.1.02	Ironworker Foreman	65.00	\$ 104,000.00	
<input type="checkbox"/>	3	1.C.05.1.03	Ironworker Journeyman	55.00	\$ 264,000.00	
<input type="checkbox"/>	4	1.C.01.1.05	Laborer	35.00	\$ 112,000.00	
<input type="checkbox"/>	5	1.C.01.1.06	Crane Operator	65.00	\$ 104,000.00	

NOTE If you change the Cost Driver to CI Quantity, the fields below will not be editable. It causes the adjusted duration to become zero or read-only. However, it can be editable if it does make a cost impact.

With CI Quantity as your cost driver for your resources, you can adjust the Work Hours manually, where previously that column was read-only. For example, perhaps you want your Laborer to work specifically 80 hours.

4.1 Erect Steel - Heavy

Forecast (T/O) Qty	UOM	CE Final Cost	WBS Phase Code	Cost Source
700	Ton	\$708,000.00000	1074	Detail

Row #	Code	Description	OM	Work Hours	CE - Unit Cost	CE - Total Cost	Cost Driver
1	L001	General Labor	our	14000	\$50.00	\$700,000.00	CI Duration
2	Lab001	Welder	ach	80	\$100.00	\$8,000.00	CI Quantity

The Forecast (T/O) Qty is very significant when it comes to quantity driven resources. It determines how the cost is driven and what affects the cost of that specific line item.


For example, perhaps there is a scope change and you need to change the Forecast (T/O) Qty from 700 to 350.

4.1 Erect Steel - Heavy

Forecast (T/O) Qty UOM
350 Ton

Row #	Code	Description
1	L001	General Labor

A screen appears to have you choose whether it will affect the C E-Final Unit Cost or CE-Final Cost. Typically, you will keep the Unit Cost constant and adjust the Final Cost.

 **Proportionally adjust C E-Final Cost or C E-Final Unit Cost ?**
The ForecastTQty can be modified by proportionally adjusting C E-Final Cost or C E-Final Unit Cost. Specify the value you would like to modify:

C E-Final Unit Cost
183.3333333333

C E-Final Cost
9166.6666666665

Notice your Welder’s work hours adjusted from 80 to 40 because they are driven by the Forecast (T/O) Quantity of the cost item.

4.1 Erect Steel - Heavy

Forecast (T/O) Qty: 350.00000 UOM: Ton CE Final Cost: \$354,000.00000 WBS Phase Code: 1074 Cost Source: Detail

Row #	Code	Description	OM	Work Hours	CE - Unit Cost	CE - Total Cost	Cost Driver
1	L001	General Labor	our	7000	\$50.00	\$350,000.00	CI Duration
2	Lab001	Welder	ach	40	\$100.00	\$4,000.00	CI Quantity

If the Cost Driver is set on Fixed, you can only update the resource’s hours by typing into the resource itself and updating the work hours directly.

4.1 Erect Steel - Heavy

Forecast (T/O) Qty: 350.00000 UOM: Ton CE Final Cost: \$354,000.00000 WBS Phase Code: 1074 Cost Source: Detail

Row #	Code	Description	M	Work Hours	CE - Unit Cost	CE - Total Cost	Cost Driver
1	L001	General Labor	ur	7000	\$50.00	\$350,000.00	CI Duration
2	Lab001	Welder	h	40	\$100.00	\$4,000.00	Fixed

Many of the numbers are tied to equations under the Productivity resources below. If you edit the numbers, it will have an impact on the resources depending on the cost driver.

4.3.5 FORECAST RESOURCES TAB

The Forecast Resources tab is where you can view and manage estimate resources assigned to a cost item.

From the Resources tab you can view and manage the:

- Forecast details live forecast method
- Add new resources and adjust duration-driven resources by changing their productivity
- View and adjust resource rates of assigned resources

The screenshot shows the 'Forecast Resources' tab of the 'Cost Item Details' panel. The panel has five tabs: 'DETAILS', 'ATTRIBUTES', 'COST CATEGORIES', 'CURRENT ESTIMATE RESOURCES', and 'FORECAST RESOURCES'. The 'Forecast Resources' tab is active and contains several sections:

- Forecast details:** A summary section with fields for 'Forecast total cost' (\$ 0.00), 'Forecast remaining cost' (\$ 0.00), 'Forecast total MHours' (0.00), and 'Forecast remaining MHours' (0.00). It also includes a 'Live forecast method' dropdown set to 'Manual (ETC)'.
- Resources:** A table listing resources. The first row is selected and highlighted in blue:

Row #	Code	Description	Estim...	Remaini... qty	UOM	Remaini... work hrs
1	1.C.01.1.05	Laborer	Labor	0.00	Hour	
- Productivity and overall settings:** A section with input fields for 'Remaining hours', 'Remaining units/hour', 'Remaining hours/unit', 'Remaining man hours', 'Remaining units/man hour', 'Remaining man hours/unit', 'Remaining equipment hours', 'Remaining units/equipment hour', and 'Remaining equipment hours/unit'. All fields currently show '0.00'.
- Resource details:** A table showing unit costs for different scales:

Cost category	Scale 1 unit cost	Scale 2 unit cost	Scale 3 unit cost
Total	\$ 35.00	\$ 30.00	\$ 40.00

Like the Details, Attributes, and Cost Categories tabs, you access the Forecast Resources tab from the Cost Item Details slide out panel.

This screenshot shows the 'Forecast Resources' tab for a specific cost item, '1074 Erect Steel - Heavy'. On the left, a 'Tasks' list is visible, with 'Cost item details' highlighted in red. The main panel has tabs for 'DETAILS', 'ATTRIBUTES', 'COST CATEGORIES', 'CURRENT ESTIMATE RESOURCES', and 'FORECAST RESOURCES'. The 'Forecast Resources' tab is active and displays the following information:

- Forecast T/O qty:** 800.00, **UoM:** Ton, **CE unit cost:** \$ 1,000.00, **CE total cost:** \$ 800,000.00, **CBS position:** 4.1
- Last changed on:** 02/22/2022 02:17 PM, **Last changed by:** Service Account
- Description:** Erect Steel - Heavy, **Account code:** 62.03.02.004.06, **Cost source:** Detail
- * Forecast T/O qty:** 800.00, *** UoM:** Ton, **As-built lock:** (checkbox)
- CE total cost:** \$ 800,000.00, **CE unit cost:** \$ 1,000.00, **CE total equipment Hrs:** (blank), **CE labor cost/MHrs:** (blank)
- Live forecast method:** Manual (ETC)

The Forecast Resources tab shows as an accordion menu where you can select a specific drop down menu you want to view.

The screenshot displays the 'Forecast Resources' tab in an application. The interface includes a top navigation bar with tabs: 'DETAILS', 'ATTRIBUTES', 'COST CATEGORIES', 'CURRENT ESTIMATE RESOURCES', and 'FORECAST RESOURCES'. Below this is an accordion menu with sections: 'Forecast details', 'Resources' (highlighted with a red border), 'Productivity and overall settings', and 'Resource details'. The 'Resources' section contains a table with the following data:

<input type="checkbox"/>	Row #	Code	Description	Estim...	Remaini... qty	UOM	Remaini... work hrs
<input checked="" type="checkbox"/>	1	1.C.01.1.05	Laborer	Labor	0.00	Hour	
<input type="checkbox"/>	2	1.C.01.1.06	Crane Operator	Labor	0.00	Hour	

4.3.5.3 PRODUCTIVITY AND OVERALL SETTINGS

If the resource’s cost driver is set to CI Duration, you can change any of the values on the Productivity tab under Adjusting duration driven resources below, and it will change the work hours of your resources without you having to do the math yourself.

DETAILS	ATTRIBUTES	COST CATEGORIES	CURRENT ESTIMATE RESOURCES	FORECAST RESOURCES
Cost item details ∨				
Current estimate resources ∨				
Productivity and overall settings ∧				
		Remaining	Total	
Remaining hours	Remaining units/hour	Remaining hours/unit		
<input type="text" value="1,600.00"/>	<input type="text" value="0.50"/>	<input type="text" value="2.00"/>		
Remaining man hours	Remaining units/man hour	Remaining man hours/unit		
<input type="text" value="16,000.00"/>	<input type="text" value="0.05"/>	<input type="text" value="20.00"/>		
Remaining equipment hours	Remaining units/equipment hour	Remaining equipment hours/unit		
<input type="text" value="0.00"/>	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>		
When updating the quantity of duration driven labor resources				
<input checked="" type="radio"/> Proportionally update Units\Man hours <input type="radio"/> Proportionally update Hours				
Resource details ∨				

4.3.5.4 RESOURCE DETAILS

Resource Details shows the unit cost category breakdown of the selected resource listed above. The Resource rates tab expands to a unit breakdown on a selected item under resources. It is fully editable if you have the right permissions to do so.

Resource details			
1.C.05.1.04			
Ironworker Apprentice			
Cost category	Scale 1 unit cost	Scale 2 unit cost	Scale 3 unit cost
^ Total	\$ 45.00	\$ 45.00	\$ 60.00
∨ Labor	\$ 45.00	\$ 45.00	\$ 60.00
∨ Construction Equipment	\$ 0.00	\$ 0.00	\$ 0.00
∨ FOM Rented Equipment	\$ 0.00	\$ 0.00	\$ 0.00
∨ Supplies	\$ 0.00	\$ 0.00	\$ 0.00
∨ Materials	\$ 0.00	\$ 0.00	\$ 0.00
∨ Subcontract	\$ 0.00	\$ 0.00	\$ 0.00

ORPHAN INDICATOR

If you change the resource rate of one of the assigned resources, then a triangle will appear. The triangle is an **orphan indicator**. This means a value associated with this resource does not match the resource's value in the Estimated resources in the Project library. When you hover over the triangle, it will give you a summary of all the differences between the library value and the orphaned value.

Most recent change in this item				
Attribute	Library value	Orphan value	Last changed by	Last changed on
Total - Scale1	50.00	100.00	Susan Cappelloni	09/25/2017 02:24 PM
FOM Rented Equipm...	0.00	50.00	Susan Cappelloni	09/25/2017 02:24 PM
Undefined FOM Rent...	0.00	50.00	Susan Cappelloni	09/25/2017 02:24 PM

2	Lab001	Welder
---	--------	--------

Row #	Code	Description	Quantity	UOM	Work Hours	CE - Unit Cost	CE - Total Cost
2	lab1	lab1	1	Each	27.78	60.00	10
3	lab1	lab1	1	Each	41.67	\$60.00	\$1,5

Cost category	Scale 1 unit cost	Scale 2 unit cost	Scale 3 unit cost
Total	\$70.00	\$0.00	\$0.00
Labor	\$0.00	\$0.00	\$0.00

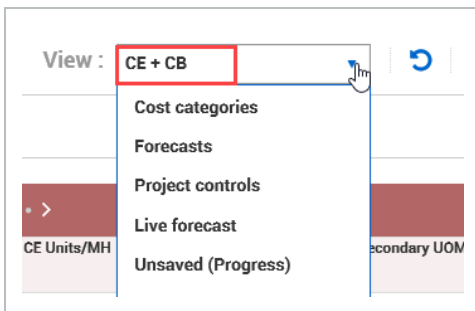
This is shown in case you want to change the values back to match the library. If you change the values back to match the library, the triangle will disappear.

4.3.5.5 COST ITEM MAN-HOURS

Aside from on the Cost Estimate Resources tab, you can also define productivity on the CBS register page. The following steps walk you through how to add the planned man-hours for a cost item from the CBS register page.

DEFINE COST ITEM MAN-HOURS

1. On your CBS register tab, make sure the Current estimate data block is displayed on the page, by selecting the **CE + CB** viewset.



2. Under the CE Final MHRs column, enter **16,000** for a cost item, then press the **Tab** key. Note – If the cost item is a “detail” cost source you will not be able to manually adjust this field.

▼ Steel Structure Training Job
105099

Actions ▾ CBS ACS PAY ITEMS CHANGE REGISTER AUDIT LOG

Tasks ?			Task Details < **** >			Current estimate	
<input type="checkbox"/>	CBS Position	Description	Resource	Forecast (TO) Quantity	UOM	CE Final MH	CE Final Cost
<input type="checkbox"/>	3	Concrete	1	10,000.00	CY	30,000.00	\$1,500,000.00
<input type="checkbox"/>	4	Structural Steel		1,000.00	Ton	20,000.00	\$1,050,000.00
<input type="checkbox"/>	4.1	Erect Steel - Heavy	1	800.00	Ton	16,000.00	\$800,000.00

4.3.6 ISSUE TAGGING IN THE CBS

You can associate an issue to a cost item in the CBS. Issue Ids in Change have a hierarchy of issues and subordinate issues. Associated an issue to a cost item applies to parent-level issues. Child issues take on the cost item of the parent issue.

CBS ACS PAY ITEMS CHANGE REGISTER

Actions ▾ + ✎ ✕

Tasks				nt-	Last estimated actual man hours reversal	Last estimated actual equip hours reversal	Issue	CB
<input type="checkbox"/>	▼ CBS position	Description	WBS phase code					
<input type="checkbox"/>	30		1 / 85	0.00				
<input type="checkbox"/>	31		1790	0.00				
<input type="checkbox"/>	32	Cost item 1 up		0.00				
<input type="checkbox"/>	33	Cost item 2		0.00				
<input type="checkbox"/>	34	x		0.00				
<input type="checkbox"/>	35	Detail - labor		0.00				
<input type="checkbox"/>	36	Detail - CE		100.00				
<input type="checkbox"/>	37	Detail - other		0.00				
<input type="checkbox"/>	38	Detail - mix		10.00				
<input type="checkbox"/>	39	Plug		0.00				
<input type="checkbox"/>	40	plug2		0.00				
<input type="checkbox"/>	41	Cost item 1	01	0.00				
<input type="checkbox"/>	42	Cost item 2	02	0.00				
<input type="checkbox"/>	43	Cost item 3	03	1.00	04/06/2021 1:18:1...	03/29/2021 3:08:7...		
<input type="checkbox"/>	44	Cost item 4	04	0.00				
<input checked="" type="checkbox"/>	45			0.00				

Subtotals 804 (1 rows selected)

Formula description: Document issue: N/A

When you click in the Issue column, the Assign issue dialog box is shown. The list of issues originates from the list of the issues in Change.

✕

Assign issue

🔍

Select	Issue id	Issue name
<input type="radio"/>	7	new5_copy67
<input type="radio"/>	8	new5

Clear Cancel Assign

NOTE The Assign issue dialog box does not contain the full list of Issues that Change contains.

NEW ISSUE							
7 ISSUE LOG							
POTENTIAL CO LOG							
Issue ID	PCO ID	Client CO ID	Issue name	Issue start date	Issue stat...	Assig	
<input type="checkbox"/> ^ 12			G Testing 2/1...	02/17/2021	Open		
<input type="checkbox"/> 12.2			G Testing 2/1...	02/17/2021	New		
<input type="checkbox"/> 12.1			G Testing 2/1...	02/17/2021	New		
<input type="checkbox"/> 11.B			new6.(B).	11/05/2020	New		
<input type="checkbox"/> 11.A			new6.(Original).	11/05/2020	New		
<input type="checkbox"/> ^ 10			new6.	11/05/2020	Open		
<input type="checkbox"/> 10.1			new6.	11/05/2020	New		
<input type="checkbox"/> 9		new1.	new5cj.	11/04/2020	Executed	<input checked="" type="checkbox"/>	
<input type="checkbox"/> ^ 8			new5.	11/04/2020	Open		

If a parent issue in Change becomes a subordinate while you already have that issue assigned to a cost item in the CBS, the cost item then changes Issue ID to match the parent item that the linked issue was then relocated under. For example, if the parent issue ID was a 2 in Change and it was moved under the parent issue ID 1, then the cost item previously linked to the parent 2 changes to the parent issue 1.

4.4 LOCK BUDGET

4.4.1 BUDGETS VS ESTIMATE

You can maintain an Original Budget, a Current Budget, and a Current Estimate, as is shown from the CBS tab of the Control main page, using a custom data block.

Tasks		Task Det... < + + + >			BM Budget View < + >		
CBS Position	Description	WBS Phase Code	Forecast TO City	UOM	O B-Total Cost	C B-Total Cost	C E-Final Cost
1	Job Overhead	1002	1.00	Lump Su.	\$250,000.00	\$250,000.00	\$250,000.00
2	Earthwork	1069	10,000.0.	CY	\$400,000.00	\$400,001.00	\$400,000.00
3	Concrete	1071	10,000.0.	CY	\$0.00	\$8,000.00	\$5,000.00
3.1	Concrete Footings	1089	1,000.00	CY	\$0.00	\$8,000.00	\$5,000.00
3.1.1	Place/Strip Footing Forms	1090	500.00	SF	\$0.00	\$8,000.00	\$5,000.00
3.1.2	Pour Footings	1091	0.00	CY	\$0.00	\$0.00	\$0.00

4.4.1.1 ORIGINAL BUDGET

The Original Budget (OB) is a snapshot of the project plan in its original state, prior to execution. It is a baseline used for comparison as the project progresses. You cannot edit your Original Budget values; they are read-only in the CBS register, available for reference only.

Once set, the Original Budget never changes.

In the CBS register, you can find the OB values for man-hours, quantities, and costs.

Tasks		Task Det... < + + + >			BM Budget View < + >		
CBS Position	Description	WBS Phase Code	Forecast TO City	UOM	O B-Total Cost	C B-Total Cost	C E-Final Cost
1	Job Overhead	1002	1.00	Lump Su.	\$250,000.00	\$250,000.00	\$250,000.00
2	Earthwork	1069	10,000.0.	CY	\$400,000.00	\$400,001.00	\$400,000.00
3	Concrete	1071	10,000.0.	CY	\$0.00	\$8,000.00	\$5,000.00
3.1	Concrete Footings	1089	1,000.00	CY	\$0.00	\$8,000.00	\$5,000.00

4.4.1.2 CURRENT BUDGET

The **Current Budget (CB)** is the project’s operational budget, including only project changes approved through a controlled process. The Current Budget is therefore the sum of your Original Budget, plus or minus any approved changes.

TIP

See the Change Management section for more details on managing and approving budget changes.

In the CBS register, you can find CB values for planned, earned and forecasted costs, hours and productivity.

Tasks		Task Det...			BM Budget View			
CBS Position	Description	WBS Phase Code	Forecast TO City	UOM	O B-Total Cost	C B-Total Cost	Descr: Current Budget Total Cost Formula: N/A	C E-Final Cost
1	Job Overhead	1002	1.00	Lump Su.		\$250,000.00	\$250,000.00	\$250,000.00
2	Earthwork	1069	10,000.0.	CY		\$400,000.00	\$400,001.00	\$400,000.00
3	Concrete	1071	10,000.0.	CY		\$0.00	\$8,000.00	\$5,000.00
3.1	Concrete Footings	1089	1,000.00	CY		\$0.00	\$8,000.00	\$5,000.00
3.1.1	Place/Strip Footing Forms	1090	500.00	SF		\$0.00	\$8,000.00	\$5,000.00
3.1.2	Pour Footings	1091	0.00	CY		\$0.00	\$0.00	\$0.00

4.4.1.3 CURRENT ESTIMATE

The **Current Estimate (CE)** represents the most up to date estimate of your work. You can update your Current Estimate quantities, hours, and costs at any time in the CBS register, with no required approval process or work flow.

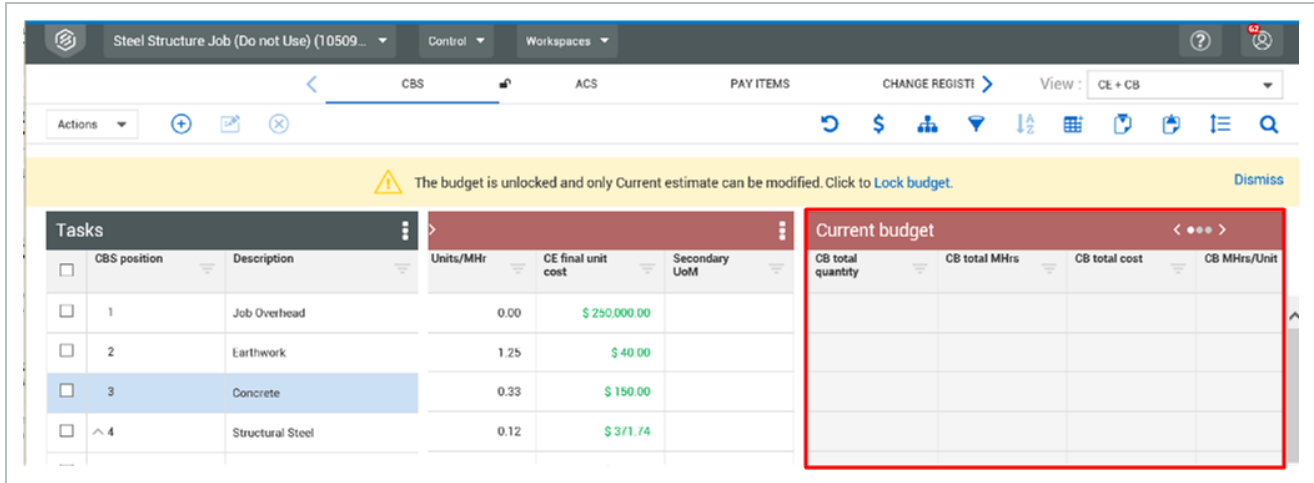
You can use the Current Estimate as a sand box to build out change orders and do what-if analysis to plan for potential changes, without worrying about affecting the Current or Original Budgets.

Tasks		Task Det...			BM Budget View			
CBS Position	Description	WBS Phase Code	Forecast TO City	UOM	O B-Total Cost	C B-Total Cost	Descr: Current Estimate Final Cost Formula: N/A	C E-Final Cost
1	Job Overhead	1002	1.00	Lump Su.		\$250,000.00	\$250,000.00	\$250,000.00
2	Earthwork	1069	10,000.0.	CY		\$400,000.00	\$400,001.00	\$400,000.00
3	Concrete	1071	10,000.0.	CY		\$0.00	\$8,000.00	\$5,000.00
3.1	Concrete Footings	1089	1,000.00	CY		\$0.00	\$8,000.00	\$5,000.00
3.1.1	Place/Strip Footing Forms	1090	500.00	SF		\$0.00	\$8,000.00	\$5,000.00
3.1.2	Pour Footings	1091	0.00	CY		\$0.00	\$0.00	\$0.00

NOTE All editable cells in the Current Estimate CBS grid are single click.

4.4.2 LOCK BUDGET AND PRICE

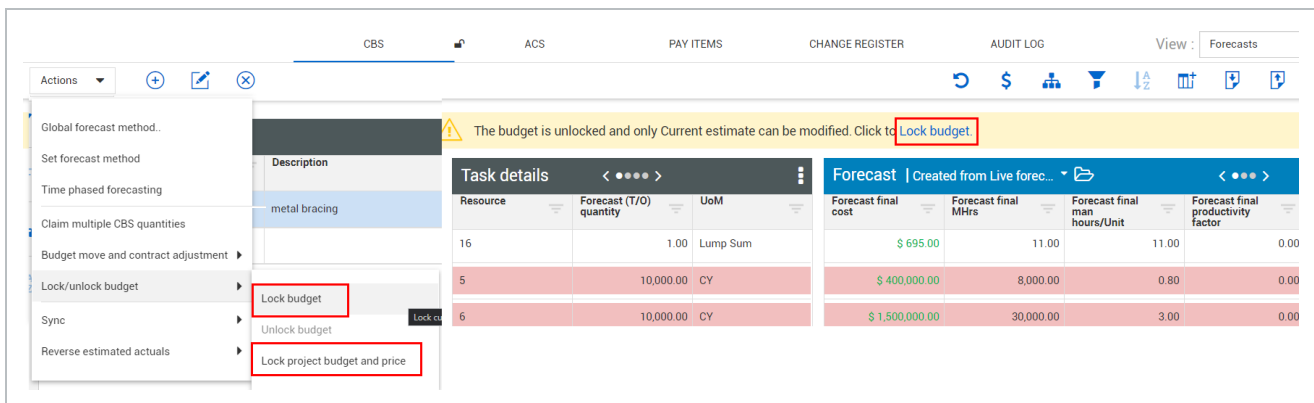
When you first create your project, your cost breakdown structure is unlocked, meaning you can make changes to your current estimate, but there is no locked down budget for tracking purposes. Your Original Budget and Current Budget data blocks therefore contains no values.



Locking your budget creates an Original and Current Budget based on your Current Estimate values. Keep in mind that:

- Your Original Budget cannot change
- Your Current Budget can only change via approved change orders (see *Lesson 7 – Change Management*)
- During project execution, you can compare your actual costs and man-hours to your Original and Current Budgets to track you progress

In the CBS you can lock the budget by selecting Actions > Lock/unlock budget > **Lock Budget** or **Lock project budget and price**.



The Budget Lock Status columns then changes to a locked symbol.

<input type="checkbox"/>	Pay item number	Description	Current forecast (T/O) qty	Price lock status
<input type="checkbox"/>	001	Earthwork - Lab...	1.00	
<input type="checkbox"/>	002	Concrete - Lab...	1.00	
<input type="checkbox"/>	003	Steel - Labor & ...	1.00	

In Pay Items, you can also lock your price and budget for pay items by selecting Actions > Lock/unlock price>**Lock Price** or **Lock project budget and price**.

The screenshot shows the 'Actions' dropdown menu with the following options:

- Lock/unlock price (selected)
 - Lock price (highlighted with a red box)
 - Unlock price
- Sync
- Budget move and contract adjustment
 - Lock project budget and price (highlighted with a red box)

The background table shows the following data:

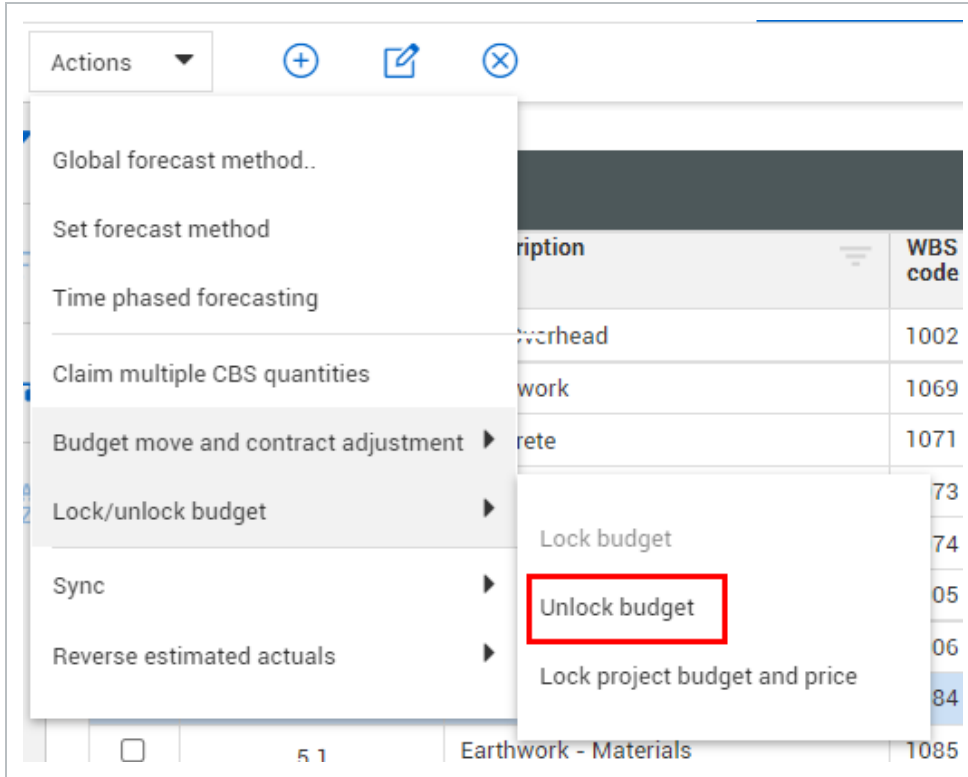
<input type="checkbox"/>	Pay item number	Description	Current forecast (T/O) qty	Price lock status
<input type="checkbox"/>	002	Concrete - Lab...		
<input type="checkbox"/>	003	Steel - Labor & ...	1.00	

The Price Lock Status columns then changes to locked.

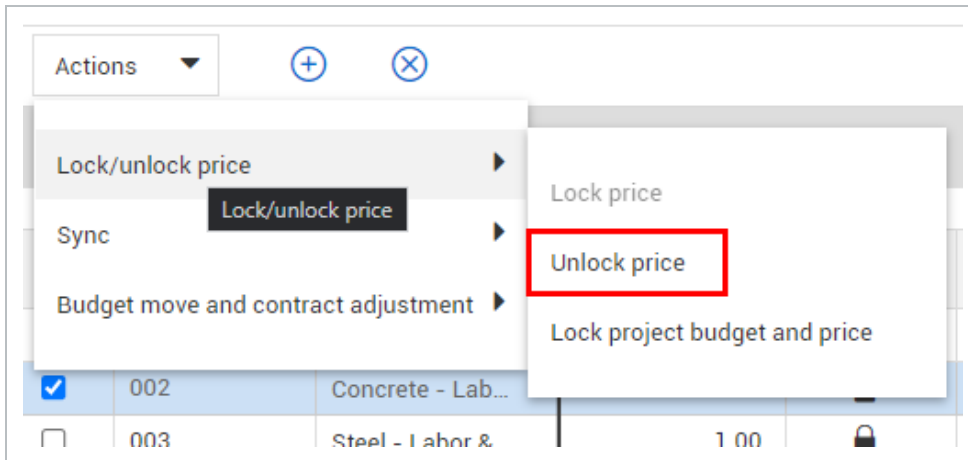
<input type="checkbox"/>	Pay item number	Description	Current forecast (T/O) qty	Price lock status
<input type="checkbox"/>	001	Earthwork - Lab...	1.00	
<input type="checkbox"/>	002	Concrete - Lab...	1.00	
<input type="checkbox"/>	003	Steel - Labor & ...	1.00	

4.4.3 UNLOCK BUDGET AND PRICE

After you lock your budget, in rare instances, it might be necessary to unlock your Original and Current Budgets, though this is typically not recommended. For example, after initial import of your estimate into Control, you might need to make further adjustments to your cost breakdown structure to conform your estimate to the working plan for the project. Normally, unlocking your budget is the exception, not the rule.



In Pay Items, like locking the budget for cost items, you unlock the price from the Actions menu.



REVIEW

1. When you first import or create your cost breakdown structure, by default your budget is:
 - a. Locked
 - b. Unlocked
 - c. Suspended
 - d. Auto-filled

2. Under the Cost Details tab, what are the three types of cost segments that you can choose from?
 - a. Direct Cost, Job Overhead, Business Overhead
 - b. Detail, Plug, Quote
 - c. Superior, Subordinate, Terminal
 - d. Fixed, Superior CI

3. The Resources tab is where you can:
 - a. Adjust the unit rate of your project's resources
 - b. Adjust Man-Hours
 - c. Adjust and add equipment costs
 - d. All of the above
 - e. None of the above

SUMMARY

As a result of this lesson, you can:

- Manage estimate resources
- Gain visibility into resource billing rates
- Manage cost item details
- Lock the budget

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PROGRESS MEASUREMENT

LESSON DURATION: 60 MINUTES

LESSON OBJECTIVES

After completing this lesson, you will be able to:

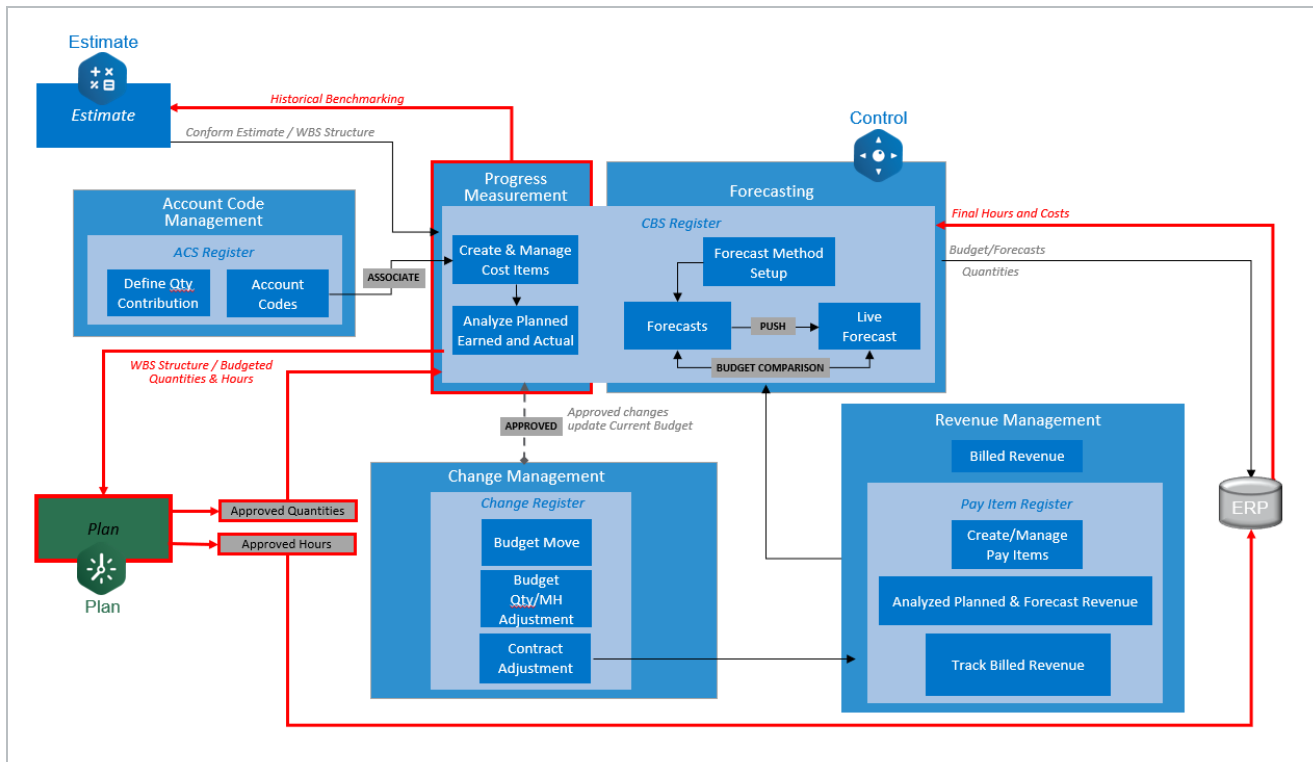
- Define the measurements for analyzing the progress of a project
- Set up a Date Range for progress data
- Get Plan quantities, actual costs, and actual man-hours using the Sync feature
- Explain the settings used for managing progress data shared between applications
- Add and adjust actuals manually
- View actuals history

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5.1 INEIGHT CONTROL WORKFLOW - PROGRESS MEASUREMENT



5.2 PROGRESS MEASUREMENT OVERVIEW

One of the standard forms of contract payment terms in the construction industry is based on the value of specific contract deliverables. It is also based on the work completed during the previous month towards those pay items. Throughout the life of a project, you will want to track the progress of work completed.

It is important to identify and define a few key terms related to progress measuring, and to identify how to utilize InEight Control as a tool for accessing and maintaining critical job factors.

5.2.1 BUDGETS VS ESTIMATE

Within InEight Control, you can maintain an Original Budget, a Current Budget, and a Current Estimate, as is shown from the CBS tab of the Control main page by using a custom data block.

Tasks		Task Det... < + + + >			BM Budget View < + >		
CBS Position	Description	WBS Phase Code	Forecast TO City	UOM	O B-Total Cost	C B-Total Cost	C E-Final Cost
1	Job Overhead	1002	1.00	Lump Su.	\$250,000.00	\$250,000.00	\$250,000.00
2	Earthwork	1069	10,000.0.	CY	\$400,000.00	\$400,001.00	\$400,000.00
3	Concrete	1071	10,000.0.	CY	\$0.00	\$8,000.00	\$5,000.00
3.1	Concrete Footings	1089	1,000.00	CY	\$0.00	\$8,000.00	\$5,000.00
3.1.1	Place/Strip Footing Forms	1090	500.00	SF	\$0.00	\$8,000.00	\$5,000.00
3.1.2	Pour Footings	1091	0.00	CY	\$0.00	\$0.00	\$0.00

5.2.1.1 ORIGINAL BUDGET

The **Original Budget (OB)** is a snapshot of the project plan in its original state, prior to execution. It is a baseline used for comparison as the project progresses. You cannot edit your Original Budget values; they are read-only in the CBS register, available for reference only.

Once set, the Original Budget never changes.

Within the CBS register of InEight Control, you will find the Original Budget (OB) values for man-hours, quantities, and costs.

Tasks		Task Det... < + + + >			BM Budget View < + >		
CBS Position	Description	WBS Phase Code	Forecast TO City	UOM	O B-Total Cost	C B-Total Cost	C E-Final Cost
1	Job Overhead	1002	1.00	Lump Su.	\$250,000.00	\$250,000.00	\$250,000.00
2	Earthwork	1069	10,000.0.	CY	\$400,000.00	\$400,001.00	\$400,000.00
3	Concrete	1071	10,000.0.	CY	\$0.00	\$8,000.00	\$5,000.00
3.1	Concrete Footings	1089	1,000.00	CY	\$0.00	\$8,000.00	\$5,000.00

5.2.1.2 CURRENT BUDGET

The **Current Budget (CB)** is the project’s operational budget, including only project changes approved through a controlled process. The Current Budget is therefore the sum of your Original Budget, plus or minus any approved changes.

TIP See the Change Management lesson for more details on managing and approving budget changes.

Within the CBS register of InEight Control, you will find Current Budget (CB) values for planned, earned and forecasted costs, hours and productivity.

Tasks		Task Det...			BM Budget View			
CBS Position	Description	WBS Phase Code	Foreca at TO City	UOM	O B-Total Cost	C B-Total Cost	Descr: Current Budget Total Cost Formula: N/A	C E-Final Cost
1	Job Overhead	1002	1.00	Lump Su.		\$250,000.00	\$250,000.00	\$250,000.00
2	Earthwork	1069	10,000.0	CY		\$400,000.00	\$400,001.00	\$400,000.00
3	Concrete	1071	10,000.0	CY		\$0.00	\$8,000.00	\$5,000.00
3.1	Concrete Footings	1089	1,000.00	CY		\$0.00	\$8,000.00	\$5,000.00
3.1.1	Place/Strip Footing Forms	1090	500.00	SF		\$0.00	\$8,000.00	\$5,000.00
3.1.2	Pour Footings	1091	0.00	CY		\$0.00	\$0.00	\$0.00

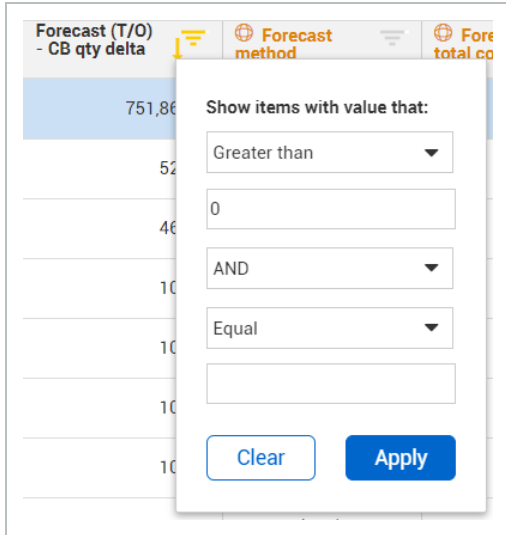
FORECAST (T/O) - CB QTY DELTA COLUMN

The Forecast (T/O) - CB qty delta column shows you the difference between the Forecast (T/O) quantity and the current budget total quantity columns.

The calculation for this formula is $[Forecast (T/O) qty] - [CB total qty]$.

CBS				ACS
Actions				
Tasks				Current estimat
CBS position	Description	WBS phase code	Forecast (T/O) - CB qty delta	
3.4.2.2.1	STS - Direct MHR	1056	522.0	
3.5.2.3	SC Xaxlip Traffic Control Su...	1071	466.0	
3.5.1.5	PM Soil Anchors	1067	101.5	
3.4.1.2.2	Drill / Install / Grout Anchors	1014	101.5	
3.4.1.2.3	Build & Move Anchors	1015	101.5	

You can filter on non-zero CBS records, which makes you aware to update either the Forecast T/O Quantity or CB Total Quantity.



5.2.1.3 CURRENT ESTIMATE

The **Current Estimate (CE)** represents the most up to date estimate of your work. You can update your Current Estimate quantities, hours, and costs at any time in the CBS register, with no required approval process or work flow.

You can use the Current Estimate as a “sand box” to build out change orders and do what-if analysis to plan for potential changes, without worrying about affecting the Current or Original Budgets.

Tasks		Task Det...			BM Budget View			
CBS Position	Description	WBS Phase Code	Forecast TO Qty	UOM	O B-Total Cost	C B-Total Cost	C E-Final Cost	Descr: Current Estimate Final Cost Formula: N/A
1	Job Overhead	1002	1.00	Lump Su.	\$250,000.00	\$250,000.00	\$250,000.00	
2	Earthwork	1069	10,000.00	CY	\$400,000.00	\$400,001.00	\$400,000.00	
3	Concrete	1071	10,000.00	CY	\$0.00	\$8,000.00	\$5,000.00	
3.1	Concrete Footings	1089	1,000.00	CY	\$0.00	\$8,000.00	\$5,000.00	
3.1.1	Place/Strip Footing Forms	1090	500.00	SF	\$0.00	\$8,000.00	\$5,000.00	
3.1.2	Pour Footings	1091	0.00	CY	\$0.00	\$0.00	\$0.00	

Within the CBS register of InEight Control, you will find a wealth of columns for measuring and analyzing your project progress. InEight Control uses its own terminology for these measurements that match up well with common Earned Value Management terminology. Before comparing these terms, the following section reviews some Earned Value Management basics.

5.2.1.4 UPDATING FORECAST (T/O) QUANTITY

The different ways to update the Forecast (T/O) quantity include:

1. Direct entry into data block.
2. Direct entry into Cost item details slideout.
3. Excel import.
4. Undo.
5. Copy/paste into data block.
6. Rolldown from assigned pay item (need to have this setting enabled).
7. Cost item API.
8. Selective import.
9. Rolldown from parent (Qty driver is Superior CI).
10. Rollup from children (Contribute qty is checked).

UPDATING CE UNIT COST FOR CE TOTAL COST

When you update the Forecast (T/O) on both the CE and the Forecast, you are prompted to update either the CE unit cost for CE total cost. You can also choose to update either the CE labor cost/Mhr or CE total MHrs, and either CE construction equipment cost/hr or CE total equipment hrs (if applicable).

This will then update the Forecast values because Forecast is based off Remaining qty * selected unit cost, and your Remaining qty will update with a Forecast (T/O) qty change. This also affects your % complete (Qty claimed / Forecast (T/O) qty) which impacts all the earned value columns. It will also update the Forecasted revenue values as well (based on the % complete).

ENSURING TOTAL QUANTITY ALIGNMENT BETWEEN CONTROL AND PLAN


You can easily filter the Forecast (T/O) - Plan component qty delta column. There is also a menu option in the Actions menu to update the Forecast (T/O) qty to match the Plan qty - Update Forecast (T/O) qty with Plan component total qty

5.2.2 PLANNED VALUE (PV)

Planned Value (PV) are the costs and hours you have estimated and scheduled for the project. Think of PV as your approved budget of scheduled items. In Control, your PV includes the following columns:

- CE Total Cost
- CE Total MHrs

- CB Total Cost
- CB Total MHrs

Actuals 11/17/2018 to 08/07/2023 			
CE total cost	CE total MHrs	CB total cost	CB total MHrs
\$ 0.00	0.00	\$ 0.00	0.00
\$ 2,474,580.57	8,370.48	\$ 2,780,589.58	8,088.50
\$ 0.00	0.00	\$ 0.00	0.00
\$ 52,449.00	0.00	\$ 52,449.00	0.00

5.2.3 EARNED VALUE (EV)

Earned Value (EV) Measures the amount of money you merit in return for the work performed up to that point. You can use EV to measure how much of your planned costs and hours you *should* have spent so far, according to the percent of work completed. It uses the below formula to calculate this:

Planned Value x % of work completed = Earned Value

In InEight Control, your EV includes the following columns:

- CE cost earned
- CE MHrs earned
- CB cost earned
- CB MHrs earned

CBS		PAY ITEMS	CHANGE REGISTER	UNIT LOG		
Forecast (T/O) qty		Current estimate				
1.00		CE cost earned	CE Mhrs earned	CB cost earned	CB Mhrs earned	CE total
1.00	PL	\$ 0.00	0.00	\$ 0.00	0.00	
1.00		\$ 2,469,579.10	8,370.48	\$ 2,766,947.48	8,088.50	
1.00		\$ 0.00	0.00	\$ 0.00	0.00	

CB Mhrs earned
Current budget man hours earned

Formula
[% complete] × [CB total Mhrs]

5.2.4 SCHEDULE PERFORMANCE INDEX

Schedule performance index (SPI) measures how close the work is being completed according to the designated schedule. It is Earned value/Planned value, and is calculated as earned current budget cost/CB planned value (to date)

CBS		ACS		PAY ITEMS	
<div style="background-color: #333; color: white; padding: 5px;"> Task details </div>					
SPI	CB planned value (to date)	Forecast (T/O) qty	UoM		
0.00	\$ 250,000.00	1.00	Lump Sum		
0.80	\$ 40.00	10,000.00	CY		
3.00	\$ 150.00	10,000.00	CY		
5.00	\$ 1,516.28	1,000.00	Ton		
0.00	\$ 25,666.00	800.00	Ton		
20.00	\$ 1,000.00	200.00	Ton		
0.50	\$ 24.98	2,000.00	Ea		
0.00	\$ 1,750,000.00	1.00	Each		
0.00	\$ 25.00	10,000.00	CY		
0.00	\$ 100.00	10,000.00	CY		
0.00	\$ 500.00	1,000.00	Ton		
0.00	\$ 0.00	1.00	PLS		

The SPI calculation uses the time phased budget values as planned values. To accommodate the time phased budget values, the planned value includes the cumulative time phased budget planned value to date.

5.2.5 ACTUAL COST (AC)

Actual Cost (AC) refers to the costs you incur when you perform the work.

In InEight Control, AC is known as Total Cost (To Date). In addition, InEight Control refers to actual man-hours as MH (To Date).

Tasks		Task Det. < + + + + >			Actuals 4/25/2017 to 4/25/2017 < + + + >						
CBS Position	Description	WBS Phase Code	Forecast TO Qty	UOM	Qty Complete (To Date)	MH/Unit (To Date)	CB-MH G/L (To Date)	Total Cost (To Date)	Descr. Total Cost (To Date) Formula: N/A	% Complete	
1	Job Overhead	1002	1.00	Lump Su.	0.00	0.00	0.00	\$0.00	\$0.00	0.00 %	
2	Earthwork	1069	10,000.0.	CY	0.00	0.00	0.00	\$0.00	\$0.00	0.00 %	
3	Concrete	1071	10,000.0.	CY	0.00	0.00	0.00	\$0.00	\$0.00	0.00 %	
3.1	Concrete Footings	1089	1,000.00	CY	0.00	0.00	0.00	\$0.00	\$0.00	0.00 %	
3.1.1	Place/Strip Footing Forms	1090	500.00	SF	0.00	0.00	0.00	\$0.00	\$0.00	0.00 %	
3.1.2	Pour Footings	1091	0.00	CY	0.00	0.00	0.00	\$0.00	\$0.00	0.00 %	

5.2.6 VARIANCE

Variance is the difference between EV and AC, expressed in the following equation:

$$\text{Earned Value} - \text{Actual Cost} = \text{Variance}$$

It indicates if you are performing better or worse than planned up to that point. InEight Control uses the term Gain/Loss (G/L) rather than variance, including the following columns:

- CE actual cost G/L (to date)
- CE MHrs G/L (to date)
- CB actual cost G/L (to date)
- CB MHrs G/L (to date)

5.2.7 REMAINING

Remaining is a general finance term for money that is not yet used. InEight Control uses the following terms:

- CE remaining cost
- CB remaining cost

These terms refer to a very specific relationship expressed in the equation:

$$\text{Planned Value} - \text{Actual Cost} = \text{Remaining Value}$$

In other words, it is the difference between what you originally planned and what you have spent so far, to help you understand how much cost or how many man-hours you have left.

UOM	Qty Complete (To Date)	MH/Unit (To Date)	C B-MH G/L (To Date)	Total Cost (To Date)	C B-Total Cost G/L (To Date)
.00 Lump S...	0.00	0.00	0.00	\$0.00	\$0.00
1.00 CY	0.00	0.00	0.00	\$0.00	\$0.00
1.00 PLS	0.00	0.00	0.00	\$0.00	\$0.00
1.00 PLS	0.00	0.00	0.00	\$0.00	\$0.00
1.00 PLS	0.00	0.00	0.00	\$0.00	\$0.00
1.00 PLS	0.00	0.00	0.00	\$0.00	\$0.00
1.00 PLS	0.00	0.00	0.00	\$0.00	\$0.00
1.00 PLS	0.00	0.00	0.00	\$0.00	\$0.00
1.00 PLS	0.00	0.00	0.00	\$0.00	\$0.00
1.00 PLS	0.00	0.00	0.00	\$0.00	\$0.00
				\$1,000.00	

The table below summarizes each EVM term with its equivalent term in InEight Control and what it measures.

EVM Term	InEight Control Term	What it measures
Planned Value (PV)	CE total cost CE total MHrs CB total cost CB total MHrs	Budget of scheduled values
Earned Value (EV)	CE cost earned CE MHrs earned CB cost earned CB MHrs earned	Planned Value x Percent Complete
Actual Cost (AC)	Actual cost (to date) Actual MHrs (to date)	Actual/expended values
Variance	CE actual cost G/L (to date) CE MHrs G/L (to date) CB actual cost G/L (to date) CB MHrs G/L (to date)	Difference between Earned Value and Actual Cost

EVM Term	InEight Control Term	What it measures
Remaining	CE remaining cost CB remaining cost	Difference between Planned Value and Actual Cost

The following displays Planned vs. Earned vs. Actual values within a custom data block of the CBS register of InEight Control:

Tasks		BM Budget View					
CBS Position	Description	O B - Total Cost	C B - Total Cost	C E - Final Cost	C B - Earned Total Cost (To Date)	Total Cost (To Date)	C B - Remaining Cost
1	Job Overhead	\$250,000.00	\$250,000.00	\$250,000.00	\$0.00	\$0.00	\$250,000.00
2	Earthwork	\$400,000.00	\$400,001.00	\$400,000.00	\$0.00	\$0.00	\$400,001.00
3	Concrete	\$0.00	\$8,000.00	\$5,000.00	\$0.00	\$0.00	\$8,000.00
3.1	Concrete Footings	\$0.00	\$8,000.00	\$5,000.00	\$0.00	\$0.00	\$8,000.00
3.1.1	Place/Strip Footing Forms	\$0.00	\$8,000.00	\$5,000.00	\$0.00	\$0.00	\$8,000.00
3.1.2	Pour Footings	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

5.2.8 PRODUCTIVITY

If you are the contractor building a project, you will need to monitor the performance of your crews, including how productive they are and how much they are being paid.

Productivity is a measure of effectiveness. The rate of output per unit of input. An example would be if you have estimated that you can install a light switch in 1 hour and it takes you 1.5 hours you are not being very productive. In InEight **CB-PF** is productivity and can be measured with the following equation:

$$\text{Productivity} = \frac{\text{Earned MH}}{\text{Actual MH}}$$

$$0.667 = \frac{1}{1.5}$$

Tasks		Task Det...			Actuals 4/25/2017 to 4/25/2017						
CBS Position	Description	WBS Phase Code	Forecast TO City	UOM	Units/MH (To Date)	MH (To Date)	C B - PF	Descr: Current Budget Productivity Factor Formula: C B-MH Earned (To Date) / MH (To Date)	CF (To Date)	Laber Cost/MH (To Date)	CF (To Date)
1	Job Overhead	1002	1.00	Lump Su.	0.00	0.00			\$0.00	\$0.00	0.00
2	Earthwork	1069	10,000.00	CY	0.00	0.00	0.00		\$0.00	\$0.00	0.00
3	Concrete	1071	10,000.00	CY	0.00	0.00	0.00		\$0.00	\$0.00	0.00
3.1	Concrete Footings	1089	1,000.00	CY	0.00	0.00	0.00		\$0.00	\$0.00	0.00
3.1.1	Place/Strip Footing Forms	1090	500.00	SF	0.00	0.00	0.00		\$0.00	\$0.00	0.00
3.1.2	Pour Footings	1091	0.00	CY	0.00	0.00	0.00		\$0.00	\$0.00	0.00

5.2.8.5 COMPENSATION FACTOR (CF)

Compensation is the amount of money paid to an employee for their hours worked. **Compensation Factor** is a numerical value comparing the budgeted compensation to the actual compensation. An example would be if you had budgeted using master electricians (making \$35/hour) to install light switches, but you actually used 2nd year apprentices (making \$26/hour) where you would have a compensation factor that is off. In InEight, Compensation Factor is displayed as **CF (To Date)**. You can calculate it as follows:

$$\text{Compensation Factor} = \frac{\text{Budgeted MH Cost}}{\text{Actual MH Cost}}$$

$$1.35 = \frac{\$ 35}{\$ 26}$$

Tasks		Task Det...	Actuals 4/25/2017 to 4/25/2017									
CBS Position	Description	WBS Phase Code	Forecast TD Qty	UOM	Units/MH (To Date)	MH (To Date)	C B-PF	Unit Cost (To Date)	Labor Cost/MH (To Date)	CF (To Date)	Descr Compensation Factor (To Date)	
1	Job Overhead	1002	1.00	Lump Su.	0.00	0.00	0.00	\$0.00	\$0.00	0.00		
2	Earthwork	1069	10,000.00	CY	0.00	0.00	0.00	\$0.00	\$0.00	0.00		
3	Concrete	1071	10,000.00	CY	0.00	0.00	0.00	\$0.00	\$0.00	0.00		
3.1	Concrete Footings	1089	1,000.00	CY	0.00	0.00	0.00	\$0.00	\$0.00	0.00		
3.1.1	Place/Strip Footing Forma	1030	500.00	SF	0.00	0.00	0.00	\$0.00	\$0.00	0.00		
3.1.2	Pour Footings	1031	0.00	CY	0.00	0.00	0.00	\$0.00	\$0.00	0.00		

5.2.8.6 LABOR EFFICIENCY INDEX (LEI)

Labor Efficiency Index (LEI) is a numerical value assigned to indicate the effectiveness of resource utilization. You can calculate LEI using the following formula:

$$\text{Labor Efficiency Index} = \text{Productivity} \times \text{Compensation Factor}$$

$$.90 = .67 \times 1.35$$

NOTE If LEI is greater than 1, it means that you are using your resource effectively.
 If LEI is lower than 1, it means your resources are being used poorly.

5.2.9 INEIGHT PLAN QUANTITY

The Plan component total qty column shows the sum of the component quantities from Plan and Control and lets you update the Forecast (T/O) qty to match this value.

CBS				ACS		
Tasks	CBS position	Description	WBS phase code	Actual qty (to date)	Plan component total qty	Actual Mhrs (date)
<input type="checkbox"/>	2.6.2.8.2	Craft Labour Supp...	1093	4,827.00	4,827.00	
<input type="checkbox"/>	2.3.1.2.2	Drill / Install / Gro...	1014	1,501.45	1,501.45	
<input type="checkbox"/>	2.3.1.2.3	Build & Move Anc...	1015	1,501.45	1,501.45	

Using the Install conduit cost item as an example, it is assigned to WBS phase code 1139 in the CBS.

Tasks	CBS position	Description	WBS phase code
<input type="checkbox"/>	3.1.4	B/C CN Pier 11	1128
<input type="checkbox"/>	3.1.5	B/C Turcot	1129
<input type="checkbox"/>	3.1.6	B/C 8888 Osler Pi...	1130
<input checked="" type="checkbox"/>	5	Install conduit	1139

In Plan, WBS phase code 1139 is assigned to components Conduit material with a quantity of 150 and Install conduit with a quantity of 120.

Component details				
	Name	Claiming scheme	Quantity	WBS
<input type="checkbox"/>	Road Subgrade	Road Subgrade	293.60000	1008
<input checked="" type="checkbox"/>	Conduit material	Conduit	150.00000	1139
<input checked="" type="checkbox"/>	Install conduit	Electrical	120.00000	1139

In the CBS, the Plan component total qty for the Install conduit is 270, which is a total of the two WBS 1139 components in Plan.

Tasks				Actuals
	CBS position	Description	WBS phase code	11/17/20
<input type="checkbox"/>	3.1.4	B/C CN Pier 11	1128	Plan component total qty
<input type="checkbox"/>				1.00
<input type="checkbox"/>	4.0	JOR	1109	1.00
<input checked="" type="checkbox"/>	5	Install conduit	1139	270.00

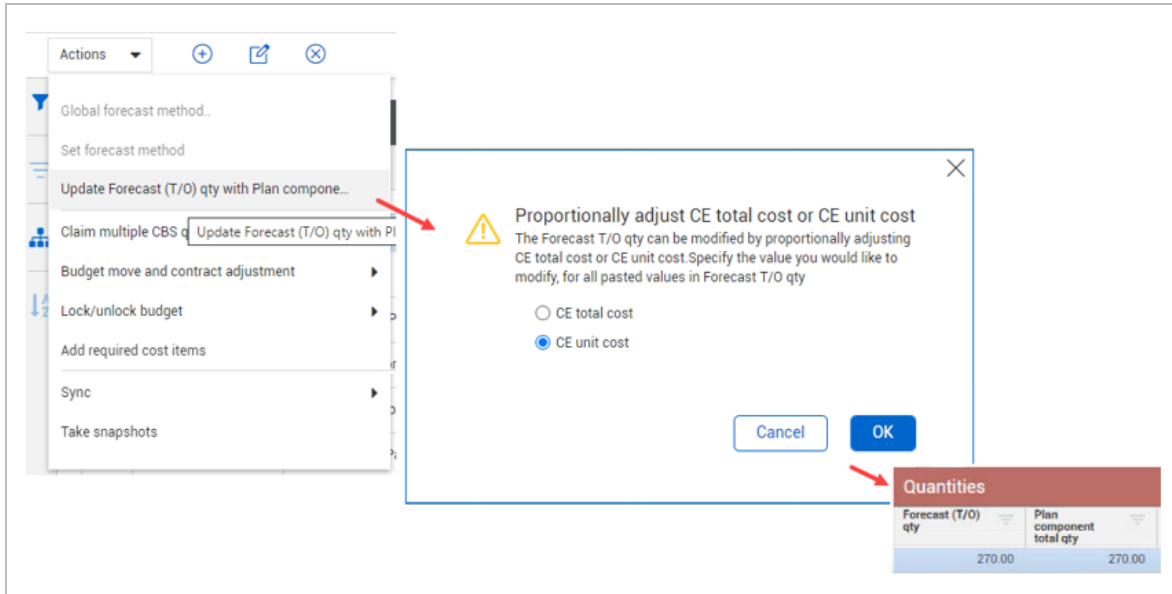
The Forecast (T/O) - Plan component qty column is the difference between the Forecast (T/O) and the Plan component quantity.

Tasks					Actuals		
	CBS position	Description	WBS phase code	Forecast (T/O) qty	Plan component total qty	Forecast (T/O) - Plan component qty	Design qty
<input checked="" type="checkbox"/>	5	Install conduit	1139	100.00	270.00	-170.00	

Forecast (T/O) - Plan component qty delta
 Difference between Forecast (T/O) qty and Plan component total quantity columns
Formula
 [Forecast (T/O) qty] - [Plan component total qty]

5.2.9.7 UPDATE FORECAST (T/O) QUANTITY WITH PLAN COMPONENTS

The Update Forecast (T/O) qty with Plan component total quantity option located under the Actions drop-down, copies the Plan component total quantity over to the Forecast (T/O) quantity. You can also right-click in the context menu to see this option.

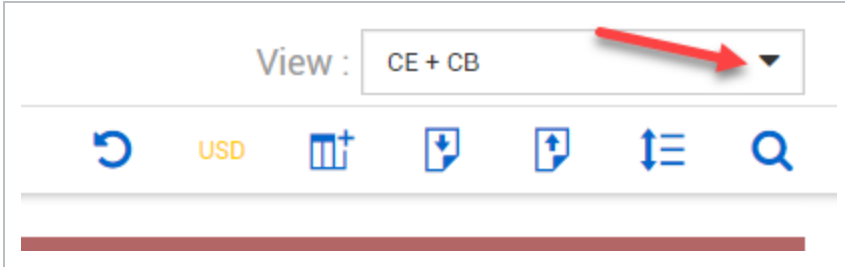


5.3 DATE RANGE SETUP

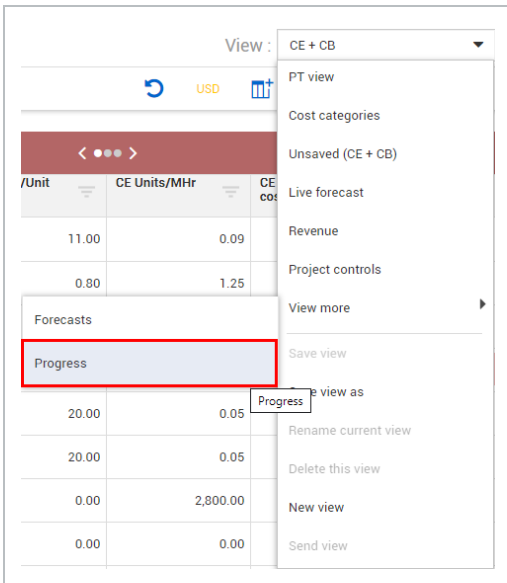
InEight Control gives you flexibility in the form of a Date Range option. The following Step by Step walks through how the Date Range setup feature works.

DATE RANGE SETUP

1. Click the **View drop-down** to change your view.



2. Select the **Progress** viewset from the View drop-down list.



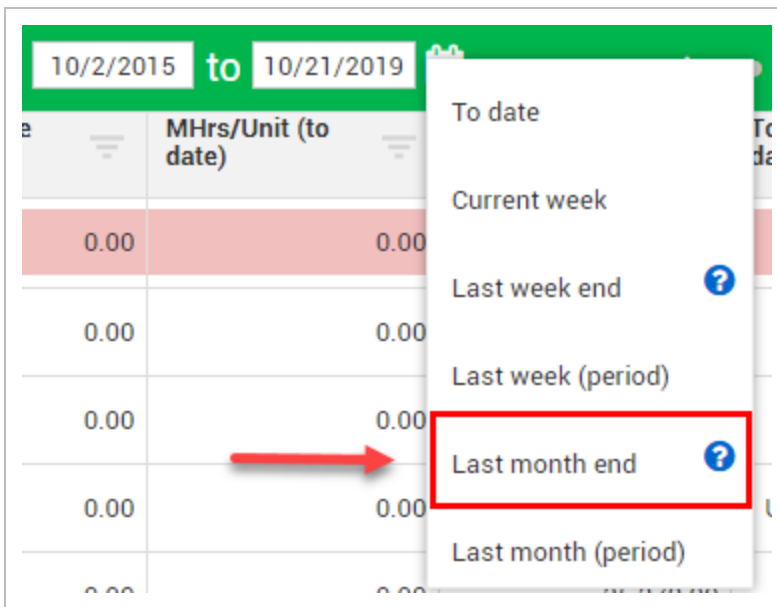
3. In the Actuals data block, select the **left calendar field** on the date range chooser and choose the first day of this month.

Actuals		6/15/2018	to	7/3/2018					
Qty complete (to date)	June 2018				MHrs G/L (to date)	Total cost (to date)			
	Su	Mo	Tu	We	Th	Fr	Sa		
	27	28	29	30	31	1	2	0.00	\$ 0.00
	3	4	5	6	7	8	9	0.00	\$ 0.00
	10	11	12	13	14	15	16	0.00	\$ 0.00
	17	18	19	20	21	22	23	0.00	\$ 0.00
	24	25	26	27	28	29	30	0.00	\$ 0.00
	1	2	3	4	5	6	7	0.00	\$ 0.00
	Tuesday, July 03, 2018								
	0.00		0.00		0.00	\$ 0.00			

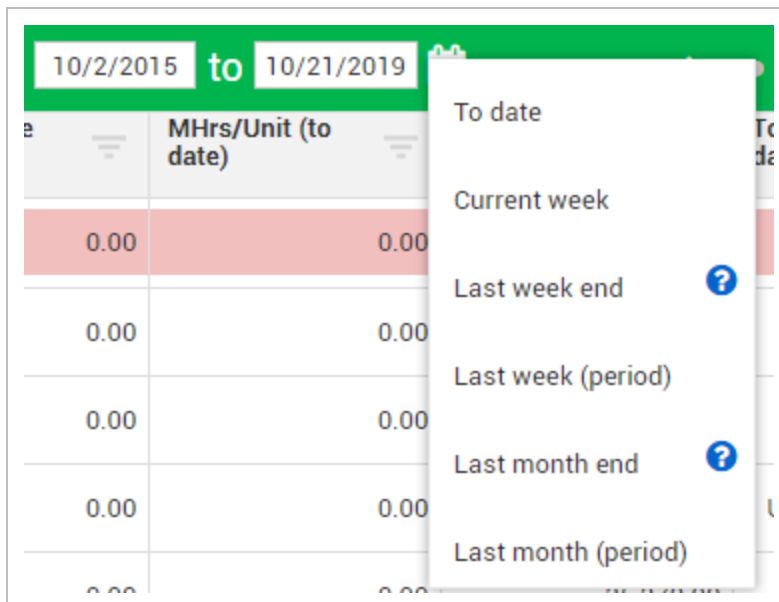
- To manually select your date range, click into the date cells along the header of the Actuals data block and select your desired to and from dates
- Select the **right calendar field** on the date range chooser and select the last day of this month.
 - Select the **calendar icon**.

Actuals	6/15/2018	to	7/3/2018	
Qty complete (to date)	MHrs/Unit (to date)	CB MHrs G/L (to date)	Total cost (to date)	
0.00	0.00	0.00	\$ 0.00	
0.00	0.00	0.00	\$ 0.00	

- Select **Last month end** from the calendar.



- To select your date range from the pre-set list, click on the **calendar** icon within the Actuals data block header and select the desired date option

**TIP**

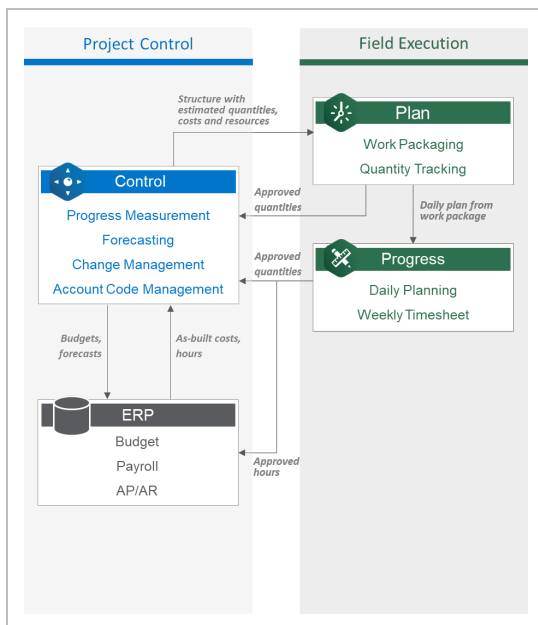
Both week and month end date rules are determined during project setup within the Fiscal Calendar setting. (See lesson [12.2 Project Settings](#) on page 502 for more information.)

5.4 ACTUALS BY SYNC

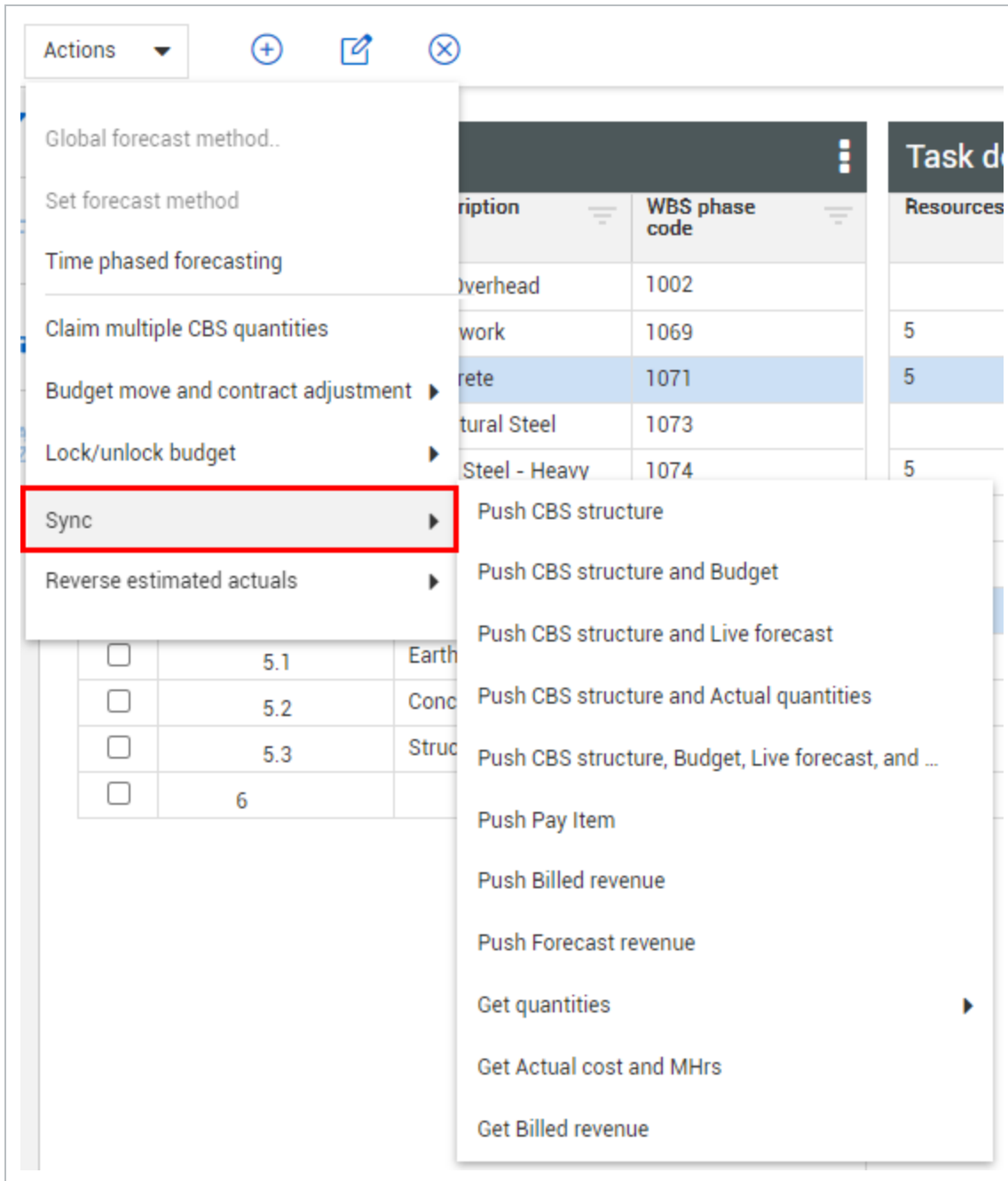
InEight Control allows you to import actuals by synchronizing with other systems. Using the Sync feature, you can import:

- Actual quantities from InEight Plan
- Actual hours and costs from your ERP system

The following diagram shows the flow of quantities, costs, and hours between InEight Plan, InEight Progress, your ERP system, and InEight Control.



You access all Sync operations from the Actions menu when on the CBS register tab. You will note there are other Sync related operations on the Actions menu, but for this lesson, you will focus on the *Get* operations that bring actuals into InEight Control. (See [InEight Control Interfaces](#) for more information on sync operations.)



5.4.1 SYNC ACTUAL QUANTITIES FROM INEIGHT PLAN

The following steps walk you through the process for synchronizing quantities from InEight Plan.

SYNC QUANTITIES FROM INEIGHT PLAN

1. From the InEight Control main page, click the **Actions** menu.
2. Select **Sync** from the Actions drop-down list.
3. Select **Get Plan Quantities** from the Sync drop-down list.
4. Select the **Through previous pay period** option from the Get Plan Quantities drop-down list.

NOTE

Follow the same steps for synchronizing with your ERP system to import actual hours and costs using the Get Actual Costs and MH option.

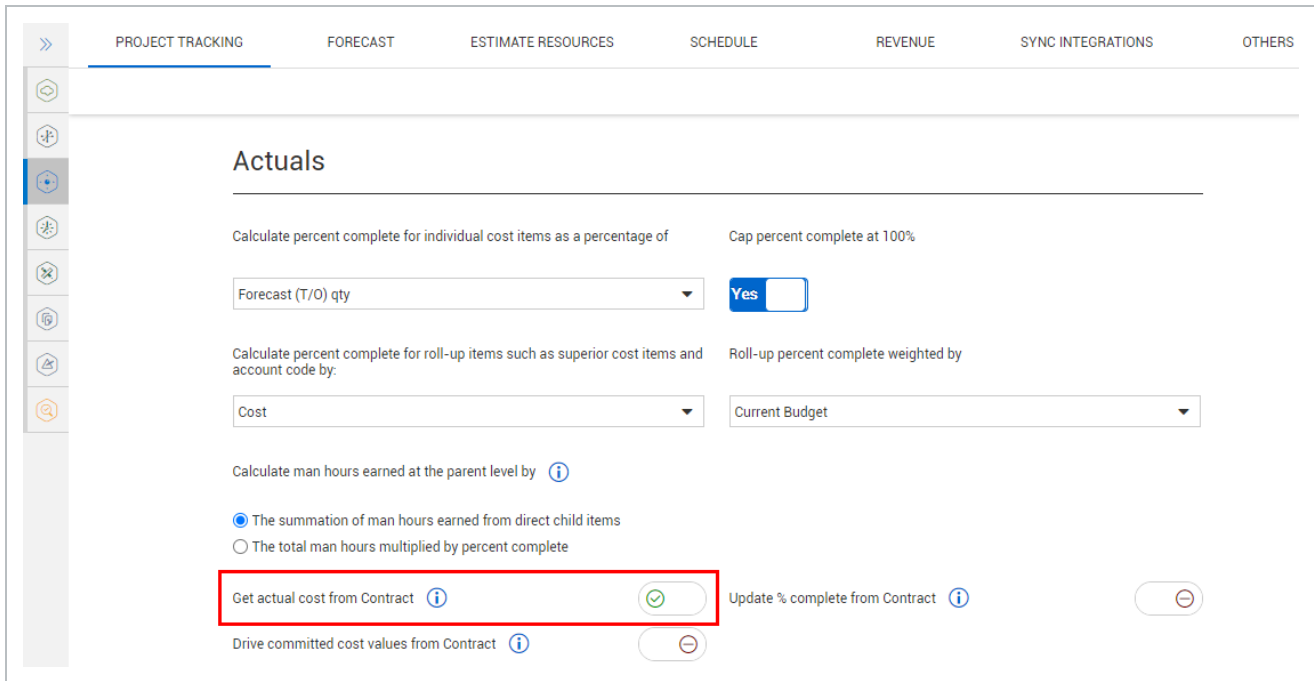
5.4.2 SYNC ACTUAL HOURS AND COSTS FROM ERP

You follow the same steps for synchronizing with your ERP system to import actual hours and costs, using the **Get Actual Costs and MH** option.

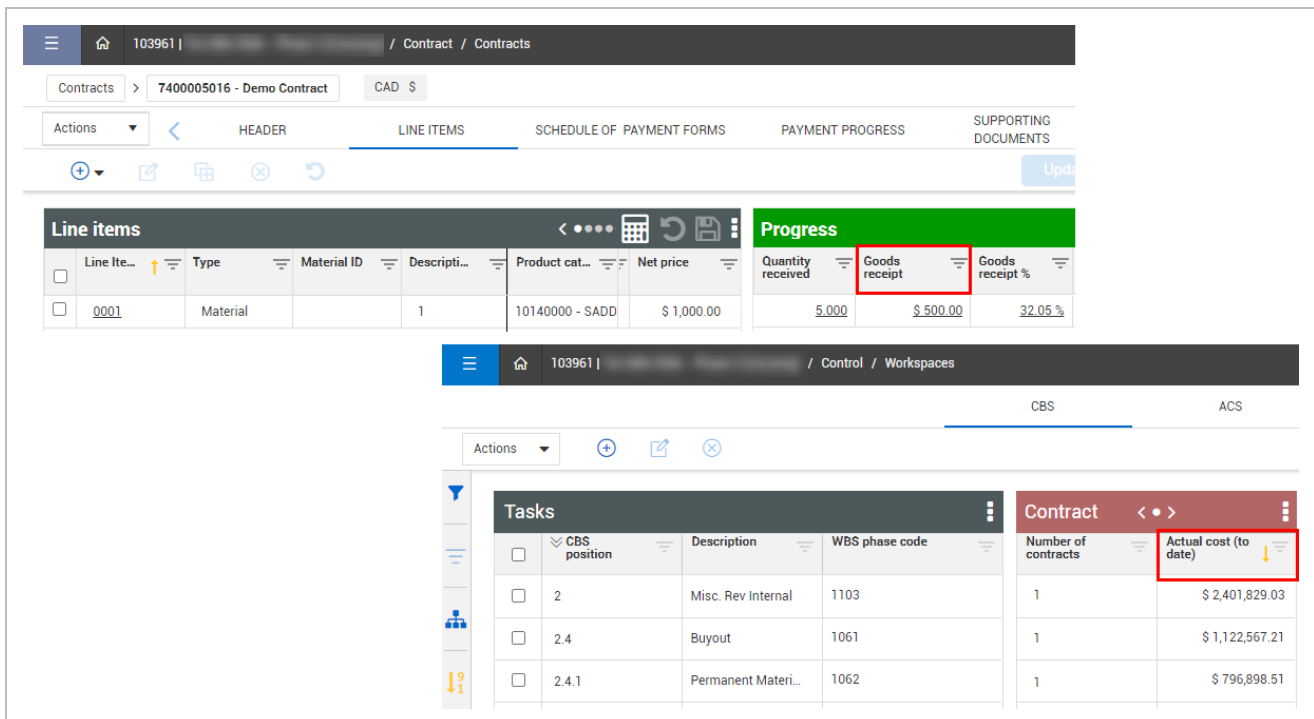
5.4.3 GET ACTUAL COST FROM INEIGHT CONTRACT

The Get actual cost from Contract feature lets you pull the actual cost from Contract and show in Control > **Workspaces**.

After the Get actual cost from Contract setting is enabled in Settings > Control > **Project Tracking**, contract actual costs can be shown in Control > **Workspaces** after the batch process between Contract and Control is run. The goods receipts and invoice receipts are sent to Control via the Actuals batch job which runs approximately every 10 minutes.



You can see actual costs from Contract in Control **Workspaces**. Actual costs from Contract can consist of a goods receipt, an accrual, or an invoice receipt/payment form.



The updated actuals appear in the cost item slideout in Control > Workspaces > Actuals Details > **Actuals History**.

1088
6

	CLAIM ACTUALS	ACTUALS HISTORY	COMMITMENTS		
Posting date	Actuals type	Actuals completed	Cost category	Changed by	Notes
09/06/2022	Confirmed cost	\$ 2,115.20	Undefined	Control - [Service Acco...	
	Confirmed cost	(\$ 1,000.00)	Undefined	Control - [Service Acco...	
	Confirmed cost	\$ 1,000.00	Undefined	Control - [Service Acco...	
	Confirmed cost	\$ 1,586.40	Undefined	Control - [Service Acco...	
	Confirmed cost	(\$ 2,000.00)	Undefined	Control - [Service Acco...	
	Confirmed cost	\$ 2,000.00	Undefined	Control - [Service Acco...	
	Confirmed cost	\$ 1,000.00	Undefined	Control - [Danielle Shov...	

The actuals only include whichever is greater between the sum of the goods receipts and the sum of the invoices on the cost item.

5.4.4 UPDATE % COMPLETE FROM CONTRACT

When a schedule of value line item is claimed against in Plan, the Contract progression information can be configured to interface with Control for cost items that are associated to the contract.

103961 | Phase 2 / Contract / Contracts

Contracts > - New Contract CAD \$

Actions < HEADER LINE ITEMS **SCHEDULE OF VALUES** VENDOR CHANGE ORDER LOG BACK CHARGES

Schedule of value items								
	Schedule item ID	Contr... line item ID	Descri...	Schedule quantity	UoM	Unit price	Schedule value	WBS code
<input type="checkbox"/>	1	0001	SOV - Demo	10.000	PLS	\$ 100.00	\$ 1,000.00	1125 - Subcontract

In Settings > Control > Project Tracking > **Actuals**, you can switch the Update % complete from Contract toggle to *On* to let this information interface with Control.

Under the Update % complete from Contract toggle is the Calculate percent complete for individual cost items as a percentage of, drop-down menu option. This lets you define how you want to calculate the percent complete for cost items.

PROJECT TRACKING
ESTIMATE RESOURCES
SCHEDULE
REVENUE
SYNC INTEGRATIONS
OTHERS

Actuals

Calculate percent complete for individual cost items as a percentage of

Forecast (T/O) qty

Cap percent complete at 100%

Yes

Calculate percent complete for roll-up items such as superior cost items and account code by:

Cost

Roll-up percent complete weighted by

Current Budget

Calculate man hours earned at the parent level by (i)

The summation of man hours earned from direct child items

The total man hours multiplied by percent complete

Get actual cost from Contract (i)

Drive committed cost values from Contract (i)

Update % complete from Contract (i)

Calculate percent complete for individual cost items as a percentage of

Current budget total cost

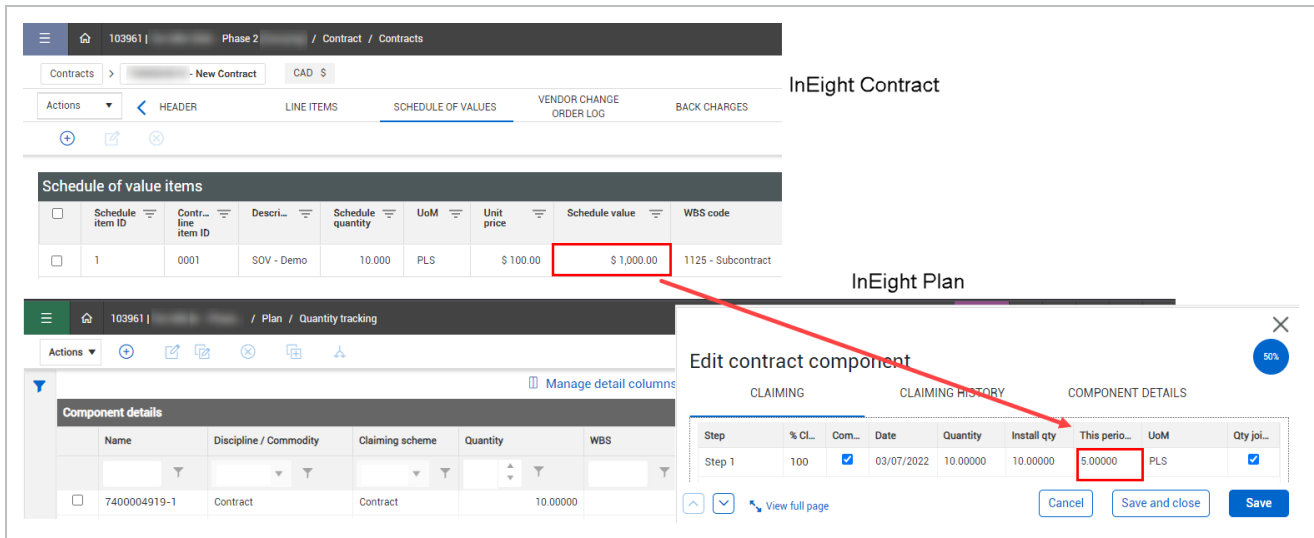
Current budget total cost

Committed total cost

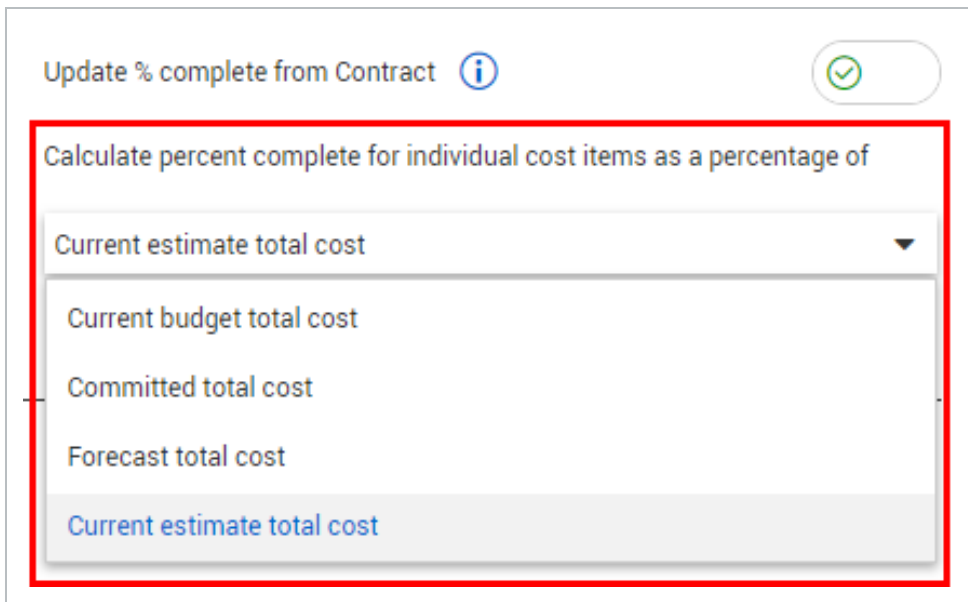
Forecast total cost

Current estimate total cost

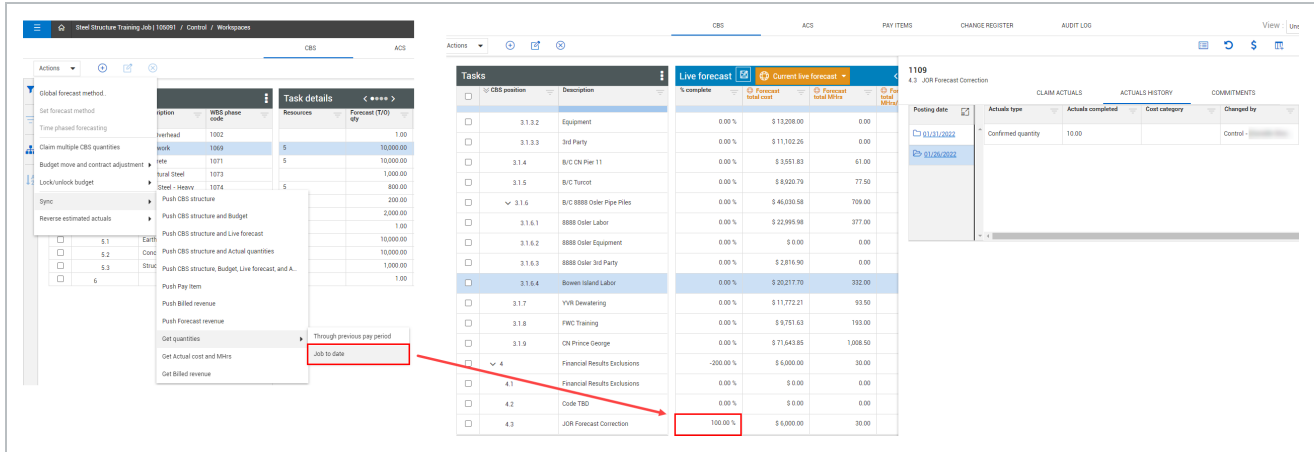
In Contract, if you have a schedule value of \$1,000.00 worth of work, you can start to claim against that \$1,000.00 in quantity tracking. Quantities can be claimed in both Contract and Plan.



The selection made in the Calculate percent complete for individual cost items as a percentage of setting in Settings > Control > Project Tracking > **Actuals** determines how the percent complete is calculated for your cost item in Control > **Workspaces**. The calculation for this is option: *(updated % complete on the cost item) = (SOV unit price) x (Claimed qty in Contract or Plan) ÷ (Denominator in settings).*



When the Get Quantities sync is run in Control > **Workspaces**, the claims made against the contract item generates a new % complete value based on the settings and claimed quantity in Control to match.



5.4.4.1 CALCULATIONS

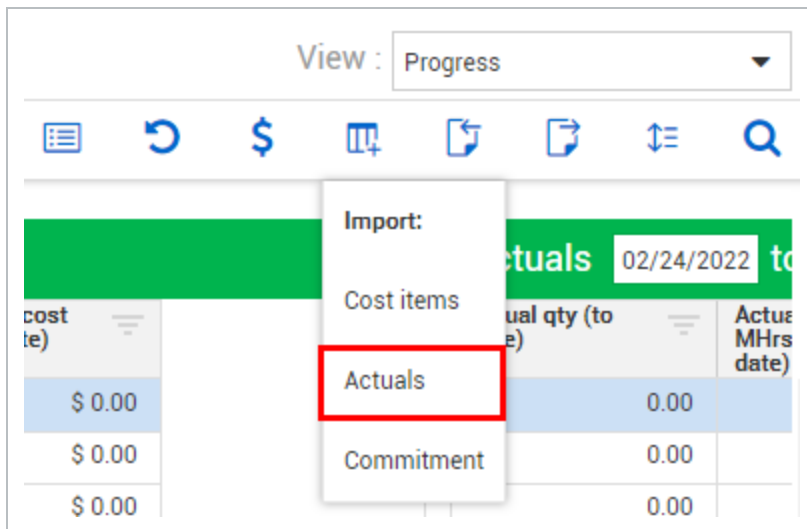
The calculation for this is option: (updated % complete on the cost item) = (SOV unit price) x (Claimed qty in Contract or Plan) ÷ (Denominator in settings). Actual qty (to date) = % complete * Forecast (T/O) qty OR CB total qty (depending on settings).

NOTE The Get Quantities sync must be executed in order for the claims made against the contract item(s) to show in Control > Workspaces.

5.5 IMPORT ACTUAL VALUES FROM EXCEL OR CSV

InEight Control allows you to import actual costs, manhours and quantities by using Excel or a CSV file. This can all be done without the need for any ERP software.

You can access the Import function by navigating to the CBS register tab in Control Workspaces, then selecting the Import icon and selecting Actuals.



Once Actuals is selected from the Import icon, the Import actuals data pop-up window appears.

Overview - Import actuals data

Title		Description
1	Drag and Drop file	Once you have created your Excel or CSV import file, you will drop it here for further processing. You will be notified on any importing errors towards the end of the import process. You will be able to go back, correct your errors, and re-process the file.
2	Import type	The two options for Import type are: <ol style="list-style-type: none"> 1. Cost items and cost item attributes 2. Actual values 3. Commitment Values
3	Cost item matching criteria	The two options for cost item matching criteria are: <ol style="list-style-type: none"> 1. WBS position 2. CBS position
4	Cost categories list	When selecting the Cost categories list, and Excel file downloads that contains a listing of all cost categories. This is to be used as reference when creating your Excel/CSV file import.
5	Information message	This information provides a description of available functionality and instructions for proceeding to the next step.

Mile Slide - Phase 2
/ Control

Import actuals data

Import from Excel (.xlsx, .xls) or Comma separated value (.csv)

Drag and drop the file here
or browse

1

Browse

Options

* Import type **2**

Actuals values
▼

Cost item matching criteria

WBS Phase Code
▼

[↓ Cost categories list](#) **4**

	A	B
1	Name	Level
2	Total	Level 0
3	Labor	Level 1
4	Labor Base	Level 2
5	Labor Burden	Level 2
6	Labor Fringes	Level 3
7	Travel	Level 4
8	Premium	Level 4
9	Holiday	Level 4

5 i Specify a Match key. Once import file header columns are verified, column fields can be mapped. Data from the matched items will be imported. If match is not found, items will be ignored. If your document contains actual cost, then you will need to specify which column contains your cost categories. Cost category naming in you upload file must match what is in Control. Download Control's cost category list to ensure the use of correct naming.

Cancel

Next

You will need to create your Excel/CSV import file prior to uploading into Control. Below is an example of a possible Excel import file option.

A	B	C	D	E	F	G	H	I
CBS Positi	Posting Date	Qty	MH	EQP Hour	Cost	Cost Category	Notes	
1.1.2.4.1	07/12/2022	5						
1.1.2.4.2	07/14/2022		3		300	Labor Base		
1.1.2.4.3	07/20/2022			6	450	Construction equipment	Backhoe hours	

NOTE If you are uploading cost items with cost, then cost categories are required.

The following steps walk you through the process for importing actual costs from Excel.

IMPORTING ACTUALS FROM EXCEL

1. Create an import Excel sheet containing either **WBS phase codes** or **CBS position codes**.
2. From the InEight Control Workspaces page, click the **Import** icon, from the right toolbar.
3. Select **Actuals**.
4. On the Import actuals data pop-up window, for Import type select **Actuals values**.
5. For Cost item matching criteria, select **CBS position**.
6. Select the **Browse** icon on the middle of the screen, to import your Excel sheet containing actual values.
7. After selecting your **Excel** file, the Drag and drop box will turn green.
8. Scroll to the bottom of the Import actuals pop-up window and select **Next**.
9. Start mapping your **Excel fields** with the Control system fields.
10. Select **Next**.
11. Choose a **date format** from the date drop-down list.
12. Select **Next**.
13. Select **Next**.
14. Select **Import Now**.

5.6 PROGRESS CONTROL SETTINGS

InEight Control integrates with several other programs. Within the tool, a few specific columns allow you to manage the information that is sent to other InEight applications and to your ERP system. Below is a table of the key columns and their functions.

Column Name	Function
Allow As-Built	Allows you to choose whether a cost item accepts actual cost, quantities, both, or none. Once this item receives actual costs, quantities, or man-hours, this setting

Column Name	Function
	cannot be adjusted (changed from All to None).
As-built lock	<p>Once you lock the ERP status, your ERP does not allow the WBS to be progressed.</p> <p>Example use cases for locking ERP status:</p> <ul style="list-style-type: none"> • Work will not begin for two more years • Foreman is not allowed to claim more quantity because work is 100% complete • Work is complete and you do not want people mistakenly charging cost to completed to cost items
Hide in Plan and Progress	<p>Allows the user to choose whether to have a cost item available to use in InEight Plan and InEight Progress.</p> <p>Example use case for Hiding in Plan and Progress:</p> <ul style="list-style-type: none"> • Indirect staff cost codes should not be available for direct labor to charge

The steps below walk you through the various columns and discuss options for changing the settings.

PROGRESS CONTROL SETTINGS

For this step you will need to have a subordinate available to use.

1. On the Control main page CBS tab, select the **Progress** view.
2. Navigate to the **Task Details** data block.
3. Select the second **Data Panel** in the Task Details data block.
4. Double click in the **Allow As-Built** field of the subordinate cost item and select the drop-down arrow.
5. Select **All**.
6. Navigate to the **Third Panel** of the Task Detail data block.
7. Select the **Hide in Plan and Progress** check box of the cost item.

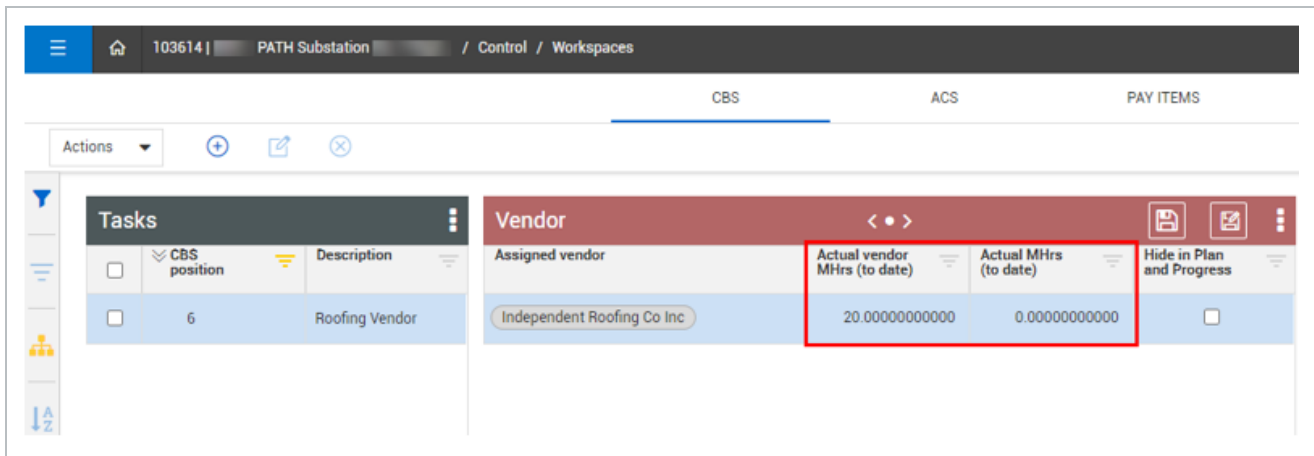
5.7 VENDOR WORK HOURS FROM PROGRESS

5.7.1 VENDOR MHRS FROM PROGRESS

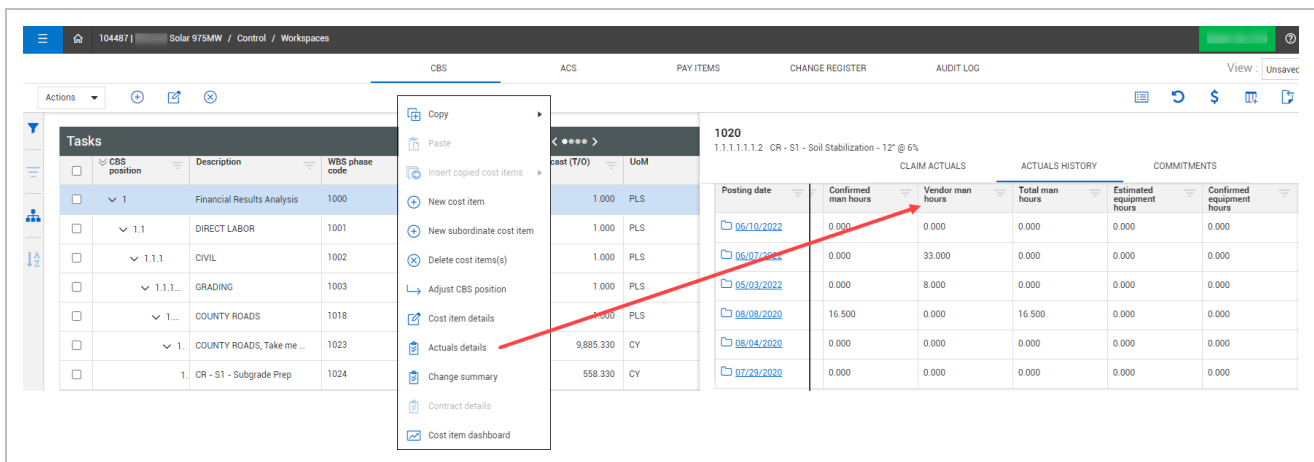
You can see the subcontract man-hours in Control for cost items that derive from InEight Progress. Subcontract performance can be tracked in Progress with data coming into Control for increased transparency, improved monitoring, and analysis.

In addition to assigning a vendor to a cost item, and viewing the assigned vendors from InEight Contract, you can also see the claimed Mhrs originating from Progress in Control > **Workspaces**, upon approval in Progress.

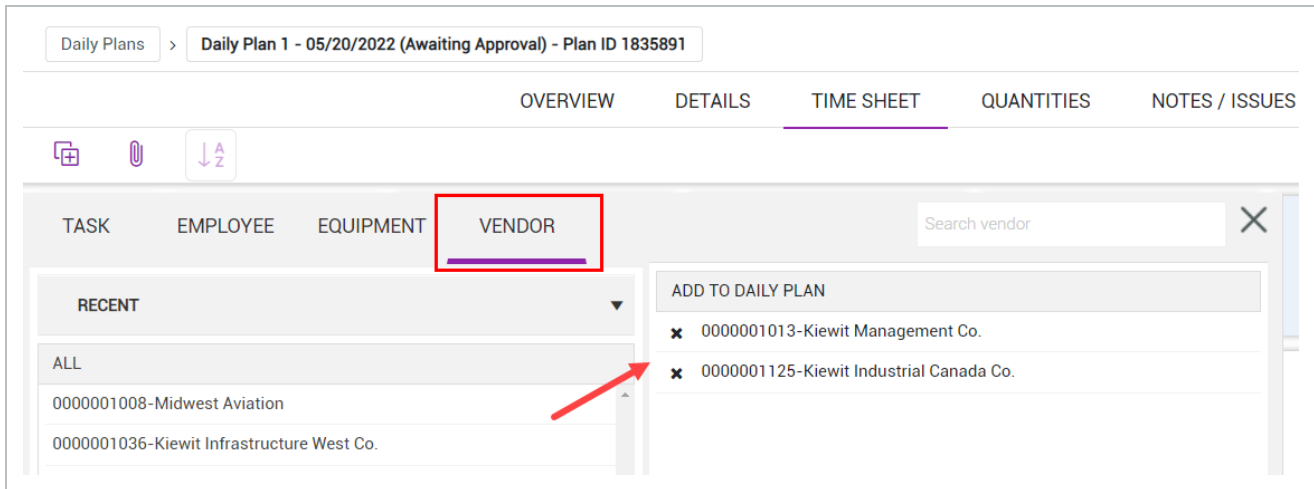
After the claimed vendor hours are approved in Progress, the Actual vendor Mhrs (to date) and Actual columns populate with the claimed hours. This helps to find and focus on the true causes of any issues and support the ongoing work in the best way possible.



The Actuals Details slide-out panel shows the number of hours worked by the assigned vendor.



In Progress > Daily Plans > **Timesheet**, the new Vendor tab lets you choose which vendors to include on your daily time sheet as selected vendors to claim hours.



Only those vendors that are assigned in Control > Workspaces can claim hours against a timesheet Progress's daily plan. In Progress, if a vendor is not assigned to a cost item in Control, the vendor hours task block is disabled and hours cannot be claimed.

103614 | - PATH Substation / Progress / Daily plan

Daily Plans > Install Roof - 04/07/2022 (Awaiting Approval) - Plan ID 1835468

2002 Install Roof

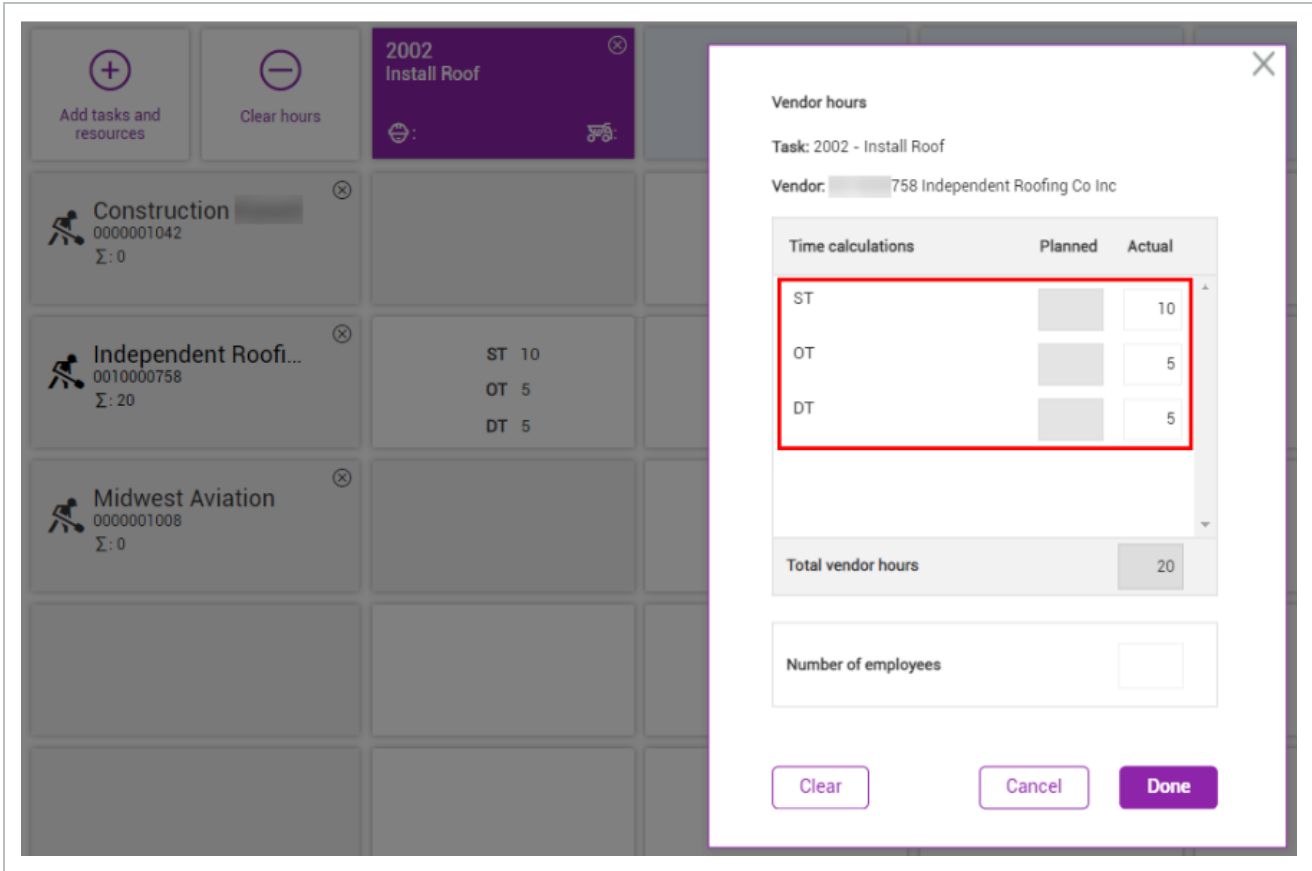
Add tasks and resources

Clear hours

Vendor	ID	Total Hours (Σ)	Control Status
Construction	0000001042	0	Vendor not assigned in Control
Independent Roofi...	0010000758	20	Vendor is assigned in Control
Midwest Aviation	0000001008	0	Vendor not assigned in Control

ST 10
OT 5
DT 5

If a vendor is assigned to a cost item in Control, the vendor can claim actual hours.



5.7.2 ASSIGN VENDOR COLUMN IN THE CBS

You can assign a vendor to a cost item, and also view the assigned vendors from InEight Contract.

If a vendor is assigned via a contract, the vendor name is automatically assigned to a cost item and cannot be removed.

Tasks		Assigned Vendors
<input type="checkbox"/>	CBS position	Assigned vendor
<input type="checkbox"/>	1	Finance Group Inc.
<input type="checkbox"/>	2	
<input type="checkbox"/>	2.1	Mining Grou... Midwest Aviation
<input type="checkbox"/>	2.2	
<input type="checkbox"/>	2.2.1	Power Cons... Engineering ... Finance Gro...
<input type="checkbox"/>	2.3	
<input type="checkbox"/>	2.3.1	
<input type="checkbox"/>	2.3.1.1	
<input type="checkbox"/>	2.3.1.1.1	Plaza Building Co... Finance Gro... Construction Kiewi... Infrastructur...
<input type="checkbox"/>	2.3.1.1.2	Mexico LLC
<input type="checkbox"/>	2.3.1.1.3	Canada Inc
<input type="checkbox"/>	2.3.1.1.4	
<input type="checkbox"/>	2.3.1.1.5	Enterprises Inc

Clicking in an Assigned vendor field lets you add new vendors. Vendors originate from the master data library for the entire organization.

The screenshot shows a software interface with a sidebar on the left titled "Assigned Vendors" and a main modal window titled "Vendor assignment". The sidebar lists various vendors like "Kiewit Finance Group Inc.", "Kiewit Mining Grou...", "Kiewit Power Cons...", "Plaza Building Co...", "Kiewit Mexico LLC", "Kiewit Canada Inc", and "Barrons Enterprises Inc". The modal window has a search bar at the top and a table below it. The table has columns for "Vendor ID" and "Vendor name". Each row has a checkbox in the first column. At the bottom of the modal are three buttons: "Clear", "Cancel", and "Assign".

<input type="checkbox"/>	Vendor ID	Vendor name
<input type="checkbox"/>	0000001003	Mining Group Inc.
<input type="checkbox"/>	0000001008	Aviation
<input type="checkbox"/>	0000001013	Management Co.
<input type="checkbox"/>	0000001014	Infrastructure Co.
<input type="checkbox"/>	0000001022	Infrastructure Engineer...
<input type="checkbox"/>	0000001035	Engineering (NC) Co
<input type="checkbox"/>	0000001037	Power Constructors Co.
<input type="checkbox"/>	0000001039	Finance Group Inc.
<input type="checkbox"/>	0000001042	Construction Cie
<input type="checkbox"/>	0000001044	Infrastructure South Co.
<input type="checkbox"/>	0000001049	Building Company

5.8 ACTUALS BY MANUAL ENTRY

5.8.1 MANUAL ENTRY QUANTITY CLAIMING

There are times when you will want to enter quantities directly in InEight Control. Reasons include any time you do not want a foreman to have access to codes to charge against or claim quantities to. A more specific example may include indirect staff codes or indirect costs that you do not want your foreman who are claiming progress in the field to have access to.

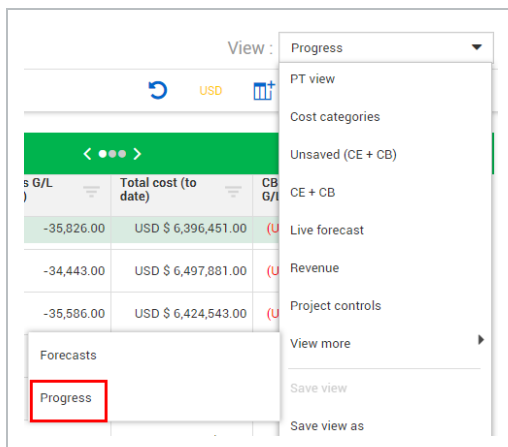
NOTE

Any time you claim a cost item directly in InEight Control, the option will not be available to claim that cost item within InEight Plan.

Next, you will do a Step by Step for entering quantities in Control.

QUANTITY CLAIMING BY MANUAL ENTRY

1. From the Control Workspaces page CBS tab, select the **Progress** view.



NOTE

Before claiming quantities for a cost item, make sure the Hide in Plan and Progress column is checked.

2. In the Actuals data block, double click on the **Actual qty (To Date)** cell of the Module [your initials] – [description] cost item.

Tasks			Task details			Actuals 11/17/2018 to 05/31/2023	
CBS position	Description		Resources	Forecast (T/O) qty	UoM	Actual qty (to date)	Actual Mhrs/unit (to date)
2.3.1...	Grading Work				1.00 PLS	1.00	268.00
2.3...	Resurface Existin...		3	2,500.00	m2	2,500.00	0.02
2.3...	Maintain Access ...		3	11.00	Wk	11.00	4.45
2.3...	Clear & Grub Benc...		2	0.50	HA	0.50	87.00
2.3...	Type D Excavatio...		2	2,116.70	m3	2,116.70	0.04

- The Claim actuals slide out panel appears

3. Type **1000** in the Claimed quantity text box.

1074
4.1 Erect Steel - Heavy

CLAIM ACTUALS ACTUALS HISTORY COMMITMENTS

QUANTITIES	Forecast (T/O) qty	Qty complete (to date)
MAN HOURS	400.00	0.00
EQUIPMENT HOURS		
COST		

Claimed quantity: Posted date:

Notes: 4000

[+ Add claimed quantity](#) [Claim quantities for multiple cost items](#)

4. Click the **Calendar** icon.

1074
4.1 Erect Steel - Heavy

CLAIM ACTUALS ACTUALS HISTORY COMMITMENTS

	Forecast (T/O) qty	Qty complete (to date)
QUANTITIES	800.00	0.00
MAN HOURS		
EQUIPMENT HOURS		
COST		

Claimed quantity: 1000 Posted date: 04/02/2020

Notes: 4000

[+ Add claimed quantity](#) [Claim quantities for multiple cost items](#)

- 5. Select the desired date.
- 6. Click **Apply**.

1074
4.1 Erect Steel - Heavy

CLAIM ACTUALS ACTUALS HISTORY COMMITMENTS

QUANTITIES Forecast (T/O) qty Qty complete (to date)
800.00 0.00

MAN HOURS

EQUIPMENT HOURS

COST

Claimed quantity Posted date
1000 04/02/2020

Notes 4000

Notes

+ Add claimed quantity Claim quantities for multiple cost items

Cancel Apply

7. To review the claiming history, select the **Actuals History** tab.

CLAIM ACTUALS ACTUALS HISTORY

Posting date	Quantity	Cost	Man hours	Equipment hours
7/5/2018	1000	\$ 0.00	0	0

View more

Steel Structure Job (105091) Control Workspaces

CBS ACS PAY ITEMS CHANGE REGISTER **AUDIT LOG**

Actions

8. To review the changes, select the **Audit Log** tab.

CBS	Audit ID	Data type	Item type	Descrip	WBS	Attribut	Change by	Change date	Value before	Value after
ACS	1151	Actuals	Cost item	Earthwork	1069	Claimed Qu...	Paul trippi	10/21/2019 ...	0.00	1000.00
Pay items	1150	CBS	Cost item		1109	New cost ite...	Paul trippi	10/21/2019 ...		New cost ite...
Integration	1149	CBS	Cost Item	test 1	1108	Description	Paul trippi	10/21/2019 ...		test 1
Import history	1148	CBS	Cost item		1108	New cost ite...	Paul trippi	10/21/2019 ...		New cost ite...

- Changes are visible in the CBS Audit Log

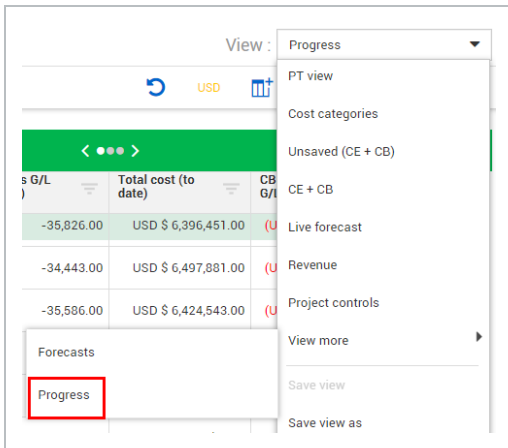
TIP You can enter negative quantities when claiming in Control.

5.8.2 MANUAL ENTRY MAN-HOUR ADJUSTMENT

To manually enter actual labor costs, you will need to adjust the man-hours. The following Step by Step shows how to make a manual man-hour adjustment in Control.

MAN-HOUR ADJUSTMENT BY MANUAL ENTRY

1. On the Control Workspaces CBS tab, select the **Progress** view.



2. In the Actuals data block, double click on the **Actual qty (To Date)** cell of the Module [your initials] – [description].

Tasks			Task details			Actuals 11/17/2018 to 05/31/2023	
☐	CBS position	Description	Resources	Forecast (T/O) qty	UoM	Actual qty (to date)	Actual Mhrs/unit (to date)
☐	2.3.1...	Grading Work			1.00 PLS	1.00	268.00
☑	2.3...	Resurface Existin...	3	2,500.00	m2	2,500.00	0.02
☐	2.3...	Maintain Access ...	3	11.00	Wk	11.00	4.45
☐	2.3...	Clear & Grub Benc...	2	0.50	HA	0.50	87.00
☐	2.3...	Type D Excavatio...	2	2,116.70	m3	2,116.70	0.04

- The Claim actuals slide out panel appears

3. Select the **Man-Hours** tab.

CLAIM ACTUALS ACTUALS HISTORY

QUANTITIES

MAN HOURS

EQUIPMENT HOURS

COST

Number of hours:

Posted date:

Employee name:

Employee ID number:

Notes:

4. Type **40** in the Number of hour’s text box.
5. Select the date.
6. Type **[a name]**in the Employee Name text box.
7. Type **0123456** in the Employee ID Number text box.

CLAIM ACTUALS
ACTUALS HISTORY

QUANTITIES

MAN HOURS

EQUIPMENT HOURS

COST

CE total Mhrs	MHrs(to date)
8,000.00	34,707.00

Number of hours	Posted date
<input type="text" value="40"/>	<input style="border: none; border-bottom: 1px solid #ccc;" type="text" value="10/21/2019"/>
Employee name	Employee ID number
<input type="text" value="Paul Bennion"/>	<input type="text" value="0123456"/>
Notes	4000
<input type="text" value="Notes"/>	

[+ Add man hours](#)
[Claim quantities for multiple cost items](#)

8. Select **Apply**.

5.9 ACTUALS HISTORY

Once progress is tracked against a cost item, you can view its actuals claim history. You can view actuals history of a cost item by right clicking on a cost item and selecting **Actuals details** from the menu. On the resulting slide out panel, you can view the history of when actual quantities, costs, and man-hours were posted by clicking on the Actuals History tab of the cost item.

The Actuals history tab displays and groups the actual claim history by posting date. Within in each posting date folder you can view as-built progress details of quantity, cost, man-hours, and equipment hours of the specific cost item selected in the CBS.

CLAIM ACTUALS
ACTUALS HISTORY
✕

Posting date	Quantity	Cost	Man hours	Equipment hours
11/16/2018	0.00	\$ 0.00	40.00	0.00

View more

In addition, by clicking on the posting date link, you can view more specific claim history details such as actuals type, cost category, employee change by, and notes.

Posting date	Actuals type	Actuals completed	Cost category	Changed by	Notes
11/16/2018	Man Hours	40.00		Control - [Paul Bennion]	

5.10 TRACK OPEN/REMAINING AND TOTAL COMMITTED COSTS

Additional information about purchase orders and contracts (for any particular task) can be viewed and updated within CBS columns. This provides users with a more comprehensive data set in one location.

Committed costs are the purchase orders or subcontract commitments that a cost item may have against it. To determine open and total commitments, look at the agreed or pending purchase order amounts that are associated to any particular cost item. This information is typically exported from your ERP or accounting system.

Open/Remaining committed cost: Total committed cost - Actual cost (amount that still needs to be paid for a cost item).

Total committed cost: The summation of all purchase order and/or contract obligation amounts assigned to a cost item.

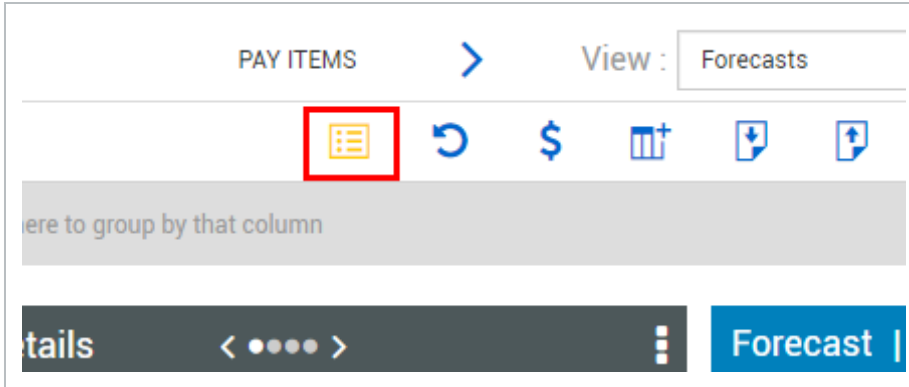
Open/Remaining committed cost adjustment: A debit or credit to the existing Open committed/Remaining cost value.

New open committed cost: Open/Remaining committed cost + Open/Remaining committed cost adjustment.

However, there is also the option to use a generic API to push committed cost values into InEight Control. If your organization does not have an ERP system, you can configure the endpoints in APIM and push over your committed cost values.

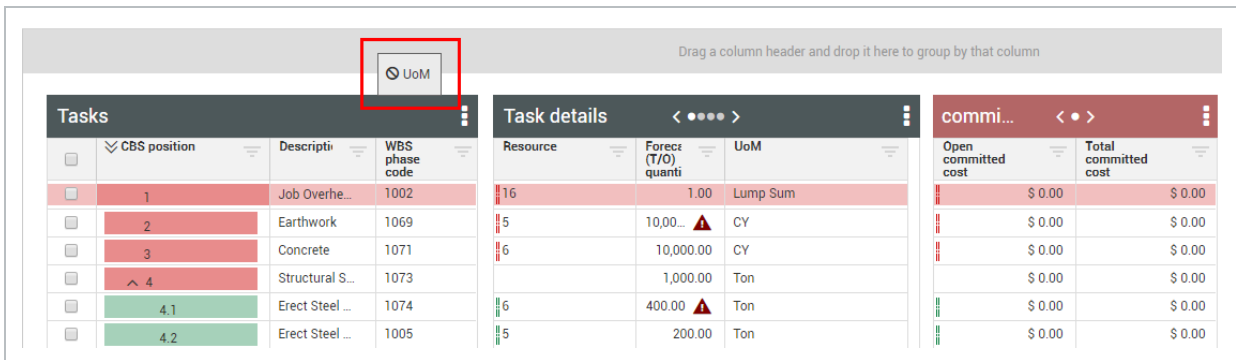
VIEWING OPEN/REMAINING AND TOTAL COMMITTED COSTS

1. On the CBS register tab, select the **Group Columns** icon to the right of the page. The icon will turn yellow when turned on.



- Tasks, Task details and Commitments data block need to be present on this screen
- If the Commitments data block has not been created, create a custom data block using the Data Icon and include columns Remaining committed cost, and Total committed cost. Insert this data block into your view.

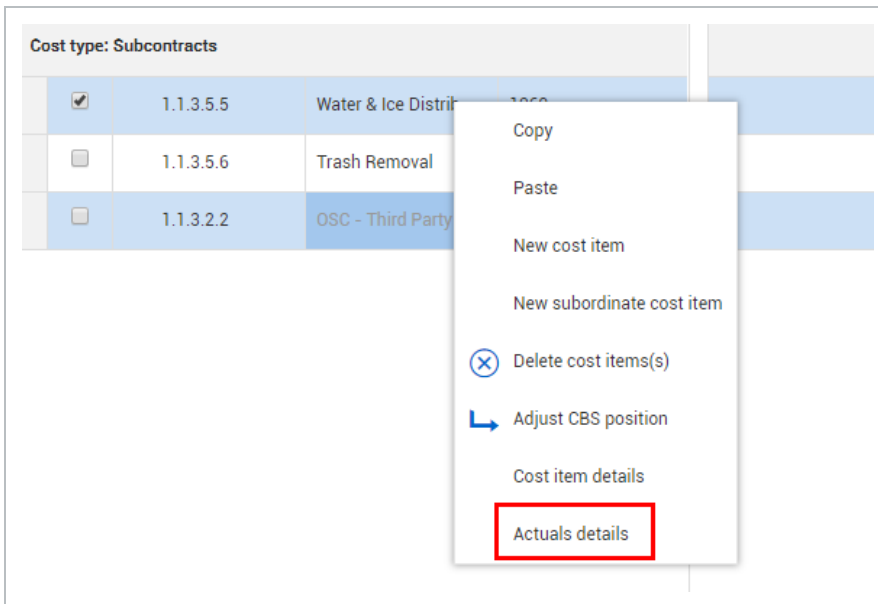
2. Drag the **UoM** column from the Task details data block, and drop it into the grey bar area



- Notice how UOM's are now visible by groups.

Tasks				Task details			commi...	
	CBS position	Descripti...	WBS phase code	Resource	Forecast (T/O) quanti	UoM	Open committed cost	Total committed cost
UoM: CY								
<input type="checkbox"/>	2	Earthwork	1069	5	10,000.00	CY	\$ 0.00	\$ 0.00
<input type="checkbox"/>	3	Concrete	1071	6	10,000.00	CY	\$ 0.00	\$ 0.00
<input type="checkbox"/>	5.1	Heavy Steel	1085	1	10,000.00	CY	\$ 0.00	\$ 0.00
<input type="checkbox"/>	5.2	Concrete - ...	1086	1	10,000.00	CY	\$ 0.00	\$ 0.00
UoM: Ea								
<input type="checkbox"/>	4.4	Bolted Con...	1006	8	2,000.00	Ea	\$ 0.00	\$ 0.00
UoM: Each								
<input type="checkbox"/>	5	Materials	1084		1.00	Each	\$ 0.00	\$ 0.00
UoM: Lump Sum								
<input type="checkbox"/>	1	Job Overhe...	1002	16	1.00	Lump Sum	\$ 0.00	\$ 0.00
<input type="checkbox"/>	7	Equipment	1091		1.00	Lump Sum	\$ 0.00	\$ 0.00
<input type="checkbox"/>	24	Equipment	1112		1.00	Lump Sum	\$ 0.00	\$ 0.00

- To view a more granular level of information, navigate into the **context menu** for a cost item, and select **Actuals details**.



- Once in the Actuals details, navigate to the Commitments tab.
 - Here is a more concentrated view of the cost category breakdown of the Open and Total commitments

- It's also possible to update information. *For example:* the below cost item for Water & Ice Distribution, the New total committed cost is showing that a contract was signed for \$1,267.87.

1069
1.1.3.5.5 Water & Ice Distribution

CLAIM ACTUALS ACTUALS HISTORY COMMITMENTS

Open committed cost Total committed cost
\$ 700.00 \$ 1,267.87

Cost category	Open committed cost adjustment	New open committed cost	Total committed cost adjustment	New total committed cost
^ Total	\$ 0.00	\$ 700.00	\$ 0.00	\$ 1,267.87
v Labor	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Construction Equipment	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v FOM Rented Equipment	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Supplies	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Materials	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Subcontract	\$ 0.00	\$ 700.00	\$ 0.00	\$ 1,267.87

- There is \$700.00 left remaining to pay the full \$1,267.87 subcontract, as shown in the New open committed costs column

1069
1.1.3.5.5 Water & Ice Distribution

CLAIM ACTUALS ACTUALS HISTORY COMMITMENTS

Open committed cost **Total committed cost**
\$ 700.00 \$ 1,267.87

Cost category	Open committed cost adjustment	New open committed cost	Total committed cost adjustment	New total committed cost
^ Total		\$ 700.00	\$ 0.00	\$ 1,267.87
v Labor	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Construction Equipment	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v FOM Rented Equipment	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Supplies	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Materials	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Subcontract	\$ 0.00	\$ 700.00	\$ 0.00	\$ 1,267.87

- Assuming a bill of \$100.00 was just paid, it's possible to update the Open committed cost adjustment field with this value. Notice how the New open/remaining committed cost decreases to \$600.00, after making an adjustment of \$-100.00 to the Open committed cost adjustment field.

1069
1.1.3.5.5 Water & Ice Distribution

CLAIM ACTUALS ACTUALS HISTORY COMMITMENTS

Open committed cost **Total committed cost**
\$ 700.00 \$ 1,267.87

Cost category	Open committed cost adjustment	New open committed cost	Total committed cost adjustment	New total committed cost
^ Total	(\$ 100.00)	\$ 600.00	\$ 100.00	\$ 1,367.87
v Labor	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Construction Equipment	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v FOM Rented Equipment	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Supplies	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Materials	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Subcontract	(\$ 100.00)	\$ 600.00	\$ 100.00	\$ 1,367.87

5. Select **Apply** to apply the above changes.

Tasks				Task details			Commi...	
	CBS position	Description	WBS phase code	Forecast (T/O) quantity	UoM	Cost type	Open committed cost	Total committed cost
Cost type: Subcontracts								
<input type="checkbox"/>	1.1.3.2.2	OSC - Third Party I...	1054	13.00	MWk	Subcontracts	\$ 7,525.23	\$ 13,000.00
<input checked="" type="checkbox"/>	1.1.3.5.5	Water & Ice Distrib...	1069	3,489.55	DMH	Subcontracts	\$ 600.00	\$ 1,367.87
<input type="checkbox"/>	1.1.3.5.6	Trash Removal	1070	3,489.55	DMH	Subcontracts	\$ 309.00	\$ 873.24

6. Back on the CBS, you can now see your new updated values for this cost item.

NOTE Both the Open/Remaining committed cost and the Total committed cost values can be edited in the Actuals details slideout > Commitments tab (with the right permissions).

5.11 COMMITTED COST FROM CONTRACT

When the Drive committed cost values setting is on, your committed cost is then derived from Contracts.

When the switch is off, your committed cost is driven from the ERP. Regardless of the state of the switch, you can always manually enter your committed cost directly in the product or via a Microsoft Excel import.

Forecast

% Complete value at which delta from straight line calculation utilizes average performance

Drive committed cost values from Contract ?

With the setting on, all of your committed cost values initially zero out, and then pull over all of your committed cost values that exist in InEight Contract.

For example, if you have a cost item that is associated with a contract, those values are pulled over from Contract and populate the total committed cost and open/remaining committed cost columns.

The calculation is *Forecast final cost = your Total committed cost; Forecast remaining cost = your Open/Remaining Committed Cost.*

In a contract on the Line items tab, change your view to Progress. Take note of the WBS phase code and then view the Gross amount. The gross amount for the cost item is the exact amount for the total committed cost, which includes your line item amount, plus tax.

Total gross amount is your line item amount plus tax. That is going to be your total committed cost value. The calculation for that: *Total committed cost = Line item amount + Tax* (this is also called Gross amount in Contract)

If you have a cost item that is associated with multiple line items in a single contract or across multiple contracts, the total committed cost for that cost item is the gross amount for all the line items that cost item is associated with.

If the WBS element is associated to three different line items, the sum of those three gross amounts is the total committed cost value. A best practice is to associate a single cost item to a single line item.

To get your Open/Remaining Committed Cost, calculate what you still have to pay for your remaining commitments. It is your total committed costs minus what you have already paid. You track payments in contract in three different ways:

- goods receipts
- accruals
- invoices

Invoices are generated in your payment forms.

The calculation is *Open/Remaining Committed Cost= Total committed cost - Max(Goods receipt amount, Invoice amount) - Accrual amount.*

EXERCISE 5.1 – PROGRESS MEASUREMENT

The purpose of this exercise is to give you more familiarity with the InEight Control progress measurement terminology.

1. From the CBS register in InEight Control, create a new viewset with one or more custom data blocks that contain the planned, earned, and actual measurements you would want to see in your project.
2. Add additional productivity measurements (e.g., CF, LEI) as desired.

Congratulations, you have completed this exercise!

REVIEW

1. How can you determine what your productivity is for a specific timeframe?
 - a. Excel Spreadsheet (Date Range Select)
 - b. Forecast Final MH (Date Range Select)
 - c. CB Total MH (Date Range Select)
 - d. Actuals CB Productivity Factor (Date Range Select)

2. What term describes your Original Budget plus or minus approved changes?
 - a. Current Actuals
 - b. Current Budget
 - c. Current Estimate
 - d. Current Cost Changes

3. How can you view the actuals history of a cost item?
 - a. Select the Actuals History viewset
 - b. Right clicking on a cost item and selecting Cost item details
 - c. Right clicking on a cost item and selecting Actuals details
 - d. Selecting Actuals History from the Actions menu

SUMMARY

As a result of this lesson, you can now:

- Define the measurements for analyzing the progress of a project
- Set up a Date Range for progress data
- Get Plan quantities, actual costs, and actual man-hours using the Sync feature
- Explain the settings used for managing progress data shared between applications
- Add and adjust actuals manually
- View actuals history



FORECASTING

LESSON DURATION: 45 MINUTES

LESSON OBJECTIVES

After completing this lesson, you will be able to:

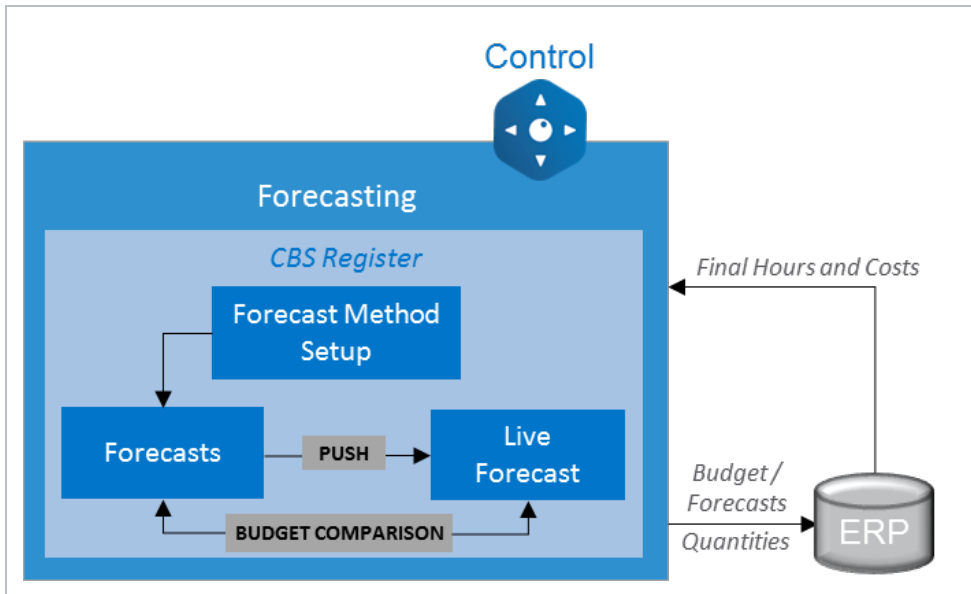
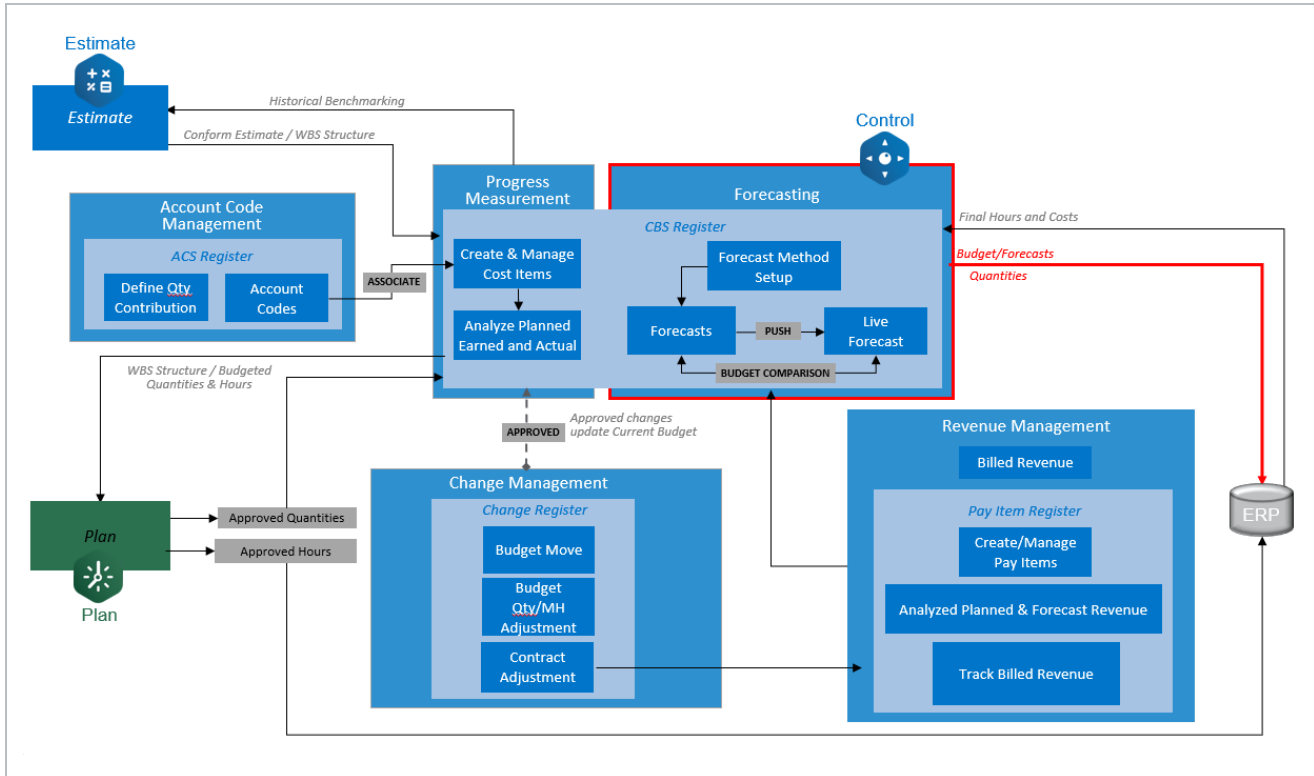
- Differentiate and utilize InEight forecasting methods
- Manage forecasts
- Manage Time Phased Forecasting
- Push to Live Forecast
- View the Fiscal Calendar settings

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6.1 INEIGHT CONTROL WORKFLOW - FORECASTING



6.2 FORECASTING OVERVIEW

6.2.1 FORECAST DATA BLOCK

All forecasting is done using the Forecast data block.

Forecast Final Cost	Forecast Final MH	Forecast Final Man Hour/Unit	Forecast Final PF	Forecast Final Unit Cost	Forecast Method
\$250,000.00	0.00	0.00	0.00	\$250,000.00	Current estimate
\$360,000.00	7,200.00	0.72	1.11	\$36.00	Current budget
\$1,500,000.00	30,000.00	3.00	1.00	\$150.00	Current estimate
\$1,000,000.00	24,000.00	30.00	0.83	\$1,250.00	Rollup
\$800,000.00	20,000.00	25.00	0.80	\$1,000.00	Manual (EAC)

The Forecast data block contains columns for determining the Forecast Final Unit Cost, Forecast Final Cost, Forecast Final MHrs, and productivity, as well as the Forecast Method. Further in the lesson, you will learn the details of how to input a forecast.

TIP

The Control main page includes a default Forecasts viewset that contains the Forecast data block.

6.2.2 PRIVATE FORECASTS

The Control application allows you to create multiple private forecasts as needed, giving you flexibility to try out different forecasting methods and “what if” scenarios. The Manage Forecasts section of this lesson walks you through how to save and share your forecasts with others on your project.

You can access all the forecasts you have access to via the drop-down on the Forecast data block header.

This shows you all your forecasts, as well as any other forecasts that have been shared with you.

6.2.3 LIVE FORECAST

In Control, the Live Forecast is the official project forecast used for financial reporting and is shared with all members of the project automatically. Data from other forecasts can be pushed to the Live Forecast to keep it up to date. The Live Forecast is managed using its own data block.

★ Live forecast This Month					
Forecast final cost	Forecast final MHRs	Forecast final man hours/Unit	Forecast final productivit...	Forecast remaining cost	Forecast method
\$ 1,500,000.00	30,000.00	3.00	1.00	\$ 1,500,000.00	Current estimate
\$ 1,097,500.00	22,390.00	22.39	0.94	\$ 1,097,500.00	Rollup
\$ 800,000.00	16,000.00	20.00	1.00	\$ 800,000.00	Current estimate
\$ 200,000.00	4,440.00	22.20	0.90	\$ 200,000.00	Current estimate
\$ 97,500.00	1,950.00	0.98	0.51	\$ 97,500.00	Current estimate

TIP The Control main page includes a default Forecasts viewset that contains the Forecast data block.

Only users with the right permissions have access to update the Live Forecast. Updating the Live Forecast is covered in greater detail further in the lesson.

6.2.3.1 LIVE FORECAST GRID NAVIGATION

You can access the cost categories slide-out panel quickly by clicking the **Live Forecast View Cost Categories** icon.

Live forecast			
★ Forecast final cost	★ Forecast final MHRs	★ Forecast final man hours/Unit	
\$ 36,500.00	400.00	400.00	
\$ 25,000.00	300.00	0.03	
\$ 5,000.00	0.00	0.00	
\$ 5,000.00	100.00	0.01	
\$ 1,500.00	0.00	0.00	

Clicking the icon takes you directly to the cost categories slide-out panel in the cost item details.

10019
Blue Top Aggregate Base

DETAILS ATTRIBUTES COST CATEGORIES CURRENT ESTIMATE RESOURCES

% complete 🌐 Live forecast method Latest actuals in forecast values
 0.00 % Current estimate ▼ 🕒 02/24/2022

Total Per unit

Cost category	Current budget	Actual cost (to date)	Current estimate	🌐 Live forecast	🌐 Forecast remaining cost
^ Total	\$ 24,106.42	\$ 0.00	\$ 24,106.42	\$ 24,106.42	\$ 24,106.42
v Labor	\$ 16,874.42	\$ 0.00	\$ 16,874.42	\$ 16,874.42	\$ 16,874.42
v Construction...	\$ 7,232.00	\$ 0.00	\$ 7,232.00	\$ 7,232.00	\$ 7,232.00
v FOM Rented ...	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
v Supplies	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

6.3 FORECAST METHODS

The Forecast Method establishes the appropriate forecast unit cost, which is used to calculate the total forecast cost. The Forecast Method applies to individual cost items and can be changed at any time.

You can use several forecast production methods to calculate the cost of the remaining work associated with a cost item. This enables the control of forecasting on a cost item by cost item basis by controlling the calculation of the cost of the remaining work. The different methods available for forecasting are:

Forecast Methods		
Method	Calculation	Apply to
Current Budget (CB)	Actual Total cost + (Current budget unit cost * Quantity remaining)	Terminal or superior cost items
Current Estimate (CE)	Actual Total cost + (Current estimate unit cost * Quantity remaining)	Terminal or superior

Forecast Methods		
		cost items
Average Performance	Actual Total cost + (Actual unit cost * Quantity remaining)	Terminal or superior cost items
Manual	Manually entered forecast value	Terminal or Superior cost items
Rollup	Forecast Total Cost = sum of subordinate forecast values	Superior cost items
Committed Cost	Actual Total cost + Open/Remaining committed cost	Terminal or superior cost items
None	The Forecast total cost will be 0	Terminal or superior cost items
Contract	Forecast total cost = Line item gross amount + Draft vendor change order amount + Remaining to buy (value allocated to the first line item in the contract)	Terminal or superior cost items
Detailed ETC	Actual Total cost + sum (Forecast remaining cost) for all assigned forecast resources.	Terminal cost items
Static manual time phased forecasting (TPF)	The sum of the manually distributed time phased forecast cost.	Terminal or superior cost items
Custom (customer specified)	Calculation specified by customer.	Terminal or superior cost items

6.3.1 FORECAST METHOD ASSIGNMENT

There are three different ways to assign a forecast method:

- Globally to all cost items in the project
- Selection of multiple cost items

- Individual cost item

6.3.1.1 GLOBAL FORECAST METHOD

From the Actions menu, you can set the forecast method globally for all the cost items within the project.

NOTE The Global forecast method only applies to the forecasted items of the user who performs the function. It does not apply to other users in the project.

The following steps walk you through applying a global Forecast Method.

SET GLOBAL FORECAST METHOD

1. From the CBS tab register, select the **View** menu.
2. Select the Project Controls viewset.
3. Click on the Actions drop-down menu and select Global Forecast Method.
4. Select the **Current Budget** Forecast Method.
5. Click **Apply**.

NOTE Only **terminal** cost items will adjust per the global Forecast Method selected. The parent item Forecast Method will stay as **Rollup**.

6. Click **Yes** on the prompt that appears.

6.3.1.2 FORECAST METHOD FOR SELECTED ITEMS

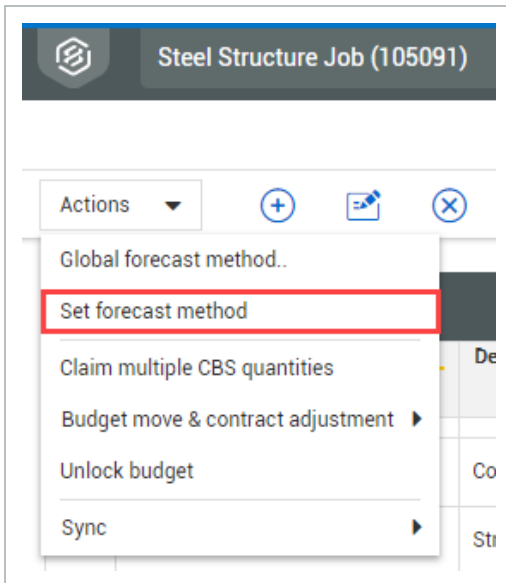
You can also set the forecast method for selected cost items, as shown in the steps below.

SET THE FORECAST METHOD FOR SELECTED ITEMS

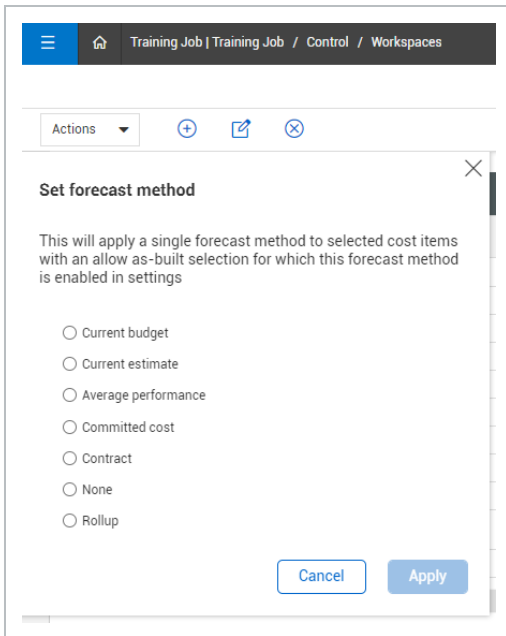
1. In the Tasks data block, select the **check box** next to the desired tasks.

Tasks	Task Det.	Forecast Created from Live foreca.	Forecast Created from Live foreca.
CBS Position	Description	Forecast Final Cost	Forecast Final MH
<input type="checkbox"/>	1 Job Overhead	\$250,000.00	0.00
<input checked="" type="checkbox"/>	2 Earthwork	\$400,000.00	8,000.00
<input type="checkbox"/>	3 Concrete	\$1,500,000.00	30,000.00
<input type="checkbox"/>	*4 Structural Steel	\$1,050,000.00	20,000.00
<input checked="" type="checkbox"/>	4.1 Erect Steel - Heavy	\$900,000.00	16,000.00
<input checked="" type="checkbox"/>	4.2 Erect Steel - Light	\$200,000.00	4,000.00
<input type="checkbox"/>	4.3 Bolted Connections	\$50,000.00	0.00
<input type="checkbox"/>	*5 Materials	\$1,750,000.00	0.00
<input type="checkbox"/>	5.1 Earthwork - Materials	\$250,000.00	0.00
<input type="checkbox"/>	5.2 Concrete - Materials	\$1,000,000.00	0.00
<input type="checkbox"/>	5.3 Structure Steel - Materials	\$500,000.00	0.00
Subtotals 11		\$4,950,000.00	58,000.00

2. Select the **Actions** drop-down menu and select **Set Forecast Method**.



3. On the resulting slide out panel, select your desired Forecast Method and click **Apply**.



6.3.1.3 FORECAST METHOD FOR INDIVIDUAL ITEMS

You may need to change the forecast method for a single cost item. The following Step by Step walks you through how to do so.

SET THE FORECAST METHOD FOR INDIVIDUAL ITEMS

1. In the **Forecast** data block, locate the **Forecast Method** column.
2. Double click on the Forecast Method field for the your desired cost item.
 - A dropdown menu appears where you can select your Forecast Method from a list

CBS Position	Description	Final	Forecast Final MH	Forecast Final Man-Hours/Unit	Forecast Final Productivity Factor	Forecast Final Unit Cost	Forecast Method	Fc Co
1	Job Overhead	50,000.00	0.00	0.00	0.00	\$250,000.00	Current budget	\$C
2	Earthwork	00,000.00	8,000.00	0.80	1.00	\$40.00	Current budget	\$C
3	Concrete	00,000.00	30,000.00	3.00	1.00	\$150.00		\$C
4	Structural Steel	83,768.50	19,977.80	19.98	1.00	\$1,983.77		\$C
...	Erect Steel - Heavy	34,158.50	15,985.60	19.98	1.00	\$1,167.70		\$C
...	Module 01 - Erect Steel Heavy	00,000.00	0.00	0.00	0.00	\$1,000.00		\$C

6.3.1.4 AVERAGE PERFORMANCE FORECAST METHOD

The average performance forecast method lets you use actuals for a specific time frame range to determine the unit cost and rate for the remaining work when calculating the remaining forecast. Forecasting using average performance lets you forecast the remainder of work based off completed work.

When Average performance is selected as the forecast method in the CBS, you can click the value in the Average performance settings column and select a date range to use for the actual rate of completion for the remainder of work.

This feature lets you identify a length of time you want to utilize a cost item's hours and quantities to determine the install rates for the remaining work.

Click an Average Performance Settings CBS record to access the Average Performance Settings window.

Setting	Usage notes
Calculate average performance over all dates	The average performance for the cost item takes all the dates into account when calculating its average performance.
Calculate average performance based on most recent	You can determine how many weeks or months to calculate the average performance for a cost item. For example, you determine that the last 2 weeks performance best represents how to progress, then you would calculate two weeks of average performance.
Calculate average performance over a specified range	Selecting a date range uses only the specified time range for calculating the average performance.
Calculate average performance from date	You can select a specific date to calculate average performance. After the learning period for the selected cost item is complete, you can use the average performance for a specific date and onward.

The screenshot shows a software interface with a table of forecast data and an open dialog box. The table has columns for various forecast metrics and a 'Forecast method' column. The dialog box, titled 'Average performance settings', contains the following options:

- Calculate average performance over all dates
- Calculate average performance based on most recent: This will be up to date through the most recent week ending date
1 Weeks
- Calculate average performance over a specified range:
From 12/31/1752 To 12/19/2022
- Calculate average performance from date:
12/31/1752

Buttons for 'Cancel' and 'Apply' are at the bottom of the dialog.

The average performance settings can also be accessed in the cost item details slide-out panel.

The screenshot displays a software interface with three main sections:

- Tasks List (Left):** A table with columns 'CBS position' and 'Description'. Item 2.3.1.1.1 'Resurface Existin...' is selected.
- DETAILS Panel (Center):** Shows information for item '1004 Resurface Existing Access road'. It includes fields for 'Description', 'Forecast T/O qty', 'CE total cost' (\$ 5,803.84), 'CE total Mhrs' (103.20), and 'CE MHR/Unit' (0.02). There are also checkboxes for 'Allow as-built' (set to 'All'), 'As-built lock', and 'Hide in Plan, Progress, and P'.
- Average performance settings Dialog (Right):** A red-bordered dialog box with the following settings:
 - Cost source:** Detail
 - Live forecast method:** Average performance
 - Average performance settings:**
 - To date:** dropdown menu
 - Calculate average performance over all dates:**
 - Calculate average performance based on most recent:** (with a help icon)
 - Calculate average performance over a specified range:**
 - From:** 11/22/2018
 - To:** 01/10/2023
 - Calculate average performance from date:** (with a date field set to 11/22/2018)
 - Apply:** A blue button at the bottom right.

As an example, if you choose to calculate the average performance based on the most recent three weeks, the Forecast remaining cost and Forecast remaining Mhrs change based off the cost item’s performance from the last three weeks.

The screenshot shows a 'CHANGE REGISTER' table with the following data:

Forecast total cost	Forecast remaining Mhrs	Average performance settings	Forecast remaining cost	Forecast method
\$ 0.00	0.000		\$ 0.00	Current estimate
\$ 2,469,443.93	-2.409		(\$ 101.66)	Rollup
\$ 2,452,434.31	0.000	Last 3 weeks	\$ 0.00	Average performan...

The Forecast method and Average performance settings changes are also shown in the cost item details slide-out panel.

The screenshot displays a software interface for forecasting resources. On the left, under the heading '1396 Site Maintenance Crew', there is a 'DETAILS' section. It includes a table with the following data:

Forecast T/O qty	UoM
75,181.000	MH

Below this table, it shows 'Last changed on' as '12/16/2022 09:54 AM'. Further down, there is a 'Description' field containing 'Site Maintenance' and a '* Forecast T/O qty' input field. At the bottom of the details section, 'CE total cost' and 'CE total MHrs' are listed.

On the right side of the interface, there are two main sections: 'CURRENT ESTIMATE RESOURCES' and 'FORECAST RESOURCES'. The 'CURRENT ESTIMATE RESOURCES' section shows 'CBS position' as '2.1.1.1.1'. The 'FORECAST RESOURCES' section contains a dropdown menu for '* Cost source' set to 'Detail'. Below this, a red box highlights the 'Live forecast method' section, which includes a dropdown menu for 'Average performance' and another dropdown menu for 'Average performance settings' set to 'Last 3 weeks'. At the bottom of the forecast resources section, 'CE labor cost/MHrs' is displayed.

6.3.1.5 COMMITTED COST FORECAST METHOD

Committed Costs are obligations made for contract work or purchase orders that you have agreed to pay for. The Committed Cost forecast method provides you with the ability to use committed cost information to forecast your cost at completion.

Forecast final unit cost	Forecast remaining cost	Forecast method
(\$ 120,539,221.43)	(\$ 122,907,115.92)	Rollup
(\$ 142,040,228.20)	(\$ 142,445,305.28)	Rollup
(\$ 12,535.89)	(\$ 129,212.48)	Rollup
\$ 118.05	\$ 10,805.00	Committed cost
\$ 43.88	\$ 8,676.00	
\$ 9.18	\$ 0.00	
(\$ 14,869.35)	(\$ 148,693.48)	
\$ 0.00	\$ 0.00	
\$ 0.00	\$ 0.00	

Forecasting cost items can be done in the live or private forecast, and can be forecasted at the parent or terminal levels. The Committed Cost Forecast method can only be used when cost items have an Allow as-built of All or Costs. When the Allow as-built values are set to None or Quantities, this forecast method cannot be used because cost and committed costs cannot be claimed.

The Committed Cost forecast is mostly utilized on cost items that are driven from purchase orders or contracts. It is not used when you're claiming quantities. For example, this forecast method isn't suitable for direct labor items where quantities are claimed to generate progress and crew performance. This forecast method works well for cost items that are tied to a contract or PO.

When Open/Remaining Committed Cost values are being entered, these values will also update the forecast values in the CBS. There is also an integration available that allows you to import committed cost data from your ERP, instead of manually entering in the data. For more information on Commitment Costs, visit subject Track Open/Remaining and Total Committed Costs within this topic 3.3 Cost Item Setup on page 91

The following columns will help you view the Committed Cost forecast method:

Forecast total cost: Forecast cost at completion which is equal to the Open/Remaining committed cost plus any Actual cost to date.

Forecast remaining cost: This is the amount of money that remaining to be paid out. This column is equal to the Open/Remaining Committed Cost.

Tasks	As-built lock	Allow as-built	Forecast final man hours/Unit	Forecast final cost	Forecast final productivity factor	Forecast final Mhrs	Forecast final unit cost	Forecast remaining cost	Forecast method
1.1.1.1 Permits		All	1.00	\$ 11,805.00	2,323.00	1.00	\$ 118.05	\$ 10,805.00	Committed cost

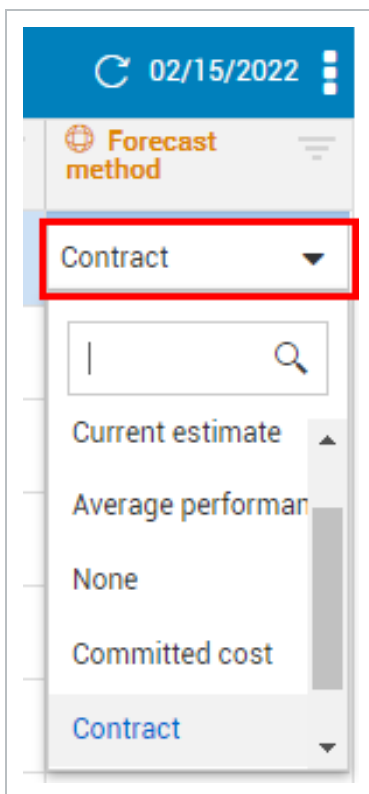
The Committed cost forecast method is most commonly used for costs that are associated to a purchase order tracked through an ERP system. This method doesn't focus on quantities or percent complete, but rather the progression of costs paid towards the final agreed upon PO value.”

6.3.1.6 CONTRACT FORECAST METHOD

Using this forecast method, you can forecast by Contract values. This forecast method is only available in the forecast drop down for cost items that are assigned to a Contract.

NOTE

Any modifications that you make in Contract automatically updates and comes into Control.



When a cost item is assigned to a contract, you have the option of adding the read-only column **Number of contracts** to your CBS. This column is an integer value that counts the number of contracts a particular cost item is associated to. You have to go into Contracts to see which Contract your cost item is associated to.

	Number of contracts	Forecast method
56.00	1	Contr

If the **Number of contracts** column is set to zero, the Contract Forecast Method becomes unavailable from the Live Forecast, Private Forecast, and the Cost Item Details slideout drop down for Live Forecast Method on the Details tab.

Contract Forecast Method pulls the cost that is associated to a specific cost item from Contracts. Cost items can be associated to the following if using Contract Forecast Method:

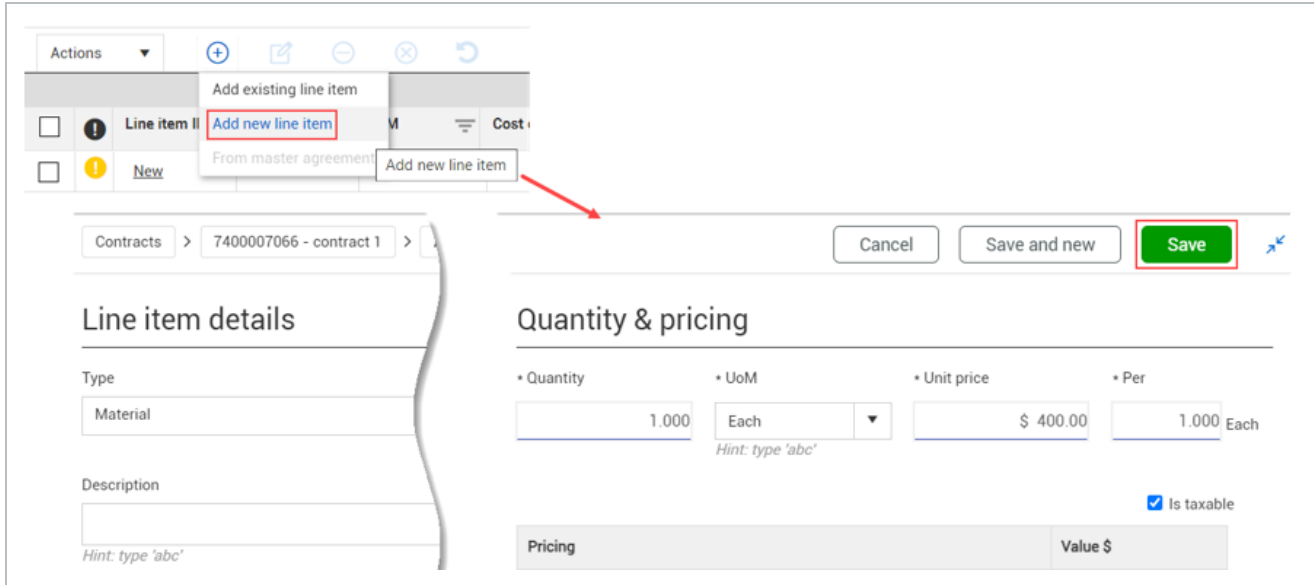
- Many different Contracts
- Many different line items across different Contracts

The cost item's Forecast Final Cost value sums up the line item amounts of all cost that is associated to a cost item from Contract.

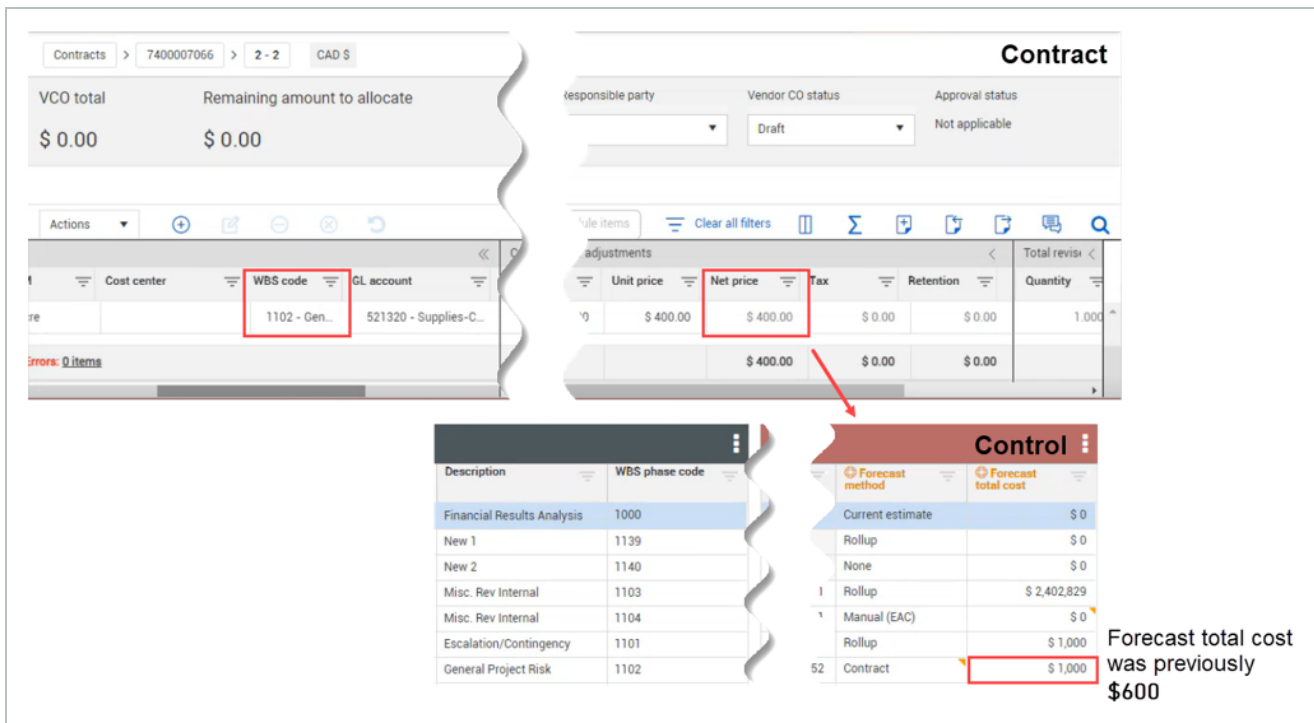
UNAPPROVED CONTRACT LINE ITEMS

The line item price is included in the associated cost item's Contract forecast method when creating new line items in a Contract vendor change order.

After a new line item is saved, a batch process is initiated in the background that sends the line item's net price over to Control.



The net price from Contract shows in Control’s forecast total cost column, which also includes the tax from draft pending vendor change orders.



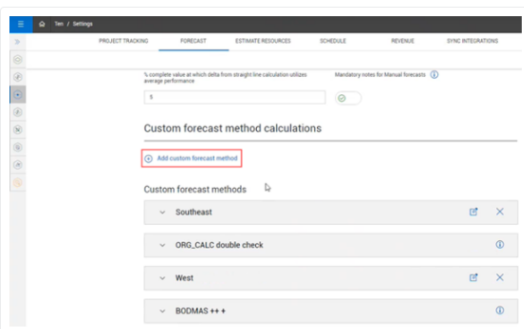
6.3.1.7 CUSTOM FORECAST METHOD

The Custom forecast method lets you specify a calculation for a forecast cost and manhours. For more information, refer to [Project Control settings](#) where Custom forecast methods can be configured.

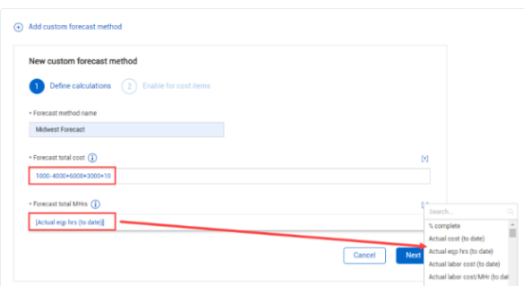
- > Scheduling
- > Administration
 - > Account Code Structure (ACS)
 - > InEight Control Interfaces
 - > Control Settings
 - Roles & Permissions
 - Project Settings**

Custom Forecast method calculations

You can create custom forecast methods at both the project and organization levels by configuring your own calculations.



To create a custom Forecast Method, click Add custom forecast method, and then enter the Forecast Method Name, Forecast Total Cost and Forecast Total Mhrs calculations. You can create a maximum of 10 custom organization and project level forecast methods each at one time. Select the **Formula** icon to choose fields to include in your forecast formula.



- Project tracking (organization & project level)
 - Tasks
 - Actuals
 - Estimated Actuals
 - Enabling actuals for Progress
 - Enabling actuals for Control
 - Estimated actuals process overview
 - Reversing estimates
 - Reversing Estimated Actuals
 - Time Phasing budget
- Forecast (organization & project level)
 - Time Phasing
 - Forecast
 - Custom Forecast method calculations**
 - Enable Forecast methods based on
 - Allow as-built selections
- Estimate Resources (organization & project level)
- Schedule (organization & project level)
- Revenue (project level)
 - Revenue and Cost Timing
 - Billing method default earnings rules
 - Pay item forecast takeoff quantity rollups
 - Pay item forecast takeoff quantity roll down
 - Markup
- Sync Integrations (project level)
- Others (project level)
 - Required Cost Items
 - Decimal Precision
- Others (org level)
 - Required Cost Items

6.4 MANUAL FORECASTING

Scenario

Assume you have a structural steel installation code being performed by a subcontractor. They have notified the project team that the material cost of the steel has gone up due to a change of thickness of some of the column base plates. You will need to forecast an increase in the total subcontract cost of the code to reflect this change.

You also receive an update from the concrete superintendent that the code for a concrete pouring operation will now be using journeymen instead of apprentice concrete finishers. He has provided the total and you will update the total cost and the labor cost per man-hour.

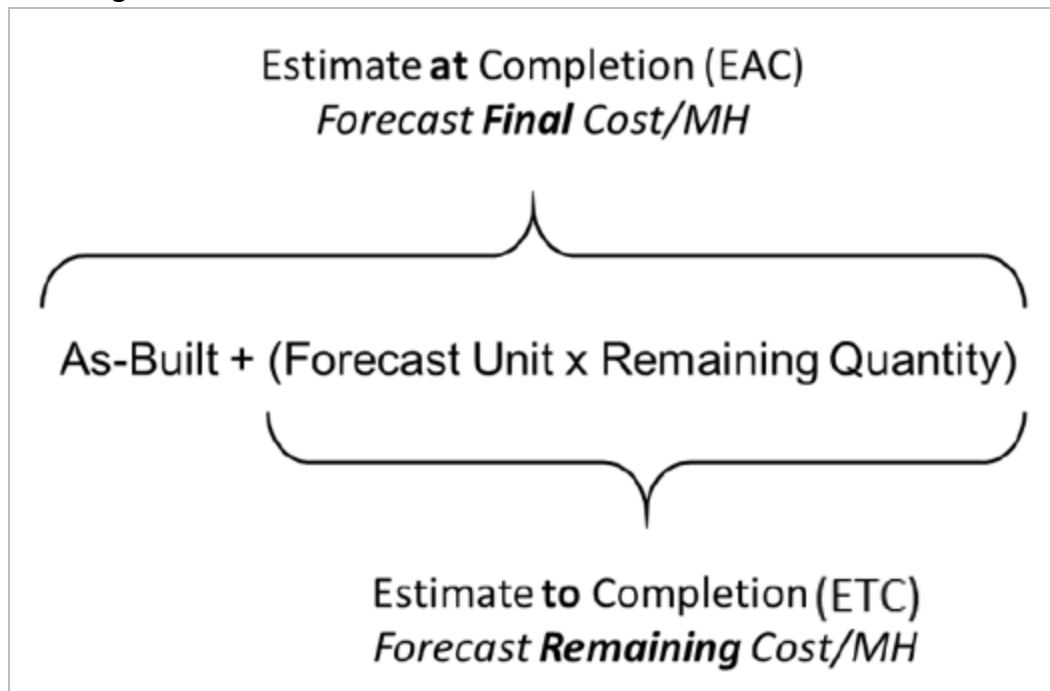
6.4.1 EAC VS. ETC

You can manually enter forecast values for both your Estimate at Completion (EAC) and Estimate to Completion (ETC) values.

Control uses different descriptions than EAC and ETC as indicated below.

Forecast Term	Control Term	What it measures
Estimate at Completion (EAC)	Forecast Final Cost Forecast Final MHrs	As-built + (Forecast Unit Cost x Quantity Remaining)
Estimate to Completion (ETC)	Forecast Remaining Cost Forecast Remaining Man Hour	Forecast Unit Cost x Quantity Remaining

The image below illustrates what EAC and ETC measure:



6.4.2 MANUAL EAC (ESTIMATE AT COMPLETE) FORECAST

You can use the Manual (Estimate at Completion) Forecast Method to make a simple, quick adjustment to the calculated forecast numbers, or to forecast the cost of the work remaining, while ignoring actual costs in the calculation of the forecast.

When you enter a forecast cost at the total level, you can have forecast costs:

- Distributed to the cost categories, or
- Back calculated if forecast man-hours are adjusted

To set the forecast total or EAC forecast, type a value into one of the following cells within the forecasting data block:

- Forecast final cost
- Forecast final MHrs
- Forecast Final Man-hours per Unit
- Forecast Productivity Factor
- Forecast Final Cost per Unit

The next two Step by Steps walk you through how to define the Manual (EAC) forecast by adjusting the Forecast Final Cost and the Forecast Final Man-Hours.

MANUALLY ADJUST FORECAST FINAL COST

1. In the Forecast data block, double click the **Forecast Final Cost** cell for a cost item.
 - This will allow you to edit the dollar value manually

Tasks	Task Det.	Forecast Final Cost	Forecast Final MH	Forecast Final Man Hour/Unit	Forecast Final PF	Forecast Final Unit Cost	Forecast Method	Forecast Final Cost	Forecast Final MH	Forecast Man Hour
1 Job Overhead	1000 1.00 Lump Su.	\$250,000.00	0.00	0.00	0.00	\$250,000.00	Current estimate	\$250,000.00	0.00	0.00
2 Earthwork	1001 10,000.00 CY	\$400,000.00	8,000.00	0.80	1.00	\$40.00	Current budget	\$400,000.00	8,000.00	8,000.00
3 Concrete	1002 10,000.00 CY	\$1,500,000.00	30,000.00	3.00	1.00	\$150.00	Current estimate	\$1,500,000.00	30,000.00	30,000.00
4 Structural Steel	1003 1,000.00 Ton	\$1,000,000.00	20,000.00	20.00	1.00	\$1,000.00	Rollup	\$1,050,000.00	20,000.00	20,000.00
4.1 Erect Steel - Heavy	1004 800.00 Ton	\$800,000.00	16,000.00	20.00	1.00	\$1,000.00	Current budget	\$800,000.00	16,000.00	16,000.00
4.2 Erect Steel - Light	1005 200.00 Ton	\$200,000.00	4,000.00	20.00	1.00	\$1,000.00	Current budget	\$200,000.00	4,000.00	4,000.00
4.3 Bolted Connections	1006 2,000.00 Ea	\$0.00	0.00	0.00	0.00	\$0.00	Average performan...	\$50,000.00	0.00	0.00
7 Materials	1007 1.00 Each	\$1,750,000.00	0.00	0.00	0.00	\$1,750,000.00	Rollup	\$1,750,000.00	0.00	0.00
5.1 Earthwork - Materials	1008 10,000.00 CY	\$250,000.00	0.00	0.00	0.00	\$25.00	Current estimate	\$250,000.00	0.00	0.00
5.2 Concrete - Materials	1009 10,000.00 CY	\$1,000,000.00	0.00	0.00	0.00	\$100.00	Current estimate	\$1,000,000.00	0.00	0.00
5.9 Structure Steel - Materials	1010 1,000.00 Ton	\$500,000.00	0.00	0.00	0.00	\$500.00	Current estimate	\$500,000.00	0.00	0.00
Subtotals 11		\$4,900,000.00	58,000.00					\$4,950,000.00	58,000.00	

2. Change this value to **125,000**.

Control

S100000 - PKS Inc

Steel Structure Training Job

View: Forecasts

Actions CBS ACS PAY ITEMS CHANGE REGISTER AUDIT LOG

Tasks	CBS Position	Description	Task Det.			Forecast Created from Live foreca.				Forecast Created from Live foreca.				
			WBS Phase Code	Forecast TO City	UOM	Forecast Final Cost	Forecast Final MH	Forecast Final Man Hour/Unit	Forecast Final PF	Forecast Final Unit Cost	Forecast Method	Forecast Final Cost	Forecast Final MH	Forecast Final Man Hour
1		Job Overhead	1000	1.00	Lump Su.	\$250,000.00	0.00	0.00	0.00	\$250,000.00	Current estimate	\$250,000.00	0.00	
2		Earthwork	1001	10,000.00	CY	\$400,000.00	8,000.00	0.80	1.00	\$40.00	Current budget	\$400,000.00	8,000.00	
3		Concrete	1002	10,000.00	CY	\$1,500,000.00	30,000.00	3.00	1.00	\$150.00	Current estimate	\$1,500,000.00	30,000.00	
*4		Structural Steel	1003	1,000.00	Ton	\$1,050,000.00	20,000.00	20.00	1.00	\$1,000.00	Rollup	\$1,050,000.00	20,000.00	
4.1		Erect Steel - Heavy	1004	800.00	Ton	\$800,000.00	16,000.00	20.00	1.00	\$1,000.00	Current budget	\$800,000.00	16,000.00	
4.2		Erect Steel - Light	1005	200.00	Ton	\$200,000.00	4,000.00	20.00	1.00	\$1,000.00	Current budget	\$200,000.00	4,000.00	
4.3		Bolted Connections	1006	2,000.00	Ea	\$0.00	0.00	0.00	0.00	\$0.00	Average performan...	\$50,000.00	0.00	
*5		Materials	1007	1.00	Each	\$1,750,000.00	0.00	0.00	0.00	\$1,750,000.00	Rollup	\$1,750,000.00	0.00	
5.1		Earthwork - Materials	1008	10,000.00	CY	\$250,000.00	0.00	0.00	0.00	\$25.00	Current estimate	\$250,000.00	0.00	
5.2		Concrete - Materials	1009	10,000.00	CY	\$1,000,000.00	0.00	0.00	0.00	\$100.00	Current estimate	\$1,000,000.00	0.00	
5.3		Structure Steel - Materials	1010	1,000.00	Ton	125000	0.00	0.00	0.00	\$500.00	Current estimate	\$500,000.00	0.00	
Subtotals			11			\$4,900,000.00	58,000.00					\$4,950,000.00	58,000.00	

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INEIGHT

TIP To revert to the original value when manually typing into the cell, press the Escape (Esc) key.

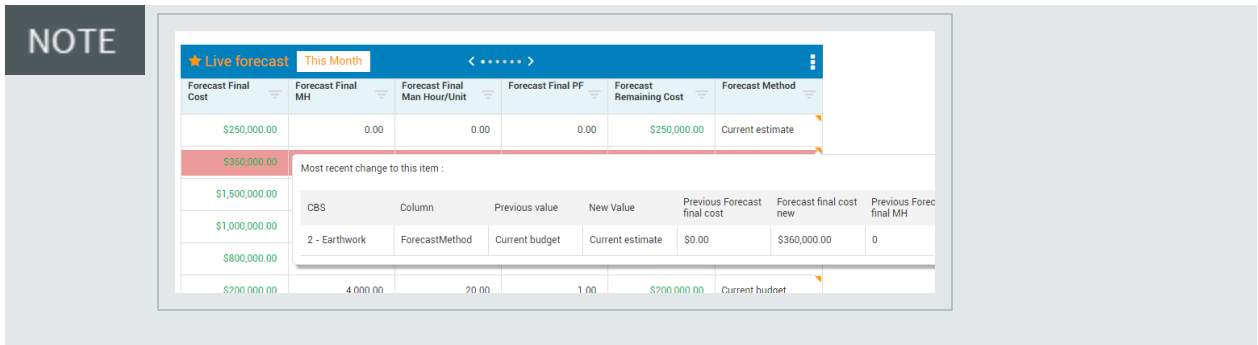
NOTE All other cost categories proportionally adjust automatically once the labor is adjusted.

NOTE

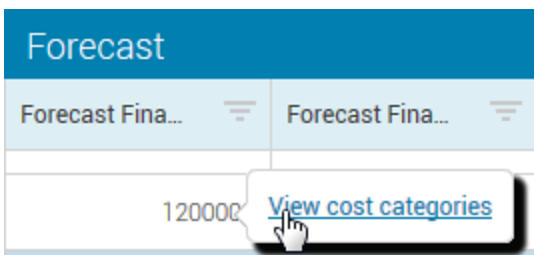
In the Forecast data block, blue dots indicate what the forecast driver is. A forecast driver is the manually edited value that the Forecast Final Cost is based off.

Forecast Created	
Forecast Final Cost	
!! \$250,000.00	
!! \$400,000.00	
!! \$1,500,000.00	
\$1,000,000.00	
!! \$800,000.00	
!! \$200,000.00	
!! \$0.00	
\$1,375,000.00	
!! \$250,000.00	
!! \$1,000,000.00	
!! \$125,000.00 ●	

In the *Live forecast data block, orange triangles will appear in the top right-hand corner of the cell. These indicate what the forecast driver is and give a detail of the change when hovered over.



3. Hover over the **Forecast Final Cost** cell of the value you entered and select the **View cost categories** pop-up.



- You can see the adjustments that were made by cost category

6.4.2.1 PROPORTIONAL ADJUSTMENT

As you make changes, you may receive a prompt asking you how you would like to adjust other values affected by your change. For example, when you change your Forecast Final Cost, this will affect either:

- Forecast Final MH or
- Forecast Final \$/MH

✕

Proportionally adjust Forecast Final MH or Forecast Final \$/MH ?

The Forecast Final Cost can be modified by proportionally adjusting Forecast Final MH or Forecast Final \$/MH. Specify the value you would like to modify:

Forecast Final MH

Forecast Final \$/MH

Cancel
OK

While one of those values will remain constant, the other will adjust as indicated in the table below:

Forecasting - Proportional Adjustment Example	
Action	Result
Original Forecasted Values	Forecast Final Cost = \$1000 Forecast Final MH = 100 Forecast Final \$/MH = 10
Manually adjust Forecast Final Cost	Forecast Final Cost changes from \$1000 to \$2000
Resulting adjustment Option 1: Adjust Forecast Final MH	Forecast Final Cost / Original Forecast Final \$/MH = Adjusted Forecast Final MH \$2000 / 10 = 200 MH
Resulting adjustment Option 2: Adjust Forecast Final \$/MH	Forecast Final Cost / Original Forecast Final MH = Adjusted Forecast Final \$/MH \$2000 / 100 = 20/MH

6.4.3 MANUAL ETC (ESTIMATE TO COMPLETION) FORECAST

The Manual ETC (Estimate to Completion) forecast method can be used to make an adjustment to forecast the unit cost of the work remaining and adding it to the as-built costs in the calculation of the forecast.

To set the forecast remaining or ETC (Estimate to Complete) forecast, type a value into one of the following cells within the forecasting data block:

- Forecast Remaining Labor Cost/MHr
- Forecast Remaining Labor Cost
- Forecast Remaining Man-hours per Unit
- Forecast Remaining Productivity Factor
- Forecast Remaining Cost per Unit

This will set the unit cost and man hour factors. When applied to the remaining qty to deliver and added to the existing actuals this will equal your total forecast amounts.

6.4.3.2 DETAILED ETC FC METHOD

The Detailed ETC (estimate to completion) method lets you modify the crew makeup and production rates that drive the remaining forecast values (based on remaining quantities and hours).

For example, if you started your project and you used apprentices, and now you prefer to use journeymen, you can swap out resources for your forecast resources and use journeymen instead of apprentices.

In Control settings > Project Tracking, you can now enable forecast methods for terminal cost items when the allow-as built is set to all or cost for Detailed ETC. When the Detailed ETC forecast method is enabled, all existing Current Estimate Resources for that cost item are copied to the Forecast Resources tab in the CBS > Cost Item Details slide-out panel.

Terminal cost items

When Allow as-built is set to *All or Cost*
Enable the following Forecast methods for terminal cost items when Allow as-built is set to *All or Cost*

Current estimate	<input checked="" type="checkbox"/>	Manual (ETC)	<input checked="" type="checkbox"/>
Current budget	<input checked="" type="checkbox"/>	Manual (EAC)	<input checked="" type="checkbox"/>
Average performance	<input checked="" type="checkbox"/>	None	<input checked="" type="checkbox"/>
Committed cost	<input checked="" type="checkbox"/>	Contract	<input checked="" type="checkbox"/>
Detailed ETC	<input checked="" type="checkbox"/>		

Default Forecast method for terminal cost items when Allow as-built is set to *All or Cost*

Current estimate

Only enabled selections above are eligible. 'Manual (ETC)' and 'Manual (EAC)' cannot be default options.

When Allow as-built is set to *Quantity*
Enable the following Forecast methods for terminal cost items when Allow as-built is set to *Quantity*

Current estimate	<input checked="" type="checkbox"/>	Manual (ETC)	<input checked="" type="checkbox"/>
Current budget	<input checked="" type="checkbox"/>	Manual (EAC)	<input checked="" type="checkbox"/>
Average performance	<input checked="" type="checkbox"/>	None	<input checked="" type="checkbox"/>

Default Forecast method for terminal cost items when Allow as-built is set to *Quantity*

Current estimate

Only enabled selections above are eligible. 'Manual (ETC)' and 'Manual (EAC)' cannot be default options.

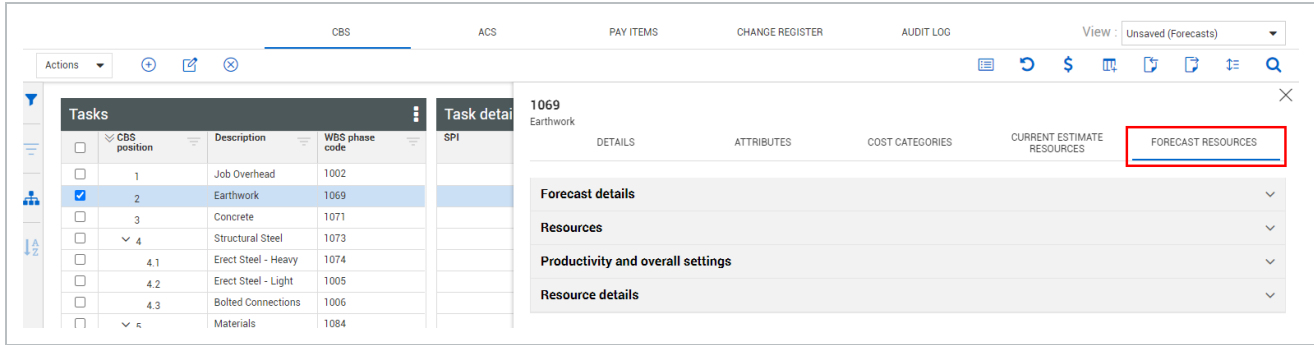
When Allow as-built is set to *None*
Enable the following Forecast methods for terminal cost items when Allow as-built is set to *None*

None	<input checked="" type="checkbox"/>
------	-------------------------------------

Default Forecast method for terminal cost items when Allow as-built is set to *None*

None

When the Detailed ETC setting is enabled, a new tab is available in Cost Item Details called Forecast Resources. This new tab is almost identical to the Current Estimate Resources tab, with the major difference being that the Forecast Resources tab contains forecast information. You can edit these resources and values separately from the current estimate resources for a cost item.



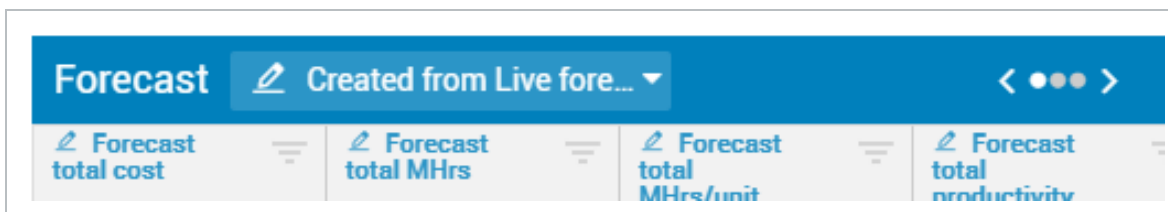
6.5 FORECAST MANAGEMENT

Scenario

Imagine you are covering the concrete portion of the Steel Structure project, and you want to do a “what if” forecast based on a potential change in the type of concrete to be used. This forecast will affect many codes and you do not want it to affect the forecast information for everyone else on the project. Also, your manager requested that you send him the new forecast so he can review the data and compare it to the Live Forecast, which will help decide which path to take.

Depending on the size of your project, you may have multiple engineers involved in forecasting project tasks. For example, a larger team may divide up responsibilities by discipline, with discipline-specific field engineers putting together information for a project manager.

InEight Control accommodates multiple people doing the forecasting, by allowing users to create and save their own forecasts, so they can forecast their items without affecting anyone else’s work. They can then share their forecasts with others as needed, accessing all the shared forecasts from the drop-down folder of the Forecast data block.

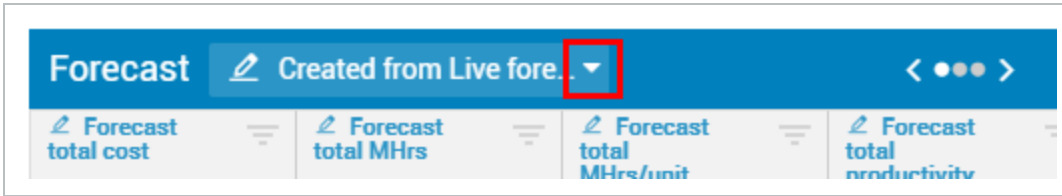


6.5.1 SAVE FORECASTS

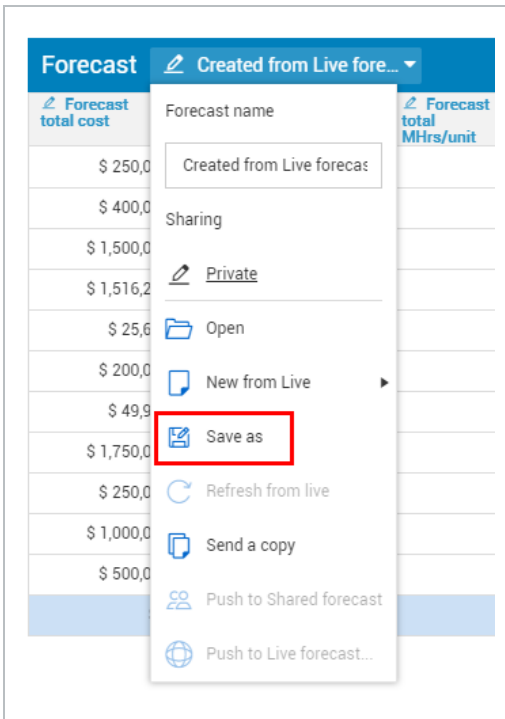
Once you have adjusted your forecast in the Forecast data block, you can save the forecast.

SAVE FORECASTS

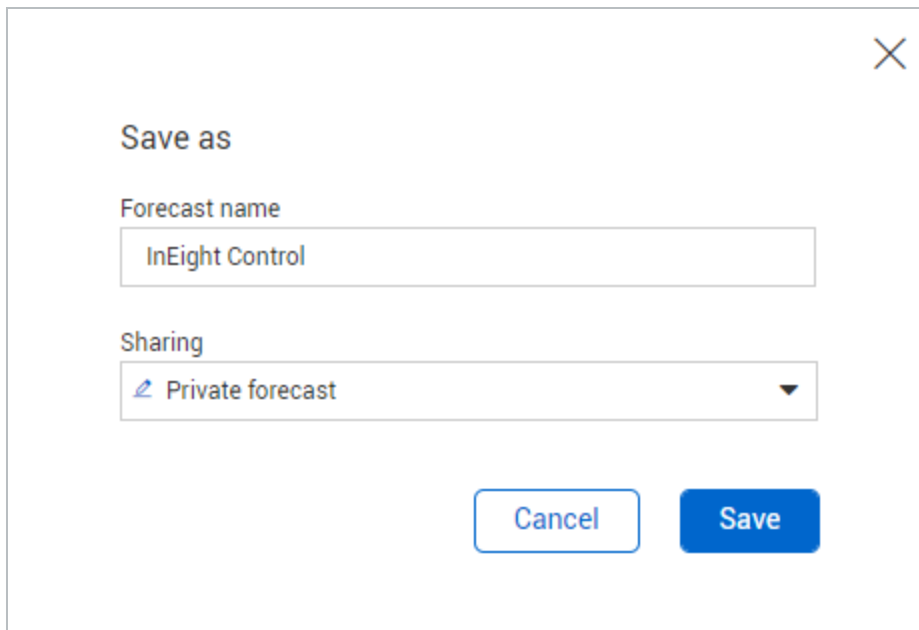
1. To save the forecast, click on the drop-down arrow in the center of the Forecast data block.



2. Select **Save as...** from the menu drop-down list.



3. In the Forecast Name field, type **InEight Control**. In the Sharing field, keep the forecast as private.



Save as

Forecast name

InEight Control

Sharing

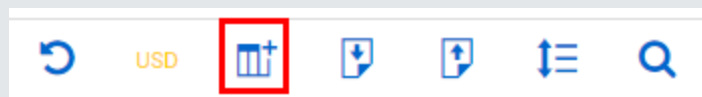
Private forecast

Cancel Save

4. Click **Save**.

NOTE

The Forecast data block now displays the saved forecast. Any changes made within this data block will be saved to that forecast. To get back to the Forecast data block, select the Add data blocks button and insert the Forecast data block.



Alternatively, you can revert to the Forecasts saved view.

6.5.2 LOAD FORECASTS

You can load existing shared forecasts, as shown in the Step by Step below.

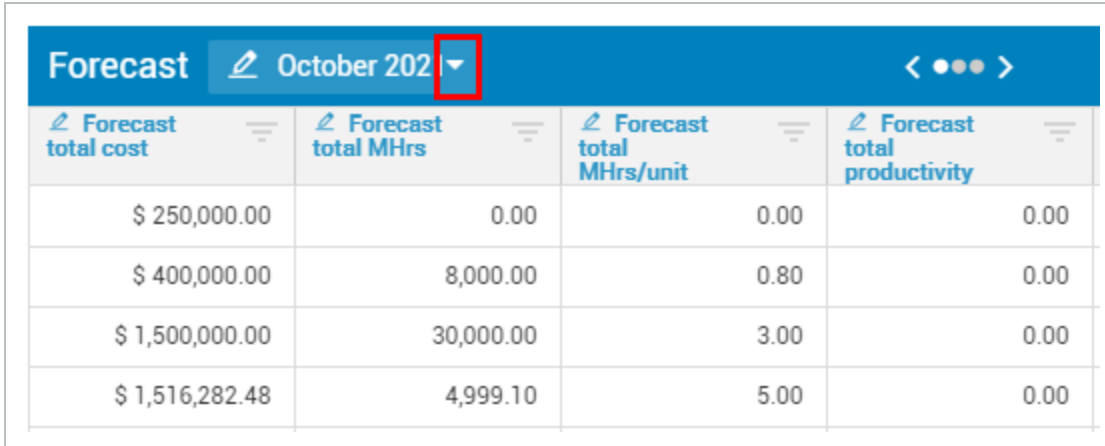
6.5.3 PROJECT LEVEL SHARED FORECASTS

You can create up to five forecasts that are automatically shared with members assigned to the project. This lets you collaboratively work together with other team members to work on a forecast, prior to getting pushed to the live forecast. Other members can also edit and push the live forecast.

Selecting the Shared link lets you manage between private and shared access. All team members that share your forecast view can view and edit the forecast, and view any changes made update in real time.

SHARED FORECASTS

1. To share the forecast, click on the drop-down arrow in the center of the Forecast data block.



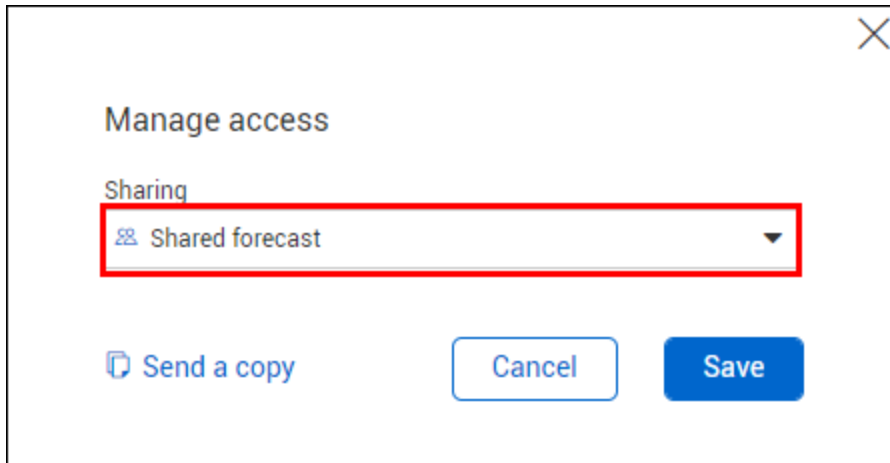
Forecast ↗ October 202 ▼ < ● ● ● >			
↗ Forecast total cost	↗ Forecast total Mhrs	↗ Forecast total Mhrs/unit	↗ Forecast total productivity
\$ 250,000.00	0.00	0.00	0.00
\$ 400,000.00	8,000.00	0.80	0.00
\$ 1,500,000.00	30,000.00	3.00	0.00
\$ 1,516,282.48	4,999.10	5.00	0.00

2. Select **Private** from the drop-down list.

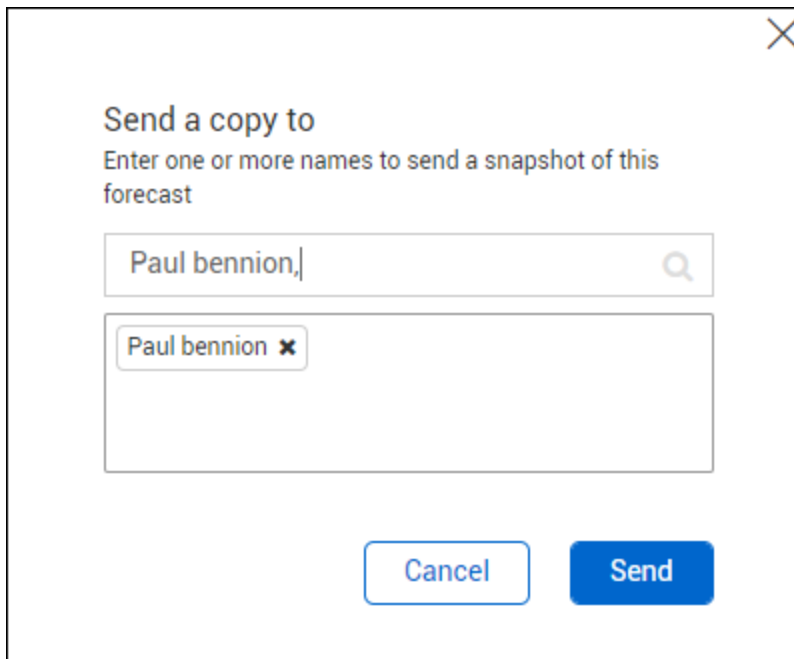
The screenshot shows a web application interface for forecast management. At the top, there is a blue header with the word "Forecast" and a dropdown menu currently set to "October 2021". Below the header is a table with columns for "Forecast total cost" and "Forecast total MHrs/unit". A context menu is open over the table, listing several actions: "Forecast name" (with a text input field containing "October 2021"), "Sharing", "Private" (highlighted with a red box), "Open", "New from Live", "Save as", "Refresh from live", "Send a copy", "Push to Shared forecast", and "Push to Live forecast...". A tooltip points to the "Private" option, stating "Private forecast information is only visible to you".

Forecast total cost	Forecast name	Forecast total MHrs/unit
\$ 250,0	October 2021	0.0
\$ 400,0		0.8
\$ 1,500,0		3.0
\$ 1,516,2		5.0
\$ 25,6		0.0
\$ 200,0		20.0
\$ 49,9		0.5
\$ 1,750,0		0.0
\$ 250,0		0.0
\$ 1,000,0		0.0
\$ 500,0		0.0

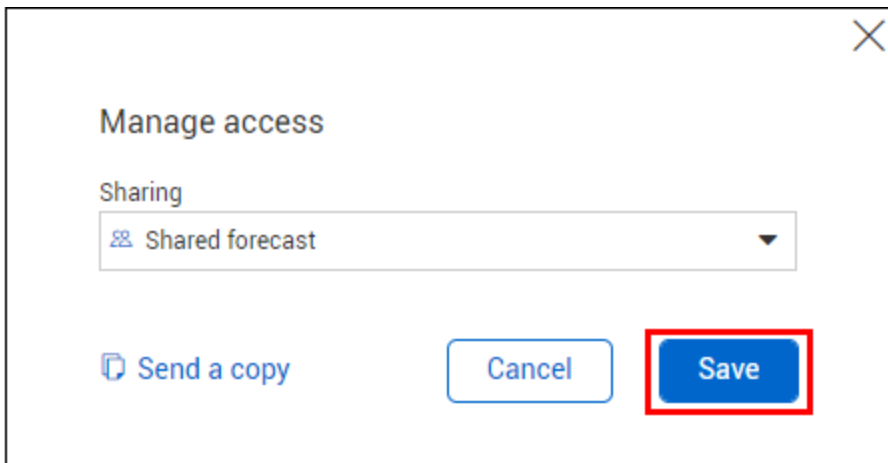
- The Shared forecast option automatically defaults in the drop-down selection



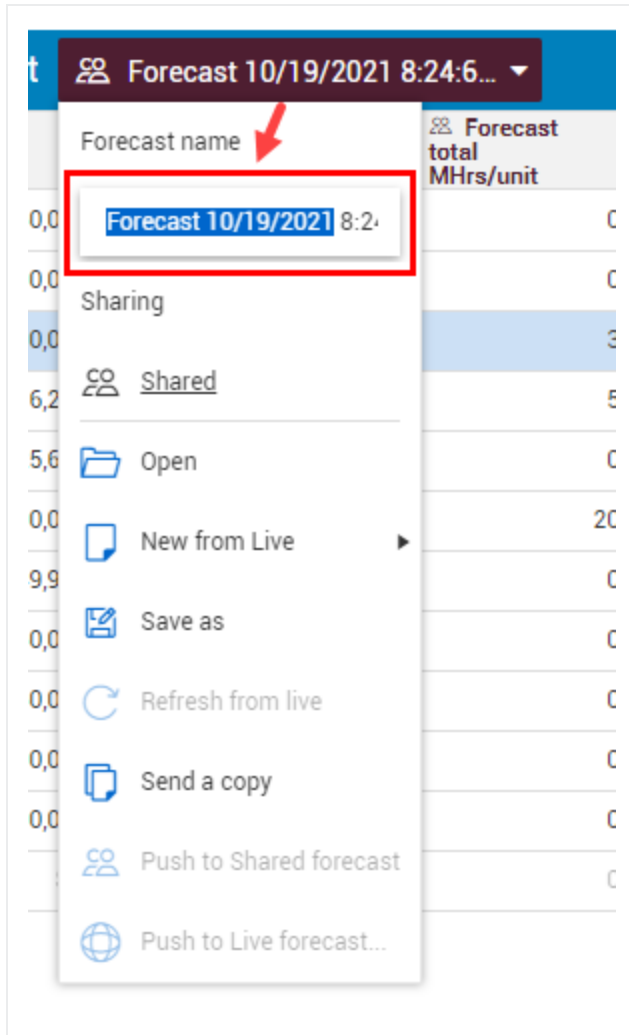
- You can also send a copy of the forecast to one or more team members



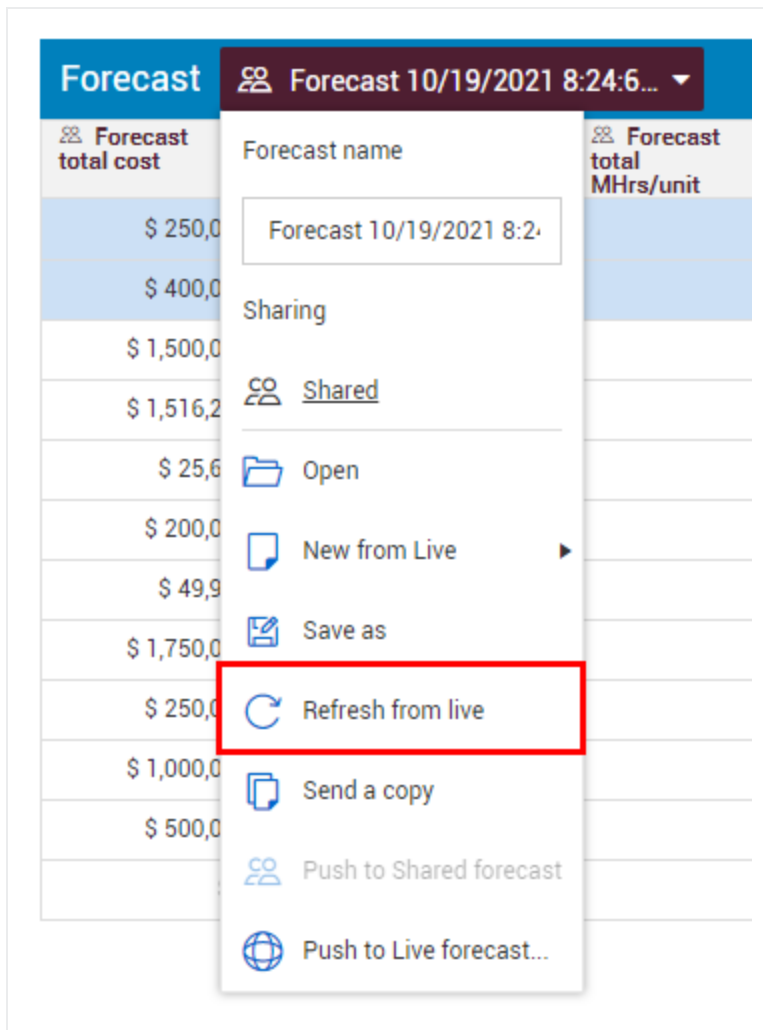
- Select Cancel on the Send a copy to dialog box, and then select Save on the Manage access dialog box



- Selecting Private access removes access for all team members
- Change the shared forecast name by clicking in the Forecast name field and typing in a new name



- Selecting Refresh from live lets you restore forecast values from the live forecast

**TIP**

You can send forecasts to multiple people at once, by searching for and adding people to the list before clicking Send.

6.5.4 COMPARE FORECASTS

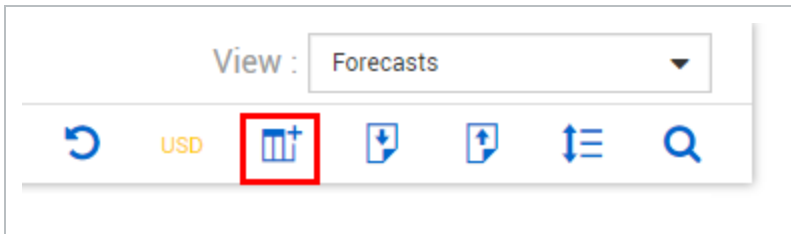
You can compare forecasts by inserting the Forecast Delta data block in your view and selecting two forecasts from the data block title bar to compare.

Forecast Final Cost	Forecast Final MH	Forecast Final Man Hour/Unit	Forecast Final PF	Forecast Final Unit Cost	Forecast Remaining Cost
\$0.00	0.00	0.00	0.00	\$0.00	\$0.00
\$50,000.00	0.00	0.00	0.00	\$5.00	\$50,000.00
\$0.00	0.00	0.00	0.00	\$0.00	\$0.00
(\$10,000.00)	-1.00	0.00	0.00	(\$10.00)	(\$10,000.00)
\$0.00	0.00	0.00	0.00	\$0.00	\$0.00

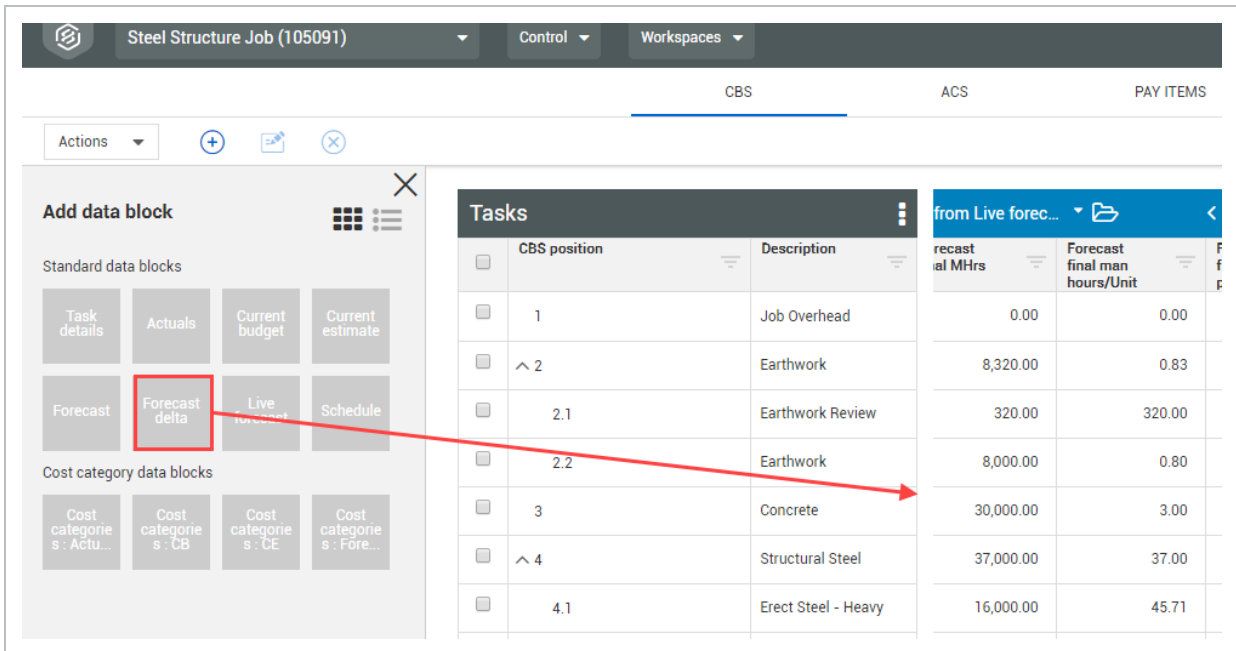
You can use all columns in the Forecast Delta data block to compare the live and saved forecasts.

COMPARE FORECASTS

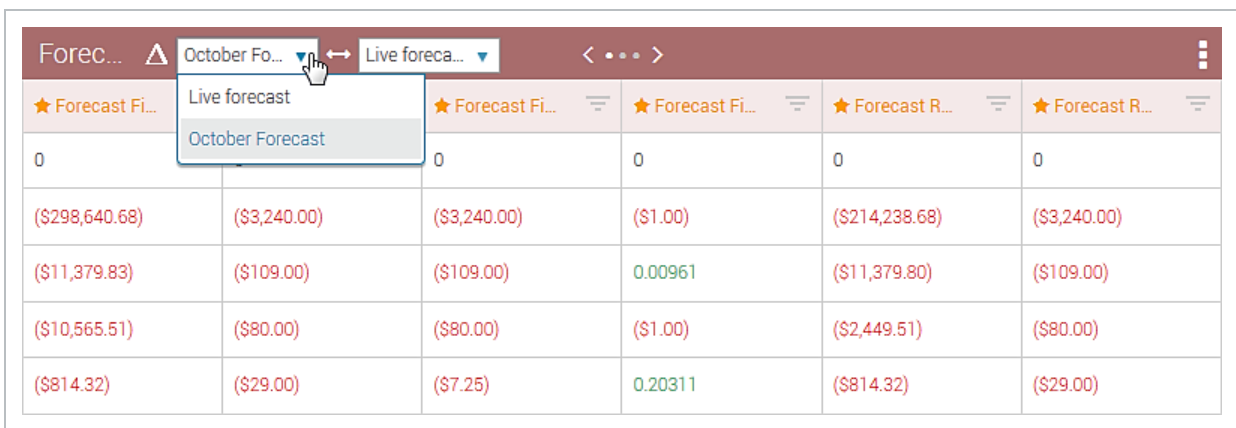
1. Select the **Add data block** button on the top right-hand corner of the Control Workspaces page.



2. In the slide out panel on the left, select the **Forecast Delta** data block and drag it beside the **Forecast** data block.



- Using the drop-down menus on the Forecast Delta data block, select both the first and second forecasts in their respective drop-down's.



6.6 TIME PHASED FORECASTING

Projects are typically overwhelmed by escalating forecast values as the project progresses. What the business thought they were going to spend doesn't end up being very accurate at the end of a project.

One way to mitigate this is to take the forecast and break it down into more consumable, estimate related time blocks/periods, as shown in the screenshot below. This prompts the project engineers to

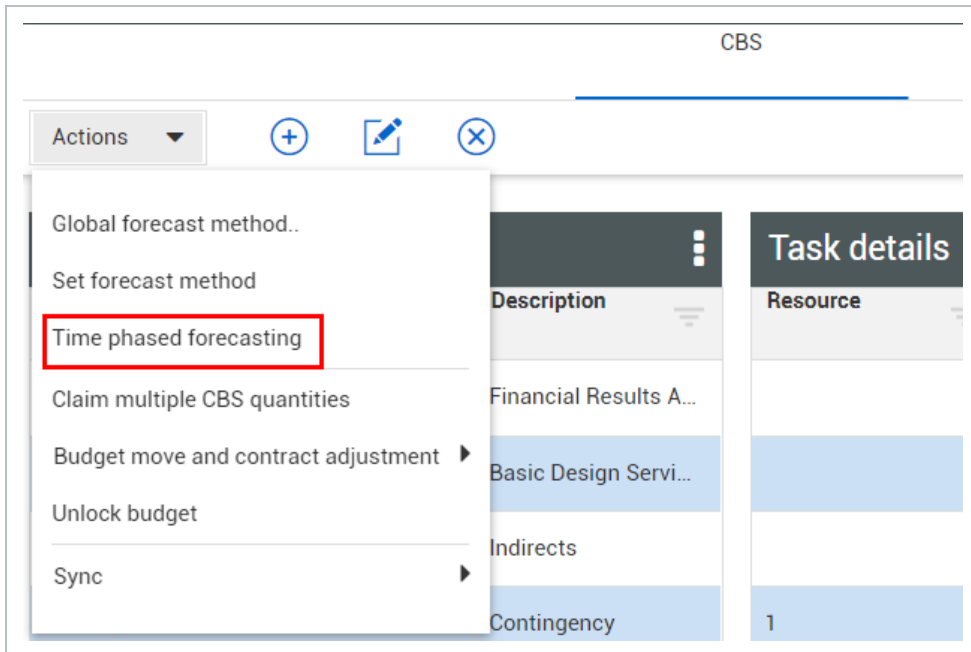
think about what activities, bills, and costs are going to occur in smaller more mentally digestible time periods.

Sep '19 cost	Oct '19 cost	Nov '19 cost	Dec '19 cost	Jan '20 cost	Feb '20 cost
\$ 1,166.65853658536	\$ 1,129.02439024390	\$ 1,166.65853658536	\$ 112.90243902439	\$ 300.00000000000	\$ 500.00000000000

Projects need to spread their estimate by periods to verify forecast accuracy vs. the actuals spent within that period. One of the key goals of time phased forecasting is to see when you are forecasting to spend allocated budget. You can then determine how accurate your forecast was versus the actuals spent within that period. Based on forecast accuracy, this gives you the opportunity to make manual adjustments within the Time phased forecasting register. It also provides the ability to have the system automatically distribute the forecast for you based upon certain criteria.


TPF gives you visibility into when you are going to spend dollars associated to a cost item in monthly time periods. TPF also helps with cash flow, enabling customers to provide more insight into how much money they need to pay employees and other bills.

After selecting a cost item from the CBS, TPF can be accessed from Control > Workspaces > Actions > Time phased forecasting. This is only if the project settings for TPF is enabled under the Forecast section.



The table below shows the columns from the Time Phased Forecasting page.

Overview - Time phased forecast

	Resource	Description
1	Auto Distribute remaining forecast based on cost curve and start/end dates 	This will automatically distribute remaining forecast based on the cost curve being used, in addition to the Start and Finish dates.
2	CBS position	The CBS position identifier number.
3	Description	The description of the CBS.
4	WBS Phase code	Work Breakdown Structure code number.
5	Start	This is the scheduled start date for the cost item.
6	Finish	This is the scheduled finish date for the cost item.
7	Cost Curve	This is a graph/calculation of the costs of production as a function of total quantity produced. Cost curves can be created, viewed and maintained in Settings > Control > Schedule, in the Cost Curves section on the page.
8	Forecast method	Forecast methods include: Current Budget, Current Estimate, Average Performance, Manual (EAC), None, and Rollup.
9	Forecast remaining cost	This is the unsettled balance of forecast. Cost that is projected to still be required to be paid out (varies depending on forecast method).
10	Forecast final cost	Total cost to date + Forecast remaining cost, cost item projected total cost at completion.
11	Phased Forecast Remaining Cost Delta	This is the remaining forecasted cost that has not yet been allocated to a monthly period. It is the difference between the Forecast remaining cost and the sum of forecasted cost currently represented in all remaining months on the TPF window.
12	Load more	This will load additional month columns to view in the TPF window.

Overview - Time phased forecast (continued)

	Resource	Description
13	<date> cost	The forecasted cost projected to be incurred during that individual month.

CBS position	Description	WBS phase code	Start	Finish	Cost curve	Forecast method	Forecast remaining cost	Forecast final cost	Phased forecast remaining cost delta	Load more	Jul '19 cost	Aug '19 cost	Aug '19 remaining cost
1	Financial Results...	1000	06/19/2019	12/31/2019	Linear	Rollup	\$ 15,038,381.26	\$ 15,038,381.26	(\$ 15,038,381.26)		\$ 35,544.88	\$ 116,944.26	
1.1	Commercial Cost	1025	06/19/2019	12/31/2019	Linear	Rollup	\$ 1,410,506.62	\$ 1,410,506.62	(\$ 1,410,506.62)		\$ 984.78	\$ 5,507.29	
1.1.1	G & A Expense (7...	1026	06/19/2019	06/19/2019	Linear	Current estimate	\$ 1,090,208.12	\$ 1,090,208.12	(\$ 1,090,208.12)		\$ 0.00	\$ 0.00	
1.1.2	P & P Bond (0.40...	1027	06/19/2019	06/19/2019	Linear	Current estimate	\$ 67,828.91	\$ 67,828.91	(\$ 67,828.91)		\$ 0.00	\$ 0.00	

TIP

There is a **Load More** column that exists in the middle/top of the page. When selected, additional monthly time buckets will be added to the page.

Forecast method	Load more	Jan '19 cost
Current estimate		\$ 0.00

6.6.1 TPF REGISTER

The Time phased forecasting register allows you to time phase **auto spread** forecast remaining costs, which are based on cost curves, and start/end dates. You can also **manually override** specific months and change the distribution costs.

For example: you have \$250,000 to spend on a cost item (Forecast remaining cost). You can use Time Phased Forecasting to spread your dollars into monthly allocation buckets. This can be done by automatically spreading the \$250,000 forecast, or by manually overriding the forecast and entering your own values into the monthly buckets.

CE po	Descript	WBS phase code	Start	Finist	Cos curv	Fo mi	Forecast remaining cost	Forecast final cost	Phases remain data	Sep '19 remaining cost	Oct '19 cost	Nov '19 cost	Dec '19 cost	Jan '20
1	Job Overhead	1002	06/11/2019	11/25/2019	Linear	△	\$ 250,000.00	\$ 250,000.00		000.00	\$ 0.00	\$ 60,000.00	\$ 25,000.00	\$ 48,000.00
2	Earthwork	1069	11/26/2019	05/11/2020	Linear		\$ 800,000.00	\$ 800,000.00		\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 28,571.43
3	Concrete	1071	05/12/2020	10/26/2020	Linear	△	\$ 3,000,000.00	\$ 3,000,000.00		\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
4	Structural Steel	1073	10/27/2020	04/12/2021	Linear	Roll...	\$ 1,050,000.00	\$ 1,050,000.00		\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

6.6.2 AUTO DISTRIBUTE

The **Auto distribute** icon allows you to have the system automatically allocate remaining forecast as determined by your **Actual Start** date, **Actual Finish** date, and **Cost Curve**.

CBS positio	Jul '19 cost	Aug '19 cost	Aug '19 remaining cost
1.1	1,092,364,798.677	12,310,649,399.471	12,567,815,504.198
1.1.1	1,092,364,798.677	12,310,649,399.471	12,567,815,504.198
1.1.1.1	19,187,552.694	1,641,816.243	102,472,320.000
1.1.1.2	USD 21,497,584.087	USD 11,845,050,361.155	USD 12,345,678,901.123
1.1.1.3	(136,936.199)	3.116	0.000
1.1.1.4	961,605.565	(1,068,557.342)	(1,535,622.827)
1.1.1.4.1	(86,894.355)	(253,032.894)	30,158.730


The Auto distribute icon allows you to automatically distribute dollars into monthly allocation buckets. In this case, the allocating of dollars will begin on the **Start** date of May 2020 and stop allocating on **Finish** date month of October of 2020.

Descript	WBS phase code	Start	Finist	Cos curv	Fo mi	Forec rema cost	Phased forecast remaining...	Sep '20 cost	Oct '20 cost
Concrete	1071	05/12/2020	10/26/2020	Linear	△	\$ 3,000,000...	\$ 0.00	\$ 553,571.43	\$ 535,714.29


6.6.3 MANUAL TIME PHASED FORECAST

Using the same example, it's also possible to manually forecast the allotted \$3,000 into your desired monthly buckets. By manually entering in \$400,000.00 into the Oct 2020 bucket, your Phased forecast

remaining cost delta changes to \$135,714.29. This represents the remaining amount of dollars to still be forecasted.

Descript	WBS phase code	Start	Finis	Cost curv	Forecast	Forecast remaining	Aug '20 cost	Sep '20 cost	Oct '20 cost
Concrete	1071	05/12/2020	10/26/2020	Linear 	Curr...	\$ 3,000,00...	\$ 535,714.29	\$ 553,571.43	\$ 400,000.00

On the right side of the screen, a blue circle displays by the forecast quantity when a manual override to the forecast quantity is performed. If you hover over the blue circle, it shows a description of the manual override.

Sep '19 cost	Oct '19 cost	Nov '19 cost
\$ 238,134.05	\$ 221,910.98	\$ 1,266,...
\$ 10,723.09	\$ 76,254.74	\$ 3,...
\$ 0.00	\$ 500.00 	
\$ 0.00		
\$ 0.00		

Manual Override:
 Changed by: paul trippi
 Change date: 08/05/2019 04:29 PM
 Value before: \$ 0.00

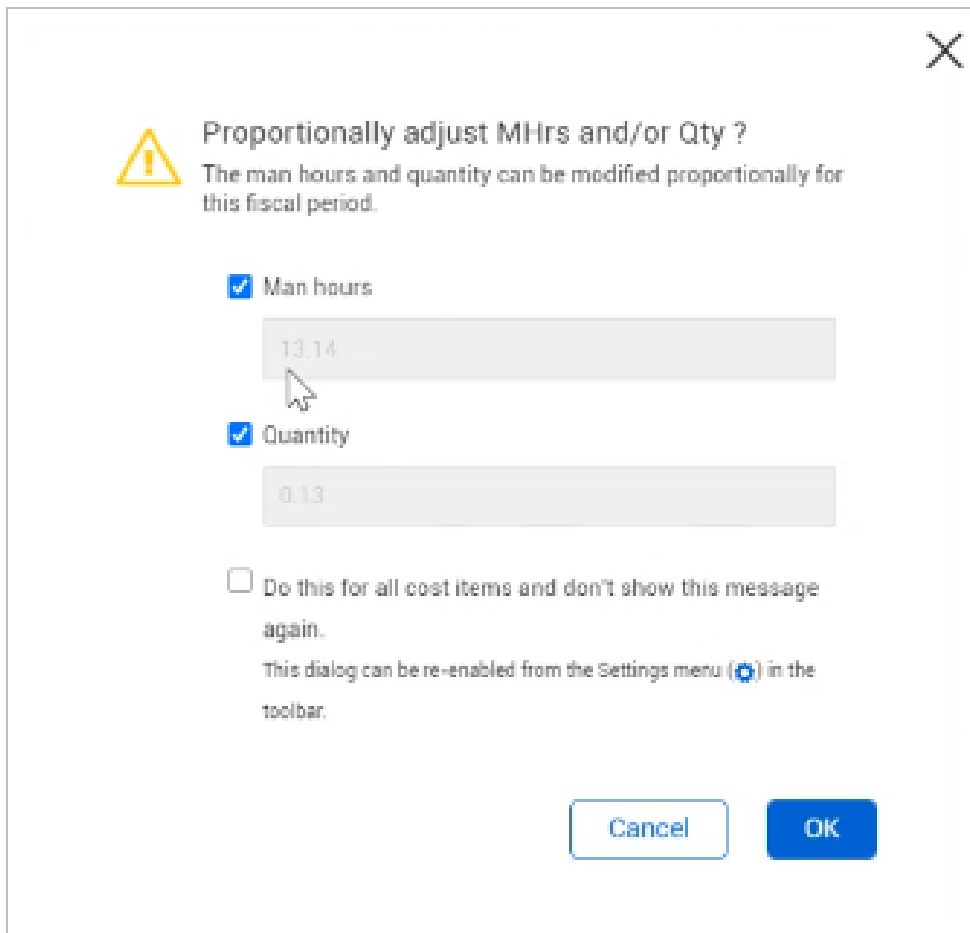
On the left side of the screen, a manual override to the forecast amount shows a warning symbol by the cost curve. Hovering over the warning sign shows that the cost item contains a manual change to the time phased months, and thus, the cost curve is no longer accurate.

CBS position	Description	list	Cost curve	Forec meth	Forec co
1	Financial Results...	31/2019	Linear	Rollup	\$
1.1	Commercial Cost	31/2019	Linear	Rollup	\$
1.1.1	G & A Expense (7...	19/2019	Linear	Current es...	\$
1.1.2	P & P Bond (0.40...	19/2			
1.1.3	Builderal Risk Ins	10/2019	Linear	Current es...	

Cost item contains manual time phased months

6.6.3.1 PROPORTIONAL MAN HOURS AND QUANTITY

In addition to Cost, Man hours and Quantity displays on the Time phased forecast grid. If you manually adjusted the cost for one of the months in the grid, a dialog box appears asking to proportionally adjust Man hours and the Quantity.



Proportionally adjust MHrs and/or Qty ?
The man hours and quantity can be modified proportionally for this fiscal period.

Man hours
13.14

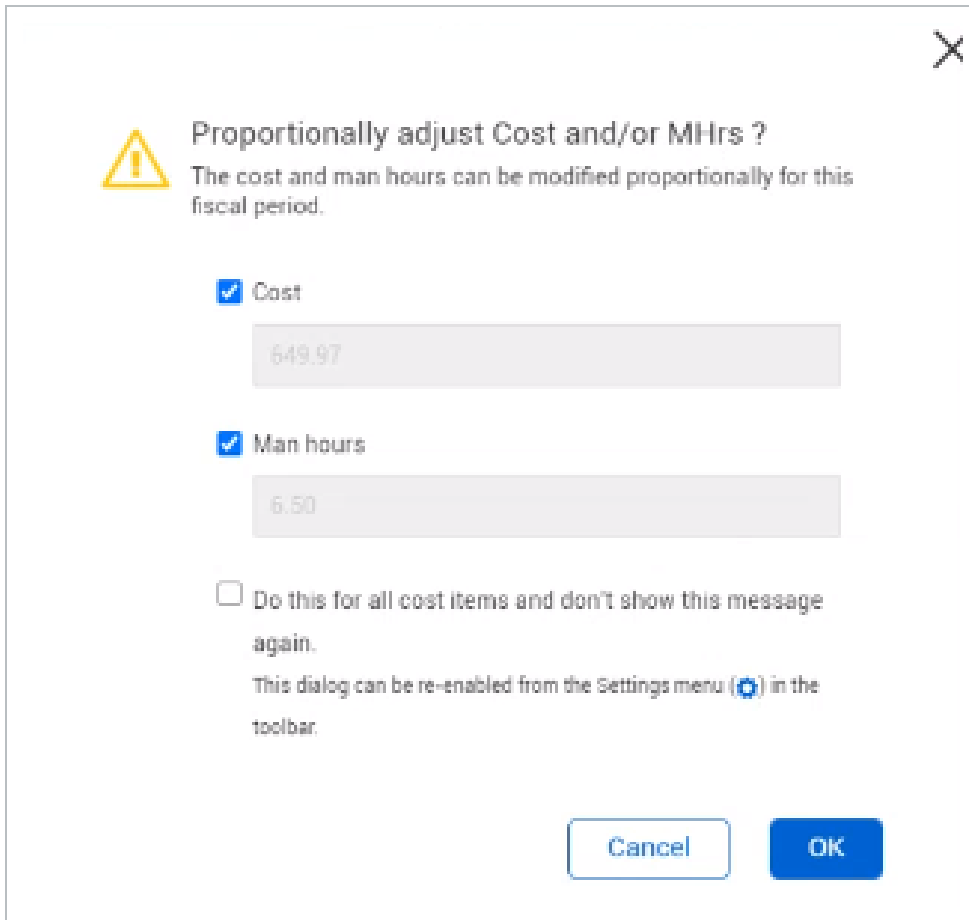
Quantity
0.13

Do this for all cost items and don't show this message again.
This dialog can be re-enabled from the Settings menu (⚙️) in the toolbar.

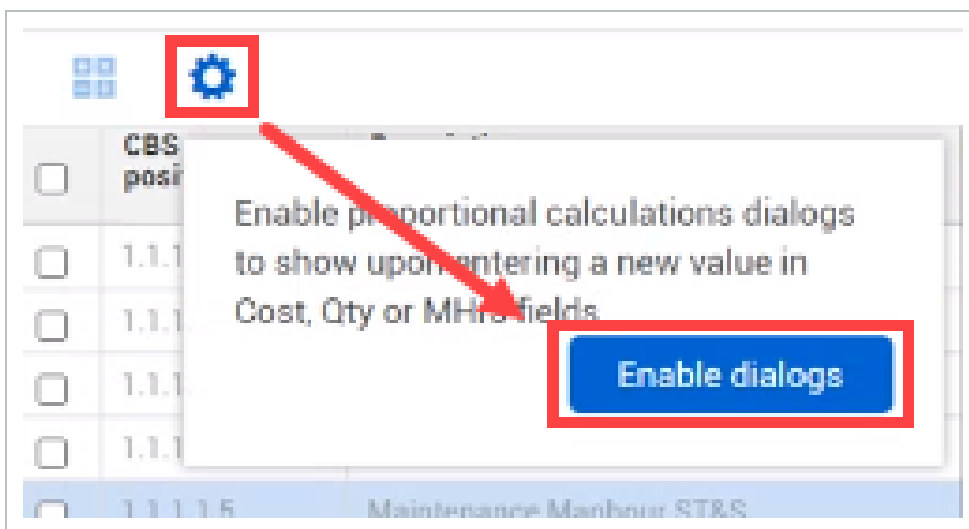
Cancel OK

If for example you doubled your cost in the Time phased forecast, it would also proportionally double your Man hours or Quantity. You can view the values that the man hours and quantity would proportionally adjust to in the read only cells.

If you manually adjusted Man hours or Quantity in the Time phased forecast grid, a dialog box appears asking to proportionally adjust cost and man hours .



Both dialog boxes have the option to adjust proportionally without showing the message again. If you selected this option and want to revert settings back to see the dialog again, in the Time phased forecast grid, go to the Settings icon and select **Enable dialogs**.



In the Time phase forecast grid, you can also select to export to Excel.

November 2020			December 2020		
Qty	Cost	Mhrs	Qty	Cost	Mhrs
-0.14	(\$ 10,000.00)	0.00	1.00	\$ 2,542.37	0.00
0.00	\$ 3,113.20	311.32	0.00	\$ 5,322.80	532.28
0.00	\$ 1,000.00	0.00	0.00	\$ 0.00	0.00
0.00	\$ 0.00	0.00	0.00	\$ 0.00	0.00
0.29	\$ 649.97	6.50	0.13	\$ 2,542.37	25.42

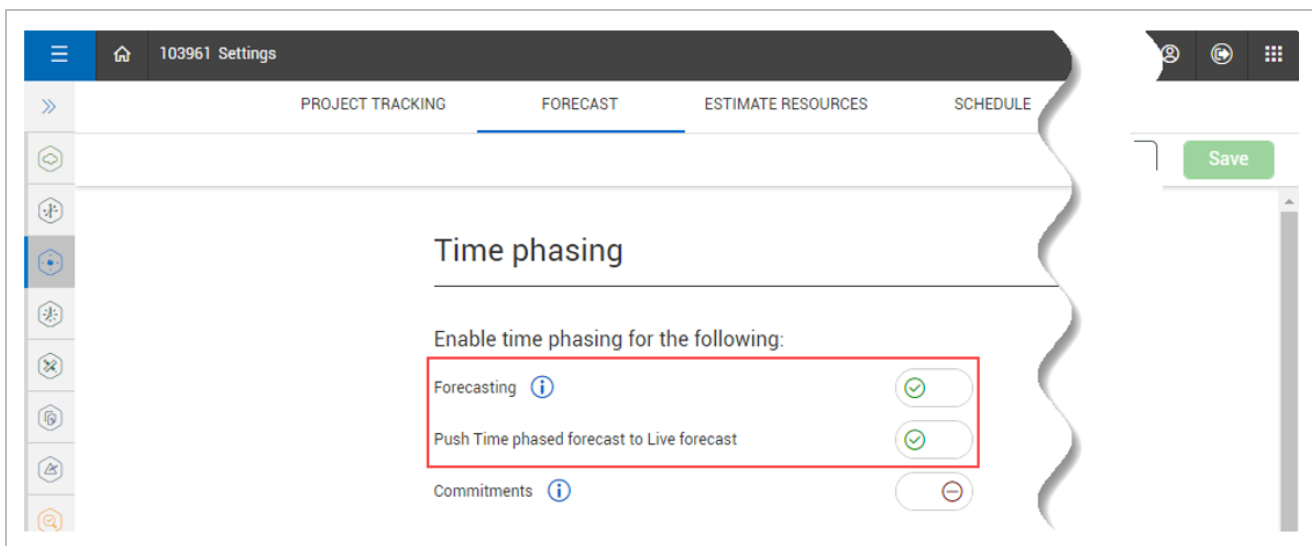
Selecting this exports everything that is in your view to an Excel spreadsheet.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
CBS posit	Descriptio	WBS phas	Start	Finish	Forecast n	Cost curve	Forecast r	Forecast r	Qty remai	Phased fo	Phased fo	Phased fo	March 20	March 20	March 20	April 2020	April 2020	April 2020
1.1.1.1.1	MAINTAIN	1348	#####	#####	Manual (E	Linear	10000	100	-1	-12627.1	-100	1.262712	0	0	0	0	0	0
1.1.1.1.2	FUEL AND	1017	#####	#####	Manual (E	Bell Shape	10000	100	-99	0.001005	900	99	0	0	0	0	0	0
1.1.1.1.3	GAS & DIE	1018	#####	#####	Manual (E	Front Load	10000	100	-220	1000	-100	220	0	0	0	0	0	0
1.1.1.1.4	FUEL HOSI	1474	#####	#####	Manual (E	Back Load	10000	100	1	-1.7E-05	-100	0	0	0	0	0	0	0
1.1.1.1.5	Maintena	1476	#####	#####	Manual (E	Linear	10000	100	1	-535.826	-5.35826	0.01142	0	0	0	0	0	0

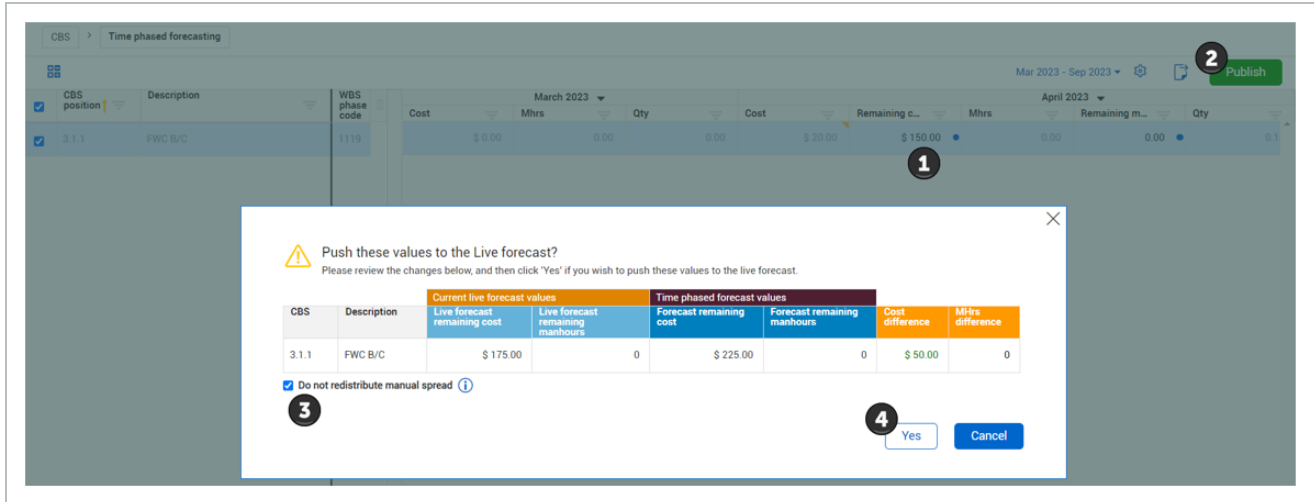
6.6.4 STATIC MANUAL TIME PHASED FORECASTING (TPF)

Static manual TPF lets you distribute a time phased forecast in the future without causing a redistribution. All values entered in the TPF are constant, and any deltas based on current month actuals that do not equal what was forecasted for that month, must be spread manually.

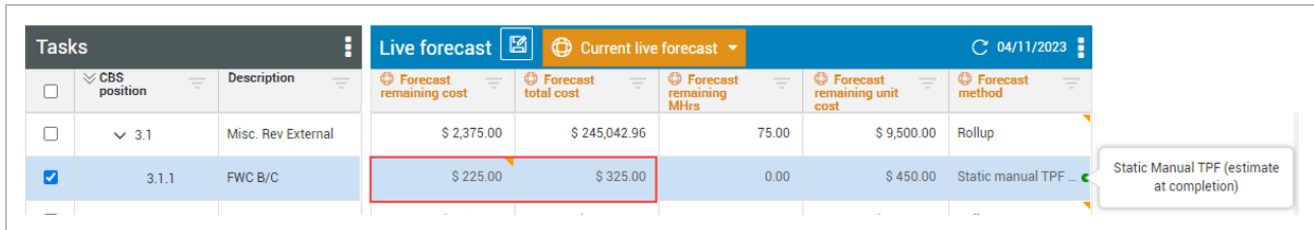
To enable the static manual forecast method, the Forecasting and Push time phased forecast to Live forecast toggles must be set to *On* in Settings > Control > **Forecast**.



The static manual forecast can be enabled on the Time phased forecasting page by first making a change to any of the distribution fields. After you click the **Publish** button, the Push these values to the Live forecast dialog box opens. When the Do not redistribute manual spread check box is selected, the values entered in whole months remain as-entered and are not automatically redistributed when actuals are incurred or months close.



The forecast method for the CBS record automatically changes to static manual TPF, and the forecast remaining cost and forecast total cost changes based on the distribution amount adjusted in TPF.



If costs are claimed for the CBS item, the forecast total cost remains the same, but the forecast remaining cost is reduced from the claimed actual quantity.

In TPF, the claimed amount now shows the phased forecast remaining cost, which represents the remaining amount that still needs to be spread. The phased forecast remaining cost now must be deducted somewhere from the TPF distribution.

CBS position	Description	Forecast remain... cost	Forecast remaining Mhrs	Remaining qty	Phased forecast remaining cost
3.1.1	FWC B/C	\$ 175.00	0.00	0.50	\$ 50.00

CBS position	Description	WBS phase code	Start	Cost	Remaining c...
3.1.1	FWC B/C	1119	04/01/2023	\$ 0.00	-50

6.6.5 TIME PHASED FORECAST SETTINGS

Time phased forecast can be turned on in Settings > Control > **Project Settings**, in the Forecast section of the page.

If the setting is turned off, you will not see the Time phased forecasting option in the Actions drop-down, CBS tab, in the Control > Workspaces page.

6.6.5.2 ENABLE TIME PHASED FORECASTING

Time phasing

Time phased forecasting provides the ability to spread forecast remaining values into the projects fiscal periods. Navigate to Project details to set the Start and End dates which define the earliest and latest project periods.

Enable time phasing for the following:

Forecasting ⓘ

Push Time phased forecast to Live forecast

6.6.5.3 COST CURVES

Cost curves determine the proportion of money to be expended in a certain period of time. In the case of Time phased forecasting, the type of cost curve being used determines how forecast will be spread across the monthly forecasting buckets.

In addition, the fiscal calendar also influences how the forecast is spread.

Cost Curves are found in Settings > Control > Schedule, in the Cost Curves section of the page.

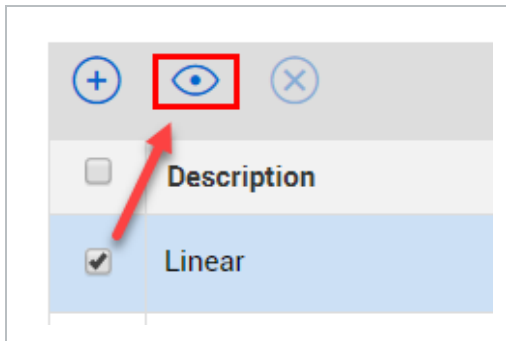
Cost curves

Customize cost curve tables

+
>
×

	Description	Data points
<input type="checkbox"/>	Linear	20
<input type="checkbox"/>	Front Loaded	2
<input type="checkbox"/>	Back Loaded	2
<input type="checkbox"/>	Bell Shaped	21

By selecting a Cost Curve and selecting the View icon, you can view its default distribution.



In this case, the Linear Cost Curve settings displays the cost curve durations and values.

Description		Number of points
Linear		20

From duration %	To duration %	Value %
0.00%	5.00%	5.00%
5.00%	10.00%	5.00%
10.00%	15.00%	5.00%
15.00%	20.00%	5.00%
20.00%	25.00%	5.00%
Total		100.00%

For example, using a **Linear Cost curve**, with a Start Date of 05/12/2020, the Forecast Remaining cost is \$3,000,000.00, with a Phased forecast remaining cost delta of \$0. This means that you are forecasting to spend \$3,000,000.00, and your Phased Forecast Remaining Delta is zero because your Time Phased Forecast is now fully met (you have fully forecasted \$3,000.000.00).

CE po	Descript	WE ph: col	Start	Finish	Cost curv	Forecast	Forecast remainin cost	Forecast final cost	Phased forecast remaining cost delta
3	Concrete	1071	05/12/2020	10/26/2020	Linear	Curr...	\$ 3,000,000.00	\$ 3,000,000.00	\$ 0.00

Since your scheduled **Start** date is 05/12/2020, the system will start forecasting money on this cost item in May. Based on the Linear Cost curve and the fiscal calendar it will stop forecasting money in October 2020. This is based off your scheduled **Finish** date of 10/26/2020. Over the period of 6 months, your spend is totaling 3,000.000.00.

May '20 cost	Jun '20 cost	Jul '20 cost	Aug '20 cost	Sep '20 cost	Oct '20 cost
\$ 339,285.71	\$ 500,000.00	\$ 500,000.00	\$ 625,000.00	\$ 500,000.00	\$ 535,714.29

6.6.6 TIME PHASED FORECAST PREREQUISITES

There are certain **requirements** for a cost item to be eligible for time phased forecasting.

1. The Schedule data block must have a Start and Finish date.
2. The Schedule data block must have a Cost curve association.

6.6.7 TIME PHASED FORECAST VIEW

You may want to create a View in your Control Workspace similar to this one showing a Time Phased Forecast in comparison with the Live forecast. This shows the hours you are forecasting to spend money (TPF) vs. the Live forecast.

Tasks			TPF	08/07/2019			Live forecast This Month						
CB po:	Descrip	WBS phas code	Start	Finish	Cost curvi	Forecast remaining cost	★ Phased forecast remaining co...	Forecas method	Forecast final cost	Forecast final man hours/Unit	Forecast final Mhrs	Forecast final productiv...	Forecast final unit cost
1	Job Overh...	1002	06/11/2019	11/25/2019	Linear	\$ 250,000.00	(\$ 0.00)	Current esti...	\$ 250,000.00	0.00	0.00	0.00	\$ 250,000.00
2	Earthwork	1069	11/26/2019	05/11/2020	Linear	\$ 800,000.00	(\$ 0.00)	Current esti...	\$ 800,000.00	1.60	16,000.00	1.00	\$ 80.00
3	Concrete	1071	05/12/2020	10/26/2020	Linear	\$ 3,000,000.00	\$ 320,000.00	Current esti...	\$ 3,000,000.00	6.00	60,000.00	1.00	\$ 300.00
4	Structural ...	1073	10/27/2020	04/12/2021	Linear	\$ 1,050,000.00	(\$ 1,050,000.00)	Rollup	\$ 1,050,000.00	21.00	21,000.00	1.00	\$ 1,050.00
	Erect Steel...	1074			Linear	\$ 800,000.00	(\$ 800,000.00)	Current esti...	\$ 800,000.00	20.00	16,000.00	1.00	\$ 1,000.00
	Erect Steel...	1005			Linear	\$ 200,000.00	(\$ 200,000.00)	Current esti...	\$ 200,000.00	20.00	4,000.00	1.00	\$ 1,000.00
	Bolted Con...	1006			Linear	\$ 50,000.00	(\$ 50,000.00)	Current esti...	\$ 50,000.00	0.50	1,000.00	1.00	\$ 25.00
5	Materials	1084			Linear	\$ 1,750,000.00	(\$ 1,750,000.00)	Rollup	\$ 1,750,000.00	0.00	0.00	0.00	\$ 1,750,000.00
	Earthwork ...	1085			Linear	\$ 250,000.00	(\$ 250,000.00)	Current esti...	\$ 250,000.00	0.00	0.00	0.00	\$ 25.00
	Concrete - ...	1086			Linear	\$ 1,000,000.00	(\$ 1,000,000.00)	Current esti...	\$ 1,000,000.00	0.00	0.00	0.00	\$ 100.00
	Structure ...	1087			Linear	\$ 500,000.00	(\$ 500,000.00)	Current esti...	\$ 500,000.00	0.00	0.00	0.00	\$ 500.00
Subtotals 11						\$ 6,850,000.00			\$ 6,850,000.00		97,000.00		

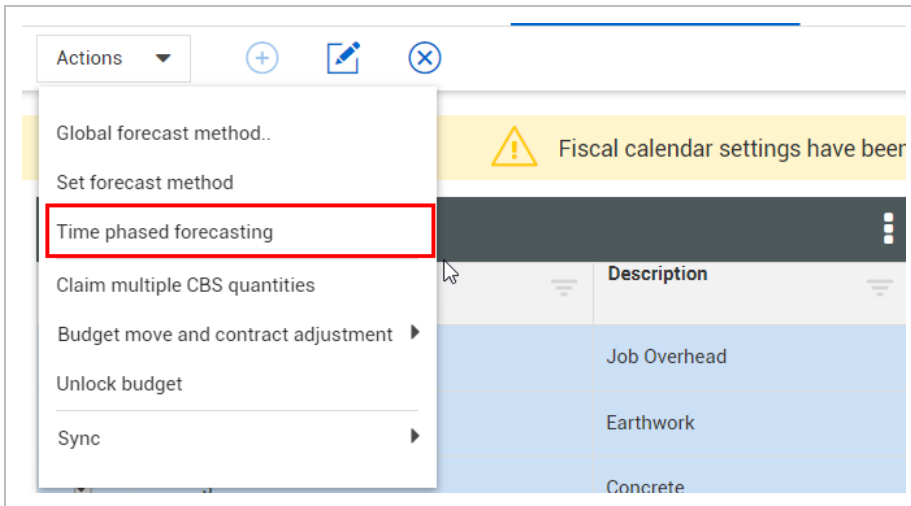
The following steps walk you through how to plan Time phased forecasting.

TIME PHASED FORECAST PLANNING

1. To start time phased forecasting, on the CBS tab, select your pre-determined **CBS items** as shown below.

Tasks			Schedule			
CBS position	Description		Scheduled	Schedule ID	Schedule plug days	Plug days
<input checked="" type="checkbox"/>	1	Job Overhead	<input checked="" type="checkbox"/>	HD 0000003	<input type="checkbox"/>	0.00
<input checked="" type="checkbox"/>	2	Earthwork	<input checked="" type="checkbox"/>	HD 0000019	<input type="checkbox"/>	90.91
<input checked="" type="checkbox"/>	3	Concrete	<input checked="" type="checkbox"/>	HD 0000044	<input type="checkbox"/>	375.00
<input checked="" type="checkbox"/>	^ 4	Structural Steel	<input checked="" type="checkbox"/>	HD 0000046	<input checked="" type="checkbox"/>	262.50
<input checked="" type="checkbox"/>	4.1	Erect Steel - Heavy	<input type="checkbox"/>	HD 0000064	<input type="checkbox"/>	200.00
<input checked="" type="checkbox"/>	4.2	Erect Steel - Light	<input type="checkbox"/>	HD 0000105	<input type="checkbox"/>	50.00

2. Select **Time phased forecasting** from the Actions menu.



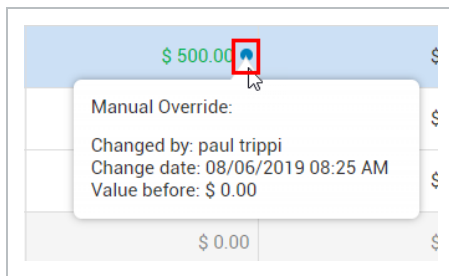
- This action opens the **Time Phased Forecast** window, where you can see the CBS on the left side of the screen, and its associated forecasting monthly allocation cost buckets on the right

CBS > Time Phased Foreca...										Publish					
CE po	Descript	WI ph co	St	Finish	Co cur	Fo m	Forecast remaining cost	Forecast final cost	Phased remain delta	Load m	Jul '19 cost	Aug '19 cost	Aug '19 remaining cost	Sep '19 cost	Oct '19 cost
1	Job Overhead	1002	06/...	11/25/2019	Lin...	Curr...	\$ 250,000.00	\$ 250,000.00			\$ 0.00	\$ 18,000.00	\$ 18,000.00	\$ 62,000.00	
2	Earthwork	1069	11/...	05/11/2020	Lin...	Curr...	\$ 800,000.00	\$ 800,000.00			\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	
3	Concrete	1071	05/...	10/26/2020	Lin...	Curr...	\$ 3,000,000.00	\$ 3,000,000.00			\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	
4.1	Erect Steel - ...	1074			Lin...	Curr...	\$ 800,000.00	\$ 800,000.00			\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	
4.2	Erect Steel - ...	1005			Lin...	Curr...	\$ 200,000.00	\$ 200,000.00			\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	
4	Structural St...	1073	10/...	04/12/2021	Lin...	Roll...	\$ 1,050,000.00	\$ 1,050,000.00			\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	


3. For one of your cost items, type in **\$500** in one of the monthly bucket fields.

	Feb '20 cost	Mar '20 cost	Apr '20 cost
\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
147,619.05	\$ 147,619.05	\$ 138,095.24	\$ 147,619.05
\$ 0.00	\$ 0.00	\$ 500.00 ●	\$ 0.00
\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

- Notice how the field now has a blue circle next to the \$500.00. If you hover over it, you see the value before, after, and the date the change was made

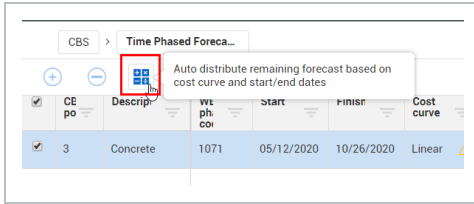


- Because of the manual adjustment, a warning sign appears on the Cost curve for this cost item. The cost curve is not being changed to manual, but the system records that this cost item is no longer linear, because it has been overridden

CE po	Descript	WI ph-co	St	Finish	Cost curve
1	Job Overhead	1002	06/...	11/25/2019	Linear
2	Earthwork	1069	11/...	05/11/2020	Linear
3	Concrete	1071	05/...	10/26/2020	Linear 

- The override made to this cost item is no longer needed, and you now decide you want to **revert** to its original setting, and have the system Auto distribute the forecast

4. Make sure your cost item is checked, then select the **Auto distribute** icon.



- This action will revert the time phase values back to the same numbers as they were prior to any manual adjustments, plus:
 - a. It will erase any manual adjustments
 - b. It will distribute the remaining forecast values based on cost curve and start/end dates of that specific cost item, as determined by the fiscal calendar
- The result of selecting the Auto distribute icon starts its forecasting spread on the cost item's **Start** date of 05/12/20, and will **Finish** its schedule on 10/26/20

The screenshot shows a table with the following data:

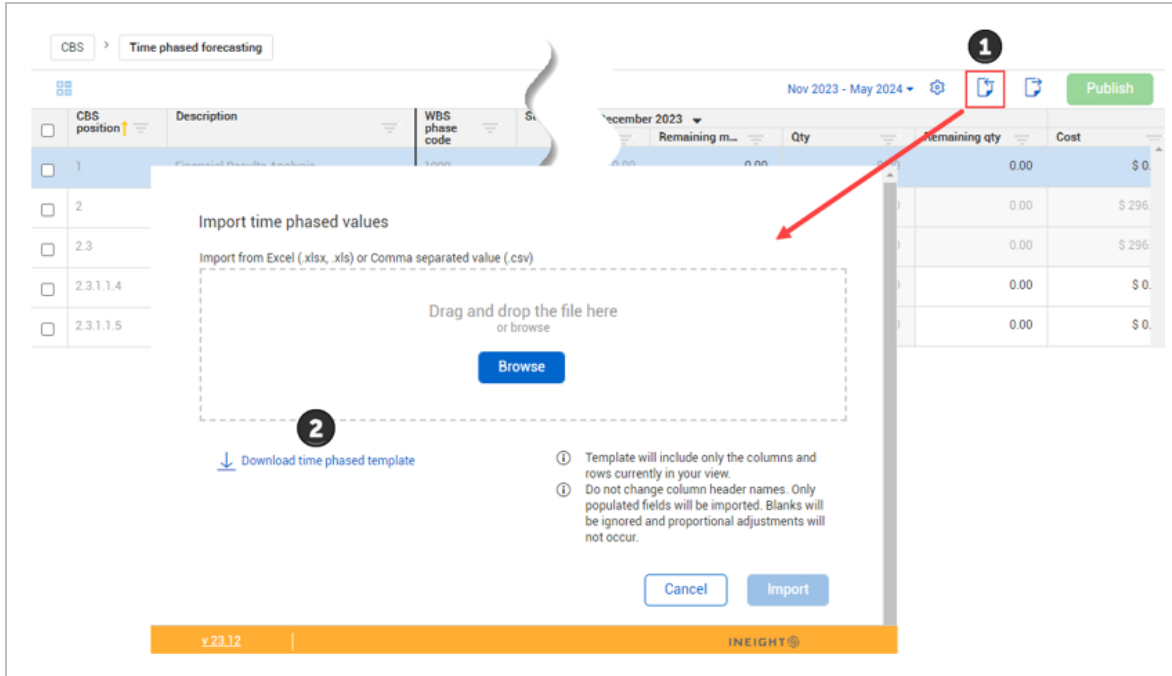
Descript	WBS phase code	Start	Finish	Cos curv	Fo mi	Forec rema cost	Phased forecast remaining...	ig '20 cost	Sep '20 cost	Oct '20 cost	
Concrete	1071	05/12/2020	10/26/2020	Linear	△	Curr...	\$ 3,000,00...	\$ 0.00	\$ 553,571.43	\$ 553,571.43	\$ 535,714.29

NOTE

It is important to remember the purpose of utilizing Time Phase Forecasting is to see how you are forecasting to spend money over a period of time. The expectation is to get the forecast adjusted to where it should be, and update costs as needed.

6.6.8 TIME PHASED FORECAST MICROSOFT EXCEL IMPORT

You can import a Microsoft Excel file to update the values in Time Phased Forecast by selecting **Import** on the Time Phased Forecast page to download the time phased template. To import time phased forecast values, you can download a template as shown in number 2 in the image below to use as a guide to import your new time phased forecast values. The same format provided in the download template is required for the import to be successful.



The Excel file includes the cost items that are in your current Time Phased Forecast view. Columns in orange are required, columns in yellow are optional to change, and columns in grey are ignored and cannot be changed. When you are finished making your Excel changes, you can then import the Excel file into Control to update the Time Phased Forecast with your new values. Column header names are ignored if changed.

	A	B	C	D	E		L	M	N	O
1	Orange	Required								
2	Yellow	Optional								
3	Gray	Ignored								
4										
5	CBS position	Description	WBS phase code	Start	Finish		Phased forecast rema	Phased forecast rema	Novembe	Novembe No
6	1	Financial Results Analysis	1000			56	0	-1	0	0
7	2	Misc. Rev Internal	1103	1/1/2024	3/31/2024		0	-0.000956353	0	0
8	2.3	Directs	1001	1/1/2024	3/31/2024		0	9.1E-09	0	0
9	2.3.1.1.4	Type D Excavation LD/PL/CP to Embankm	1007				0	0	0	0
10	2.3.1.1.5	Road Subgrade Prep/Place/Finish (1600 m	1008				0	0	0	0
11	2.3.1.1.8	Sump Excavation & Backfill (CONDITIONA	1011				0	0	0	0

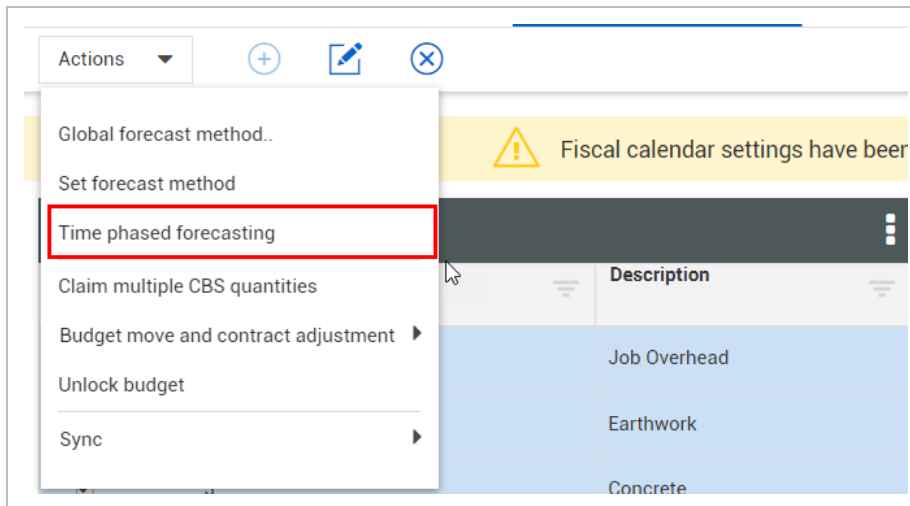
Updates are made when you select **Publish**. Excel imports are shown in the Import History Audit Log, where you can download the Excel file to see a list of errors if the process fails.

TIME PHASED FORECAST MICROSOFT EXCEL IMPORT

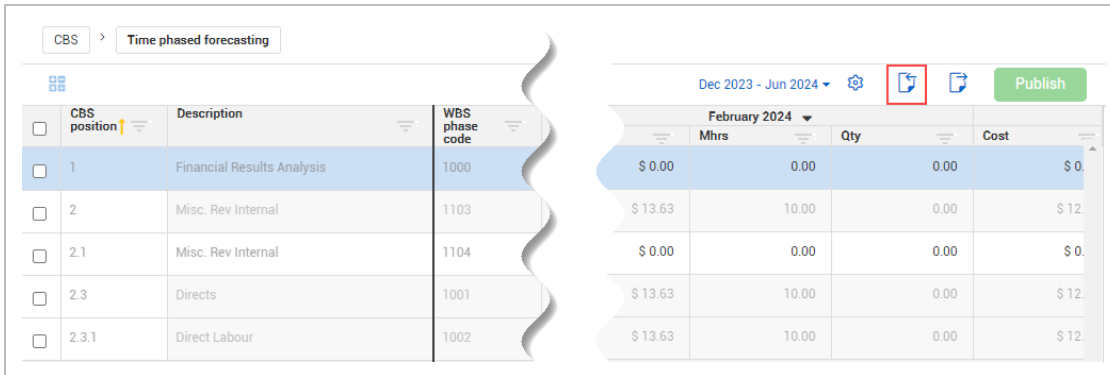
- To start time phased forecasting, on the CBS tab, select your pre-determined **CBS items** as shown below.

Tasks			Task details		
<input type="checkbox"/>	CBS position	Description	Forecast (T/O) qty	UoM	Actual Mhrs (to date)
<input checked="" type="checkbox"/>	1	Financial Results ...	1.00	PLS	0.00
<input checked="" type="checkbox"/>	2	Misc. Rev Internal	1.00	PLS	7,030.50
<input checked="" type="checkbox"/>	2.1	Misc. Rev Internal	1.00	PLS	0.00
<input checked="" type="checkbox"/>	2.3	Directs	1.00	PLS	3,821.00
<input checked="" type="checkbox"/>	2.3.1	Direct Labour	1.00	PLS	3,067.00

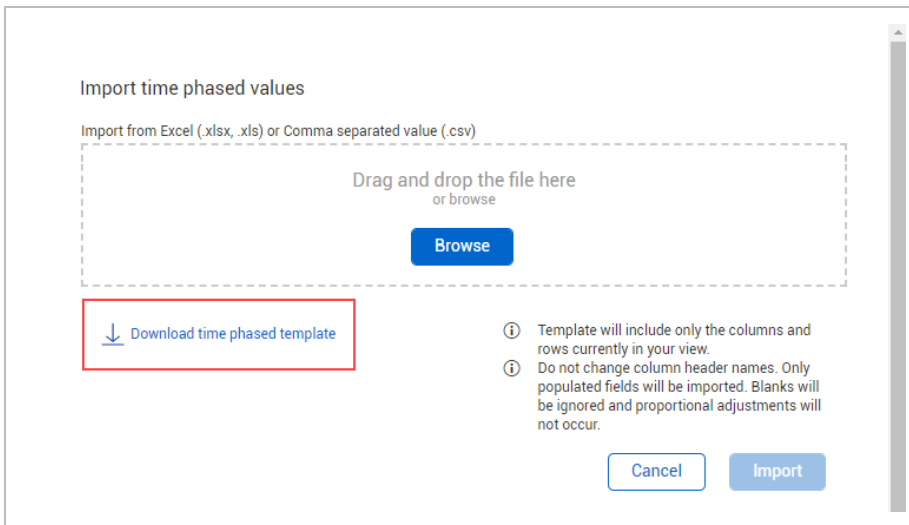
- Select **Time phased forecasting** from the Actions menu.



3. Select the **Import** icon.



4. Click **Download time phased template**.

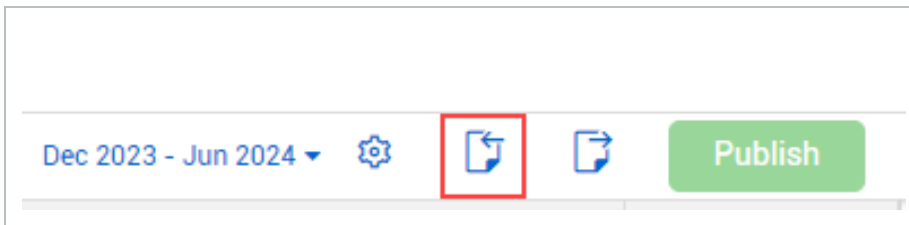


5. Adjustment any of the fields under the **yellow columns**. For example, for CBS position 2.3, change the February 2024 Cost from 13.62637329 to 9, then **save** your changes.

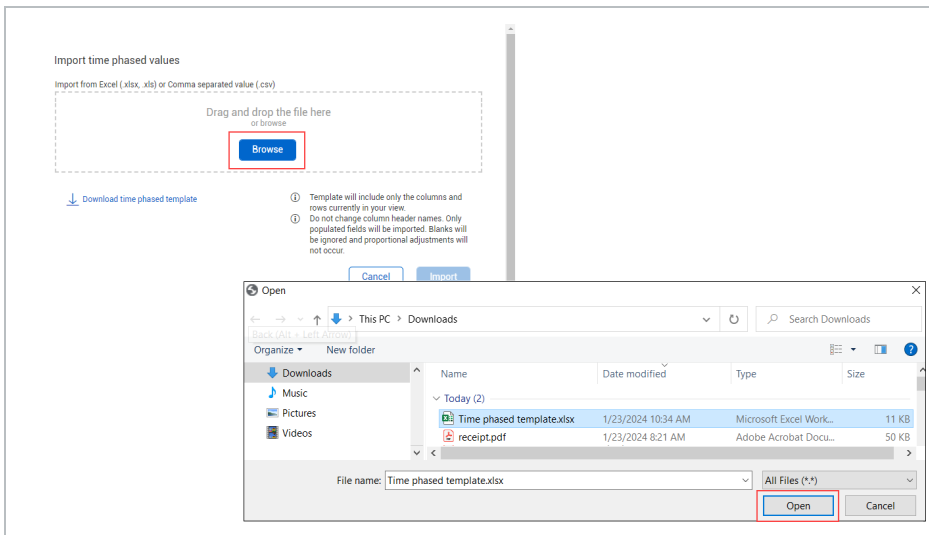
	A	B	S	T	U	V	W	X	Y
1	Orange	Required							
2	Yellow	Optional							
3	Gray	Ignored							
4									
5	CBS position	Description	January 20	February 2024 Cost	February 2024 Mhrs	February 2024 Qty	March 2024 Cost	March 2024 Mhrs	March 2024 Qty
6	1	Financial Results Analysis	0	0	0	0	0	0	0
7	2	Misc. Rev Internal	0	13.62637329	10	0.000614656	12.74725243	10	0.000575001
8	2.1	Misc. Rev Internal	0	0	0	0	0	0	0
9	2.3	Directs	0.001413	13.62637329	10	0.001990392	12.74725243	10	0.00186198
10	2.3.1	Direct Labour	0	13.62637329	10	0	12.74725243	10	0

CBS position	Description	January 20	February 2024 Cost
1	Financial Results Analysis	0	0
2	Misc. Rev Internal	0	13.62637329
2.1	Misc. Rev Internal	0	0
2.3	Directs	0.001413	9
2.3.1	Direct Labour	0	13.62637329

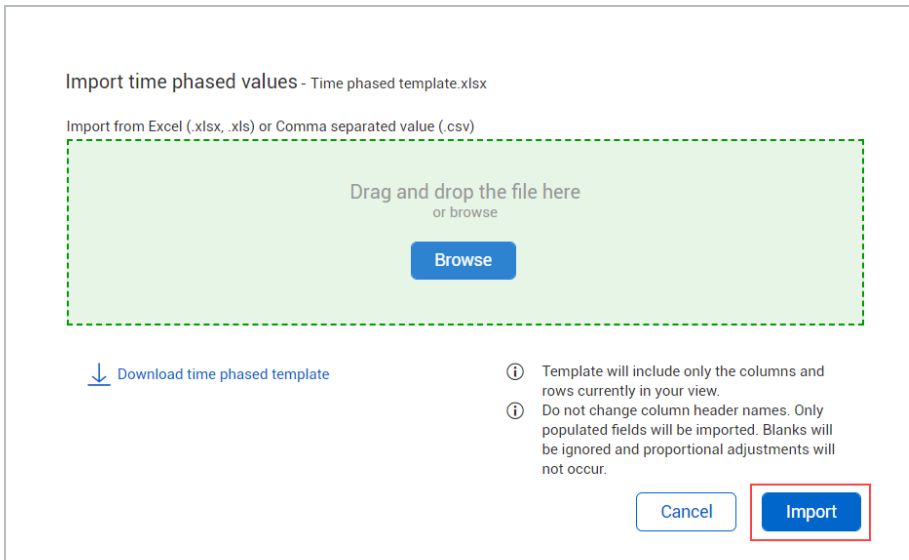
6. Select the **Import** icon again.



7. Select **Browse**, and then navigate to the Excel file you just saved, then select **Open**.

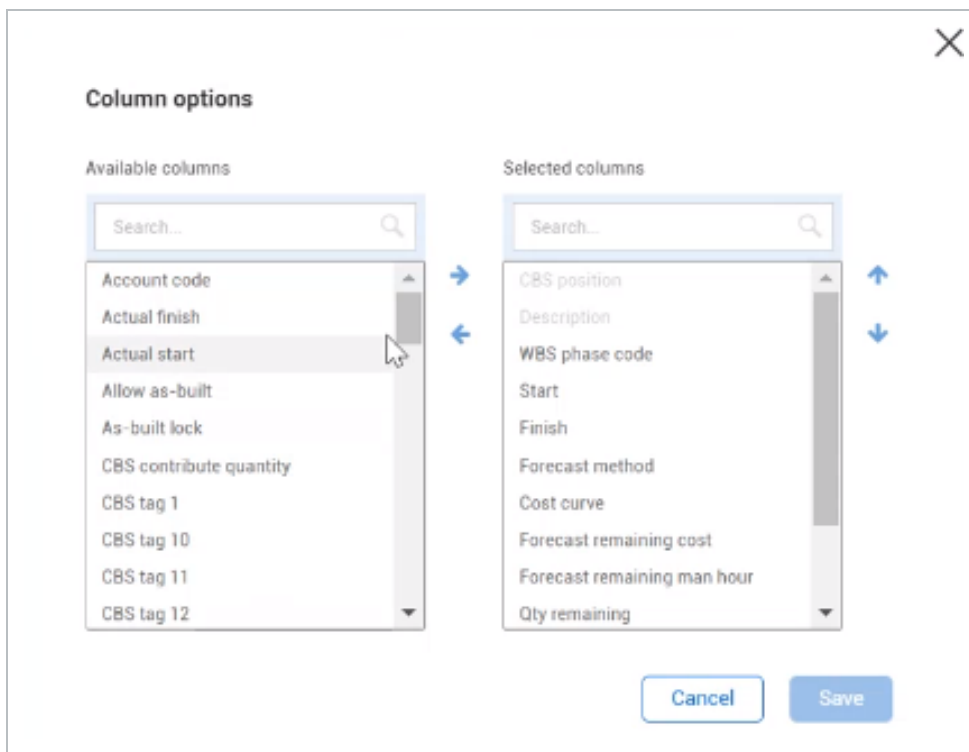


8. Select **Import**.



6.6.9 COLUMN CHOOSER

When you open the Time phase forecast, a column chooser has been added to the grid.



After you choose which columns to show, the left side of the grid updates with your selection.

On the right of the grid, you can also adjust your view for each month's Cost, Man hours, and Quantity. This can be done using the drop down next to the month and deselecting the options you do not want to see on your grid.



NOTE If you select cost from past dates, the data is read only.

6.6.10 AUDIT LOG

All changes made within TPF are captured in the Audit log within Control Workspaces. The Audit log captures changes based on any changes made to a forecasted CBS item.

In the example, it shows that a forecasting value was changed on 08/13/19 for Audit ID 232. The forecasting value had been changed from 89.36 to 100.00 for the Aug '10 remaining cost time period.

CBS	Audit ID	Data type	Item type	Description	WBS	Attribute	Change by	Changed date	Value before	Value after
ACS	232	Time phased forecast	Cost item	Job Overhead	1002	Aug '19 remaining cost	Paul trippi	08/13/2019 0...	89.36	100.00
Pay items	225	Current Estimate	Estimate r...	C01.04-Concr...		Resource employed	Paul trippi	08/13/2019 1...		Resource e...
Integration	224	Current Estimate	Estimate r...	E.01.05-Earth...		Resource employed	Paul trippi	08/13/2019 1...		Resource e...
Import history	223	Current Estimate	Estimate r...	C01.04-Concr...		Resource employed	Paul trippi	08/13/2019 1...		Resource e...

6.7 PUSH TO LIVE FORECASTS

As mentioned above, the Live Forecast is the official forecast used for financial reporting and shared with all members of the project.

You can push forecasts entered in the Forecast data block to the Live Forecast either individually or by selection. This allows you to send only the items that you choose from your forecast to the Live Forecast.

The Live Forecast can only be updated if the user is assigned the appropriate role with the associated permissions. Project Admin or Power User can edit the Live Forecast directly.

NOTE Forecast changes made in the Forecast data block WILL NOT be pushed to the Live Forecast without an additional action detailed in the Step by Step below.

Changes made to your Forecast are only seen by you, unless you share them with someone else (see topic 9.4 Forecast Management) or update them to the Live Forecast.

PUSH LIVE FORECAST BY SELECTION IN THE CBS TAB

1. From the CBS tab with the Forecast data block in the view, select a group of cost items, by clicking the row header check boxes.
2. Click on the **drop-down arrow** in the center of the Forecast data block.
3. Select **Push to Live Forecast**.

NOTE The Push to Live Forecast option is disabled until you select one or more cost items.

4. After review, select **Yes** and your forecast values will push to the Live Forecast.

6.7.1 TIME PHASED FORECAST PUSH TO LIVE

The time phased forecast feature lets you make edits in your time phased forecast. You are then able to push those edits to your live forecast.

You can edit your total forecast remaining cost and forecast remaining hour values in the Time phased forecast window. It would then override your forecast remaining cost and your forecast remaining man hour if there is a change.

The Time phasing Forecasting option must be enabled first in order to have the Push Time phased forecast to Live option available to be enabled. Enabling only the Forecasting option does not automatically enable both.

Time phasing

Enable time phasing for the following:

Forecasting (i) Budget (i)

Push Time phased forecast to Live forecast

Forecast

% Complete value at which delta from straight line calculation utilizes average performance

The Time phasing section can be located in the Project Settings of Control under the Project tracking tab.

When you have enabled both options under the Time phasing section click save. Then go back to the CBS tab.

Follow these step by steps to use a time phased forecast push to live.

TIME PHASED FORECAST PUSH TO LIVE FORECAST

1. Select cost items from the CBS tab with a **Forecast remaining cost** to use in the push to live feature.

NOTE

Make sure the cost items you selected have start and end dates. Otherwise you cannot edit them in the Time phased forecasting window.

2. From Control's CBS tab, select the Actions tab. Then select the **Time phased forecasting** option.
3. In the third data block where it has the Month and Year, scroll to the Remaining cost. Now move the scroll bar over to January of 2021.

CBS position	Description	Forecast remain-cost	Forecast remaining man hour	Qty remaining	Phased forecast remaining	Remaining c...	Mhrs	Remaining m...	Qty	Remaining qty	Cost
1.2	Fiber optic cable-1	\$ 5,000.00	0.00	10,000.00		\$ 5,000.00	0.00	0.00	0.00	10,000.00	
1.4	CCTV devices	\$ 1,500.00	0.00	6.00		\$ 318.77	0.00	0.00	0.00	1.28	

remaining qty	Cost	Mhrs	Qty	Cost	Mhrs
10,000.00		0.00	0.00	\$ 0.00	
1.28	\$ 366.00	0.00	1.46	\$ 402.01	

- If you believe the line item could take up more time and money, you can adjust the Cost and Man hours for the following month. These changes will then be added to the phased forecast remaining columns once you push to live.


remaining qty	Cost	Mhrs	Qty	Cost	Mhrs
10,000.00	\$ 1,000.00	100.00	0.00	\$ 0.00	0.00
6.00	(\$ 0.00)	0.00	1.28	\$ 366.00	0.00
			1.46	\$ 402.01	

NOTE Quantity will show as changed with a delta next to the column. Currently, you cannot push quantity updates to live.

- When you have made all the changes you need, select the cost items you want to push to live. You can either select one or all.

CBS position	Description	remaining qty	Phased forecast remaining	Phased forecast remaining	Phased forecast remaining qty	remaining qty	Cost	Mhrs	Cost	Mhrs
1.2	Fiber optic cable-1	10,000.00	\$ 1,000.00	100.00	1.00	100.00	\$ 1,000.00	100.00	\$ 0.00	0.00
1.4	CCTV devices	6.00	(\$ 300.00)	0.00	-1.20	0.00	\$ 102.01	1.46	\$ 102.01	0.41

- Dialog appears asking if you want to push these values to the Live forecast. Select **Yes** to continue. The Cost and Man hours difference shows in the orange columns.

 Push these values to the Live forecast?
Please review the changes below, and then click 'Yes' if you wish to push these values to the live forecast.

CBS	Description	Current live forecast values		Time phased forecast values		Cost difference	Mhrs difference
		Live forecast remaining cost	Live forecast remaining manhours	Forecast remaining cost	Forecast remaining manhours		
1.2	Fiber optic cable-1	\$ 5,000.00	0.00	\$ 6,000.00	100.00	\$ 1,000.00	100.00
1.4	CCTV devices	\$ 1,500.00	0.00	\$ 1,200.00	0.00	(\$ 300.00)	0.00

- When this is pushed to live, your Forecast remaining cost and Forecast remaining man hour should update in the Live forecast. Your Forecast Method will then change to **Manual ETC**. Manual ETC will have a green dot indicator that states it was pushed from Time phased forecast when you hover over the item.

Live forecast 12/09/2020

★ Forecast remaining cost	★ Forecast remaining man hour	★ Forecast remaining man hour/Unit	★ Forecast remaining productivity	★ Forecast remaining unit cost	★ Forecast method
\$ 36,975.68	500.00	500.00	0.80	\$ 36,975.68	Rollup
\$ 25,000.00	300.00	0.03	1.00	\$ 2.50	Current estimate
\$ 6,000.00	100.00	0.01	0.01	\$ 0.25	Current estimate
\$ 5,000.00	100.00	0.01	1.00	\$ 0.25	Current estimate
\$ 975.68	0.00	0.00	0.00	\$ 162.61	Manual (ETC) ●

Updated by push from Time phased forecast

The Forecast remaining cost and Forecast remaining man hour columns will have an orange wedge indicator that shows you which values have been updated manually changed when you hover over the indicator.

Tasks

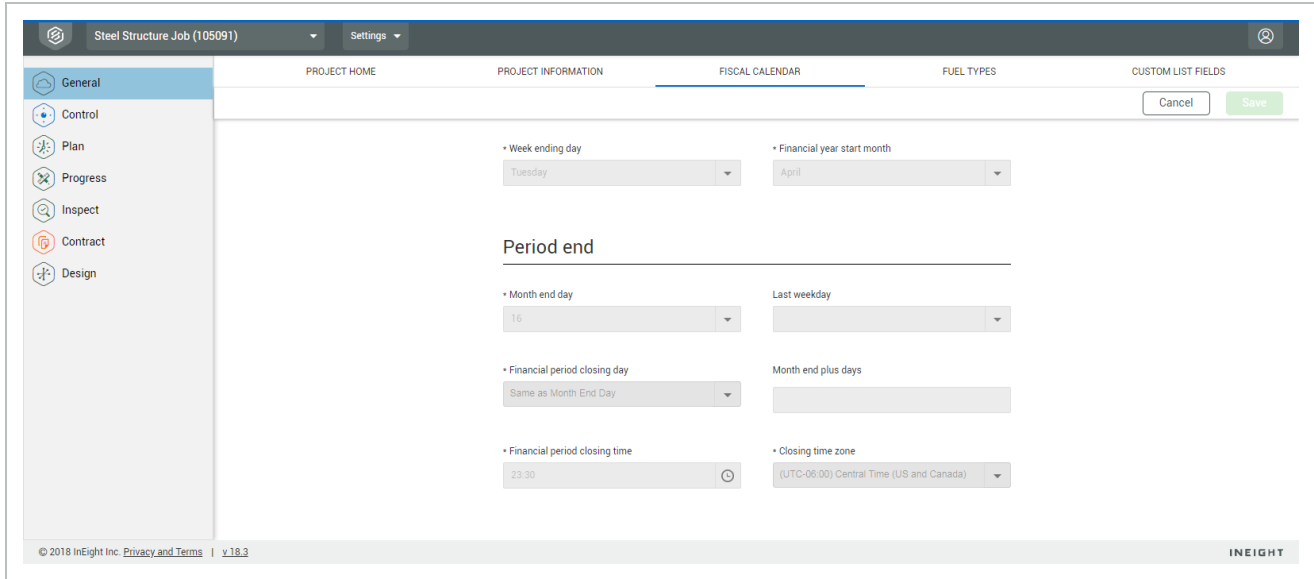
CBS position	Description	WBS phase code	Total committed cost	★ Forecast remaining cost	★ Forecast remaining man hour	★ Forecast remaining man hour/Unit	★ Forecast remaining productivity	★ Forecast remaining unit cost	★ Forecast method
1	Electrical devices	1000	\$ 5,000.00	\$ 36,975.68	500.00	500.00	0.80	\$ 36,975.68	Rollup
1.1	Install conduit	1002	\$ 250.00	\$ 25,000.00	300.00	0.03	1.00	\$ 2.50	Current estimate
1.2	Fiber optic cable-1	1001.1	\$ 250.00	\$ 6,000.00	100.00	0.01	0.00	\$ 0.60	Manual (ETC) ●
1.3									
1.4									
1.5									
1.6									
2									

Most recent change to this item:

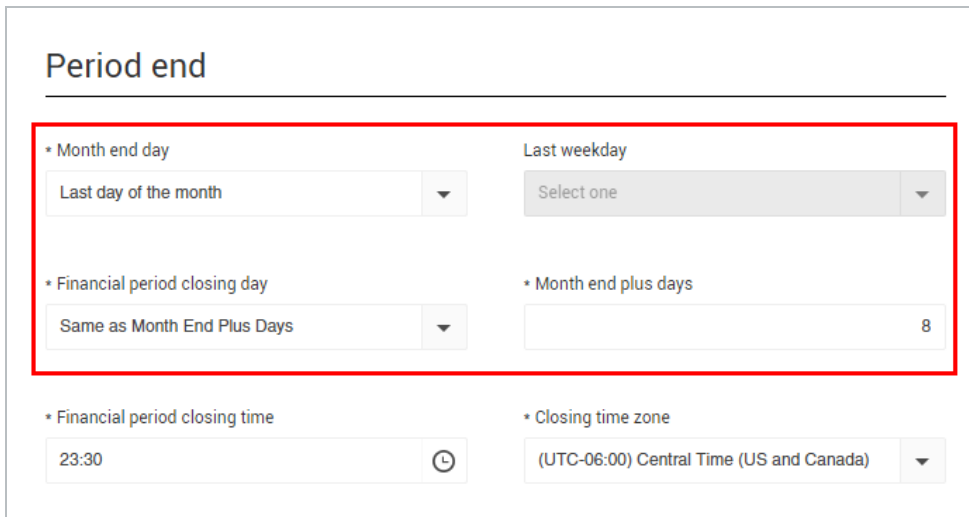
CBS	Column	Previous value	New value	Previous Forecast final	Forecast final cost new	Previous Forecast final	New Forecast final MH	Changed by	Changed date
1.2 - Fiber optic cable-1	ForecastRemainingMa...	100.00000000000000	200.00000000000000	\$ 6,000.00	\$ 7,000.00	100.00	200.00	Danielle Shovel	12/9/2020

6.8 FISCAL CALENDAR

InEight Control has built in settings that automatically set the actuals in the forecasting-related data blocks to match your company's month end calendar. This allows you to hold the actuals at a certain cutoff date to allow for forecasting to be done based on month end actuals.

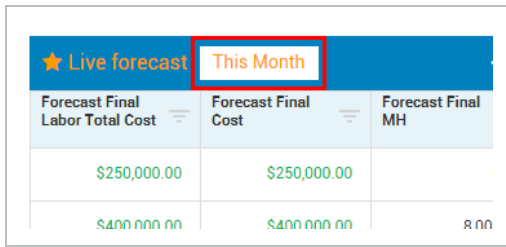


These fiscal calendar settings include a suspended period for you to finalize your forecast numbers without incurring any new actuals.



During this suspended period, your numbers are “frozen”, allowing you to finish month end reporting without worrying about the numbers changing. Any new actuals accumulated during the suspended period will populate once the suspended period is over.

You will note that the Live forecast data block contains a label in its header called “This Month”.



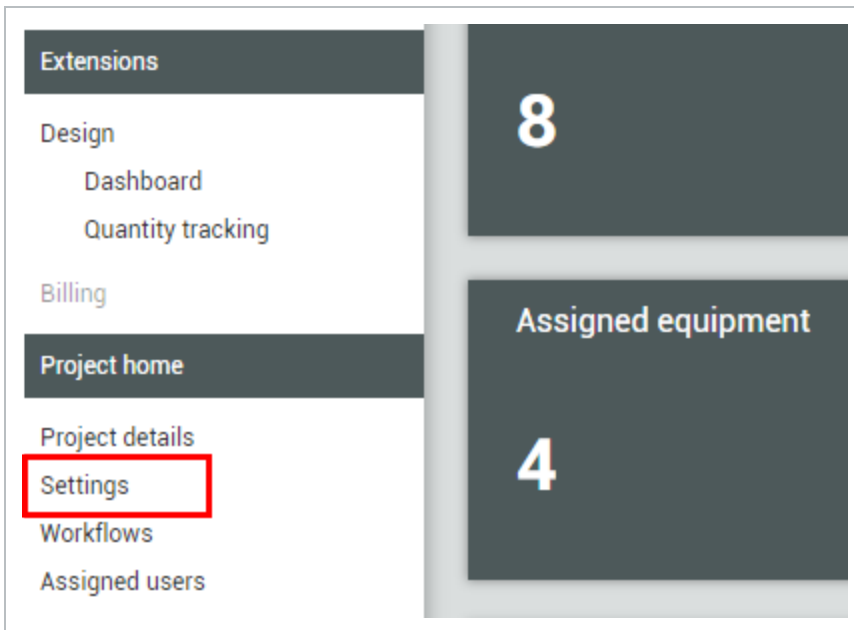
The screenshot shows a table with three columns: 'Forecast Final Labor Total Cost', 'Forecast Final Cost', and 'Forecast Final MH'. The first two columns have values of '\$250,000.00' and '\$400,000.00' respectively. The 'This Month' label is highlighted in a red box above the table.

Forecast Final Labor Total Cost	Forecast Final Cost	Forecast Final MH
\$250,000.00	\$250,000.00	
\$400,000.00	\$400,000.00	8.00

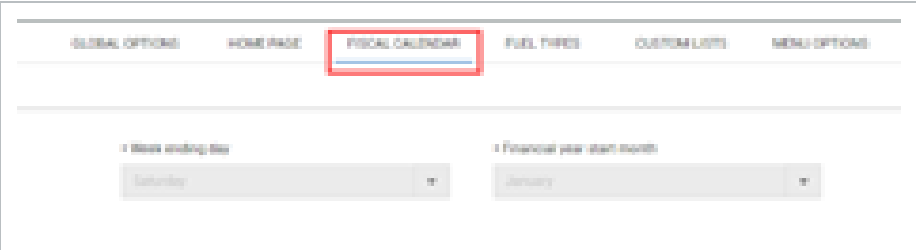
This label reminds you that the values in the live forecast data block are only for the current month, as defined in the Organization Settings under Fiscal Calendar (see *Lesson 3 – Project Setup*).

VIEW FISCAL CALENDAR SETTINGS

1. From the Project home page of the **your job**, select **Settings** from the left side menu.



- You can also access settings from the first-level menu or by clicking on the View project settings tile on the home page
2. On the resulting Project Settings page, click on the **Fiscal Calendar** tab.

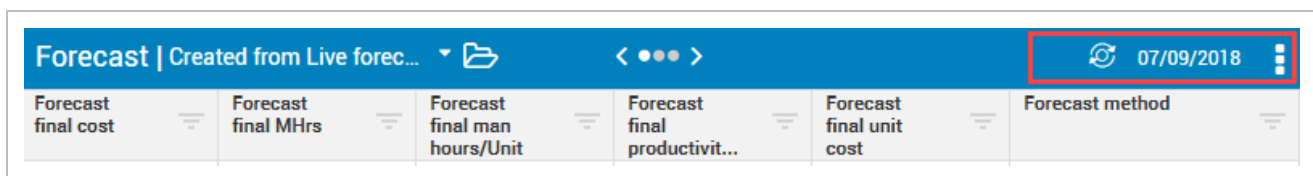


In this section, you can define the following fields (if you have the appropriate access):

Field Name	Purpose
Week ending day	Determines which day of the week is the last day.
Financial year start month	Allows the financial year-end to be different from the calendar year-end.
Month end day	Determines what the last day of the month is.
Last weekday	Sets the day for the above setting.
Financial period closing day	Allows you to set the financial period to end on the same day or allow a period to close out the finances.
Month end plus days	Sets how many closing days.
Financial period closing time	Establishes the time when the Forecast data block actuals will be reset to the next period.
Closing time zone	Sets the closing time zone.

6.8.1 FORECAST EQUATION UPDATES TO CURRENT

The actual numbers claimed are periodically synced. The date of actuals which apply to your forecast can be seen in the Data Block Header.



Forecast Created from Live forec... 						 07/09/2018
Forecast final cost	Forecast final Mhrs	Forecast final man hours/Unit	Forecast final productivit...	Forecast final unit cost	Forecast method	

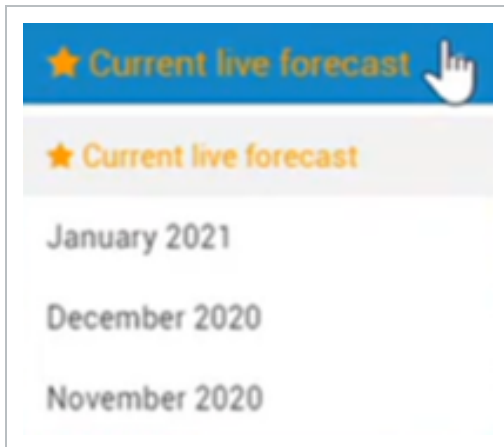
NOTE

The fiscal settings in Platform determine when actuals for the period will be synced.

6.9 LIVE FORECAST SNAPSHOTS

When you sync your live forecast, Control creates a snapshot. After that sync has been completed, everything in your live forecast is captured and saved in a snapshot for that month. As soon as the month ends, the most recently synced items in the live forecast, is your snapshot for the month.

In the live forecast column, select the drop-down menu to show the live forecast snapshots. The snapshots saved are labeled with the month and year they were created.

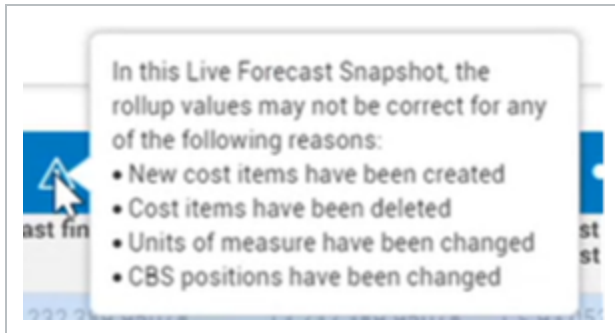


You can view the current live forecast for the month. For existing projects, cannot snapshot previous months.

For example, if you select a previous snapshot such as January, it loads into your live forecast. You can put in any columns you want to organize the view. If you do have a column in your view that is not a live forecast type (such as open/remaining committed cost and total committed cost), those columns show as blank and disabled. This occurs because the snapshots only capture the live forecast values.

CC			January 2021	
Open committed cost	Total committed cost	Forecast method		
		Rollup		
		Rollup		
		Rollup		
		Manual (ETC)		
		Manual (ETC)		
		Manual (ETC)		
		Current estimate		
		Manual (ETC)		

All columns from past live forecast snapshots are read-only. You cannot change anything that has been calculated in the past snapshots. A warning icon with a tool tip also appears in the column header. Hover over it to show the warnings.



When you load an old snapshot, the CBS hierarchy does not rearrange to show how the live forecast previously looked when that snapshot was taken.

The Forecast cost G/L change column shows you what has changed between last month and this month for your gain loss values.

	★ Forecast cost G/L change	★ Final cost
87...	(\$ 10,000.000000...	\$ 10,000.000000...
30...	(\$ 10,000.000000...	\$ 9,900.000000...

The Forecast cost change column calculates the difference between the Forecast final cost and the previous month's Live Forecast final cost.

Formula description: Forecast cost change = Current Live Forecast final cost - Previous month Live Forecast final cost

	★ Forecast cost change	★ Forecast method
100...	\$ 10,000.00000041...	Rollup
100...	\$ 9,999.999999690...	Rollup

Green coloring for the numbers indicates an increase in forecast cost change between the two months.

EXERCISE 6.1 – FORECASTING

Now that you have covered all the functions of forecasting, it is time to perform your own forecasts. Utilizing the forecasting methods you have learned, practice creating forecasts as indicated below. You can use your own project (if available) or the training project used in this lesson.

1. From the Control main page, select the **CBS** tab.

2. Change to a view that contains the **Forecasts** data block.

3. Save a new forecast.

4. Update the forecasts of cost items of your choice to practice using each of the following Forecast Methods:
 - Current Budget
 - Average Performance
 - Manual EAC (based on costs or hours)_____
5. Send your forecast to a person.

6. Note the differences.

Congratulations, you have completed this exercise!

REVIEW

1. How is the Current Budget Forecast Method calculated?
 - a. Forecast Total Cost = Current Budget
 - b. Forecast Total Cost = As-built Total Cost + (Current Budget Unit Rate * Current Budget Remaining Qty)
 - c. Forecast Total Cost = As-built Total Cost + (Current Budget Unit Rate * Current Estimate Remaining Quantity)

2. How does the Live Forecast receive updates?
 - a. They happen automatically
 - b. Push to live forecast from the Forecast data block title bar drop-down
 - c. Push to Live Forecast from the Actions drop-down menu
 - d. Viewed in the CBS change log

3. Who can a forecast be sent to?
 - a. Project Manager
 - b. Project Engineer
 - c. It automatically goes to everyone
 - d. Anyone you add to the list

4. Which data block do you use to compare forecasts?
 - a. Forecast
 - b. Forecast Delta
 - c. Forecast Comparison
 - d. Live Forecast

5. The fiscal calendar settings for Live Forecast are located under:
 - a. Organizational Breakdown Structure
 - b. Account code structure

- c. Operational resources
 - d. Project settings
-

SUMMARY

As a result of this lesson, you can:

- Differentiate and utilize InEight forecasting methods
- Manage forecasts
- Manage Time Phased Forecasting
- Push to Live Forecast
- View the Fiscal Calendar settings

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CHANGE MANAGEMENT

LESSON DURATION: 45 MINUTES

LESSON OBJECTIVES

After completing this lesson, you will be able to:

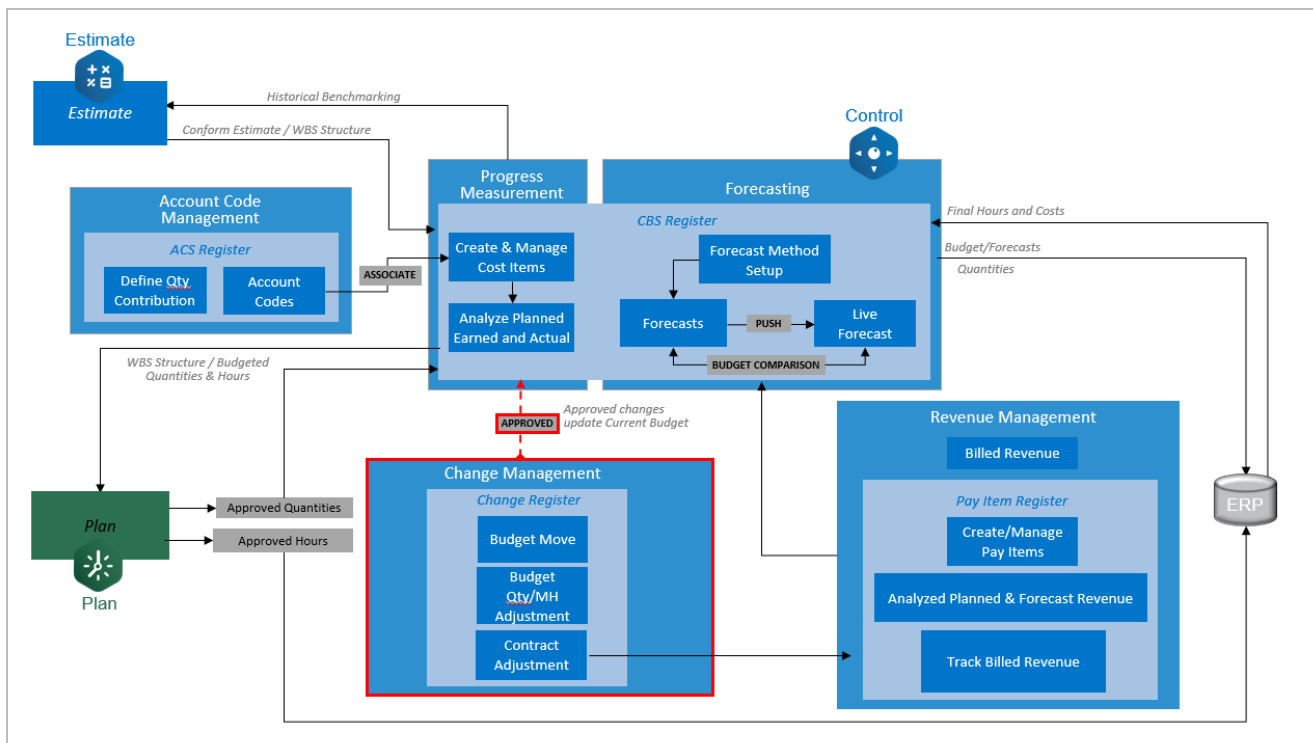
- Explain the change management process
- Complete a cost budget move
- Complete a quantity budget move
- Complete a man-hour adjustment
- Create an adjustment to the contract
- Describe the change order approval process

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7.1 INEIGHT CONTROL WORKFLOW - CHANGE MANAGEMENT



7.2 CHANGE MANAGEMENT OVERVIEW

Changes can happen during all phases of a project. There will likely be modifications to quantities, design, schedule, and/or cost. You will need to manage changes that have been identified and determined to have an impact to the project. It is also vital that you have a way to compare the project from its original plan with all the changes that have affected the project.

For your sample project the **Steel Structure Training Job**, you will perform three different types of changes to the budget:

- **Budget Move (Net Zero Dollar Move)**

Options:

1. **Associated Budget Move** – define budget moves with a From and To process to provide ultimate traceability of budget moves.

2. **Non Associated Budget Move** – define budget moves freely to provide the most flexibility. A quicker way to perform a budget move.
 - Budgeted dollars are moved from one cost item to another, without changing the overall budgeted price
 - Can change MH/QTY and Unit Costs of the cost item
- **Quantity or Man-Hour Adjustment**
 - Adjust values for quantities or man-hours applied to a single cost item
 - Can change MH/QTY and Unit Costs of the cost item
- **Contract Quantity Adjustment**
 - Adjust budget to capture changes in work scope (quantity)
 - Adjust dollars from existing or new pay items
 - Allows “locking” of Total Price, Unit Price, or Pay Quantity

When you perform a budget move, contract adjustment, or budget quantity and man hour adjustment, you can select a maximum total of 250 cost items or 100 pay items. When you exceed the maximum, the **Budget move and contract adjustment** option in the Actions menu drop-down becomes unavailable. This improves the speed, reliability, and performance of the change order.

7.3 ASSOCIATED BUDGET MOVE (NET ZERO DOLLAR MOVE)

During a project, you may encounter changes that result in a budget move which adds no additional budget to the total project budget. For example, you may decide to change the means and methods for completing an operation which results in moving budget from one operation to another. Performing a budget move allows you to accurately track budget changes to maintain a clear history and ensure costs moving forward are accurate.

Scenario

In the example structural steel scenario, the Original Budget for **Erect Steel – Light** that was initially carried from Estimate to Control has been found to be in excess, and a portion of this budget’s dollar value needs to be moved to your newly created cost item, **Module [your User ID#] - Erect Steel Heavy**.

It is important to remember that Current Budget cost and man-hours are only maintained at the terminal level, and you cannot move cost to/from a parent cost item. You can move dollar values between multiple cost items at the same time.

NOTE

You can match CE from CB only in a non-associated budget move and in a cost items first contract adjustment.

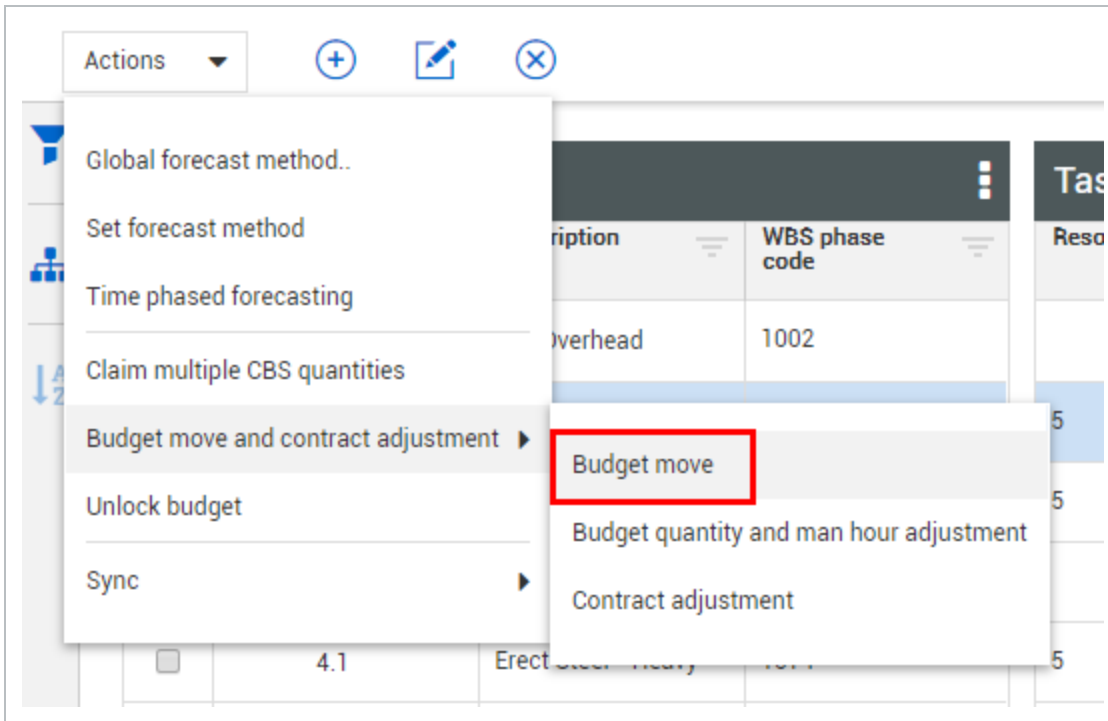
InEight Control contains a Budget Move Wizard that walks you through the following steps for performing a budget move:

1. Select From & To Items
2. Define Relationships
3. Assign Amounts
4. Adjust Cost Categories
5. Summary (submit to pending)

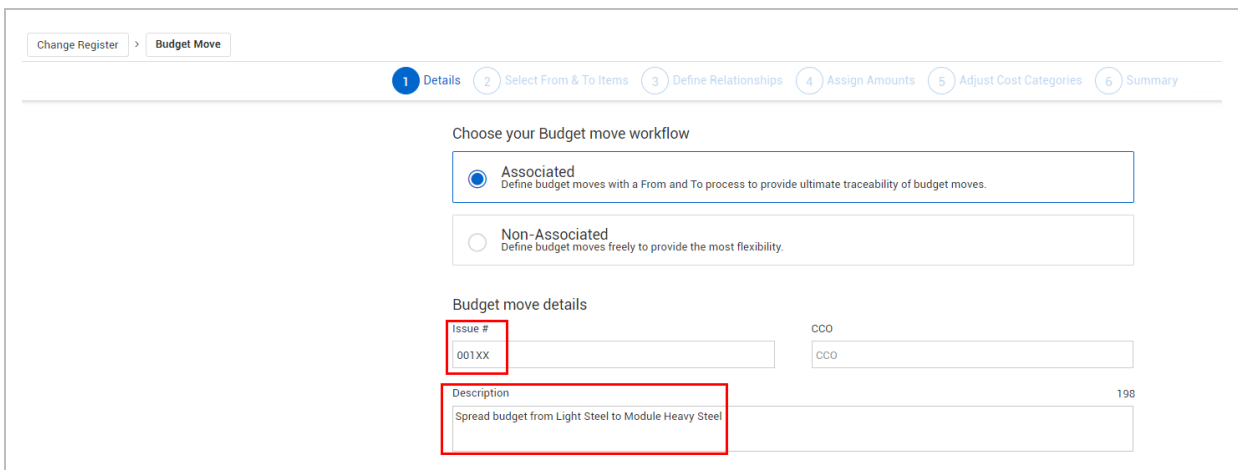
The following Step by Step walks you through how to perform a net zero-dollar Budget Move in the tool.

PERFORM A NET ZERO DOLLAR ASSOCIATED BUDGET MOVE

1. Hover over the **Actions** drop-down menu, hover over **Budget move & contract adjustment**, then select **Budget move**.



- The Budget Move – Details window appears
 - The Details window can be used to enter any relevant information, but is optional
2. The default budget move workflow is Non-Associated. Select the **Associated** radio button.
 3. Type **001XX** (where XX are your initials) in the Issue # free text box.
 - The Issue # is a text field used solely for informational purposes
 4. Type **Spread budget from Light Steel to Module Heavy Steel** in the Description text box.



5. Click **Next**.
 - The Select From & To Items tab appears
6. Select a cost item from the task list on the left.
7. Select a cost item from the task list on the right.
8. Click **Next**.

Change Register > Budget Move

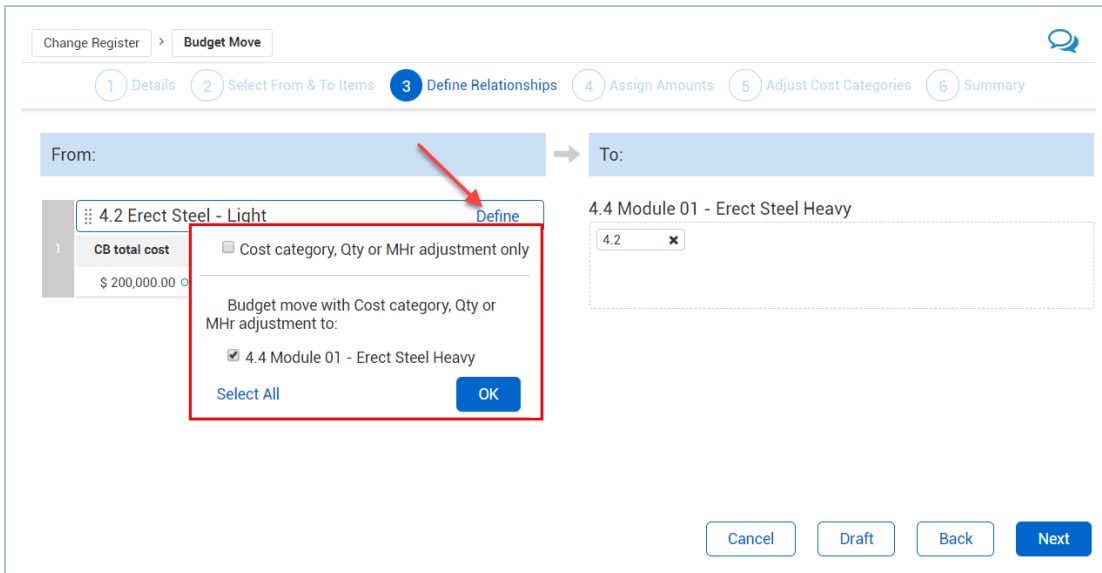
1 Details 2 Select From & To Items 3 Define Relationships 4 Assign Amounts 5 Adjust Cost Categories 6 Summary

From :			To (for net zero moves):		
CBS position	Description	WBS phase code	...	Description	WBS phase code
4	Structural Steel	1073	4	Structural Steel	1073
4.1	Erect Steel - Heavy	1074	4.1	Erect Steel - Heavy	1074
<input checked="" type="checkbox"/>	4.2 Erect Steel - Light	1005	4.2	Erect Steel - Light	1005
4.3	Bolted Connections	1006	4.3	Bolted Connections	1006
4.4	Module 01 - Erect ...	1087	<input checked="" type="checkbox"/>	4.4 Module 01 - Erect Steel Heavy	1087

1 items selected 1 items selected

Cancel Draft Back **Next**

- The Define Relationships window appears
 - The Define button allows you to select what type of relationships the two cost items share
9. From the Define button, click on **Select All**.
 - The Cost category, Qty or MHR only option allows you to modify only the budgeted values of the “From” cost item, similar to the Budget Quantity & Man-Hour Adjustment option from the Actions menu
 - Selecting the Budget move with Cost category, Qty or MHR to option allows you to move budgeted values of the “From” cost items to the “To” cost items
 10. Click **OK** to close the Define window.
 11. Click **Next**.



- The Assign Amounts window appears
- From this window, you will assign amounts to be moved from one cost item to the other
- The CB Total Cost and CB Total MH values entered under the To: section automatically deduct from the equivalent fields in the From: section
- CB Total Quantity values entered under the To: section do NOT automatically deduct from the From: section because you could be moving between cost items with differing units of measure

NOTE You have the option to either manually or automatically deduct the CB-Total MH. If you select “Advanced options” you can specify whether man-hours automatically deduct or not.

12. In the To: section of the window, enter **10,000** in the CB-Total Cost field.
13. In the To: CB-Total MHrs, enter **100.00**.
14. In the To: CB-Total Quantity enter **20.00**.
 - Note that the equivalent costs and man-hours deduct automatically from Erect Steel – Light, but NOT the CB Total Qty
15. Enter **-20.00** in the From: CB Total Qty field.

Change Register > Budget Move

1 Details 2 Select From & To Items 3 Define Relationships 4 Assign Amounts 5 Adjust Cost Categories 6 Summary

From: → To:

4.2 Erect Steel - Light

	CB total cost	Pending change	CB total MHRs	CB total quantity
1	\$ 200,000.00	(\$ 50,000.00)	4,000.00	200.00
	(\$ 10,000.00)		-100.00	-20.00
=	\$ 190,000.00		3,900.00	180.00

4.4 Modluel 01 - Erect Steel Heavy

	CB total cost	CB total MHRs	CB total quan...
	\$ 0.00	0.00	0.00
1	10,000.00	100.00	20.00
=	\$ 10,000.00	100.00	20.00

Advanced options Cancel Draft Back Next

16. Click **Next**.

- The Adjust Cost Categories window appears
- From this window, you can assign your pending budget changes to existing and new cost categories of your cost item

17. Click the **Add cost category** link.

Change Register > Budget Move

1 Details 2 Select From & To Items 3 Define Relationships 4 Assign Amounts 5 Adjust Cost Categories 6 Summary

From: → To:

4.2 Erect Steel - Light

	CB total cost	Pending	New total	Available:
1	Labor: \$ 200,000.00	10,000.00	\$ 190,000.00	\$ 0.00
=	Totals \$ 200,000.00	\$ 10,000.00	\$ 190,000.00	

4.4 Modluel 01 - Erect Steel ...

	CB total cost	Pending	New total	Available:
	Labor: \$ 0.00	10,000.00	\$ 10,000.00	\$ 0.00
=	Totals \$ 0.00	\$ 10,000.00	\$ 10,000.00	

+ Add cost category

Cancel Draft Back Next

18. Select **Materials** on the resulting pop-up window, then click **OK**.

Add cost categories

Total :2 Selected

- Labor
- Construction Equipment
- FOM Rented Equipment
- Materials
- Subcontract
- Fees
- Allowance
- G & A

19. In the To: field for Materials, enter **10,000.00**.

20. Change the To: Labor field to **0**.

- The values shown in the Available and Totals fields will auto-adjust based on the values entered in the To: Pending fields

Change Register > Budget Move

1 Details 2 Select From & To Items 3 Define Relationships 4 Assign Amounts 5 Adjust Cost Categories 6 Summary

From: 4.2 Erect Steel - Light Available: \$ 0.00

	CB total cost	Pending	New total
1 Labor	\$ 200,000.00	10,000.00	\$ 190,000.00
= Totals	\$ 200,000.00	\$ 10,000.00	\$ 190,000.00

To: 4.4 Modluel 01 - Erect Steel ... Available: \$ 0.00

	CB total cost	Pending	New total
Labor	\$ 0.00	0.00	\$ 0.00
Materials	\$ 0.00	10,000.00	\$ 10,000.00
= Totals	\$ 0.00	\$ 10,000.00	\$ 10,000.00

+ Add cost category

21. Click **Next**.

- The Summary window appears

22. Review your proposed changes, then click **Submit** to send the Contract Adjustment for approval.

Change Register > Budget Move

1 Details
2 Select From & To Items
3 Define Relationships
4 Assign Amounts
5 Adjust Cost Categories
6 Summary

From:

→

To:

4.2 Erect Steel - Light

	CB total cost	CB total Mhrs	CB total quantity
Before:	\$ 200,000.00	4,000.00	200.00
Pending:	(\$ 10,000.00)	-100.00	-20.00
	\$ 190,000.00	3,900.00	180.00

4.4 Modluel 01 - Erect Steel Heavy

	CB total cost	CB total Mhrs	CB total quantity
Before:	\$ 0.00	0.00	0.00
Pending:	\$ 10,000.00	100.00	20.00
	\$ 10,000.00	100.00	20.00

Cancel
Draft
Back
Submit

- This budget move is now listed in the project's Change Register with a status of Pending

Later in this lesson, you will learn how to approve and modify budget changes from the Change Register. These changes will not reflect in the Current Budget until the contract adjustment is approved.

7.3.1 BUDGET MOVE WITH A SINGLE COST ITEM

In other times during your project, you will encounter changes that have the potential to cause a move in your budget within the cost categories of a specific cost item. For example, you may find that some items that you estimated to be self-performed work may be faster and cheaper if they were subcontracted out. Therefore, you can perform a budget move for a single cost item and redistribute the budgeted cost between different cost categories.

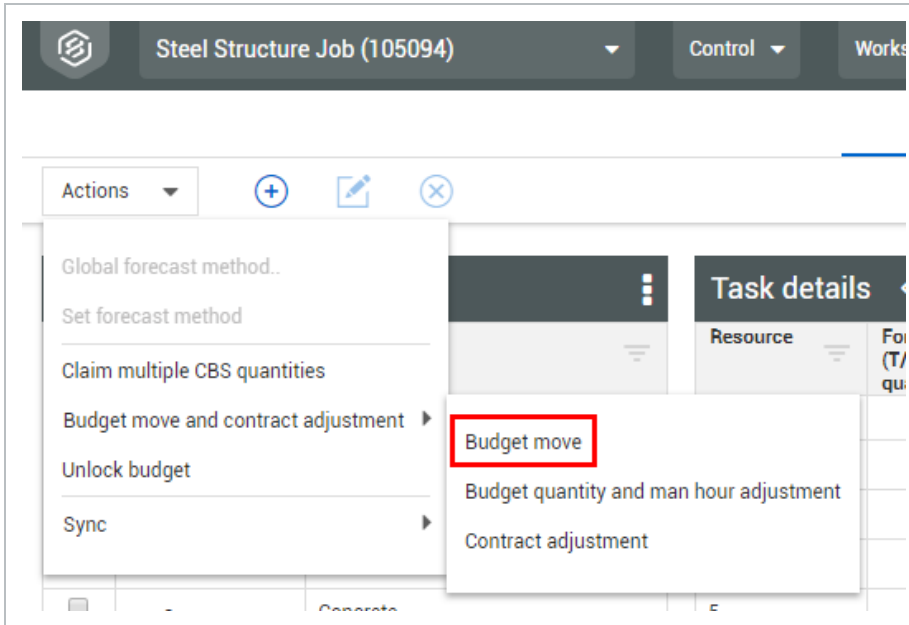
Scenario

In the example structural steel scenario, the Original Budget for a cost item needs to be moved from the Labor cost category to the Subcontract cost category. This estimated self-performed work will now be subcontracted work because this cost item is not our specialty and it would take us longer and be more expensive for us to self-perform this work rather than a specialty subcontractor whom is faster and cheaper.

The following Step by Step walks you through how to perform a 1:1 Budget move within a single cost item in the tool.

PERFORM A BUDGET MOVE WITHIN A SINGLE COST ITEM

1. Select the **Actions** drop-down menu, hover over **Budget move & contract adjustment**, then select **Budget move**.



- The Details window appears
 - Select the **Associated** budget move workflow radio button
2. Type **002XX** (where XX are initials) in the Issue # free text box.
 - The Issue # is a text field used solely for informational purposes
 3. Type **Move cost from self-performed to subcontracted** in the Description text box.
 4. Click **Next**.
 - The Select From & To Items window appears
 5. Select a **cost item** from the task list on the left.
 6. Select a **cost item** from the task list on the right.

Change Register > Budget Move

1 Details 2 **Select From & To Items** 3 Define Relationships 4 Assign Amounts 5 Adjust Cost Categories 6 Summary

From :			
CBS position	Description	WBS phase code	
<input type="checkbox"/>	1	Job Overhead	1002
<input type="checkbox"/>	2	Earthwork	1069
<input type="checkbox"/>	3	Concrete	1071
<input checked="" type="checkbox"/>	4	Structural Steel	1073
<input type="checkbox"/>	4.1	Erect Steel - Heavy	1074
<input type="checkbox"/>	4.2	Erect Steel - Light	1005
<input checked="" type="checkbox"/>	4.3	Bolted Connections	1006
<input type="checkbox"/>	4.4	Modluel 01 - Erect Steel Heavy	1087
<input checked="" type="checkbox"/>	5	Materials	1084
<input type="checkbox"/>	5.1	Earthwork - Materials	1085

1 items selected

To (for net zero moves):			
CBS position	Description	WBS phase code	
<input type="checkbox"/>	1	Job Overhead	1002
<input type="checkbox"/>	2	Earthwork	1069
<input type="checkbox"/>	3	Concrete	1071
<input checked="" type="checkbox"/>	4	Structural Steel	1073
<input type="checkbox"/>	4.1	Erect Steel - Heavy	1074
<input type="checkbox"/>	4.2	Erect Steel - Light	1005
<input checked="" type="checkbox"/>	4.3	Bolted Connections	1006
<input type="checkbox"/>	4.4	Modluel 01 - Erect Steel Heavy	1087
<input checked="" type="checkbox"/>	5	Materials	1084
<input type="checkbox"/>	5.1	Earthwork - Materials	1085

1 items selected

Cancel Draft Back **Next**

7. Click **Next** on the dialogue box to continue.

- The Define Relationships window appears

8. From the Define button, select **Cost category, Qty, or MHR adjustment only**.

- Selecting the Cost category, Qty, or MHR adjustment only option allows you to move budgeted cost category values within a single cost item

Change Register > Budget Move

1 Details 2 Select From & To Items 3 **Define Relationships** 4 Assign Amounts 5 Adjust Cost Categories 6 Summary

From:		
CBS position	Description	WBS phase code
<input checked="" type="checkbox"/>	4.3 Bolted Connections	1006

1

CB total cost	Pending change
\$ 50,000.00	\$ 0.00

Define

Cost category, Qty or MHR adjustment only

OK

To:		
CBS position	Description	WBS phase code
4.3 Bolted Connections		
4.3 Adjust only		

9. Click **OK** to close the Define window.

10. Click **Next** on the bottom right of the budget move screen to continue.

- The Assign Amounts window appears

11. Click **Next** on the bottom right of the budget move screen to continue.

- The Budget Move – Adjust Cost Categories window appears
- From this window, you can assign your pending budget changes to existing and new cost categories of your cost item

- Note: We will skip the Assign Amounts window section because we are not changing the Mhrs or Quantity

12. Click the **Add cost category** link.

4.3 Bolted Connections			Available:	\$ 0.00
	CB total cost	Pending	New total	
Labor	\$ 50,000.00	0.00	\$ 50,000.00	
= Totals	\$ 50,000.00	\$ 0.00	\$ 50,000.00	

13. Select **Subcontract** on the resulting pop-up window, then click **OK**.

14. In the To: field for Labor, enter **-50,000.00**.

15. In the To: field for Subcontract, enter **50,000.00**.

- The values shown in the Available and Totals fields will auto-adjust based on the values entered in the To: Pending fields

To:

4.3 Bolted Connections		Available:	\$ 0.00
	CB total cost	Pending	New total
Labor:	\$ 50,000.00	-50,000.00	\$ 0.00
Subcontract:	\$ 0.00	50,000.00	\$ 50,000.00
=	Totals	\$ 50,000.00	\$ 50,000.00

16. Click **Next**.

- The Summary window appears

17. Review your proposed changes, then click **Submit** to send the Contract Adjustment for approval.

- This budget move is now listed in the project’s Change Register with a status of Pending

7.3.2 NET ZERO BUDGET MOVE FROM CHANGE

You can also perform a zero-budget move from Change which ultimately creates a budget move in Control.

Budget move has been sent to Control

ID	Description	Cre... date	Issue #	Last changed on	Net Qty che...	Status	Type	Total bud... cost	Total bud... MH	Appr... prob...	Cha... ment... tag 1
14.0	issue - demo	08/05/2022	10 - issue - demo	08/08/2022	11.00	Issue-Draft	Budget move	\$ 113.50	0.24		
13.0		08/05/2022		08/08/2022	0.00	Draft	Budget move	\$ 0.00	0.00		
12.0	Missing steel	08/04/2022	6 - Missing steel	08/08/2022	0.00	CCO-Draft	Contract adjustment	\$ 0.00	0.00	100.00 %	

7.3.2.1 CHANGE ATTRIBUTES

When you create a budget move in Control, all the attributes that were setup in Change now flow into Control automatically.

Choose your Contract adjustment workflow

Start with Cost items
Enter markup and fees on cost items to generate pay item price

Start with Pay items
Adjust pay item price before adjusting cost item budgets

Contract adjustment details

Description 487

Missing steel

CCO

CCO 2 - Missing steel

Issue #

6 - Missing steel

Discipline

7.4 NON-ASSOCIATED BUDGET MOVE

The Non-Associated Budget move is a quicker way to complete a budget move compared to the Associated Budget move type. Within the Budget Move screen, the Non-Associated method consists of a two-step process, as compared to the six-step process within the Associated method. The two steps in the Non-Associated method are the Details and Assign Amounts steps.

1 Details 2 Assign Amounts

Choose your Budget move workflow

Associated
Define budget moves with a From and To process to provide ultimate traceability of budget moves.

Non-Associated
Define budget moves freely to provide the most flexibility.

7.4.1 NON-ASSOCIATED BUDGET MOVE PREREQUISITES

Prior to performing a budget move, you can change the Current Estimate (CE) to what you want your Total budget to be. Then, you can go into your budget move and match the Current Budget (CB) to the CE. This can be accomplished by using the auto calculate icon in the Budget Move Screen, which is discussed later in this topic.

Within the CBS, you can edit the CE fields directly within the CBS grids. You can also navigate into the cost item's cost categories to make the adjustments. This is not a required prerequisite, but a **best practice**. Depending on the contract type it is often ideal to have the Current Estimate equal the Current Budget.

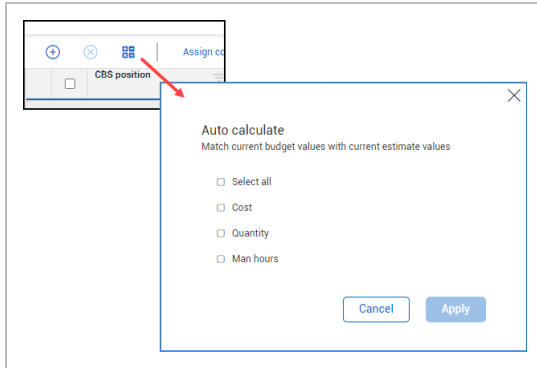
In the CBS, the 2 columns that should match are the CB total cost and CE final cost.

Tasks		Current estimate						Current budget	
CBE pos	Description	secondary UoM	CE final Mhrs	CE Mhrs/Unit	CE Units/MHr	CE final unit cost	CE final cost	CB total cost	CB total quantity
5.2	Concrete - Materia...		0.00	0.00	0.00	\$ 100.00	\$ 1,000,000.00	\$ 1,000,000.00	10,000.00
5.1	Earthwork - Materi...		0.00	0.00	0.00	\$ 25.00	\$ 250,000.00	\$ 250,000.00	10,000.00
5.3	Structure Steel - ...		0.00	0.00	0.00	\$ 500.00	\$ 500,000.00	\$ 500,000.00	1,000.00

If you know that a change order is on its way, you can modify the CE to accommodate for the incoming budget adjustment.

7.4.1.1 AUTO CALCULATE ICON

Cost Item Management lesson



Set up the CE values in the CBS before entering a contract adjustment/budget move, then select the icon and in the dialog and choose whether you want to update the Adjusted CB cost, man hours, and/or quantity, and then select **Apply**.

This updates the Adjusted CB total cost and/or Adjusted CB total Mhrs and/or Adjusted CB total qty to match the corresponding Current estimate values.

NOTE

You can match CE from CB only in a non-associated budget move and in a cost items first contract adjustment.

You can only use the auto-calculate icon to impact budget (after already setting up your current estimate values/forecast).

TIP

You cannot edit any of the CB values.

7.4.2 MANUAL TOTAL COST BUDGET MOVE

After selecting the Non-Associated budget move option, then clicking on Next, the Budget Move screen appears. From this screen you have the option of moving the Current Budget from one cost item to another. You can also move cost from one cost item to multiple cost items. When first entering the Budget Move screen, any of the blank 'Adjusted CB' related fields are editable fields.

In the below example, under Adjusted CB total cost, \$5,000 is about to be moved from cost item 5.1 into cost item 5.3. This can be done by manually entering a negative \$5,000 in the Adjust CB total cost for cost item 5.1, then entering in a positive \$5,000 for cost item 5.3. With the appropriate permissions, you have the option to either Approve or Submit this budget move. You can also Cancel, save as a Draft, or select Back to take you to the previous screen.

The subtotal at the bottom shows the Adjusted CB total cost at \$0. This is because we are removing and adding the same amount of dollars from one cost item into another.

Change Register > Budget Move

1 Details 2 Assign Amounts

CBS position	Description	WBS phase code	CB total cost	Adjusted CB total cost	CE total cost	CB total Mhrs	Adjusted CB total Mhrs	CB total quantity
5.1	Earthwork - Materials	1085	\$ 250,000.00	(\$ 5,000.00)	\$ 250,000.00	0.00		10,000.00
5.2	Concrete - Materials	1086	\$ 1,000,000.00		\$ 1,000,000.00	0.00		10,000.00
5.3	Structure Steel - Materi...	1087	\$ 500,000.00	\$ 5,000.00	\$ 500,000.00	0.00		1,000.00
Subtotals 3			\$ 1,750,000.00	\$ 0.00	\$ 1,750,000.00	0.00	0.00	

Approve Cancel Draft Back Submit

In the below example, the Approve and Submit icons are disabled. This is because an adjustment is being made to one cost item for \$-5,000, but there hasn't been an adjustment made to other cost item (s) for \$+5000. Once the adjustment has been made to add \$5,000 to a cost item, the Approve and Submit icons will be enabled. The Adjusted CB total cost must equal zero on the Subtotals line.

Change Register > Budget Move

1 Details 2 Assign Amounts

CBS position	Description	WBS phase code	Adjusted CB labor total cost	Adjusted CB total cost	CB total cost	CE total cost	CB labor total cost	CB total M
5.1	Earthwork - Materials	1085	\$ 189.46	(\$ 5,000.00)	\$ 235,875.52	\$ 247,000.00	(\$ 8,937.76)	
5.2	Concrete - Materials	1086			\$ 1,009,000.00	\$ 1,009,000.00	\$ 1,009,000.00	
5.3	Structure Steel - Materi...	1087			\$ 500,000.00	\$ 500,000.00	\$ 0.00	
Subtotals 3			\$ 189.46	(\$ 5,000.00)	\$ 1,744,875.52	\$ 1,756,000.00	\$ 1,000,062.24	

Approve Approve/Submit icons disabled because Adjusted CB total cost is not zero Cancel Draft Back Submit

It's also possible to spread the Adjusted CB total cost amongst several cost items. In this example, \$5,000 is being taken from cost item 5.1, cost item 5.2 is adding \$3,000, and cost item 5.3 is adding \$2000. Both the Approve and Submit icons are enabled because the entire \$5,000 is being taken from cost item 5.1 and allocated to other cost items. If the \$5,000 were to be allocated disproportionately, then both the Approve and Submit icons would be disabled.

Change Register > Budget Move

1 Details 2 Assign Amounts

CBS position	Description	WBS phase code	CB total cost	Adjusted CB total cost	CE total cost	CB total Mhrs	Adjusted CB total Mhrs	CB total quantity
<input checked="" type="checkbox"/> 5.1	Earthwork - Materials	1085	\$ 250,000.00	(\$ 5,000.00)	\$ 250,000.00	0.00		10,000.00
<input type="checkbox"/> 5.2	Concrete - Materials	1086	\$ 1,000,000.00	\$ 3,000.00	\$ 1,000,000.00	0.00		10,000.00
<input type="checkbox"/> 5.3	Structure Steel - Materi...	1087	\$ 500,000.00	\$ 2,000.00	\$ 500,000.00	0.00		1,000.00
Subtotals 3 (1 rows selected)			\$ 1,750,000.00	\$ 0.00	\$ 1,750,000.00	0.00	0.00	

Approve Cancel Draft Back Submit

7.4.3 MANUAL COST CATEGORY BUDGET MOVE

Within the budget move screen, you also have the option of editing a cost item at the Cost category level by right clicking on a cost item.

Change Register > Budget Move

1 Details 2 Assign Amounts

CBS position	Description	WBS phase code	CB total cost	Adjusted CB total cost	CE total cost
<input type="checkbox"/> 5.1	Earthwork - Materials	1085	\$ 250,000.00	(\$ 5,000.00)	\$ 250,000.00
<input checked="" type="checkbox"/> 5.2	Concrete - Materials	1086	\$ 1,000,000.00	\$ 3,000.00	\$ 1,000,000.00
<input type="checkbox"/> 5.3	Structure Steel - Materi...	1087	\$ 500,000.00	\$ 2,000.00	\$ 500,000.00

Cost category

After selecting Cost category, a grid displays with the cost item’s cost categories, much like it shows in the CBS. You have the option to move the \$3,000 from the Materials cost category to a different Cost category, such as Labor.

1 Details
 2 Assign Amounts

\$
⌵
📄

CE 1

1086

5.2 Concrete - Materials

CB total cost	Unapproved budget adjustment	CB total MHrs	CB total quantity
\$ 1,000,000.00	\$ 0.00	0.00	10,000.00

✕

Cost category	CB total cost	Pending
^ Total	\$ 1,000,000.00	\$ 3,000.00
▾ Labor	\$ 0.00	\$ 0.00
▾ Construction Equipment	\$ 0.00	\$ 0.00
▾ FOM Rented Equipment	\$ 0.00	\$ 0.00
▾ Supplies	\$ 0.00	\$ 0.00
▾ Materials	\$ 1,000,000.00	\$ 3,000.00
▾ Subcontract	\$ 0.00	\$ 0.00
▾ Fees	\$ 0.00	\$ 0.00
▾ Allowance	\$ 0.00	\$ 0.00
G & A	\$ 0.00	\$ 0.00
Undefined	\$ 0.00	\$ 0.00
Totals	\$ 1,000,000.00	\$ 3,000.00

Not only has the \$3,000 moved from Materials to Undefined Labor, but the Adjusted CB total cost and Adjusted CB labor total cost remains at \$3,000 for this cost item.

Alternatively, you have the option of first populating the Cost categories with values, as opposed to entering values directly in the Budget Move screen.

ID	Description	Creation date	Last changed by	Last changed on	Net Qty change	Status	Total budget cost adjustment	Total budget MH adjustment	Total contract cost adjustment	Type
1.0		10/15/2019	paul trippi	10/15/2019	1.00	Approved	0.00	-60.00	0.00	Budget move
131.0		10/15/2019	Danielle Shovel	10/15/2019	0.000000000000	Pending	\$ 0.000000000000	0.000000000000	\$ 0.000000000000	Budget move
130.0		10/15/2019	Danielle Shovel	10/15/2019	1.000000000000	Approved	\$ 0.000000000000	300.000000000000	\$ 0.000000000000	Budget move
129.0		10/14/2019	Lakshmi Penumtsa	10/14/2019	0.000000000000	Approved	\$ 0.000000000000	99,999,999,999.999984741...	\$ 0.000000000000	Budget Qty & MH adjustme...
128.0		10/14/2019	Lakshmi Penumtsa	10/14/2019	0.000000000000	Approved	\$ 0.000000000000	99,999,999,999.999984741...	\$ 0.000000000000	Budget Qty & MH adjustme...
127.0		10/14/2019	Lakshmi Penumtsa	10/14/2019	0.000000000000	Approved	\$ 0.000000000000	99,999,999,999.999984741...	\$ 0.000000000000	Budget Qty & MH adjustme...
126.0		10/14/2019	Danielle Shovel	10/15/2019	0.000000000000	Approved	\$ 200.000000000000	0.000000000000	\$ 0.000000000000	Contract adjustment
125.1		10/07/2019	Lakshmi Penumtsa	10/07/2019	0.000000000000	Draft	\$ 11.111111111111	\$6.000000000000	\$ 0.000000000000	Budget move
125.0		10/07/2019	Lakshmi Penumtsa	10/07/2019	0.000000000000	Revised	\$ 44.111111111111	0.000000000000	\$ 0.000000000000	Budget move
124.0		10/07/2019	Lakshmi Penumtsa	10/07/2019	0.000000000000	Pending	\$ 0.000000000000	0.000000000000	\$ 12,245,928.13803732581	Contract adjustment
123.0		09/04/2019	Lakshmi Penumtsa	09/04/2019	0.000000000000	Draft	\$ 0.000000000000	0.000000000000	\$ 0.000000000000	Budget move

After single clicking on an ID, the budget move details screen appears which shows the Adjusted CB changes that were made within the Budget Move screen. Below you can see the \$5,000 being deducted from the first cost item and moved into the last two cost items. Adjustments have also been made to the Adjusted CB total MHrs for all 3 cost items.

ID	Description	Type	Status	Originated on	Originated by
1.0		Budget move (Non-Associated)	Approved	10/15/2019	paul trippi
		Last changed on	Last changed by	Approved on	Approved by
		10/15/2019	paul trippi	10/15/2019	paul trippi

CBS position	Description	W... ph...	Adjusted CB total cost	Adjusted CB total MHrs	Adjusted CB total Qty
5.1	Earthwork - Materials	1085	(\$ 5,000.00)	-100.00	+1.00
5.2	Concrete - Materials	1086	\$ 3,000.00	+20.00	0.00
5.3	Structure Steel - Materi...	1087	\$ 2,000.00	+20.00	0.00
			\$ 0.00	-60.00	

Scenario

In this scenario, you need to move \$1,000 from the Current budget from one cost item's budget to another cost item's budget, in a timely manner. To save time, you need to approve the budget more quickly, as you also have the appropriate permissions to perform this task.

PERFORM A NON-ASSOCIATED BUDGET MOVE

1. Select two cost items from the CBS.
2. Select the **Actions** drop-down menu, hover over budget move and contract adjustment, then select **Budget move**.
3. Select the **Non-associated radio** button.
4. Name the **Issue #**.
5. Click **Next**.
6. Enter a dollar value for the first cost item by double-clicking in the **Adjusted CB total** field.
7. Enter a negative dollar value for the second cost item by double-clicking in the Adjusted CB total cost field.
8. Click **Submit**.

7.5 BUDGET QUANTITY / MAN-HOUR ADJUSTMENT

During the course of a project, it is typical to have scope modifications that warrant changes to quantities and/or labor hours.

It is important to remember that changing man-hours or quantities will affect budgeted values of MH/QTY, QTY/MH, and Unit-Costs, but will not change the overall dollar value of your budget.

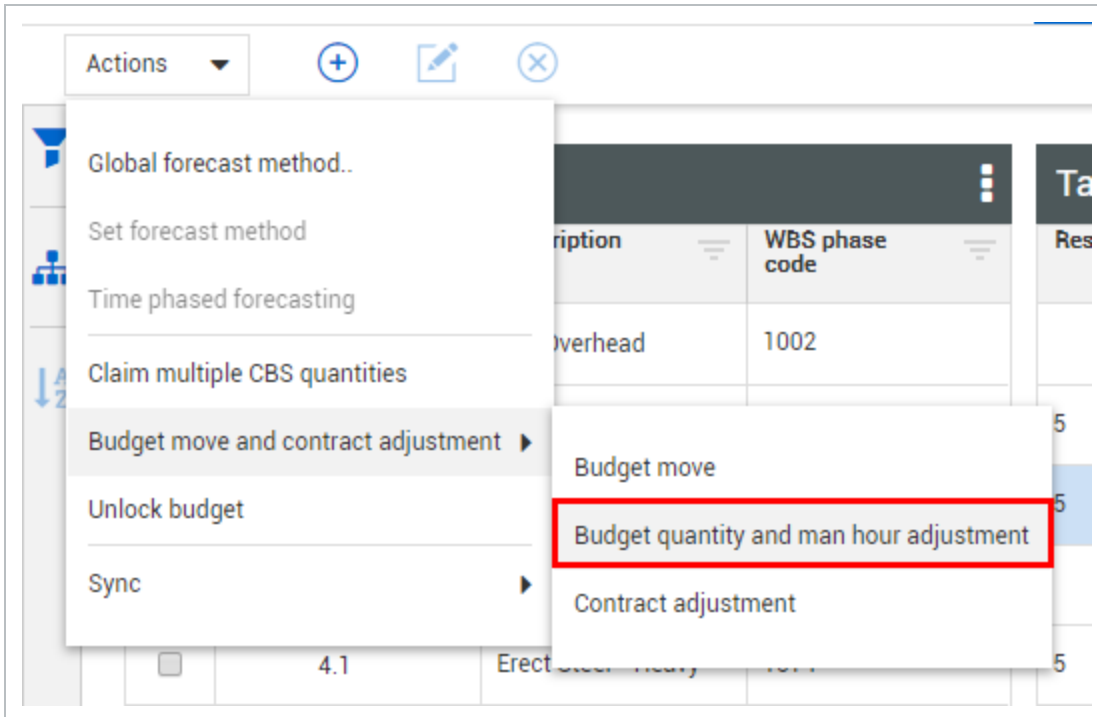
InEight Control contains a Budget Quantity / Man-Hour Adjustment Wizard that walks you through the following steps for performing a quantity and/or man-hour adjustment:

1. Select Items
2. Assign Amounts (quantities, man-hours, or both)
3. Summary (submit to pending)

The following Step by Step walks you through the process for performing a budget quantity adjustment:

PERFORM A BUDGET QUANTITY / MAN-HOUR ADJUSTMENT

1. Select the **Actions** drop-down menu, hover over **Budget move & contract adjustment**, then click **Budget quantity & Man hour adjustment**.



- The Budget quantity & Man Hours adjustment – Details window appears
2. Type **002XX** in the Issue # free text box (where XX are your initials).
 3. Type **002XX** in the CCO (Contract Change Order) text box (where XX are your initials).
 4. Type **Tonnage increase due to material change** in the Description free text box.
 - It is recommended that each budget adjustment have a concise description of why the adjustment is needed
 5. Click **Next**.

Change Register > Budget quantity and ...

1 Details 2 Select Items 3 Assign Amounts 4 Summary

Issue # 002XX CCO 002XX

Description Tonnage increase due to material change 211

Discipline 500

Change Management tag 1 Change Management tag 2 Change Management tag 3

Cancel Draft **Next**

- The Select Items window appears

6. Select the a cost item from the tasks list.

Change Register > Budget quantity and ...

1 Details 2 Select Items 3 Assign Amounts 4 Summary

CBS position	Description	WBS phase code
3	Concrete	1071
4	Structural Steel	1073
4.1	Erect Steel - Heavy	1074
4.2	Erect Steel - Light	1005
4.3	Bolted Connections	1006
4.4	Module 01 - Erect Steel Heavy	1087

- You can select more than one cost item to adjust, however these changes will be grouped as a single line item in the Change Register

7. Click **Next**.

- The Assign Amounts window appears

8. Enter the change to the man-hours or quantities into the appropriate field. For this example, type **5,000** in the Quantity field.

Change Register > Budget quantity and ...

1 Details 2 Select Items 3 Assign Amounts 4 Summary

4.4 Module 01 - Erect Steel Heavy

	MHrs	Quantity
Original:	0.00	0.00
Pending:		5,000.00
New total:	0.00	5,000.00

9. Click **Next**.

- The Summary window appears

10. Review your changes, then click **Submit** to send them out for approval.

Change Register > Budget quantity and ...

1 Details 2 Select Items 3 Assign Amounts 4 Summary

4.4 Module 01 - Erect Steel Heavy

	MHrs	Quantity
Before:	0.00	0.00
Pending:	0.00	5,000.00
After:	No change	5,000.00

Cancel Draft Back **Submit**

- This budget move is now listed in the project's Change Register with a status of Pending

Later in this lesson, you will learn how to approve and modify budget changes from the Change Register.

7.6 CONTRACT ADJUSTMENT

A contract adjustment, often referred to as a Change Order, represents a change to the total project budget. If you are a contractor this also results in a change to total contract price.

7.6.1 PAY ITEM VS. COST ITEM

Contract adjustments involve changes to both your contract price (pay items) and your budget (cost items). To avoid confusion, the following table reviews the purpose and function of pay items and cost items.

Term	Function
Pay Item	<p>For contractors, this represents a project deliverable, including the pay quantity defined by the owner and the contracted unit price you will be paid for completion of the work. Pay item prices include your overhead and profit.</p> <p>For owners, this feature can be used in a variety of ways or may even be ignored. One way it can be used is to represent funding sources and total funded amounts. It can also be used to bill internal or external partners.</p>
Cost Item	<p>The individual cost-related activities required to complete the deliverables of the project.</p> <p>Cost items represent the costs you budget to complete the work and therefore do not include profit.</p>

NOTE You can match CE from CB only in a non-associated budget move and in a cost items first contract adjustment.

InEight Control contains a Contract Adjustment Wizard that walks you through the following steps for performing a contract adjustment:

1. Select Pay Items (or create new)
2. Adjust Pay Item
3. Select CBS Items
4. Assign Amounts
5. Adjust Cost Categories
6. Submit (to pending)

The following Step by Step guides you through the creation of a pay item contract adjustment.

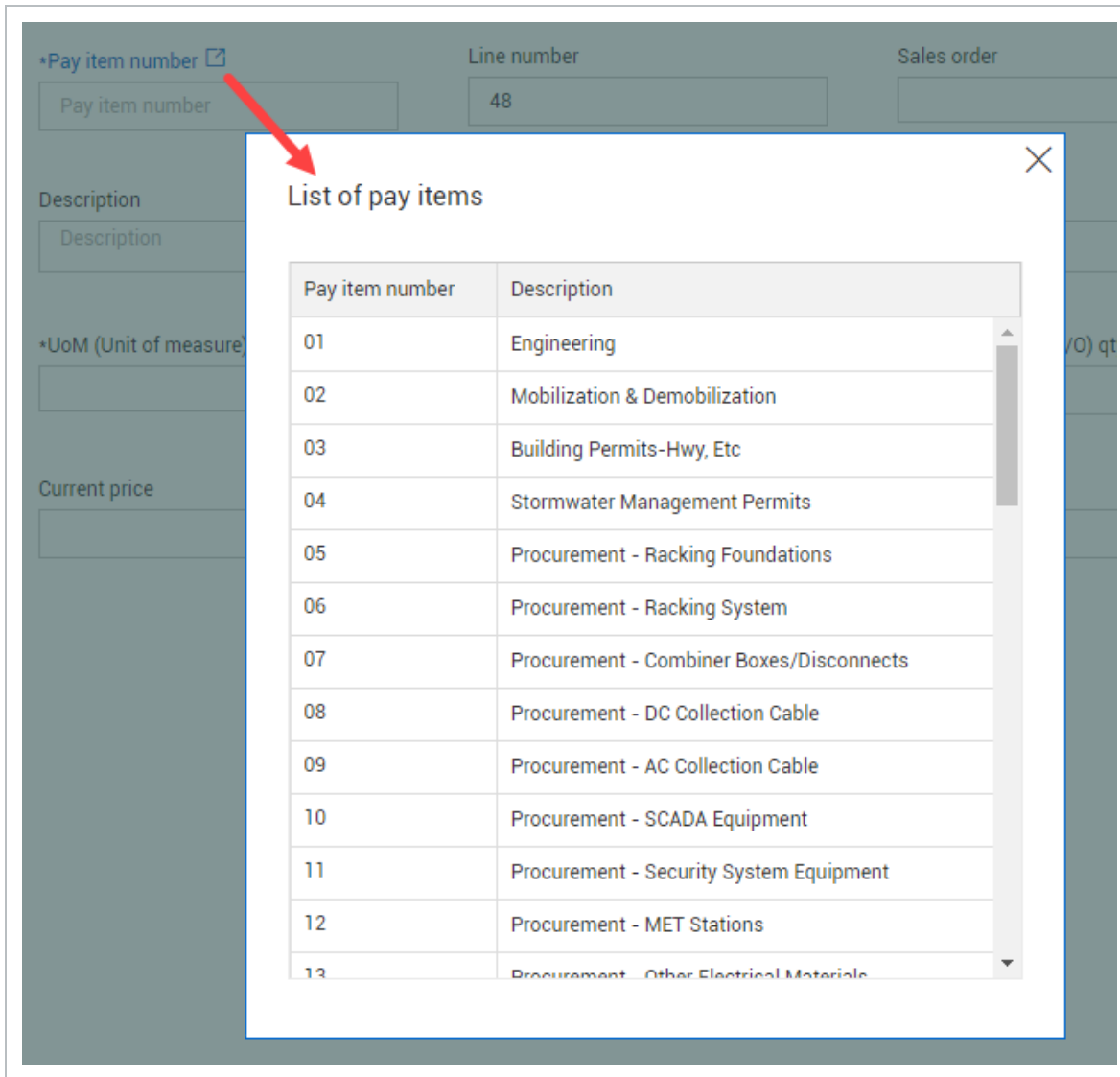
PAY ITEM CONTRACT ADJUSTMENT

1. Select the **Actions** drop-down menu, hover over **Budget move and contract adjustment**, then click **Contract Adjustment**.
2. Select **Start with pay items**.
3. Type a number in the **Issue #** text box.
4. Type the same number in the CCO (Contract Change Order) text box.
5. Enter a **Description** in the Description text box.
6. Click **Next**.
7. On the Select Pay Items screen, select the desired pay items.
8. Click **Next**.
9. Enter the appropriate values on the Adjust Pay Item screen.
10. Click **Next**.
11. On the Select CBS items screen, select the applicable cost items.
12. Click **Next**.
13. On the Assign Amounts screen, enter the desired values in the MHrs and Total quantity fields.
14. Click **Next** to get to the Summary – step 8.
15. Review your entries, select the **Back** button as needed to make any corrections.
16. Click **Submit**.

7.6.1.1 VIEW LIST OF PAY ITEMS

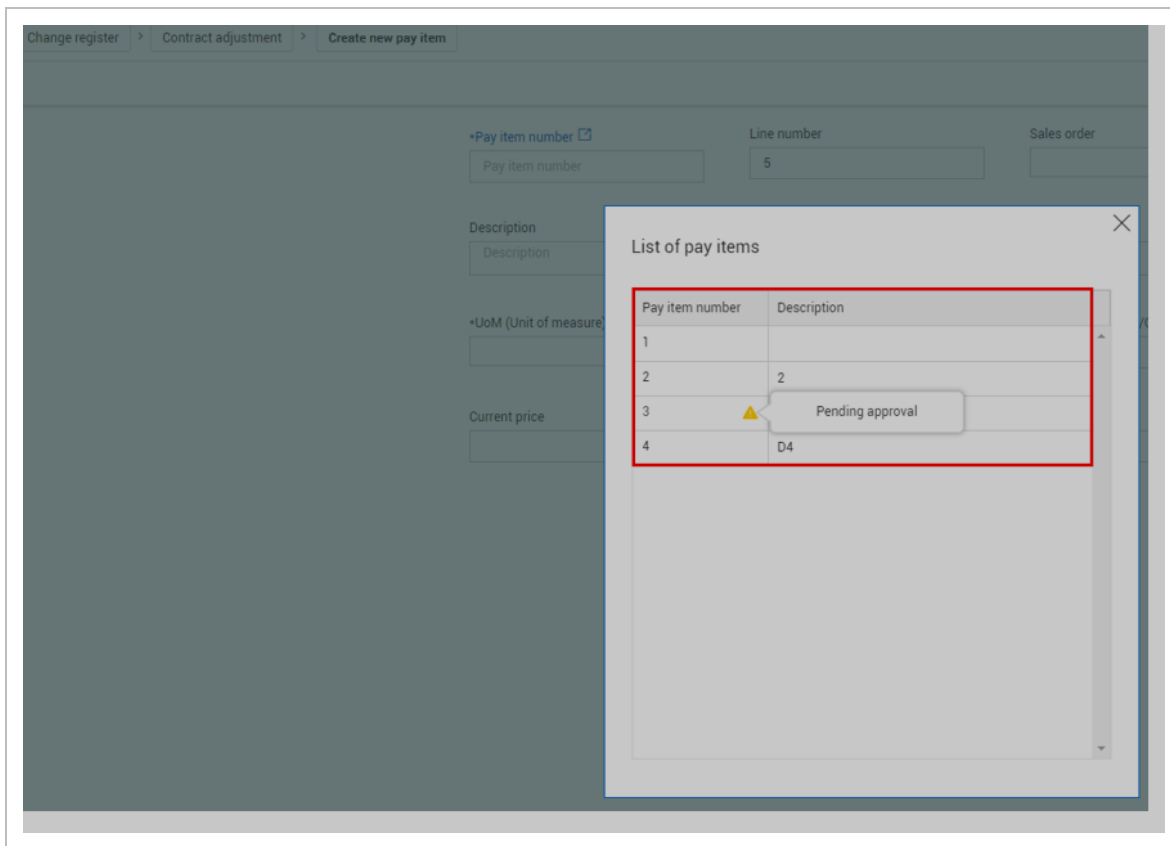
You can see a list of pay items already created in a contract adjustment.

When creating a pay item in a Contract adjustment, you can now see a list of previously created pay items in Control > Workspaces > Actions > Budget move and contract adjustment > Contract Adjustment > Pay items > Create a new pay item > **Pay item number**, instead of needing to navigate to the pay item's register.



The list helps you keep any current number and description formatting to follow the next consecutive number, or description scheme.

You can also see the pay items that are awaiting approval.



7.6.2 CHANGE MARKUP IN CONTRACT ADJUSTMENTS

Control consumes markup amounts from InEight Change. The total amount and costs coming from Change, including the markup, integrate into Control. Billing rate markup, CCO markup, and CCO unassigned markup are all contract adjustment header fields that can help you make more informed decisions on how to adjust the Adjusted current price.

Change register		Net budget change	Net quantity change	Net man hour change	Billing rate markup	CCO markup	CCO unassigned markup	Fee	Probability
		\$ 1,060.00	Yes	1,000.00	\$ 0.00	\$ 64.13	\$ 64.13	\$ 0.00	...

Pay item number	Adjusted current price	Current price	Adjusted current unit price	Current unit price	Adjusted current pay qty	Current pay qty	Current forecast qty
<input checked="" type="checkbox"/> 1	\$ 1,060.00	\$ 1,001.00	\$ 0.00	\$ 1.00	1,060.00	1,001.00	⚠

7.6.3 CONTRACT ADJUSTMENTS WITH COST ITEM MARKUP

Performing contract adjustments that start with cost items lets you assign markup and fee values to pay items. Your pay items are then driven off of your cost items plus some markup percent in addition to a flat fee as well. The sum of your markup and fee is your planned profit.

The contract adjustment details register also has a new header that displays the amount that is going to change while navigating through the contract adjustment steps.

Change register > 18.0 - Contract adju...												
CCO total budget	CCO unassigned budget	Net budget change	Net quantity change	Net man hour change	Billing rate markup	CCO markup	CCO unassigned markup	Fee	Net contract change	CCO agreed price	CCO unassigned price	Approval probability
\$ 702.09	\$ 0.00	\$ 702.09	Yes	14.21	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 702.09	\$ 702.09	100.00% - Execute...
<div style="display: flex; justify-content: space-around;"> 1 Details 2 Cost items 3 Time phased budget 4 Pay items 5 Summary </div>												

The following Step by Step guides you through the creation of a cost item contract adjustment.

COST ITEM CONTRACT ADJUSTMENT

1. Select the **Actions** drop-down menu.
2. Hover over Budget move and contract adjustment, then click **Contract Adjustment**.
3. Select Start with Cost items, fill out the Issue #, CCO, and Description fields as needed, then select **Next**.
4. In the Cost Items screen, select a cost item, or, if there are no cost items on the grid, cost items by selecting the **Add** icon.
5. Enter values in the Adjusted CB total cost, Markup %, or Fee fields. Select **Next** to get to the pay item screen.
6. In the Adjusted Total Price column, manually override the total price by selecting the total price field you want to change. Enter a new value, then select **Next**.
 - The Summary tab is read-only. Use this step to finalize and confirm your contract adjustments.
7. Select **Submit** to send for approval or Draft to save for later edits.

7.6.4 CONTRACT ADJUSTMENTS FROM CCM

Contract adjustments can be made within the Change application and are visible in the Change Register of the Control application. After an Issue is created in Change, and becomes an Executed Contract Change Order, it appears as a pending contract adjustment in Control.

NOTE

The contract adjustment does not allow you to select **Start with cost items** if you are using a CCO-draft that originated from Change.

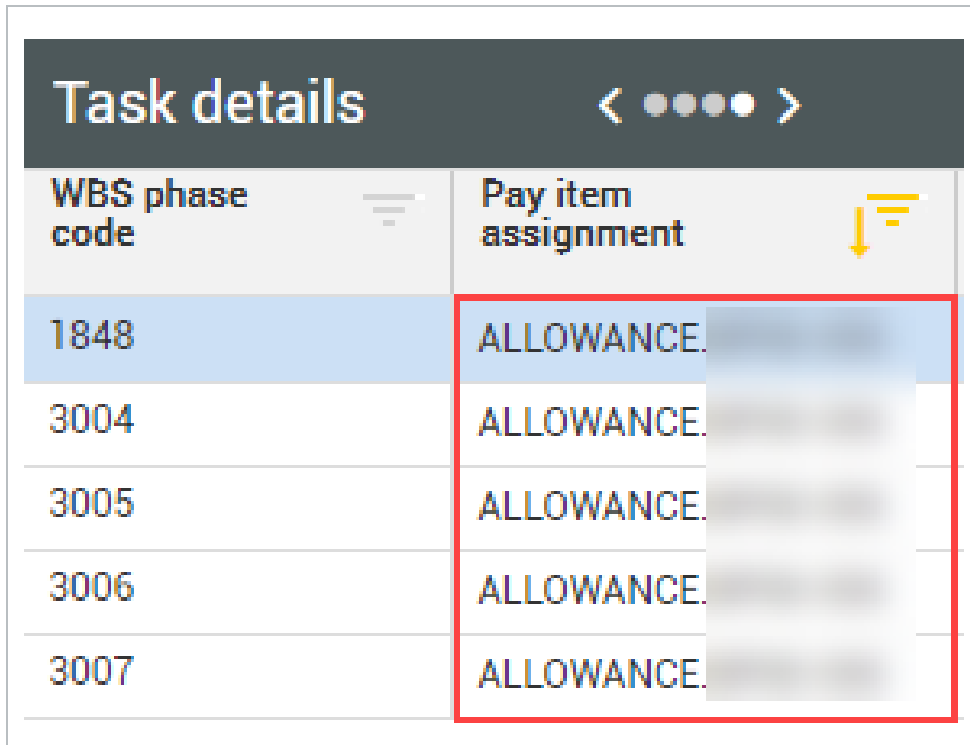
Control creates a new line item in the Change Register that states the following details:

- CCO label
- Issue #
- Description
- Total contract cost adjustment

From the Change Register, you can revise the new contract adjustment line item and then define which pay items the negotiated price should be assigned to, as well as which cost items should be updated with additional budget. In the Contract Adjustment Wizard users can view the CCO agreed price and net contract change based on your adjusted pay items. After the items have been defined the contract adjustment is then submitted and goes through the change approval process.

7.6.4.2 ASSIGN PAY ITEM ASSIGNMENT WHEN A NEW COST ITEM COMES FROM CHANGE

When new cost items are sent to Control from Change, you can assign cost items to pay items. After a contract adjustment is approved, the pay item assigned during the contract adjustment is shown in the Pay item assignment field in the CBS.



Task details	
WBS phase code	Pay item assignment
1848	ALLOWANCE.
3004	ALLOWANCE.
3005	ALLOWANCE.
3006	ALLOWANCE.
3007	ALLOWANCE.

7.6.5 CONSUME PAY ITEM ASSOCIATIONS WITH NEW COST ITEMS FROM INEIGHT CHANGE

Control change orders can consume Change's pay items association with new costs items. Change associates new cost items with pay items as part of a contract adjustment, once approved.

103961 | Ten Mile Slide - Phase 2 (Carrying) / **Change**

Change management > Issue > 5-Issue 1

Current value	Cost	Billing markup	Markup	Markup %
\$ 1,302.09	\$ 1,302.09	\$ 0.00	\$ 0.00	0.00%

Actions [Icons] DETAILS

>>	Cost item description	WBS phase code	Pay item	Cost pricing	A
	Cost item pricing			\$ 1,302.09	
	Labor				
<input checked="" type="checkbox"/>	Crew A	New	1 - 001	Labor	
<input type="checkbox"/>	Resurface Existing Acc...	1004	2 - 002	Labor	
<input type="checkbox"/>	Maintain Access Road	1005	2 - 002	Labor	
<input type="checkbox"/>	Clear & Grub Bench B &...	1006		Labor	

For example, when you create a new cost item in Change with a pay item association for a contract adjustment, and then execute, the newly created cost item becomes associated with the pay item that was assigned in Change.

This pay item assignment shows in the contract adjustment cost item and pay item steps.

Change register > 12.0 - Contract adju...

CCO total budget	CCO unassigned budget	Net budget change	Billing rate markup	CCO r
\$ 1,302.09	\$ 0.00	\$ 1,302.09	\$ 0.00	\$ 0.00

1 Details 2 Cost items

CBS position	Description	CB total cost	New CB to cost
Unassigned cost items			
2.3.1.1.3	Clear & Grub Bend	\$ 855.64	
Pay item 1 - 001			
	Crew A	\$ 0.00	
Pay item 2 - 002			
2.3.1.1.2	Mail		

1 Details 2 Cost items 3 Pay items

Pay item number	Description	Adjusted current price	Current price	Adjusted current unit price	Current unit price
1	001	\$ 100.00	\$ 100.00	\$ 0.00	\$ 100.00
2	002	\$ 702.09	\$ 5,000.00	\$ 0.00	\$ 50.00

7.6.5.3 CREATE PRE-APPROVED COST ITEMS IN INEIGHT CHANGE

You can create plug cost item placeholders directly in Change. This integration begins when an issue is created in Change, a new cost item is added, then converted into a CCO and executed.

Steel Structure Training Job | 10591 / Change

Change management > Issue-6-frame adjustments

Current value \$0.00 Cost \$0.00 Billing markup \$0.00

Actions Add existing cost items Add new cost item

Cancel Save

Cost item description	WBS phase code	Cost pricing	Adjusted CB Qty	UoM	Adjusted Mhrs
Cost item pricing					
Labor					0.0
new cost item	New	Labor	1.00	CY	0.0

After the executed CCO is revised in Control as a CCO draft, approving the CCO initiates the creation of the new cost item.

Change register > 18.0 - Contract adjust...

CCO total budget	CCO unassigned budget	Net budget change	Net quantity change	Net man hour change	Billing rate markup	CCO markup	CCO unassigned markup	Fee	Net contract change	CCO agreed price	CCO unassigned price	Approval probability
\$ 702.09	\$ 0.00	\$ 702.09	Yes	14.21	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 702.09	\$ 702.09	100.00% - Execute...

1 Details 2 Cost items 3 Time phased budget 4 Pay items 5 Summary

CBS position	Description	WBS phase code	CB total cost	Adjusted CB cost	New CB total cost	Billing rate markup	CCO markup %	CCO markup	Fee	CB total Mhrs	Adjusted CB Mhrs	New CB total Mhrs	CB total quantity	Adjust qty
	New cost item		\$ 3,374.33	\$ 1.35	\$ 3,375.68					60.00	0.02	60.02	2,500.00	
2.3.1.1.2	Maintain A		\$ 700.74		\$ 8,408.83					156.00	14.18	170.18	12.00	

Prior to this step, an executed CCO was created in Change with a new cost item.

Approving the CCO in Control creates the new cost item.

Change register > 1.1 - Contract adjust...

CCO total budget	CCO unassigned budget	Net budget change	Net quantity change	Net man hour change	Billing rate markup	CCO markup	CCO unassigned markup	Fee	Net contract change	CCO agreed price	CCO unassigned price	Approval probability
\$ 702.09	\$ 0.00	\$ 702.09	Yes	14.21	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 702.09	\$ 702.09	100.00% - Execute...

1 Details 2 Cost items 3 Pay items 4 Summary

Assign cost to

CBS position	Description	WBS phase code	CB total cost	Adjusted CB total cost	Markup %	Markup	Fee
5	New cost item	123456	\$ 0.00	\$ 100.00			
Subtotals 1			\$ 0.00	\$ 100.00		\$ 0.00	\$

Approve Cancel Draft Back Next

Additionally, the cost item is inserted as the last record in the CBS.

Tasks			Task details			Actuals	
CBS position	Description		Resources	Forecast (T/O) qty	UoM	Actual qty (to date)	Actual Mhrs/unit (to date)
4.13.2	Not in Use			1.00	Wk	0.00	
4.13.3	Not in Use			1.00	Wk	0.00	
4.14	Not in Use			1.00	PLS	0.00	
4.15	Not in Use			1.00	Gal	0.00	
4.15.1	Not in Use			1.00	Gal	0.00	
4.15.2	Not in Use			1.00	Gal	0.00	
5	New cost item			1.00	Mile	0.00	
Subtotals 35							

7.6.6 PAY ITEM LOCKING

At the beginning of a project, pay items in Control are unlocked. You can modify the following current amounts directly in the grid when your price is not locked:

- Current price
- Current unit price
- Current pay quantity
- Current billing method
- Current forecast takeoff quantity

The original columns in the grid shows what your original pay values were for those pay items before any change orders or contract adjustments were done.

Pay item number	Descri...	Curr... price	Curr... unit price	Curr... pay qty	Curr... fore... (T/O)	Curr... billing met...	UoM	Is billed	Origi... price	Origi... unit price	Origi... pay qty	Origi... fore... (T/O)	Origi... billing method	Un... rev...	Billed reve...	Forecast total revenue
<input type="checkbox"/>	test	\$ 50,005.00	\$ 10,001.00	5.00	0.00	Unit price	PNO	<input checked="" type="checkbox"/>							\$ 0.00	\$ 0.00
<input type="checkbox"/>	test 2	\$ 120.00	\$ 100.00	1.20	1.00	Cost plus	Acre	<input type="checkbox"/>							\$ 0.00	\$ 710.00
<input type="checkbox"/>	new pay item	\$ 100.00	\$ 100.00	1.00	0.00	Fixed final...	PLS	<input type="checkbox"/>							\$ 0.00	\$ 100.00

For example, prior to any changes, the original columns show your agreed upon pay item values. Then the current columns shows your original values.

UNLOCKING PAY ITEMS

1. From the CBS tab of the Control Workspaces page, click the **Actions** drop-down menu.
2. Select the **Unlock Pay Items** option.

When your pay items are already unlocked, a yellow banner is shown.

You can edit your billing method directly in the grid if the billing method has not already been billed. You can also edit directly in the pay item details slide-out panel.

The screenshot displays the 'PAY ITEMS' register. At the top, there are navigation tabs for 'CBS', 'ACS', 'PAY ITEMS', 'CHANGE REGISTER', and 'AUDIT LOG'. Below these is a 'Revenue snapshot' section with 'Current revenue forecast' and 'Billed date: 06/06/2017 to 06/08/2021'. A yellow warning banner states 'The price is unlocked'. The main table lists several pay items, with 'new pay item' selected. The slide-out panel for this item shows a 'Pay item number' of 1, 'Line number' of 8, and 'Sales order' field. The 'Description' field contains 'I' and '500'. The 'Current billing method' is set to 'Fixed final price'. The 'Current price' is \$0.00. A 'Subtotals' row at the bottom shows a total of \$720.00.

You can also add new pay items directly in the pay items register without doing a contract adjustment. For example, if you click the **Add pay item** icon and the price is unlocked, you can add a pay item directly into the grid which opens the pay item slide-out panel.

After you are finished editing the pay item register, you can lock your price either from the banner or from the Actions menu. After the price is locked, the items from the grid become read-only. The only way to make changes now is to do a contract adjustment. Current values change while original values stay the same.

Any pay items that you edit or add are tracked in the pay item audit log as well as price locks.

7.6.7 IMPORTING BUDGET REVENUE DETAILS FROM INEIGHT CHANGE

You can associate cost items from Control to an issue in Change. The adjusted cost, quantity, and man-hours for selected cost items are imported from Change into a contract adjustment in Control. These items automatically populate the the contract adjustment that is generated from Change.

7.6.7.4 BUDGET HEADER INFORMATION

CBS position	Description	WBS phase code	CB total cost	Adjusted CB total cost	Markup %	Markup	Fee	CB total Mhrs	Adjusted CB total Mhrs	CB total quantity	Adjusted CB total Qty
Unassigned cost items											
12	Test - Change 1.	1963	\$ 100.00	\$ 1,000.00				10.00	100.00	1.00	
14	Test - Change 2.	1965	\$ 200.00	\$ 2,000.00				0.00		1.00	
15	Test - Change 3.	1966	\$ 2,500.00	\$ 25,000.00				0.00		1.00	
Subtotals 3			\$ 2,800.00	\$ 28,000.00			\$ 0.00	\$ 0.00	10.00	100.00	

The header information includes the following:

- CCO total budget
- CCO unassigned budget
- Net budget change
- Net contract change

The CCO total budget includes the cost amount that was adjusted in Change. The CCO agreed price section includes the Executed CO amount. The CCO agreed price is the cost plus mark ups.

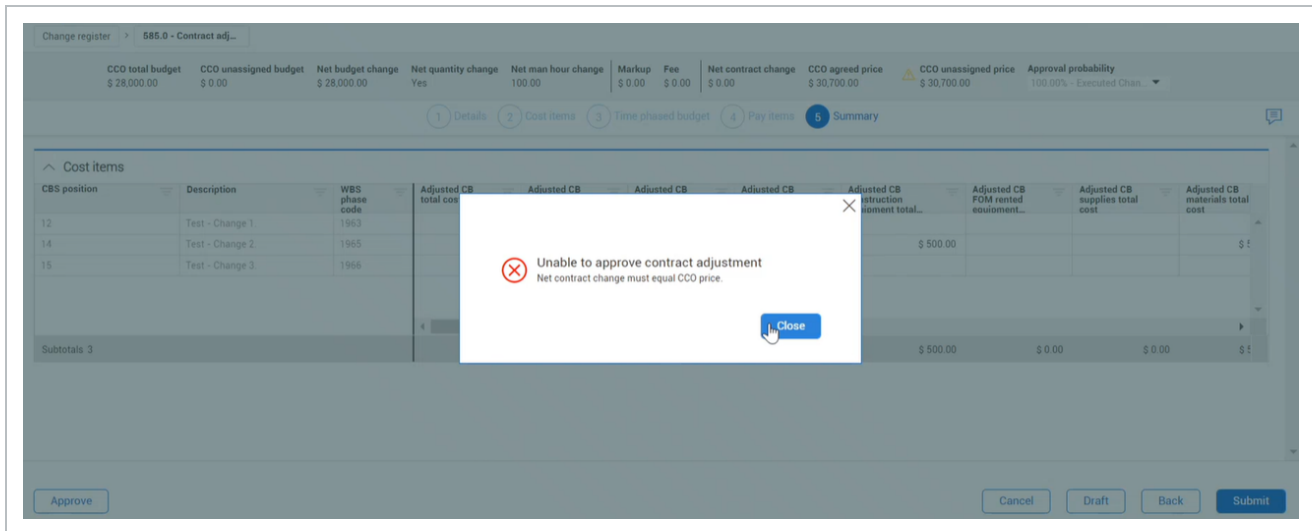
The CCO unassigned budget is the difference between the Net budget change, which is the sum of all the modifications in the contract adjustment, and the CCO total budget. For example, if you have any items not allocated to a cost item, the CCO unassigned budget changes value.

The Net budget change is the adjusted CB total cost.

The Net contract changes are derived from the total pay item changes. For example, you can add a pay item directly in the grid, and either add all of that amount to one pay item or split it out among pay items.

You can also price out a change order using the agreed-upon cost item amounts from Control. Then, when you execute a CCO in Change, Control automatically attributes the adjusted amounts to the correct cost items.

The Net contract change must equal the CCO price or it cannot be approved, causing an error to show.



7.7 CHANGE APPROVAL PROCESS

After submission, all budget moves must be reviewed and approved before their values are added to the Current Budget. The Change register allows users with appropriate permissions to review the details of contract adjustments and budget moves, and either revise, reject, or approve the changes.

To access the Change Register, click on the “Change Register” tab at the top of the Control workspace.

Steel Structure Job (105091) Control Workspaces									
		CBS		ACS		PAY ITEMS		CHANGE REGISTER	AUDIT LOG
Change register									
ID	Description	Creation date	Last changed by	Last changed on	Net Qty change	Status	Total budget cost adjustment	Total budget MH adjustment	
32.0	Structural Steel Add...	07/25/2018	user5 user5	07/25/2018	0.00	Pending	\$ 135,000.00		C
31.0	Spread budget from...	07/25/2018	user5 user5	07/25/2018	0.00	Pending	\$ 10,000.00		10C
30.0	Spread budget from...	07/25/2018	user5 user5	07/25/2018	0.00	Pending	\$ 10,000.00		10C
29.0	Spread budget from...	07/25/2018	user5 user5	07/25/2018	0.00	Draft	\$ 0.00		C
28.2	test1	07/13/2018	Service Account	07/13/2018	0.00	CCO-Draft	\$ 0.00		C
28.1	MTH - Bearing Pads	07/11/2018	user13 user13	07/11/2018	0.00	CCO-Draft	\$ 0.00		C
28.0	MH CCO 001	07/10/2018	Service Account	07/10/2018	0.00	CCO-Revised	\$ 0.00		C

- The submitted entries have a status of Pending in the Status column of the Change register
 - **Rejecting** the change ends the change process and prevents the proposed changes from updating any pay items or cost items

- **Revising** the change restarts the change process for the proposed pay and cost items, and re-submits the change for approval
- **Approving** the change makes the proposed pay and cost item changes final and updates the project price and cost information accordingly

Right click on a change register record to view further record details, make revisions, and review the changes that were previously made to the change record.

ACS		PAY ITEMS		CHANGE REGISTER		
Stat...	Crea... date	Last cha... on	Net Qty cha...	Type	Cha... man... tag 1	
	/2020	09/08/2020	0.00	Budget m...		
	/2020	09/01/2020	605.00	Budget m...		
	/2020	09/01/2020	605.00	Budget m...		
	Appr... 05/21/2020	05/27/2020	16,776.00	Budget m...		

- Details
- Revise
- Review

- The Details slide-out panel shows an overview of changes that were made to a particular change record, along with attributes such as the change order type, CBS position move

from/to, and adjusted CB total cost /MHrs/Qty

167.0
AWS Change Order

Type Budget move (Associated)	Status ✔ Approved	Originated on 09/08/2020	Originated by
Last changed on 09/08/2020	Last changed by Connor Ballard	Approved on 09/08/2020	Approved by Connor Ballard

From/To	CBS position	Description	W... ph... CO...	Adjusted CB total cost	Adjusted CB total MHrs	Adjusted CB total Qty	Locked
From	1.12.5	BTA	1169	(\$ 113,894.00)	0.00	-113,894.00	
To	1.8.23	AWS - Exterior Enclos...	1183	\$ 113,894.00	0.00	+113,894.00	
				\$ 113,894.00	0.00		

[Review](#)
[Revise](#)

- The Revise option takes you directly into the budget/contract move to review the change steps, and make any additional changes

Change register > Budget Move

1 Details 2 Select from & to items 3 Define relationships 4 Assign amounts 5 Adjust cost categories 6 Summary

Choose your Budget move workflow

Associated
Define budget moves with a From and To process to provide ultimate traceability of budget moves.

Non-Associated
Define budget moves freely to provide the most flexibility.

Budget move details

Issue # COO

Description 486

Discipline 500

Change management tag 1 Change management tag 2 Change management tag 3

[Cancel](#)
[Draft](#)
[Next](#)

- Review is a read-only option that takes you directly into a budget/contract move to review the change steps

NOTE Control retains Change column filters when you navigate out of the Change register, and then go back to the register.

7.7.1 GROUP BY OPTION

Activate the Group by icon to show certain Change columns in groups of like information. Similar to the CBS, you can activate the Group By icon in order to categorize certain columns in the Change Register.

ID	Description	CCO	Creation date	Issue #	Last cha... by	Last cha... on	Net Qty cha...	Stat...	Notes	Cha... man... tag 1	Cha... man... tag 2	Cha... man... tag
8.0			09/23/2021		Paul trippi	09/23/2021	0.00	Pend...				
7.0			09/23/2021		Paul trippi	09/23/2021	10,000.00	Pend...				
6.0			09/23/2021		Paul trippi	09/23/2021	0.00	Pend...				
5.0			09/23/2021		Paul trippi	09/23/2021	0.00	Pend...				
4.0			09/23/2021		Paul trippi	09/23/2021	0.00	Pend...				
3.0			07/26/2021	5	Paul trippi	07/26/2021	100.00	Draft				
2.1	3	3	09/23/2021	3	Paul trippi	09/23/2021	0.00	Pend...				
2.0	3	3	01/19/2021	3	Paul trippi	09/23/2021	0.00	Revis...				

Select a column header, drag it into the gray field above the column headers, and then drop it. Additionally, multiple columns headers can be placed in the Group By field.

ID	Description	CCO	Creation date	Issue #	Last cha... by	Last cha... on	Net Qty cha...	Stat...	Notes	Cha... man... tag 1	Cha... man... tag 2	Cha... man... tag
8.0			09/23/2021		Paul trippi	09/23/2021	0.00	Pend...				
7.0			09/23/2021		Paul trippi	09/23/2021	10,000.00	Pend...				
6.0			09/23/2021		Paul trippi	09/23/2021	0.00	Pend...				
5.0			09/23/2021		Paul trippi	09/23/2021	0.00	Pend...				
4.0			09/23/2021		Paul trippi	09/23/2021	0.00	Pend...				
3.0			07/26/2021	5	Paul trippi	07/26/2021	100.00	Draft				
2.1	3	3	09/23/2021	3	Paul trippi	09/23/2021	0.00	Pend...				
2.0	3	3	01/19/2021	3	Paul trippi	09/23/2021	0.00	Revis...				

After the Group by icon is activated, and one or more columns are grouped, such as the Status column, you can see all the change records in their respective groupings. You can also see a subtotal for each of the groupings.

< PAY ITEMS CHANGE REGISTER AUDIT LOG >												
Actions ▾ \$ ▾ ⚙️ 📄 📌 🔍												
↑ Status ×												
ID	Description	CCO	Creation date	Issue #	Last cha... by	Last cha... on	Net Qty cha...	Stat...	Notes	Cha... man... tag 1	Cha... man... tag 2	
▲ Status:Pending(Count:6)												
8.0			09/23/2021		Paul trippi	09/23/2021	0.00	↻ Pend...	🗨			
7.0			09/23/2021		Paul trippi	09/23/2021	10,000.00	↻ Pend...	🗨			
6.0			09/23/2021		Paul trippi	09/23/2021	0.00	↻ Pend...	🗨			
5.0			09/23/2021		Paul trippi	09/23/2021	0.00	↻ Pend...	🗨			
4.0			09/23/2021		Paul trippi	09/23/2021	0.00	↻ Pend...	🗨			
2.1	3	3	09/23/2021	3	Paul trippi	09/23/2021	0.00	↻ Pend...	🗨			
Count:6												
▲ Status:Draft(Count:1)												
3.0			07/26/2021	5	Paul trippi	07/26/2021	100.00	📄 Draft	🗨			
Count:1												
▲ Status:Revised(Count:1)												
2.0	3	3	01/19/2021	3	Paul trippi	09/23/2021	0.00	🔧 Revis...	🗨			
Count:1												

APPROVE A CONTRACT ADJUSTMENT / BUDGET MOVE

1. Click on the **Change Register** tab.
2. Click a **Contract Adjustment** record.
3. Review your proposed changes to both your pay item, and cost item(s) as applicable.
4. Click the **Approve** button.

NOTE If you reject a change order and then revise, the revision is noted in the change record’s ID number.

EXERCISE 7.1 – CHANGE MANAGEMENT

Now that you have covered the key tasks related to change management, you can practice making changes on your own. You can use your own project (if available) or the training project used in this lesson.

1. Review the project and determine a scenario that would require a contract change.

2. Perform a Contract Adjustment per your scenario, including the creation of a pay item.

3. Once completed, approve the Contract Adjustment.

Congratulations, you have completed this exercise!

REVIEW

1. Where can you review the details of your contract adjustment or budget move and choose to either revise, reject, or approve the change?
 - a. Change Register
 - b. Approval Screen
 - c. CBS Log
 - d. Contract Change Log

 2. When creating a budget move, what is recommended?
 - a. Issue number
 - b. Description
 - c. Dollar amount
 - d. All of the above
-

SUMMARY

As a result of this lesson, you can:

- Explain the change management process
- Complete a cost budget move
- Complete a quantity budget move
- Complete a man-hour adjustment
- Create an adjustment to the contract
- Describe the change order approval process

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REVENUE MANAGEMENT

LESSON DURATION: 45 MINUTES

LESSON OBJECTIVES

After completing this lesson, you will be able to:

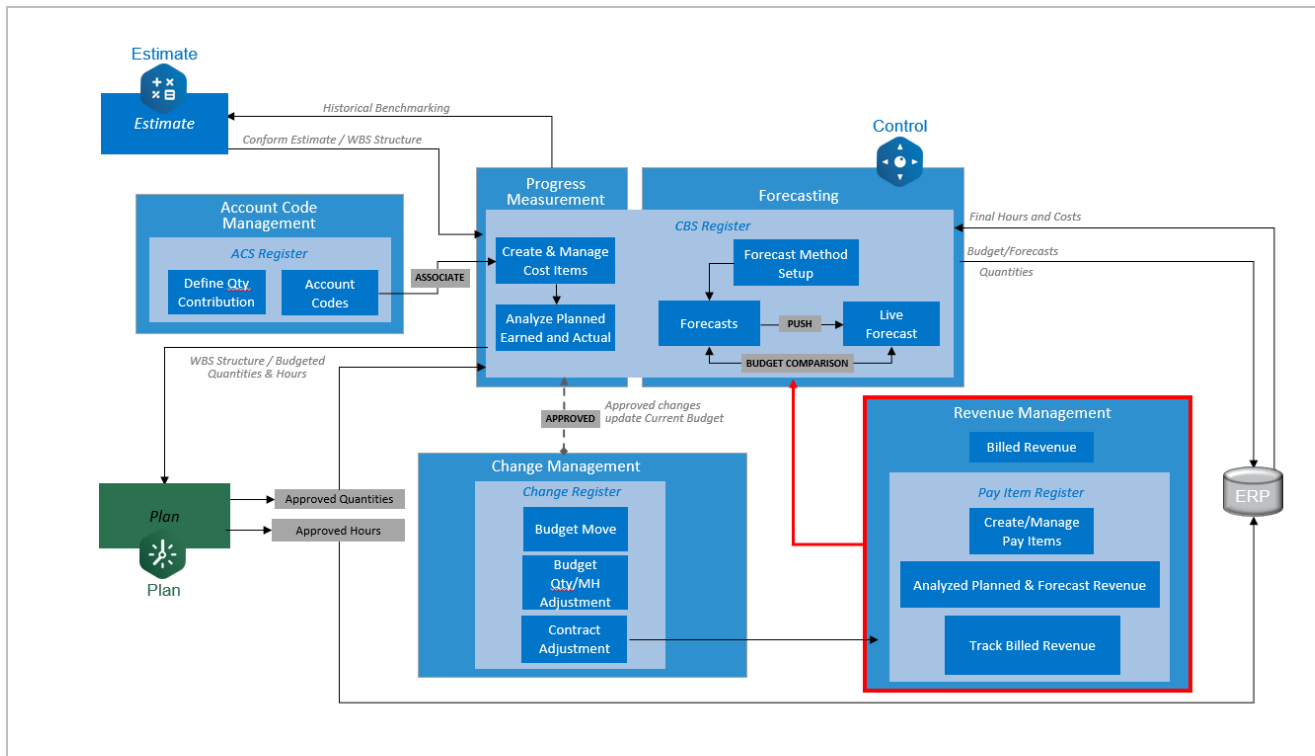
- Forecast revenue and determine profit
- Manage pay item details
- Adjust pay item earning rules
- Bill customers per pay item or in mass
- Track billed revenue

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8.1 INEIGHT CONTROL WORKFLOW - REVENUE MANAGEMENT



8.2 PAY ITEM DETAILS

When you right click on a pay item, a context menu appears with four options for managing pay items. You can:

- Insert a pay item
- Delete a pay item
- Access/maintain pay item details
- Access/maintain billed revenue details.

Selecting Pay item details will open a Pay item Details slide out panel.

	Pay item number	Description
<input type="checkbox"/>	001	Earthwork - Labor & Material
<input checked="" type="checkbox"/>	002	Concrete - Labor & Material
<input type="checkbox"/>	003	

- + Insert pay item
- × Delete pay item(s)
- 📄 Pay item details
- 📄 Billed revenue details

You can also access this context menu by hovering over to the right of the Description and clicking on the three black dots.

	Pay item number	Description
<input type="checkbox"/>	001	Earthwork - Labor & Material
<input checked="" type="checkbox"/>	002	Concrete - Labor & Material
<input type="checkbox"/>	003	Steel - Labor & Material

8.2.1 DETAILS TAB

The first tab in Pay item details is called Details. This is where you can view the details for the pay item such as Total Price, Pay Quantity, and Unit Price. You can also make changes to fields such as Pay Item number, Line number, and Description.

1 - 1
Concrete

Pay item position	Current price	Current pay qty	Current unit price	Current billing method
1	\$ 100,000.00	1.00	\$ 100,000.00	Fixed final price

DETAILS ATTRIBUTES CHANGE ORDERS COST ITEMS COST CATEGORIES

* Pay Item number: Line number: Sales order:

Description: 492

Original billing method: Current billing method:

8.2.2 ATTRIBUTES TAB

Next is the Attributes tab. This is where you can associate specific tags to your pay item, or to define field values.

1 - 1
Concrete

Pay item position	Current price	Current pay qty	Current unit price	Current billing method
1	\$ 100,000.00	1.00	\$ 100,000.00	Fixed final price

DETAILS **ATTRIBUTES** CHANGE ORDERS COST ITEMS COST CATEGORIES

PT1: PT2: PT3:

PT4: PT5: PT6:

8.2.3 CHANGE ORDERS TAB

The Change Orders tab displays all change orders associated to the selected pay item.

1 - 1
Concrete
✕

Pay item position	Current price	Current pay qty	Current unit price	Current billing method
1	\$ 100,000.00	1.00	\$ 100,000.00	Fixed final price

DETAILS
ATTRIBUTES
CHANGE ORDERS
COST ITEMS
COST CATEGORIES

Change order number	CCO	Issue #	Total price change	Total unit price change	Total pay qty change	Approval probability	Ad for re
No records available.							

8.2.4 COST ITEMS TAB

The Cost Items tab displays the cost items that are assigned to the selected pay item. In this example there are two cost items assigned to the 002 Concrete – Labor & Material pay item.

1 - 1
Concrete
✕

Pay item position	Current price	Current pay qty	Current unit price	Current billing method
1	\$ 100,000.00	1.00	\$ 100,000.00	Fixed final price

DETAILS
ATTRIBUTES
CHANGE ORDERS
COST ITEMS
COST CATEGORIES

Earnings amounts based on: Forecast (T/O) qty CE total cost [Update earning rules](#)

CBS Position	Description	WBS Phase Code	Earning %	Earning Amount (Forecast)
6	Contract item	1140	100.00 %	\$ 100,000.00
			100.00 %	\$100,000.00

8.2.5 COST CATEGORIES

The Cost Categories tab shows a break at the cost category level for the cost items that are assigned to that pay item. This tab is a quick way to see where you have cost and revenue as well as where you have revenue at the pay item level for the pay item at the cost category level. The different fields represent the different billing methods that are available currently.

	DETAILS	ATTRIBUTES	CHANGE ORDERS	COST ITEMS	COST CATEGORIES
Cost category	Forecast final revenue	Revenue earned	Billed revenue	Markup amount	Total cost (to date)
^ Total	\$ 15,000.00	\$ 7,500.00	\$ 2,000.00	\$ 1,000.00	\$ 900.00
v Labor			\$ 1,000.00		\$ 100.00
v Constructio...			\$ 0.00		\$ 0.00
v FOM Rente...			\$ 0.00		\$ 0.00
v Supplies			\$ 0.00		\$ 0.00
v Materials			\$ 0.00		\$ 0.00
v Subcontract			\$ 0.00		\$ 500.00
v Fees			\$ 0.00		\$ 300.00
v Allowance			\$ 0.00		\$ 0.00
G & A			\$ 0.00		\$ 0.00

Forecast final revenue, Revenue earned, and Markup amount only show at the totals level of the cost categories.

Forecast final revenue and Revenue earned shows the information that is pulled from the pay item's register.

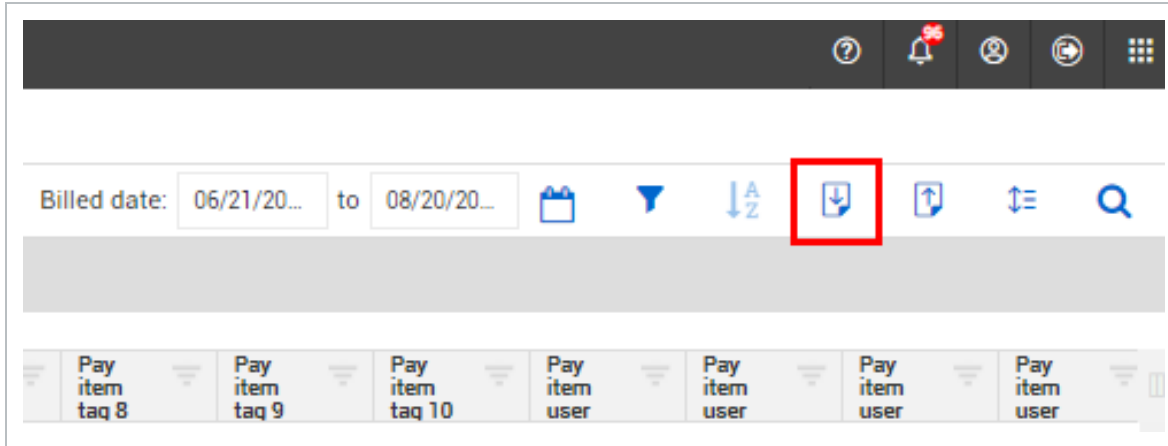
The Total cost to date column breaks down the information from the information from the cost items assigned to the pay based on where you claimed the cost for those items.

The Markup amount calculates the difference between your total price and your agreed upon current budget cost for those assigned cost items. The Markup amount uses the calculation Total price on the pay item - sum of the CB total cost on the assigned cost items

8.3 BULK IMPORT PAY ITEMS

You can import pay items in mass directly into the Pay Item and Proposal register, similar to how cost items can be imported directly into the CBS.

You can access the Excel import feature by clicking on the Import icon on the far right toolbar of Control > Workspaces > Pay Items.



When you click on the Import icon within the Pay Items tab of the Workspaces page, the Import Pay Items window is shown.

Overview - Import Pay Items window

Title		Description
1	Import from Excel	You can either drag and drop or browse to the file to import. Microsoft Excel files (.xlsx, .xls) and Comma Separated Value (.csv) files can be imported.
2	Import Type	You can add new pay items into the Pay Item and Proposal register.
3	Information message	Explains that once an import file is specified, the next step will allow you to match the columns in your spreadsheet to the appropriate columns in Control.

Import Pay items

1

Import from Excel (.xlsx, .xls) or Comma separated value (.csv)

Drag and drop the file here
or browse

Browse

Options

2

* Import type

Pay Items

New import

3

i The import file is read and field mapping can be specified. Mapping uses row 1 headers from the source document

Cancel

Next

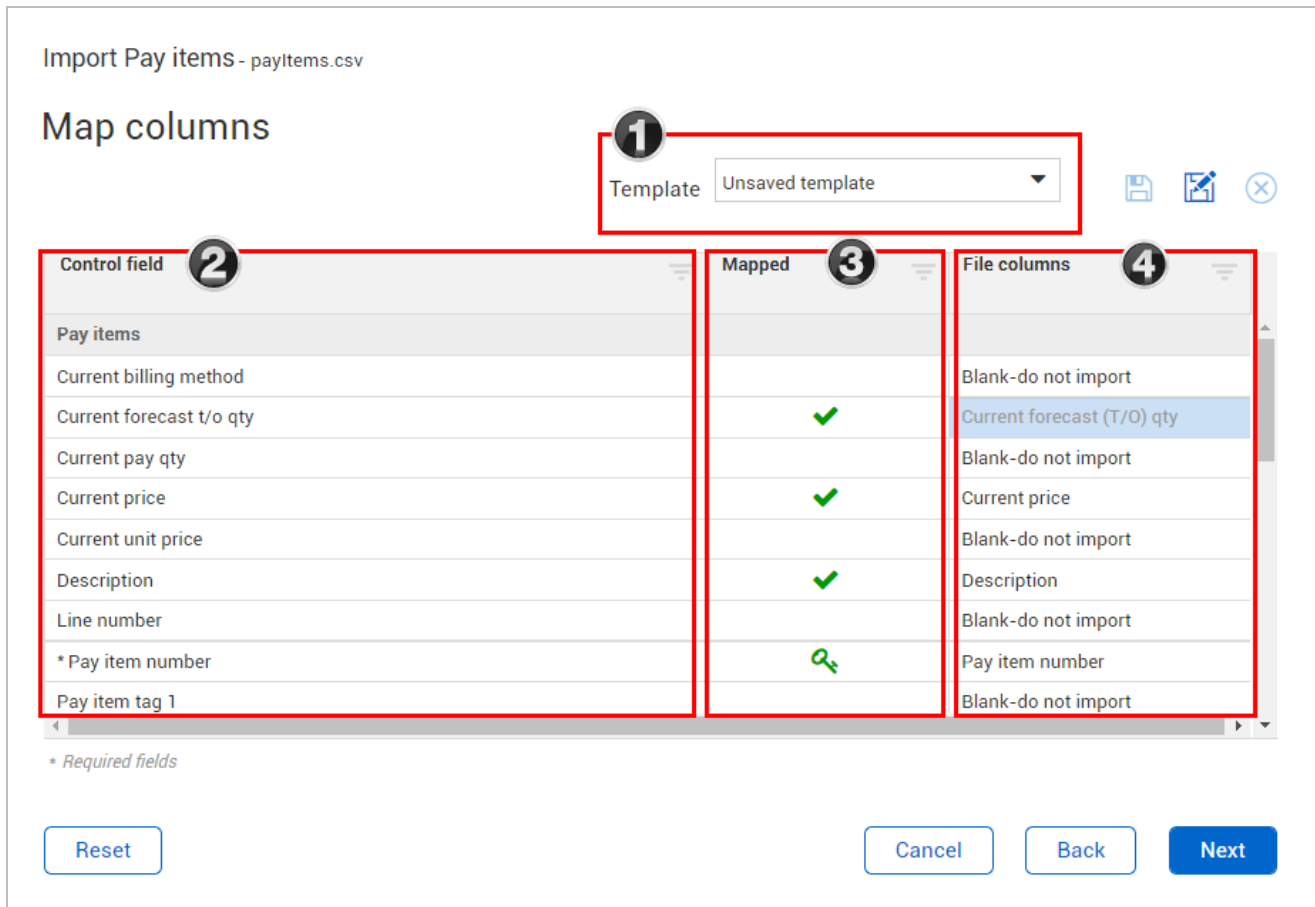
Clicking Next brings you to the Map columns window, where you can map your Excel columns to the applicable column in Control.

Overview - Map Columns Window

	Title	Description
1	Template	After you map the import file columns to the Pay Item columns in Control, you can save your settings as a template for future use. This is helpful when you need to make scope changes or updates on a regular basis.
2	Control field	The names of the column headers in Control that you can map your data to.
3	Mapped	A green checkmark indicates the column in your import file is mapped correctly to the Pay Item's column. The Green key indicates the matching code you specified is locked.

Overview - Map Columns Window (continued)

Title	Description
4 File columns	The names of the column headers in your import file that you can map to the pay item columns in Control.



8.3.1 SPREADSHEET RULES

For the import to work correctly, the items in your Excel spreadsheet need to be formatted in a certain way so that Control can recognize them. The following table indicates important spreadsheet rules to follow to make sure your data imports successfully:

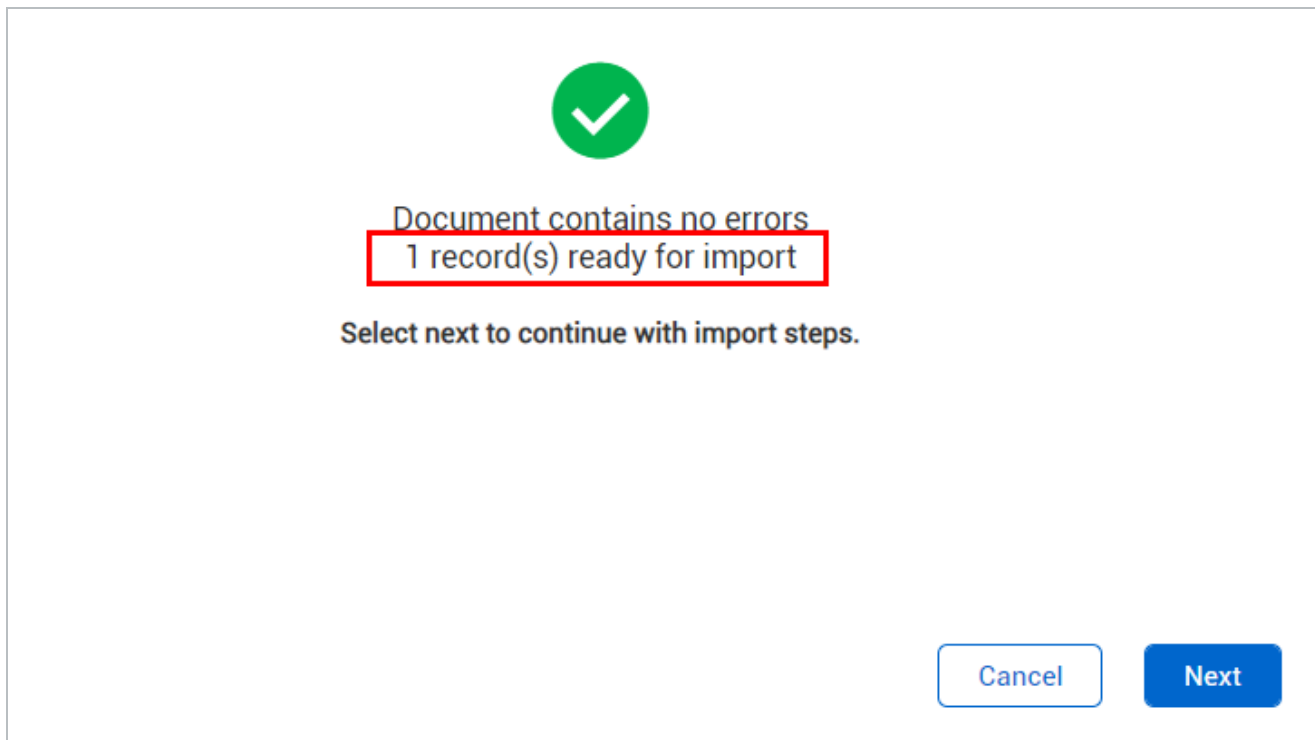
Attribute	Rules
Import	Reads the first worksheet within the referenced workbook.

Attribute	Rules
function	Stops the import process when a blank row is encountered, so consolidating the data to be imported is required.
First row of data	This is the header row of the data. This becomes the titles that are referenced during the mapping process. During import, headers are not read if a blank header cell is encountered.
Numbers	Need to be the actual number, not the summation of cells. Cannot contain the \$ or other currency symbol.
Second row of data	This is the first row of data import.


NOTE

If you make changes in the spreadsheet, you must save the spreadsheet before importing. Only saved data are imported.

After clicking the Next button, the system reads your Excel file and attempts to import pay items. A successful import shows a message stating the number of files to be imported.



If the import is not successful, a message is shown stating that errors exist. An error file is provided for you to download, review, make corrections to your Excel file, then eventually continue with the pay item import again.


1 of 1 records contain errors
No Pay Items were imported. Multiple errors found in pay item import.
Download the error file to review and resolve errors.
Once all errors have been resolved, reattempt import.

Close Download Error File

The import error download file shows exactly where the error(s) exist within the Excel file.

```
PayItem from External System
File Import attempted on: 8/20/2021 7:43:46 PM

The following errors were detected while attempting to import pay item
values into control.
Review the errors below, once all the errors have been resolved,
reattempt the import to Control.
```

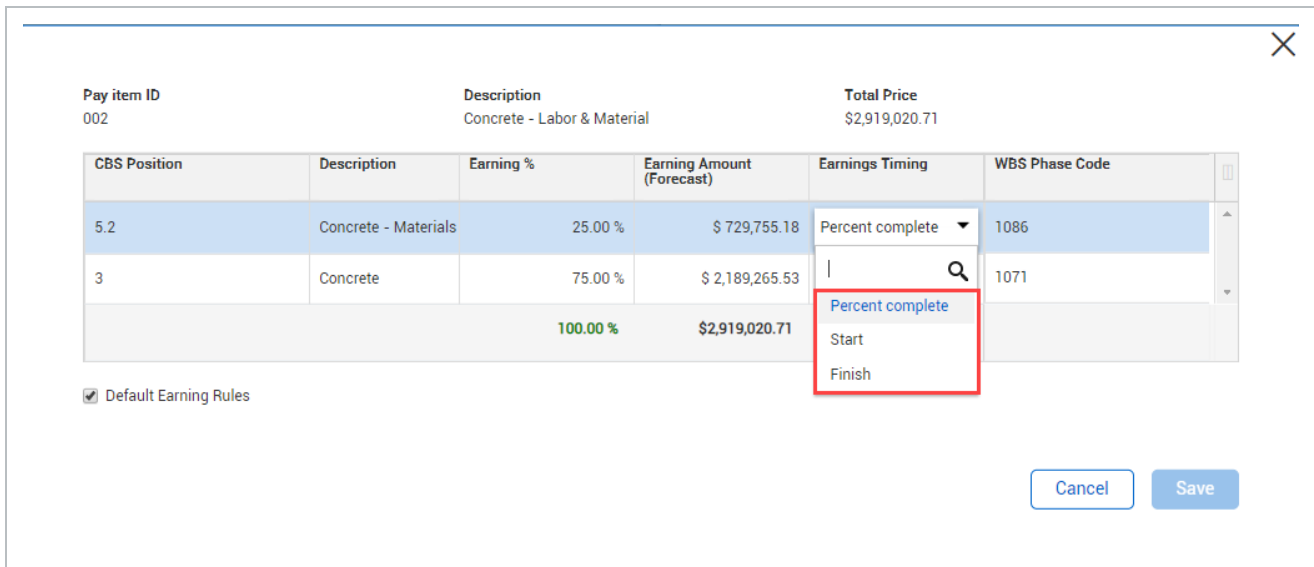
```
Error 1: Current unit price must be a numeric value for pay item number
5. (this error has 1/1 total rows affected)

Pay Item Number: 5
Row: 1
```

8.4 EARNING RULES

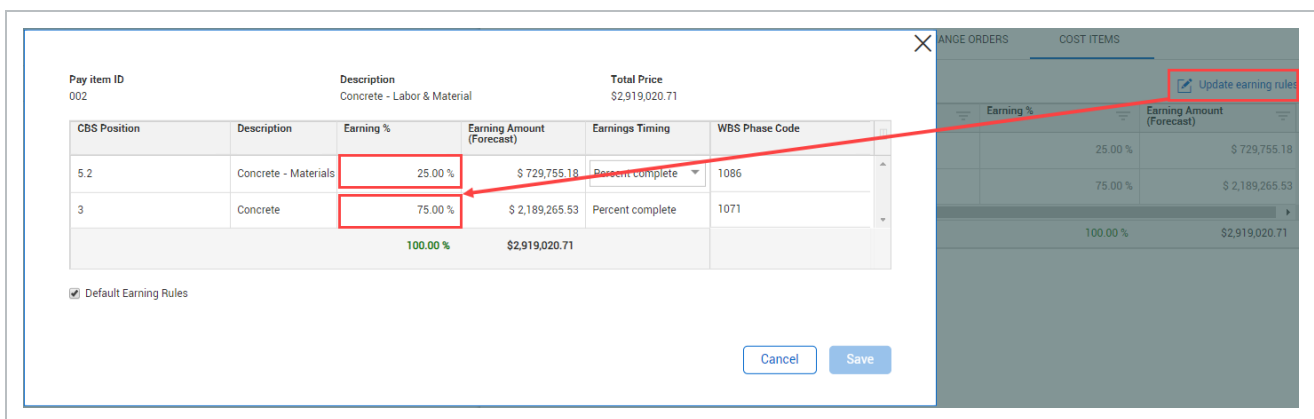
On the Cost Items tab the **Update earning rules** icon updates the earning rules for all associated cost items. For each cost item associated to a pay item, you can adjust the earning rules by Earning % and Earnings Timing. The Earnings timing indicates when you can earn revenue for a specific cost item associated to a pay item. You can select from the following earnings timing options:

- **Percent complete** – You will earn revenue based on the % complete of the cost item
- **Start** – You will earn all the revenue when the work of the cost item is started (e.g., Mobilization)
- **Finish** – You will not earn any revenue for the cost item until all the work is completed (e.g., QC item)



In this case for your Structural Steel Project, cost item 3 has an earning rule that equals 75% of the Earning Amount (Forecast) of the pay item’s final revenue. Respectively, cost item 5.2 has an earning rule of 25% of the Earning Amount (Forecast).

Since the Total Price of this pay item is \$2,919,020.71, it is expected that cost item 3 will earn 75% of this amount, and cost item 5.2 will earn 25%.



NOTE**Billing method of Cost plus**

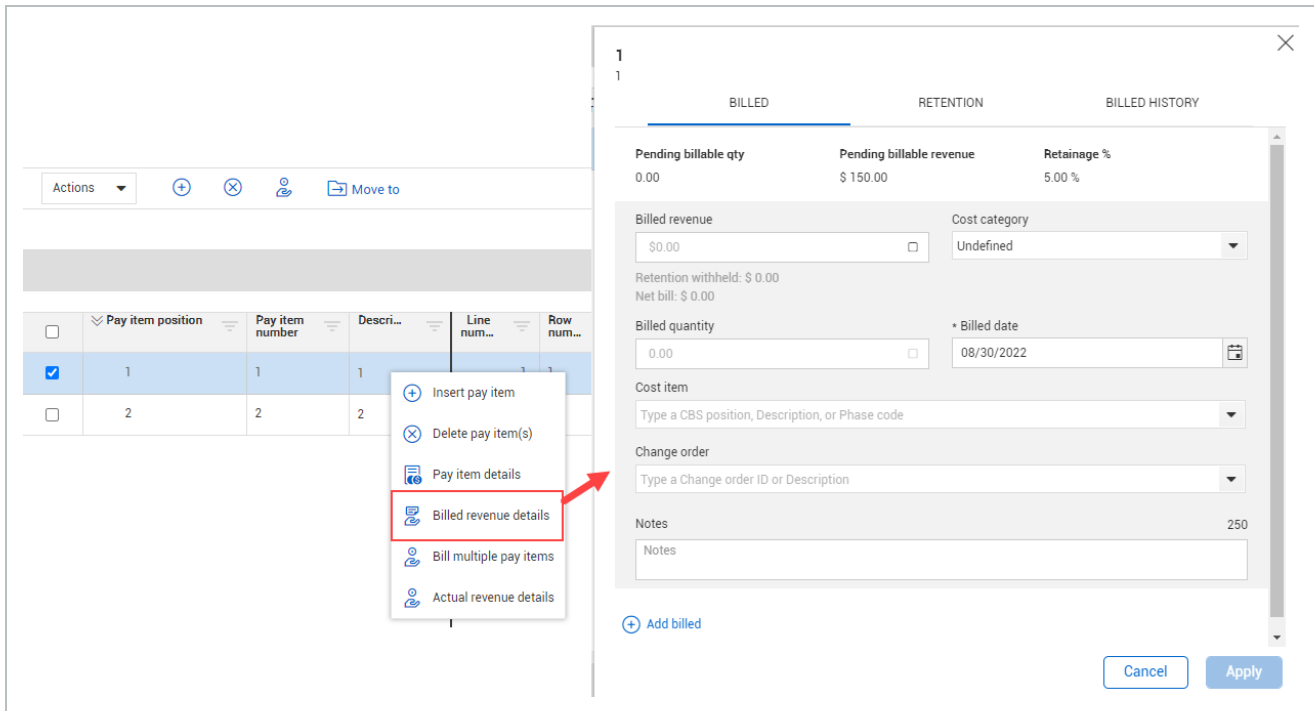
When the billing method of the pay item is set to Cost Plus, then the Update earnings rules option will be disabled. Therefore, the associated cost items of the pay item will earn revenue based on the assigned estimate resources' billing rates and the % complete of the cost item.

ADJUSTING PAY ITEM EARNING RULES

1. On the Pay Items tab, select a pay item.
2. Hover over to the right of the Description and click on the **three black dots**.
3. Select **Pay item details**.
4. Select the **Cost Items** tab.
5. Click the **Update earning rules** icon.
6. Change the Earning % percentages for each associated cost item so the total will equal 100%..
7. Click **Save**.

8.5 BILLED REVENUE

On the Pay Items screen, selecting Billed revenue details from the context menu opens the Billed revenue slide out panel.



The Billed revenue slide out panel is where you can record what you bill to the client.

8.5.1 BILLED TAB

The Billed Revenue Details window defaults to the Billed tab. This is where you enter in information about what you want to bill to your customer and also view pending billable quantity and pending billable revenue based on the progress of the cost items associated and their earnings rules.

1×

1

BILLEDRETENTIONBILLED HISTORY

Pending billable qty
0.00

Pending billable revenue
\$ 150.00

Retainage %
5.00 %

Billed revenue

Cost category

Retention withheld: \$ 0.00
Net bill: \$ 0.00

Billed quantity

*** Billed date**

Cost item

Change order

Notes 250

⊕ Add billed

Cancel Apply

After selecting apply, the billed amount is visible on the Pay Register screen under the five Billed columns:

Page 368 of 552

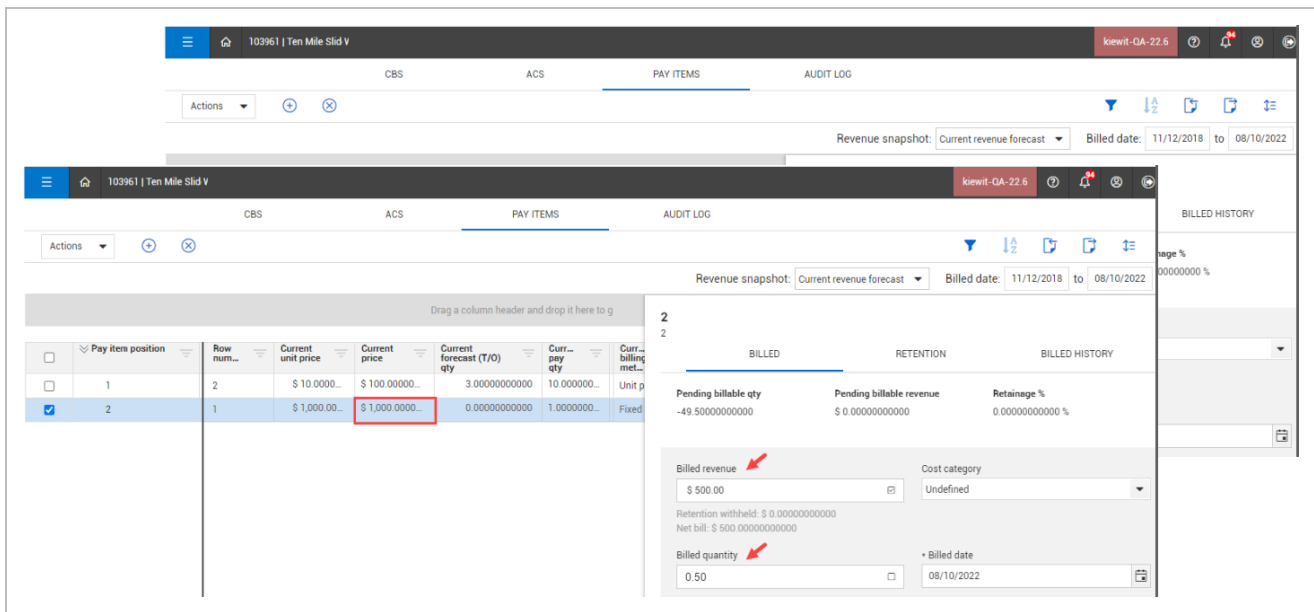
InEight Inc. | Release 24.11

- **Is billed** - If checked, a billing record has been created
- **Billed quantity** - This is based on your pay quantity, and depends your UOM, and how you want to bill the quantity
- **Billed revenue** - What you billed to the client
- **Pending billable quantity** = Earned quantity - Billed quantity to date
- **Pending billable revenue** = Earned revenue - Billed revenue to date

8.5.1.1 UNIT PRICE PROPORTIONAL BILLING

When you bill revenue or quantity for unit price pay items, the billed quantity or revenue automatically adjusts proportionally to the entered billed value to match the unit price.

For example, if the current unit price is \$1,000.00 and the billed quantity is 0.50, then the billed revenue automatically calculates at \$500.00.



NOTE Once a pay item is billed, you can no longer delete the pay item.

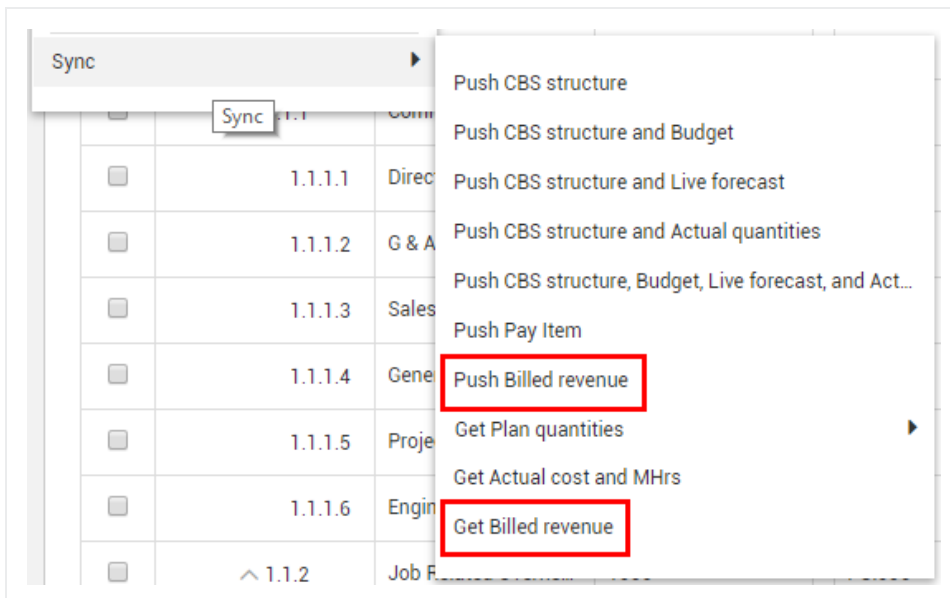
8.5.2 BILLED REVENUE DETAILS

Once you have billed revenue and quantity to your customer, all columns will populate with values.

Pay item number	Description	Total price	Unit price	Forecast final revenue	Is billed	Billed quantity	Billed revenue
001	Earthwork - Labor & Mater...	\$ 759,887.01	\$ 759,887.01	\$759,887.010000	<input checked="" type="checkbox"/>	5.00	\$ 100.00
002	Concrete - Labor & Material	\$ 2,919,020.71	\$ 2,919,020.71	\$2,919,020.710...	<input checked="" type="checkbox"/>	1.00	\$ 100.00
003	Steel - Labor & Material	\$ 1,821,092.28	\$ 1,821,092.28	\$1,821,092.280...	<input type="checkbox"/>	0.00	\$ 0.00

As soon as work is progressed on the cost item(s) associated to a pay item, the quantity earned, revenue earned, pending billable quantity, and pending billable revenue fields will populate with values. When a bill is processed, the billed quantity and billed revenue fields will update, and the pending billable quantity and pending billable revenue fields will also update (subtract out the new billed amounts). The quantity earned and revenue earned columns are not affected by billing.

As a result of the Push or Get Billed revenue actions, this will update each respective pay item.



You can also view a record of the newly created bill in Billed History by navigating back to Billed Revenue Details screen.

002
Concrete - Labor & Material

BILLED			BILLED HISTORY			
Billed date	Billed quantity	Billed	Cost item	Cost Category	Changed by	
08/08/2019	1.00	\$ 100.00	3 [1071] Concr...	Installed Mate...	Paul trippi	

The billing-related fields that are now part of the Pay Items register are the **Billed Revenue**, **Billed Quantity**, **Quantity earned**, **Revenue earned**, **Pending billable quantity**, and **Pending billable revenue** columns. Once you have billed revenue and quantity to your customer, all columns will populate with values. The pending amount fields are driven from the Quantity earned and Revenue earned amounts. Furthermore, the pending amount fields help you identify what has been billed versus what is left to be billed based on what has been completed for your cost items.

The **Is billed** checkbox also populates when a pay item has been billed.

PAY ITEMS CHANGE REGISTER AUDIT LOG



Billed date: 10/01/2015 to 10/14/2019

header and drop it here to group by that column

Pay quantity	Forecast (T/O) Qty	UoM	Is billed	Billed revenue	Billed quantity	Pending billable revenue	Pending billable quantity
1.00	1.00	Each	<input checked="" type="checkbox"/>	\$ 100.00	5.00	(\$ 100.00)	-5.00
1.00	1.00	Each	<input checked="" type="checkbox"/>	\$ 100.00	1.00	(\$ 100.00)	-1.00
1.00	1.00	Each	<input type="checkbox"/>	\$ 0.00	0.00	\$ 0.00	0.00

Within the Pay item register you have a date filtering option available for the pay items that can be applied to columns based on the billed date. To get back to the to date calendar, click on the calendar icon and select **To date** from the drop-down.

Billed date: 8/2/2019 to 10/14/2019

To date

8.5.2.2 CHANGE ORDERS

When creating a bill in the slide-out panel, or from the bill multiple pay items option, you can select a change order to assign the billed amount to.

Associate a change order to a pay item by selecting a change order either from the Billed revenue details, or Bill multiple pay items options. This lets you select which approved change orders to assign to the bill.

The screenshot shows a software interface with a top navigation bar containing 'CBS', 'ACS', 'PAY ITEMS', 'CHANGE REGISTER', and 'AUDIT LOG'. Below this is a toolbar with various icons. The main area is split into two panes. The left pane contains a table with columns: 'Price lock status', 'Current price', 'Original unit price', 'Original price', 'Unapproved revenue', and 'Original pay qty'. The right pane is titled '002 Concrete - Labor & Material' and has tabs for 'BILLED' and 'BILLED HISTORY'. The 'BILLED' tab is active, showing fields for 'Billed revenue' (\$2,500.00), 'Billed quantity' (55.00), 'Cost category' (Installed Equipment), and 'Billed date' (12/15/2021). A 'Change order' dropdown menu is highlighted with a red box, showing '758.00' selected. Below this is a 'Notes' field containing 'Associated to change order 758.' and a '219' value. At the bottom right of the right pane are 'Cancel' and 'Apply' buttons. At the bottom of the left pane, there is a summary row with three values: '\$ 5,500,003.00', '\$ 4,740,115.99', and '\$ 45,804,250.60'.

After submitting the bill in the Billed History tab, the associated change order becomes associated with the bill.

The screenshot shows a software interface with a table of pay items and a 'BILLED HISTORY' popup window. The popup window has a 'Change order' column highlighted with a red box.

Billed date	Billed quantity	Billed	Cost item	Cost Category	Change order
11/30/2021	2.0000	\$ 2,555.00		Undefined	22.1

The Total Change Order Amount column shows how much of a pay item’s price is from change orders. This is a summary of all the approved change orders that are attributed to a pay item. The Billed Change Order Amount shows how much money has been billed to the customer against a change order.

CBS ACS PAY ITEMS

Drag a column header and drop it here to

Total change order amount	Billed change order amount	Quantity earned	Pending billable quantity	Pen... billa... reve...	U r
\$ 11,995.26	\$ 623,248.14	0.0000	0.0000	\$ 0.00	
\$ 1,042,744.62	\$ 157,761.37	0.0000	0.0000	\$ 0.00	
\$ 872,696.02	\$ 112,484.74	0.0000	0.0000	\$ 0.00	
\$ 32,777.56	\$ 304,003.26	0.0000	0.0000	\$ 0.00	
\$ 233,881.86	\$ 21,518.38	0.0000	0.0000	\$ 0.00	
\$ 25,138.88	\$ 202,700.13	0.0000	0.0000	\$ 0.00	
\$ 20,128.41	\$ 0.00	0.0000	0.0000	\$ 0.00	
\$ 324,411.86	\$ 48,725.79	0.0000	0.0000	\$ 0.00	

The following Step by Step walks you through how to bill a customer for revenue earned.

BILLING REVENUE

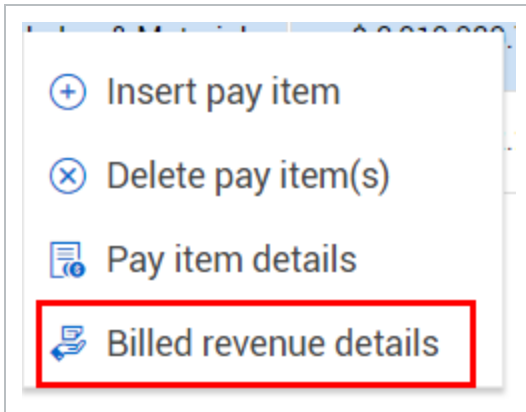
1. On the Pay Items tab, select the a pay item.

	Pay item number	Description
<input type="checkbox"/>	001	Earthwork - Labor & Material
<input checked="" type="checkbox"/>	002	Concrete - Labor & Material
<input type="checkbox"/>	003	Steel - Labor & Material

2. Hover over to the right of the Description and click on the **three black dots**.

	Pay item number	Description
<input type="checkbox"/>	001	Earthwork - Labor & Material
<input checked="" type="checkbox"/>	002	Concrete - Labor & Material
<input type="checkbox"/>	003	Steel - Labor & Material

3. Select **Billed revenue details**.



4. Under the Billed tab, enter the following:

- Billed revenue = **\$100.00**.
- Cost category = **Installed Materials**
- Billed quantity = **1**
- Billed date = **today's date**
- Cost item = [insert a cost item from the dropdown menu]
- Notes = '**billing \$100.00 for materials needed for concrete prep work, performed on 08/02/2019**'

5. Select **Apply**.

002
Concrete - Labor & Material

BILLED BILLED HISTORY

Billed revenue: \$ 100.00

Cost category: Installed Materials

Billed quantity: 1.00

* Billed date: 08/09/2019

Cost item: 3 [1071] Concrete

Notes: 166
billing \$100.00 for materials needed for concrete prep work, performed on 08/02/2019

8.5.2.3 PAY ITEM BILLING IN MASS

Billings often include multiple pay items. For that reason Control also allows users to claim billed quantities and revenue for multiple pay items at a time using the pay item grid view. This is in lieu of using the Billed Revenue Details slideout panel, per pay item. On the Pay Items screen, select those desired pay items you wish to bill.

	Pay item number	Description
<input checked="" type="checkbox"/>	01.02	FIELD SUPERVISION, ADMIN & MAINTENANCE
<input checked="" type="checkbox"/>	01.03	FIELD OFFICES AND SHEDS
<input checked="" type="checkbox"/>	11.1	EPOXY COATED STEEL SHEET PILE

In the example below for Pay Item 11.1, the Revenue Earned represents the amount that has been earned to date. Revenue earned is based on the cost items associated to this pay item. As cost items are being claimed, Revenue earned is generated. For Pay Item 11.1, under Revenue earned, \$365,924.12 has been earned to date. Billed revenue is showing that \$20,966.00 has been billed thus far. The difference between the Revenue earned and the Billed revenue, is the Pending billable revenue which is \$344,958.12. This is the amount that you can bill to the customer.

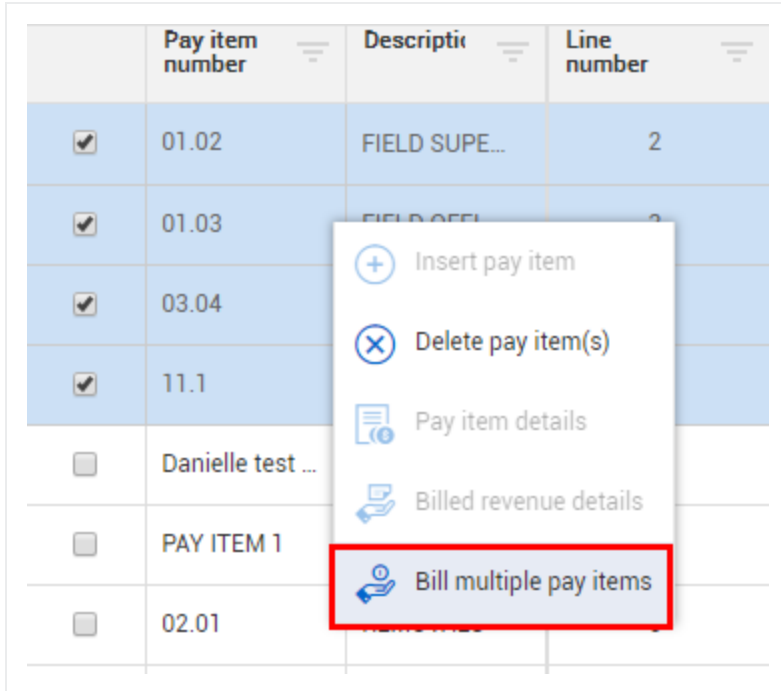
Pay item number	Description	Billed revenue	Pending billable quantity	Pending billable revenue	Quantity earned	Revenue earned	
01.02	FIELD SUPERVISION, ADMIN & MAINTENANCE	21,027.00	\$ 26,311.00	-21,004.55	\$ 1,545,122.64	22.45	\$ 1,571,433.64
01.03	FIELD OFFICES AND SHEDS	21,921.00	\$ 21,574.00	-21,909.60	\$ 377,555.84	11.40	\$ 399,129.84
03.04	STRUCTURAL STEEL	21,072.55	\$ 21,061.00	-21,030.66	\$ 355,983.32	41.89	\$ 377,044.32
11.1	EPOXY COATED STEEL SHEET PILE	21,417.00	\$ 20,966.00	161,545.06	\$ 344,958.12	182,962.06	\$ 365,924.12

Typically, when it's time to bill, you can select the pay items with positive values in the Pending billable revenue column.

Pay item number	Description	Line number	Total price	Unit price	Pay quantity	Forecast T/O Qty	UoM	Is billed	Billing methods	Billed quantity	Billed revenue	Pending billable quantity	Pending billable revenue	Quantity earned	Revenue earned	
<input checked="" type="checkbox"/>	01.02	FIELD SUPE...	2	\$ 3,220,000.00	\$ 70,000.00	46.00	46.00	Mo	<input checked="" type="checkbox"/>	Unit price	21,027.00	\$ 26,311.00	-21,004.55	\$ 1,545,122.64	22.45	\$ 1,571,433.64
<input checked="" type="checkbox"/>	01.03	FIELD OFFL...	3	\$ 1,610,000.00	\$ 35,000.00	46.00	46.00	Mo	<input checked="" type="checkbox"/>	Unit price	21,921.00	\$ 21,574.00	-21,909.60	\$ 377,555.84	11.40	\$ 399,129.84
<input checked="" type="checkbox"/>	03.04	STRUCTUR...	19	\$ 1,737,000.00	\$ 9,000.00	193.00	193.00	Ton	<input checked="" type="checkbox"/>	Unit price	21,072.55	\$ 21,061.00	-21,030.66	\$ 355,983.32	41.89	\$ 377,044.32
<input checked="" type="checkbox"/>	11.1	EPOXY COAL...	72	\$ 1,090,000.00	\$ 2.00	545,000.00	545,000.00	Lb	<input checked="" type="checkbox"/>	Unit price	21,417.00	\$ 20,966.00	161,545.06	\$ 344,958.12	182,962.06	\$ 365,924.12

NOTE A negative value in the Pending billable quantity and/or Pending billable revenue fields signifies an over billing to the customer.

When it's time to bill a customer, select the desired pay items to mark for billing, right click, then select the Bill multiple pay items option.



The New Bill Request screen appears, which displays billing related fields to potentially be billed to the customer. The Pending billable quantity and Pending billable revenue fields are at zero because their values have been moved to the Billed Revenue and Billed quantity fields, to be billed as part of the overall transaction. The Billed revenue and Billed quantity values in the New bill request window will match the Pending billable revenue and Pending billable quantity values in the Pay items tab.

In the New Bill Request example below, the values in the Billed quantity and Billed revenue fields are the amounts that are to be billed to the customer. The Billed Revenue and Billed Quantity columns show the same amounts that exist in the Pay Item screen under the Pending billable quantity and Pending billable revenue columns.

Pay item number	Description	Billing method	Pending billable revenue	Pending billable quantity	Billed revenue	Billed quantity	Unit of meas...	Cost category	Cost item
03.04	STRUCTURAL STEEL	Unit Price	0.00	0.00	355,983.32	-21,030.66	Ton	Undefined	
01.02	FIELD SUPERVISION, ADMIN & MAINTEN...	Unit Price	0.00	0.00	1,545,122.64	-21,004.55	Mo	Undefined	
01.03	FIELD OFFICES AND SHEDS	Unit Price	0.00	0.00	377,555.84	-21,909.60	Mo	Undefined	
11.1	EPOXY COATED STEEL SHEET PILE	Unit Price	0.00	0.00	344,958.12	161,545.06	Lb	Undefined	

You also have the option to change the Billed Revenue amount in the New Bill Request screen. For example, if there's remaining work still to be done, and it's not 100% complete, you can change the Billed revenue to a different amount. Using the example below for Pay item 11.1, you have the option to partially bill the Pending billed revenue of \$344,958.12. By changing the Billed revenue amount to \$300,000.00, the remaining \$44,958.00 displays under the Pending billable revenue column.

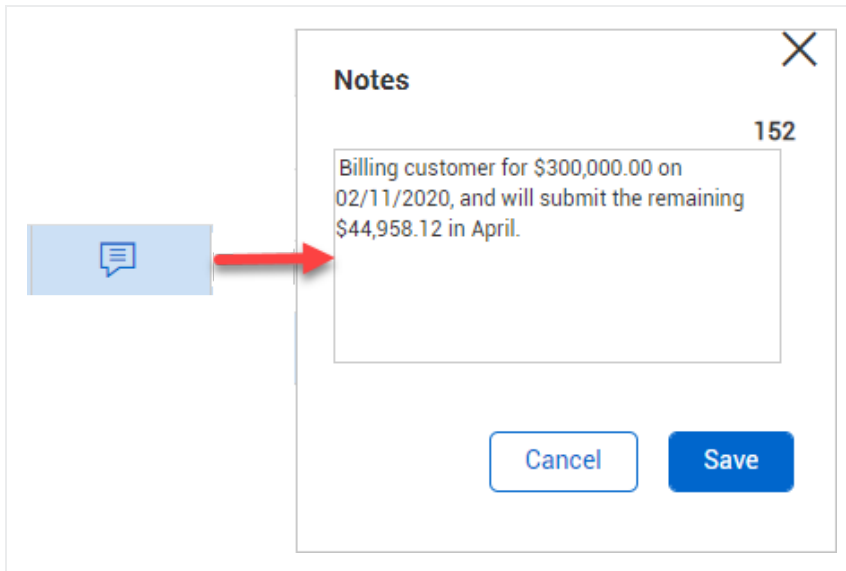
Now, you can see that if you bill for \$300,000.00, then you still have \$44,958.00 available to bill.

Pay item number	Description	Billing method	Pending billable revenue	Pending billable quantity	Billed revenue	Billed quantity	Unit of meas...	Cost category	Cost item
03.04	STRUCTURAL STEEL	Unit Price	0.00000000000	0.00000000000	355,983.31699820043	-21,030.66092730624	Ton	Undefined	
01.02	FIELD SUPERVISION, ADMIN & MAINTEN...	Unit Price	0.00000000000	0.00000000000	1,545,122.64433237491	-21,004.55094793810	Mo	Undefined	
01.03	FIELD OFFICES AND SHEDS	Unit Price	0.00000000000	0.00000000000	377,555.84256304969	-21,909.59629021248	Mo	Undefined	
11.1	EPOXY COATED STEEL SHEET PILE	Unit Price	\$ 44,958.12199933658	0.00000000000	\$ 300,000.00000000000	161,545.06099966829	Lb	Undefined	

It's possible to assign the bill request to a Cost category and a Cost item. Each billed revenue transaction requires a cost category to be selected. The default value is Undefined.

Pay item number	Description	Pending billable revenue	Pending billable quantity	Billed revenue	Billed quantity	Unit of meas...	Cost category	Cost item	Notes
03.04	STRUCTURAL STEEL	\$ 0.00000000000	0.00000000000	\$ 355,983.31699820043	-21,030.66092730624	Ton	Undefined		
01.02	FIELD SUPERVISION, ADMIN & MAINTEN...	\$ 0.00000000000	0.00000000000	\$ 1,545,122.64433237491	-21,004.55094793810	Mo	Undefined		
01.03	FIELD OFFICES AND SHEDS	\$ 0.00000000000	0.00000000000	\$ 377,555.84256304969	-21,909.59629021248	Mo	Undefined		
11.1	EPOXY COATED STEEL SHEET PILE	\$ 44,958.12199933658	0.00000000000	\$ 300,000.00000000000	161,545.06099966829	Lb	Installed Materials	1. G. 1.1 [1163] Pioneering- Sheet Pile	

Enter and save any information specific to the bill request in the Notes field.



When you select the Submit button in the New Bill Request screen, the billed transaction appears in the Billed History tab in the Billed Revenue Details slideout tab.

11.1
EPOXY COATED STEEL SHEET PILE

BILLED BILLED HISTORY

Billed date	Billed quantity	Billed	Cost item	Cost Category	Changed by	Changed on	Notes
02/12/2020	161,545.060999...	\$ 300,000.00000...	1.6.1.1 [1163...	Installed Mat...	paul trippi	02/12/2020	

Billing customer for \$300,000.00 on 02/11/2020, and will submit the remaining \$44,958.12 in April.

This action also creates new audit log entries in the Pay Item's audit log, that show the pay item that was changed, along with fields that display the before and after values, and the user that made the change.

PAY ITEMS CHANGE REGISTER **AUDIT LOG**

Audit ID	Data type	Item type	Descrip	Pay item No.	Attribu	Changi by	Changi date	Value before	Value after	Total price before	Total price after
6530074	Pay Item	Pay Item	EPOXY CO...	11.1	Billed reve...	paul trippi	02/12/202...	20966.000...	320966.00...	\$1090000...	\$1090000...
6530073	Pay Item	Pay Item	FIELD OFF...	01.03	Billed reve...	paul trippi	02/12/202...	21574.000...	399129.84...	\$1610000...	\$1610000...
6530072	Pay Item	Pay Item	FIELD SUP...	01.02	Billed reve...	paul trippi	02/12/202...	26311.000...	1571433.6...	\$3220000...	\$3220000...
6530071	Pay Item	Pay Item	STRUCTU...	03.04	Billed reve...	paul trippi	02/12/202...	21061.000...	377044.31...	\$1737000...	\$1737000...

Updates are made to the following Pay Item fields: Billed revenue, Billed quantity, Pending billable revenue, and Pending billable quantity. If the Billing method is Cost Plus, then the Forecast final revenue and forecast unit revenue fields will also be updated.

Pay item number	Description	Pay quanti	Foreca T/O Qty	UoM	Is billed	Billing metho	Billed quantity	Billed revenue	Pending billable quantity	Pending billable revenue	Quantity earned	Revenue earned
01.02	FIELD SUPERVISION, ADMIN & MAINTENANCE	46.000000...	46.000000...	Mo	<input checked="" type="checkbox"/>	Unit price	22.4490520...	\$ 1,571,433.6443...	0.00000000000	\$ 0.000000000...	22.44905206189	\$ 1,571,433.6443...
01.03	FIELD OFFICES AND SHEDS	46.000000...	46.000000...	Mo	<input checked="" type="checkbox"/>	Unit price	11.4037097...	\$ 399,129.84256...	0.00000712483	\$ 0.24936939...	11.40371691235	\$ 399,130.09193...
11.1	EPOXY COATED STEEL SHEET PILE	545,000.0...	545,000.0...	Lb	<input checked="" type="checkbox"/>	Unit price	182,962.060...	\$ 320,966.00000...	-0.00000000002	\$ 44,958.121...	182,962.060999...	\$ 365,924.12199...

The following Step by Step walks you through how to bill for multiple pay items.

BILL FOR MULTIPLE PAY ITEMS

1. On the Pay Items tab, hold down the SHIFT key and select any **3 pay items** you wish to bill in one transaction.

	Pay item number	Description
<input type="checkbox"/>	11.1	EPOXY COATED STEEL SHEET PILE
<input type="checkbox"/>	PAY ITEM 1	Danielle test
<input checked="" type="checkbox"/>	02.01	REMOVALS
<input checked="" type="checkbox"/>	90909190	909090
<input checked="" type="checkbox"/>	01.05	TEMPORARY UTILITIES, SITE SURVEYS, TESTI...

2. Navigate to the **Bill multiple pay items screen** by clicking on the context menu.
 - The Billed Revenue in the New Bill Request screen should match the Pending billable revenue in the Pay Item screen
3. Change the **Billed revenue value** to bill half the amount to the customer.
 - The other half should appear in the Pending billable revenue field
4. Assign a **cost category** to the new bill request.
5. Type **Billing half the amount the customer now, and will bill the other half when job is complete** in the Notes field.
6. Select the **Submit** button.
7. Navigate to the **Billed History** tab for the pay item just updated and look at the entry created for this transaction.

8.5.3 ACTUALIZING REVENUE

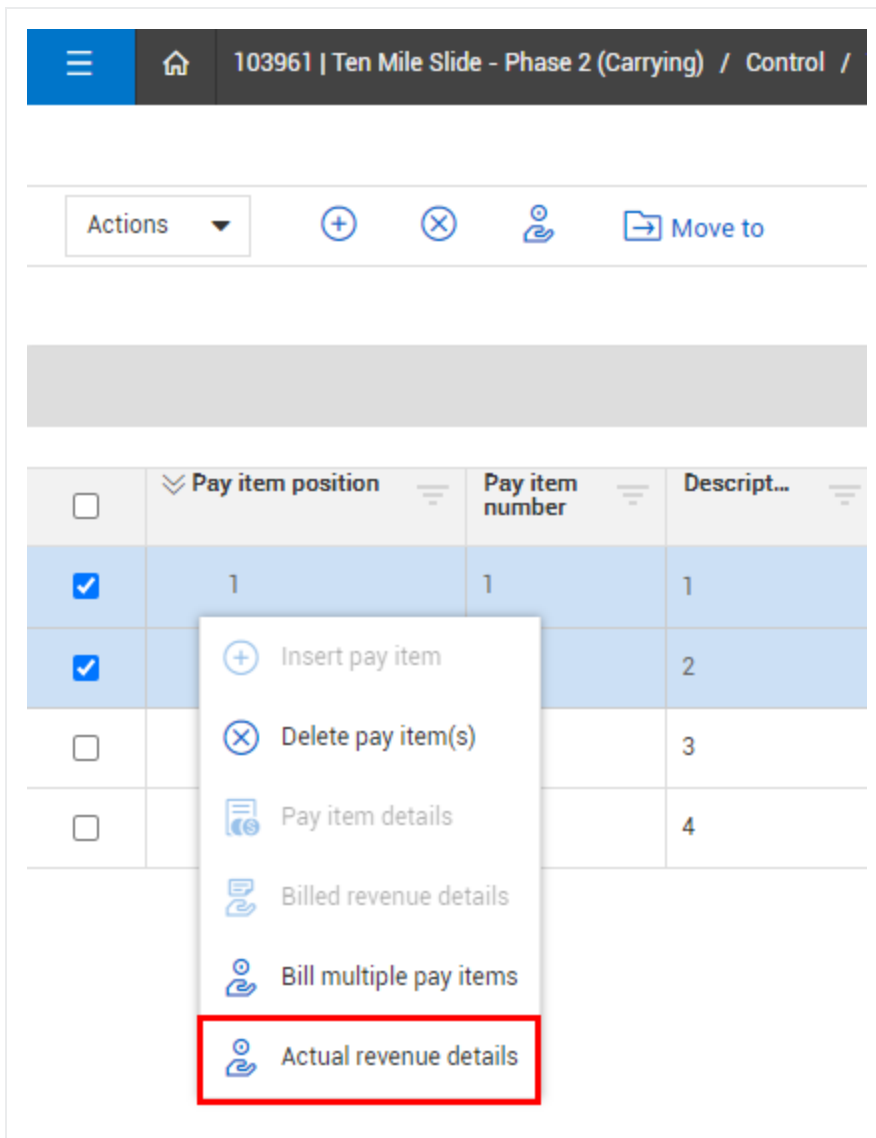
In Pay Items, after a bill has been sent to a client, you can log revenue that has been received and log and track received revenue.

In the Pay Items register, when you select the Claim Revenue icon, it shows all transactions for all pay items that contain billed revenue that has not been logged as received.

The screenshot shows a software interface with a dark header bar containing a home icon and the text "103961 | Ten Mile Slide - Phase 2 (Carrying) / Control / Workspaces". Below the header is a toolbar with an "Actions" dropdown, a plus icon, a minus icon, a red-bordered icon of a person with a plus sign, and a "Move to" button. Below the toolbar is a grey bar. At the bottom is a table with the following data:

<input type="checkbox"/>	Pay item position	Pay item number	Descript...	Line num...
<input type="checkbox"/>	1	1	1	1

Alternatively, you can right-click on one or more pay items and select **Actual revenue details**.



The Actual revenue details form opens, which shows all the selected pay item billed transactions. In the Revenue received column, you can enter the amount of money received by a client. The Revenue received date lets you enter the date the money is received.



You can select all or some of the billed transactions, and then click the Auto Calculate icon to match the total revenue received values with the billed revenue values (everything that has been billed has been received in total).

Pay item > Actual revenue details

Pay item position	Pay item number
2	2
2	2
2	2

The revenue is also updated on the Billed History tab in Billed Revenue Details, for a pay item.

Pay item position		BILLED		RETENTION		BILLED HISTORY	
		Billed	Net billed revenue	Retention withheld	Revenue received	Revenue received date	
<input checked="" type="checkbox"/>	1	0.00	\$ 100.00	\$ 100.00	\$ 0.00	\$ 100.00	04/07/2022
<input type="checkbox"/>	2	0.00	\$ 900.00	\$ 900.00	\$ 0.00	\$ 900.00	04/07/2022
<input type="checkbox"/>	3	0.00	\$ 900.00	\$ 900.00	\$ 0.00	\$ 900.00	04/07/2022
<input type="checkbox"/>	4	0.00	\$ 1,000.00	\$ 1,000.00	\$ 0.00	\$ 1,000.00	04/01/2022

After the Actual revenue details form is submitted, the Revenue received (to date) column on the Pay Items form shows the pay item amount received.

<input checked="" type="checkbox"/>	Pay item position	Pay item number	Descript...	Curr... price	Curr... unit price	Curr... pay qty	Revenue received (to date)
<input checked="" type="checkbox"/>	1	1	1	\$ 100,0...	\$ 100,000...	1.00	\$ 2,900.00
<input checked="" type="checkbox"/>	2	2	2	\$ 30,00...	\$ 200.00	150.00	\$ 3,200.00
<input checked="" type="checkbox"/>	3	3	3	\$ 10,00...	\$ 1,000.00	10.00	\$ 100.00
<input checked="" type="checkbox"/>	4	4	4	\$ 2,500...	\$ 2,500.00	1.00	\$ 600.00

8.6 REVENUE FORECASTING

Revenue forecasting is used to determine the projected revenue a contractor will receive for completing a project or scope of work. The amount of revenue earned compared to the total cost spent determines how much profit and % margin is made. Therefore, understanding projected revenue is critical to determine the profitability and health of a project.

It is often necessary to compare forecasted cost to expected revenue at a cost item level. Within Control, you can view this comparison using the revenue columns available in the CBS. The revenue fields in the CBS auto calculate based on the billing method of each line item or can be overridden by manually entering a revenue forecast.

8.6.1 PAY ITEM POSITION CODE COLUMN

The Pay Item tab contains a Pay Item Position column that lets you view, sort, and group pay items in a hierarchical manner much like you can in the CBS. This feature lets you expand and collapse pay items by clicking the down-arrow, while also letting you group scopes of work together into a hierarchy.

<input type="checkbox"/>	Pay item position	Pay item number	Descri...	Line num...	Row num...	Curr... price	Curr... unit price	Curr... pay qty
<input type="checkbox"/>	∨ 1	Pay 1	Pay 1	1	26	\$ 80,20...		
<input type="checkbox"/>	∨ 2	16Pay 2	Pay 2	17	15	\$ 0.000...		
<input type="checkbox"/>	∨ 3	17Pay 3	Pay 3	18	16	\$ 0.000...		
<input type="checkbox"/>	4	Testpay	Set new pay...	37	27	\$ 0.000...	\$ 1.50000...	0.0000000...

Adjusting the pay item position code column lets you see the parent-child rollup relationship between pay items, terminal pay items, and the revenue forecast method, in addition to any other price and revenue columns. This lets you see how the values for the child pay items all roll up to its parent pay item, then see the totals at a parent pay item level.

<input type="checkbox"/>	Pay item position	Pay item number	Descri...	Line num...	Is term...	Row num...	Current price	Revenue forecast method
<input type="checkbox"/>	^ 1	Pay 1	Pay 1	1	<input type="checkbox"/>	26	\$ 80,200.00000000010	Rollup
<input type="checkbox"/>	^ 1.1	Pay 1.1	Pay 1.1	2	<input type="checkbox"/>	1	\$ 79,300.00000000010	Rollup
<input type="checkbox"/>	1.1.1	3Pay 1.1.1	Pay 1.1.1	3	<input checked="" type="checkbox"/>	2	\$ 55,300.00000000000	Manual
<input type="checkbox"/>	1.1.2	4Pay 1.1.2	Pay 1.1.2	4	<input checked="" type="checkbox"/>	3	\$ 11,000.00000000010	Manual
<input type="checkbox"/>	1.1.3	5Pay 1.1.3	Pay 1.1.3	5	<input checked="" type="checkbox"/>	4	\$ 9,000.00000000000	Default
<input type="checkbox"/>	1.1.4	6Pay 1.1.4	Pay 1.1.4	6	<input checked="" type="checkbox"/>	5	\$ 1,000.00000000000	Billed
<input type="checkbox"/>	^ 1.1.5	7Pay 1.1.5	Pay 1.1.5	7	<input type="checkbox"/>	6	\$ 3,000.00000000000	Rollup
<input type="checkbox"/>	1.1.5.1	9Pay 1.1.5.1	Pay 1.1.5.1	9	<input checked="" type="checkbox"/>	8	\$ 3,000.00000000000	Default
<input type="checkbox"/>	1.1.5.2	10Pay 1.1.5.2	Pay 1.1.5.2	10	<input checked="" type="checkbox"/>	9	\$ 0.00000000000	Default
<input type="checkbox"/>	1.1.6	8Pay 1.1.6	Pay 1.1.6	8	<input checked="" type="checkbox"/>	7	\$ 0.00000000000	Default
<input type="checkbox"/>	^ 1.2	11Pay 1.2	Pay 1.2	11	<input type="checkbox"/>	10	\$ 900.00000000000	Rollup
<input type="checkbox"/>	1.2.1	14Pay 1.2.1	Pay 1.2.1	15	<input checked="" type="checkbox"/>	13	\$ 900.00000000000	Default
<input type="checkbox"/>	1.2.2	15Pay 1.2.2	Pay 1.2.2	16	<input checked="" type="checkbox"/>	14	\$ 0.00000000000	Default

Overview - Revenue Forecasting fields

Columns	Description
Forecast Final Revenue	This is your expected final revenue, calculations vary by billing method.
Forecast Final Cost	Total cost (to date) + Forecast remaining cost.
Revenue Forecast Method	The three options are default, manual and rollup. Default is system calculated. The roll-up revenue forecast method is automatically assigned for parent pay items, and not editable, as all forecast revenue for child pay items rolls up to the parent pay item.
Billed Revenue	Amount billed to the client for a single pay item.
Fixed Final Price	Lump sum billing method (price agreed upon by a contractor and a client does not change without a contract order).
% Margin	Forecast final margin/forecast final revenue.

Overview - Revenue Forecasting fields (continued)

Columns	Description
Forecast Final Margin	Forecast final revenue - Forecast final cost. This is the total profit you're forecasting to make at completion of the job.
Forecast Final Revenue	Cost item forecast final revenue at completion. This calculation varies by assigned pay item's billing method. This value is based on the Pay item's final revenue * a percentage that can be earned by the cost item.
Forecast Remaining Revenue	Forecast final revenue - Forecast revenue earned, revenue remaining to earn.
Forecast Unit Revenue	Forecast final revenue/Forecast take-off quantity, amount of revenue earned per quantity.
Forecast Revenue Earned	% complete * Forecast final revenue. This is revenue that is earned based on completion of work.

8.6.1.1 CBS REGISTER

Revenue						
% Margin	Forecast final margin	Foreca: final revenue	Forecast remaining revenue	Forecas unit revenue	Forecast revenue earned	★ Forecast final cost
0.00 %	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 695.00
14.46 %	\$ 67,622.78	\$ 467,622.78	\$ 467,622.78	\$ 467,622.78	\$ 0.00	\$ 400,000.00

8.6.1.2 PAY ITEM REGISTER

Pay item number	Description	Total price	Unit price	Forecast final revenue	Billed quantity	Billed revenue	Billing methods	Revenue forecast method
001	Earthwork - Labor & Material	\$ 759,887.01	\$ 759,887.01	\$759,887.010000	5.00	\$ 100.00	Unit Price	Default
002	Concrete - Labor & Material	\$ 2,919,020.71	\$ 2,919,020.71	\$2,919,020.710000	2.00	\$ 200.00	Unit Price	Default
003	Steel - Labor & Material	\$ 1,821,092.28	\$ 1,821,092.28	\$1,821,092.280000	0.00	\$ 0.00	Unit Price	Default

8.6.2 COST ITEM REVENUE VIEW

It's important to see forecasted cost and forecasted revenue side by side, in order to compare the costs and revenue on individual cost items as a subtotal of the overall project.

Control has a standard Revenue data block containing six revenue-related columns. Permissions can be established to limit who may view these Revenue columns. You can view this data block within the same view as your forecasted costs for a side by side comparison.

Tasks				Revenue						Pay Item/CB/FC					
CBS positi	Descrj	WBS phase code		% Margin	Forecast final margin	Forecas final revenue	Forecast remaining revenue	Forecas unit revenue	Forecast revenue earned	Pay item assi	Forecast final cost	Total cost (to date)	% Completi	CB total cost	CE final cost
1	Job Overh...	1002		0.00 %	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00		\$ 695.00	\$ 0.00	0.00 %	\$ 250,000.00	\$ 695.00
2	Earthwork	1069		14.46 %	\$ 67,622.78	\$ 467,622.78	\$ 467,622.78	\$ 467,622.78	\$ 0.00	001	\$ 400,000.00	\$ 0.00	0.00 %	\$ 400,000.00	\$ 400,000.00
3	Concrete	1071		-71.29 %	(\$ 624,293.79)	\$ 875,706.21	\$ 875,706.21	\$ 875,706.21	\$ 0.00	002	\$ 1,500,000.00	\$ 0.00	0.00 %	\$ 1,500,000.00	\$ 1,500,000.00
^ 4	Structural ...	1073		0.00 %	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00		\$ 1,000,035.71	\$ 0.00	0.00 %	\$ 1,050,000.00	\$ 1,000,035.71
...	Erect Steel...	1074		17.63 %	\$ 171,226.09	\$ 971,226.09	\$ 971,226.09	\$ 971,226.09	\$ 0.00	003	\$ 800,000.00	\$ 0.00	0.00 %	\$ 800,000.00	\$ 800,000.00
...	Erect Steel...	1005		17.63 %	\$ 42,806.52	\$ 242,806.52	\$ 242,806.52	\$ 242,806.52	\$ 0.00	003	\$ 200,000.00	\$ 0.00	0.00 %	\$ 200,000.00	\$ 200,000.00
...	Bolted Co...	1006		17.63 %	\$ 7.64	\$ 43.36	\$ 43.36	\$ 43.36	\$ 0.00	003	\$ 35.71	\$ 0.00	0.00 %	\$ 50,000.00	\$ 35.71
^ 5	Materials	1084		0.00 %	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00		\$ 1,750,000.00	\$ 0.00	0.00 %	\$ 1,750,000.00	\$ 1,750,000.00
...	Earthwork ...	1085		14.46 %	\$ 42,264.23	\$ 292,264.23	\$ 292,264.23	\$ 292,264.23	\$ 0.00	001	\$ 250,000.00	\$ 0.00	0.00 %	\$ 250,000.00	\$ 250,000.00
...	Concrete ...	1086		51.06 %	\$ 1,043,314.50	\$ 2,043,314.50	\$ 2,043,314.50	\$ 2,043,314.50	\$ 0.00	002	\$ 1,000,000.00	\$ 0.00	0.00 %	\$ 1,000,000.00	\$ 1,000,000.00
...	Structure ...	1087		17.63 %	\$ 107,016.31	\$ 607,016.31	\$ 607,016.31	\$ 607,016.31	\$ 0.00	003	\$ 500,000.00	\$ 0.00	0.00 %	\$ 500,000.00	\$ 500,000.00
Subtotals 11				15.45 %	\$ 849,964.29	\$ 5,500,000.00	\$ 5,500,000.00	\$ 5,500,000.00	\$ 0.00		\$ 4,650,730.71	\$ 0.00		\$ 4,950,000.00	\$ 4,650,730.71

The Revenue columns can only be populated if the associated cost items have an assigned pay item. In the example below, cost item 1 Job Overhead, does not have a corresponding pay item assignment, therefore the Revenue columns are not populated. The opposite is true for Cost item 2 which has a corresponding pay item assignment.

Tasks				Task details			Revenue					
CBS positi	Descrj	WBS phase code		WBS phase code	Pay item assignment	CBS contribute quantity	% Margin	Forecast final margin	Forecas final revenue	Forecast remaining revenue	Forecas unit revenue	Forecast revenue earned
1	Job Overh...	1002		1002			0.00 %	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
2	Earthwork	1069		1069	001		14.46 %	\$ 67,622.78	\$ 467,622.78	\$ 467,622.78	\$ 467,622.78	\$ 0.00

8.6.3 COST ITEM REVENUE CALCULATION BY ALLOWS AS-BUILT

Parent cost items that are tracking costs and quantities, revenue is calculated at the parent cost item level.

For parent cost items where the allow as-built is not equal to *None*, where cost or quantities are being tracked, revenue values are now being calculated at the parent cost item level rather than always rolling up children revenue values to the parent. If the costs or quantities are being tracked at the terminal cost items, then those revenue values are calculated at the terminal cost items and roll up to the parent.

Tasks			Task details			Revenue					
CBS position	De-	WBS phase code	Change status	As-built lock	Allow as-built	Forecast revenue unit cost	Forecast total margin	Forecast total revenue	Forecast remaining revenue	Forecast revenue earned	Forecast % margin
1	Financi...	1000		<input checked="" type="checkbox"/>	All	\$ 0.000000000000	\$ 0.000000000000	\$ 0.000000000000	\$ 0.000000000000	\$ 0.000000000000	0.000000000000 %
2	Misc. R...	1103		<input type="checkbox"/>	None		(\$ 43,529,564,498.00)	\$ 545,695,501,000,000	\$ 0.00083358262	\$ 545,694,667,417,38	-7.976,896349380
2.1	Misc. R...	1104		<input checked="" type="checkbox"/>	All	\$ 0.000000000000	\$ 0.000000000000	\$ 0.000000000000	\$ 0.000000000000	\$ 0.000000000000	0.000000000000 %
2.2	Escalati...	1101		<input type="checkbox"/>	Costs	\$ 0.000000000000	\$ 8,661,833,000,000	\$ 8,661,833,000,000	\$ 0.000000000000	\$ 8,661,833,000,000	100.000000000000 %
2.2.1	General ...	1102		<input checked="" type="checkbox"/>	Quantities	\$ 0.000000000000	\$ 454,304,498,000,000	\$ 454,304,498,000,000	\$ 0.000000000000	\$ 454,304,498,000,000	100.000000000000 %
2.3	Directs	1001		<input type="checkbox"/>	None		\$ 0.000000000000	\$ 0.000000000000	\$ 0.000000000000	\$ 0.000000000000	0.000000000000 %

8.6.4 REVENUE COLUMNS

There are Revenue Forecasting columns that exist in both the CBS and Pay Item registers.

8.6.5 COST PLUS REVENUE FORECAST METHODS

Another phrase for the billing method for Cost plus is **Time and Material** or **Time and Expenses**. Instead of having a contractual agreement of being paid a certain lump sum, you are reimbursed for your time, labor, and equipment hours and any materials that you purchased as well. With Cost plus, a markup value is typically included. You submit time cards each week to get paid for your labor hours, equipment hours, and any materials or supplies that you purchased plus any markup value that had been agreed upon.

The Cost plus Revenue Forecast Methods are only applicable to pay items that have a billing method of Cost plus. These forecast methods include:

- Billed
- Earned
- Manual

Actions		CBS ACS PAY ITEMS CHANGE REGISTER AUDIT LOG										
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		Billed date: 09/06/2017 to 10/01/202										
Drag a column header and drop it here to group by that column												
Pay item number	Description	Total price	Unit price	Pay qua...	Fore... T/O Qty	UoM	Is billed	Billing met...	Cha... order	Rev... fore... met...	Forecast final revenue	
<input type="checkbox"/> Pay 2	Pay 2	\$ 56,556,100.06...	\$ 565,650...	100.00194	0.00000	SB UOM 5...	<input checked="" type="checkbox"/>	Unit price	(7)	Default	\$ 0.00000	
<input type="checkbox"/> 90909190	909090	\$ 1,234,560.000...	\$ 1,230.00...	1,003.707...	0.00000	-0098765.	<input checked="" type="checkbox"/>	Cost plus	(9)	Billed	\$ 47,866.66667	
<input type="checkbox"/> TEST1	Cost plus test1	\$ 100.00000	\$ 10.00000	10.00000	10,000.00...	new_bug1	<input checked="" type="checkbox"/>	Cost plus	(6)	Billed	\$ 21,809.00000	
<input type="checkbox"/> TEST2	Danielle fixed final price...	\$ 100.00000	\$ 100.000...	1.00000	1.00000	PLS	<input checked="" type="checkbox"/>	Fixed final.	(10)	Default	\$ 100.00000	
<input type="checkbox"/> danielle test 2	cost plus 2	\$ 100.00000	\$ 10.00000	10.00000	1.00000	-00987655	<input checked="" type="checkbox"/>	Cost plus	(6)	Billed	\$ 20,950.00000	
<input type="checkbox"/> Pay1		(\$ 60.00000)	\$ 20.00000	-3.00000	2,000.000...	-00987655	<input checked="" type="checkbox"/>	Fixed final.	(14)	Default	(\$ 50.00000)	
<input type="checkbox"/> 1111	1111	\$ 10,000.00000	\$ 10,000.0...	1.00000	100.00000	MP_Test18	<input checked="" type="checkbox"/>	Fixed final.	(11)	Default	\$ 10,000.00000	
<input type="checkbox"/> 1234567890...		\$ 10.00000	\$ 10.00000	1.00000	100.00000	Acre	<input checked="" type="checkbox"/>	Unit price	(9)	Default	\$ 1,000.00000	
<input type="checkbox"/> C3333	C33	\$ 360.00000	\$ 220.000...	1.63636	22.00000	TEST SB U...	<input checked="" type="checkbox"/>	Unit price	(11)	Default	\$ 4,840.00000	
<input type="checkbox"/> A11	A11	\$ 70.00000	\$ 70.00000	1.00000	7.00000	-0098765...	<input checked="" type="checkbox"/>	Unit price	(8)	Default	\$ 490.00000	
<input type="checkbox"/> Pay110	Pay110	\$ 70.00000	\$ 70.00000	1.00000	7.00000	-0098765...	<input checked="" type="checkbox"/>	Unit price	(11)	Default	\$ 606.15000	
<input type="checkbox"/> Pay7878		\$ 70.00000	\$ 70.00000	1.00000	7.00000	-0098765...	<input checked="" type="checkbox"/>	Cost plus	(12)	Default	\$ 100.00000	
<input type="checkbox"/> kunal		\$ 20.00000	\$ 10.00000	2.00000	10.00000	-0098765...	<input checked="" type="checkbox"/>	Unit price	(10)	Default	\$ 100.00000	
<input type="checkbox"/> 33		\$ 23.00000	\$ 3.00000	7.65667	123.00000	Acre	<input checked="" type="checkbox"/>	Unit price	(4)	Default	\$ 369.00000	
<input type="checkbox"/> Road #2	Road #2	\$ 400,000.00000	\$ 200.000...	2,000.000...	2,000.000...	Ft	<input checked="" type="checkbox"/>	Unit price	(6)	Default	\$ 400,000.00000	
<input checked="" type="checkbox"/> Electrical dev...	Electrical devices	\$ 800,000.00000	\$ 400,000...	2.00000	0.00000	PLS	<input type="checkbox"/>	Cost plus	(3)	Billed	\$ 0.00000	

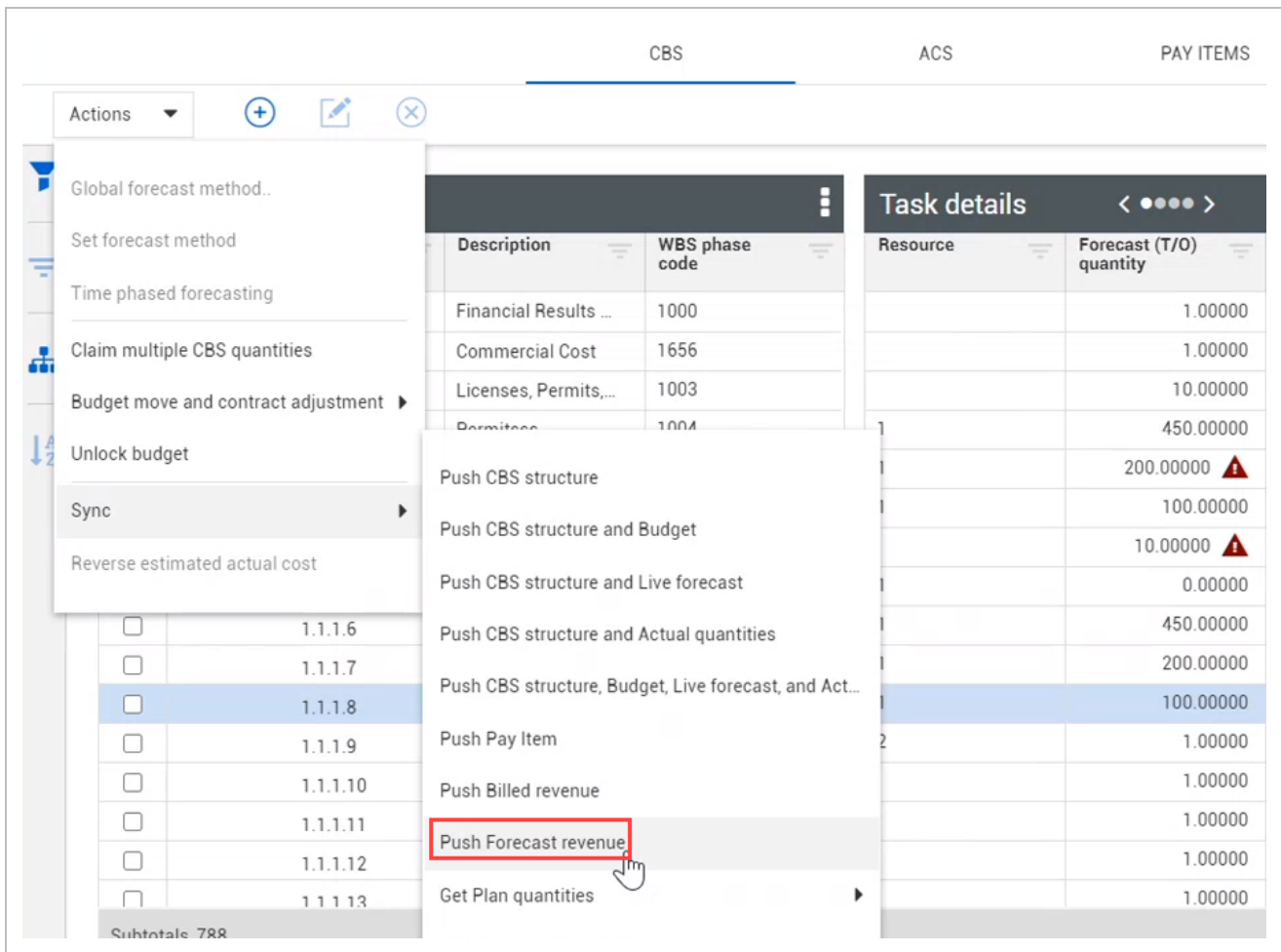
Billed Revenue Forecast Method is all of your forecast remaining revenue that is driven off your cost items. Meaning this method's calculation is the following: **1 - % complete x Work Hours x Billing Rate**. This gives you your Forecast Remaining revenue which is your Remaining revenue you need to earn on the cost item. For the pay item, the revenue sums up all of those remaining revenues at the cost item level. It then adds anything that has been billed which is the Remaining revenue at the cost item level plus any revenue that has been billed to the pay item.

Earned Revenue Forecast Method is similar to the Billed Revenue except it uses the Forecast remaining revenue. The Earned Revenue calculation is your forecast remaining revenue at the cost item level summed up for all the cost items assigned to that pay item plus your earned revenue. The earned revenue is also driven by the cost items. To summarize, it is the forecast remaining revenue plus anything that you earned. This is also the calculation for your percent complete as well.

Manual Revenue Forecast Method manually forecasts your final revenue on that pay item with you entering in a value.

8.6.6 FORECAST REVENUE SYNC

The forecast revenue sync pushes all of your revenue details from the Pay Items tab to an ERP system. You can start this sync from the Control Actions drop-down menu.



8.6.7 REVENUE SNAPSHOTS

Revenue snapshots capture pay item information and cost item revenue information using the sync Push Forecast revenue. When a project forecast revenue is pushed, it generates a revenue snapshot.

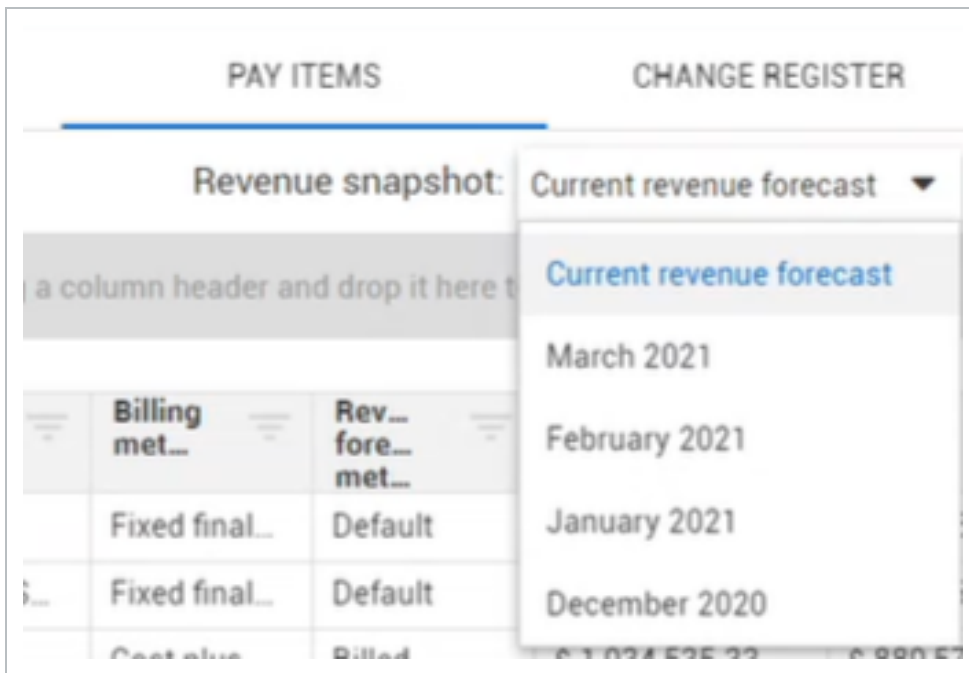
CBS

Actions ▾

	Data	Item	Des...	WBS
Sync			Push CBS structure	
Budget move and contract adjustment			Push CBS structure and Budget	
Reverse estimated actuals			Push CBS structure and Live forecast	
Integration	5022991		Push CBS structure and Actual quantities	
Import history	5022996		Push CBS structure and Actual quantities	
	5022995		Push CBS structure, Budget, Live forecast, an...	
	5022994		Push Pay Item	
	5022993		Push Billed revenue	
	5022992		Push Billed revenue	
	5022991		Push Forecast revenue	
	5022990		Get Plan quantities	
	5022989		Get Actual cost and MHrs	
5022988		Get Actual cost and MHrs		
5022987		Get Billed revenue		
5021855				

When the project month rolls over, the last push revenue forecast sync before month-end is recorded. If a sync has not run during the month, then the system automatically takes the revenue forecast snapshot based on the date and time.

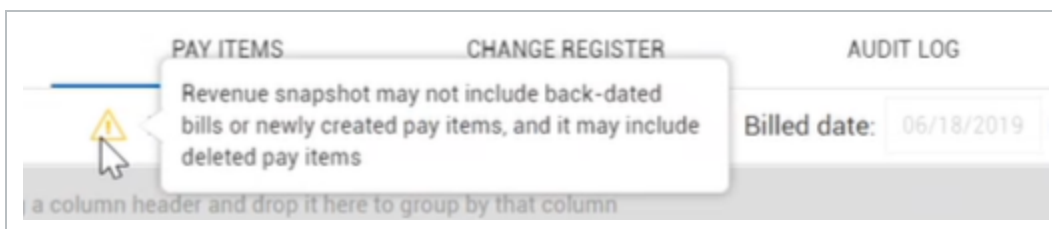
After the revenue snapshot has been recorded, you can look at past snapshots to view previous values. For example, in the pay items register you can view current and previous Revenue snapshots using the Revenue snapshots in the drop-down menu.



If you view a past snapshot, the data that loads is read-only. You cannot edit any of the fields.

Pay item number	Descrip...	Line num...	Row num...	Total price	Unit price	Pay qua...	Fore... T/O Qty	UoM	Is billed	Billing	Cha... order	Sales order	PT1	Tag2
1				\$ 212,000.00	\$ 0.100000	2,120,000.00	8,000,000.00	K\$	<input checked="" type="checkbox"/>	Fixed final...				2
8	Pay Item 1			\$ 12,605.50	\$ 912,000.00	13,821.88	123,456.70	Lump Sum	<input checked="" type="checkbox"/>	Fixed final...				
005	Danielle test			\$ 20,000.00	\$ 100,000.00	200,000.00	1,000,000.00	CY	<input checked="" type="checkbox"/>	Cost plus		Sales Ord...		
456	123			\$ 123,316.00	\$ 1,003,710.00	122,860.06	4,000,000.00	K\$	<input checked="" type="checkbox"/>	Unit price				
12345	12345			\$ 3,000.00	\$ 3,000.00	1,000,000.00	1,000,000.00	K\$	<input checked="" type="checkbox"/>	Unit price				
Subtotals 5				\$ 135,945.00										

The billed date shows the earliest build of the project when the snapshot was taken and includes any pay items in the pay item register. The snapshot might not include back-dated bills or newly created pay items. The snapshot might include deleted pay items.



For example, February has ended and the snapshot was taken it is now March and you backdated a bill, such as billed revenue or billed quantity into February. The backdated bill is not included in February's snapshot because the snapshot had already been taken.

The snapshot is automatically recorded by month and year. Whenever the month ends, the monthly Revenue snapshot shows in the revenue snapshot drop-down list.

The snapshot records the revenue columns for pay items. The columns are the following:

- Forecast final revenue
- Forecast remaining revenue
- Forecast revenue earned
- Forecast unit revenue
- Percent margin
- Forecast final margin

The snapshot records the information automatically based on your fiscal calendar settings.

8.7 REVENUE FORECAST PROBABILITY

Revenue can come from Control or Change. Only Contract Adjustments have revenue. You can also adjust your pay item values in a Contract Adjustment. For example a drop down field called Approval Probability is a drop down of all your revenue categories and their associated probability. This drop down field displays the Approval probability by percentage and associated name.

The screenshot shows a software interface for a 'Contract adjustment'. At the top, there are summary statistics: Net Budget change (\$ 0.00), Net Quantity change (No), Net Man hour change (0.00), Markup (\$ 0.00), Fee (\$ 0.00), and Net Contract change (\$ 0.00). Below this is a navigation bar with four steps: 1 Details (selected), 2 Cost items, 3 Pay items, and 4 Summary. The main content area is titled 'Choose your Contract adjustment workflow' and contains two radio button options: 'Start with Cost items' (selected) and 'Start with Pay items'. Below the workflow selection is a 'Contract adjustment details' section with input fields for 'Issue #', 'CCO', and 'Description'. A dropdown menu for 'Approval probability' is open, showing a list of categories with their associated probabilities and names, such as '1.00% - queen', '23.23% - TERM6', and '123.45% - INEIGHT-5555555555'.

Follow the steps below to select an approval probability.

APPROVAL PROBABILITY

1. Select the **Actions** drop down menu.
2. Hover over **Budget move and contract adjustment**, then click **Contract Adjustment**.
3. In the Approval probability drop down, select the percentage and associated name.
4. In step 3, select the add icon to add either new or existing pay items.
5. Enter a value into the **Adjusted total price** text box.
6. Either save as **Draft** or select the **Submit** button. Now it shows the selected approval probability in the Change Register. It also displays in the line item slideout. This updates automatically based on status changes.
7. If your line item is approved, it has a 100.00% in the Approval Probability column.
8. If a Contract Adjustment has been **revised** or **rejected**, then the line item has a 0.00% in the Approval Probability column.

NOTE

That Contract Adjustment's revenue is never going to be earned or added to the pay items because a new Contract Adjustment has been created.

9. If your line item is in a **Draft** or **Pending** state, the Approval Probability column displays the approval probability you selected for that line item.

NOTE

If you don't select an approval probability, the Approval Probability column is blank.

Your Approval Probability drives the price you include in your Forecast Final Revenue. For this next example, we are going to include the Unapproved Revenue into the Forecast Final Revenue. In the Pay Items Register, the Unapproved Revenue column calculates all the Contract Adjustments. The column adds up all Contract Adjustments that include the pay item and the adjusted price that has not yet been approved. The Unapproved Revenue column calculates anything that is in a **Draft** or **Pending** state.

Pay item number	Description	Pay Item User	Forecast final revenue	Fore... unit reve...	% Mar...	Billed reve...	Billed qua...	Rev... fore... met...	Rev... earn...	Quantity earned	Unapproved revenue	Pending billable quantity
1			\$ 212.00	\$ 26.50	100.00 %	\$ 0.00	-1.00	Default	\$ 0.00	0.00		1.00 \$ 0.
001	Pay Item 1		\$ 112,594,397.58	\$ 0.91	100.00 %	\$ 10,020.12	888,910.12	Default	\$ 112,594,...	123,458.77		-765,451.35 \$ 1.
005	Danielle test		\$ 105,062.40	\$ 105.06	-4,278.83 %	\$ 105,062...	822.00	Billed	\$ 875,767...			\$ 7.
123	123		\$ 4,014,854.93	\$ 1,003.71...	100.00 %	\$ 220,485...	219.67	Default	\$ 3,954,88...	3.94		-215.73 (\$
12345	12345		\$ 3,010.00	\$ 3,010.00	100.00 %	\$ 124.00	1.00	Default	\$ 0.00	0.00	\$ 1,000.00	-1.00 (\$

In Pay Item Details, the Change Orders, you can view the following details:

- Total price change
- Total unit price change
- Total pay quantity change
- Approval probability
- Adjusted forecast final revenue
- Status

12345
12345

Total Price	Pay Quantity	Unit Price
\$ 3,000.00	1.00	\$ 3,000.00

DETAILS ATTRIBUTES CHANGE ORDERS COST ITEMS

Issue #	Total price change	Total unit price change	Total pay qty change	Approval probability	Adjusted forecast final revenue	Status
	\$ 1,000.00	\$ 0.00	0.33	1.00 %	\$ 10.00	Draft
	\$ 0.00	(\$ 3,000.00)	0.00	0.00 %	\$ 0.00	Pending
	\$ 0.00	(\$ 3,000.00)	0.00	0.00 %	\$ 0.00	Revised
	\$ 3,000.00	\$ 3,000.00	1.00	100.00 %	\$ 3,000.00	Approved

The Forecast Final Revenue is the sum of all the Adjusted Forecast final revenue. Calculating the Unapproved Revenue with the Forecast Final Revenue provides you with a more accurate look at the revenue you will see when the Contract Adjustment is approved. Nothing is added into the Total Pay Item Price until it is approved.

Approval Probability drop down is only available in the Contract Adjustment. Everywhere else it is read only. To manually adjust the Contract Adjustment, go to the **Change Register**. Then right click the line item you want to change and select **Revise**. The Contract Adjustment can also automatically change based on status changes.

The Revenue Category Name and probability percentage drives the Approval Probability. The Revenue Category Name draws from the Revenue Categories in the Master Data libraries.

English				Español	
Revenue category name	Revenue change status name	Probability percentage	State	Revenue category name	Revenue change status name
ss1	ss	11	Active	ss1	ss
ss	ss	11	Active	ss	ss
@222222222	sdsad	111	Active	@222222222sda	sdsad
New Demo S72 EN1	English1	410	Inactive	New Demo S72 EN1	English1
New Demo S72 EN	Englishas	10	Active	New Demo S72 EN	English
0918	0918	9.18	Active	0918	0918
HVT_18/09/2020_edit	HVT_18/09/2020	23	Active	HVT_18/09/2020	HVT_18/09/2020
Count1		10	Active	Count1	
Count	Count	18	Active	Count	Count
23ASDA	23ASDA	23	Active	asda	qw
12312312312313123	123123123123	23	Active	12312312312313123	123123123123
lo	lo	9	Active	lo	lo
Rev_eng	Rev_eng	99	Active	Rev_eng	Rev_eng
Check_1_eng	Check_1_eng	100	Active	Check_1_eng	Check_1_eng

The Revenue Categories show the Revenue category name and probability percentage for only **active** revenue.

8.8 TIME PHASED BUDGET

Time phased budget lets you plan out where to spend money in the months of the active fiscal calendar for the project.

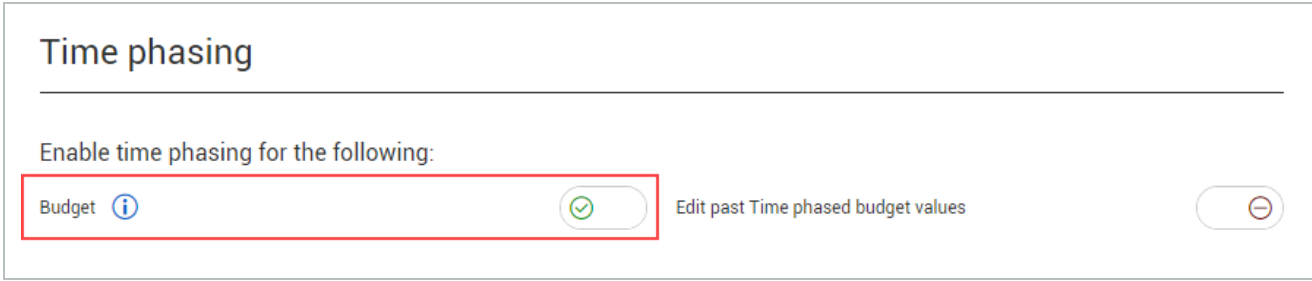
The point of being able to time phase your budget is so that you can plan out your budget cost per cost item. You are spreading out your budget over the course of the project for each cost item.

8.8.1 BUDGET ORGANIZATION SETTING

The time phased budget feature includes an organization setting located in the Project tracking tab of the Control settings. The organization setting sets the default for all the projects within that organization.

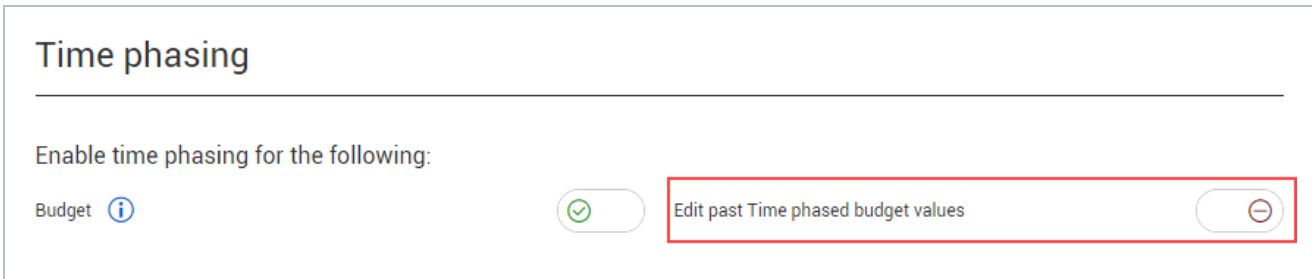
You can also change the budget setting at the project level. If you are starting new projects in your organization, you need to have Time phasing budget switched on.

By default all the projects that are created under that organization also have the time phased budget switched on. This is the same for when budget is switched off.



8.8.2 EDIT PAST TIME PHASED BUDGET VALUES

The Edit past Time phased budget values toggle lets you edit past fiscal period time phased budget values.



When this setting is turned on, you can edit your past time phased budget values via a budget move or a contract adjustment in the time phased budget step, with the proper permissions.

Change register > Contract adjustment

Net budget change	Net quantity change	Net man hour change	Markup	Fee	Net contract change	Approval probability
\$ 0.00	No	0.00	\$ 0.00	\$ 0.00	\$ 0.00	

1 Details 2 Cost items 3 Time phased budget 4 Pay items 5 Summary

CBS position	Description	WBS phase code	Start	Finish	Cc	January 2022		February 2022	
						Cost	Adjusted cost	Cost	Adjusted cost
2.3.1.1.1	Resurface Existing Access road	1004	10/16/2022	11/15/2022	Lir	\$ 212.33	(\$ 212.33)	\$ 191.78	\$ 212.33
2.3.1.1.2	Maintain Access Road	1005	10/16/2022	11/15/2022	Lir	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

Selecting the new Rebaseline icon resets the cost item's time phased budget distribution based on the Start and Finish dates against that cost item. Rebaselining lets you amend your time phased budget distribution costs for a cost item.

You can also edit any of the Adjusted cost values manually for past months.


CBS position	Description	Start	Finish	April 2022		May 2022	
				Adjusted cost	Cost	Adjusted cost	Cost
<input type="checkbox"/> 2.3.1.1.1	Resurface Existing Access	10/16/2022	11/15/2022	\$ 205.48	\$ 0.00	\$ 212.33	\$ 0.00
<input checked="" type="checkbox"/> 2.3.1.1.2	Maintain Access Road	05/01/2022	12/31/2022	\$ 0.00	\$ 471.92	\$ 0.00	\$ 975.31

At the project level, the time phased budget inherits the organization settings, but still lets you switch the budget setting *on* or *off* at the project level. For example, you can have time phased budget turned on at the organization level and you can turn it off at the project level.

8.8.3 SWITCHING OFF TIME PHASING BUDGET

If the Time phasing budget is switched on, that means there is time phasing budget data in the database. If you turn it off time phasing budget at the project level, it gives you the following warning message:

✕
🖱️



Are you sure you want to delete Time phased budget?
Turning off time phased budget will delete all existing time phased budget data for the project.

By selecting this checkbox and accepting these conditions, I understand that all time phased budget data will be deleted for this project.

Yes
No

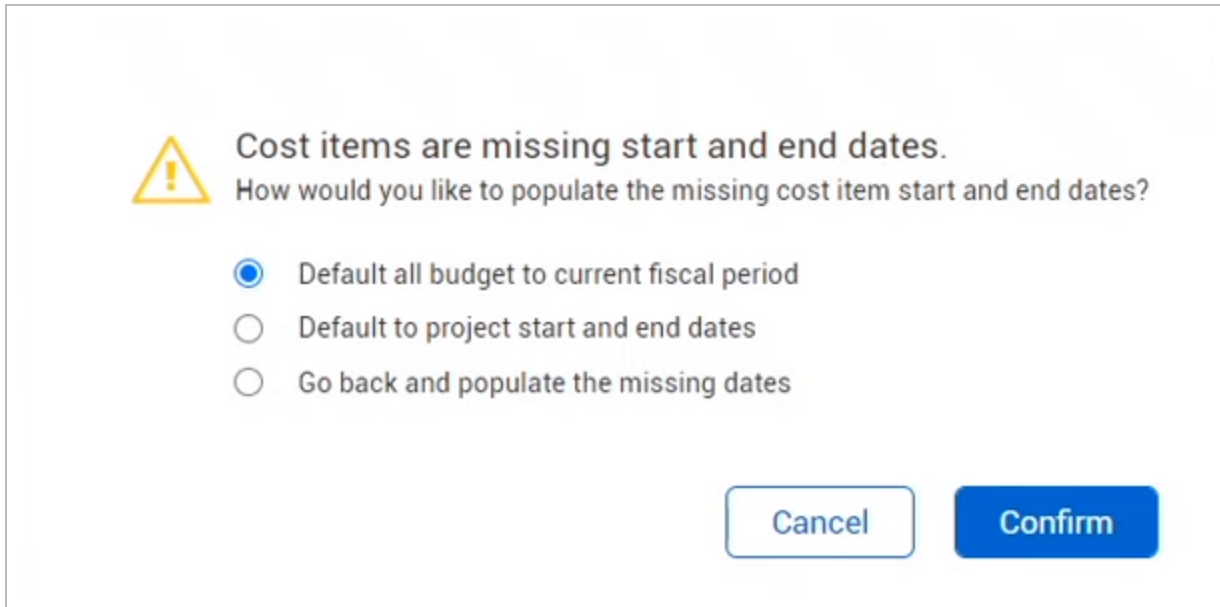
NOTE

All of your time phased budget data is going to be deleted if you switch time phased budget off. You must select the check box in the warning dialog acknowledging that you understand and accept these conditions.

If you still want to turn off the time phasing budget, you can select **Yes** and then click **Save**. This will delete the time phasing budget data from the database.

8.8.4 SWITCHING ON THE TIME PHASING BUDGET

If you want to turn on time phased budget, the following dialog box appears if there are any missing start or end dates:



Every cost item in your project needs the start and finish date entered to use that data in the time phase budget.

When time phased budget data is calculated, the calculation is based off of the data in the current budget and total cost for the cost item. Then, the cost is distributed to the cost items start date, finish date, and cost curve.

Time phased budget				
CB total cost	Start	Finish	Cost curve	Pending budget cost
\$ 48,790.00	01/01/2020	03/31/2022	Linear	\$ 150.00
\$ 25,020.00	01/01/2020	07/30/2021	Back Loaded	(\$ 5,060.00)
\$ 5,050.00	12/30/2020	12/31/2020	Front Loaded	\$ 4,640.00
\$ 5,120.00	01/01/2021	05/31/2021	Linear	\$ 540.00
\$ 1,600.00	12/01/2020	03/31/2021	Custom curve 1	\$ 10.00
\$ 1,000.00	12/01/2020	05/15/2021	Bell Shaped	\$ 10.00
\$ 11,000.00	12/01/2020	03/31/2022	Custom curve 2	\$ 10.00

8.8.4.1 DEFAULT ALL BUDGET TO CURRENT FISCAL PERIOD

The first option you have is to default all of the budget to the current fiscal period. Then, all cost items that don't have defined start and finish dates have the current budget going to the current fiscal period.

For example, if you look at WBS phase code 1007, you would have \$100,000 put into December 2020.

Tasks				Time phased budget				
<input type="checkbox"/>	CBS position	Description	WBS phase code	CB total cost	Start	Finish	Cost curve	Pending budget cost
<input type="checkbox"/>	1	Electrical devices	1000	\$ 48,790.00	01/01/2020	03/31/2022	Linear	\$ 150.00
<input type="checkbox"/>	1.1	Install conduit	1002	\$ 25,020.00	01/01/2020	07/30/2021	Back Loaded	(\$ 5,060.00)
<input type="checkbox"/>	1.2	Fiber optic cable-1	1001.1	\$ 5,050.00	12/30/2020	12/31/2020	Front Loaded	\$ 4,640.00
<input type="checkbox"/>	1.3	Pull cable	1003	\$ 5,120.00	01/01/2021	05/31/2021	Linear	\$ 540.00
<input type="checkbox"/>	1.4	CCTV devices	1004	\$ 1,600.00	12/01/2020	03/31/2021	Custom curve 1	\$ 10.00
<input type="checkbox"/>	1.5	Terminations	1005	\$ 1,000.00	12/01/2020	05/15/2021	Bell Shaped	\$ 10.00
<input type="checkbox"/>	1.6	Light poles	1006	\$ 11,000.00	12/01/2020	03/31/2022	Custom curve 2	\$ 10.00
<input type="checkbox"/>	2	Indirects	1008	\$ 305,000.00			Linear	\$ 0.00
<input type="checkbox"/>	2.1	Staff	1010	\$ 305,000.00			Linear	\$ 0.00
<input type="checkbox"/>	2.1.1	PM	1007	\$ 100,000.00			Linear	\$ 0.00
<input type="checkbox"/>	2.1.2	PE	1009	\$ 85,000.00			Linear	\$ 0.00
<input type="checkbox"/>	2.1.3	Super	1011	\$ 120,000.00			Linear	\$ 0.00
<input type="checkbox"/>	3	Staff training	1012	\$ 5,500.00			Linear	\$ 0.00
<input type="checkbox"/>	4	Craft training	1013	\$ 17,500.00			Linear	\$ 0.00
<input type="checkbox"/>	5	ST&S	1014	\$ 45,000.00			Linear	\$ 0.00
Subtotals 64				\$ 431,790.00				\$ 150.00

8.8.4.2 DEFAULT TO PROJECT START AND END DATES

The next option is to default to the start and end dates. On the project details page you define all the project start and end dates. After those are defined, then we can default all of those missing start and end dates to just the project start and end dates.

8.8.4.3 POPULATE MISSING DATES MANUALLY

You can also return to the Time phased budget step and manually populate the missing dates. If you choose this option, the budget setting turns off again (if it wasn't already turned off and on again in previous sections). You then have to go into the CBS and manually enter all the start and finish dates. Then, you could turn the budget setting back on and it should distribute the budget.

NOTE

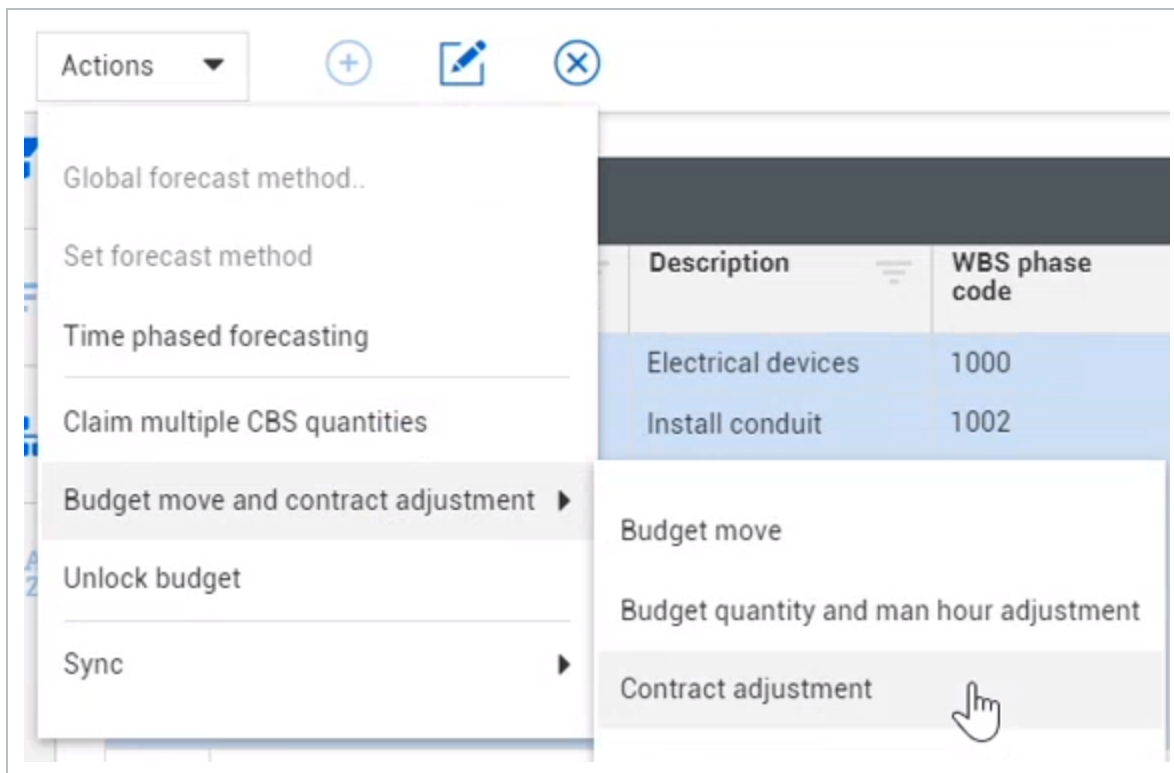
Time phased budget data currently can only be seen in the CBS contract adjustment.

8.8.5 TIME PHASED BUDGET IN CONTRACT ADJUSTMENT

From the CBS, select cost items to adjust in the contract adjustment.

Tasks				Time phased budget				
<input type="checkbox"/>	↳ CBS position	Description	WBS phase code	CB total cost	Start	Finish	Cost curve	Pending budget cost
<input type="checkbox"/>	1	Electrical devices	1000	\$ 48,790.00	01/01/2020	03/31/2022	Linear	\$ 150.00
<input checked="" type="checkbox"/>	1.1	Install conduit	1002	\$ 25,020.00	01/01/2020	07/30/2021	Back Loaded	(\$ 5,060.00)
<input checked="" type="checkbox"/>	1.2	Fiber optic cable-1	1001.1	\$ 5,050.00	12/30/2020	12/31/2020	Front Loaded	\$ 4,640.00
<input checked="" type="checkbox"/>	1.3	Pull cable	1003	\$ 5,120.00	01/01/2021	05/31/2021	Linear	\$ 540.00
<input type="checkbox"/>	1.4	CCTV devices	1004	\$ 1,600.00	12/01/2020	03/31/2021	Custom curve 1	\$ 10.00

Then select the **Actions** drop-down, hover over the **budget move and contract adjustment** and then select **Contract adjustment**.



In the contract adjustment, there is an area called Change order attributes. This area lets you set your change orders/contract adjustment to the following:

- Start date
- Finish date
- Cost curve

1 Details 2 Cost items 3 Time phased budget 4 Pay items 5 Summary

Choose your Contract adjustment workflow

Start with Cost items
Enter markup and fees on cost items to generate pay item price

Start with Pay items
Adjust pay item price before adjusting cost item budgets

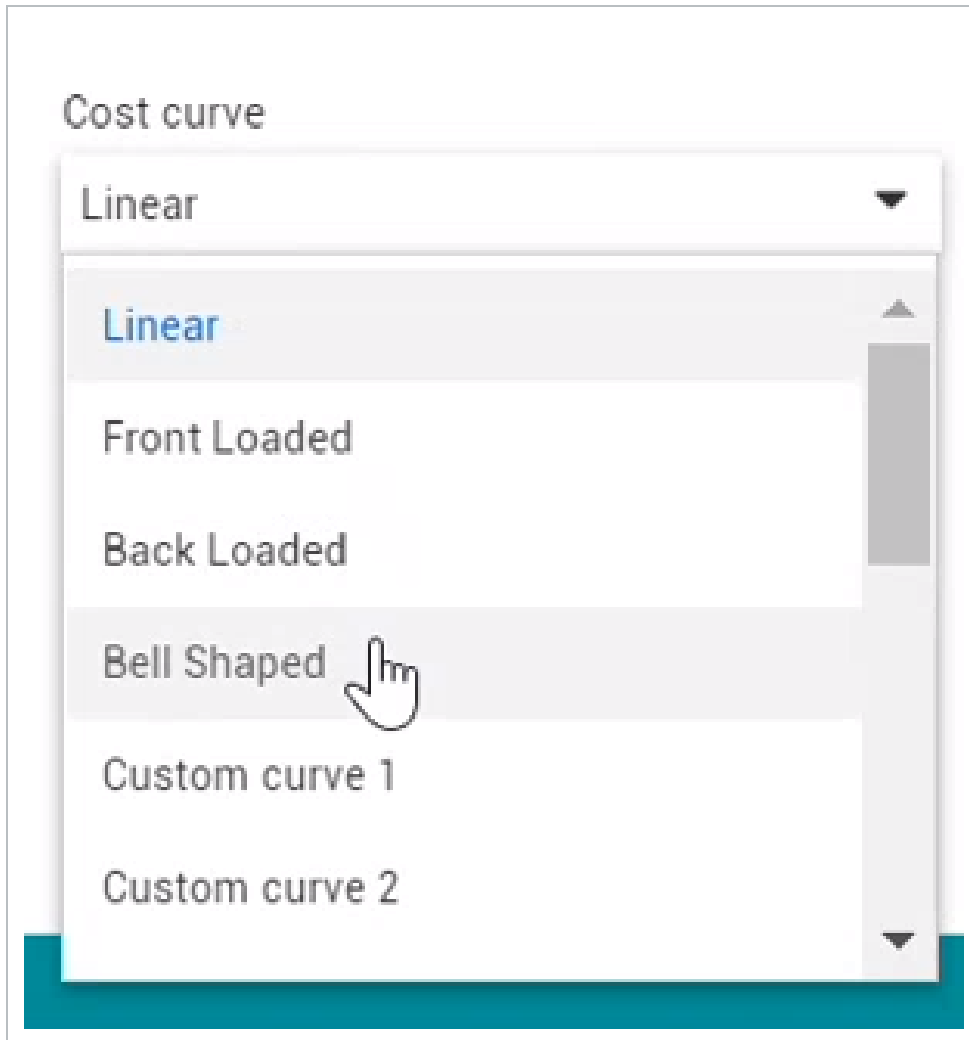
Change order attributes

Start date: 2020 December Finish date: 2020 December Cost curve: Linear

Contract adjustment details

Issue # CCO

Cost Curve can be adjusted in many ways. If you select **Bell Shaped** the cost adjustments increase during the summer months and then decreases in the winter months.



In step 3 of the contract adjustment, the Time phased budget step can be used for both Start with Cost items work flow and the Start with Pay items work flow. You can adjust your time phased budget in either contract adjustment work flow.

NOTE The only time your time phased budget should change is when you get change orders and you have to change your overall budget amount.

For the Start dates, you cannot put budget in the past. If you try to select a month that has already passed, you will get an error stating Start date must be in an open fiscal period.

Change order attributes

Start date: 2020 January Finish date: 2021 December Cost curve: Linear

Start date must be in an open fiscal period

Finish date has to be greater than your start date otherwise you get the following error.

Finish date Cost curve

Finish date cannot be earlier than start date

Move onto step 2 Cost Items. You can add Adjusted CB total cost. In this example we are adding \$100 to each cost item.

1 Details 2 Cost items 3 Time phased budget						
<input type="checkbox"/>	CBS position	Description	WBS phase code	CB total cost	Adjusted CB total cost	Markup %
Unassigned cost items						
<input type="checkbox"/>	1.2	Fiber optic cable-1	1001.1	\$ 5,050.00	\$ 100.00	
<input type="checkbox"/>	1.1	Install conduit	1002	\$ 25,020.00	\$ 100.00	
<input type="checkbox"/>	1.3	Pull cable	1003	\$ 5,120.00	\$ 100.00	
<input type="checkbox"/>	1.4	CCTV devices	1004	\$ 1,600.00	\$ 100.00	
<input type="checkbox"/>	1.5	Terminations	1005	\$ 1,000.00	\$ 100.00	
<input checked="" type="checkbox"/>	1.6	Light poles	1006	\$ 11,000.00	\$ 100.00	

In the Time phased budget step, the 100 dollars now has to be distributed. Scroll over to the Distribution type column.

NOTE In step 3, only TERMINAL cost items will be brought into that grid. Non-terminal cost items do not show on the Cost items grid of the contract adjustment.

1 Details 2 Cost items 3 Time phased budget 4 Pay items 5 Summary											
<input type="checkbox"/>	CBS position	Description	Start	Finish	Cost curve	Distribution type	CB total cost	November 2020		December 2020	
								Cost	Cost	Adjusted cost	
<input type="checkbox"/>	1.1	Install conduit	12/27/2020	12/25/2021	Linear	Change order	\$ 25,020.00	\$ 0.00	\$ 0.00	\$ 0.00	
<input type="checkbox"/>	1.2	Fiber optic cable-1	12/27/2020	12/25/2021	Linear	Change order	\$ 5,050.00	\$ 0.00	\$ 0.00	\$ 0.00	
<input type="checkbox"/>	1.3	Pull cable	12/27/2020	12/25/2021	Linear	Change order	\$ 5,120.00	\$ 0.00	\$ 0.00	\$ 0.00	
<input type="checkbox"/>	1.4	CCTV devices	12/27/2020	12/25/2021	Linear	Change order	\$ 1,600.00	\$ 0.00	\$ 327.43	\$ 0.00	
<input type="checkbox"/>	1.5	Terminations	12/27/2020	12/25/2021	Linear	Change order	\$ 1,000.00	\$ 0.00	\$ 14.43	\$ 0.00	
<input type="checkbox"/>	1.6	Light poles	12/27/2020	12/25/2021	Linear	Change order	\$ 11,000.00	\$ 0.00	\$ 588.48	\$ 0.00	

There are three different Distribution types:

- Change order (default setting)
- Cost Item
- Manual

When Distribution type is set to **Change order**, it means it is pulling in the start date, finish date, and cost curve from the details step of your change order.

The changes to the Adjusted total cost column are then distributed throughout the start and finish date and shows in the Adjusted Cost column.

If your cost curve was set to **linear**, roughly the same amount of cost goes into the same fiscal period. Since some months are longer than others, they will have additional cost.

CBS position	Description	WBS phase code	Start	Finish	Cost curve	Distribution type	October 2021		November 2021		December 2021	
							Cost	Adjusted cost	Cost	Adjusted cost	Cost	Adjusted cost
<input type="checkbox"/> 1.1	Install conduit	1002	12/27/2020	12/25/2021	Linear	Change order	\$ 0.00	\$ 9.62	\$ 0.00	\$ 7.69	\$ 0.00	\$ 7.69
<input type="checkbox"/> 1.2	Fiber optic cable-1	1001.1	12/27/2020	12/25/2021	Linear	Change order	\$ 0.00	\$ 9.62	\$ 0.00	\$ 7.69	\$ 0.00	\$ 7.69
<input type="checkbox"/> 1.3	Pull cable	1003	12/27/2020	12/25/2021	Linear	Change order	\$ 0.00	\$ 9.62	\$ 0.00	\$ 7.69	\$ 0.00	\$ 7.69
<input type="checkbox"/> 1.4	CCTV devices	1004	12/27/2020	12/25/2021	Linear	Change order	\$ 0.00	\$ 9.62	\$ 0.00	\$ 7.69	\$ 0.00	\$ 7.69
<input type="checkbox"/> 1.5	Terminations	1005	12/27/2020	12/25/2021	Linear	Change order	\$ 0.00	\$ 9.62	\$ 0.00	\$ 7.69	\$ 0.00	\$ 7.69
<input type="checkbox"/> 1.6	Light poles	1006	12/27/2020	12/25/2021	Linear	Change order	\$ 792.18	\$ 9.62	\$ 633.74	\$ 7.69	\$ 633.74	\$ 7.69

8.8.6 TIME PHASED BUDGET AT THE BUDGET MOVE

Time phased budget is included for both the non-associated and associated budget move.

The total adjusted CB total cost must be zero before you can move budget. This shows as a net zero budget adjustment when you are moving budget from cost items to other cost items. You can also move the time phased budget.

You can set the start date, finish date, and cost curve for the budget move change orders.

1 Details
2 Assign amounts
3 Time phased budget
4 Summary

Choose your Budget move workflow

Associated
 Define budget moves with a From and To process to provide ultimate traceability of budget moves.

Non-Associated
 Define budget moves freely to provide the most flexibility.

Change order attributes

Start date
 2021 ▼ April ▼

Finish date
 2021 ▼ December ▼

Cost curve
 Linear ▼

Budget move details

Issue #

CCO

Description

500

The Time phased budget step is similar to the Time phased budget step for Contract adjustment. The distribution type on this step is where you can select to distribute by the change order attributes or the cost item attributes. You can also manually adjust your cost.

Change register > Budget Move
1 Details 2 Assign amounts 3 Time phased budget 4 Summary

\$ 0.00
Feb 2021 - Aug 2021
View Cost column

CBS position	Description	WBS phase code	Start	Finish	Cost curve	Distrl type	February 2021		March 2021		April 2021	
							Cost	Adjusted cost	Cost	Adjusted cost	Cost	Adjusted cost
<input checked="" type="checkbox"/>	41 Cost item 1	01	05/01/2021	12/31/2021	Linear	Cost	\$ 0.00	\$ 1,500.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
<input checked="" type="checkbox"/>	42 Cost item 2	02	05/01/2021	05/01/2022	Front Loaded	Cost	\$ 0.00	\$ 200.00	<input style="width: 50px;" type="text" value=""/>	\$ 0.00	\$ 0.00	\$ 0.00

Cancel
Draft
Back
Next

When you adjust the budgeted cost either through a contract adjustment or a budget move, you can adjust the cost over the different fiscal periods and decide where to place the adjusted cost.

8.8.7 TIME PHASED BUDGET GRIDS

In the left side grid, you have many of the cost item details in columns. This includes the following columns:

- CBS position
- Description
- WBS phase code
- Start
- Finish
- Cost curve
- Distribution type
- CB total cost
- Adjusted CB total cost
- Pending budget cost: any outstanding budget cost that has not yet been approved. For example, if you have another pending contract adjustment, it adds those values in this column.
- Phased budget cost delta

<input type="checkbox"/>	CBS position	Description	B total cost	Adjusted CB total cost	Pending budget cost	Phased budget cost delta
<input type="checkbox"/>	1.1	Install conduit	\$ 25,020.00	\$ 100.00	(\$ 5,060.00)	\$ 0.00
<input type="checkbox"/>	1.2	Fiber optic cable-1	\$ 5,050.00	\$ 100.00	\$ 4,640.00	\$ 0.00
<input type="checkbox"/>	1.3	Pull cable	\$ 5,120.00	\$ 100.00	\$ 540.00	\$ 0.00
<input type="checkbox"/>	1.4	CCTV devices	\$ 1,600.00	\$ 100.00	\$ 10.00	\$ 0.00
<input type="checkbox"/>	1.5	Terminations	\$ 1,000.00	\$ 100.00	\$ 10.00	\$ 0.00
<input type="checkbox"/>	1.6	Light poles	\$ 11,000.00	\$ 100.00	\$ 10.00	\$ 0.00

You can adjust the amount of columns you see using the slider to move between the left side grid and the right side grid.

The right side grid shows your cost and adjusted cost columns. Your cost columns show current cost that has been approved.

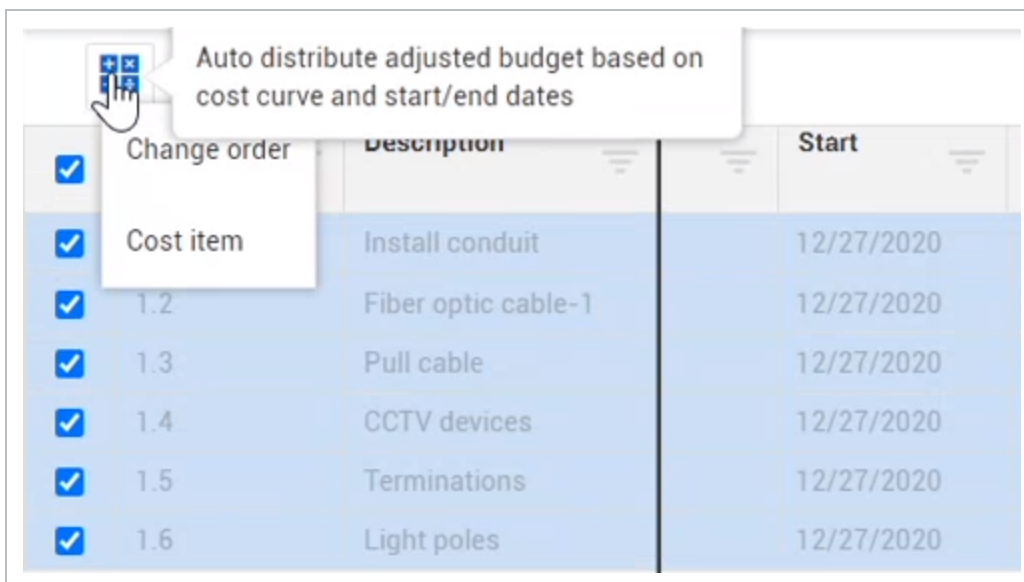
For example, in the **CB total cost** column, if you have \$1,000 approved, the cost columns for each month distributes that cost throughout each month.

CBS position	Description	CB total cost	Adjusted CB total cost	December 2020		January 2021		February 2021		March 2021	
				Cost	Adjusted cost	Cost	Adjusted cost	Cost	Adjusted cost	Cost	Adjusted cost
1.1	Install conduit	\$ 25,020.00	\$ 100.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 9.62	\$ 0.00	\$ 7.69	\$ 0.00	\$ 0.00
1.2	Fiber optic cable-1	\$ 5,050.00	\$ 100.00	\$ 0.00	\$ 0.00	\$ 5,050.00	\$ 9.62	\$ 0.00	\$ 7.69	\$ 0.00	\$ 0.00
1.3	Pull cable	\$ 5,120.00	\$ 100.00	\$ 0.00	\$ 0.00	\$ 1,017.22	\$ 9.62	\$ 949.40	\$ 7.69	\$ 949.40	\$ 0.00
1.4	CCTV devices	\$ 1,600.00	\$ 100.00	\$ 327.43	\$ 0.00	\$ 440.77	\$ 9.62	\$ 352.62	\$ 7.69	\$ 428.81	\$ 0.00
1.5	Terminations	\$ 1,000.00	\$ 100.00	\$ 14.43	\$ 0.00	\$ 187.95	\$ 9.62	\$ 387.76	\$ 7.69	\$ 312.69	\$ 0.00
1.6	Light poles	\$ 11,000.00	\$ 100.00	\$ 588.48	\$ 0.00	\$ 792.18	\$ 9.62	\$ 633.74	\$ 7.69	\$ 633.74	\$ 0.00

8.8.8 CHANGING DISTRIBUTION TYPE TO COST ITEM

You can change the auto distribute type to Cost item if you want your adjusted budget to use attributes from the CBS.

To do this, you can select one, many, or all of your cost items in the left side grid, and then click on the **auto distribute** icon. Then select **Cost item**.



Your Distribution type has changed to cost item. You are now distributing your adjusted budget based on the cost item attributes that are pulling in from the CBS.

<input type="checkbox"/>	CBS position ↑	Description	Finish	Cost curve	Distribution type	CB total cost
<input checked="" type="checkbox"/>	1.1	Install conduit	020 07/30/2021	Back L...	Cost item	\$ 25,020
<input checked="" type="checkbox"/>	1.2	Fiber optic cable-1	020 12/31/2020	Front ...	Cost item	\$ 5,050
<input checked="" type="checkbox"/>	1.3	Pull cable	021 05/31/2021	Linear	Cost item	\$ 5,120
<input checked="" type="checkbox"/>	1.4	CCTV devices	020 03/31/2021	Custo...	Cost item	\$ 1,600
<input checked="" type="checkbox"/>	1.5	Terminations	020 05/15/2021	Bell Sh...	Cost item	\$ 1,000
<input checked="" type="checkbox"/>	1.6	Light poles	020 03/31/2022	Custo...	Cost item	\$ 11,000

This also changes how the Cost curve distributes the adjusted cost. As you can see from the screenshot above, some cost curves have been adjusted.

8.8.9 MANUAL DISTRIBUTION OF COST ADJUSTMENT

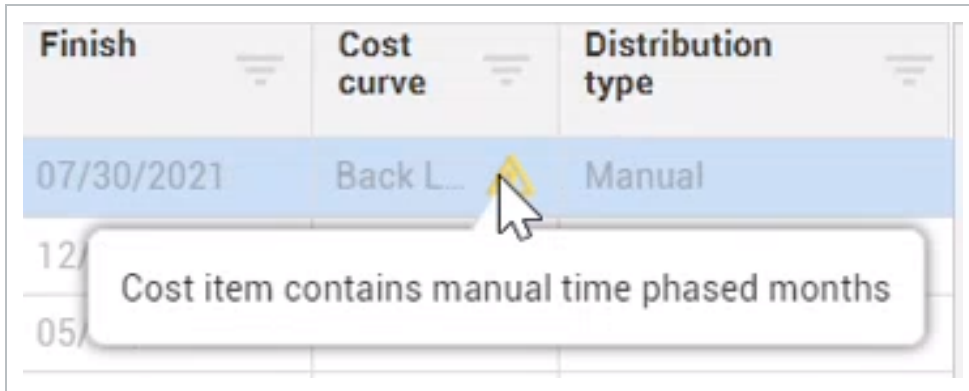
You can change a specific cost item's cost adjustment to zero and then manually redistribute that zeroed cost to other months. If you do not distribute the cost to other months, the following missing amount for the adjustment cost is highlighted in orange.

December 2020		January 2021		February 2021	
Cost	Adjusted cost	Cost	Adjusted cost	Cost	Adjusted cost
\$ 0.00	\$ 10.00 ●	\$ 0.00	\$ 50.00 ●	\$ 0.00	\$ 0.00
\$ 0.00	\$ 0.00	\$ 5,050.00	\$ 100.00	\$ 0.00	\$ 0.00
\$ 0.00	\$ 0.00	\$ 1,017.22	\$ 19.87	\$ 949.40	\$ 18.54
\$ 327.43	\$ 20.46	\$ 440.77	\$ 27.55	\$ 352.62	\$ 22.04
\$ 14.43	\$ 1.44	\$ 187.96	\$ 18.80	\$ 387.76	\$ 38.78
\$ 588.48	\$ 5.35	\$ 792.18	\$ 7.20	\$ 633.74	\$ 5.76

After redistribution, there are some manual indicators showing what the value was before the change.

Start	Finish	Cost curve	Distribution type	December 2020		January 2021		February 2021	
				Cost	Adjusted cost	Cost	Adjusted cost	Cost	Adjusted cost
01/01/2020	07/30/2021	Back L... ⚠	Manual	\$ 0.00	\$ 10.00 ●	\$ 0.00	\$ 50.00 ●	\$ 0.00	\$ 0.00
12/30/2020	12/31/2020	Front ...	Cost item	\$ 0.00	\$ 0.00	\$ 5,050.00	\$ 100.00	\$ 0.00	\$ 0.00
01/01/2021	05/31/2021	Linear	Cost item	\$ 0.00	\$ 0.00	\$ 1,017.22	\$ 19.87	\$ 949.40	\$ 18.54
12/01/2020	03/31/2021	Custo...	Cost item	\$ 327.43	\$ 20.46	\$ 440.77	\$ 27.55	\$ 352.62	\$ 22.04
12/01/2020	05/15/2021	Bell Sh...	Cost item	\$ 14.43	\$ 1.44	\$ 187.96	\$ 18.80	\$ 387.76	\$ 38.78
12/01/2020	03/31/2022	Custo...	Cost item	\$ 588.48	\$ 5.35	\$ 792.18	\$ 7.20	\$ 633.74	\$ 5.76

The warning indicator on the cost curve column lets you know that your cost item contains manual time phased months and is not technically back loaded anymore.



8.8.10 DELTAS IN A ADJUSTED COST COLUMNS

Deltas appear on a contract adjustment when the adjusted cost for a cost item does not match the current budget total cost.

NOTE You are not allowed to submit or approve a cost item adjustment that has a delta.

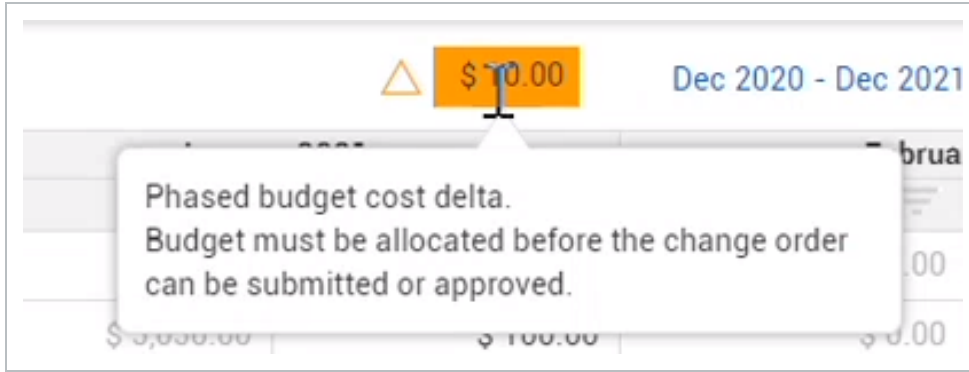
That is where the **phased budget cost delta** column displays any missing or over budgeted costs for any one cost item.

This column sums up all of your adjusted cost in the right side grid and compares it to the Adjust CB total cost.

For example, if you have \$10 not distributed, you need to add it to the adjusted cost in that same cost item before moving onto the next step. If the current budget total cost has \$100, you must spread that total cost amount throughout your months.

Adjusted CB total cost	Pending budget cost	Phased budget cost delta	December 2020		January 2021		February 2021	
			Cost	Adjusted cost	Cost	Adjusted cost	Cost	Adjusted cost
\$ 100.00	(\$ 5,060.00)	\$ 10.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 50.00	\$ 0.00	\$ 40.00
\$ 100.00	\$ 4,640.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 5,050.00	\$ 100.00	\$ 0.00	\$ 0.00

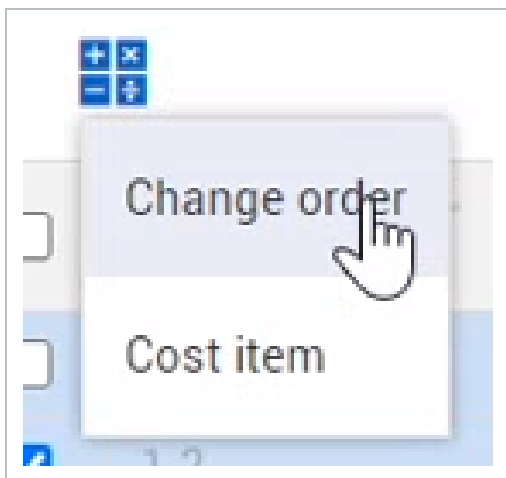
Hovering over the delta warning in the right side grid shows where the error in cost is occurring. If you have multiple deltas in different cost items, the delta cost would then sum up all delta costs.



If you attempt to submit or approve the contract adjustment with deltas and you return to the Time phased budget step, the **Phased budget cost delta** column shows which cost items have a delta. You need to resolve the deltas and redistribute the costs in the **Adjusted cost** columns in the right side grid before moving forward.

CBS position	Description	Adjusted CB total cost	Pending budget cost	Phased budget cost delta	December 2020		January 2021	
					Cost	Adjusted cost	Cost	Adjusted cost
1.1	Install conduit	\$ 0.00	\$ 100.00	(\$ 5,060.00)	\$ 0.00	\$ 0.00	\$ 0.00	\$ 50.00
1.2	Fiber optic cable-1	\$ 0.00	\$ 100.00	\$ 4,640.00	\$ 0.00	\$ 10.00	\$ 5,050.00	\$ 100.00
1.3	Pull cable	\$ 0.00	\$ 100.00	\$ 540.00	\$ 0.00	\$ 0.00	\$ 1,017.22	\$ 19.87
1.4	CCTV devices	\$ 0.00	\$ 100.00	\$ 10.00	\$ 327.43	\$ 20.46	\$ 440.77	\$ 27.55

You can also adjust your delta costs using the same Auto distribution button from earlier and selecting **Change order**. Change order always distributes without a delta.



Now you can submit and approve your contract adjustment. All those values are going to be committed into your time phased budget.

For example, if you sync into your ERP, you can receive all changes made in the contract adjustment right after those changes have been approved.

8.8.11 VIEW COST COLUMNS

If you want to view just your adjusted cost columns, select the **View Cost column** slider to turn off your cost columns. Only the adjusted cost columns shows. These columns show what you are adjusting in the active project months for the contract adjustment.

December 2020	January 2021	February 2021	March 2021	April 2021	May 2021	June 2021	July 2021
Adjusted cost	Adjusted cost	Adjusted cost	Adjusted cost	Adjusted cost	Adjusted cost	Adjusted cost	Adjusted cost
\$ 0.00	\$ 9.62	\$ 7.69	\$ 7.69	\$ 7.69	\$ 9.62	\$ 7.69	\$
\$ 0.00	\$ 9.62	\$ 7.69	\$ 7.69	\$ 7.69	\$ 9.62	\$ 7.69	\$
\$ 0.00	\$ 9.62	\$ 7.69	\$ 7.69	\$ 7.69	\$ 9.62	\$ 7.69	\$
\$ 0.00	\$ 9.62	\$ 7.69	\$ 7.69	\$ 7.69	\$ 9.62	\$ 7.69	\$
\$ 0.00	\$ 9.62	\$ 7.69	\$ 7.69	\$ 7.69	\$ 9.62	\$ 7.69	\$
\$ 0.00	\$ 9.62	\$ 7.69	\$ 7.69	\$ 7.69	\$ 9.62	\$ 7.69	\$

8.8.12 DATE RANGE FILTER

The date range filter lets you filter the right side grid to show only the months you want to see. You can view the project months based on the following options:

- This month (current fiscal month you are in)
- Next 3 months
- Next 6 months
- Next 12 months
- Through project finish date

You can also manually select the months you want to view using the **Show months** drop-down lists.

8.8.13 APPROVING BUDGET WARNINGS

You can't approve budget set in the past. If you have any adjusted cost set for the current month (December) and the contract adjustment is approved in the next month (January), the approver receives a warning stating *you have budget in past or closed periods*.

The contract adjustment can still be approved, but the adjusted cost from the closed month moves to the following month.

The other option the approver has is to revise the adjusted cost. When revising, the adjusted cost from December has already moved into the adjust cost column for January. If you do not want all of the previous month added into a single month, you can manually move the additional adjusted cost from January into the other open fiscal period months.

REVIEW

1. Revenue columns can only be populated for a cost item that has an assigned ____?
 - a. UOM
 - b. Unit price
 - c. Pay item
 - d. Cost curve

2. What are the four tabs within the Pay Item slide out?
 - a. Details, Attributes, Revenue, Cost Items
 - b. Revenue, Cost Curves, Change Orders, Cost Items
 - c. Details, Cost Curves, Change Orders, Cost Items
 - d. Details, Attributes, Change Orders, Cost Items

3. In the Pay item details slide out panel, which tab contains the Update earning rules option?
 - a. Details
 - b. Cost Items
 - c. Attributes
 - d. Change Orders

4. The _____ slide out panel is where you can record what you bill to the client
 - a. Billed revenue details
 - b. Pay item details
 - c. Forecast revenue details
 - d. Cost curve details

SUMMARY

As a result of this lesson, you can:

- Forecast revenue and determine profit
- Manage pay item details
- Adjust pay item earning rules
- Bill customers per pay item or in mass
- Track billed revenue



SCHEDULING

LESSON DURATION: 20 MINUTES

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Navigate to the Schedule data block
- Edit schedule data inside the CBS
- Edit schedule data using Excel import
- Integrate planning activities
- Schedule using Primavera

LESSON TOPICS

9.1 SCHEDULING OVERVIEW

Inside of the Control application exists the functionality to track schedule dates at a CBS level. The ability to easily add and modify this information allows you to accurately track your operations planned and completed dates.

The schedule data can either be mass imported through an Excel upload, created and modified directly within the CBS, or by way of Primavera schedule integration through and XER file import. This lesson will cover all options.

9.2 SCHEDULE DATA BLOCK

The schedule data block is where all information regarding schedule dates is contained. Some of the key fields inside this data block are:

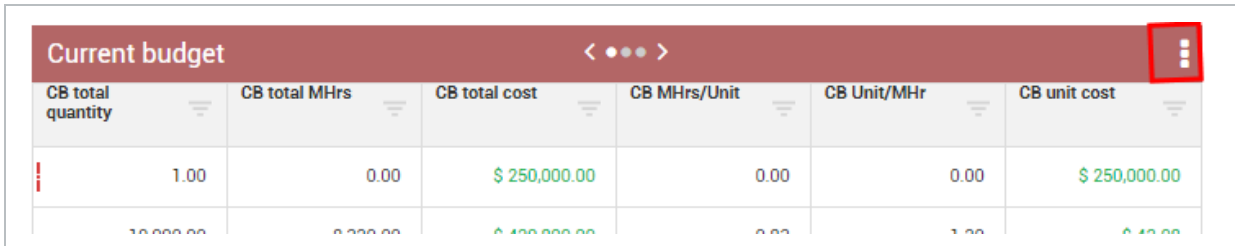
- Schedule ID
- Planned Start Date
- Planned Finish Date
- Early Start Date
- Early Finish Date
- Late Start Date
- Late Finish Date
- Actual Start Date
- Actual Finish Date

You can add and edit this information directly inside the Schedule data block. However, this will only allow you to modify one CBS line item at a time.

The following Step by Step shows you how to add the Schedule data block, save a Scheduling view, and add various dates for a specific CBS item.

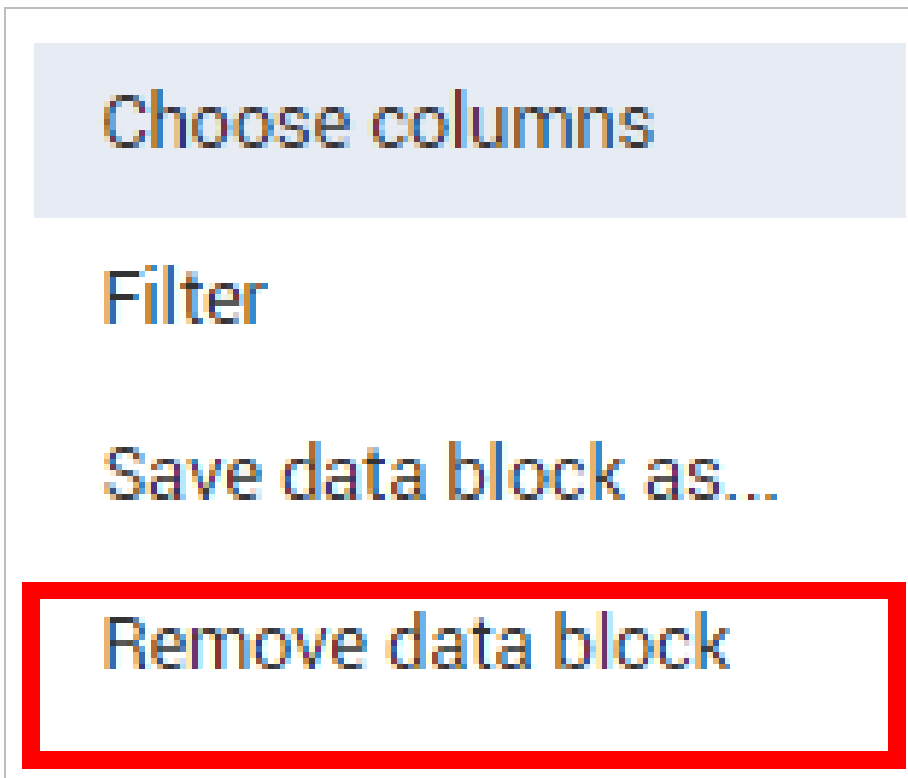
SCHEDULE DATA BLOCK

1. From the Workspaces page of the Steel Structure Job, remove each data block from the page, except for the Tasks and Task Details data blocks, by right clicking on the **context menu**.



Current budget						
CB total quantity	CB total Mhrs	CB total cost	CB Mhrs/Unit	CB Unit/Mhr	CB unit cost	
1.00	0.00	\$ 250,000.00	0.00	0.00	\$ 250,000.00	
10,000.00	0.000.00	\$ 400,000.00	0.00	1.00	\$ 40,000.00	

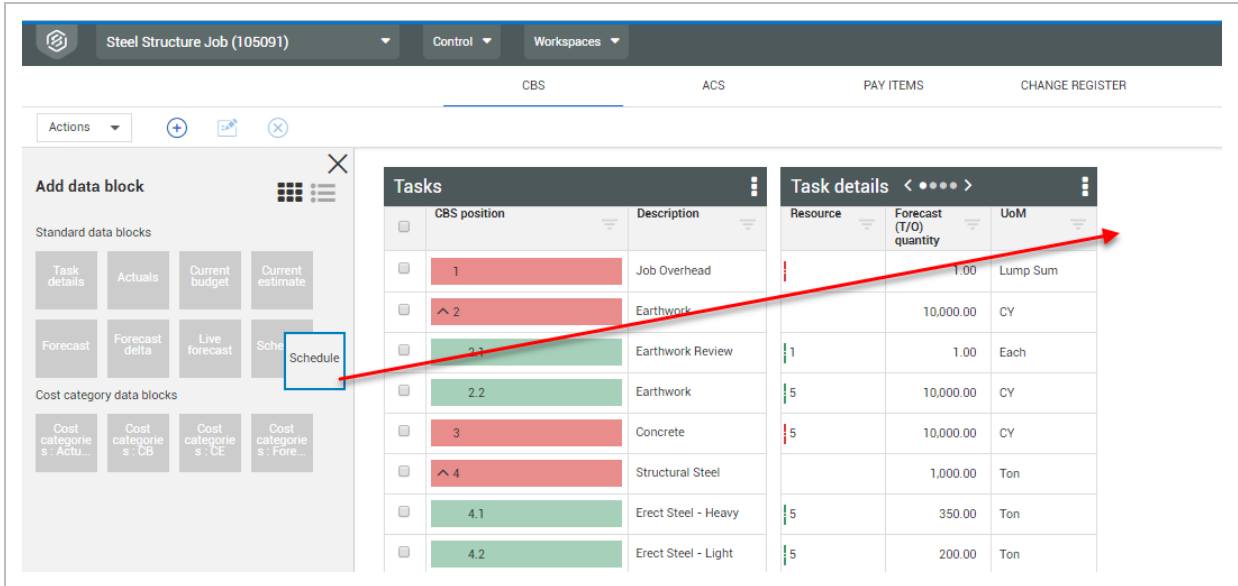
2. For each data block you plan to remove, select **Remove Data Block**



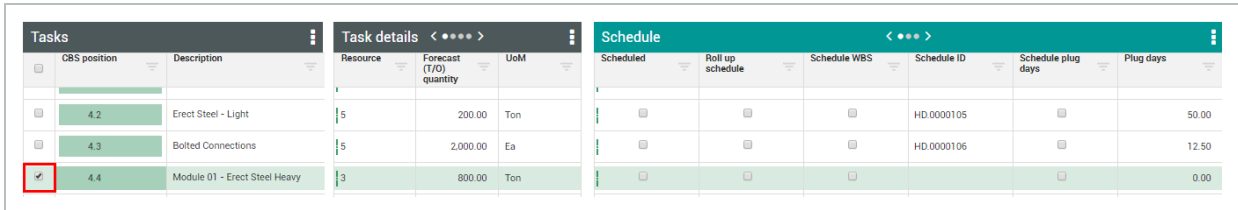
3. Once the data blocks are removed, click the **Add Data Block** button.



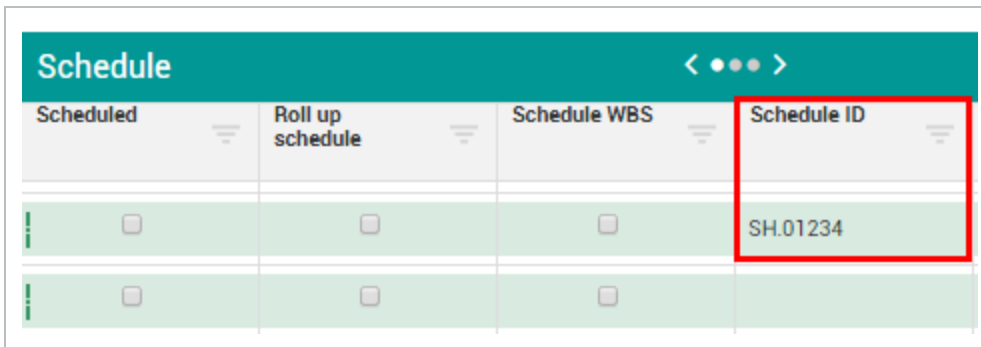
4. Drag and drop the **Schedule Data Block** to the right of Task Details.



5. Select **Module [your initials] – [description.]**



6. In the schedule data block, type **your Initials.01234** in the Schedule ID field.

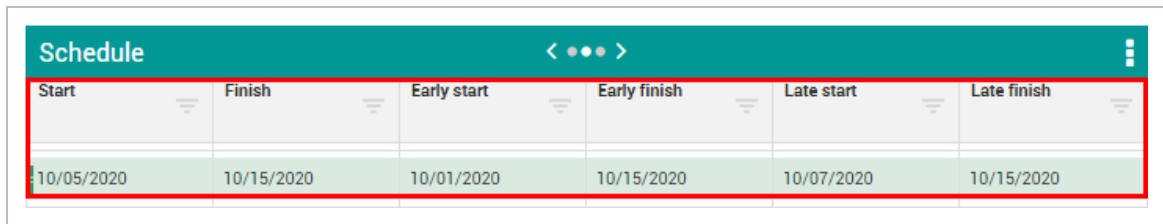


7. Click the **right arrow** to move to next set of columns in the schedule data block.



8. Double click into each field and enter the following:

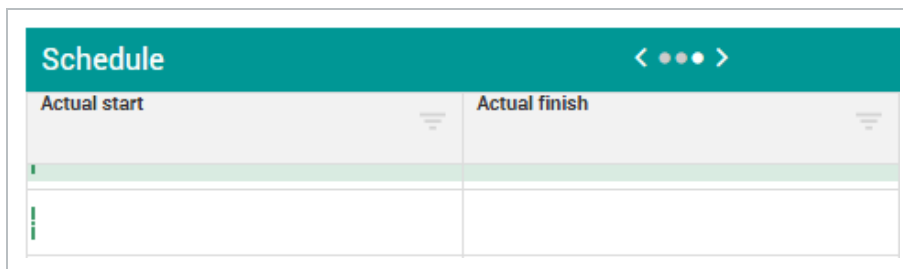
- Start = **10/05/2020**
- Finish = **10/15/2020**
- Early Start = **10/01/2020**
- Early Finish = **10/15/2020**
- Late Start = **10/07/2020**
- Late Finish = **10/15/2020**



- Entering dates on any terminal CBS item will auto-populate the parent’s dates. If there are multiple terminal items under one parent, any start dates will take the earliest and any finish dates will take the latest
- Once all the initial schedule dates are entered, the schedule data block also allows for the project to track actual dates

9. Click the **Right Arrow** to move to next set of columns in the schedule data block.

- You will leave these columns blank for this Step by Step



9.3 SCHEDULE EXCEL IMPORT

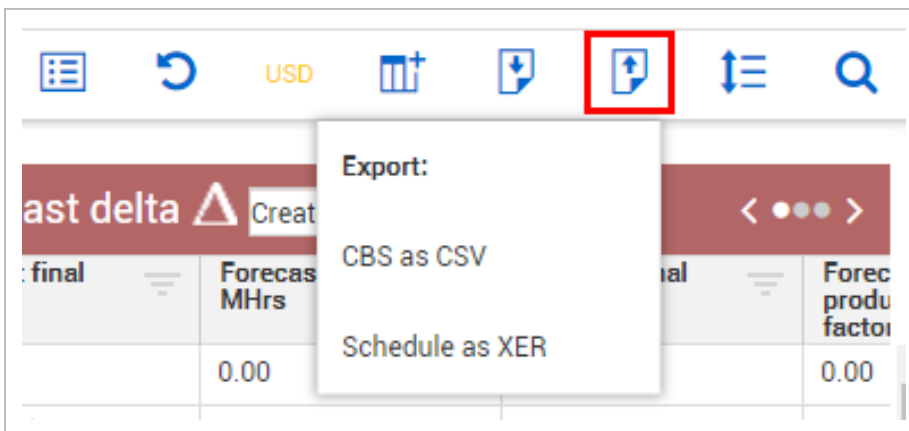
The Control application allows for an Excel import to import data into the Schedule data block. This is especially useful when bringing in large sets of data for multiple CBS items.

Excel imports can sometimes 'hang' while attempting to import CBS data. If this happens, it's possible to cancel an Excel import while the system continues the attempt to import the data.

The following Step by Step covers downloading this Excel sheet, entering the necessary data, and importing it back it into Control.

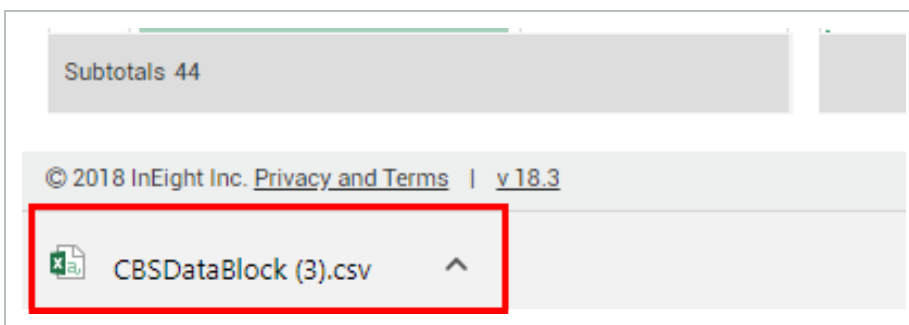
EXCEL IMPORT

1. From the Workspaces page, using the **Schedule** view on the CBS tab, click the **Export** button, then **CBS as CSV**.

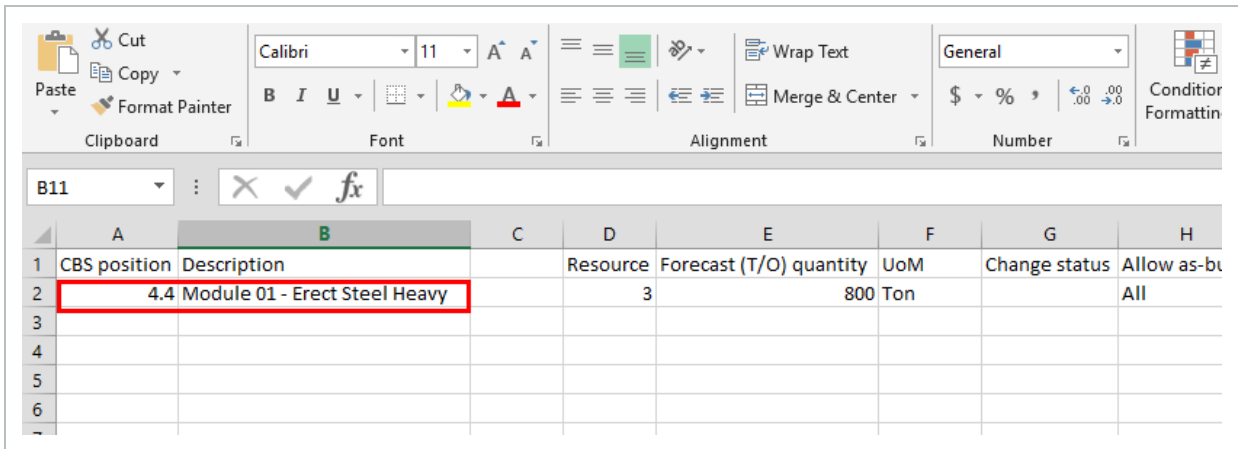


- This creates a CBSDataBlock folder in your Downloads folder

2. Open the **CBSDataBlock.csv** file.



3. Inside the Excel spreadsheet, delete all rows except for **Module [your initials] – [description]**.



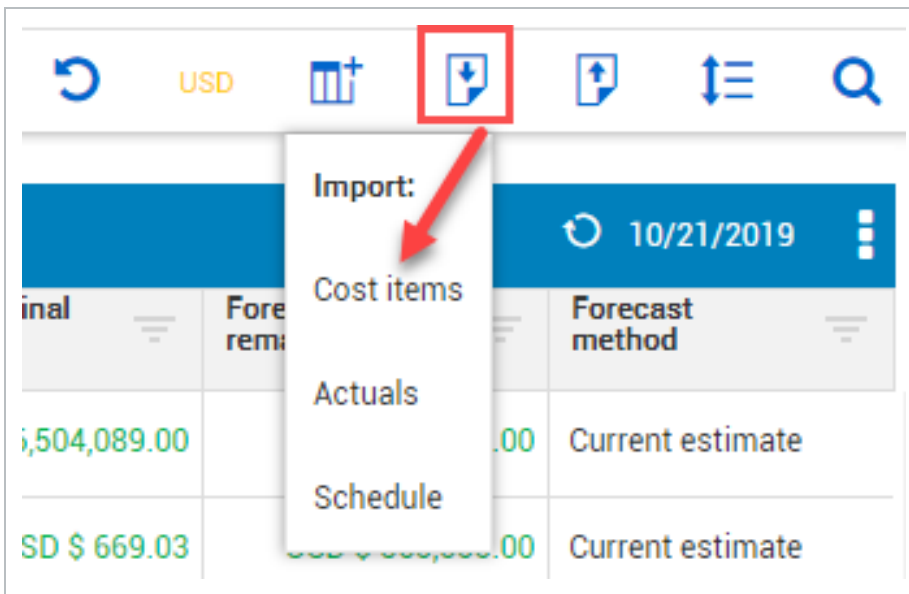
4. Enter the following:

- Actual Start = **10/03/2020**
- Actual Finish = **10/12/2020**

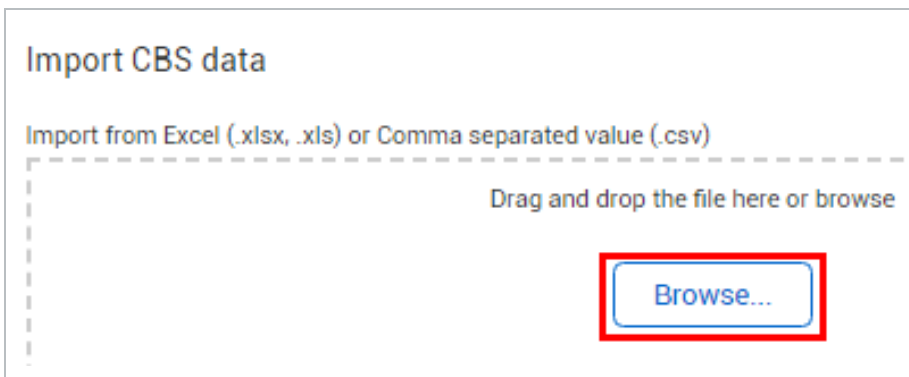
AB	AC	AD	AE
Late finish	Actual start	Actual finish	Cost curve
10/14/2020	10/03/2020	10/12/2020	Linear

5. **Save** the file to your computer (as .xlsx, .xls, or .csv).

6. From the Control > Workspaces page, click the **Import** button for Cost Items.



7. Click **Browse** to select your Excel file.



8. Select **Cost Items and cost item attributes, Update Existing Items and CBS position.**

Options

* Import type

Cost items and cost item attributes ▼

Update existing and new items

Cost item matching criteria

CBS position ▼

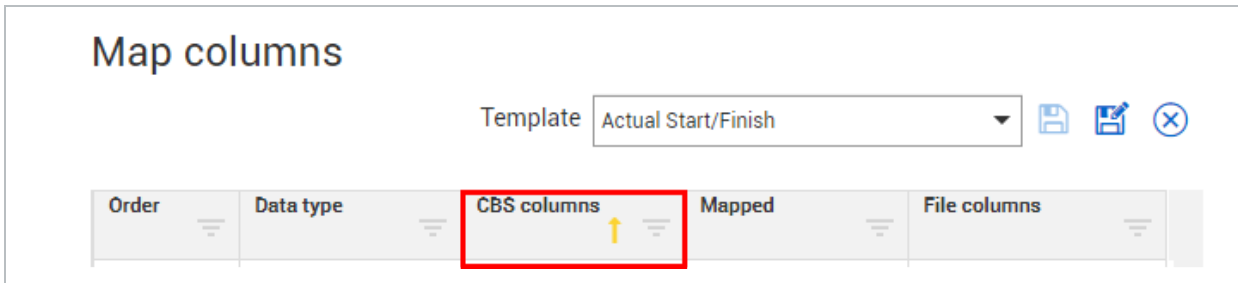
Update existing items

New items

9. Click **Next**.

Cancel **Next**

10. Next, you will map which columns from the Excel sheet get imported to which columns in Control. Click on **CBS Columns** to sort A-Z.



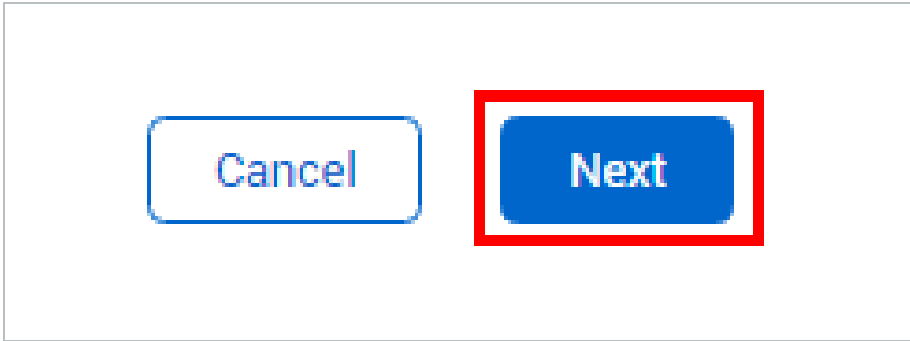
11. Under **File Columns**, match Actual Finish and Actual Start to the CBS columns description.

CBS columns	Mapped	File columns
Actual finish	✓	Actual finish
Actual start	✓	Actual start

12. Do the same for WBS Phase Code.

CBS columns	Mapped	File columns
User defined 6		Blank-do not import
User defined 7		Blank-do not import
User defined 8		Blank-do not import
WBS client code 1		Blank-do not import
WBS client code 2		Blank-do not import
WBS phase code	✓	WBS phase code

13. Click **Next**.



- The actual dates you specified import into the Schedule data block

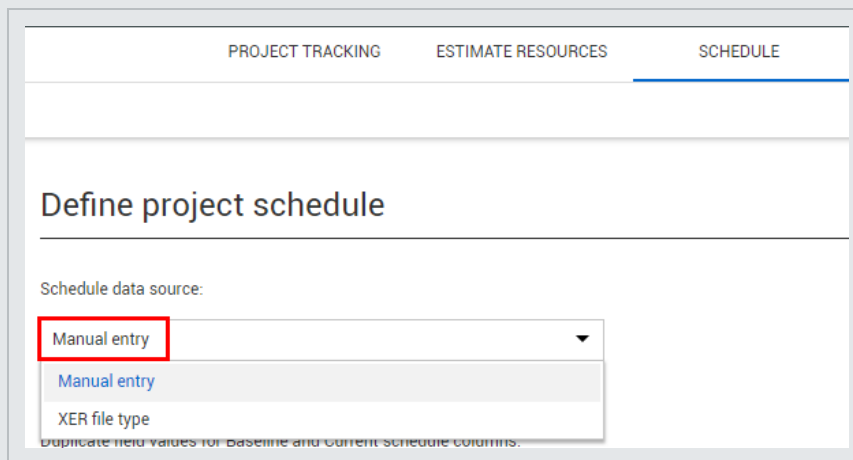
The screenshot displays a software interface with three main panels: 'Tasks', 'Task details', and 'Schedule'. The 'Schedule' panel is highlighted in green and contains a table with the following data:

Actual start	Actual finish	Cost cur
10/03/2020	10/12/2020	
		Linear
		Bell Sha
10/03/2020	10/12/2020	

The row containing '10/03/2020' and '10/12/2020' is highlighted with a red border.

TIP

The Excel import can only be accomplished if the Control > Settings > Schedule setting is set to Manual Entry.



9.4 PRIMAVERA SCHEDULE INTEGRATION

The XER (file extension used by Primavera containing project file related data) import functionality allows the milestones and schedule dates (baseline and current) to be integrated into planning activities. Schedule IDs in Control are used to map Primavera Activity IDs to import and export the project information. The status of construction activities and progress are then integrated back into the InEight scheduling tools.

The Primavera schedule integration not only allows for XER file import of schedule dates but is also capable of a cost item bi-directional push and pull between Control and Primavera. XER imports integrate critical milestones and schedule dates into planning activities in the InEight cloud platform.

It's also possible for you to map the existing Control 25 CBS tag fields, and also the existing 15 user defined fields to P6. Conversely, you can create new fields in P6 based on tagging scheme. This allows you to filter Primavera and Control in similar ways, with the same sets of dates within both applications.

You also can push (Physical) % complete to P6. As you are progressing in Plan or Progress, and as quantities drive the percent complete in Control, it's possible to push the percent complete back to the associate activity in P6.

9.4.1 PRIMAVERA SCHEDULE INTEGRATION SETTINGS

The setting to change the schedule data source to Manual entry or an **XER file type** is in Settings > Control > Schedule > Define project schedule.

Under the Schedule data source, it's possible to manually enter schedule dates, or you can utilize the XER file type.

Define project schedule

Schedule data source:

XER file type

Manual entry → Option 1


XER file type → Option 2

After selecting your Schedule data source, you will have the option of making sure that your schedule IDs are similar across your baseline and current schedule.

Duplicate field values for Baseline and Current schedule columns:

- Schedule ID and Baseline schedule ID
- Scheduled and Baseline Scheduled
- Schedule WBS and Baseline schedule WBS
- Roll up schedule and Baseline roll up schedule

If you uncheck one of these options, and then check it back, you will be given the option to copy existing Schedule ID column values to Baseline schedule ID column, and vice versa. This is a way to ensure that data consistencies remain in check for both baseline and current monthly schedule.

 Select one:

- Copy existing Schedule ID column values to Baseline schedule ID column
- Copy existing Baseline schedule ID column values to Schedule ID column

Close OK

Under Percent complete, you can either update the XER file with physical percent complete from Control, or not.

Under the second dropdown for Update XER activities, you have the option to update XER with tags and user defined fields from Control, or not to.

Percent complete:	Update XER activities with cost item tags and user defined fields from Control:
<div data-bbox="168 499 787 541">Do not update percent complete ▼</div> <div data-bbox="168 552 787 583">Update XER with physical percent complete from Control</div> <div data-bbox="168 594 787 625">Do not update percent complete</div>	<div data-bbox="800 499 1419 541">Do not update tags or user defined fields ▼</div> <div data-bbox="800 552 1419 583">Update XER with tags and user defined fields from Control</div> <div data-bbox="800 594 1419 625">Do not update tags or user defined fields</div>

If you choose to update XER with tags and user defined fields, the Define tags and user defined export rules table appears. The 3 options to choose from are to match using Control field name, match using external system field name, or do not export.

If you choose to map to an external system field (as shown below using Tag 15 for the second record), you will need to manually type in the name of the field first. Because this is not an API, the system is not aware the existing fields within P6. Therefore, you need to self-determine which Control values you want to populate in P6.

Percent complete: Update XER activities with cost item tags and user defined fields from Control:

Do not update percent complete Update XER with tags and user defined fields from Control

Define XER tags and user defined export rules:

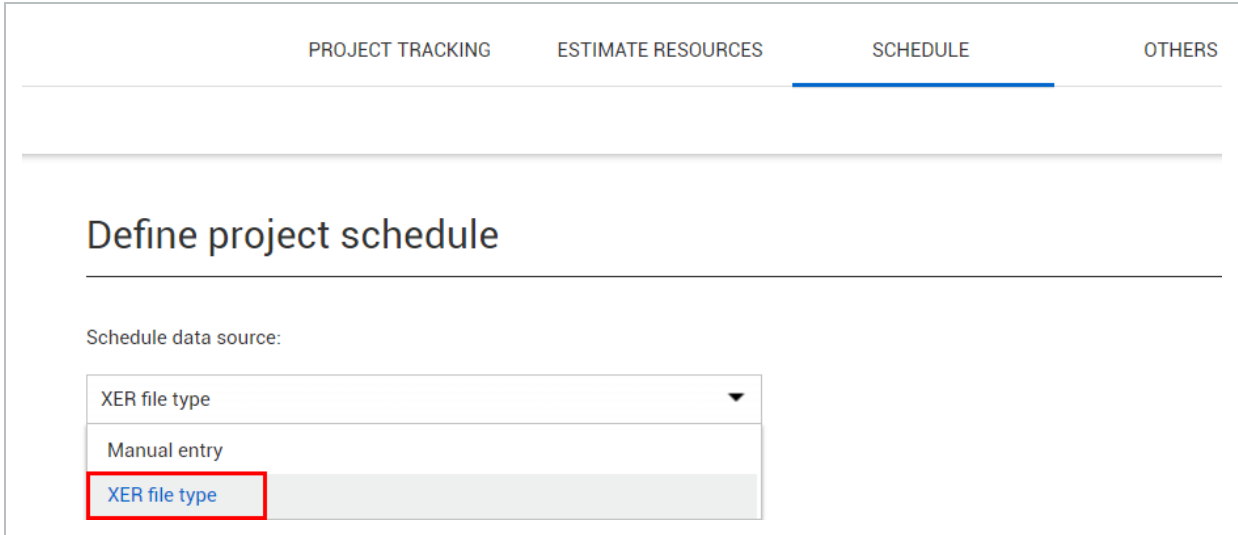
Column names in external scheduling system must be an exact match. If the specified name does not have a match with the external system, then a new column will be added at the project level.

Match using External system field name		Export Rule	*External system field
<input type="checkbox"/>	EN_CBS tag 8(CBS tag 8)	Match using External system field name	Tag 15
<input type="checkbox"/>	EN_CBS tag 17(CBS tag 17)	Match using Control field name	EN_CBS tag 17(CBS tag 17)
<input type="checkbox"/>	EN_CBS tag 19(CBS tag 19)	Do not export	
<input type="checkbox"/>	EN_CBS tag 25(CBS tag 25)	Do not export	
<input type="checkbox"/>	EN_CBS user defined 6(CBS user defined 6)	Do not export	
<input type="checkbox"/>	EN_CBS user defined 12(CBS user defined 12)	Do not export	
<input type="checkbox"/>	EN_CBS tag 4(CBS tag 4)	Do not export	
<input type="checkbox"/>	EN_CBS tag 10(CBS tag 10)	Do not export	
<input type="checkbox"/>	EN_CBS tag 15(CBS tag 15)	Do not export	

* Required fields

9.4.1.1 PRIMAVERA XER SCHEDULE INTEGRATION PREREQUISITES

1. XER file type or manual entry must be selected in Settings > Control > Schedule, in the Schedule data source section.



- 2. On the Schedule data block, the **Scheduled** column must be checked prior to importing a schedule.

Schedule					
Scheduled	Schedule ID	Sched plug days	Plug days	Start	Finish
<input checked="" type="checkbox"/>	PS.1	<input checked="" type="checkbox"/>	21,682.50	07/18/2019	07/18/2019
<input checked="" type="checkbox"/>	PS.2	<input checked="" type="checkbox"/>	0.00	07/18/2019	07/18/2019
<input checked="" type="checkbox"/>	XYZ	<input type="checkbox"/>	0.00	07/18/2019	07/18/2019

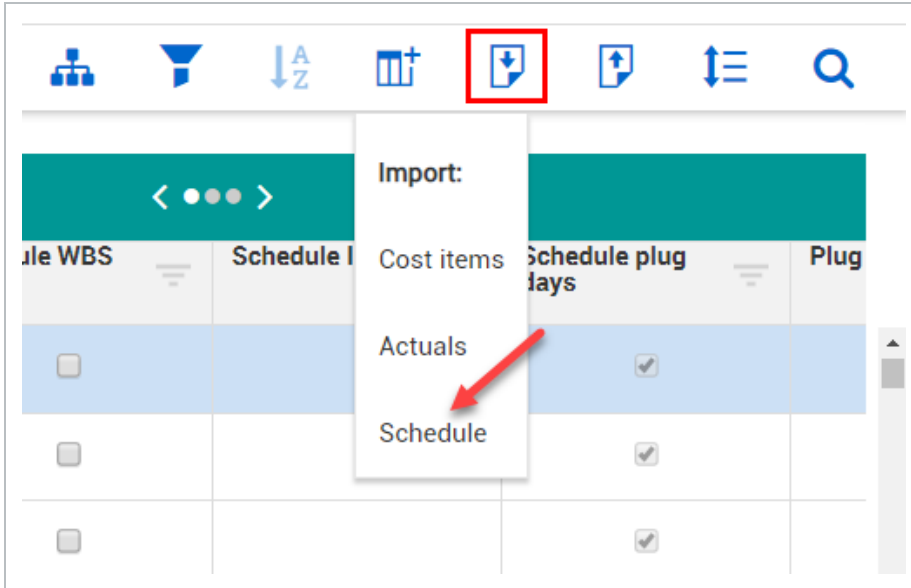
- 3. The **Schedule ID** in Control must match the **Activity ID** in the XER file.

Schedule					
Scheduled	Schedule ID	Sched plug days	Plug days	Start	Finish
<input checked="" type="checkbox"/>	PS.1	<input checked="" type="checkbox"/>	21,682.50	07/18/2019	07/18/2019
<input checked="" type="checkbox"/>	PS.2	<input checked="" type="checkbox"/>	0.00	07/18/2019	07/18/2019
<input checked="" type="checkbox"/>	XYZ	<input type="checkbox"/>	0.00	07/18/2019	07/18/2019

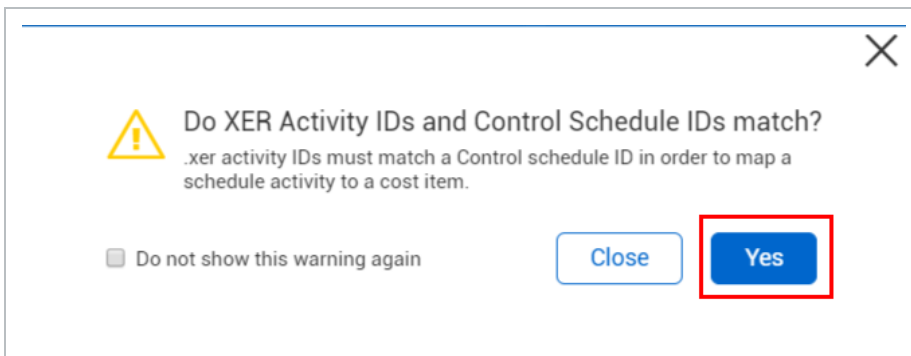
The following steps walk you through how to import a Primavera .XER file into Control.

SCHEDULE INTEGRATION IMPORT

1. From the CBS tab of the Control Workspaces page, select the **Import icon** on the top right menu bar, then click **Schedule**.



2. A warning message appears asking if the XER Activity IDs and Control IDs match. Click **Yes** if both IDs match before continuing.



3. In the Import schedule data window, click on the **Browse** icon in the Drag and drop file portion of the screen.

Import schedule data

Import from schedule (.xer)

Drag and drop the file here
or Browse

Browse

Maximum upload file size: 50 MB

Options

- Baseline schedule**
A fixed project schedule that is the standard by which project performance is measured, and a reflection of all formally authorized scope and schedule changes. After importing a baseline, you can import a current schedule and derive some key performance indicators (KPI's).
- Current schedule**
A schedule update, which reflects progress to date, plus forecast progress going forward and is used for monitoring. Schedule data can be mapped to domain data such as Control cost items to derive cost based schedules, and time phasing, for example.

4. In the Import schedule data window, click on the **Browse** icon in the Drag and drop file portion of the screen.
5. Select the desired **.XER file** that was generated in Primavera.
 - Once the **.XER file** is uploaded, the Browse box turns green

Import schedule data - Activity ID file.xer

Import from schedule (.xer)

Drag and drop the file here
or Browse

Browse

Maximum upload file size: 50 MB

6. In **Options**, select either the Baseline schedule or Current schedule for the schedule type that you want to import.

Options

- Baseline schedule**
A fixed project schedule that is the standard by which project performance is measured, and a reflection of all formally authorized scope and schedule changes. After importing a baseline, you can import a current schedule and derive some key performance indicators (KPI's).
- Current schedule**
A schedule update, which reflects progress to date, plus forecast progress going forward and is used for monitoring. Schedule data can be mapped to domain data such as Control cost items to derive cost based schedules, and time phasing, for example.

7. Select **Next**.
8. Select **Import** after reviewing the Schedule summary.

Import schedule data - Activity ID file.xer

Schedule summary

Schedule name: WSNF Shoreline Protection Schedule type: Current schedule

Total schedule records	
Schedule WBS	107
Schedule activities	306

i Import may take some time. You may continue to make changes to your project while the import is processing.

- The **Importing data** process screen displays the current status for each step of the .XER data import.

Processing schedule data import - Activity ID file.xer ("3058" OPG WSNF Shoreline Protection-A00131-1)

Importing data

Step	Status
Step 1: Preparing data to be sent	✔ Complete
Step 2: Placing data in queue	○ Processing - 1mins
Step 3: Writing data to master library	
Step 4: Sending data to project	
Step 5: Mapping master data to project data	
Step 6: Inserting data to project tables	

i This may take some time. You may continue to make changes to your project while the import is processing.
Status update is also available in the Import history

- If there are errors in any of the steps, you can click on the **Pending unmapped items found** link to make the corrections

Importing data

Step	Status
Step 1: Preparing data to be sent	✔ Complete
Step 2: Placing data in queue	✔ Complete
Step 3: Writing data to master library	✔ Complete
Step 4: Sending data to project	✔ Complete
Step 5: Mapping master data to project data	⚠ Pending, unmapped items found
Step 6: Inserting data to project tables	

- You can also navigate to Audit Log > Import history to view the import status, which includes the **Total line items** imported

File name	Status	Processing Details	Total line items	Errors	Total imported	Added estimate resources	Added pay items	Created by	Created date
NEWPROJ.xer (D...	✔ Complete	All steps	18	0	19	0	0	Asmita Ray	08/02/2019 10:0...

- If there are corrections to be made, once completed, you can select **Import** to re-import the data.

Audit log > Import history > Activity ID file.xer ("*-...")

Cancel **Import**

Status details			Schedule details		Cost item details		
Map status	XER activity ID	Control schedule ID	Description	CBS position	Description	WBS phase code	Scheduled
⚠ No match found		HD.0000003		1	Job Overhead	1002	<input type="checkbox"/>
⚠ No match found		HD.0000019		2	Earthwork	1069	<input type="checkbox"/>
⚠ No match found		HD.0000044		3	Concrete	1071	<input type="checkbox"/>

- When the import is successful, select the **Close** button.

Processing schedule data import - NEWPROJ.xer (Duplicate-NEWPROJ)

Importing data

Step	Status
Step 1: Preparing data to be sent	✓ Complete
Step 2: Placing data in queue	✓ Complete
Step 3: Writing data to master library	✓ Complete
Step 4: Sending data to project	✓ Complete
Step 5: Mapping master data to project data	✓ Complete
Step 6: Inserting data to project tables	✓ Complete

i This may take some time. You may continue to make changes to your project while the import is processing.

Status update is also available in the Import history

✕ Job ended successfully

Close

- Check the Control: **Schedule block** for newly imported **scheduled dates**
- This is a quick audit to make sure that the desired Primavera dates imported successfully into Control

Tasks		Schedule					
CBS position	Description	Scheduled	Schedule ID	Schedule plug days	Plug days	Start	Finish
^ 1	Financial Results A...	✓	PS.1	✓	21,682.50	07/18/2019	07/18/2019
^ 1.1	10 - Commercial C...	✓	PS.2	✓	0.00	07/18/2019	07/18/2019
1.1.1	Dependent G&A	✓	XYZ	☐	0.00	07/18/2019	07/18/2019

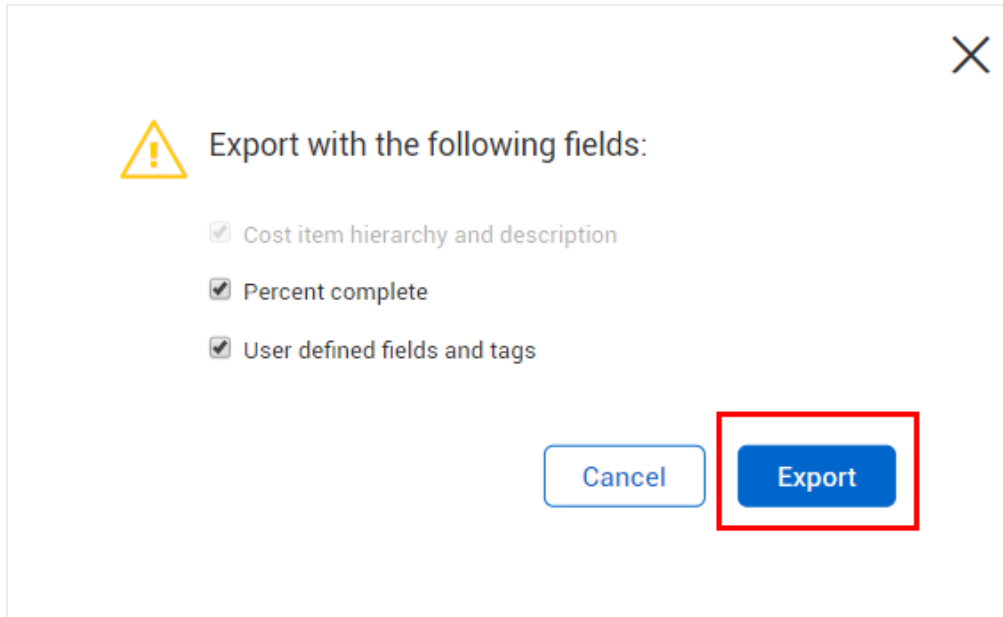
The following steps walk you through how to export a Primavera .XER file from Control.

PRIMAVERA SCHEDULE INTEGRATION EXPORT

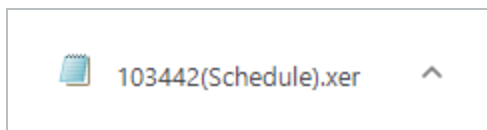
1. From the CBS tab of the Control Workspaces page, select the **Export icon** on the top right menu bar, then click **Schedule as XER**.

2. Assuming you have Percent Complete and User defined Fields and tags turned on in your settings, click **Export**.

- Depending on what you'd like to export, you can always uncheck undesired options



- After selecting Export, an XER file will generate and be placed within your C:/Downloads folder. The file will be named <job name>(Schedule).xer



- At this point you are ready to import the XER file into Primavera

9.4.2 PERCENT COMPLETE COLUMN UPDATES IN CBS

If you are progressing your schedule in P6, it's possible to import this progress data directly into Control using the Schedule Integration Import process. The % Complete column records within the CBS can receive updates from the P6 XER file. The XER file can originate from Primavera or InEight Schedule. As long as the % Complete data is captured within the XER file, it will update the CBS with this new schedule information.

Tasks				Actuals 9/2/2019 to 1/12/2020				
CBS position	Description	WBS phase code	Schedule ID	% Complete	Qty complete (to date)	Start	Finish	
^ 1	Financial Results An...	1000	PS.001	0.45 %	0.00	10/01/2019	08/25/2020	
^ 1.1	INDIRECTS & UNASS...	1001	PS.002	0.76 %	0.01	10/01/2019	08/25/2020	
^ 1.1.1	Commercial Cost	1002	PS.003	2.30 %	0.00	10/01/2019	10/15/2019	
1.1.1.1	Direct Pickup	1016	PS.013	100.00 %	30.50	10/01/2019	11/29/2019	

By not using this feature, the % Complete column updates from P6 will not populate the % Complete column within Control. You would need to update the CBS with the % Complete or claimed quantity via other methods for completing progress measurement which are addressed in the [Progress Measurement & Forecasting User Guide](#).

This feature allows for the Schedule Import process to align the P6's schedule % complete with the cost item's % Complete.

After running the Schedule Integration Import process, you can check the CBS and verify the progress results in the % Complete column.

REVIEW

1. Where can you enter schedule dates for your cost items?
 - a. Cost item details
 - b. Task details data block
 - c. Schedule data block
 - d. On the Schedule tab
 - e. On the Schedule slide out panel

2. Using the Control Import feature, you can import which of the following types of data?
 - a. Tasks
 - b. Current Estimate
 - c. Schedule
 - d. Cost Categories
 - e. All of the above

3. When importing a Primavera schedule, the **Schedule ID** in Control must match the _____ in the XER file.
 - a. Import ID
 - b. Current Estimate ID
 - c. Task Details ID
 - d. Activity ID
 - e. Start Date ID

4. When using the **Define project schedule: Schedule data source** feature, which option allows you to export a Primavera formatted file to eventually be used to import directly into Primavera?
 - a. Manual entry file
 - b. XER file type
 - c. Activity ID file type

- d. Task Details file type
 - e. Schedule file type
-

SUMMARY

As a result of this lesson, you can:

- Navigate to the Schedule data block
- Edit schedule data inside the CBS
- Edit schedule data using Excel import
- Integrate planning activities
- Schedule using Primavera

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ACCOUNT CODE STRUCTURE (ACS)

LESSON DURATION: 30 MINUTES

LESSON OBJECTIVES

After completing this lesson, you will be able to:

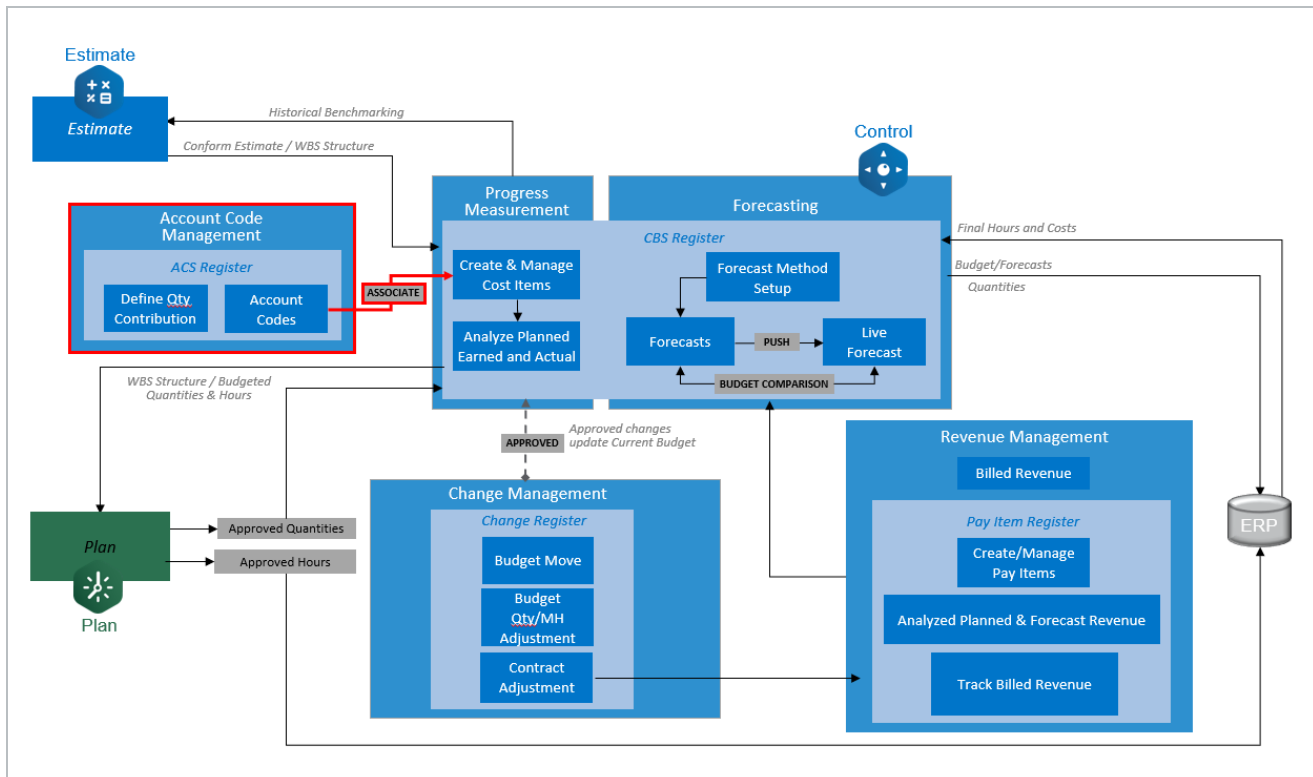
- Define what an account code is
- Set up account codes within the library
- Assign account codes to cost items
- Define the quantity contribution for each account code
- Review and analyze the audit log

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10.1 INEIGHT CONTROL WORKFLOW - ACCOUNT CODE STRUCTURE



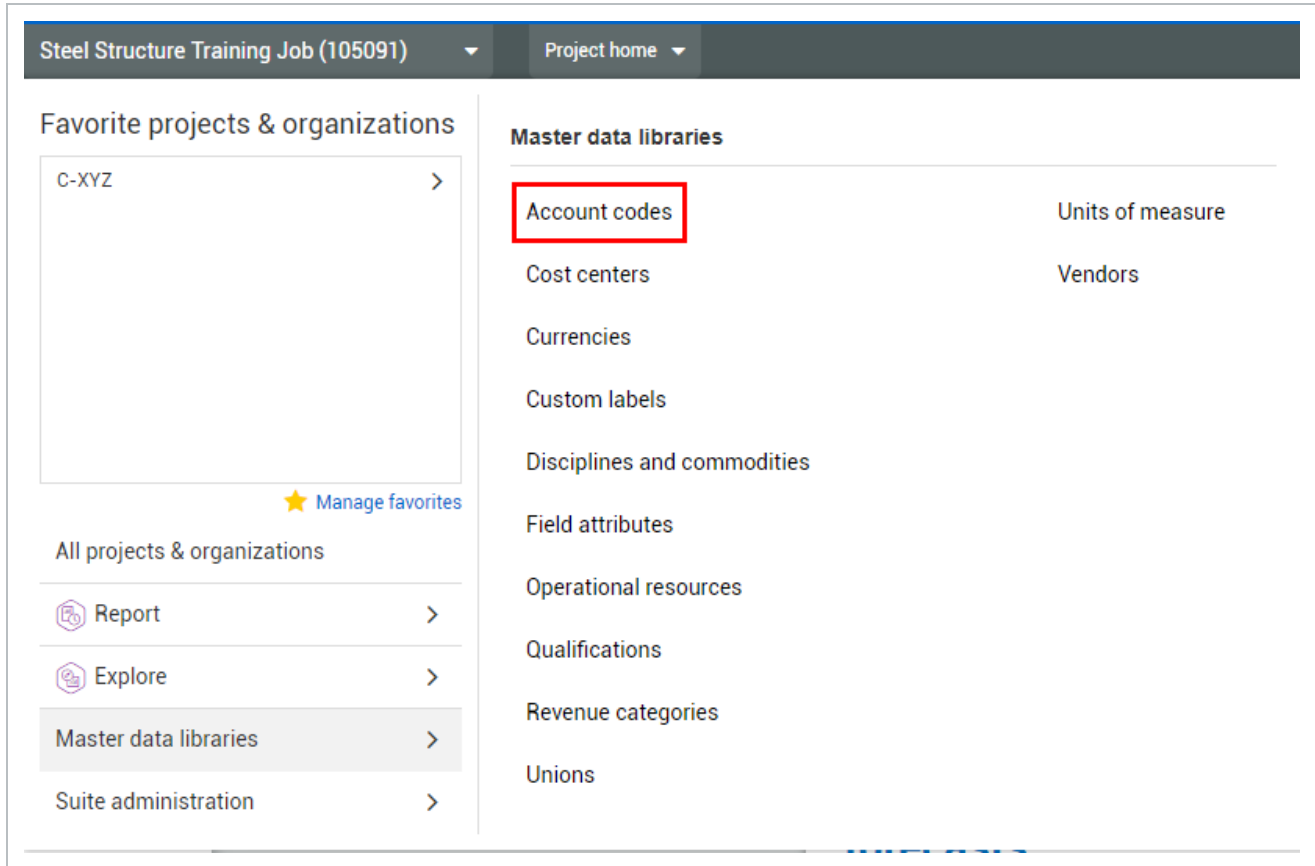
10.2 WHAT IS AN ACCOUNT CODE?

Account Codes serve as a standardized coding system to track like operations across a company, for the purpose of global reporting and benchmarking. Account Codes typically follow a hierarchical structure which allows for summary level reporting rolled up to company standards, but can also be a flat list.

Account Codes are assigned to cost items similar to a tag on a cost item. Once an account code has been assigned to all terminal cost items you can view many project and organization reports organized by the account code structure, rather than individual project cost break down structure which often differs from project to project. Account Codes can also tie back to InEight Estimate where estimators can assign the same standard set of account codes to estimate items, and compare them to active or completed projects for historical benchmarking.

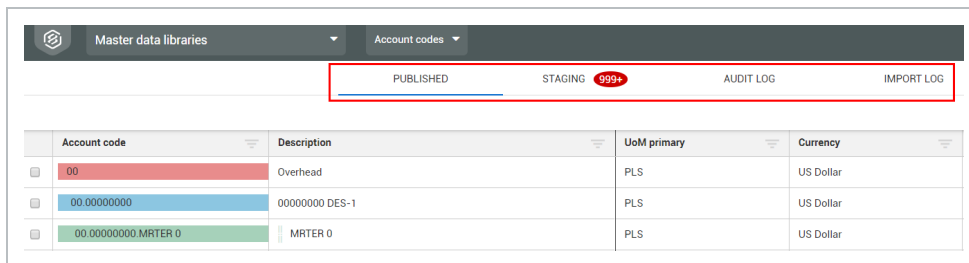
10.3 ACCOUNT CODE SETUP

The master set of account codes is created and stored under Master data libraries > Account Codes.

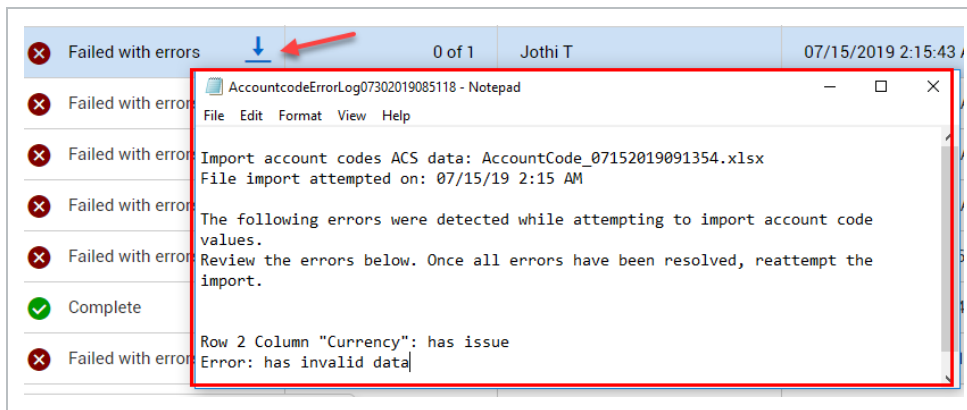


10.3.1 STAGING VS. PUBLISHED ACCOUNT CODES

The Account Codes master data library contains four tabs: Published, Staging, Audit Log, and Import Log.



- The **Published** tab lists all account codes that have been created and published under the Staging tab.
- Under the **Staging** tab, you create and edit account codes, and then publish them for use. Account codes are not available for use in projects until they are published
- The **Audit Log** tracks changes made to the Account Code Structure, including the value before and after, the changed date, and who made the change
- Under the **Import Log** tab, you can track the status of all the account code import processes.
 - When you hover over the **Failed with errors** imports, a pop-up will provide a brief import status, along with next steps
 - Under the pop-up, there is a down facing blue arrow where you can download a detailed error log



Account codes are typically maintained at an organization administration level to ensure that categories and codes remain consistent with company standards.

The account codes within the Account Code Structure are arranged into a hierarchy of parent-child relationships that can contain varying levels of detail, indicated by color, for each level of the hierarchy. You can assign account codes to cost items anywhere, from the highest level to the lowest level. The lower the level assigned, the higher the level of detail associated to the account code.

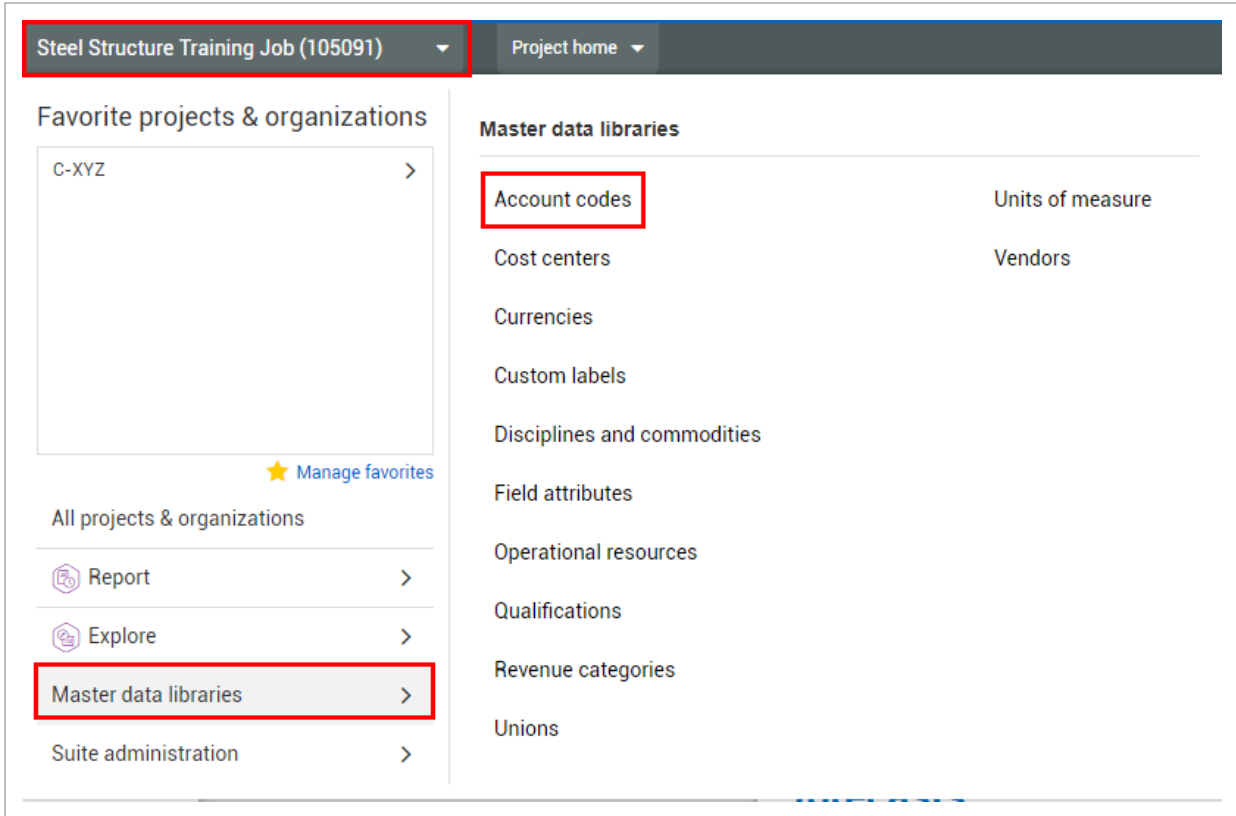
The example below shows a level 3 account code (50.03.04) acting as a parent to two subordinate account codes (50.03.04.002 and 50.03.04.004).

Account code	Description
50.03.02.004.02	Break - Concrete Paving Removal
50.03.02.004.04	Load out - Concrete Paving Removal
50.03.04	Paving Milling and Scarification
50.03.04.002	Paving Milling and Scarification - Asphalt
50.03.04.004	Paving Milling and Scarification - Concrete
50.03.06	Utility Line Removals - Underground
50.03.06.002	Utility Line Removals - Underground (<4' Depth)
50.03.06.002.02	Utility Line Removal (<4' Depth)
50.03.06.002.04	Storm Sewer Removal (<4' Depth)

The following Step by Step walks you through how to create a new account code.

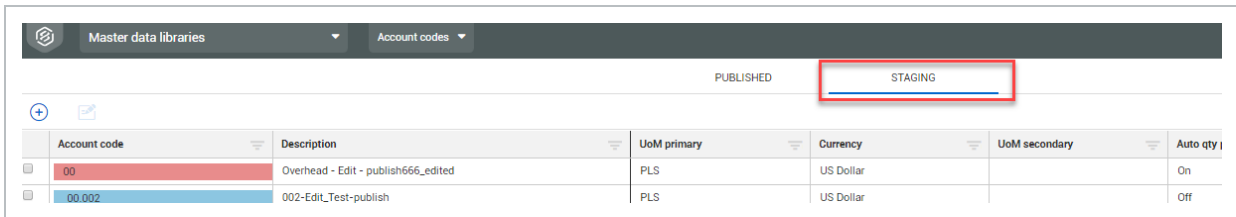
CREATE AN ACCOUNT CODE

1. From the Project home page, select the **1st Level drop-down menu**.
2. Select **Master Data Libraries**.
3. Select **Account Codes**.

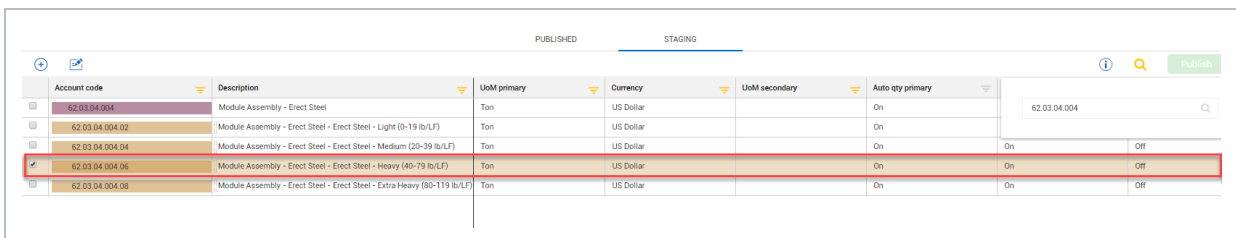


- All the account codes appear on your screen in a hierarchy format

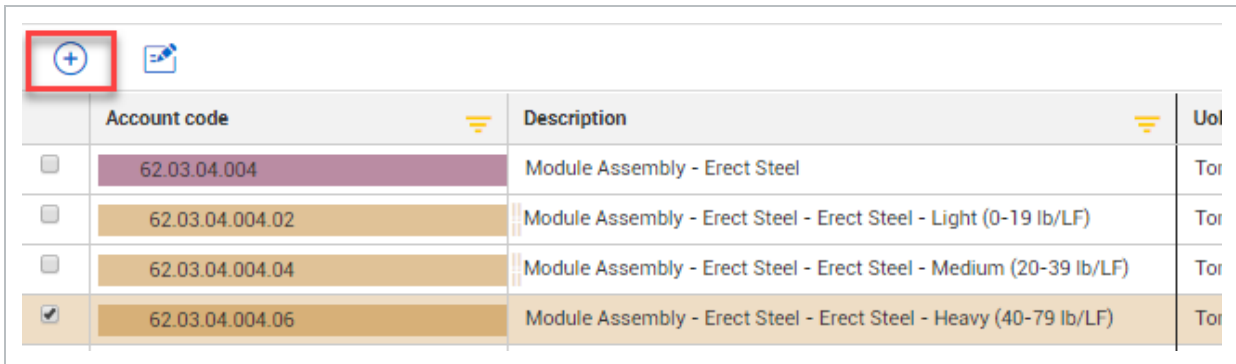
4. Select the **Staging** tab.



5. Click the **check box** next to any of the existing account codes.



6. Click the **Add Account Code** button.



	Account code	Description	UoM
<input type="checkbox"/>	62.03.04.004	Module Assembly - Erect Steel	Ton
<input type="checkbox"/>	62.03.04.004.02	Module Assembly - Erect Steel - Erect Steel - Light (0-19 lb/LF)	Ton
<input type="checkbox"/>	62.03.04.004.04	Module Assembly - Erect Steel - Erect Steel - Medium (20-39 lb/LF)	Ton
<input checked="" type="checkbox"/>	62.03.04.004.06	Module Assembly - Erect Steel - Erect Steel - Heavy (40-79 lb/LF)	Ton

- This creates a new account code with the code you selected as the parent
- In the Account code details slide out panel, the following can be assigned:

Item	Function
Parent Account Code	Account Code with lower level “child” account codes below it.
Account Code	The alpha numeric sequence assigned as the code.
Description	Description detailing the account code’s scope.
Currency	The currency assigned to the account code.
UoM Primary	The primary unit of measure for the account code.
UoM Secondary	The secondary unit of measure for the account code.
Auto Quantity Primary/Secondary	Automatically roll up cost item quantities if the cost items and this account code have the same primary/secondary UoMs. It can also be set on a project specific basis.
Parent Roll Up Behavior	Controls whether primary or secondary quantities of account code roll up to the parent account code’s primary or secondary quantity.
Account Code Tag 1-20	Tags that can be associated to account codes to enable them to be categorized.
User Defined Field 1-10	Optional open-text fields you can use to add information related to the account code.

NOTE

The asterisk (*) at the beginning of a tile indicates it is a required field and it must be populated before the code will be created.

7. Fill in the information below:

- Account code: **Your Initials** (Since a parent was selected when creating this new account code, numbering prior to ‘–Your Initials’ will be the parent’s)
- Description: **Your Initials – Account Code**
- Currency: **US Dollar**
- UoM primary: **Ton**
- Leave all other defaults/blanks

The screenshot shows the 'Account code details' form. The 'Account code' field contains '62...' and '-User #'. The 'Description' field contains 'Your Initials – Account Code'. The 'Currency' dropdown is set to 'USD - US Dollar'. The 'UoM primary' dropdown is set to 'Ton'. The 'UoM secondary' field is empty. The 'Associated entity roll up behavior' section shows 'Auto quantity primary' and 'Auto quantity secondary'. The 'Stage' button is highlighted with a red box.

8. When you have filled out all the information, click **Stage** to send the new account code to staging area.

The close-up shows the 'Cancel' and 'Stage' buttons. The 'Stage' button is highlighted with a red box.

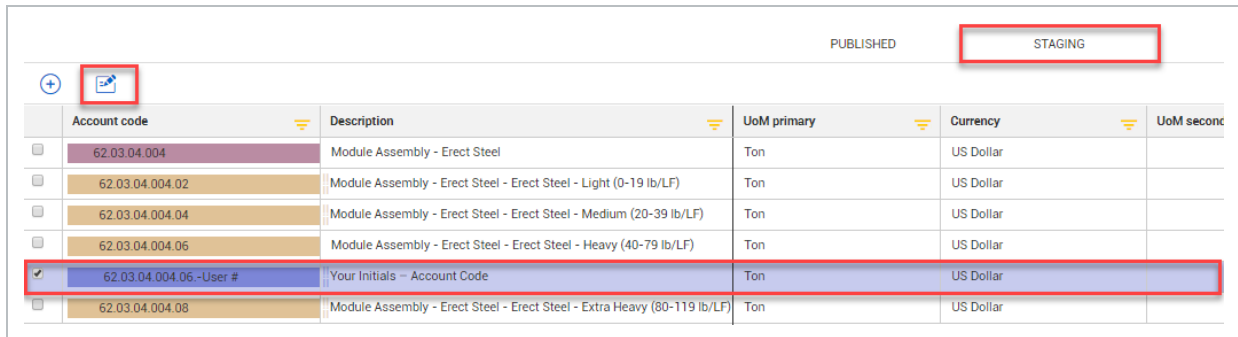
- The new account code now exists in the Account Code Structure on the Staging tab
- The new account code will not be available for use within projects until it is published

9. If you have the permissions to publish account codes, check the box for the account code you created..
10. Click the **Publish** button in the top-right corner of the page.

You can also edit existing account codes within the Account Code Structure, as indicated in the steps below.

EDIT ACCOUNT CODE DETAILS

1. From the Account Code – **Staging** tab, select the account code you created.
2. Click the **Edit Account Code** button.



		PUBLISHED		STAGING	
Account code	Description	UoM primary	Currency	UoM second	
62.03.04.004	Module Assembly - Erect Steel	Ton	US Dollar		
62.03.04.004.02	Module Assembly - Erect Steel - Erect Steel - Light (0-19 lb/LF)	Ton	US Dollar		
62.03.04.004.04	Module Assembly - Erect Steel - Erect Steel - Medium (20-39 lb/LF)	Ton	US Dollar		
62.03.04.004.06	Module Assembly - Erect Steel - Erect Steel - Heavy (40-79 lb/LF)	Ton	US Dollar		
62.03.04.004.06 -User #	Your Initials – Account Code	Ton	US Dollar		
62.03.04.004.08	Module Assembly - Erect Steel - Erect Steel - Extra Heavy (80-119 lb/LF)	Ton	US Dollar		

- The edit account code page opens where changes can be made

TIP

Note that only the description, auto quantity primary, auto quantity secondary, parent roll up behavior, and account code tags can be edited after an account code has been created. All other items are greyed out and read only.

3. Once you are done editing the account code, click **Stage** to update the account code.

Account code details

• Parent account code
62.03.04.004.06-Module Assembly - Erect Steel - ...
Start typing the code or description. i.e. footing

• Account code
62... -User #

• Description
Your Initials - Account Code

• Currency
USD-US Dollar
Start typing the entity, name or code. i.e. USD

• UoM primary
Ton
Start typing the name. i.e. cubic yard

UoM secondary
Start typing the name. i.e. cubic yard

Associated entity roll up behavior

Auto quantity primary
 Off ⓘ

Auto quantity secondary
 Off ⓘ

Parent roll up behavior

Contribute primary to primary
 Off

Contribute primary to secondary
 Off

Contribute secondary to secondary
 Off

10.3.2 ACCOUNT CODE PERMISSIONS

If you have the required permissions, you can delete, replace, or rename account codes.

NOTE

The account administrator does not have permissions automatically assigned to approve account codes. Your account administrator must add the permission to approve account codes in the Master data libraries to the administrative account.

10.3.2.1 DELETING ACCOUNT CODES

Follow the step-by-step to delete an account code.

NOTE

If you are deleting a parent account code, all children under the parent are also deleted.

DELETING ACCOUNT CODES

1. Go to the Master data libraries and then select **Account codes**.
2. From the Staging tab, select an account code you want to delete.
3. Select the **Edit** icon in the upper-left corner.

Account code	Description	UoM primary	Currency	UoM secondary
__001	__001	Acre	US Dollar	
00	DES WD A2k	Hour	CFA Franc BCEAO	Hour
00.0000000000000001	desrption updated_1324	Test1920- Copy	US Dollar	TestSep13
00.0000000000000001.MRTER 0	DES_P	PLS	US Dollar	
00.0000000000000001.MRTER 0 Core H...	DES_PDU	TestSep13	US Dollar	TestSep13
00.0000000000000001.nandy kendo	nandy	TestSep13	Unidad de Fomento	TestSep13
00.0000000000000001.Nandy test ACS	Nandy Test Acs	TestSep13	US Dollar	TestSep13
00.0000000000000001.New nandy May2...	New nandy May20th	TestSep13	US Dollar	TestSep13
00.0000000000000001.NR_05082019	00.00000000.NR_05082019_DESC	Acre	US Dollar	
00.0000000000000001.NR1_05082019	00.00000000.NR1_05082019_DESC	Acre	US Dollar	098765
00.0000000000000001.NR1_05082019	NR1_09082019_DESC	Acre	US Dollar	
00.0000000000000001.PK -Oct-2019	PK -Oct-2019-description	Test01 30-05-2019	US Dollar	TestSep13

4. On the Edit account code page, select **Delete account code**, and then click **Next**.

Delete account code

Replacement account code (optional)

Select one

Cancel Next

NOTE In the Replacement account code optional text box, you can enter in an existing account code to replace the account code you are deleting.

5. On the Delete account code confirmation page, select **Delete** in the lower-right corner.

Delete account code Cancel Stage

Delete account code

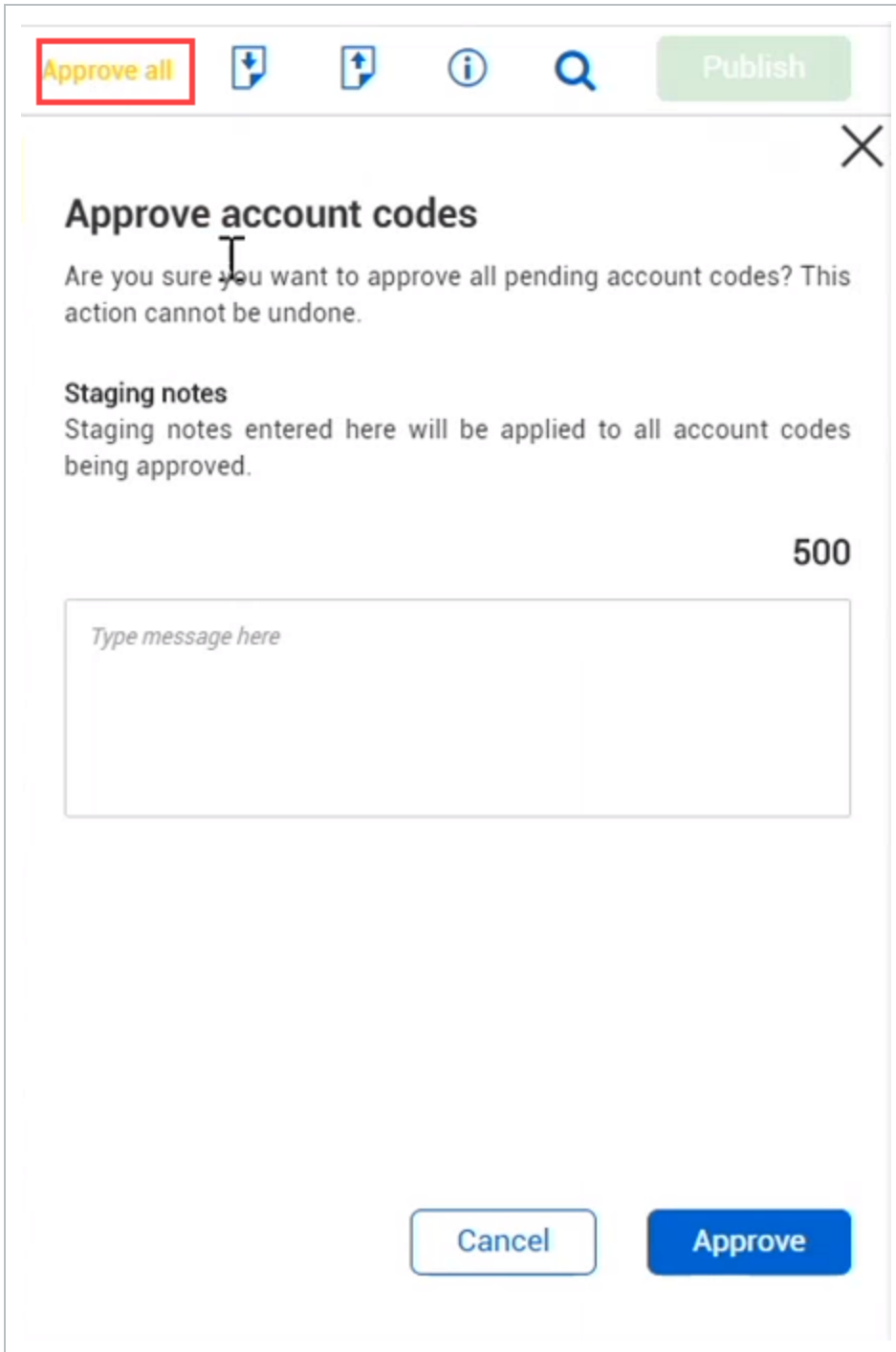
Confirm deletion

Are you sure you want to delete this account code? This action cannot be undone.

None.___001

Back Cancel Delete

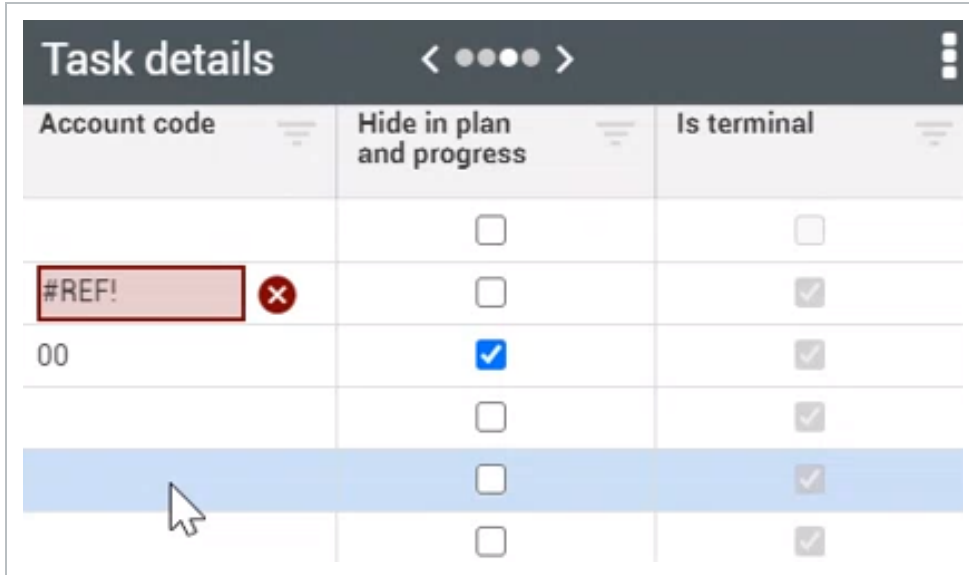
6. Click the **Stage** button.
 - This takes you back to the Staging page.




7. From the Staging page, select **Approve all**, and then select **Approve**.

- You can view your current items and deleted items in the Published tab.

The deleted account code shows the following error code in the Cost Item Details and in the CBS tab.



Account code	Hide in plan and progress	Is terminal
	<input type="checkbox"/>	<input type="checkbox"/>
#REF! 	<input type="checkbox"/>	<input checked="" type="checkbox"/>
00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>

10.3.2.2 REPLACING DELETED ACCOUNT CODES

To remove the **#REF!** error in the cost item details slide-out panel and grid, select the error to open the Assign Account Code dialog box. Select another account code from the list, and then click **Assign**. The error on both the CBS tab and the Cost Item Details slide-out panel is replaced with the account code you selected.

✕

Assign account code

Search... 🔍

Sel...	Utilized	Account code ↑	Description	UoM
<input checked="" type="radio"/>	<input type="checkbox"/>	00	Overhead	PLS
<input type="radio"/>	<input checked="" type="checkbox"/>	00	DES WD A2k	Hour
<input type="radio"/>	<input type="checkbox"/>	00.00000000.Core Functi...	DES - DUTCH	Test123456Test123456Te...
<input type="radio"/>	<input type="checkbox"/>	00.0000000000000001	desrption updated_1324	Test1920- Copy
<input type="radio"/>	<input type="checkbox"/>	00.0000000000000001.MRT...	DES_P	PLS
<input type="radio"/>	<input type="checkbox"/>	00.0000000000000001.MRT...	DES_PDU	TestSep13
<input type="radio"/>	<input type="checkbox"/>	00.0000000000000001.nan...	nandy	TestSep13
<input type="radio"/>	<input type="checkbox"/>	00.0000000000000001.Nan...	Nandy Test AcS	TestSep13
<input type="radio"/>	<input type="checkbox"/>	00.0000000000000001.New...	New nandy May20th	TestSep13
<input type="radio"/>	<input type="checkbox"/>	00.0000000000000001.NR_...	00.00000000.NR_050820...	Acre


Clear
Cancel
Assign

10.3.2.3 RENAMING ACCOUNT CODES

If you have the required permissions, you can rename account codes. Follow the step by step to rename an account code.

RENAMING ACCOUNT CODES

1. Go to the Master data libraries, and then select **Account codes**.
2. From the Staging tab, select an account code you want to rename.
3. Select the **Edit** icon in the upper-left corner.

Master data libraries		Account codes		PUBLISHED		STAGING		AUDIT LOG		IMPORT LOG	
<p> Staged account code changes and requests may differ from current published codes, refer to Published tab for current information.</p>											
Account code	Description	UoM primary	Currency	UoM secondary							
<input checked="" type="checkbox"/> ___001	___001	Acre	US Dollar								
<input type="checkbox"/> 00	DES WD A2k	Hour	CFA Franc BCEAO	Hour							
<input type="checkbox"/> 00.00000000000001	desrption updated_1324	Test1920- Copy	US Dollar	TestSep13							
<input type="checkbox"/> 00.00000000000001.MRTER 0	DES_P	PLS	US Dollar								
<input type="checkbox"/> 00.00000000000001.MRTER 0 Core H	DES_PDU	TestSep13	US Dollar	TestSep13							
<input type="checkbox"/> 00.00000000000001.nandy kendo	nandy	TestSep13	Unidad de Fomento	TestSep13							
<input type="checkbox"/> 00.00000000000001.Nandy test ACS	Nandy Test Acs	TestSep13	US Dollar	TestSep13							
<input type="checkbox"/> 00.00000000000001.New nandy May20th	New nandy May20th	TestSep13	US Dollar	TestSep13							
<input type="checkbox"/> 00.00000000000001.NR_05082019	00.00000000.NR_05082019_DESC	Acre	US Dollar								
<input type="checkbox"/> 00.00000000000001.NR1_05082019	00.00000000.NR1_05082019_DESC	Acre	US Dollar	098765							
<input type="checkbox"/> 00.00000000000001.NR1_05082019...	NR1_09082019_DESC	Acre	US Dollar								
<input type="checkbox"/> 00.00000000000001.PK -Oct-2019	PK -Oct-2019-description	Test01 30-05-2019	US Dollar	TestSep13							

- On the Edit account code page, enter a new name for your selected account code in the **Description** text box. Then enter a new name for your selected account code.

Account code details

* Parent account code

* Account code

Start typing the code or description. i.e. footing

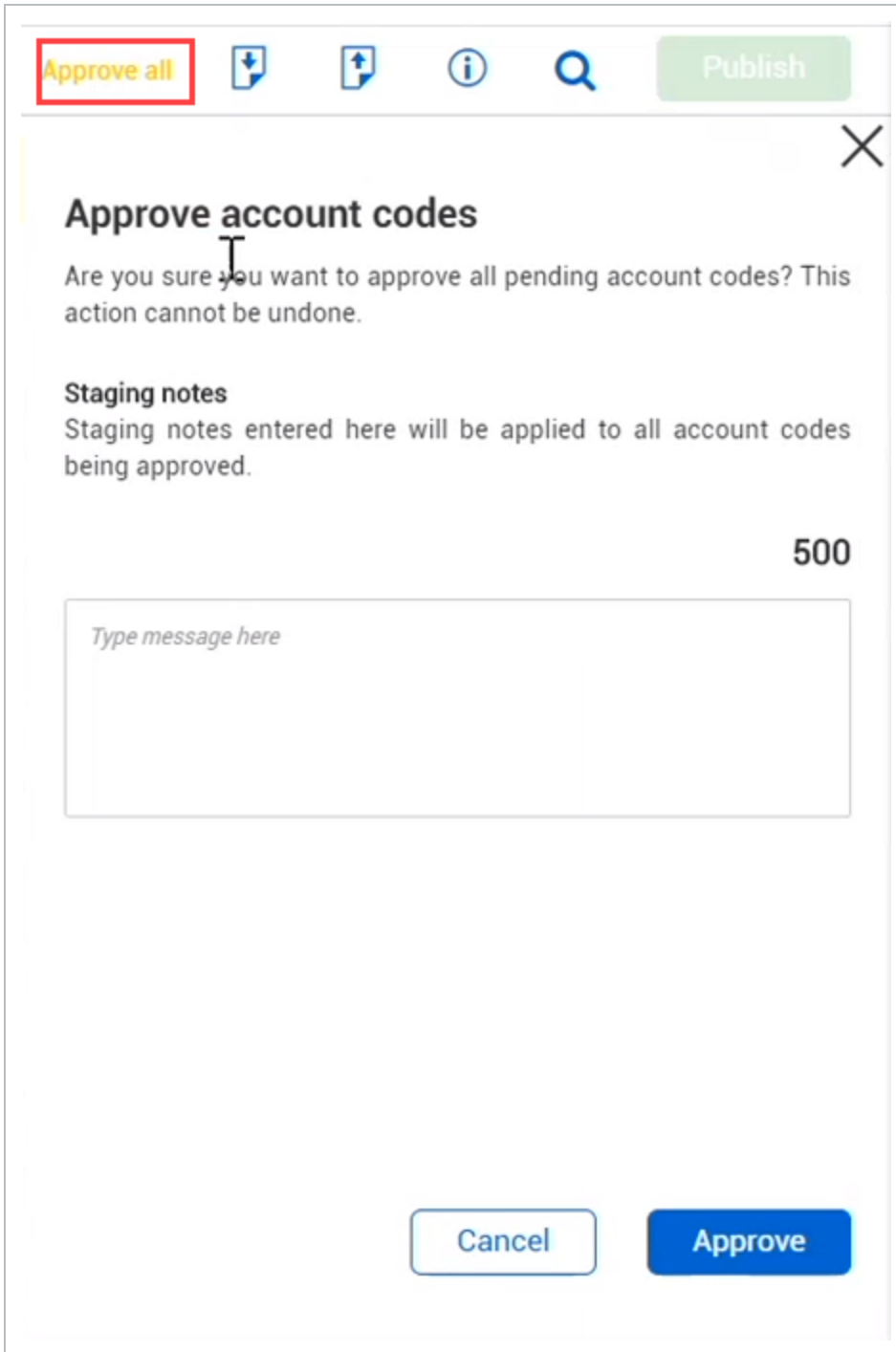
* Description

* Currency

* UoM primary

UoM secondary

- Click the **Stage** button.
 - This takes you back to the Staging page.



- From the Staging page, select **Approve all**, and then select **Approve**.
 - You can view your current items and renamed items in the Published tab.

NOTE

Your renamed account code is viewable through the Account code column, Cost Item Detail tab, and the ACS tab.

10.4 ACCOUNT CODE ASSIGNMENT

NOTE

Account codes can only be assigned to terminal items. Parents cannot have an account code.

ASSIGN ACCOUNT CODES TO COST ITEMS

1. From within the Control Workspaces page of a project, select the **CBS** tab to view your Cost Breakdown Structure.
2. From the View menu, select the **Project Controls** view by first selecting View more, if not already displayed.
3. Within the Task Details data block, click on the right arrow to progress to the Account Code column.
4. For a cost item you wish to have an Account Code assigned, double click in the Account Code cell for that cost item.
5. Use the search box to find the account code to assign, then click **Select**, and then click **Assign**.

10.5 AUDIT LOG

The **Audit Log** tab within the CBS register is used to capture changes that were made within InEight Control and is broken down into five sub-tabs located on a left sidebar menu. Each log is designed to capture the changes that happened within each of the different registers and during synchronization.

All five audit logs can be access by selecting Audit log tab menu bar, then selecting each individual audit log on the far left.

		CBS	ACS	PAY ITEMS	CHANGE REGISTER	AUDIT LOG							
Actions													
CBS	Audit ID	Data type	Item type	Desc	WBS	Attrit	Chan by	Chan date	Value before	Value after	Actur comp	Forec total co...	Forec total co...
ACS	4871359	CBS	Cost Item	Concrete	1071	Schedule ...	Michael M...	07/23/20...	False	True			
Pay Items	4871358	CBS	Cost Item	Earthwork	1069	Schedule ...	Michael M...	07/23/20...	False	True			
Integration	4871357	CBS	Cost Item	Job Overh...	1002	Schedule ...	Michael M...	07/23/20...	False	True			
Import history	4871356	CBS	Cost Item	Structural...	1073	Scheduled	Michael M...	07/23/20...	False	True			

10.5.1 CBS

You can access the CBS audit log by selecting CBS from the left side menu.

The **CBS audit Log** captures changes in the CBS register and utilizes an attribute field to identify what type of change was made. Other columns include:

- Changed By (who made the change)
- Change Date (the date and time the change was made)
- The attribute value before and after
- Forecast cost before and after
- Forecast man-hours before and after
- Posting date before and after

CBS	Audit ID	Data type	Item type	Desc	WBS	Attrit	Chan by	Chan date	Value before	Value after
ACS	4871359	CBS	Cost Item	Concrete	1071	Schedule ...	Michael M...	07/23/20...	False	True
Pay items	4871358	CBS	Cost Item	Earthwork	1069	Schedule ...	Michael M...	07/23/20...	False	True
Integration	4871357	CBS	Cost Item	Job Overh...	1002	Schedule ...	Michael M...	07/23/20...	False	True
Import history	4871356	CBS	Cost Item	Structural...	1073	Scheduled	Michael M...	07/23/20...	False	True

10.5.2 ACS

You can access the ACS Audit Log by selecting **ACS** from the left side menu.

The **ACS Audit Log** functions similarly to the CBS Audit Log, but contains the changes that were made within the ACS (Account Code Structure) tab. The fields utilized to capture what changes were made are:

- Change attribute
- Changed By (who made the change)

- Changed Date (the date and time the change was made)
- Attribute value before and after

CBS	Audit ID	Data type	Item type	Description	AC No.	Attribute	Changed by	Changed date	Value before	Value after
ACS	177	ACS	Account Code	Structural Steel Industrial	62.03.02.004.02	Primary Auto Quantity	Paul Jernison	11/19/2018 12:28 PM	False	True
Pay Items	176	ACS	Account Code	Structural Steel Industrial	62.03.02.004.02	Primary Auto Quantity	Paul Jernison	11/19/2018 12:24 PM	True	False
Integration	175	ACS	Account Code	Structural Steel Industrial	62.03.02.004.06	Primary Quantity	Paul Jernison	11/19/2018 12:21 PM	800.00	400.00
Import history	174	ACS	Account Code	Structural Steel Industrial	62.03.02.004.06	Primary Auto Quantity	Paul Jernison	11/19/2018 12:21 PM	True	False
	170	ACS	Account Code	Structural Steel Industrial	62.03.02.004	Contribute Primary To PnL	Paul Jernison	11/19/2018 11:36 AM	False	True

10.5.2.1 PAY ITEMS

You can access the Pay Item Audit Log by selecting **Pay Items** from the left side menu.

CBS	Audit ID	Data type	Item type	Description	Pay item No.	Attribute	Changed by	Changed date	Value before	Value after
ACS	4873330	Pay Item	Pay Item	Pay Item 1	001	Billing Method	Renee Japp	07/26/2019 01:...	Cost Plus	Fixed Final Price
Pay Items	4872029	Pay Item	Pay Item		1	Pay item tag 8	Renee Japp	07/24/2019 02:...		PY 8
Integration	4872028	Pay Item	Pay Item		1	Pay item tag 6	Renee Japp	07/24/2019 02:...		PY 6
Import history	4872027	Pay Item	Pay Item		1	Pay item tag 4	Renee Japp	07/24/2019 02:...		PY 4

The **Pay Item Log** again functions similarly but contains changes that were made to the pay items. The fields utilized to capture what changes were made are:

- Attribute
- Changed By (who made the change)
- Changed Date (the date and time the change was made)
- Value before and Value after
- Total price before and after

Audit ID	Description	Attribute	Changed by	Changed date	Value before	Value after	Total price before
1333638	Testing 07/31	Description	paul trippi	07/31/2019 08:...	Test	Testing 07/31	\$1040.00000000...
1333637	Testing 07/31	Sales Order	paul trippi	07/31/2019 08:...		S1	\$40.0000000000...

10.5.3 INTEGRATION

You can access the Integration/Sync Audit Log by selecting **Integration** from the left side menu.

	Audit ID	Interface	Status	Processing details	Start	Finish	User name	Log Handle
CBS								
ACS	65639	ActualQty	Succeeded	4 of 4	07/29/2019 03:23 PM	07/29/2019 03:24 PM	pavithra baskaran	4a2a98f6-eaa6-431b-81f-
Pay items	65638	LiveForecast	Succeeded	4 of 4	07/29/2019 03:23 PM	07/29/2019 03:24 PM	pavithra baskaran	ce90c8df-f916-4a50-847-
Integration	65637	Budget	Succeeded	4 of 4	07/29/2019 03:23 PM	07/29/2019 03:24 PM	pavithra baskaran	43b8dc1c-6825-413a-9c-
Import history	65636	CBS	Succeeded	4 of 4	07/29/2019 03:23 PM	07/29/2019 03:24 PM	pavithra baskaran	0985605a-745c-4f27-88-

The **Sync Audit Log** is different from the other three. This log is used to capture:

- Whether the synchronization process between InEight Control and the ERP system was completed successfully
- How long the sync process took to complete and who requested the sync

It keeps track of the following functions, as seen under the Actions > Sync menu:

- Push CBS Structure
- Push CBS Structure and Budget
- Push CBS Structure and Live Forecast
- Push CBS Structure and Actual Qty
- Get Plan Quantities
- Get Actual Cost and MH

The syncing relationships and process will be discussed further in *Lesson 12 - Interfaces*.

NOTE

The status field will automatically update and change from Queued to Succeeded. Queued status items can be cancelled if there is an error or if the sync is no longer necessary by clicking the Cancel a Queued Sync button in the top right-hand corner of the sync log.



To help troubleshoot sync issues, you can click on the Processing details link to get more information on which steps succeeded, are suspended, or failed.

Completed details - - Plan quantities pull: 31570

Step	Status
Step 1: Recieving data	Complete
Step 2: Populating data	Complete

Close

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If a sync error should occur, you can click on the Log Handle link to obtain troubleshooting information.

Log Handle

[4a2a98f6-aaa6-431b-81f...](#)

[ce90c8df-f916-4a50-847...](#)

This brings you into the InEight **Suite App Logs** screen, where you can see information relating to the error including Level, Time, Domain, Area, Exception Message, Exception Type and Correlation Id, which can help you determine the cause of the sync error.

10.5.4 IMPORT HISTORY

You can access the Import history audit log by selecting **Importhistory** from the left side menu.

The Import history log contains status information for all imports coming into InEight Product Portfolio. *For example:* cost item and actuals import processes can both be viewed in the Import history log for status, then you can eventually make corrections and reprocess.

	File name	Status	Processi Details	Total line items	Errors	Total imported	Added estimate resource	Added pay items	Created by	Created date	Last edited by	Last edited date
CBS												
ACS	Market_St_9_8_17_GMP_Baseline.xer (Mark...	Failed	Step_3	1842	0	0	0	0	Renee Japp	07/24/2019 1...	Renee Japp	07/24/2019 1...
Pay items	Market_St_9_8_17_GMP_Baseline.xer (Mark...	Failed	Step_3	1842	0	0	0	0	Renee Japp	07/23/2019 1...	Renee Japp	07/23/2019 1...
Integration	Book1.xlsx	Pe- >>>		2	2	0	0	0	Renee Japp	07/12/2019 0...	paul trippi	07/30/2019 0...
Import history	Market_St_9_8_17_GMP_Baseline.xer (Mark...	Cancelled	Step_5	0	0	0	0	0	Renee Japp	07/10/2019 0...	Renee Japp	07/23/2019 1...

The Import history audit log allows you to take action on import and sync failures, based on error messages. Error messages are contained within the Error File Here for those imports that have failed import.

You can view progress in sync longs, view error messages, and then resolve issues in effort to continue with your import.

Control - Audit Log

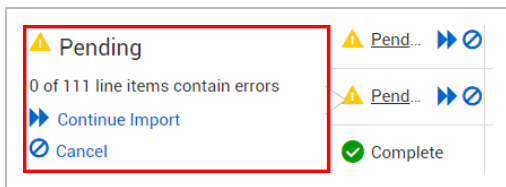
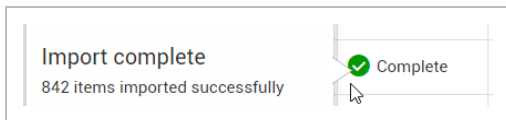
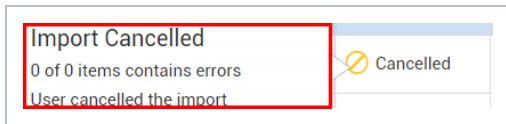
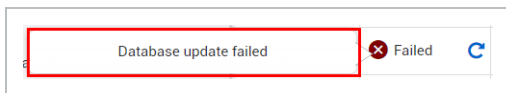
Section		Description
1	File name	The name of the actual import file being used to import data.
2	Status	The current status of the import file. There are six import status that can define the current state of an import process.
3	Processing Details	This column describes the processing state in which the file is being processed. This column is not applicable for all statuses.
4	Total line items	This is the total line items that are included within the Excel import file.
5	Errors	This is a count of the number of errors during import.
6	Total import	This is the total amount of records that were successfully imported from the Excel import file.
7	Added estimate resources	This is the total amount of added estimate resources that were added in the CBS.
8	Added pay items	This is the total amount of pay items successfully imported from the Excel import file.
9	Created by	This is user responsible for importing the Excel upload file.
10	Created date	This is the actual date the Excel upload file was imported.
11	Last edited by	This is the last user to edit the Excel upload file.
12	Last edited date	This is the last date the Excel upload file was edited.

File name ¹	Status ²	Processing Details ³	Total line items ⁴	Errors ⁵	Total imported ⁶	Added estimate resources ⁷	Added pay items ⁸	Created by ⁹	Created date ¹⁰	Last edited by ¹¹	Last edited date ¹²
NEWPROJ.xer (D...	Pend...	Step_5	18	0	0	0	0	paul trippi	08/02/2019 12:1...	paul trippi	08/02/2019 12:1...
NEWPROJ.xer (D...	Cancelled	Step_5	0	0	0	0	0	paul trippi	08/02/2019 12:1...	paul trippi	08/02/2019 12:1...
NEWPROJ.xer (D...	Cancelled	Step_5	0	0	0	0	0	paul trippi	08/02/2019 12:0...	paul trippi	08/02/2019 12:1...
NEWPROJ.xer (D...	Cancelled	Step_5	0	0	0	0	0	paul trippi	08/02/2019 12:0...	paul trippi	08/02/2019 12:0...

If you hover over one of these Status symbols below, it provides you with a brief explanation of the selected status.








Here are some examples:



There are six possible import statuses listed below.

Status	Status Icon	Definition
Failed		Import failed due to a duplicate row within the Excel file.

Status	Status Icon	Definition
Failed with errors		Import failed with an attachment to download with further information.
Pending		The Excel import file is pending, further action is needed. The double blue arrows will open a new window where you can correct and re-process the Excel import file. The blue circle with the line through it will cancel the import completely.
Cancelled		The Excel import file has been cancelled.
Processing		The Excel import is still processing. Once this is complete, the status will move into one of the other five statuses.
Complete		Processing of the Excel import files is complete.

10.5.5 PENDING STATUS


When an import is in a **Pending** status, this means that further action is needed to complete the Excel file import.



There are two options:

Option 1

1. By selecting the double blue errors, you will be taken to another window to continue processing the faulty records.

File name	Status
CBS Import.csv	

As an example, in the below screenshot, there are 3 existing errors. If you hover over one of the errors, it will tell you what needs to be corrected.

In this case, there is an issue with the account code assignment, as the pop-up hover suggests.

Audit log > Import history > CBS Import.csv

Find previous error 3 errors remain. Find next error Cancel Import

Status Details (4 WBS phase code)		Import Columns				
Import status	CBS match status	Import method	CBS position	Description	WBS phase code	Account code
Pending	✓ to 1002 [1] [Job Overhead]	Update existing items o...	1	Job Overhead	1002	20
Pending	✓ to 1069 [2] [Earthwork]	Update existing items o...	2	Earthwork	1069	51
Pending	✓ to 1071 [3] [Concrete]	Update existing items o...	3	Concrete	1071	61
Pending	✓ to 1073 [4] [Structural Steel]	Update existing items o...	4	Structural Steel	1073	
Pending	✓ to 1074 [4.1] [Erect Steel - H...]	Update existing items o...	4.1	Erect Steel - Heavy	1074	62.03.02.004.06
Pending	✓ to 1005 [4.2] [Erect Steel - Li...]	Update existing items o...	4.2	Erect Steel - Light	1005	62.03.02.004.02
Pending	✓ to 1006 [4.3] [Bolted Connec...]	Update existing items o...	4.3	Bolted Connections	1006	62.03.02.006
Pending	✓ to 1084 [5] [Materials]	Update existing items o...	5	Materials	1084	1112233
Error	✓ to 1085 [5.1] [Earthwork - M...]	Update existing items o...	5.1	Earthwork - Materials	1085	1112234
Error	✓ to 1086 [5.2] [Concrete - Mat...]	Update existing items o...	5.2	Concrete - Materials	1086	1112235
Error	✓ to 1087 [4.4] [Module 01 - Er...]	Update existing items o...	4.4	Module 01 - Erect Steel ...	1087	1112236

2. When you double click into one of the 3 errors, it will take you directly into an account code assignment screen where you can make the correction.

From here you can select an account code and click on Assign.

Assign account code

Search...

Select	Account code	Description	UoM
<input type="radio"/>	00	Overhead 6233 EDIT	PLS
<input type="radio"/>	00.03	OH - Get Work	MWk
<input type="radio"/>	00.03.02	OH - Estimating	MWk
<input checked="" type="radio"/>	00.03.02.002	OH - Estimating - Engineering (Pr...	MWk
<input type="radio"/>	00.03.02.006	OH - Estimating - Research & Qu...	MWk
<input type="radio"/>	00.03.02.008	OH - Estimating - Prepare Estima...	MWk
<input type="radio"/>	00.03.02.010	OH - Estimating - Review (Pre-Bid)	MWk
<input type="radio"/>	00.03.02.014	OH - Estimating - Post Bid	MWk
<input type="radio"/>	00.03.02.016	OH - Estimating - Management	MWk
<input type="radio"/>	00.03.02.018	OH - Estimating - 2nd Estimates	MWk

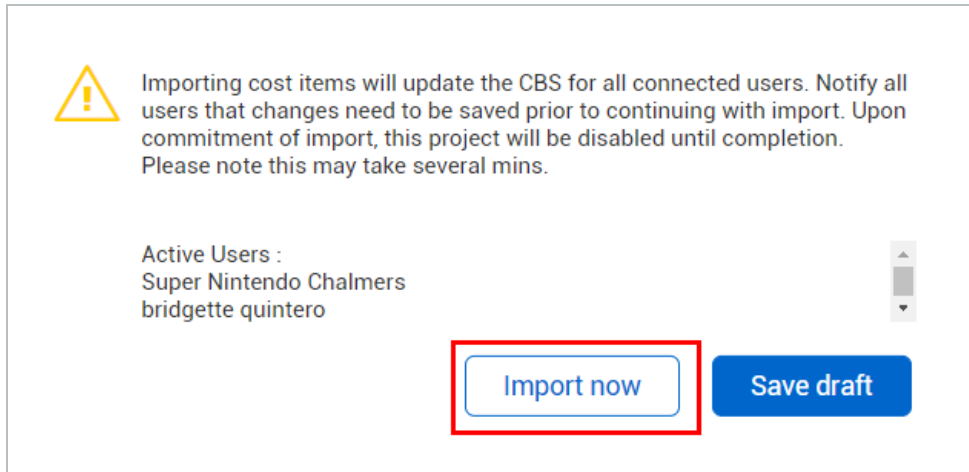
Cancel Assign

3. After all corrections have been made to the existing errors, you can select the Import button on the top right on the screen.

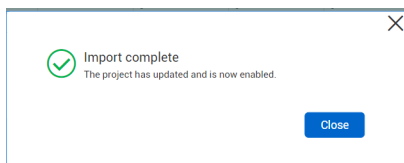
Find next error Cancel Import

Description	WBS phase code	Account code
Job Overhead	1002	20
Earthwork	1069	51
Concrete	1071	61
Structural Steel	1073	

- A warning message appears stating that changes will be made, and this project will be disabled until completion.



- Once processing has finished, you will receive an Import complete message.

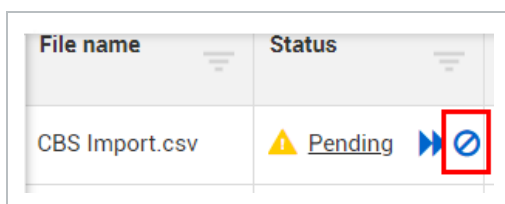


- The Import history page now shows that the imported file is now successfully imported and updates the Last edited date.

File name	Status	Total line items	Errors	Total imported	Added estimate resources	Added pay items	Created by	Created date	Last edited by	Last edited date
CBS Import.csv	Complete	11	0	0	0	0	Keith Anderson	06/19/2019 06:30 ...	paul trippi	07/31/2019 10:32 ...

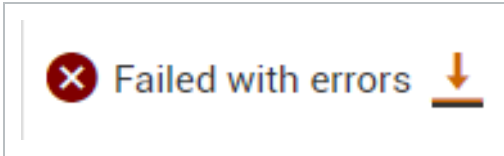
Option 2

- Selecting cancel, the blue circle with the line through it, will cancel the import completely.



10.5.6 FAILED WITH ERRORS STATUS

When an import is in a **Failed with errors** status, the system will generate a Word error report. The document displays detected errors while attempting to import the Excel file values. Errors will need to be reviewed within the Word document



An example of the Failed with errors Word **error file** provides direction on how to proceed with correcting the Excel import errors, and a course of action to run the import again

```

Import actuals CBS data: CBS import.xls
File Import attempted on: 7/31/2019 3:45:03 PM

The following errors were detected while attempting to import actual
values into control.
Review the errors below, once all the errors have been resolved,
reattempt the import to Control.

Error 1: Posting date in external system must be valid (this error
affects 10 WBS/CBS items out of 10 total attempted imported WBS/CBS items
and 10 rows out of 10 total attempted imported rows)

WBS: 2904
CBS: 10
Row: 7

WBS: 2905
CBS: 11
Row: 8

WBS: 2906
CBS: 12
Row: 9

WBS: 2907
CBS: 13
Row: 10
    
```

The only option with a Failed with errors status is to review the errors, resolve them within the initial Excel file import, and then re-import the file.

10.6 QUANTITY CONTRIBUTION

At the project level, you can manage account codes under the ACS tab from the Control Workspaces page. On the ACS tab, you can see the account codes assigned to your cost items, along with the related parent account codes, with account code details and quantity contributors.

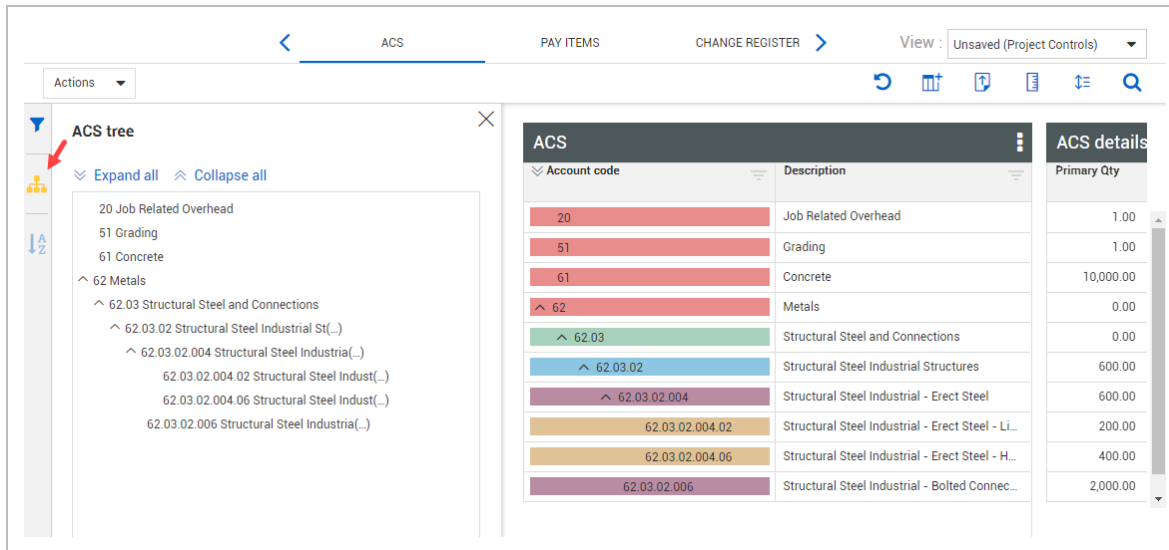
Other budget information is automatically pulled into the ACS Details data block including, Total Cost, Unit Cost, Unit Rates, Primary and Secondary Quantity Ratios, Quantities Complete, and Account Code Tags. To access this information, click the right arrow to view the second, third and fourth panels of the data block.

The screenshot shows a software interface with a top navigation bar containing tabs for 'CBS', 'ACS', 'PAY ITEMS', 'CHANGE REGISTER', and 'AUDIT LOG'. The 'ACS' tab is selected and highlighted with a red box. Below the navigation bar, there are three data blocks: 'ACS', 'ACS details', and 'ACS qty contributors'. The 'ACS' block is a table with columns for 'Account code' and 'Descri...'. The 'ACS details' block is a table with columns for 'Primary Qty', 'Primary UoM', 'Auto-quantity (Primary)', 'Notes', 'Forecast total cost', and 'Forecast total Mhrs'. The 'ACS qty contributors' block is a table with columns for 'Contribute Primary to Primary' and 'Contribute Primary to Secondary'. A red arrow points from the 'ACS' tab to the 'ACS details' block.

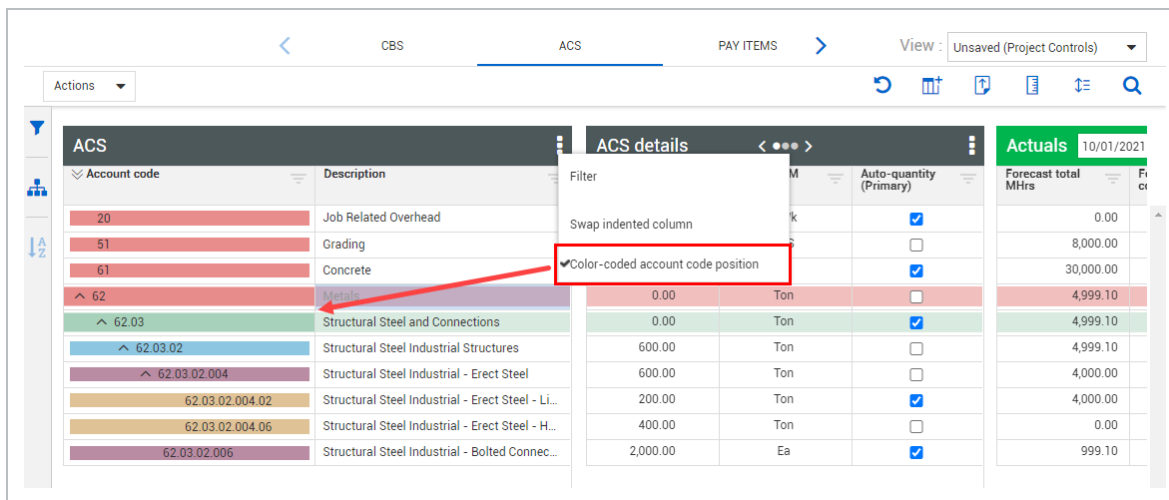
Account code	Descri...	Primary Qty	Primary UoM	Auto-quantity (Primary)	Notes	Forecast total cost	Forecast total Mhrs	Contribute Primary to Primary	Contribute Primary to Secondary
99	Change Order...	1.000000000000	PLS	<input type="checkbox"/>		\$187,829,311.97999998927	3,535,755.04678499978	<input type="checkbox"/>	<input type="checkbox"/>
99.09	Back charges	0.000000000000	PLS	<input type="checkbox"/>		\$187,829,311.97999998927	3,535,755.04678499978	<input type="checkbox"/>	<input type="checkbox"/>
99.09.02	Back charges ...	1.000000000000	PLS	<input type="checkbox"/>		\$209,963,377.59999999404	3,535,755.04678499978	<input type="checkbox"/>	<input type="checkbox"/>
99.09.02.002	Back charges ...	1.000000000000	PLS	<input type="checkbox"/>		\$209,963,377.59999999404	3,535,755.04678499978	<input type="checkbox"/>	<input type="checkbox"/>
99.09.04	Back charges ...	0.000000000000	PLS	<input type="checkbox"/>		(\$22,134,065.62000000104)	0.000000000000	<input type="checkbox"/>	<input type="checkbox"/>
99.09.04.002	Back charges ...	1.000000000000	PLS	<input type="checkbox"/>		\$200.000000000000	0.000000000000	<input type="checkbox"/>	<input type="checkbox"/>
99.09.06	Back charges ...	0.000000000000	PLS	<input type="checkbox"/>		\$0.000000000000	0.000000000000	<input type="checkbox"/>	<input type="checkbox"/>
99.09.06.002	Back charges ...	1.000000000000	PLS	<input type="checkbox"/>		\$0.000000000000	0.000000000000	<input type="checkbox"/>	<input type="checkbox"/>

10.6.1 ACS NAVIGATION

The ACS tree lets you easily navigate up and down your ACS structure and also provides a way to filter down to a subset in the structure. Open the ACS tree slide-out panel by clicking on the ACS tree icon on the side toolbar.



Similar to the CBS color coded hierarchy, the ACS gives you the option to differentiate your account codes by color. Click on the ACS data block ellipsis to select this option to help you identify which level of the hierarchy a specific account code is located.



10.6.2 ACCOUNT CODE QUANTITY

There are two methods for defining primary and secondary quantities for your account codes:

- Manual entry in the Primary Qty and Secondary Qty fields
- Using the auto-quantity feature to have them automatically inherit the quantities of any cost items that have the same unit of measure as the assigned account code

DEFINE ACCOUNT CODE QUANTITY

1. From the Workspaces page of the Steel Structure Job, select the **CE + CB** viewset from the View drop-down list.
2. In the Current Estimate data block, double click in the **Secondary UoM** field for a cost item you assigned an account code to.
3. Select a Secondary UoM from the drop-down list different than the cost item's primary UoM.
4. Click the **side arrow** to navigate to the Secondary Qty column.
5. Double click in the **Secondary Qty** field for your cost item and enter a value.
6. Select the **ACS** tab.
7. In the Primary Qty field for the account code assigned to the cost item you just changed and type in a quantity value.
8. For your account code, check the **Auto-quantity (Primary)** check box.
9. To view what cost items are assigned to the account code, right click on your account code and select **ACS item details**.

If you have the account code slideout open and want to open a different account code's item details, you can select a different account code. The details slideout updates to the current account code's details. You no longer have to exit out of one ACS item only to right click and select ACS details slide out to open another.

10.6.3 QUANTITY CONTRIBUTORS

Within your project, you can specify how primary and secondary quantities contribute to your account codes. Specifically, you can indicate how:

- Cost item primary and secondary quantities contribute to assigned account code primary and secondary quantities
- Child account code primary and secondary quantities contribute to parent account code primary and secondary quantities

For both cost item and account code contributions you can have quantities roll up:

- Primary quantity to primary quantity
- Primary quantity to secondary quantity
- Secondary quantity to secondary quantity

NOTE Account codes will only automatically inherit quantities from cost items/account codes using the same unit of measure.

10.6.3.1 CONTRIBUTION OPTIONS - COST ITEM TO ACCOUNT CODE

From the ACS item details slide out panel, you can specify how cost item quantities roll up to the account code that is assigned to it, by selecting the appropriate checkbox. The total of the contributing cost item(s)'s quantities will roll up to become the account code quantity.

ACS item details							- Structural Steel Industrial - Erect Steel - Light (0-19 lb/LF)		
CBS position code	Description	WBS phase code	UoM	Forecast (T/O...	CE final Mhrs	CE total cost	Primary to Prim...	Primary to Seco...	Secondary to Seco...
4.2	Erect Steel - Light	1005	Ton	200.00	4000	200,000.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10.6.3.2 CONTRIBUTION OPTIONS - CHILD ACCOUNT CODE TO PARENT ACCOUNT CODE

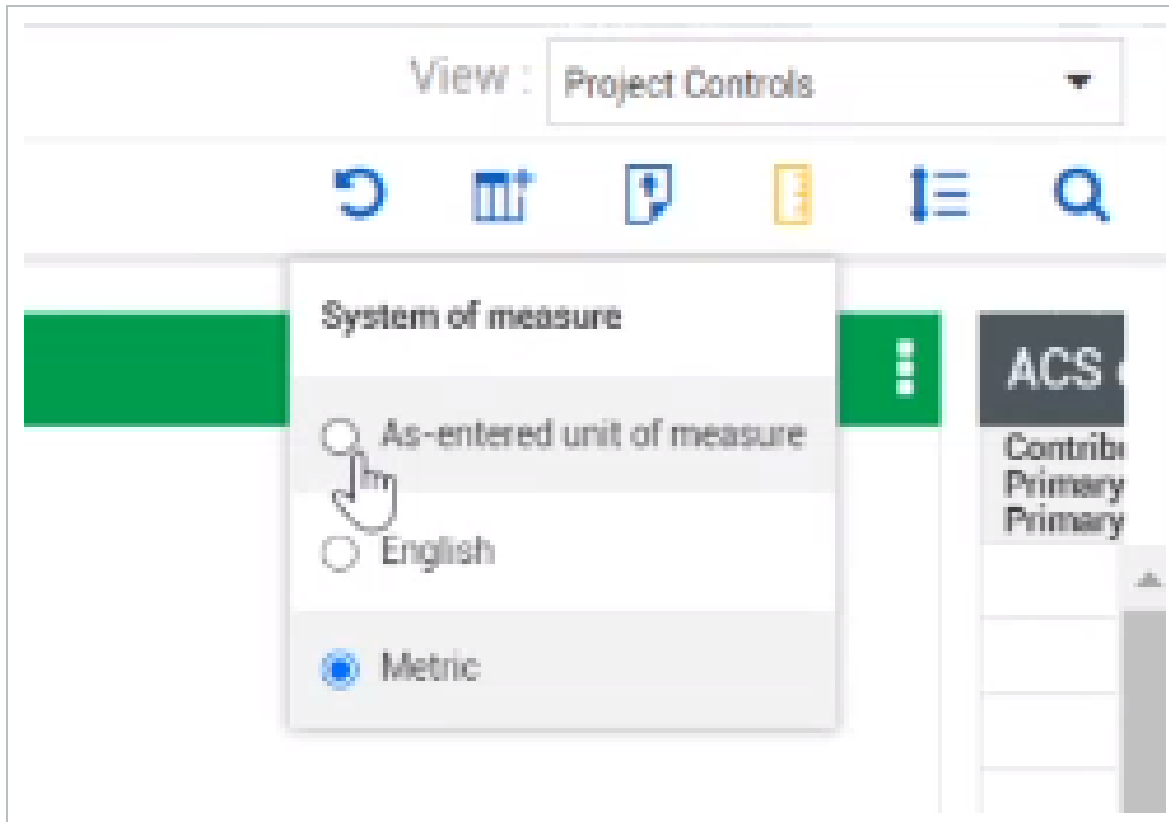
On the ACS page, in the ACS qty contributors data block, you can specify how child account code quantities will roll up to their parent account codes by selecting the appropriate checkbox.

ACS		ACS details			ACS qty contributors		
Account code	Description	Primary Qty	Primary UoM	Auto-quantity (Primary)	Contribute Primary to Primary Qty	Contribute Primary to Secondary ...	Contribute Secondary to secondary Qty
20	Job Related Overhead	0.000000000...	MWk	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51	Grading	1.000000000...	PLS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
61	Concrete	10000.00000...	CY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
^ 62	Metals	0.000000000...	Ton	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
^ 62.03	Structural Steel and Connectio...	0.000000000...	Ton	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
^ 62.03.02	Structural Steel Industrial Stru...	0.000000000...	Ton	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
^ 62.03.02.004	Structural Steel Industrial - Ere...	1000.0000000...	Ton	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62.03.02...	Structural Steel Industrial - Ere...	200.000000000...	Ton	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
62.03.02...	Structural Steel Industrial - Ere...	800.000000000...	Ton	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

10.6.4 ACS UNIT OF MEASURE TOGGLE

In the ACS register, you can toggle different Unit of Measures. The Unit of Measure toggle has three different options:

- As entered Unit of Measure
- English (Imperial Unit of Measure)
- Metric



If you want to display and edit in liters instead of gallons for example, you would select the ruler icon in the top right corner of the ACS register, and then select Metric. The quantity amount converts in the browser and displays in the alternate unit of measure.

10.6.5 ACCOUNT CODE QUANTITY CONVERSIONS

Cost items that are tracked in one unit of measure can be tracked in another UoM. For example, cost items that are tracked in a metric UoM can contribute to account codes tracked in imperial UoM. This saves time in maintaining account code quantities, as project team members do not have to perform

quantity conversions manually. Data accuracy is also ensured since any manual errors are eliminated from the conversion process.

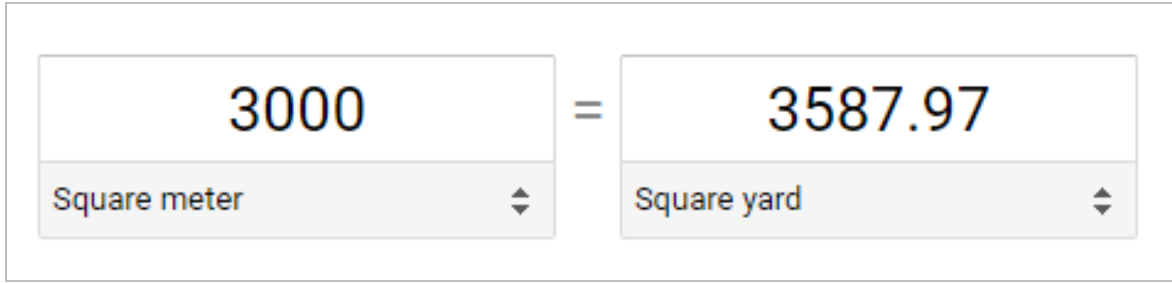
In this example, CBS item Asphalt Paving and Break Removal contains a Forecast quantity of 3,000 with a UoM of Square Meter.

Tasks		Task details		
CBS position	Description	Resource	Forecast (T/O) quantity	UoM
1.1.1.2	Removals and De...		1.00	PLS
1.1.1.2.1	Excavate Native t...	3	42,000.00	m3
1.1.1.2.2	Asphalt Paving Br...	3	3,000.00	Square Meter
1.1.1.2.3	Concrete Removal		1.00	PLS

In the ACS, you can display the Primary UoM Alternate System column to see what UoM is needed to track cost items in, so they contribute to your account codes. The Auto-quantity column is set up so that quantities are summing up the CBS. The Primary Qty of 3,587.97 is automatically populated. There is no further action to allow this value to roll up to the account code.

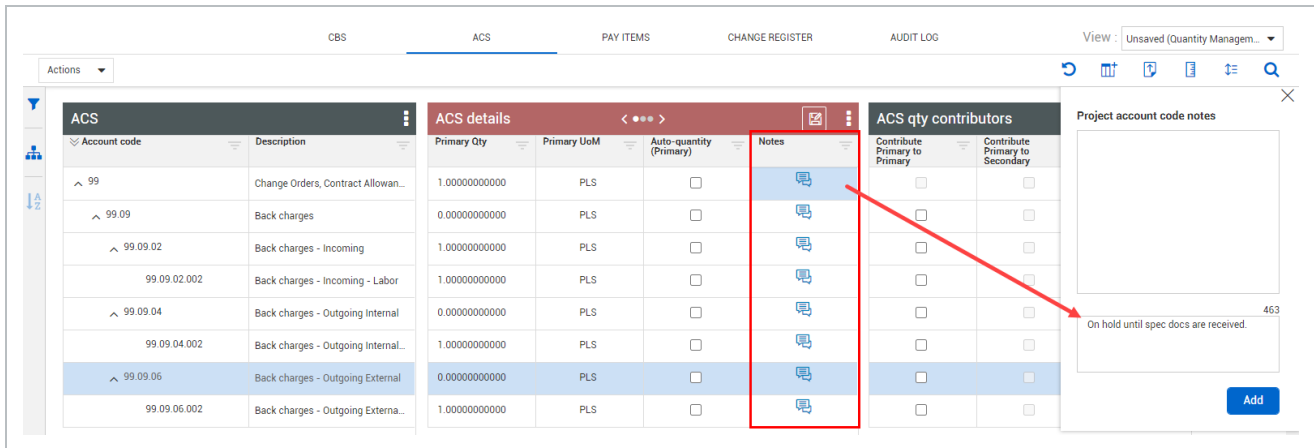
ACS		ACS details			
Account code	Description	Primary Qty	Primary UoM	Auto-quantity (Primary)	Primary UoM alternate system of...
50.03.02.002	Paving Removal - ...	3,587.97	Square Yard	<input checked="" type="checkbox"/>	Square Meter
50.03.02.002.02	Break - Asphalt P...	3,224.10	Square Meter	<input checked="" type="checkbox"/>	Square Meter
50.03.02.004	Paving Removal - ...	0.00	Square Meter	<input checked="" type="checkbox"/>	Square Meter
50.03.12	Concrete Removal	0.00	Cubic Meter	<input checked="" type="checkbox"/>	Cubic Meter
50.03.12.002	Concrete Removal...	0.00	Cubic Meter	<input checked="" type="checkbox"/>	Cubic Meter
50.03.12.002.05	Concrete Removal...	290.82	Cubic Meter	<input checked="" type="checkbox"/>	Cubic Meter

The system will automatically take the Forecast Qty in the CBS, and convert that number to the value shown in the Primary Qty field displayed in the ACS. In the above example, the CBS Forecast Qty of 3,000 in square meters is being converted to the 3,587.97 square yards, as shown in the ACS.



10.6.6 NOTES COLUMN

A Notes column is available for you to add to a new or existing data block. The Notes column lets you add commentary to any of the ACS records.



After notes are added to a record, the Notes column populates with the number of comments that are currently added to each record.

The screenshot shows the ACS interface with a table of ACS details and contributors. The table has columns for Primary Qty, Primary UoM, Auto-quantity (Primary), Notes, Contribute Primary to Primary, and Contribute Primary to Secondary. The Notes column contains message icons, with a red arrow pointing from a note in the 'Project account code notes' panel to one of these icons. The notes panel on the right contains several messages, including 'On hold until spec docs are received.', 'Primary UOM needs to be verified.', and 'Change tax rate to 7%'. There is an 'Add' button at the bottom of the notes panel.

10.7 MEASUREMENT TYPES

In master data libraries units of measure, there are two sections. The sections are Units of measure, and Measurement types. Using any two Units of measure that share the same Measurement type (such as area), you are able to do a measurement type conversion in the ACS.

If you have a cost item with a different unit of measure assigned to an account code, but with the same measurement type, that cost item can contribute to the same account code.

The screenshot shows the 'Master data libraries' interface with a table of Measurement types. The table has columns for Name, Description, and Measurement type. The table contains several rows of data, including '#NAME?- Copy AE ae', '#NAME?- Copy B', '#NAME?d', and '-0098765- Copy- Copy1- Copy...'. The Measurement type for all rows is 'Area'.

Name	Description	Measurement type
#NAME?- Copy AE ae	BACKLOGS	Area
#NAME?- Copy B	DESC	Area
#NAME?d	DESC	Area
-0098765- Copy- Copy1- Copy		Area
-0098765- Copy- Copy1- Copy...	-0098765- Copy- Copy1- Copy...	Area

You can have a cost item with a measurement type of acre contribute its values to its assigned account code if the account code has a measurement type of square foot. This is Because acre and square foot are both a measurement type of Area.

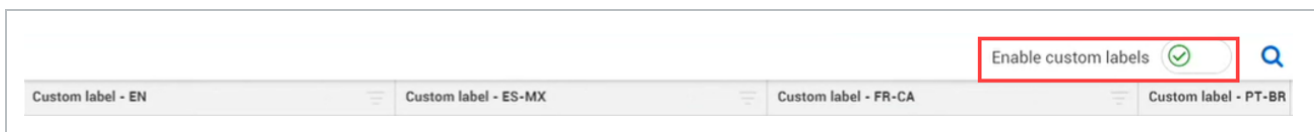
The column Primary to Primary lets you choose the cost item that contributes quantities of the account code.

Primary Qty		Primary UoM		DETAILS				COST CATEGORIES	
2,460.1999...		SF		ACS item details				Primary to Primary	
CBS positi... code	Desc...	WBS phase code	Forec... (T/O) quan...	UoM	CE final Mhrs	CE total cost	Prim... to Prim...	Prim... to Seco...	
1.1.1.1	Permits	1004_	450.00000	Acre	2,323.00000	99.9999950...	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.9.2.1	SOE for fou...	1252	320.00000	SF	64.00000	0.00000000...	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.9.2.2	Excavate fo...	1253	95.00000	CY	57.00000	0.00000000...	<input type="checkbox"/>	<input type="checkbox"/>	
1.9.2.3	U&H Steel	1254	2.64600	Ton	5.29200	0.00000000...	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.9.2.4	Set Steel Fr...	1255	35.00000	Each	140.00000	0.00000000...	<input type="checkbox"/>	<input type="checkbox"/>	
1.9.2.5	Bolt Up	1256	172.00000	Each	22.36000	0.00000000...	<input type="checkbox"/>	<input type="checkbox"/>	
1.9.2.6	Metal Grati...	1257	180.00000	SF	28.00000	4,032.9767...	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

The items without a check mark, such as Cubic Yards, have a measurement type that is not considered an area, so you cannot select Primary to Primary for Cubic Yards, Ton, and Each.

10.8 COST CATEGORY LABEL CUSTOMIZATIONS

In Master data libraries > Cost categories, there is a **Enable custom labels** toggle. If this toggle is turned on, all of your cost category field names come from the custom columns depending on your language preference in Control. Language preference is located in user settings.



You can overwrite the custom labels if you have the applicable permissions. Depending on where you have cost categories shown in the product, the overwritten labels show with the new custom labels.

NOTE These labels can be viewed at the organization level. Every project within that organization can see these labels.

If the organization prefers a different field name, it can be renamed using the cost category custom labels.

NOTE Dimmed custom labels cannot be overwritten. For example, the Field name Total.

Field name	Is terminal	Custom label - EN
Total	<input type="checkbox"/>	Total
Labor ⓘ	<input type="checkbox"/>	TEST-12345-94
Labor Base	<input checked="" type="checkbox"/>	L-Base

If the custom label for the field name is blank, then the custom label column will use the default name for the field name column.

One way of finding these custom labels in the project is by going to the CBS register. From there, open the Cost Categories slide-out panel. Under the Cost category column, find your custom label. For example, the Labor Base field name can be customized and renamed L-Base.

PAY ITEMS
CHANGE REGISTER
AUDIT LOG

☰
↻

1004_
Permits

DETAILS
ATTRIBUTES
COST CATEGORIES

% Complete ★ Live forecast method Latest actuals in forecast values

75.55556 % Manual (EAC) ▼ 🕒 12/11/2020

	Total	Per unit
Cost category	Current budget	Total cost (to date)
^ Total	\$ 109,999,995,000...	\$ 30,559,600,000...
^ Labor	\$ 0.000000000000	\$ 44,111,000,000...
L-Base	L-Base	00000... \$ 0.000000000000 \$ 183,093,332,000...

NOTE These changes can take a few minutes to fully generate because custom categories span the entire project.

If the Enable custom labels toggle has been shut off, then the category names come from the Field names in the Master data libraries only.

REVIEW

1. Account codes are created inside which of the following:
 - a. ACS register page
 - b. Library
 - c. Project settings

2. Which of the following are account codes used to track?
 - a. Quantity
 - b. Budget
 - c. Account Code Tags
 - d. Unit Costs
 - e. a, b, and d
 - f. All of the above

3. Which of the following is not tracked in the CBS Audit Log?
 - a. Change Attribute
 - b. Changed By
 - c. Change Date
 - d. Pay Item Value
 - e. Forecast Cost Before and After

SUMMARY

As a result of this lesson, you can:

- Define what an account code is
- Set up account codes within the library
- Assign account codes to cost items
- Define the quantity contribution for each account code
- Review and analyze the audit log



INEIGHT CONTROL INTERFACES

LESSON DURATION: 30 MINUTES

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Explain the InEight cloud platform Functional Flow diagram
- Explain the different InEight Control Push interfaces and use cases
- Explain the different InEight Control Get interfaces and use cases
- Identify where to go to audit sync transactions

LESSON TOPICS

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11.1 INTERFACES OVERVIEW

The InEight cloud platform has several options for synchronizing information from one platform to another. This gives you multiple options to utilize data efficiently between various programs, saving you time and resources.

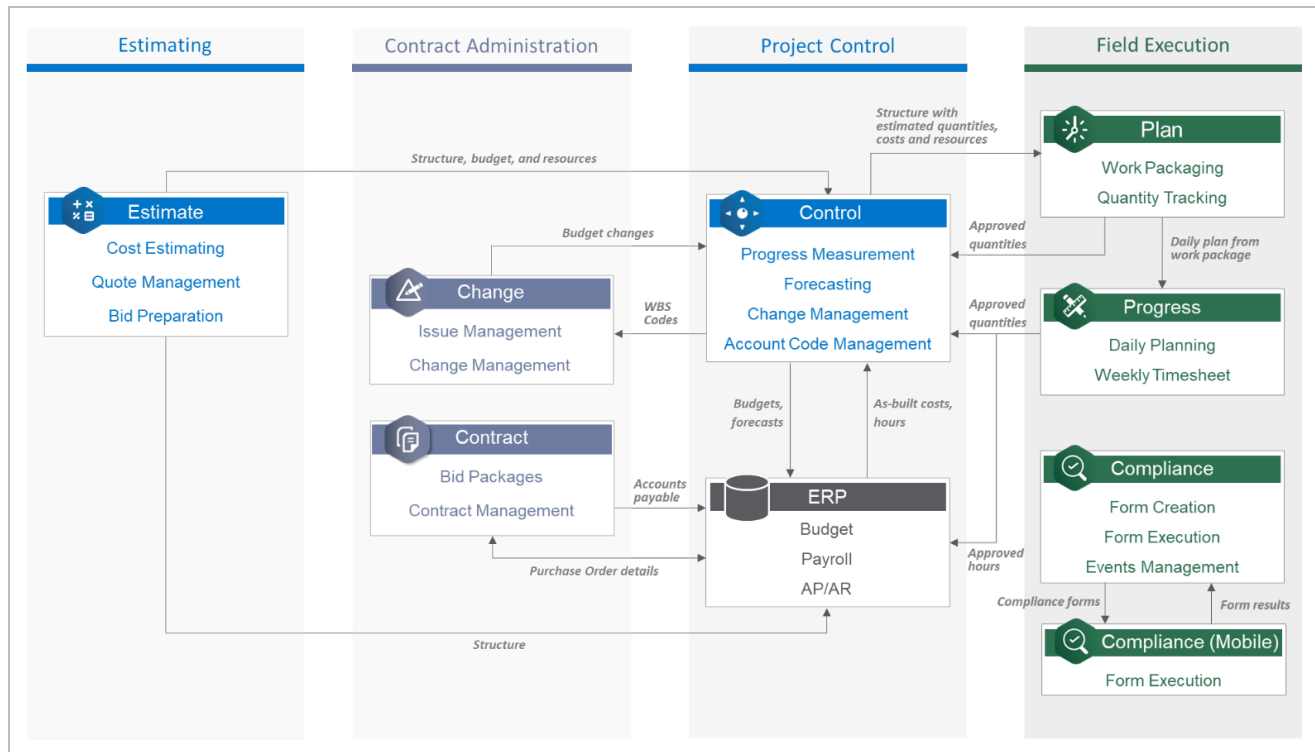
The table below shows you the high-level functions of multiple platforms to help you better understand how these tools interrelate.

Overview - Interfaces

Title	Description
Estimate	<ul style="list-style-type: none"> Create CBS / ACS / WBS structures Create cost estimates Analyze contractor/supplier quotes Prepare bid proposals Benchmark estimate values
Contract	<ul style="list-style-type: none"> Create and manage bid packages Set up and manage contracts Create and manage issues and change orders
Control	<ul style="list-style-type: none"> Edit CBS / ACS / WBS structures Manage budgets and contracts Manage forecasts Record actuals (manual entry, or import from Plan and ERP) Calculate job costs / variances, earned values, contract earnings
Plan	<ul style="list-style-type: none"> Associate planning components with CBS / ACS / WBS structures Create work plans and packages
Progress	<ul style="list-style-type: none"> Create work plans and daily plans Record progress and timesheets (as-builts) Approve executed daily plans
ERP	Budget, Payroll, Forecasts, AP/AR, Final Costs

For this lesson, you will focus on the programs that integrate directly with Control (after the initial import from Estimate) and will go over how to perform the basic “Push” and “Get” actions to move data between systems.

The workflow diagram below shows the connections between the programs, and details on what data passes between the various InEight products:



11.2 PUSH AND GET ACTIONS

Control Integrations typically have one direction that specific information travels. As data is generated or modified in one product, it does not automatically change in other connected products downstream; you must perform a sync action, referred to as “Push” or “Get”.

- A Push sync occurs when you are in a program and you would like to send information to a different program
- A Get sync occurs when you are in a program and you would like to retrieve information from a different program

You can view the various integration options by clicking on the Actions menu from the Control main page and hovering over the Sync option. The image and table below give a description of the sync type functions:

Overview - Sync Options

Sync Type		Function
1	Push CBS Structure	Syncs the Control CBS Structure to the ERP system.
2	Push CBS Structure and Budget	Syncs the Control CBS Structure, budgeted quantities, man-hours, and costs to the ERP system.
3	Push CBS Structure and Live Forecast	Syncs the Control CBS Structure and Live Forecasted quantities, man-hours, and costs to the ERP system.
4	Push CBS Structure and Actual Quantities	Syncs the Control CBS Structure and job-to-date actual quantities to the ERP system.
5	Push CBS Structure, Budget, Live Forecast, and Actual QTY	Simultaneously performs all the syncing functions listed above (1-4).
6	Push Pay Item	Syncs the Pay item list and data to the ERP system.
7	Push Billed Revenue	Syncs job to date billed amounts to the ERP system.
8	Push Forecast Revenue	Sync pay item revenue values (billed revenue, earned revenue, forecast revenue).
9	Get Quantities (Through Previous Pay Period or Job To Date)	Retrieves the claimed quantities from InEight Plan and incorporates the information to Actual QTY within Control.
10	Get Actual Cost and MH	Retrieves actual project costs and man-hours from the ERP system and incorporates the information to Actual Costs and Actual Man-hours within Control.
11	Get Billed Revenue	Retrieves billed amounts from the ERP system and incorporates the information to Billed revenue within Control

The screenshot displays a software interface with a menu on the left and a table on the right. The menu is titled 'Actions' and contains several options. A sub-menu is open under 'Sync', listing 11 actions numbered 1 through 11. The table on the right has columns for 'Description', 'WBS phase code', 'SPI', 'CB planned value (to date)', and 'Re'. The table contains several rows of data, with some rows highlighted in blue.

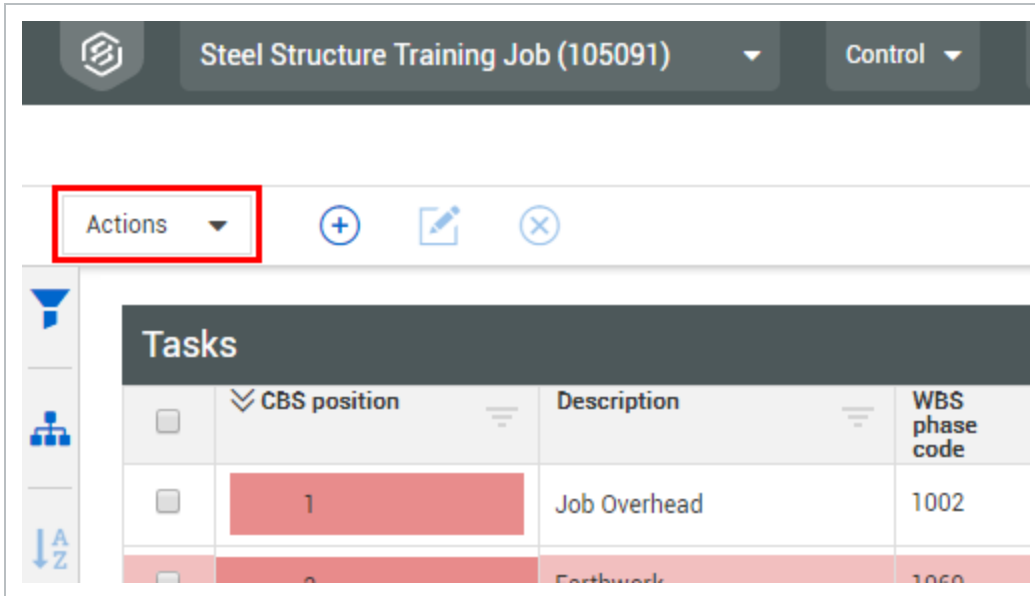
Description	WBS phase code	SPI	CB planned value (to date)	Re
ization	10009	0.00	\$ 0.00	3
ing & Grubbi...	10010	0.00	\$ 0.00	9
classified Exca...	10011	0.00	\$ 0.00	
		0.00	\$ 0.00	11
		0.00	\$ 0.00	8
		0.00	\$ 0.00	
		0.00	\$ 0.00	3
		0.00	\$ 0.00	6
		0.00	\$ 0.00	
		0.00	\$ 0.00	6
		0.00	\$ 0.00	2
		0.00	\$ 0.00	
		0.00	\$ 0.00	3
		0.00	\$ 0.00	6
				2
				3
		0.00	\$ 0.00	7
		0.00	\$ 0.00	4

Menu items (numbered 1-11):

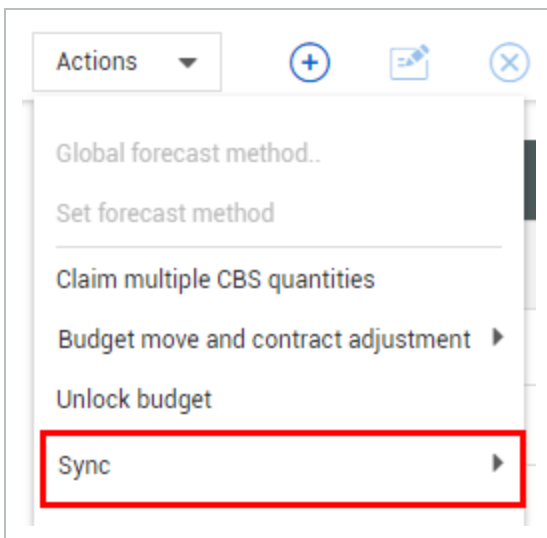
1. Push CBS structure
2. Push CBS structure and Budget
3. Push CBS structure and Live forecast
4. Push CBS structure and Actual quantities
5. Push CBS structure, Budget, Live forecast, and A...
6. Push Pay Item
7. Push Billed revenue
8. Push Forecast revenue
9. Get quantities (sub-menu: Through previous pay period, Job to date)
10. Get Actual cost and MHrs
11. Get Billed revenue

SYNC OPTIONS

1. From the Control main page, click the **Actions** menu.



2. Select **Sync** from the Actions drop-down.

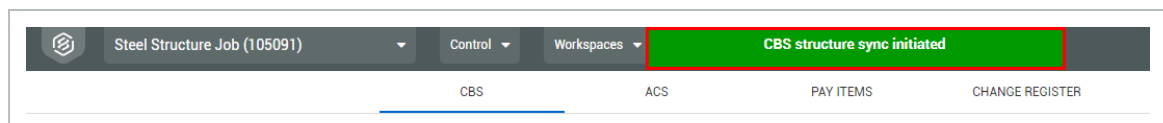


3. Select **Push CBS Structure** from the Sync drop-down.

The screenshot shows the 'Actions' menu open over a 'Task details' table. The 'Push CBS structure' option is highlighted with a red box. The table below shows task details with columns for Description, Resource, and Forecast (T/O) quantity.

Description	Resource	Forecast (T/O) quantity
Earthwork		10,000.00
Earthwork Review	1	1.00
		0,000.00
		0,000.00
		0,000.00
		350.00
		200.00
		0,000.00

- A toast message appears at the top of the screen showing the process initiated



- You follow the same steps for selecting the other synchronization options
- For the Get Plan Quantities option, you will need to select the **Through Previous Pay**

Period option

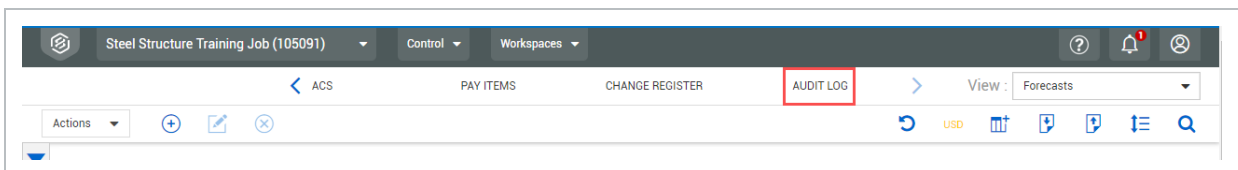
<input type="checkbox"/>	5.2	Insta	Push Forecast revenue	0.00	\$ 0.00	6
<input type="checkbox"/>	6	36 In	Get quantities	Through previous pay period		
<input type="checkbox"/>	6.1	Furni	Get Actual cost and MHrs	Job to date		2
<input type="checkbox"/>	6.2	Exca	Get Billed revenue	Job to date		3
<input type="checkbox"/>	6.3	Insta	Get Billed revenue	0.00	\$ 0.00	7
<input type="checkbox"/>		Backfill P&P Disc	10000	0.00	\$ 0.00	4

11.3 AUDIT LOG INTEGRATION

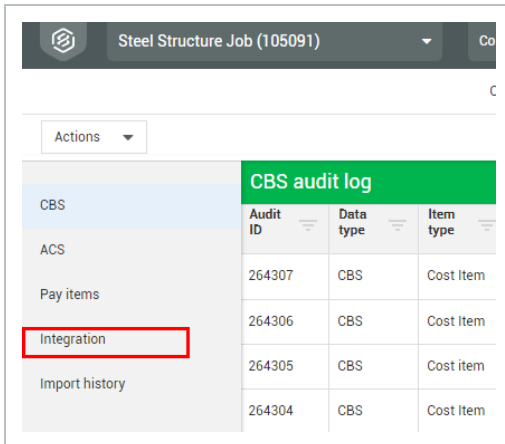
As you utilize the sync option, you have the option to go back and audit the status of the actions taken. The Audit Log Integration displays any synchronization process that has been initiated and its status. It is used to capture whether the synchronization process between InEight Control and the ERP system was completed successfully. The log can also tell you how long the sync process took to complete and who requested the sync.

SYNC AUDIT LOG

1. From the Control Workspaces page, click on the **Audit Log** tab.



2. On the left side bar menu, click on **Integration**.



CBS audit log		
Audit ID	Data type	Item type
264307	CBS	Cost Item
264306	CBS	Cost Item
264305	CBS	Cost item
264304	CBS	Cost Item

- The log displays the current sync status

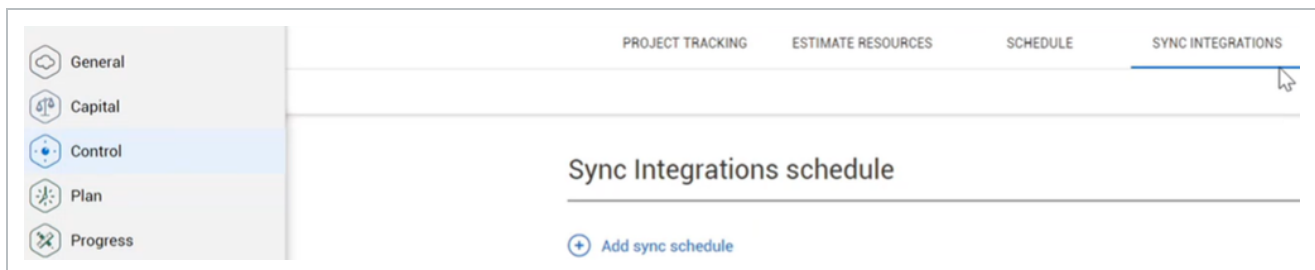
11.4 SCHEDULED SYNCS

Scheduled syncs let you set a time and date for the type of information you want updated from either push or get data.

You can set up recurring syncs or a one-time sync to get up-to-date costs on man-hours. Scheduled syncs occur at the point and time you scheduled them for.

To start scheduling syncs, the tab Sync integrations has been added to the Control Project settings.

If no syncs are scheduled, you can add a sync by selecting the **Add sync schedule** button.



There are five required fields you must fill out in order to schedule a sync.

- Sync type
- Time zone
- Start date
- Time to run sync
- Repeat

Sync types lists all available push and get syncs.

The screenshot displays a configuration form for a scheduled sync. It features three main sections:

- * Sync type:** A dropdown menu with a list of options. The options include: "Select one", "Push CBS structure", "Push CBS structure and Budget", "Push CBS structure and Live forecast", "Push CBS structure and Actual quantities", "Push CBS structure, Budget, Live forecast and Actual quantities", "Push Pay item", "Push Billed revenue", "Push Forecast revenue", "Get Plan quantities", "Get Actual cost and MHrs", and "Get Billed revenue". The "Get Plan quantities" option is currently selected, and a sub-menu is open showing "Through previous pay period" and "Job to date".
- * Time zone:** A text field containing "(UTC-06:00) Central Time (US & Canada)".
- * Time to run sync:** A text field containing "12:00 AM".

A "Cancel" button is located on the right side of the form.

The Time zone is where you select which region's time zone you are in.

Start date functions similarly to selecting a start date for a project. You cannot select to start a sync from a day in the past. The scheduled sync starts at the current day by default unless you select otherwise.

+ Add sync schedule

* Sync type: Select one

* Time zone: (UTC-06:00) Central Time (US & Canada)

* Start Date: 02/02/2021

* Time to run sync: 12:00 AM

* Repeat: Never Daily Weekly Monthly

Cancel Add

NOTE You can only select start times in 30 minute increments.

The Repeat section is where you select how often a scheduled sync repeats. You can choose to have the sync repeat daily, weekly, monthly, or never depending on your preference. You can end the schedule syncs on a certain date or end after a number of occurrences.

For daily syncs, select how often you want to repeat the sync or when you want the reoccurring syncs to end.

* Repeat: Never Daily Weekly Monthly

* End: After 1 Occurrence(s) On 02/03/2021

Cancel Add

For weekly syncs, select which days the sync repeats on as well as when you want the sync to end.

* Repeat

Never Daily Weekly Monthly

* End

After 1 Occurrence(s)

On 02/03/2021

* Repeat on All None

S M T W T F S

For monthly syncs, select what day in the month the sync repeats and when you want the sync to end.

* Repeat

Never Daily Weekly Monthly

* Repeat on

Day 1

First

First Second Third Fourth Last

Sunday

* End

After 1 Occurrence(s)

On 02/03/2021

Cancel Add



After you click **Add**, the sync appears in the synch integrations tab.

Sync Integrations schedule



[+ Add sync schedule](#)

Scheduled syncs

Push Billed revenue

Sync type: Push Billed revenue	Start date: 02/01/2021	 
Time to run sync: 12:00 PM CST	Repeat on: Fri	
Repeat: Weekly	End: 12/31/2021	

Get Plan quantities

Sync type: Get Plan quantities - Job to date	Start date: 02/08/2021	 
Time to run sync: 1:00 PM CST	Repeat on: Last - Saturday	
Repeat: Monthly	End: 12/31/2021	

You can edit syncs or delete them using the edit and delete buttons on the far right of the sync data box.

NOTE

You can schedule all your syncs for the project at one time. If you already have syncs configured for currently existing projects, you don't need to reconfigure your setup for this feature.

For any new projects that do not yet have scheduled syncs set up, you need to go to the **Application integrations** section of Control. Follow the Step by Step to navigate to the Application integrations page.

NAVIGATING TO APPLICATION INTEGRATION

1. From the header bar, select the projects drop-down.
2. Hover over **Suite administration**. That is where you would set up all of your sync configurations.
3. Select **Application integrations**.

REVIEW

1. How can you know a sync process initiated?
 - a. Viewing the CBS Audit log
 - b. Appearance of a toast message
 - c. There is no way to tell

 2. Where can you view the status of a sync process?
 - a. In the Change Register
 - b. On the CBS tab, in the Forecast data block
 - c. On the Pay Items tab, under the sync status column
 - d. In the Sync Audit Log
-

SUMMARY

As a result of this lesson, you can:

- Explain the InEight cloud platform Functional Flow diagram
- Explain the different InEight Control Push interfaces and use cases
- Explain the different InEight Control Get interfaces and use cases
- Identify where to go to audit sync transactions



CONTROL SETTINGS

LESSON DURATION: 20 MINUTES

LESSON OBJECTIVES

After completing this lesson, you will be able to:

- Create and manage InEight Control roles and permissions
- Navigate and define the different types of InEight Control project settings

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12.1 ROLES & PERMISSIONS

Every new project launch has its own particularities, and the setup and initialization of these projects depends on multiple factors, such as:

- Project organizational structure
- Staff and resources assigned
- Location of the project
- Units of measurement
- Currencies
- Financial reporting period

This lesson covers how to set up these project options.

NOTE

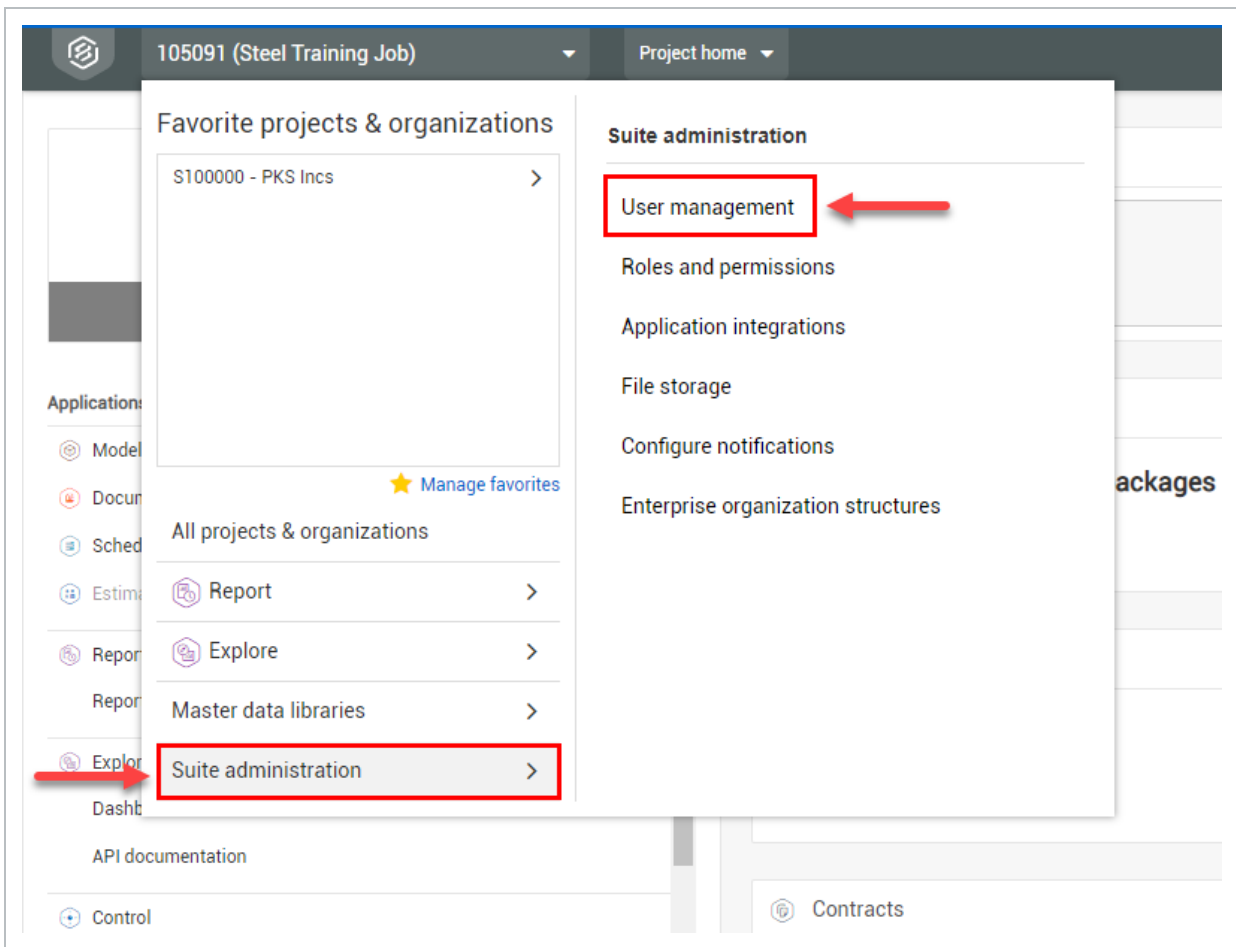
Establishing roles and permissions is an administrative function. As such, access to these settings may not be available to you, as the setup of these settings may not be within the scope of your daily tasks.

12.1.1 USER MANAGEMENT

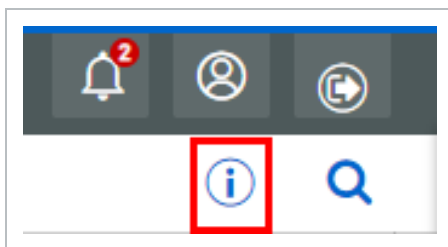
The User Management page provides a list of users inside your organization. You can view any user's project access, roles, and permissions within your organization. Users with required administrative permissions can edit and grant permissions to other users, up to the equivalent level of access they have been granted.

VIEW THE ROLE AND PERMISSIONS OF A USER

1. From any InEight application, click on the **First Level Menu** in the upper left corner of your screen, and from the drop-down menu, select **Suite Administration**, then **User Management**.

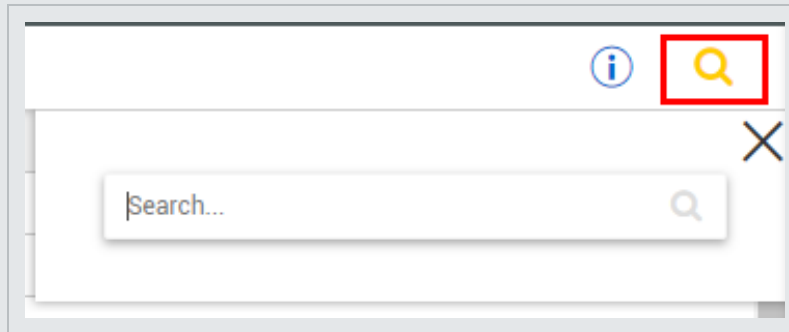


2. Scroll down the list or use the Search field to find and select **a user**.
3. To view the record, **right click** on the name, and select **Show Info**.
 - You can also click on the Show Info button located on the upper-right register menu bar

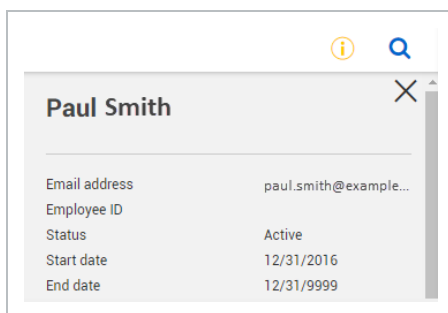


TIP

You can use the Search located in the upper right corner of the page to search for a keyword in any column in the User Management database.



- Once you click on the **Show Info** option, a slide out panel appears on the right. From this panel, you can view the contact information, as well as the role and project access of that specific user.

**NOTE**

Note that once your organization implements the InEight cloud platform, you will be able to link your contacts' address book to your user information.

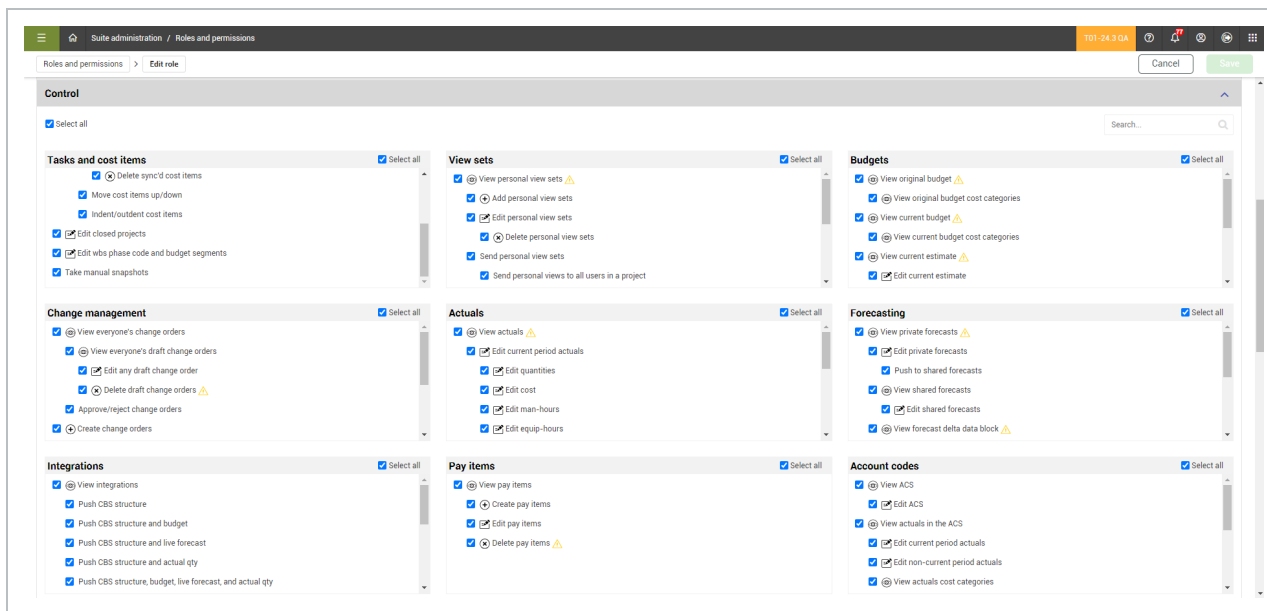
12.1.2 ORGANIZATIONAL BREAKDOWN STRUCTURE

The Organizational Breakdown Structure represents the way your company is structured and divided, such as departments, districts, sectors, etc. Roles and permissions can be added at different levels in your OBS, so users with a district level access would have access to all the projects under that district's umbrella.

12.1.3 ROLES AND PERMISSIONS

A role is defined as the function that a user occupies inside an organization or project. A role in Platform contains a set of predetermined authorizations and permissions. When a role is assigned to a

user, they acquire all the permissions of that role in the project or organization that you can assign to users or project staff. With sufficient rights and permissions, you can add or remove a role and all access it provides from the user. The Roles and Permissions section is where you can view what permissions each different role has. Refer to Platform topic for information about adding, deleting, modifying, and assigning roles.



NOTE The administrator levels range from 0-3 and give you a predetermined set of permissions, with the lowest level giving read only access, and higher levels having more abilities to adjust settings and edit fields within the InEight portfolio of products.

InEight Control has many permissions that control important functions within the program.

12.2 PROJECT SETTINGS

To manage a project successfully in Control, the correct project details must be added before project initiation. To view project details, go back to the **All projects & organizations** page of the InEight cloud platform.

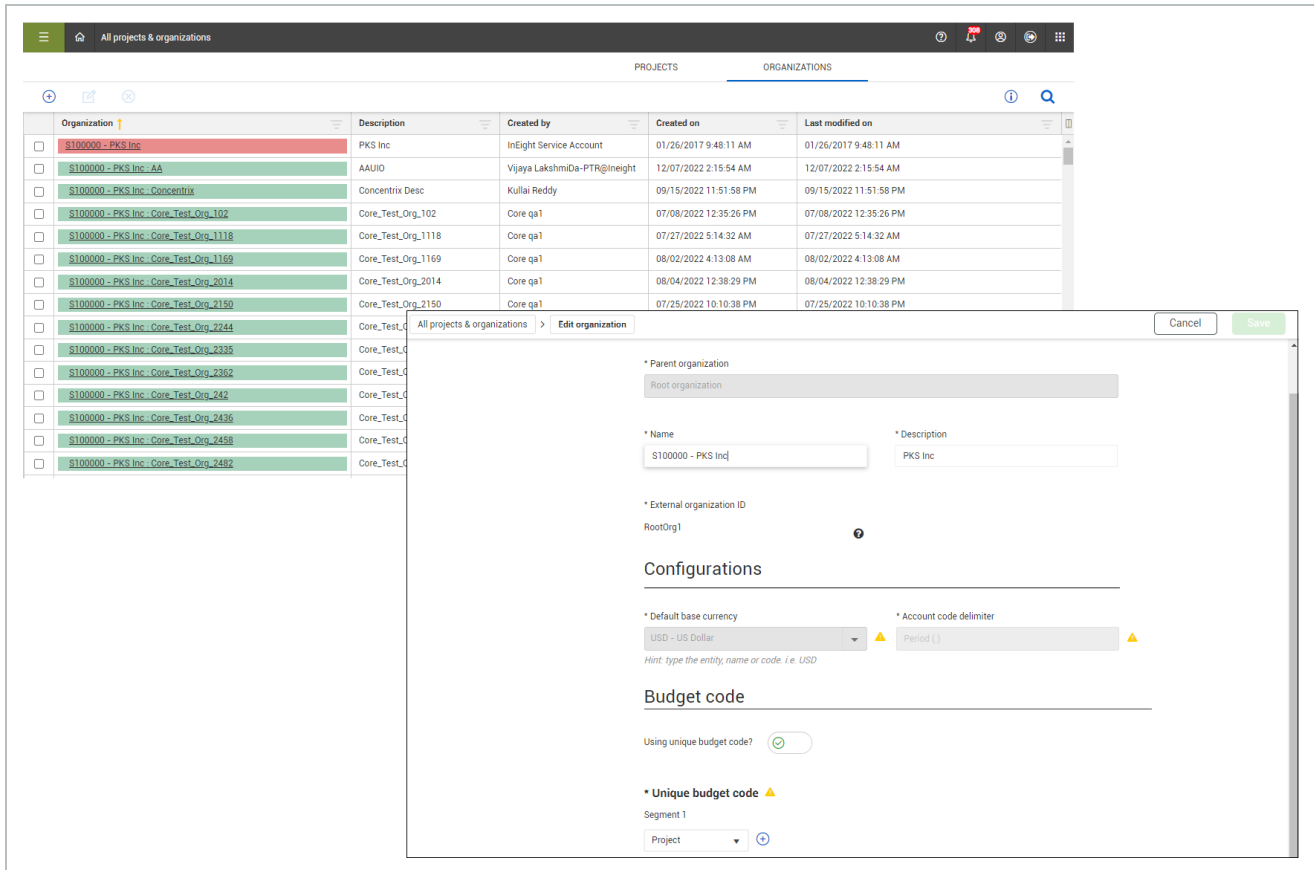
12.2.1 ORGANIZATIONS PAGE

The Organizational Breakdown Structure (OBS) represents the hierarchical company structure. It can have regions, such as Eastern and Western, and within those regions, the company can have also divisions, such as Electrical, Paving, and Masonry. The organization can continue to be more refined to

the level such as states, cities, districts. Projects are the lowest level of the structure but they do not show in the OBS.

The OBS controls your access. Where you are assigned in the organization determines what access you inherit and the visibility you have to other areas of the OBS. The higher the level a user is placed on the OBS, the more actions they can perform, and the more organizations and projects they can view. A user assigned at only the project level has no visibility to any other projects or administrative pages.

To access the OBS, go to All projects & organizations > **Organization**.



12.2.1.1 UNIQUE BUDGET CODE SEGMENTS

You can populate budget segments in Workspaces to show a unique code label. Unique budget code segments contain additional options to identify a cost item using four independent fields that are separated by periods. Budget codes can be configured at the organization level and are primarily used with Time Center.

Budget code The segments are combined to create a single unique budget code separated by periods. They cannot be changed once a project has been added.

Using unique budget code?

*** Unique budget code**

Segment 1: Project
Segment 2: Cost center
Segment 3: Other (String)
Segment 4: Phase code

CBS position	Description	Budget Segment 1	Budget Segment 2	Budget Segment 3	Budget Segment 4	Forecast method
1	Financial Results ...	103961		1000		Average performan...
2	Misc: Rev Internal	103961		1103		Rollup
2.1	Misc: Rev Internal	103961		1104		Manual (EAC)
2.2	Escalation/Contin...	103961		1101		Rollup
2.2.1	General Project Ri...	103961		1102		Current estimate
2.3	Directs	103961		1001		Rollup
Subtotals 163						

When the Edit WBS phase codes and budget segments permission is assigned to a role through Suite Administration > Roles and Permissions > **Control**, users are allowed to populate the WBS phase codes and budget segments in the CBS workspace. This permission only applies based on configurations set for the WBS phase code and the budget segments. This permission must be selected to allow users to edit WBS phase codes and budget segments.

Control

Select all

Tasks and cost items Select all

- Delete sync'd cost items
- Move cost items up/down
- Indent/outdent cost items
- Edit closed projects
- Edit wbs phase code and budget segments
- Take manual snapshots

OPEN PROJECT DETAILS

1. From the All projects & organizations page, right-click on **your job**.
2. Select **Edit Project**, or click the **Edit** icon.

12.2.2 PROJECT PAGE

The Edit Project page is where general project setup information is edited and stored, including the following settings:


- Project Details
- Location
- Project Dates
- Prime Contact
- Currency and Markets

All projects & organizations > Edit project

DETAILS INFORMATION ATTRIBUTES

Project settings Cancel Save

Project details

 Add project image
Minimum of 540px x 360px

* Project ID: 0020029472 * External project ID: 0020029472 Notes

* Name: James River WWTP and AWT Facility * Status: Active

* Organization: S100000 - PKS Inc ; SA1000 - Kiewit Corporation ; SB3000 - Infrastructure ; SC3002 - Infrastructure Central ; SD3003 - Infrastructure Central (SVP Level) ; SE6...

Location

Country / Region: Address 1: Address 2: City:

State: Postal / Zip code: Latitude: Longitude: * Time zone: (UTC-06:00) Central Time (US & Canada)

Project dates

Project start date: 02/01/2020 Project end date: 02/14/2020 Forecast start date: Duration: Forecast completion date:

Forecast extensions/reductions: Forecast revised duration: Forecast revised completion date:

Prime contract

Company legal name: Original contract amount: Contract number: Contract date:

Contract start date: Duration: Contract completion date: Certificate of substantial completion(expected): Certificate of substantial completion(awarded):

Contract extensions/reductions: Contract revised duration: Contract revised completion date: Certificate of final completion(expected): Certificate of final completion(awarded):

Currency

* Base currency: USD - US Dollar

Project contacts

Owner: Designer:

Contact 1: Contact 2:

Contact 3: Contact 4:

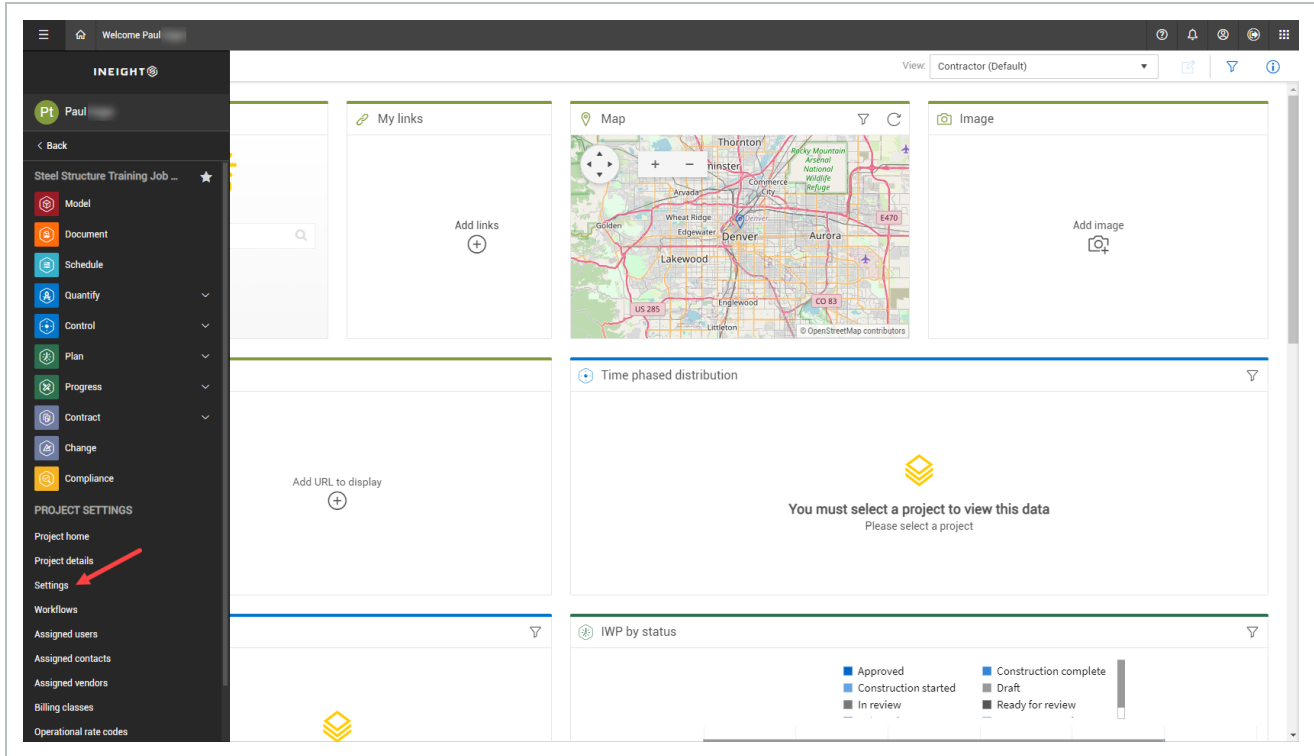
Markets

Market:

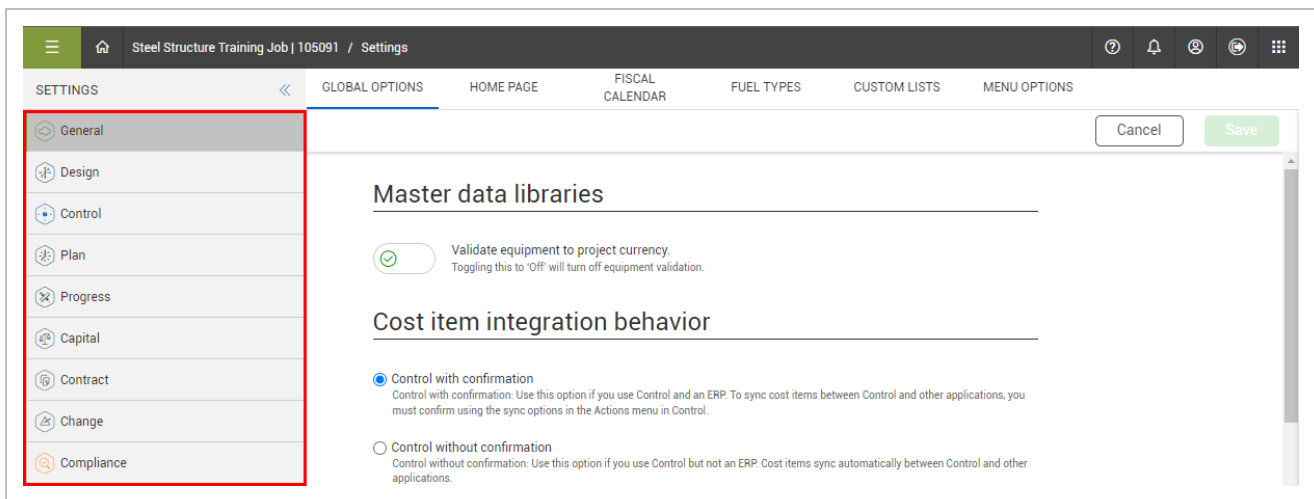
12.2.3 PROJECT SETTINGS

You access Project settings from the Project home landing page. From the Project home page, you can either:

- Select **Settings** from the side menu
- Select **Manage settings** on the Settings tile



The Project settings page contains setup information for all the InEight products, including Control. A list of tabs on the left allow you to navigate to the appropriate settings for each application.



The settings that pertain to Control are located under two of the tabs, as listed below:

- General
 - Home Page
 - Global Options
 - Fiscal Calendar
 - Document Types
 - Custom Lists
 - Attribute Definitions
 - Menu Options
- Control
 - Project Tracking (*Organization, Project*)
 - Forecast (*Organization, Project*)
 - Estimate Resources (*Organization, Project*)
 - Schedule (*Organization, Project*)
 - Revenue (*Project*)
 - Sync Integrations (*Project*)
 - Others (*Organization, Project*)

12.2.4 HOME PAGE

The Home Page tab lets you create URL links to be placed directly on the Project home page at both the Organization and Project levels.

The screenshot shows the 'Custom links' configuration window. It contains a table with the following data:

	Link name	URL	
+	Enter link name	Enter URL	
<input type="checkbox"/>	InEight University	university.ineight.com	⊗
<input type="checkbox"/>	Learn.Ineight	www.learn.ineight.com	⊗

The main interface shows a sidebar menu with a 'Links' section. Under the 'Project' category, the following links are listed:

- Organization
 - KVK
 - dds
 - LaunchPad
 - Print PO
- Project
 - InEight University
 - Learn.Ineight

A red box highlights the 'InEight University' and 'Learn.Ineight' links in the sidebar, with a red arrow pointing from the table above to this box.

12.2.5 GLOBAL OPTIONS

The Global Options tab controls the master data libraries, cost item integration behavior, advanced work and scheduling features, and the template library. The three cost item integration behaviors provide flexibility in how to configure Control with and without a direct tie to an ERP system. There is also an option to pass cost items directly from other sources to applications.

Master data libraries



Validate equipment to project currency.
Toggling this to 'Off' will turn off equipment validation.

Cost item integration behavior

- Control with confirmation**
Control with confirmation: Use this option if you use Control and an ERP. To sync cost items between Control and other applications, you must confirm using the sync options in the Actions menu in Control.
- Control without confirmation**
Control without confirmation: Use this option if you use Control but not an ERP. Cost items sync automatically between Control and other applications.
- Without control without confirmation**
Without control without confirmation: Use this option if you do not use Control. Cost items pass directly from other sources to applications.

Advanced work and scheduling features



Enables data sharing between Model, Schedule, and Plan applications for use with advanced work and scheduling features

Template library



Enables project to be listed as an available template library project

12.2.6 FISCAL CALENDAR

The settings in the Fiscal Calendar can be set at the organization and project levels. These settings specify the start and end dates for fiscal years and financial periods, such as month-end dates. It is important to know the different cut-off dates, especially when you pull the current period actual quantities to compare them to prior periods, or when you synchronize your quantities with the other applications.

Changes to a project level fiscal calendar only impact the project, while changes to the organization level fiscal calendar impact all projects that do not have fiscal calendar modifications. If there are no

changes at the project level, and the project matches the organization fiscal calendar settings, the project inherits the organization-level settings.

Any changes to the project fiscal calendar impact read-only snapshots, which are captured at the closure of month-end plus days, for the period month being closed. Changes also influence the monthly time buckets in time phase forecasting and budgeting and to the time periods in which claims can or cannot be posted.

Cancel Save

* Week ending day

Saturday
▼

* Financial year start month

April
▼

Period end

* Month end day

Last day of the month
▼

Last weekday

▼

* Financial period closing day

Same as Month End Plus Days
▼

* Month end plus days

17
▼

* Financial period closing time

09:30
🕒

* Closing time zone

(UTC-05:00) Eastern Time (US and Canada)
▼

12.2.7 DOCUMENT TYPES

You can assign a document type to InEight applications. This lets you filter the payload of Document Types for visibility and use in the assigned application.

English	Name	Description	Product(s)	System managed	Español	Description
<input checked="" type="checkbox"/>	Diagram	Diagram	Model, Document, Estimate, Control, Pla..	Yes	Diagrama	Diagrama
<input type="checkbox"/>	Photo	Photo	Model, Document, Estimate, Control, Pla..	Yes	Imagen	Imagen
<input type="checkbox"/>	Design	Design	Model, Document, Estimate, Control, Pla..	Yes	Design	Design
<input type="checkbox"/>	Executed contract	Executed contract	Model, Document, Estimate, Control, Pla..	Yes	Contrato ejecutado	Contrato ejecutado
<input type="checkbox"/>	Executed change order	Executed change order	Model, Document, Estimate, Control, Pla..	Yes	Orden de cambio ejecutada	Orden de cambio ejecutada
<input type="checkbox"/>	Permit	Permit	Model, Document, Estimate, Control, Pla..	Yes	Permiso	Permiso
<input type="checkbox"/>	Transmittal	Transmittal	Model, Document, Estimate, Control, Pla..	Yes	Transmisión	Transmisión
<input type="checkbox"/>	Request for information	Request for information	Model, Document, Estimate, Control, Pla..	Yes	Solicitud de información	Solicitud de información
<input type="checkbox"/>	Submittal	Submittal	Model, Document, Estimate, Control, Pla..	Yes	Envío	Envío
<input type="checkbox"/>	Other	Other	Model, Document, Estimate, Control, Pla..	Yes	Otros	Otros
<input type="checkbox"/>	Checklist	Checklist	Model, Document, Estimate, Control, Pla..	Yes	Lista de verificación	Lista de verificación
<input type="checkbox"/>	Correspondence	Correspondence	Model, Document, Estimate, Control, Pla..	Yes	Correspondencia	Correspondencia

12.2.8 CUSTOM LISTS

Like the tag feature in InEight Estimate, you can enter your tags and their values to use later for categorizing your cost items as you manage your project in Control.

Many of the tag fields are validated fields, meaning you can choose from options in a drop-down list. You define both the names of the tags and their drop-down values here.

The field names associated with Cost breakdown structure and Account codes, are tags defined and editable at the organizational level; you cannot edit them at the project level, as indicated by the statement “Inherited from parent organization”.

List name	Label name	Associated entity ↑	Field values	Inherited from parent org
<input type="checkbox"/> ACS tag 1	ACS tag 1	Account code	Multiple	Yes ↑
<input type="checkbox"/> ACS tag 2	ACS tag 2	Account code	Multiple	Yes ↑
<input checked="" type="checkbox"/> ACS tag 3	ACS tag 3	Account code	Multiple	Yes ↑
<input type="checkbox"/> ACS tag 4	ACS tag 4	Account code	None	Yes ↑
<input type="checkbox"/> ACS tag 5	ACS tag 5	Account code	None	Yes ↑
<input type="checkbox"/> ACS tag 6	ACS tag 6	Account code	None	Yes ↑
<input type="checkbox"/> ACS tag 7	ACS tag 7	Account code	None	Yes ↑
<input type="checkbox"/> Change management ...	Change management ...	Change management	None	No
<input type="checkbox"/> Change management ...	Change management ...	Change management	None	No
<input type="checkbox"/> Change management ...	Change management ...	Change management	None	No
<input type="checkbox"/> CBS tag 1	CBS tag 1	Cost breakdown structure	None	No
<input type="checkbox"/> CBS tag 11	CBS tag 11	Cost breakdown structure	None	Yes ↑

12.2.8.2 CBS URL COLUMNS

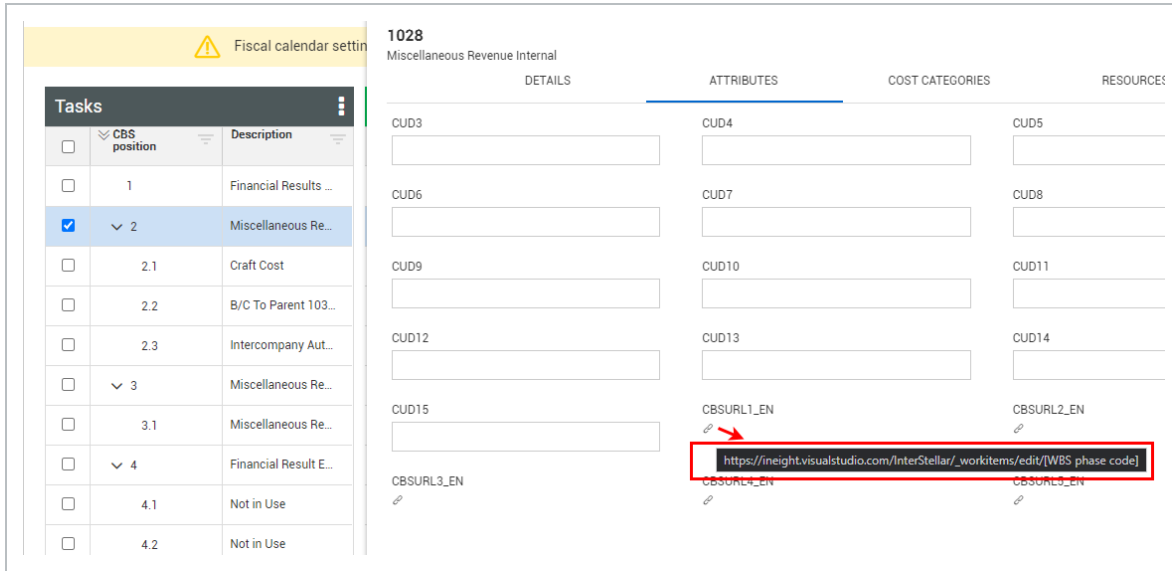
You can create direct links to URL addresses outside of Project Suite under Custom Lists. In the URL Field values you can define a URL with associated criteria to be used as an attribute for a cost item in the CBS.

In the URL Builder enter a URL that you want associated with your list name, along with any other dynamic attributes such as Project ID and CBS position code. Paste your URL and highlight the section you want to reference with another field. First highlight an attribute in the URL string, and then click the [T] reference icon to select which field to connect with.

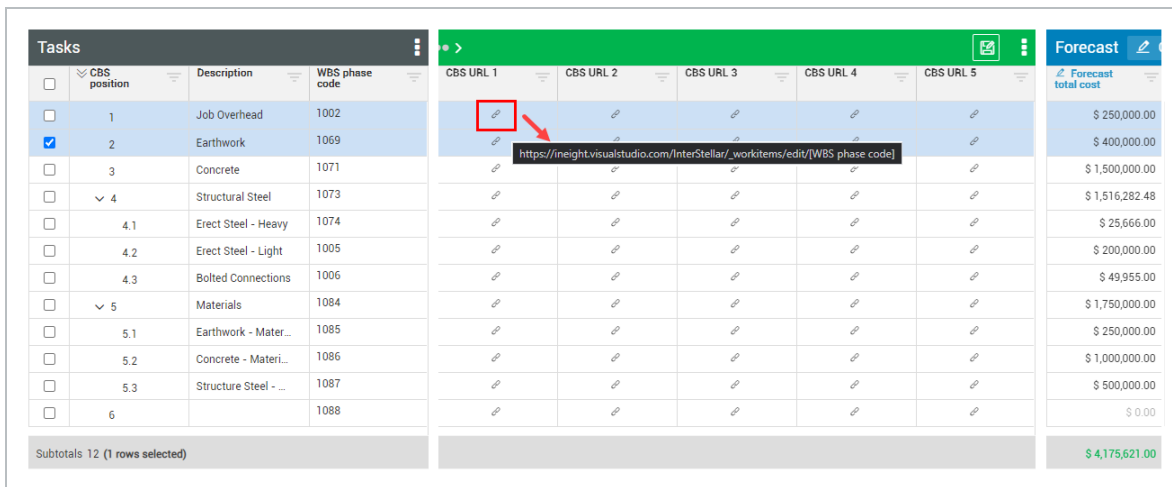
List name	Label name	Associated entity ↑	Field values	Inherited from parent org
<input type="checkbox"/> CBS tag 25	CBS tag 25	Cost breakdown structure	None	No
<input checked="" type="checkbox"/> CBS URL 1	CBS URL 1	Cost breakdown structure	URL	No
<input type="checkbox"/> CBS URL 2	CBS URL 2	Cost breakdown structure	URL	No
<input type="checkbox"/> CBS URL 3	CBS URL 3	Cost breakdown structure	URL	No
<input type="checkbox"/> CBS URL 4	CBS URL 4	Cost breakdown structure	URL	No
<input type="checkbox"/> CBS URL 5	CBS URL 5	Cost breakdown structure	URL	No
<input type="checkbox"/> Estimating resources ...	Estimating resources ...	Estimating resources	None	No
<input type="checkbox"/> Estimating resources ...	Estimating resources ...	Estimating resources	None	No

These quick links are accessible in the CBS and can contain detailed information pertaining to the cost item and project, which can also link to external reports.

In the CBS cost item details attributes slide-out panel, the URL is concatenated to include the attributes defined. A link is included on a cost item that opens a new tab.



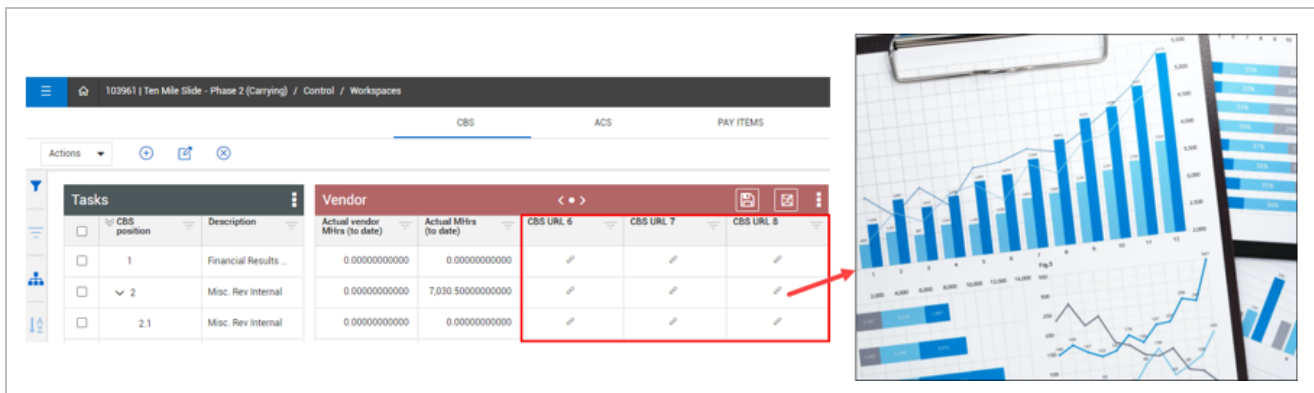
The links can also be accessed in the CBS register. Up to five CBS URL columns can be viewed in a data block in the CBS, per project.



At the organization level, CBS URL columns 6, 7, and 8 have been added to the CBS register. When you define a CBS URL, it is then applied to each of the organization's projects.

	List name	Label name	Associated entity ↑	Field values	Inherited from parent org
<input type="checkbox"/>	CBS tag 23	CBS tag 23	Cost breakdown structure	None	No
<input type="checkbox"/>	CBS tag 24	CBS tag 24	Cost breakdown structure	None	No
<input type="checkbox"/>	CBS tag 25	CBS tag 25	Cost breakdown structure	None	No
<input type="checkbox"/>	CBS URL 1	CBS URL 1	Cost breakdown structure	URL	No
<input type="checkbox"/>	CBS URL 2	CBS URL 2	Cost breakdown structure	URL	No
<input type="checkbox"/>	CBS URL 3	CBS URL 3	Cost breakdown structure	URL	No
<input type="checkbox"/>	CBS URL 4	CBS URL 4	Cost breakdown structure	URL	No
<input type="checkbox"/>	CBS URL 5	CBS URL 5	Cost breakdown structure	URL	No
<input checked="" type="checkbox"/>	CBS URL 6	CBS URL 6	Cost breakdown structure	URL	Yes ↑
<input checked="" type="checkbox"/>	CBS URL 7	CBS URL 7	Cost breakdown structure	URL	Yes ↑
<input checked="" type="checkbox"/>	CBS URL 8	CBS URL 8	Cost breakdown structure	URL	Yes ↑

Creating organization-level CBS URL links lets you associate shared documentation, such as external standard reports that are used across the organization. Instead of setting up links for every project, you can create a CBS URL link in Settings > Custom Lists.



12.2.9 ATTRIBUTE DEFINITIONS

Attribute Definitions are used to define project attributes which can be of the types text/date/number or can have source values from Organization, Project, and Market master data. These definitions are inherited to all projects in the organization.

Cancel Save

	*Fuel type	*Cost per UoM	*Currency	*UoM	Account code	
+	<input type="text" value="Enter fuel type name"/>	<input type="text"/>	USD - US Dollar	Select one	<input type="text" value="Start typing account code"/>	
	Gasoline	\$1.00000	USD - US Dollar	Gallon	71.06.32.016.02 - Turbine Enclosure - Install En...	✕

12.2.10 MENU OPTIONS

The below URL addresses specific to InEight products are updated when licenses are purchased or activated. The URLs are customer specific. The ability to maintain the URLs are intended for users with account admin only (root Org Setting) permissions. If no other products are purchased or activated, the URL opens an InEight related page to learn more about the products.

Menu links

Configure the URL addresses for your InEight Products

Product	* URL	* Target	
Model	https://ineight.com/solutions/virtual-design-constr...	New tab	▲
Document	https://ineight.com/solutions/collaborative-docum...	New tab	
Basis	http://my.basisplanning.com	New tab	▼

12.2.11 PROJECT TRACKING (ORGANIZATION & PROJECT LEVEL)

Under the Control tab, Project Tracking settings configure how your project tracks progress and percent complete in Control.

These settings include the following options:

- What level to lock down your CBS structure to
- What value to base percent complete off
- If percent complete are capped at or allowed to exceed 100%

12.2.11.3 TASKS

The first option in the Tasks Section lets you maintain your CBS structure at a specific level. Selecting yes, lets you determine your own CBS structure level.

Tasks

Maintain CBS Structure at a specific level? No

Level to Maintain CBS Structure at

Generate WBS phase code automatically? Yes

WBS Phase code generation method

WBS Phase codes start value

Enable manual snapshots [i](#)

Allow syncs to replace manual snapshots [i](#)

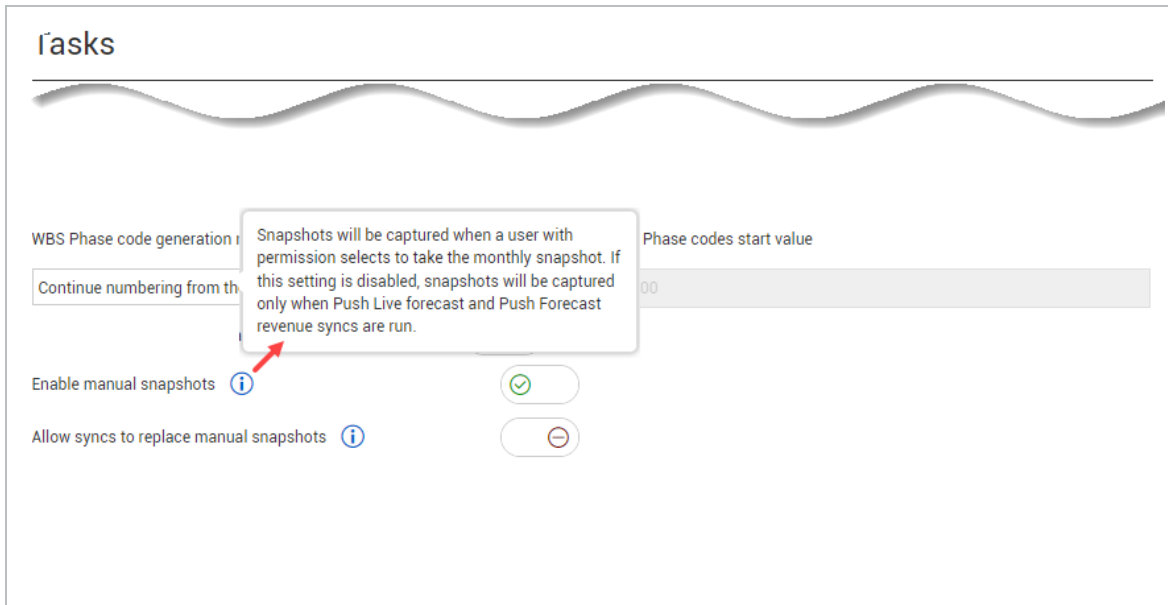
The second option is WBS Phase Code. Select Yes or No under the Generate WBS phase code automatically?

- Yes indicates phase codes for newly created cost items to be automatically generated
- The WBS Phase code generation method regenerates all values beginning from the specified start value
- The value entered in the WBS Phase code start value is the phase code for the first cost item created. When automatic phase code generation is activated, the proceeding new cost items is automatically created based on the phase code generation method selected.
- No indicates phase codes for newly created cost items must be manually entered

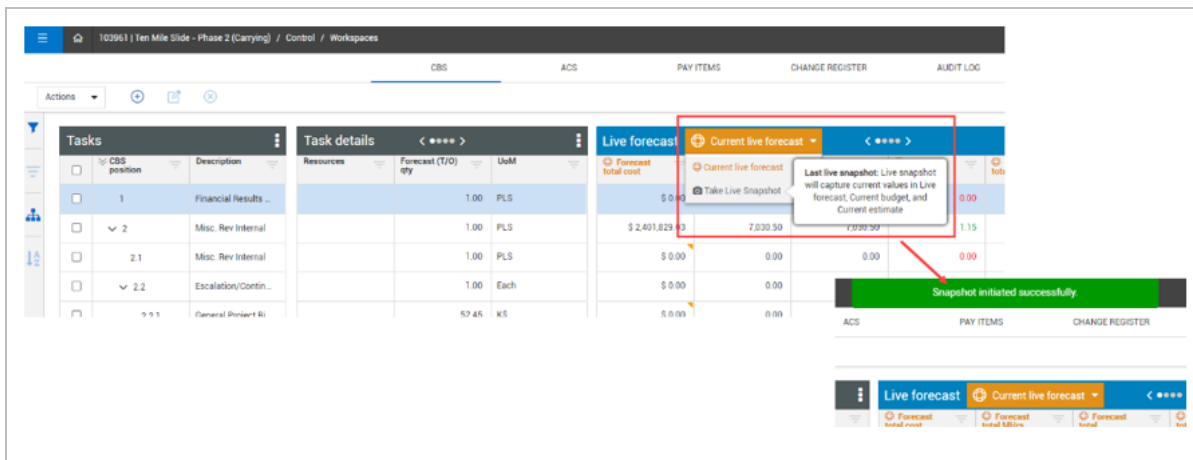
ENABLE MANUAL SNAPSHOTS

You can create a manual snapshot of Control project data in the CBS and Pay Items registers.

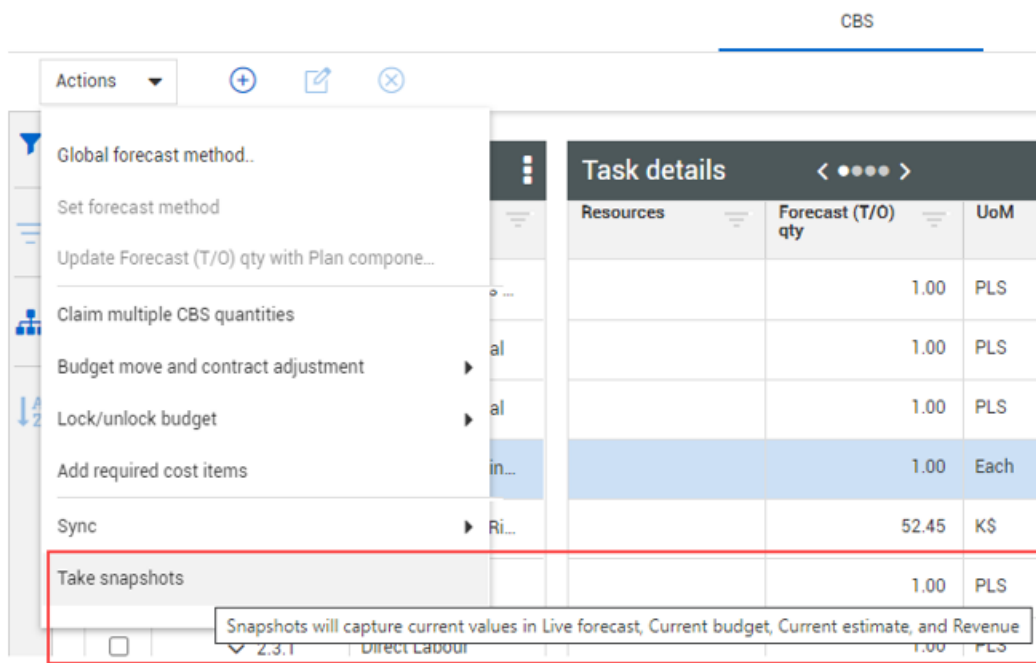
If you have the *Enable manual snapshots* setting enabled, you can create a snapshot at any point in time, separately from any of the above-mentioned syncs.



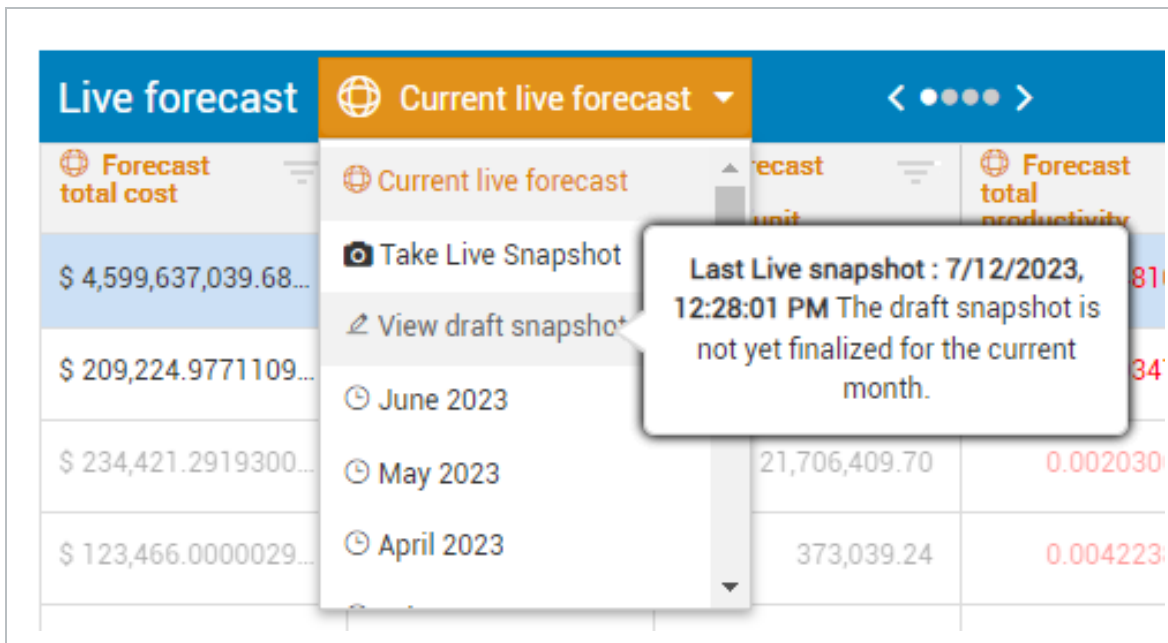
When the Enable Snapshots settings is enabled, you can select the **Take Live Snapshot** option from the Current Live Forecast drop-down menu in the CBS to capture current values in the Live Forecast, Current Budget and Current Estimate.



Snapshots can also be taken from the Actions menu.



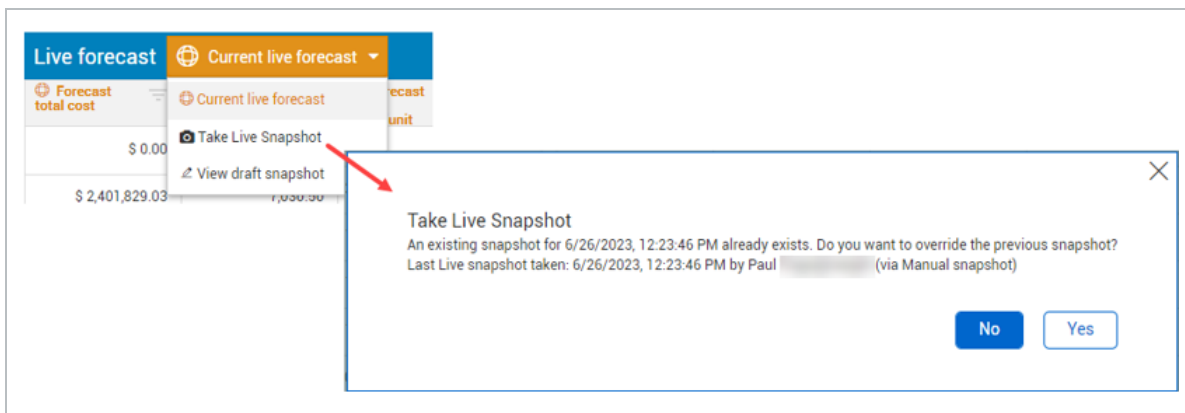
You can view the draft snapshot by selecting the View draft snapshot from the Current live forecast drop-down menu. This lets you know that the draft snapshot is not yet finalized for the current month.



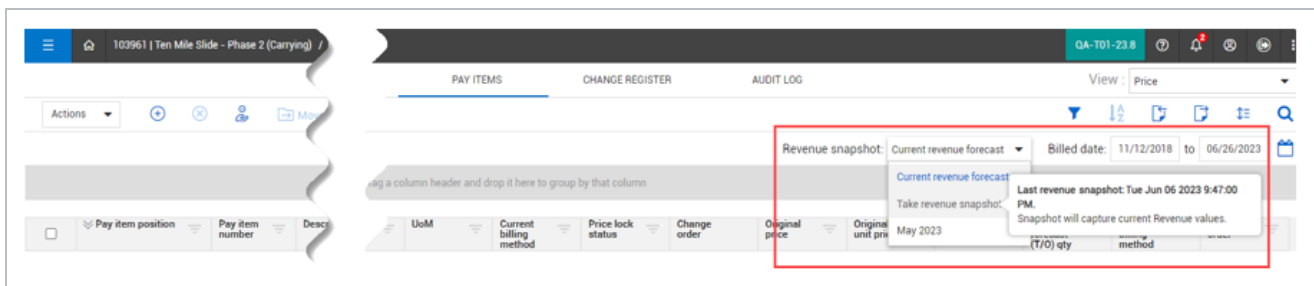
When you select **View draft snapshot**, the snapshot values load into the CBS in a read-only status.

Forecast total cost	Forecast total MHrs	Forecast total MHrs/unit	Forecast total productivity	Forecast total unit cost	Forecast method
\$ 0.00	0.00	0.00	0.00	\$ 0.00	Current estimate
\$ 2,401,829.03	7,030.50	7,030.50	1.15	\$ 2,401,829.03	Rollup
\$ 0.00	0.00	0.00	0.00	\$ 0.00	Manual (EAC)
\$ 0.00	0.00	0.00	0.00	\$ 0.00	Rollup
\$ 0.00	0.00	0.00	0.00	\$ 0.00	Manual (EAC)
\$ 705,957.35	3,821.00	3,821.00	1.38	\$ 705,957.35	Rollup
\$ 203,410.93	3,067.00	3,067.00	1.37	\$ 203,410.93	Rollup
\$ 15,337.63	268.00	268.00	1.45	\$ 15,337.63	Rollup
\$ 2,478.22	46.00	0.02	1.30	\$ 0.99	Average performan...
\$ 2,946.01	49.00	4.45	3.18	\$ 267.82	Manual (EAC)

When you select the **Take Live Snapshot** menu-option, consecutively, a message lets you know that an existing snapshot already exists and a choice to override the previous snapshot.

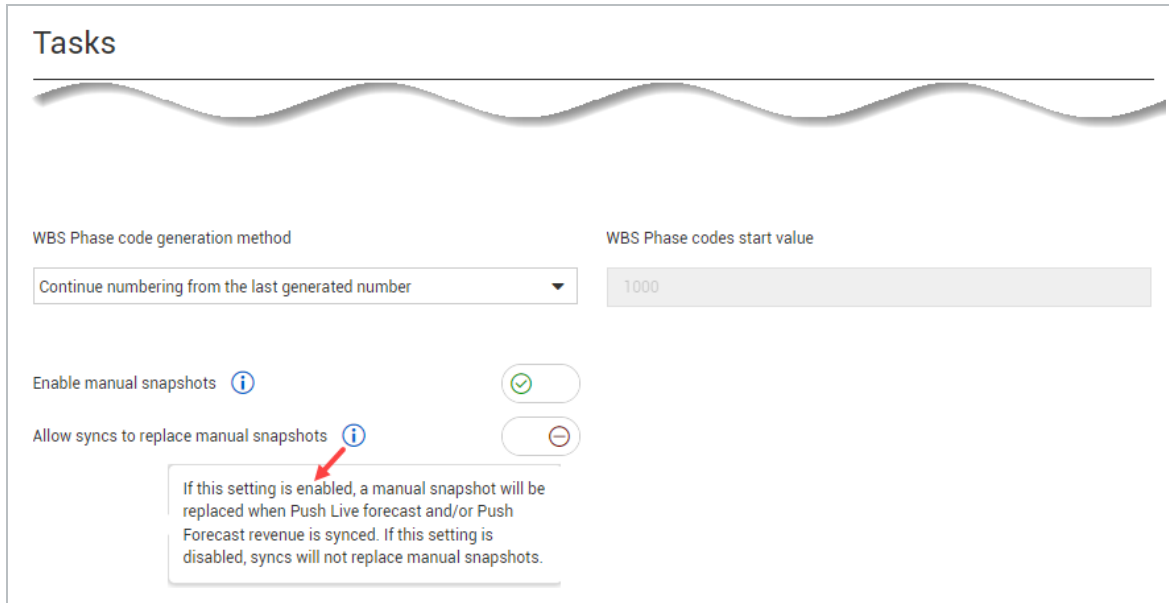


The same snapshot functionality now exists in Pay Items, with the exact same option.



ALLOW SYNCES TO REPLACE SNAPSHOTS

When the *Enable manual snapshots* and the *Allow syncs to replace manual snapshots* toggle is turned on, the manual snapshot is replaced when the Push Live Forecast and/or Push Forecast revenue is synced. If this setting is disabled, syncs are replaced with manual snapshots.



12.2.11.4 ACTUALS

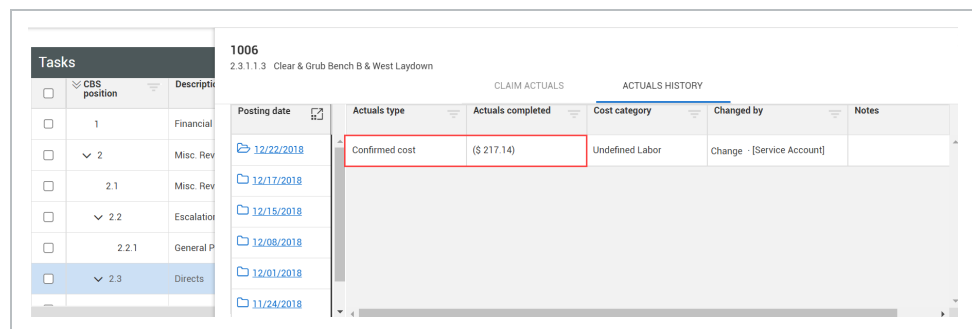
The image and table below give a brief explanation of Project Tracking: Actuals settings.

Overview - Project Tracking: Actuals

Title		Function
1	Calculate % complete	Calculate percent complete for individual cost items as a percentage of: <ul style="list-style-type: none"> • Forecast (T/O) Quantity • Current Budget Quantity
2	% complete cap	Cap any cost item percent complete at 100%
3	Calculating roll-up method	Calculate percent complete for roll-ups, such as superior cost items and account codes by Cost or Manhours
4	Roll-up %	Roll-up percent complete weighted by

Overview - Project Tracking: Actuals (continued)

Title	Function
complete	<ul style="list-style-type: none"> • Current Budget • Current Estimate
5 Calculate man hours earned at the parent level by...	<p>Calculate man-hours earned for roll-up items by summing the man-hours earned of the contributing items (regardless of roll-up items percent complete).</p> <p>Option 1: The summation of man hours earned from direct child items</p> <p>Option 2: The total man hours multiplied by percent complete</p>
6 Get actual cost from Contract	<p>When turned on, the subcontract actual cost is received from Contracts. Actual costs from Contract can consist of a goods receipt, an accrual, or an invoice receipt/payment form. If a goods receipt and an invoice receipt come in at the same time for a record, the higher cost is recognized and not duplicated.</p>
7 Drive committed cost values from Contract	<p>When turned on, the committed costs is driven from Contracts. When turned off, committed costs are derived from the ERP.</p>
8a Update % complete from Contract	<p>Quantities that are claimed in Contract for SOV items updates the percent complete in Control when the Update % complete from Contract switch is enabled. Updating the percent complete provides you with another way to claim quantities against schedule of value items in Contract.</p> <p>When quantities are claimed against a schedule of values item in Contract and the Get quantities sync is executed in Control, the cost items actuals quantity completed gets updated with a percentage claimed toward the contract's schedule value total cost.</p>



Overview - Project Tracking: Actuals (continued)

	Title	Function
8b	Calculate percent complete for individual cost items as a percentage of	Calculate the percent complete for individual cost items as a percentage of <ul style="list-style-type: none"> • Current estimate total cost • Committed total cost • Forecast total cost • Current estimate total cost

Actuals

Calculate percent complete for individual cost items as a percentage of Cap percent complete at 100%

1

2

Calculate percent complete for roll-up items such as superior cost items and account code by: Roll-up percent complete weighted by **4**

3

Calculate man hours earned at the parent level by **5**

The summation of man hours earned from direct child items
 The total man hours multiplied by percent complete

Get actual cost from Contract **6**

Drive committed cost values from Contract **7**

Update % complete from Contract **8 A**

Calculate percent complete for individual cost items as a percentage of **8 B**

Current budget total cost

Committed total cost

Forecast total cost

Current estimate total cost

12.2.11.5 ESTIMATED ACTUALS

This feature allows estimated actuals to be accrued to a cost item, then used to contribute to the forecast. This results in the forecast being more accurate. The estimated actuals are calculated based on the cost category values associated to the cost items.

When **Turn on estimate actuals** is enabled, you can choose to turn on or off estimated actuals based on the cost category. You can enable estimated actuals in both Control and InEight Progress.

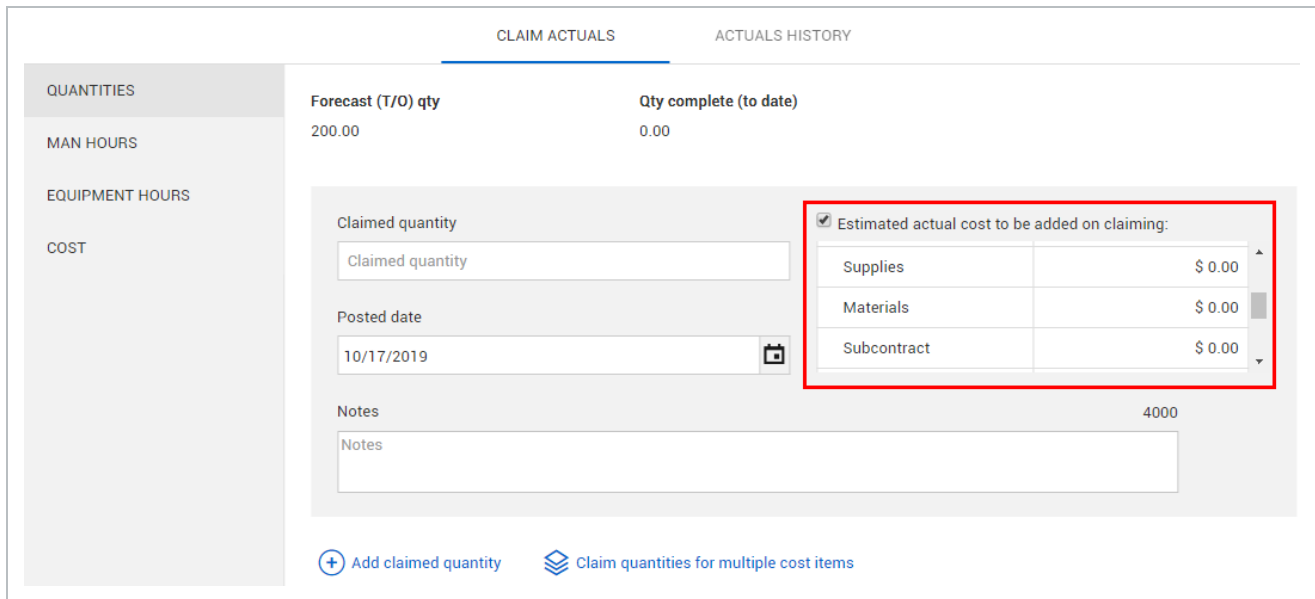
When any one of the following cost categories are enabled, the Claim Actuals tab shows the option when claiming quantity to accrue estimated cost based on the amount claimed.

Estimated actuals

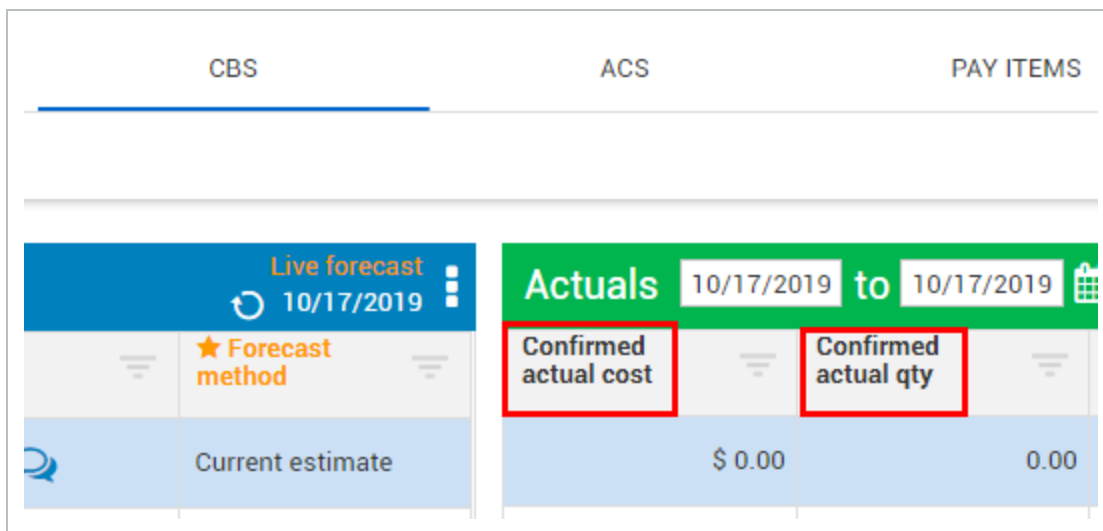
Turn on estimated actuals:

Actual type	Enable estimated actuals for:	
	Control	Progress
Labor cost	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Labor man hours	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Construction Equipment cost	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Construction equipment hours	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
FOM Rented Equipment cost	<input checked="" type="checkbox"/>	
Supplies cost	<input checked="" type="checkbox"/>	
Materials cost	<input checked="" type="checkbox"/>	
Subcontract cost	<input checked="" type="checkbox"/>	
Fees cost	<input checked="" type="checkbox"/>	
Allowance cost	<input checked="" type="checkbox"/>	
G & A cost	<input checked="" type="checkbox"/>	
Undefined cost	<input checked="" type="checkbox"/>	

You access the Claim actuals tab from the Control > Workspaces page by right-clicking the cost item on the CBS tab and selecting Actuals details. The Actuals details slide-out panel is then shown where you can select the estimated actuals option.



On the CBS tab, the estimated actuals are shown as columns. These values can be added to the Confirmed actuals (actuals that were imported into Control or manually entered in Control) to get all the actuals for the project that are available. This helps you more accurately forecast your project.



12.2.11.6 ENABLING ACTUALS FOR PROGRESS

Using an example for Progress, if you have labor cost and man hours enabled for Progress and there is an improved daily plan in Progress, those man-hours go over to Control automatically as estimated

man-hours. Then, those man-hours generate an estimated cost based on the operational rates for that resource. In this case, it would be using the Straight time rate, the Double time rate, and the Over time rate.

The same process can happen for construction equipment and equipment hours. For example, if you claim equipment hours in Progress and they are in an approved daily plan, then those hours go over to Control as estimated equipment hours. The operational and equipment resources also have a unit cost. Those hours times for that unit cost can then be used to generate an estimated construction equipment cost.

12.2.11.7 ENABLING ACTUALS FOR CONTROL

If man-hours and equipment hours are enabled, then you claim a quantity, it can generate estimated man-hours and equipment hours if there are CE amounts on those hours. For example, CE man hours per unit and CE equipment hours per unit can be estimated. If those are nonzero and you claim quantity, then the estimated man hours and equipment hours are generated.

Tasks				< + >							
<input type="checkbox"/>	CBS position	Description	WBS phase code	Hrs (to date)	Equipment hours (to date)	Estimated actual cost	Estimated actual man hours	Estimated actual equipment	CE Mhrs/Unit	CE equipment-Hrs/Unit	Last estimated actual man hours reversal
<input type="checkbox"/>	41	Cost item 1	01	0.00	0.00	\$ 0.00	0.00	0.00	0.00	0.00	0.00
<input type="checkbox"/>	42	Cost item 2	02	0.00	0.00	\$ 0.00	0.00	0.00	0.00	0.00	0.00
<input type="checkbox"/>	43	Cost item 3	03	100.00	0.00	\$ 0.00	0.00	0.00	10.00	1.00	03/29/2021 3 07 2
<input type="checkbox"/>	44	Cost item 4	04	0.00	0.00	\$ 0.00	0.00	0.00	0.00	0.00	0.00

If you do not have estimated actuals enabled in the project settings, you do not see any of the Estimated actuals columns, and you also cannot add them to your view. Some of these columns are a direct correlation with Progress.

Some of these columns are also from Control. The columns from Progress generate actual man-hours and equipment hours from claimed quantity in Control. These columns come over directly from Control and they affect your forecasts. Any estimated man-hours are included in your man-hours to date and then the estimated actual cost is included in your total cost to date.

Your forecast equations look for total cost to date, man-hours to date, and equipment hours to date to generate forecasts.

12.2.11.8 ESTIMATED ACTUALS PROCESS OVERVIEW

When you have synced everything from Progress, it is now in your ERP system. You can then bring in the man-hours and equipment hours through the sync.

	Estimated actual cost	Estimated actual man hours	Estimated actual equipment	CE Mhrs/Unit	CE equipment-Hrs/Unit	Last estimated actual man hours reversal	Last estimated actual equip hours reversal	Issue
0	\$ 0.00	0.00	0.00	0.00	0.00			
0	\$ 0.00	0.00	0.00	0.00	0.00			
0	\$ 1,250.00	110.00	20.00	10.00	1.00	03/29/2021 3:07:2...	03/29/2021 3:08:7 ...	
0	\$ 0.00	0.00	0.00	0.00	0.00			

After the sync is completed, you can reverse the estimated actuals as they have been accounted for as confirmed actuals by bringing the actuals through the sync.

The Estimated columns are only general estimates. They are not confirmed hours until synced with an ERP or an external payroll system. With an ERP you can make changes to where you can have taxes added on which would raise the price for the estimated actuals. Estimated actuals that go into Control from Progress are not guaranteed to be 100% correct. Your ERP is what confirms the final cost.

12.2.11.9 REVERSING ESTIMATES

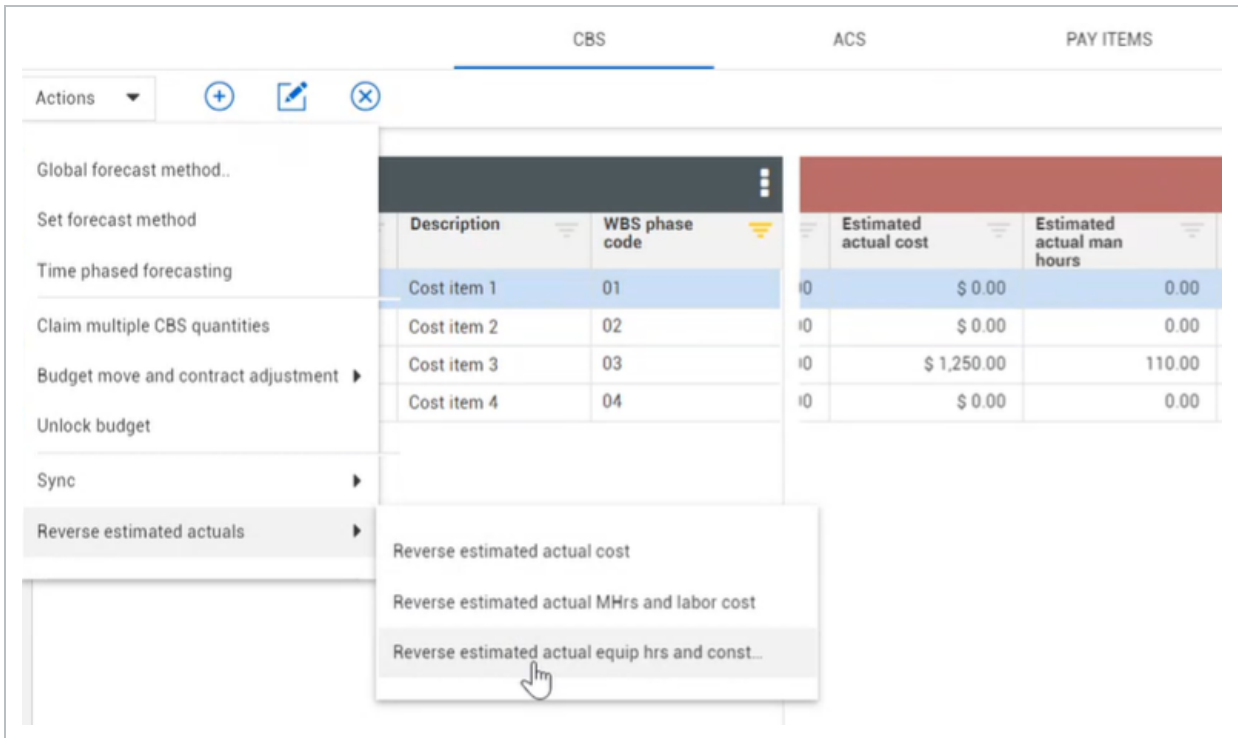
When you bring in values from your ERP system, you can reverse your estimates with the actual values as the replacement.

NOTE

If you keep the estimated values without reversing after syncing with ERP system, those values are detected as double values.

REVERSING ESTIMATED ACTUALS

1. From the CBS, select the cost items you want to revert actuals.
2. Select the Actions drop-down menu.
3. Hover over Reverse estimated actuals. Then, select **Reverse estimated actual equip hrs and const....**



4. Click **Yes** to confirm reversal.

You can also select Reverse estimated actual cost or Reverse estimated actual MHRs and labor cost.

5. In the CBS, look for the Last estimated actual man hours reversal or Last estimated actual equipment hours reversal columns.

Estimated actual cost	Estimated actual man hours	Estimated actual equipment	CE Mhrs/Unit	CE equipment-Hrs/Unit	Last estimated actual man hours reversal	Last estimated actual equip hours reversal	Issue
\$ 0.00	0.00	0.00	0.00	0.00			
\$ 0.00	0.00	0.00	0.00	0.00			
\$ 1,250.00	110.00	20.00	10.00	1.00	03/29/2021 3:07.2...	03/29/2021 3:08.7...	
\$ 0.00	0.00	0.00	0.00	0.00			

Those columns show the date of the last time you reversed the amount.

In the actual history, the reversal shows as negative entries when you have successfully reversed the estimated actuals.


12.2.11.10 TIME PHASING BUDGET

Time phasing your forecast lets you take your forecast and break it down into more consumable, estimate related time blocks/periods. This gives you more visibility into what activities and costs are going to occur in smaller time periods. Time Phasing is explained further within the Forecasting lesson, under Time Phased Forecasting.

Time phasing the budget lets you plan out where to spend money in the months of the active fiscal calendar for your project. Time Phased Budget is explained further within the Revenue lesson, under Time Phased Budget.

Time phasing

Enable time phasing for the following:

Budget 



Edit past Time phased budget values





12.2.12 FORECAST (ORGANIZATION & PROJECT LEVEL)


12.2.12.11 TIME PHASING



Time phasing your forecast lets you take your forecast and break it down into more consumable, estimate related time blocks/periods. This gives you more visibility into what activities and costs are going to occur in smaller time periods. Time Phasing is explained further within the Forecasting lesson, under Time Phased Forecasting.

Time phasing

Enable time phasing for the following:

Forecasting  

Push Time phased forecast to Live forecast 

Commitments  

12.2.12.12 FORECAST

The image and table below give a brief explanation of Project Tracking: Forecast.

Overview - Project Tracking: Forecast

Title	Function
<p>1 % complete for delta from straight-line</p>	<p>% complete threshold for delta from straight-line calculation:</p> <p>By configuring the value of % Complete threshold, you can determine the equation used for the Delta from Straight-Line column depending on if those cost items have their % complete greater than or less than the value set in configurations.</p> <p>Changing the threshold and impacting the formula is necessary because when a cost item has not been sufficiently completed, the actuals data is not yet reliable enough to predict the final anticipated cost (forecast cost) of that scope of work, so a different equation should be used until that cost item has been sufficiently completed.</p> <p>For example, if the threshold is 3% complete, and a cost item is less than 3%, then delta from straight line = Forecast total cost - CB total cost. Once the cost item has reached 3% complete, then the calc switches to Forecast total cost - Average performance total cost</p>

You can set manual forecast notes to be mandatory when switching to a manual forecast type. When the Mandatory notes for manual Forecasts switch is set to *On*, entering forecast notes is mandatory for Manual (EAC) and Manual (ETC) forecasts.

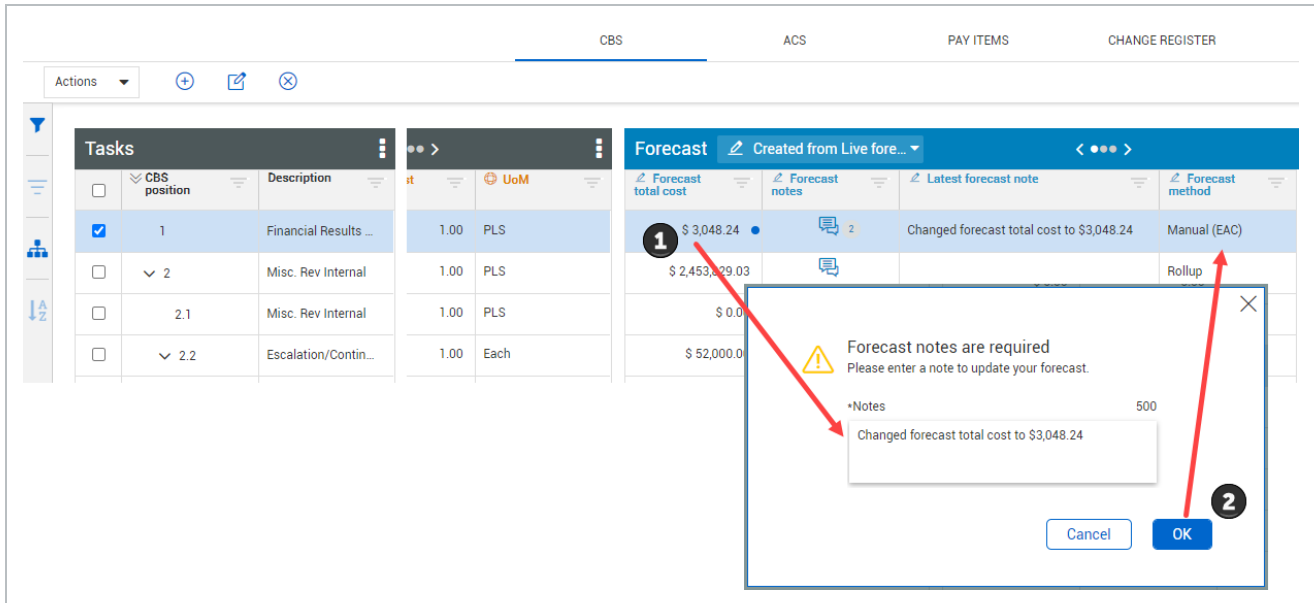
Forecast

% complete value at which delta from straight line calculation utilizes average performance

Mandatory notes for Manual forecasts i

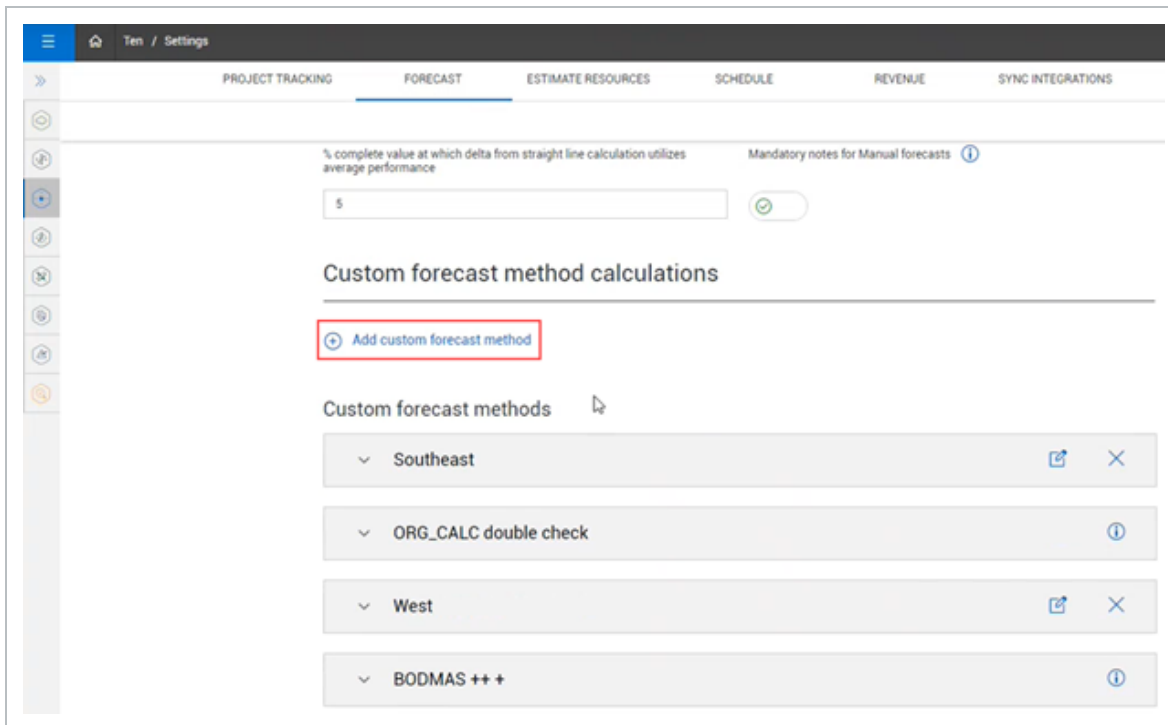
When manually forecasting, notes are required to be entered in the Forecast Notes dialog box. Once confirmed, the notes are captured, and the forecast method automatically changes to *Manual*.

This feature helps to keep track of manually entered forecasts. You can use the notes to explain the forecast. For example, you can enter a rationale for why a manual forecast is being used.



12.2.12.13 CUSTOM FORECAST METHOD CALCULATIONS

You can create custom forecast methods at both the project and organization levels by configuring your own calculations.



To create a custom Forecast Method, click Add custom forecast method, and then enter the Forecast Method Name, Forecast Total Cost and Forecast Total Mhrs calculations. You can create a maximum of 10 custom organization and project level forecast methods each at one time.

Select the **Formula** icon to choose fields to include in your forecast formula.

The screenshot shows the 'Add custom forecast method' dialog box. It has two steps: '1 Define calculations' and '2 Enable for cost items'. Under 'Define calculations', there are three fields: 'Forecast method name' (Midwest Forecast), 'Forecast total cost' (1000-4000+6000+3000+10), and 'Forecast total Mhrs' ([Actual eqp hrs (to date)]). A dropdown menu is open, showing a list of fields to choose from. A red arrow points from the dropdown menu to the 'Next' button.

In the CBS you can set the Custom Forecast Method for a cost item at the organization or project level, which updates the Forecast Total Cost and Forecast Total Mhrs based on the calculations created in Settings.

The screenshot shows the InEight Control interface for a project named 'Steel Structure Training Job | 105091'. The main view is the 'Forecast' table, which is divided into two sections: 'Tasks' and 'Forecast'. The 'Tasks' table lists various construction tasks with their CBS positions, descriptions, and WBS phase codes. The 'Forecast' table shows financial data for each task, including 'CB forecast total M/Hr G/L', 'Delta from straight line', 'Forecast notes', and 'Forecast method'. A dropdown menu is open for the 'Forecast method' column of task 4.1, showing options like 'Committed cost', 'Midwest Forecast', 'Northeast Forecast', '87S.JHR Forecast', and 'Canada West Region'.

Tasks	Forecast	InEight Control	Forecast notes	Forecast method		
CBS position	Description	WBS phase code	CB forecast total M/Hr G/L	Delta from straight line	Forecast notes	Forecast method
1	Job Overhead	1002	0.00	250,000.00		Current estimate
2	Earthwork	1069	-8,000.00	400,000.00		Current estimate
3	Concrete	1071	-30,000.00	1,500,000.00		Current estimate
4	Structural Steel	1073	-4,999.10	1,516,282.48		Rollup
4.1	Erect Steel - Heavy	1074	0.00	1,266,327.48		Canada West Region
4.2	Erect Steel - Light	1005	-4,000.00	200,000.00		
4.3	Bolted Connections	1006	-999.10	49,955.00		
5	Materials	1084	0.00	0.00		
5.1	Earthwork - Mater...	1085	0.00	0.00		
5.2	Concrete - Materi...	1086	0.00	0.00		
5.3	Structure Steel - ...	1087	0.00	0.00		
6		1088	0.00	0.00		

12.2.12.14 ENABLE FORECAST METHODS BASED ON ALLOW AS-BUILT SELECTIONS

Select which forecast methods can be used based on the allow as- built settings, for both terminal and non terminal cost items.

There are multiple forecast allow as-built options to choose from to help you configure your forecasted cost items, in addition to the existing available Control forecasting methods. When an option is disabled, that method is not available to select for cost items with the allow as-built selected.

Enable Forecast methods based on Allow as-built selections

Non-terminal cost items

When Allow as-built is set to *All or Cost*
Enable the following Forecast methods for non-terminal cost items when Allow as-built is set to *All or Cost*

Current estimate Manual (ETC)

Current budget Manual (EAC)

Average performance None

Committed cost Contract

Default Forecast method for non-terminal cost items when Allow as-built is set to *All or Cost*

Only enabled selections above are eligible. 'Manual (ETC)' and 'Manual (EAC)' cannot be default options.

When Allow as-built is set to *Quantity*
Enable the following Forecast methods for non-terminal cost items when Allow as-built is set to *Quantity*

Current estimate Manual (ETC)

Current budget Manual (EAC)

Average performance None

Default Forecast method for non-terminal cost items when Allow as-built is set to *Quantity*

Only enabled selections above are eligible. 'Manual (ETC)' and 'Manual (EAC)' cannot be default options.

When Allow as-built is set to *None*
Enable the following Forecast methods for non-terminal cost items when Allow as-built is set to *None*

Rollup None

Manual (ETC) Manual (EAC)

Default Forecast method for non-terminal cost items when Allow as-built is set to *None*

Only 'Rollup' may be the default option.

Terminal cost items

When Allow as-built is set to *All or Cost*
Enable the following Forecast methods for terminal cost items when Allow as-built is set to *All or Cost*

Current estimate Manual (ETC)

Current budget Manual (EAC)

Average performance None

Committed cost Contract

Detailed ETC

Default Forecast method for terminal cost items when Allow as-built is set to *All or Cost*

Only enabled selections above are eligible. 'Manual (ETC)' and 'Manual (EAC)' cannot be default options.

When Allow as-built is set to *Quantity*
Enable the following Forecast methods for terminal cost items when Allow as-built is set to *Quantity*

Current estimate Manual (ETC)

Current budget Manual (EAC)

Average performance None

Default Forecast method for terminal cost items when Allow as-built is set to *Quantity*

Only enabled selections above are eligible. 'Manual (ETC)' and 'Manual (EAC)' cannot be default options.

When Allow as-built is set to *None*
Enable the following Forecast methods for terminal cost items when Allow as-built is set to *None*

None

Default Forecast method for terminal cost items when Allow as-built is set to *None*

12.2.13 ESTIMATE RESOURCES (ORGANIZATION & PROJECT LEVEL)

The Wage rate composition determines what percentage of each labor hour will be calculated at the scale 1, scale 2, or scale 3 rate.

Wage rate composition

Scale 1

Scale 2

Scale 3

12.2.14 SCHEDULE (ORGANIZATION & PROJECT LEVEL)

Under the Schedule sub-tab, you can define the data source for your project's schedule using manual entry or import using and XER type file. You can also create custom cost curves to apply to your progressed work, based on actual costs and schedule. Plug day calculations and Schedule ID's are also maintained in the Schedule tab.

Define project schedule

Schedule data source:

Manual entry

Duplicate field values for Baseline and Current schedule columns:

- Schedule ID and Baseline schedule ID
- Scheduled and Baseline Scheduled
- Schedule WBS and Baseline schedule WBS
- Roll up schedule and Baseline roll up schedule

Cost curves

Customize cost curve tables

	Description	Data points
<input type="checkbox"/>	Back Loaded	2
<input type="checkbox"/>	Linear	
<input type="checkbox"/>	Employed	
<input type="checkbox"/>	Front Load	Plug days default rollup calculation
<input type="checkbox"/>	Bell Shape	Longest child

Plug Day Calculation

Front Load Plug days default rollup calculation

Schedule ID

Schedule ID settings will only affect newly created cost items

Schedule ID prefix

PS

Example schedule ID: PS.0000001

Schedule ID start value

0000001

Example schedule ID: PS.0000001

Define the delineator

Period

Example schedule ID: PS.0000001

12.2.15 REVENUE (PROJECT LEVEL)

12.2.15.15 REVENUE AND COST TIMING

Revenue and Cost Timing

Category	Retention	Tax	Payment timing	Next ... months
Labor cost	0.00 %	0.00 %	Same month	
Construction Equipment cost	0.00 %	0.00 %	Same month	
FOM Rented Equipment cost	0.00 %	0.00 %	Same month	
Supplies cost	0.00 %	0.00 %	Same month	
Materials cost	0.00 %	0.00 %	Same month	
Subcontract cost	0.00 %	0.00 %	Same month	

	Payment timing	Next ... months
Subcontract Retention released	Same month	
Client Retention released	Same month	

Average calendar days elapsed from billing to collection: End of project date: Project end date:

Enforce change order price values to match between Control and Change:

Billing method default earnings rules

Default cost item earnings amounts ⓘ

Fixed final price
Earnings amounts based on:
 Forecast (T/O) qty
 CE total cost

Unit price
Earnings amounts based on:
 Forecast (T/O) qty
 CE total cost

Pay item to Cost item Forecast (T/O) qty relationship

Enable pay item Forecast (T/O) qty rollups ⓘ Enable pay item Forecast (T/O) qty roll down ⓘ

Markup

Default markup percent:

Cost categories	Markup percent	Current estimate resources	Markup percent
Labor	0.00 %	Labor	0.00 %
Construction Equipment	0.00 %	Construction equipment	0.00 %
FOM Rented Equipment	0.00 %	Rented construction equipment	0.00 %
Supplies	0.00 %	Installed material	0.00 %
Materials	0.00 %	Installed equipment	0.00 %
Subcontract	0.00 %	Supplies	0.00 %
Fees	0.00 %		
Allowance	0.00 %		

Unique resources will apply markup percent by cost category

You can change the Retention percentage, Tax rate, and Payment Timing at the cost category level.

Revenue and Cost Timing

Category	Retention	Tax	Payment timing	Next __ months
Labor cost	5.00 %	0.00 %	Same month	
Construction Equipment cost	2.00 %	0.00 %	Same month	
FOM Rented Equipment cost	0.00 %	0.00 %	Same month	

You can set the average calendar days elapsed from the billing collection, in addition to setting the end of project date to any of the options available in the drop-down menu.

You can also enter a default retainage percent that is held back from each bill on the pay items. Pay item retainage creates an incentive for contractors to complete contracted work on a project. Typically, contractors do not get paid the total amount of money until all work or a set milestone is completed. With pay item retention, an agreed upon retainage percentage is held back by the owner for each bill by the client until the owner agrees to release the retention.

When changing the Default retainage percent setting you can choose to either update all existing items on a project, update matching existing pay items, or only apply to pay items created in the future.

Average calendar days elapsed from billing to collection

End of project date

Project end date ▼

- Project end date
- Forecast completion date
- Contract completion date
- Certificate of substantial completion (expected)
- Certificate of final completion (expected)

Default retainage percent

When it is time to bill for a pay item, the retainage percentage is used to automatically withhold the percentage of the bill specified in the Billed Revenue details slide-out panel. You can also see your adjusted net bill which excludes the retention withheld amount.

BILLED
RETENTION
BILLED HISTORY

Pending billable qty
144.00

Pending billable revenue
\$ 13,300.00

Retainage %
10.00 %

Billed revenue: \$ 100.00

Cost category: Undefined

Retention withheld: \$ 10.00
Net bill: \$ 90.00

On the Pay Items page, the Net billed revenue shows \$90.00, while \$10.00 is being withheld.

<input type="checkbox"/>	Pay item position	Pay item number	Description	Billed revenue	Retention released	Retention withheld	Net billed revenue	Retainage %	Billed qty	Reven... earned
<input type="checkbox"/>	1	001	Earthwork - Labor & Material	\$ 5,000.00	\$ 0.00	\$ 0.00	\$ 5,000.00	0.00 %	100.00	\$ 0.00
<input checked="" type="checkbox"/>	2	002	Concrete - Labor & Material	\$ 100.00	\$ 0.00	\$ 10.00	\$ 90.00	10.00 %	0.00	\$ 0.00
<input type="checkbox"/>	3	003	Steel - Labor & Material	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	0.00 %	0.00	\$ 32.28

You can also release and track your full or partial retention amounts in both Billed Revenue Details and Bill Multiple Pay Items, set a retention release date, then view the results in the Pay Item register.

BILLED
RETENTION
BILLED HISTORY

Retention withheld
\$ 0.00

Retention released (to date)
\$ 0.00

Retention released: \$ 10.00

* Retention released date: 02/28/2022

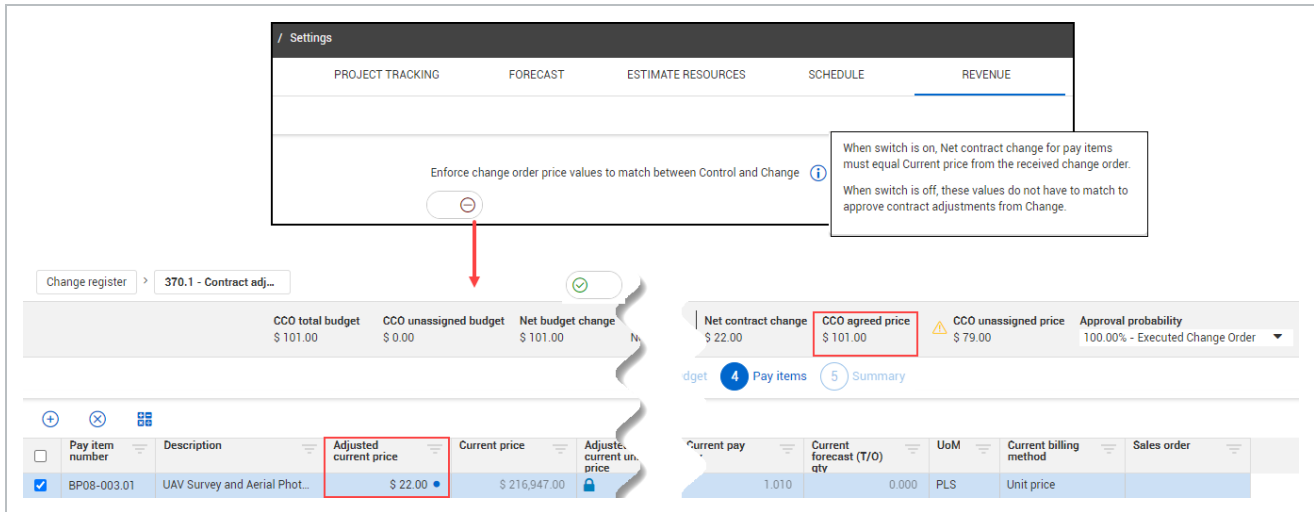
Notes: 250

Billed revenue	Retention released	Retention withheld	Net billed revenue	Retainage %
\$ 5,000.00	\$ 0.00	\$ 0.00	\$ 5,000.00	0.00 %
\$ 100.00	\$ 10.00	\$ 0.00	\$ 90.00	10.00 %
\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	0.00 %

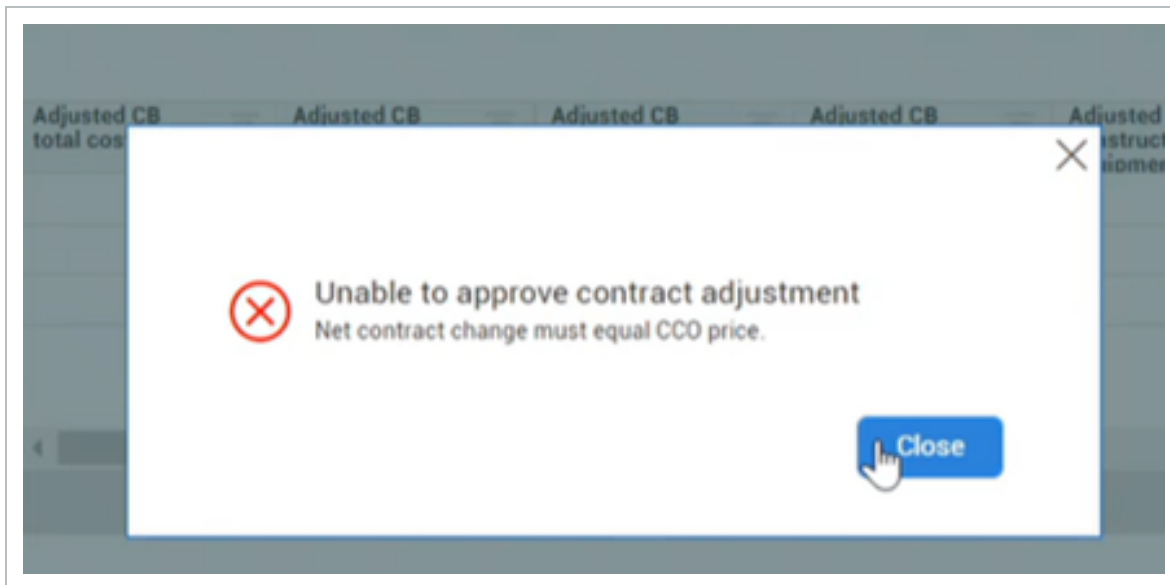
When approving contract adjustments from Change to Control, pay item amounts are not required to equal the amount received from Change if the Enforce change order price values to match between

Control and Change is turned off. In Settings > Control > **Revenue**, disabling the switch to the *Off* position is ideal when pay items are not being used in a contract adjustment.

The example below shows a CCO agreed price of \$101.00 and an Adjusted current price of \$22.00. When advancing to the Summary page, you can now approve the contract adjustment without the CCO agreed price and Adjusted current price matching.



When the Enforce change switch is enabled, the error message below stating that the contract adjustment cannot be approved shows when the Adjusted current price does not equal the CCO price.



12.2.15.16 BILLING METHOD DEFAULT EARNINGS RULES

You can also manage the settings for billing method default earning rules, pay item forecast quantity rollups, and the markups. You can select the default earnings amounts based on forecast takeoff quantity. The default earnings are calculated using the forecast takeoff quantity of the cost item and comparing it to the total forecast takeoff quantities of all of the cost items assigned to that pay item to generate the percentage.

The Fixed final price and Unit price settings let you select a default way to calculate those earnings amounts based on takeoff forecast quantity or CE final cost. After the settings are saved, all of your fixed final price pay items that normally calculate based on CE final cost and unit price then calculate forecast takeoff quantity or any of the other options you select. You can still modify this selection at the pay item level.

12.2.15.17 PAY ITEM FORECAST TAKEOFF QUANTITY ROLLUPS

In the Revenue tab, you can manage settings for Pay Item Forecast takeoff quantity rollups. This setting is used for pay item unit price only.

Pay item to Cost Relationship

Unit price pay item Forecast (T/O) quantities will rollup based on contributing cost items' Forecast (T/O) quantities

Enable pay item Forecast (T/O) qty rollups

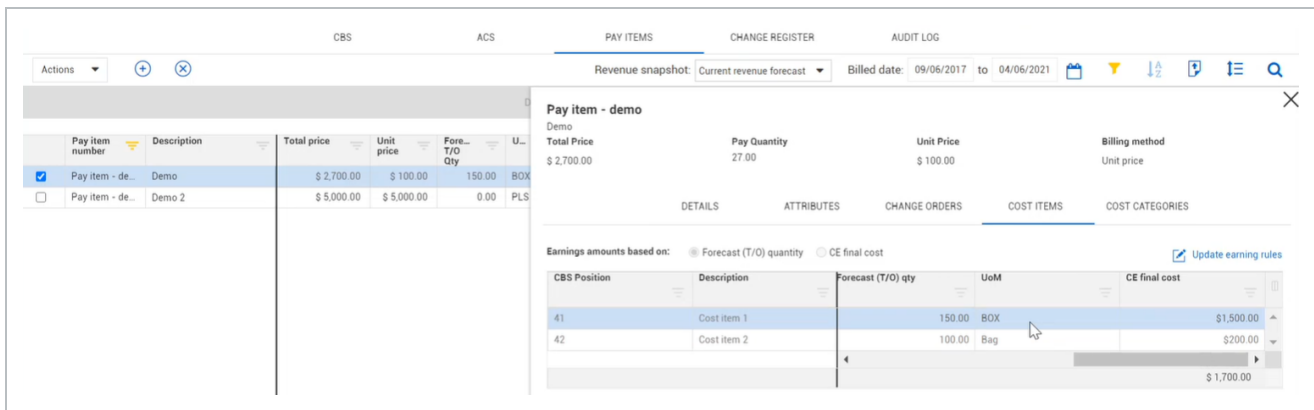
Enable pay item Forecast (T/O) qty roll down

The toggle is only applicable to unit price pay items. It lets you enable the pay item forecast take-off quantity to be calculated based on the sum of all the assigned cost items forecast takeoff quantities.

When enabled, you can no longer edit your pay item forecast takeoff quantity in the Pay item register. If you click a field, you can no longer edit that field.

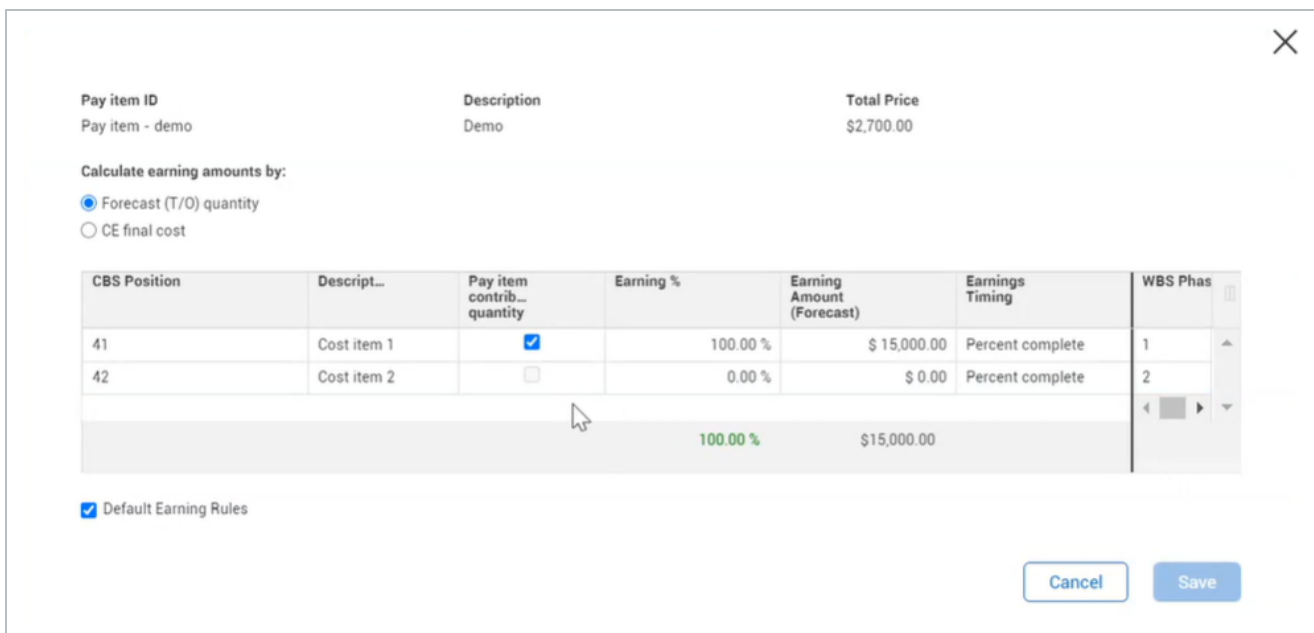
The Fixed final price and Cost plus values can be edited. The calculation is the sum of all the contributing cost item's forecast takeoff quantities. It can contribute to the pay item forecast if it has the same unit of measure.

For example, you cannot add unlike units of measure. Only cost items that have the same unit of measure as the pay item can contribute to that pay item's forecast takeoff quantity.



In the image above, the two cost items have different units of measure.

Cost item 1 has a unit of measure of box, which also has the pay item contribute quantity box checked. Cost item 2 has a unit of measure of bag with the pay item contribute quantity box unchecked. When you go into the update earning rules editor, you cannot check the pay item contribute quantity box for cost item 2 because the unit of measure does not match with cost item 1.



If you deselect the pay item contribute quantity box for cost item 1, the cost item's quantity does not contribute to the pay item's quantity. Then, the pay item quantity is zero. If it is checked, cost item 1 with the unit of measure of box has a forecast takeoff quantity of 150. This means the pay item also has a forecast takeoff quantity of 150.

In the CBS, you can change the Unit of Measure from bag to box, and then forecast take off quantity updates.

By default they both now have the pay item contribute quantity checked and the pay item forecast take off quantity is the sum of any cost items that have pay item contribute quantity checked.

CBS				ACS	PAY ITEMS	CHANGE REG
Actions + ✎ ✕						
Tasks				Task details		
<input type="checkbox"/>	CBS position	Description	WBS phase code	Resource	Forecast (T/O) quantity	UoM
<input type="checkbox"/>	41	Cost item 1	01		150.00	BOX
<input checked="" type="checkbox"/>	42	Cost item 2	02		100.00	Bag
<input type="checkbox"/>	43	Cost item 3	03		100.00	PLS
<input type="checkbox"/>	44	Cost item 4	04		1.00	PLS

For example, with cost item 2 updated, the forecast takeoff quantity from of 100 is added to the forecast takeoff quantity of cost item 1. The total forecast takeoff quantity is now 250. It includes both of them since they now both have a matching unit of measure.

Also, this affects you earnings percent as well if you have forecast takeoff quantity selected. The pay item contribute quantity for both cost items drives your earnings percent if the forecast takeoff quantity radio button is selected. It also decides which cost items are going to contribute to the pay item's forecast takeoff quantity.

NOTE

When you turn on the pay item forecast quantity rollups, the Pay item contribute quantity column does not show by default. To add it, go into the columns chooser, and then select that column. After it is brought into your view, it remains there until you deselect it from the columns chooser.

Pay item - demo

Demo

Total Price	Pay Quantity	Unit Price	Billing method
\$ 2,700.00	27.00	\$ 100.00	Unit price

DETAILS ATTRIBUTES CHANGE ORDERS **COST ITEMS** COST CATEGORIES

Earnings amounts based on: Forecast (T/O) quantity CE final **Pay item contribute quantity** [Update earning rules](#)

CBS Position	Description	Pay item contribute quantity	Earning %	Earning Amount (Forecast)
41	Cost item 1	<input type="checkbox"/>	60.00 %	\$ 15,000.00
42	Cost item 2	<input checked="" type="checkbox"/>	40.00 %	\$ 10,000.00
			100.00 %	\$25,000.00

When you are in the Update earnings rule dialog box, the Pay item contribute quantity column is a default column in that view because it column is editable in the Update earning rule dialog box. That column is not editable in the main table. You can only select to add it to your main table view in the pay item slide-out panel for informational purposes.

The Pay item contribute quantity column is not available if the setting is off or if you are looking at a unit price pay item. If the setting was turned on and a user brought in the column and then decided to turn that setting off, then those columns would disappear.

12.2.15.18 PAY ITEM FORECAST TAKEOFF QUANTITY ROLL DOWN

When the amount of contract deliverables changes on unit price contracts, manually updating all the quantities for every associated cost item can be time consuming. Pay item forecast take off quantity allocations can be proportionally rolled down to the assigned cost items by setting the Enable pay item Forecast (T/O) qty roll down switch to *On* in Settings > Control > **Revenue**.

Pay item to Cost item Forecast (T/O) qty relationship

Enable pay item Forecast (T/O) qty rollups ? **Enable pay item Forecast (T/O) qty roll down** ?

Unit price pay item Forecast (T/O) quantities will roll down to the contributing cost items' Forecast (T/O) quantities

The unit price pay item Forecast (T/O) quantities proportionally rolls down to the contributing cost items' Forecast (T/O) quantities. Pay item to cost item roll down changes also show in the CBS Audit log.

The screenshot displays two views of project data. The top view is a table with columns: Pay item position, Pay item number, Description, Current unit price, Current pay qty, Current forecast (T/O) qty, UoM, and Current billing method. The bottom view is a 'Task details' panel with columns: CBS position, Description, Resources, and Forecast (T/O) qty. A red arrow points from the 'Current forecast (T/O) qty' value of 8.000 in the top table to the 'Forecast (T/O) qty' value of 8.000 in the bottom table.

Pay item position	Pay item number	Description	Current unit price	Current pay qty	Current forecast (T/O) qty	UoM	Current billing method
3	BP	Office	\$ 124,730.58	1.000	8.000	PLS	Cost plus

CBS position	Description	Resources	Forecast (T/O) qty
2.1.1.1	Site ...		1.000
2.1.1.1.1	Site ...	6	73,181.000
2.1.1.1.2	Temp...	9	8.000

The Allow as-built setting must be set to *All* or *Quantity* for the selected cost items.

12.2.15.19 MARKUP

In Revenue tab, you can configure a default markup percent that applies the markup to the entire project. The Markup percent table adds a markup per cost category and per resource type on all of the cost categories in resources in the project.

PROJECT TRACKING ESTIMATE RESOURCES SCHEDULE **REVENUE** OTHERS

General
Capital
Control
Plan
Progress
Compliance
Contract
Change
Design

Markup

Default markup percent

0.00 %

Cost categories	Markup percent
Labor	0.00 %
Construction Equipment	0.00 %
FOM Rented Equipment	0.00 %
Supplies	0.00 %
Materials	0.00 %
Subcontract	0.00 %

Resources	Markup percent
Labor	0.00 %
Construction equipment	0.00 %
Rented construction equipment	0.00 %
Installed material	0.00 %
Installed equipment	0.00 %
Supplies	0.00 %

For example, if you added 10% to Labor resources, then any labor resources automatically have a 10% markup added to it and that affects the resources charge rate. Then that charge rate affects the amount of revenue that cost items can bill for and earn.

After you set labor at 10% and click Save, you are prompted with this dialog box confirming that you are making a change to an existing markup.

⌘

⚠ You are making a change to an existing cost category/resource markup on this project.

How would you like to proceed?

Update all existing cost categories and resources in the project.
This will change the current charge rates

Update matching existing cost categories and resources.
This will change the current charge rates for cost items they were modified

Only apply to cost items and resources created in the future

Cancel Confirm

From this dialog box, you can choose to update all existing cost categories. For this example, it adds 10% resource markup percent for all labor resources.

The option to update matching existing cost categories selection changes the current charge rates for cost items that were modified. Anything that has not been modified such as a labor resource that has not been manually modified, this option overrides it with 10%.

You can also specify whether to only apply cost items and resources created in the future. When selected, no changes are made to existing resources. Any newly created resources, in this example labor resources, have a 10% markup added to them.

Cost categories are applicable in plug cost items that do not have resources or are not resource-driven. The cost categories have only a blanket cost category markup that helps drive the total revenue amount on the cost item.

You can view this information from Markup columns such as Billing rate markup amount, CE billable amount, Markup amount, and CE revenue amount.

The screenshot displays a software interface for project cost management. On the left, a 'Tasks' table lists four cost items (41-44) with their descriptions and WBS phase codes. The main area shows details for '01 Cost item 1', including a progress indicator (50.00%), a 'Live forecast method' star, and a 'Latest actuals in forecast values' date of 03/25/2021. Below this is a 'COST CATEGORIES' table with columns for 'Current budget', 'Total cost (to date)', 'Current estimate', 'Live forecast', 'Forecast remaining cost', and 'Billing rate markup amount'. A dropdown menu is open over the 'Forecast remaining cost' column, showing several options: 'Forecast remaining cost', 'Markup %', 'Open committed cost', 'Billing rate markup amount', 'CE billable amount', 'Markup amount', 'CE revenue amount', and 'Total committed cost'. The 'Billing rate markup amount', 'CE billable amount', and 'Markup amount' options are checked and highlighted with a red box.

The column Markup amount uses the following formula:

- Markup percent x your current estimate = markup amount.

The Billing rate markup amount, for plug cost items is always set to zero because you can only have a billing rate on resources. So if this is a detailed cost item, this is just showing your billing rate markup amount for all of those resources.

The column CE billable amount uses the following formula:

- The Current estimate amount + your Billing rate markup amount = CE billable amount.

The column CE revenue amount uses the following formula:

- The CE billable amount + your Markup amount = CE revenue amount.

The CE revenue amount is how much revenue a cost item can have. This is only applicable for cost plus pay items. You can apply markups on cost items and they do not affect the revenue on those cost items. The markups affect the revenue for cost plus pay items and any cost items that are assigned to cost plus pay items.

12.2.16 SYNC INTEGRATIONS (PROJECT LEVEL)

Schedule sync integrations to run at specific times such as Pushing the CBS structure or Pushing Billed Revenue.

Sync Integrations schedule

[+ Add sync schedule](#)

* Sync type:

* Time zone:

* Start Date:

* Time to run sync:

* Repeat: Never Daily Weekly Monthly

Scheduled syncs

Push CBS structure

Sync type: Push CBS structure
Time to run sync: 12:00 AM MST
Repeat: Never

Start date: 03/08/2022
Repeat on:
End: After 1 occurrence(s)

12.2.17 OTHERS (PROJECT LEVEL)

12.2.17.20 REQUIRED COST ITEMS

You can prevent the project from syncing when required cost items are not included by setting the *Prevent project from syncing if required cost items are not added toggle* to Yes.

Required cost items

Prevent project from syncing if required cost items are not added

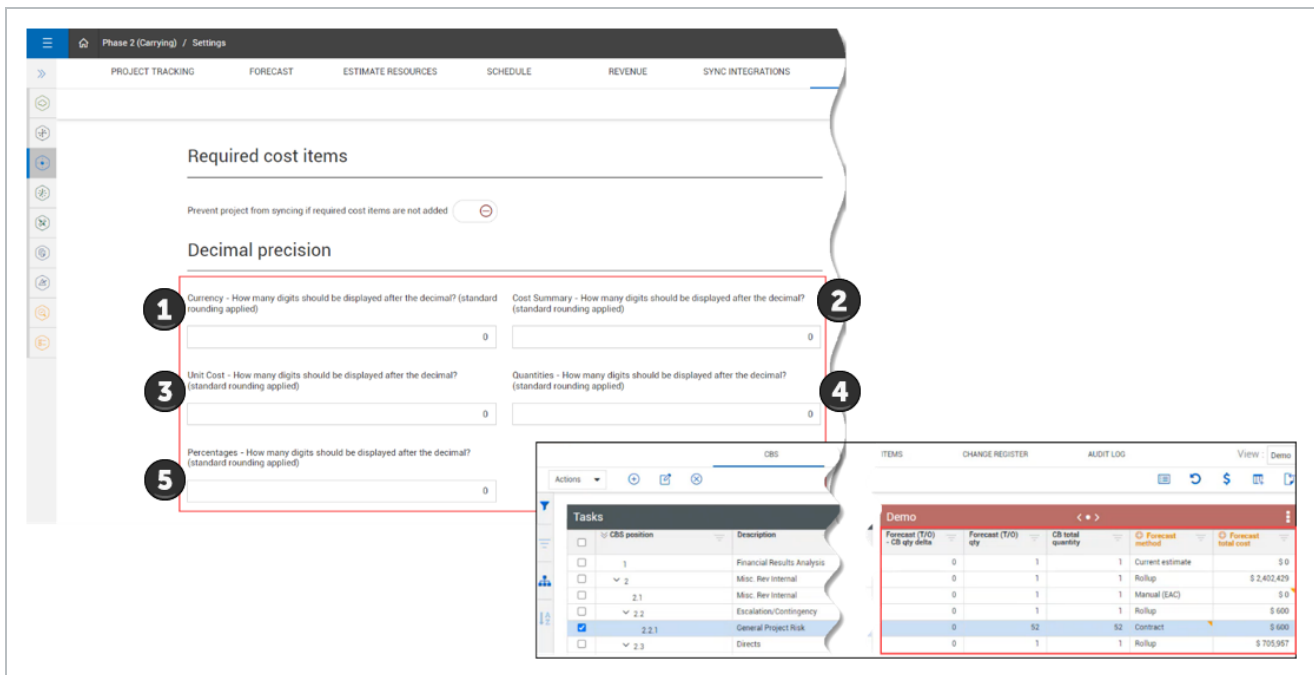
12.2.17.21 DECIMAL PRECISION

The image and table below summarize the different decimal precision options:

Overview - Decimal Precision

Name		Function
1	Currency	Number of decimal places for currencies. Any field that includes currency data will be affected by this setting.
2	Cost Summary	Number of decimal places for total cost information both at the terminal and non-terminal level.
3	Unit Cost	Number of decimal places for any unit cost displayed.
4	Quantities	Number of decimal places for any quantities displayed.
5	Percentages	Percent complete calculations at both the terminal and non-terminal level.

Numeric fields can be configured to omit decimals for currency, unit cost, percentages, cost summary and quantities.



12.2.18 OTHERS (ORG LEVEL)

12.2.18.22 REQUIRED COST ITEMS

A *Prevent project from syncing if required cost items are not added* toggle has been added to prevent the project from syncing if required cost items are not added. The Required cost items feature lets you create standardized or most commonly used cost items at the organization level and then add them at the project CBS level.

Required cost items ?

Prevent project from syncing if required cost items are not added ⊖

+ ✍ ✕

<input type="checkbox"/>	Description	WBS phase code	UoM	Account code	Allow as-built
<input type="checkbox"/>	NewRequiredTest	NewRequiredTest	Acre		None
<input type="checkbox"/>	RCL_1	888888	Bag1		All
<input type="checkbox"/>	RCL_2	58900	cm2	00.03.02.008	All
<input type="checkbox"/>	RequiredTest1233434	9834343	Acre	00.03.01.004.5thr...	None
<input type="checkbox"/>	RQCL_1	56789	Barrel		All

12.2.18.23 CHANGE ORDER DETAILS

Change Order fields can be configured as validated drop-down list fields at the organization level.

After the toggle is set to *On*, the Discipline, Issue #, and CCO fields are validated in the drop-down list values. When the toggle is set to *Off*, these fields are free text fields with no validations.

In the example below, six validated issues have been selected to be associated with this change order after it is submitted.

PROJECT TRACKING FORECAST ESTIMATE RESOURCES SCHEDULE OTHERS

Required cost items ?

Prevent project from syncing if required cost items are not added

<input type="checkbox"/>	Description	WBS phase code	UoM	Account code	Allow as-built
<input type="checkbox"/>	RCL_1	888888	Bag		All
<input type="checkbox"/>	RCL_2	58900	cm2		All
<input type="checkbox"/>	RequiredTest1233434	9834343	Acre	00.03.01.004.5thr...	None
<input type="checkbox"/>	RQCL_1	56789	Barrel		All
<input type="checkbox"/>	RQCL_12	7788990	Bag	00.03.01.004	None

Change order details

Make fields validated dropdowns

Choose your Budget move workflow

Associated
Define Budget moves with a From and To process to provide ultimate traceability of budget moves.

Non-Associated

Budget move description

Issue #

Discipline

Change management tag 1

Change management user defined 1

Associated Issues

Search

<input type="checkbox"/>	Issue ID	Issue name
<input checked="" type="checkbox"/>	11	test issue
<input checked="" type="checkbox"/>	10	issue - demo
<input checked="" type="checkbox"/>	9	Asbestos removal
<input checked="" type="checkbox"/>	8	Extra camera request
<input checked="" type="checkbox"/>	7	Frayed cable
<input checked="" type="checkbox"/>	5	Schedule delay
<input type="checkbox"/>	4	Cracked concrete
<input type="checkbox"/>	3	Broken valve
<input type="checkbox"/>	2	Scope Increase
<input type="checkbox"/>	1	Feed motor on drill malfunction, procure M...

Clear Cancel Assign

CCC

Issue #

11 - test issue 10 - issue - demo 9 - Asbestos remo. 8 - Extra camera re. 7 - Frayed cable

5 - Schedule delay

Discipline

Change management tag 1

Change management user defined 1

REVIEW

1. How many administrative levels are there when you create a new role?
 - a. 1
 - b. 2
 - c. 3
 - d. 4

2. There are several options when setting up project tracking. What setting is NOT included in these options?
 - a. How import of your CBS structure will be configured
 - b. How percent complete for individual cost items will be calculated
 - c. Configuring and naming tags
 - d. Capping percent complete at 100%

SUMMARY

As a result of this lesson, you can:

- Create and manage InEight Control roles and permissions
- Navigate and define the different type of InEight Control project settings