

Estimate Help Topics



Release 20.2

Last Updated: 13 October 2025

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Release 20.2

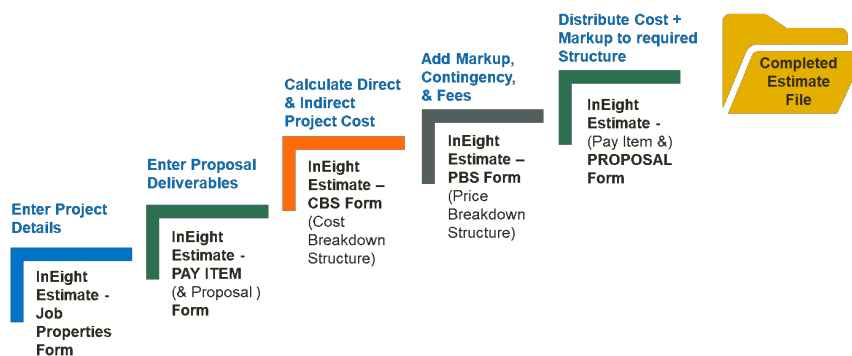
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Overview of the Estimating Process

The estimating process typically progresses through the following five steps. If you are an Owner you may not take part in all five of these steps, but may instead do a few in an iterative process as you progress through stage gate approval phases.

1. Enter project details.
2. Enter proposal deliverables.
3. Calculate Direct & Indirect Project Cost.
4. Add Markup, Contingency, & Fees.
5. Distribute Cost + Markup to required structure.

The below table displays how these five steps correspond with specific forms in InEight Estimate:



Note the forms used in InEight Estimate to accomplish the steps above:

- Job Properties
- Pay Item & Proposal
- CBS (Cost Breakdown Structure)
- PBS (Price Breakdown Structure)

The rest of this section walks you through an overview of each step in the process and its corresponding form in InEight Estimate.

Step 1 – Enter Project Details

When you decide to estimate a new project, the first step is to create a new estimate and set it up with the general project details. In InEight Estimate, you'll enter basic information and project specific settings in the Job Properties form from the Setup tab.

The Job Properties form is organized into tabs to help you keep track of all the basic information and settings for the project. It begins with the Overview tab. You will move from left to right entering your project specific information and adjusting any settings that differ from the default.

Step 2 – Enter Proposal Deliverables

For Contractors who are submitting a proposal to a client, this step enables you to enter the client provided deliverables clients are requesting pricing for. Most Owners will skip this step unless there is a need to track various funding sources or prepare for internal or external company billing.

In InEight Estimate this list of items is recorded in the Pay Item & Proposal Register on the Setup tab.

- Notice that your pay items have no pricing when first entered because you have yet to figure out costs. You will come back to this form later in the process to distribute your costs and markup.

Step 3 – Calculate Direct & Indirect Project Cost

Once you've set up your estimate, you will perform take-offs and cost analysis to determine the total estimated cost to complete the entire scope of work.

The Cost Breakdown Structure (CBS) Register is the main form where you will do your cost estimating.

- It is the hierarchy of work activities that make up the estimate
- Each row in the CBS represents a work activity and is called a cost item

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Allocated
	JOB		20.00	Mile	\$293,095.93	\$5,861,918.63	
	Prime Bond	PRIME BOND	1.00	Lump Sum	\$47,069.88	\$47,069.88	
	Price % Add-On	PRICE % ADD-ON	1.00	Lump Sum	\$294,928.95	\$294,928.95	
	Job Financing	FINANCE EXPENSE	1.00	Lump Sum	\$0.00	\$0.00	
	Indirect Cost Escalation	INDIRECT COST ESCAL...	1.00	Lump Sum	\$0.00	\$0.00	
	Direct Cost Escalation	DIRECT COST ESCALAT...	1.00	Lump Sum	\$18,837.35	\$18,837.35	
	Indirect Cost Add-On	INDIRECT COST ADD-ON	1.00	Lump Sum	\$0.00	\$0.00	
	Job Management & Equipment	JOB MANAGEMENT & E...	1.00	Lump Sum	\$157,086.28	\$157,086.28	
	General Expense	GENERAL EXPENSE	1.00	Lump Sum	\$4,200.00	\$4,200.00	
	Direct Cost Add-On	DIRECT COST ADD-ON	1.00	Lump Sum	\$104,301.10	\$104,301.10	
1	Mobilization	641 0100	1.00	Lump Sum	\$11,909.51	\$11,909.51	
2	Clearing & Grubbing	201 0102	10.00	Acre	\$5,918.50	\$59,184.97	
3	Unclassified Excavation	302 0183	50,000.00	Cubic Yard	\$4.68	\$233,915.81	
3.1	Excavation	3.1	50,000.00	Cubic Yard	\$3.00	\$149,922.88	
3.2	Embankment	3.2	50,000.00	Cubic Yard	\$1.68	\$83,992.94	
4	Aggregate Base	303 5912	45,000.00	Ton	\$15.40	\$692,928.99	
4.1	Furnish & Haul Base Material	4.1	45,000.00	Ton	\$11.54	\$519,513.30	
4.2	Finegrade Subgrade	4.2	400,000.00	Square Yard	\$0.19	\$75,848.36	
						\$5,861,918.63	

Step 4 – Add Markup, Contingency, & Fees

Once you have estimated all project costs, you may need to add markup, contingency or other fees and define the job's profit in the Price Breakdown Structure form.

Description	Assigned	Unassigned	Total	% of Target
▼ ▲ Price Breakdown Structure				
▼ ▲ Target Price	\$5,252,19...	\$645,755.99	\$5,897,950.68	100.00
▼ ▲ Markup	\$0.00	\$315,692.95	\$315,692.95	5.35
▼ ▲ Target Profit		\$0.00	\$0.00	0.00
▲ Indirect Cost Markup		\$0.00	\$0.00	0.00
▲ Direct Cost Markup		\$0.00	\$0.00	0.00
▼ ▲ Business Overhead	\$0.00	\$315,692.95	\$315,692.95	5.35
□□ Price % Add-On	\$0.00	\$265,407.78	\$265,407.78	4.50
□□ Job Financing	\$0.00	\$33,105.26	\$33,105.26	0.56
□□ Indirect Cost Escala...	\$0.00	\$2,131.11	\$2,131.11	0.04
□□ Direct Cost Escalation	\$0.00	\$15,048.80	\$15,048.80	0.26
□□ Business Overhead ...	\$0.00	\$0.00	\$0.00	0.00
▼ ▲ Total Cost	\$5,252,19...	\$330,063.05	\$5,582,257.73	94.65
▼ ▲ Indirect Cost	\$0.00	\$329,063.05	\$329,063.05	5.58
▼ ▲ Job Overhead	\$0.00	\$329,063.05	\$329,063.05	5.58
□□ Prime Bond	\$0.00	\$43,789.75	\$43,789.75	0.74
□□ Indirect Cost A...	\$0.00	\$5,888.67	\$5,888.67	0.10
□□ Direct Cost Add...	\$0.00	\$104,088.34	\$104,088.34	1.76
□□ Job Overhead I...	\$0.00	\$175,296.28	\$175,296.28	2.97
▼ ▲ Direct Cost	\$5,252,19...	\$1,000.00	\$5,253,194.68	89.07
□□ Direct Cost Items	\$5,252,19...	\$1,000.00	\$5,253,194.68	89.07

Step 5 – Distribute Cost + Markup to required Structure

You now have a target price or total estimated value that you can spread to your required project deliverables, back in the Pay Item & Proposal form. InEight Estimate has tools within this form to help automatically distribute your cost, overhead and all markups to the listed items.

Pay Item & Proposal Register																																																																																																																							
Proposal Recap - Training Job					Item Recap - 641 0100 Mobilization																																																																																																																		
	Current	Target	Forecast	Variance			Balanced Unit	Current Unit																																																																																																															
Price:	\$6,455,450.00	\$6,553,876.75	\$6,462,850.00	\$96,526.75	ADD	▲	Price:	\$18,300.00	\$386,800.00																																																																																																														
Profit:	\$546,294.64	\$642,821.40	\$604,568.97	\$78,252.43	ADD	▲	Profit:	\$2,049.63	\$70,561.39																																																																																																														
Margin%:	8.43	9.81	9.35	\$12,502.90	ADD	▲	Total Cost:	\$16,298.61	\$16,298.61																																																																																																														
							Business Overhead:	\$840.31																																																																																																															
							Job Overhead:	\$1,546.52																																																																																																															
							Unassigned Direct Cost:	\$2.26																																																																																																															
							Assigned Direct Cost:	\$11,999.51																																																																																																															
Drag columns here to group Find: Search Filter Saved Views: Standard View <table> <tr> <th>Pay Item Number</th> <th>Description</th> <th>Pay Quantity</th> <th>Forecast (Y/O)</th> <th>Unit of Measure</th> <th>Currency</th> <th>Unit Price (Current)</th> <th>Total Price (Current)</th> <th>Unit Price (Balanced)</th> <th>Total Price (Balanced)</th> </tr> <tr> <td>441 0100</td> <td>Mobilization</td> <td>1.00</td> <td>1.00</td> <td>Lump Sum</td> <td>U.S. Dollar</td> <td>\$386,800.00</td> <td>\$386,800.00</td> <td>\$18,300.00</td> <td>\$18,300.00</td> </tr> <tr> <td>201 0102</td> <td>Clearing & Grubbing</td> <td>10.00</td> <td>10.00</td> <td>Acres</td> <td>U.S. Dollar</td> <td>\$6,120.00</td> <td>\$61,200.00</td> <td>\$5,867.33</td> <td>\$58,673.33</td> </tr> <tr> <td>202 0183</td> <td>Undersized Excavation</td> <td>50,000.00</td> <td>50,000.00</td> <td>Cubic Yard</td> <td>U.S. Dollar</td> <td>\$8.50</td> <td>\$425,000.00</td> <td>\$6.31</td> <td>\$315,500.00</td> </tr> <tr> <td>303 5912</td> <td>Aggregate Base</td> <td>40,000.00</td> <td>40,000.00</td> <td></td> <td></td> <td>\$22.00</td> <td>\$880,000.00</td> <td>\$19.47</td> <td>\$778,800.00</td> </tr> <tr> <td>303 4263</td> <td>Asphalt Concrete Hot Mix Type A</td> <td>38,000.00</td> <td>38,000.00</td> <td></td> <td></td> <td>\$35.00</td> <td>\$1,330,000.00</td> <td>\$32.28</td> <td>\$1,196,440.00</td> </tr> <tr> <td>413(0) 0464</td> <td>36 Inch RCP Culvert Class III</td> <td>1.00</td> <td>1.00</td> <td></td> <td></td> <td>\$100.00</td> <td>\$100,000.00</td> <td>\$87.19</td> <td>\$87,190.00</td> </tr> <tr> <td>800 0220</td> <td>10 Inch PVC Force Main (SDR21)</td> <td>12,000.00</td> <td>12,000.00</td> <td>Linear Feet</td> <td>U.S. Dollar</td> <td>\$28.00</td> <td>\$336,000.00</td> <td>\$29.82</td> <td>\$357,840.00</td> </tr> <tr> <td>800 0330</td> <td>24 Inch PVC Gravity Sewer (SDR35)</td> <td>3,000.00</td> <td>3,000.00</td> <td>Linear Feet</td> <td>U.S. Dollar</td> <td>\$64.00</td> <td>\$192,000.00</td> <td>\$64.12</td> <td>\$192,360.00</td> </tr> <tr> <td>800 0400</td> <td>4 Foot Diameter Handhole</td> <td>16.00</td> <td>16.00</td> <td>Each</td> <td>U.S. Dollar</td> <td>\$44,500.00</td> <td>\$712,000.00</td> <td>\$44,579.64</td> <td>\$713,274.24</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>\$6,455,450.00</td> <td></td> <td>\$6,553,876.75</td> </tr> </table>										Pay Item Number	Description	Pay Quantity	Forecast (Y/O)	Unit of Measure	Currency	Unit Price (Current)	Total Price (Current)	Unit Price (Balanced)	Total Price (Balanced)	441 0100	Mobilization	1.00	1.00	Lump Sum	U.S. Dollar	\$386,800.00	\$386,800.00	\$18,300.00	\$18,300.00	201 0102	Clearing & Grubbing	10.00	10.00	Acres	U.S. Dollar	\$6,120.00	\$61,200.00	\$5,867.33	\$58,673.33	202 0183	Undersized Excavation	50,000.00	50,000.00	Cubic Yard	U.S. Dollar	\$8.50	\$425,000.00	\$6.31	\$315,500.00	303 5912	Aggregate Base	40,000.00	40,000.00			\$22.00	\$880,000.00	\$19.47	\$778,800.00	303 4263	Asphalt Concrete Hot Mix Type A	38,000.00	38,000.00			\$35.00	\$1,330,000.00	\$32.28	\$1,196,440.00	413(0) 0464	36 Inch RCP Culvert Class III	1.00	1.00			\$100.00	\$100,000.00	\$87.19	\$87,190.00	800 0220	10 Inch PVC Force Main (SDR21)	12,000.00	12,000.00	Linear Feet	U.S. Dollar	\$28.00	\$336,000.00	\$29.82	\$357,840.00	800 0330	24 Inch PVC Gravity Sewer (SDR35)	3,000.00	3,000.00	Linear Feet	U.S. Dollar	\$64.00	\$192,000.00	\$64.12	\$192,360.00	800 0400	4 Foot Diameter Handhole	16.00	16.00	Each	U.S. Dollar	\$44,500.00	\$712,000.00	\$44,579.64	\$713,274.24								\$6,455,450.00		\$6,553,876.75
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Key Concepts and Terms

To help you get started in InEight Estimate, you should know a few key terms:

- Job Folder
- Library
- Form
- Cost Item
- Pay Item
- Resource
- Assembly

Job Folder

Job folders hold all the information for an individual project estimate. It is possible to import master data into a job folder, but when you work in a job folder it is independent, meaning any activity performed in that folder will not affect any other jobs and will not affect the library.

When moving back and forth between jobs, make sure to always double-check that you are in the right job.

Library

The Library is a storehouse for master data, such as:

- Labor, equipment, and material unit cost rates
- Standard account codes
- Units of measure

When you create a new job from scratch, default data and settings copy from the Library into your new job folder, except for the resource rates. Multiple list of resource rates can be maintained in the library so you must select which rates to populate a new estimate with. Four tag fields are available to filter the resource rates you bring into an estimate from the master library. For example, you may select a subset of your labor rates based on the geographical location of the project.

Form

Any screen you open in InEight Estimate is considered a Form. There are three types of forms: Standard, Register, and Record forms.

Standard Forms resemble typical data entry forms with fields available to fill in key project information. They also may contain radio buttons or checkboxes to define settings for the job.

InEight Estimate uses tabs to group and organize entry fields and settings in a logical way, so that the information is easy to access.

Register Forms have a grid format of rows and columns, giving it a spreadsheet look and feel. Register forms allow you to see information for multiple items at once. The Cost Breakdown Structure (CBS) Register is an example of a register form.

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Allocated
1	Mobilization	641 0100	1.00	Lump Sum	\$11,909.51	\$11,909.51	
2	Clearing & Grubbing	201 0102	10.00	Acre	\$3,918.50	\$39,184.97	
3	Unclassified Excavation	202 0183	50,000.00	Cubic Yard	\$4.54	\$226,896.36	
3.1	Excavation	3.1	50,000.00	Cubic Yard	\$2.86	\$142,863.22	
3.2	Embankment	3.2	50,000.00	Cubic Yard	\$1.68	\$83,992.94	
4	Aggregate Base	303	1.00	Ton	\$15.40	\$692,026.99	
4.1	Furnish & Haul Base Material	4.1	1.00	Ton	\$11.54	\$519,513.30	
4.2	Primegrade Subgrade	4.2	1.00	Square Yard	\$0.19	\$79,946.36	
4.3	Install Aggregate Base	4.3	1.00	Ton	\$2.17	\$87,367.33	
4.3.1	Place Aggregate Base	4.3.1	45,000.00	Ton	\$1.63	\$72,865.92	
4.3.2	Blue Top Aggregate Base	4.3.2	400,000.00	Square Yard	\$0.06	\$24,106.42	
5	Asphalt Concrete Hot Mix Type A	303 4263	35,000.00	Ton	\$42.62	\$1,491,980.59	
5.1	Furnish & Haul Hot Mix	5.1	35,000.00	Ton	\$39.27	\$1,374,962.54	
5.2	Install Hot Mix Type A	5.2	35,000.00	Ton	\$3.34	\$117,018.05	
6	36 Inch RCP Culvert Class III	41303 0464	1,024.00	Linear Feet	\$67.54	\$69,199.49	
6.1	Furnish RCP Materials	6.1	1,024.00	Linear Feet	\$23.48	\$24,036.70	
6.2	Excavate RCP Trench	6.2	1,858.56	Cubic Yard	\$4.51	\$8,379.59	
6.3	Install RCP Pipe	6.3	1,024.00	Linear Feet	\$11.74	\$12,017.60	

In a register form, you can open a Record for individual items you want to drill into.

The Tab key is the best way to move among fields in InEight Estimate (instead of the Enter key).

The below figure displays a Cost Item Record accessed by double clicking on that item on the Cost Breakdown Structure (CBS) Register.

Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Qty
1	UT1		Teamster			
2	UT2		Dump Truck			
3	HR		Aggregate Base Rock	45,500.00	5.00	

Cost Item

Cost items are the individual cost-related activities that make up the project. Cost items are organized into a hierarchy in the Cost Breakdown Structure (CBS) Register. Each row in the CBS is considered a cost item.

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost
+ 1	Mobilization	641 0100	1.00	Lump Sum	\$11,909.51
+ 2	Clearing & Grubbing	201 0102	10.00	Acre	\$3,918.50
+ 3	Unclassified Excavation	202 0183	50,000.00	Cubic Yard	\$4.68
+ 3.1	Excavation	3.1	50,000.00	Cubic Yard	\$3.00
+ 3.2	Embankment	3.2	50,000.00	Cubic Yard	\$1.68
+ 4	Aggregate Base	303 5912	45,000.00	Ton	\$15.40
+ 4.1	Furnish & Haul Base Material	4.1	45,000.00	Ton	\$11.54
+ 4.2	Finergrade Subgrade	4.2	400,000.00	Square Yard	\$0.19
+ 4.3	Install Aggregate Base	4.3	45,000.00	Ton	\$2.17
+ 4.3.1	Place Aggregate Base	4.3.1	45,000.00	Ton	\$1.63
+ 4.3.2	Blue Top Aggregate Base	4.3.2	400,000.00	Square Yard	\$0.06

Pay Item

Pay items typically represent the owner required deliverables a contractor must submit pricing for. Pay items are used to distribute the cost calculated in the Cost Breakdown Structure, with all markup, including any fees or contingencies calculated in the Price Breakdown Structure. This allows the total estimate value to be distributed to a structure that is different than the CBS. Pay Items are pre-dominantly used by contractors to prepare a bid sheet. Owners may use pay items to identify funding sources or for various reporting needs.

Position Code	Pay Item Number	Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Measure	Currency	Unit Price (current)	Total Price (current)
→ 1	200	STEWORK & ROADWAY				U.S. Dollar		\$3,402,700.00
+ 1.1	641 0100	Mobilization	1.00	1.00	Lump Sum	U.S. Dollar	\$395,600.00	\$395,600.00
+ 1.2	201 0102	Clearing & Grubbing	10.00	10.00	Acre	U.S. Dollar	\$5,900.00	\$59,000.00
+ 1.3	202 0183	Unclassified Excavation	50,000.00	50,000.00	Cubic Yard	U.S. Dollar	\$5.50	\$275,000.00
+ 1.4	303 5912	Aggregate Base	40,000.00	45,000.00	Ton	U.S. Dollar	\$26.50	\$1,060,000.00
+ 1.5	303 4263	Asphalt Concrete Hot Mix Type A	38,000.00	35,000.00	Ton	U.S. Dollar	\$42.45	\$1,613,100.00
2	400	WATER & SEWER				U.S. Dollar		\$718,550.00
+ 2.1	413(B) 0464	36 Inch RCP Culvert Class III	1,000.00	1,024.00	Linear Feet	U.S. Dollar	\$97.45	\$97,450.00
+ 2.2	800 0220	10 Inch PVC Force Main (SDR21)	12,000.00	12,000.00	Linear Feet	U.S. Dollar	\$29.50	\$354,000.00

Resource

Resources are the building blocks of a detailed cost estimate.

Resources are the people, equipment, material, and supplies needed to complete the project. Resources are employed to cost items to develop an estimate, and are organized into seven categories or types:

1. Labor
2. Construction Equipment
3. Rented Construction Equipment
4. Installed Equipment
5. Installed Materials
6. Supplies
7. Unique

Resource Assembly

A Resource Assembly is a group of resources that are often used together. For example, for civil work, you may group together an operator foreman, operator, and laborer, along with a loader and excavator.

When estimating, you can employ this assembly which includes all of the pre-selected resources.

Resource Assembly Register ⓘ

Drag columns here to group

Code	%	Description	Resource File Description	Quantity	Unit of Measure	Unit Cost	Total Cost	Currency	Organizational Category	Geographic Area		
CCQNC		Concrete Crew	Standard Assembly File	1.00	Hour		\$375.03	\$375.03	U.S. Dollar	Concrete		
+	Row Number	Resource Code	Description	Quantity	Unit of Measure	Unit Cost	Currency	Cost Driver	Resource File Description	Organizational Category	Geographic Area	
	1	LC2	Carpenter Journeyman	2.00	Each	\$26.92	U.S. Dollar	CI Dura...	Standard Labor Rate File	Carpenter	Southwest	Wage Zon...
	2	LP2	Finisher	1.00	Each	\$28.07	U.S. Dollar	CI Dura...	Standard Labor Rate File	Finisher - Conc...	Southwest	Wage Zon...
	3	LWR1	Iron Worker	1.00	Each	\$35.55	U.S. Dollar	CI Dura...	Standard Labor Rate File	Iron Worker	Southwest	Wage Zon...
	4	LL2	Laborer	1.00	Each	\$26.37	U.S. Dollar	CI Dura...	Standard Labor Rate File	Laborer	Southwest	Wage Zon...
	5	ECRHC	Hydraulic Crane 25 Ton	1.00	Each	\$117.60	U.S. Dollar	CI Dura...	Standard Equipment Rate...	Crane		
	6	LC1	Carpenter Apprentice	1.00	Each	\$27.48	U.S. Dollar	CI Dura...	Standard Labor Rate File	Carpenter	Southwest	Wage Zon...
	7	LO2	Operator Class 2	1.00	Each	\$28.07	U.S. Dollar	CI Dura...	Standard Labor Rate File	Operator	Southwest	Wage Zon...
	8	ETPT	Flatbed Truck	1.00	Each	\$22.60	U.S. Dollar	CI Dura...	Standard Equipment Rate...	Truck		
9	LC3	Carpenter Foreman	1.00	Each	\$31.40	U.S. Dollar	CI Dura...	Standard Labor Rate File	Carpenter	Southwest	Wage Zon...	
+ CBADE		Grading Crew	Standard Assembly File	1.00	Hour		\$234.73	\$234.73	U.S. Dollar	Earthwork		
+ CMAINT		Equipment Maintenance	Standard Assembly File	1.00	Each		\$73.60	\$73.60	U.S. Dollar	Mechanic		
+ CPAVE		Paving Crew	Standard Assembly File	1.00	Hour		\$476.24	\$476.24	U.S. Dollar	Asphalt		

Cost Item Assembly

A Cost Item Assembly is a predefined group of cost items that has cost based on estimator inputs to a set of questions. Cost item assemblies provide parameter-driven estimating and can also refer to reference tables. They allow companies to create intelligent construction systems to automatically estimate various scopes of work, based upon a user providing specification and dimension variables.

Cost Item Assembly Register

Drag columns here to group

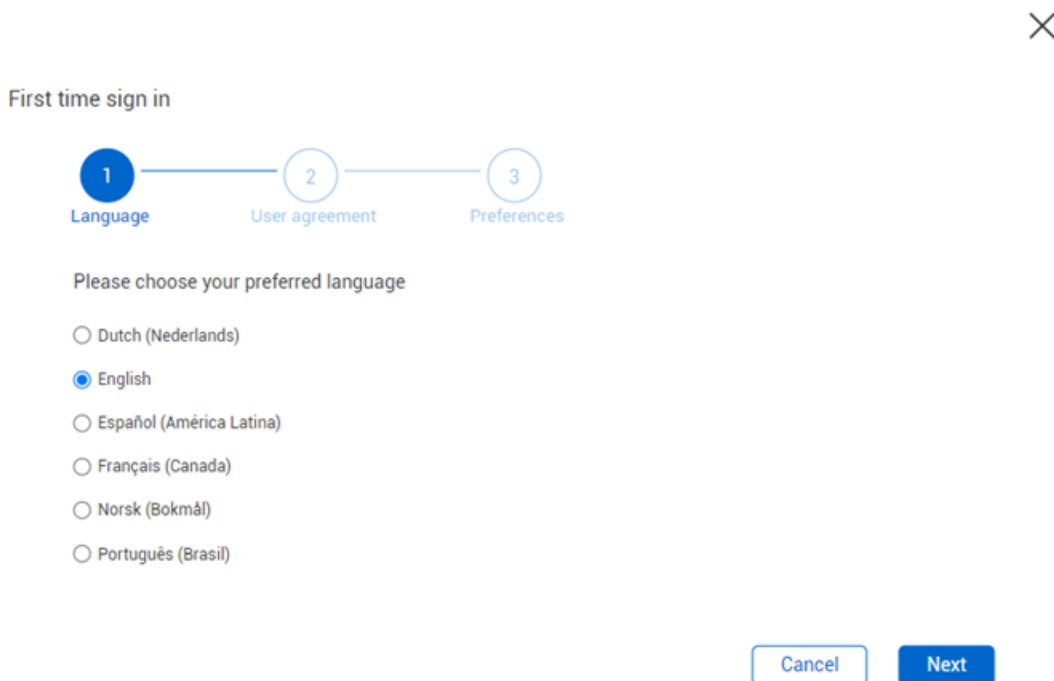
Code	Description	Assembly File Description	Default Quantity	Default Unit of Measure	Default Unit Cost	Default Total Cost	Default Currency	Organizational Category	Geographic Area	
RW01	Standard Retaining Wall Assembly	Standard Cost It...	20.00	Cubic Yard		\$424.67	\$8,493.38	U.S. Dollar	Concrete	
TEST	TEST		1.00	Each		\$0.00	\$0.00	U.S. Dollar		
TEST -DRG	Test Cost Item Assembly - Ductbank	Standard Cost It...	1.00	Each		\$0.00	\$0.00	U.S. Dollar	Concrete	Northeast
TEST DS	Test Cost Item Assembly - Ductbank	Standard Cost It...	1.00	Each		\$0.00	\$0.00	U.S. Dollar	Excavator	Southwest

General Navigation

As a new user to the InEight, the First-time sign in dialog box opens when you first sign in, and presents questions about your working environment in the Project Suite environment. Preferences are set for language, date, and number formats and the User Agreement, which you must accept before you begin. The First-time sign in dialog boxes only show for the initial sign-in to any of the InEight products.

Step by Step — Estimate preferences setup

1. Select your **preferred language**, and then click **Next**.



The image shows a 'First time sign in' dialog box. At the top right is a close button (X). Below the title is a progress bar with three steps: 1. Language (highlighted with a blue circle), 2. User agreement, and 3. Preferences. The main content area is titled 'Please choose your preferred language' and lists six radio button options: Dutch (Nederlands), English (selected with a blue dot), Español (América Latina), Français (Canada), Norsk (Bokmål), and Português (Brasil). At the bottom right are 'Cancel' and 'Next' buttons.

2. Scroll to the bottom of the user agreement, and then select the **check box** for the terms and conditions and privacy policy. **Click Next**.

Make sure you have scrolled to the end of the user agreement

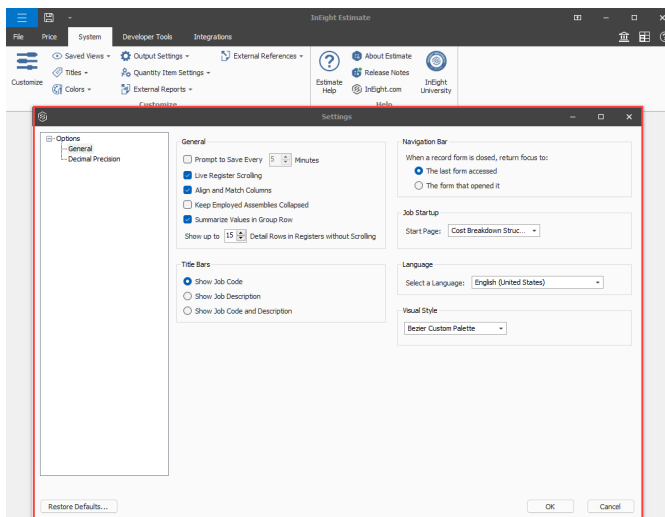
3. Select a **date format** and **number format**, and then click **Next**.

System Settings Options

From the Backstage View, you can access system settings. System settings contain options and settings that effect the entire InEight Estimate system. These settings include:

- General settings (options)
- Title Bars
- Navigation Bar
- Job Startup
- Language
- Visual Style

All of the settings under the Options branch are user-level settings.



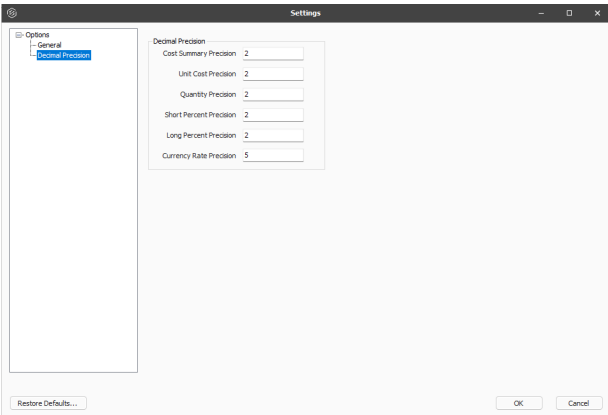
The following step by step walks you through configuring general settings (options).

Step by Step — Decimal Precision

1. With InEight Estimate open, click on the File tab to go to the Backstage view.
2. Select Settings.
3. Select General under Options in the node tree on the left.
4. To activate Prompt to Save, select the Prompt to Save checkbox.
5. Select how often you want to be prompted (in minutes).
6. Select Decimal Precision in the tree on the left.

7. Review the default settings.

Units of Measure will default to English, and Currency will default to U.S. Dollar.



Columns

Within each register, you can move, sort, filter and group your columns to view the information the way you need to see it.

Move Columns

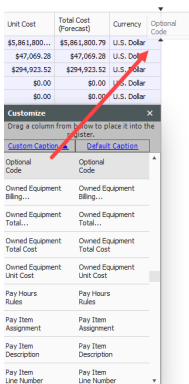
You can move columns by selecting a column header and using drag-and-drop. If there are columns on the register that you don't use, you can hide and unhide them from view, as needed.

Step by Step — Move Columns

1. In the CBS, click on the **Currency** column header and drag the column to the left, dropping it to the right of the Description column.
2. Hide the Optional Code column by dragging the Optional Code column header down until a black X appears, then let go.

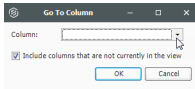


- The Optional Code is now hidden from view
 - To unhide a column, right click on any column header and select Column Chooser; a Customization window appears, which contains all the hidden columns in that register
3. Find the column you want to unhide and drag-and-drop it to the location where you want it to go.



- You can also unhide a column using the Go To Column feature
4. Right click on a column header and select Go To Column.

- Click on the drop-down menu and select the column you want to unhide.



- Click OK.

Sort and Filter Columns

You can sort and filter your columns to drill down to specific information.

Step by Step — Sort Columns

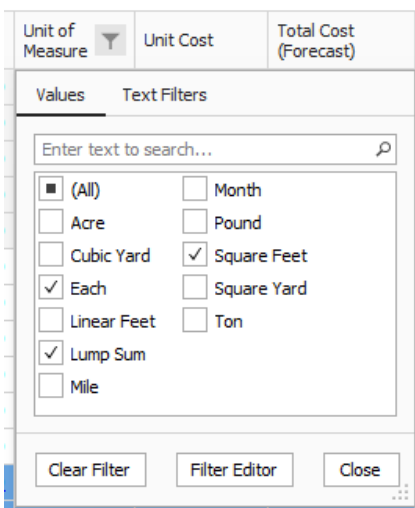
You can sort on any column by clicking once on the column header.

- In the CBS Register, click on the Total Cost (Forecast) column to sort the column in ascending order (e.g., 1 to 10, A to Z).
- Click the Total Cost (Forecast) column a second time to sort in descending order (e.g., 10 to 1, Z to A).

Use Ctrl-click to unsort a column and reset it to its original state.

Step by Step — Filter Columns

- In the CBS, hover over the Unit of Measure column header for the filter icon to appear.
- Click on the filter icon in the Unit of Measure column to select a filter value.
 - From the filter list, you can select any of the values defined for that column or you can use one of the predefined values (Custom, Blanks, Non blanks).



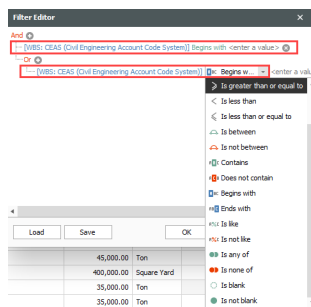
3. Make your selection, then click Close.
4. To clear the filter, click on the red X at the bottom of the form or click on the filter icon on the header of the column you filtered and select (All), then click OK.

Filter Editor Overview

Column filters can be managed on individual columns or for the entire register using the Filter Editor. The Filter Editor tool lets work with all the column filters for a register view in one place as well as creating more complex filters through the use of grouping and applying And/Or statements.

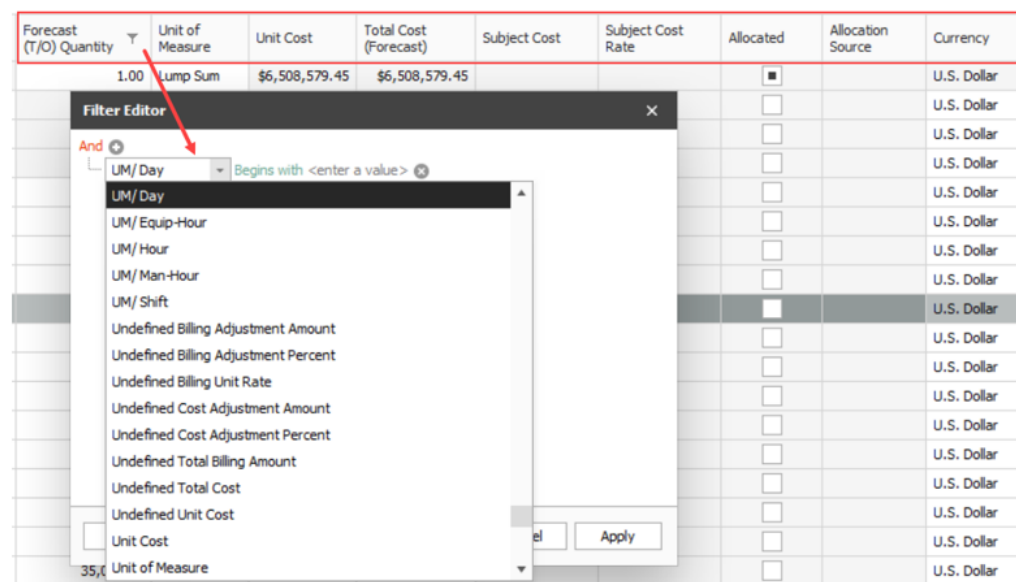
When you add a new Group, a new Condition is automatically added to that Group.

With each additional Condition statement, you need to select an operator and a value in order for your customized filter to take effect on your chosen column. Many new comparison operators have been added to this version as shown below:



Creating complex filters using the Filter Editor

You can define filters across any of the columns available in the CBS register. You can also open the Filter Editor using the button in the column filter drop-down, but regardless of how you access it, the Filter Editor dialog permits defining a filter for the entire register and not just the selected column.



Because all the register fields are available, more complex filters can be created by using Grouping and Or operators. In the following example, a filter has been defined to return all Terminal Cost Items that either have a cost source of Plug, or exceed \$100,000 of Total Cost (Forecast).

Cost Breakdown Structure (CBS) Register

Drag columns here to group

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Is Terminal	Cost Source
	Price % Add-On	PRICE % ADD-...	1.00	Lump Sum	\$312,935.61	\$312,935.61	✓	
	Direct Cost Add-On	DIRECT COST ...	1.00	Lump Sum	\$110,803.57	\$110,803.57	✓	
	Job Management & Equipment	JOB MANAGEM...	1.00	Lump Sum	\$157,096.28	\$157,096.28	✓	Detail
3.1	Excavation	3.1	42,000.00	Cubic Yard	\$3.44	\$144,552.52	✓	Detail
4.1	Furnish & Haul Base Material	4.1	45,000.00	Ton	\$13.67	\$615,142.90	✓	Detail
5.1	Furnish & Haul Hot Mix					\$74,562.54	✓	Detail
5.2	Install Hot Mix Type A					\$17,018.05	✓	Detail
7.1	Furnish 10 Inch PVC Materials					\$89,660.73	✓	Detail
7.2	Excavate-Install-Backfill 10 Inch F					\$11,403.37	✓	Detail
8.2	Furnish & Install 24 Inch PVC					\$103,388.90	✓	Detail
11.2	Subcontract Rebar					\$42,000.00	✓	Plug
12.1.1	Furnish Retaining Wall Material					\$25,719.65	✓	Detail
14.1.2	Raw Materials Tanks					\$44,383.14	✓	Detail
14.2.1	Install Heating System					\$92,662.73	✓	Detail
14.2.3	High Pressure Pumps					\$18,778.57	✓	Detail
14.3.2	Install Cooling Columns					\$47,669.50	✓	Detail
17.2	Concrete Reinforcement					\$1,500.00	✓	Plug
17.3	Cast in Place Concrete					\$3,500.00	✓	Plug
17.4	Concrete Masonry Units					\$2,900.00	✓	Plug
17.5	Paneling					\$2,100.00	✓	Plug
17.6	Wood Doors					\$1,000.00	✓	Plug
17.7	Wood Flooring	09640	1.00	Lump Sum	\$1,800.00	\$1,800.00	✓	Plug
17.8	Office Furniture	12510	1.00	Lump Sum	\$2,100.00	\$2,100.00	✓	Plug
17.9	Fire Protection Piping	15300	1.00	Lump Sum	\$3,300.00	\$3,300.00	✓	Plug
17.10	Interior Luminaires	16510	1.00	Lump Sum	\$3,400.00	\$3,400.00	✓	Plug
26	Grand Total					\$4,830,378.06		

Filter Editor

And

- [Is Terminal] Equals Checked
- [Cost Source] Equals Plug
- [Total Cost (Forecast)] Is greater than 100,000.00

Load Save OK Cancel Apply

✖ (([Cost Source] EQUAL 'Plug' OR [Total Cost (Forecast)] GREATER THAN 100000) AND [Is Terminal] EQUAL True

When modifying a filter, the Filter Editor can be invoked by clicking the Edit Filter button located on the bottom right of the CBS page.

Cost Breakdown Structure (CBS) Register

Drag columns here to group

CBS Position Code	Description	Account Code	Unit of Measure	Total Cost (Forecast)	Unit
→	JOB		Mile	\$5,666,162.55	
+	Prime Bond	7000	Lump Sum	\$45,861.93	\$
+	Price % Add-On	7000	Lump Sum	\$284,057.38	\$28
+	Direct Cost Escalation	7000	Lump Sum	\$13,933.28	\$
+	Direct Cost Add-On	7000	Lump Sum	\$99,962.10	\$
1	SITework & ROADWAY		Each	\$2,387,025.45	\$
+ 1.2	Clearing & Grubbing	1110	Acre	\$39,184.97	
+ 1.3	Unclassified Excavation	1122	Cubic Yard	\$158,985.21	
+ 1.3.2	Embankment	1122.200	Cubic Yard	\$69,678.93	
+ 1.4	Aggregate Base	1120	Ton	\$692,928.99	
+ 1.4.1	Furnish & Haul Base Material	1120.100	Ton	\$519,513.30	
+ 1.5	Asphalt Concrete Hot Mix Type A	1240	Ton	\$1,486,222.28	
+ 1.5.1	Furnish & Haul Hot Mix	1240.100	Ton	\$1,374,562.54	
2	WATER & SEWER		Each	\$519,502.60	\$5
Σ	0			\$0.00	
	78			\$5,615,073.91	

✖ [Unit of Measure] EQUAL 'Cubic Yard' OR [Total Cost (Forecast)] GREATER THAN 10000 OR [Account Code] EQUAL '1122'

Edit Filter

Step by Step — Filter Editor

1. In the CBS, hover over the Unit of Measure column header for the filter icon to appear.
2. Click the Filter icon in the Unit of Measure column to select a filter value; select the desired UoM.
3. Select the Filter Editor button, and the Filter Editor data box appears.
 - By default, an **And** statement is created with a **Begins with** operator and a blank value.
4. Select your preferred operator and enter in your preferred value.
5. To add additional **And/Or** statements, select the word **And** in the top left corner. A drop-down appears.

Filter Editor

And

And

Or

Add Condition

Add Group

Clear All

Load Save OK Cancel Apply

6. Choose which **And/Or** statement to add and then select the Preferred Operator.
7. Enter in your Preferred Value to complete your additional statement.

8. Click OK.

- Select the X to delete a single statement.

9. Select the **And** statement in the top left corner to begin clearing all And/Or statements.

10. From the drop-down, select the option Clear All.

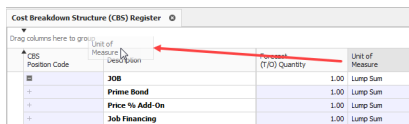
11. Once done, select Apply and then click OK.

Group Columns

Sometimes you may want to organize your information into groups. Instead of filtering your information down to one value (e.g., unit of measure = Ton), you can look at your information with a separate group for each value (e.g., a group for Tons, a group for Cubic Feet, etc.).

Step by Step — Group Columns

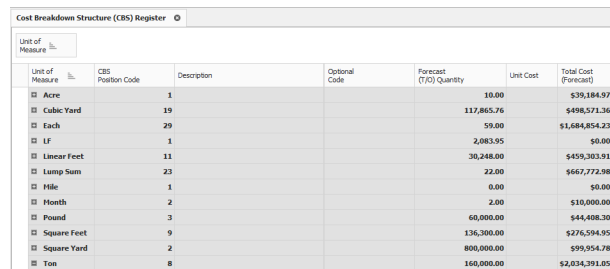
1. From the CBS register, group the Unit of Measure column by dragging it into the grouping area (where it says “Drag columns here to group”).



The screenshot shows the 'Cost Breakdown Structure (CBS) Register' window. A red arrow points from the 'Unit of Measure' column header to the 'Drag columns here to group' area at the top left of the register. The register table has columns: CBS Position Code, Unit of Measure, Forecast (FY) Quantity, and Unit of Measure. The data rows are: 308, Prime Bond, Price % Add-On, and Job Financing, all with a unit of measure of 'Lump Sum'.

CBS Position Code	Unit of Measure	Forecast (FY) Quantity	Unit of Measure
308		1.00	Lump Sum
Prime Bond		1.00	Lump Sum
Price % Add-On		1.00	Lump Sum
Job Financing		1.00	Lump Sum

- Notice that the cost items in the register are now grouped together by their units of measure, and each group of cost items is subtotalled by costs, hours, quantities, etc.



The screenshot shows the 'Cost Breakdown Structure (CBS) Register' window with the 'Unit of Measure' column grouped. The table has columns: Unit of Measure, CBS Position Code, Description, Optional Code, Forecast (FY) Quantity, Unit Cost, and Total Cost (Forecast). The data rows are: Acre (1, 10.00, \$39,184.97), Cubic Yard (19, 117,865.76, \$498,571.36), Each (29, 59.00, \$1,684,854.23), LF (1, 2,083.95, \$0.00), Linear Feet (11, 30,248.00, \$459,303.91), Lump Sum (23, 22.00, \$667,772.98), Mile (1, 0.00, \$0.00), Month (2, 2.00, \$10,000.00), Pound (3, 60,000.00, \$44,408.30), Square Feet (9, 136,300.00, \$276,594.95), Square Yard (2, 800,000.00, \$99,954.78), and Ton (8, 160,000.00, \$2,034,391.05).

Unit of Measure	CBS Position Code	Description	Optional Code	Forecast (FY) Quantity	Unit Cost	Total Cost (Forecast)
Acre	1			10.00		\$39,184.97
Cubic Yard	19			117,865.76		\$498,571.36
Each	29			59.00		\$1,684,854.23
LF	1			2,083.95		\$0.00
Linear Feet	11			30,248.00		\$459,303.91
Lump Sum	23			22.00		\$667,772.98
Mile	1			0.00		\$0.00
Month	2			2.00		\$10,000.00
Pound	3			60,000.00		\$44,408.30
Square Feet	9			136,300.00		\$276,594.95
Square Yard	2			800,000.00		\$99,954.78
Ton	8			160,000.00		\$2,034,391.05

2. To ungroup, right click in the grouping area and select Clear Grouping

- The column returns to its original location

You can group by more than one column to have multiple grouping levels.

Saved Views

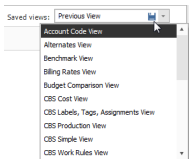
Once you have set up a view the way you like it, you can save the view so you won't have to configure it again later. InEight Estimate also comes with some pre-built views to help you organize the screen the way you want to see it.

Views are accessed from the Saved Views menu in the top right portion of a register.

The following steps assume you have made changes to your register view and want to save it for future use.

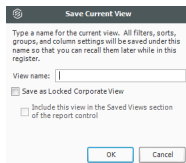
Step by Step — Create a Saved View

1. In the CBS register, click on the Saved Views drop-down menu and the Save disc icon appears.



2. Click on the Save disc icon.

- The Save Current View window appears



3. Enter the View Name, then select OK.

- The new view displays in the drop-down menu

Saved views are user-specific; you will only see your own saved views when you are logged in.

Subtotal Calculator

You can select multiple cost items and use the Subtotal Calculator to summarize and display Unit Cost, Man-Hours/Unit and Units/Man-Hour. Highlight a cost item in the CBS and right click on a Total Cost column (e.g., Total Cost (Forecast), Labor Total Cost, Owned Equipment Total Cost, etc.). Select **Subtotal Calculator** from the right click menu, and enter the number of units to use in your calculation.

Cost Breakdown Structure (CBS) Register

Drag columns here to group

Subtotal Calculator

Total Cost (Forecast) **\$85,360.07**

Units: **1.00**

Unit Cost: **\$85,360.07**

Man-Hours (Total) 1000.54

Man-Hours / Unit: **1000.54**

Units / Man-Hour: **0.00**

As-Entered Currency As-Entered Units Training Job

Right-hand menu options:

- Insert Cost Item Assembly
- Insert Cost Item Assembly as Subordinate
- Split
- Split by Cost Type
- Merge Cost Items
- Insert Resource
- Insert Resource Assembly
- Toggle Suspended
- Go To Cost Allocation Item
- Schedule Selection
- Unschedule Selection
- Calculate Plug Days...
- Subtotal Calculator**
- Roll Up Quantities
- Add Quote...

Register Running Totals

You can select multiple rows in a register and see the sum total amount at the bottom of the register.

For example, you can hold down the CTRL key and multi-select cost items 2.1.1, 2.2.1, and 2.3.2 in the CBS register, you can see the sum of the three selected cost items toward the bottom row of the register.

Cost Breakdown Structure (CBS) Register													Saved reports		Rollback Major Cost Code			
CBS Tree (Filter Mode)													Drag columns here to group					
Description	CBS Position Code	Description	Forecast (T/C) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Labor Total Cost	Owned Equipment Total Cost	Rented Equipment Total Cost	Supplier Total Cost	Materials Total Cost	Subcontract Total Cost						
200 Prime Bond	2	WATER & SEWER	1.00	Each	\$553,789.30	\$553,789.30	\$129,366.37	\$116,635.21	\$3,652.11	\$0.00	\$209,860.00	\$0.00						
210 Price To Add-On	2.1	36 Inch RCP Culvert Class III	1,024.00	Linear Feet	\$67.54	\$69,159.49	\$20,073.46	\$116,635.21	\$3,652.11	\$0.00	\$209,860.00	\$0.00						
220 Sub Financing	2.1.1	Furnish RCP Materials	1,024.00	Linear Feet	\$10.48	\$10,728.32	\$0.00	\$0.00	\$0.00	\$0.00	\$10,728.32	\$0.00						
230 Indirect Cost Escalation	2.1.2	Excavate RCP Trench	1,038.56	Cubic Yard	\$4.51	\$4,697.59	\$4,693.56	\$5,450.03	\$0.00	\$0.00	\$0.00	\$0.00						
240 Direct Cost Escalation	2.1.3	Install RCP Pipe	1,024.00	Linear Feet	\$11.74	\$12,017.60	\$6,605.19	\$5,412.41	\$0.00	\$0.00	\$0.00	\$0.00						
250 Indirect Cost Add-On	2.1.4	Backfill RCP Pipe	1,587.30	Cubic Yard	\$9.12	\$14,475.59	\$5,504.71	\$4,974.28	\$949.15	\$0.00	\$0.00	\$0.00						
260 Direct Cost Add-On	2.2	36 Inch RCP Force Main (DGR-2)	12,000.00	Linear Feet	\$23.18	\$278,113.97	\$54,708.77	\$56,697.60	\$0.00	\$0.00	\$168,772.00	\$0.00						
270 NETWORK & ROADWAY	2.2.1	Parshall 30 Inch PVC Materials	12,000.00	Linear Feet	\$13.89	\$166,720.60	\$0.00	\$0.00	\$0.00	\$0.00	\$166,720.60	\$0.00						
280 WATER & SEWER	2.2.2	Excavate-Install Backfill 30 Inch PVC	12,000.00	Linear Feet	\$9.28	\$111,403.37	\$54,705.77	\$56,697.60	\$0.00	\$0.00	\$0.00	\$0.00						
290 STRUCTURAL CONCRETE & REINFORCEMENT	2.3	24 Inch PVC Gravity Sewer (DGR-3)	3,000.00	Linear Feet	\$49.67	\$149,011.37	\$49,669.88	\$15,171.68	\$2,703.86	\$0.00	\$67,564.00	\$0.00						
300 INDUSTRIAL & RECREATION	2.3.1	Excavate 24 Inch PVC	3,000.00	Linear Feet	\$3.00	\$9,005.49	\$2,979.89	\$6,011.60	\$0.00	\$0.00	\$0.00	\$0.00						
310 GUARDRAIL & SIGNING	2.3.1.1	Excavate 24 Inch PVC @ 0.16 D...	1,900.00	Cubic Yard	\$1.95	\$2,712.05	\$1,008.84	\$1,703.21	\$0.00	\$0.00	\$0.00	\$0.00						
320 Indirect Costs	2.3.1.2	Excavate 24 Inch PVC @ 0.16 D...	3,600.00	Cubic Yard	\$1.74	\$6,202.44	\$1,965.05	\$4,238.79	\$0.00	\$0.00	\$0.00	\$0.00						
330 Special Site Allowance	2.3.2	Parshall & Install 24 Inch PVC	3,000.00	Linear Feet	\$35.93	\$107,785.54	\$13,526.94	\$14,126.26	\$0.00	\$0.00	\$67,558.00	\$0.00						
	2.3.3	Backfill 24 Inch PVC	4,320.00	Cubic Yard	\$9.12	\$41,223.34	\$24,219.55	\$14,165.58	\$2,702.96	\$0.00	\$0.00	\$0.00						
	2.4	4 Foot Diameter Manhole	16.00	Each	\$3,994.03	\$63,904.47	\$13,717.27	\$11,763.20	\$0.00	\$0.00	\$30,880.00	\$0.00						
	2.4.1	Furnish 4 Ft Manhole Materials	16.00	Each	\$2,001.20	\$32,019.20	\$0.00	\$0.00	\$0.00	\$0.00	\$32,019.20	\$0.00						
	2.4.2	Excavate-Install Backfill Manhole	16.00	Each	\$1,992.83	\$31,885.27	\$13,717.27	\$11,763.20	\$0.00	\$0.00	\$0.00	\$0.00						
	3		16,024.00			\$299,779.84	\$136,674.44	\$114,744.40	\$0.00	\$0.00	\$258,980.00	\$0.00						
	18					\$553,789.30	\$129,366.37	\$116,635.21	\$3,652.11	\$0.00	\$209,860.00	\$0.00						

Estimate calculates subtotals for quantities when the UOMs match. Superior cost items are not included in the subtotals to avoid any double counting in the subtotal.

It is not necessary to export data to Microsoft Excel and run separate calculations to better understand costs of multiple items. The sigma symbol shows in the subtotaled row to indicate it is the total of the selected rows.

Find Feature

The Find feature lets you search across all columns in the register with a single operation. The matching results are then highlighted in yellow. A scroll bar annotation is provided to indicate the rows in the grid containing matches. This lets you easily navigate to the search results in the register.

The Find feature also includes the flexibility to perform more precise searches using various syntax in the search bar. The Find search bar shows the currently selected and total number of search results.

If you type in two words, such as **total cost**, the grid considers them as individual conditions and selects records that contain either **total** or **cost**.

Search Syntax	Example
+	To find records that contain both search terms like total cost , type + before the second word. For example: total +cost .
-	Type - to exclude records that contain a specific word, for example: total-cost . You can combine different operators. Use + and - to select records that contain both pay and item , excluding records that contain assignment . For example: pay +item -assignment .
"quotes"	To search for a string that contains a space character, you need to enclose this string in quotation marks. For example: "total cost" .
:	To search against a specific column, type the first letters of the column's display name plus a colon character. For example: optional: unassigned . Now the grid displays records containing unassigned in the optional code column.

If you add another column-specific condition, the grid joins them using the + logical operator. Then the record shows the result that matches both options. The same happens when you join a column-specific condition with the one applied to all columns. An example of this search criteria looks like this: **optional: unassigned + "pay item"**.

Step by Step — Find Feature

1. From the Cost Breakdown Structure (CBS) Register, bring up the Find feature using **CTRL+F**.
2. In the search bar, type in **Materials**.
3. When all the searches are highlighted in yellow, use the **up** or **down** arrows to the right of the search bar to navigate to the next search result in the register.

Drag columns here to group

material 1/13

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Subject
+	Indirect Cost Add-On	INDIRECT COST ADD-ON	1.00	Lump Sum	\$0.00	\$0.00	▲
+	Job Management & Equipment	JOB MANAGEMENT & EQUIPMENT	1.00	Lump Sum	\$157,096.28	\$157,096.28	
+	General Expense	GENERAL EXPENSE	1.00	Lump Sum	\$4,200.00	\$4,200.00	
+	Direct Cost Add-On	DIRECT COST ADD-ON	1.00	Lump Sum	\$98,633.23	\$98,633.23	
+ 1	Mobilization	641 0100	1.00	Lump Sum	\$11,909.51	\$11,909.51	
+ 2	Clearing & Grubbing	201 0102	10.00	Acre	\$3,918.50	\$39,184.97	
3	Unclassified Excavation	202 0183	50,000.00	Cubic Yard	\$4.68	\$233,915.81	
+ 3.1	Excavation	3.1	50,000.00	Cubic Yard	\$3.00	\$149,922.88	
+ 3.2	Embankment	3.2	50,000.00	Cubic Yard	\$1.68	\$83,992.94	
4	Aggregate Base	303 5912	45,000.00	Ton	\$15.40	\$692,928.99	
→ + 4.1	Furnish & Haul Base Material	4.1	45,000.00	Ton	\$11.54	\$519,513.30	
+ 4.2	Finegrade Subgrade	4.2	400,000.00	Square Yard	\$0.19	\$75,848.36	
4.3	Install Aggregate Base	4.3	45,000.00	Ton	\$2.17	\$97,567.33	
+ 4.3.1	Place Aggregate Base	4.3.1	45,000.00	Ton	\$1.63	\$73,460.92	
+ 4.3.2	Blue Top Aggregate Base	4.3.2	400,000.00	Square Yard	\$0.06	\$24,106.42	
5	Asphalt Concrete Hot Mix Type A	303 4263	35,000.00	Ton	\$42.62	\$1,491,580.59	

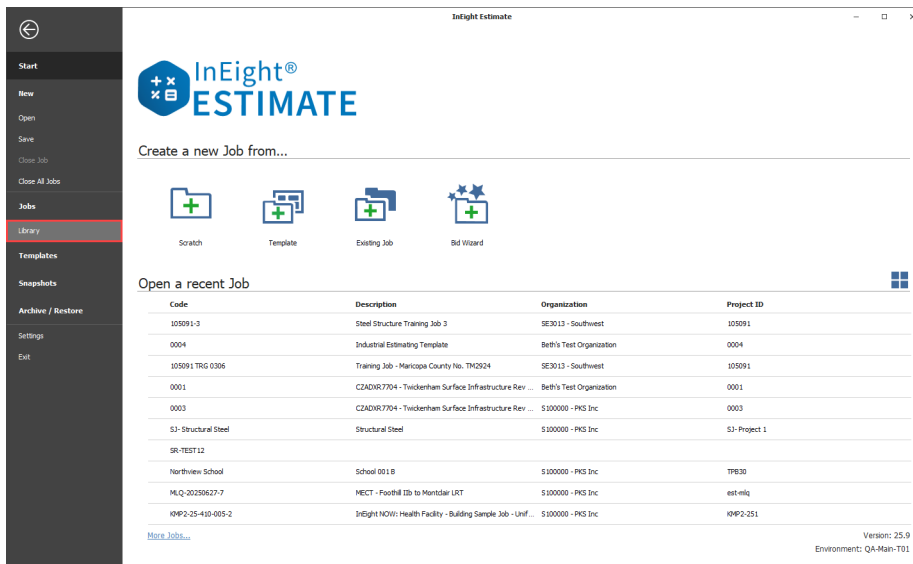
4. To add the Find feature to the register functions header, select the **Options** icon to the far right of the search bar. Then select **Always Expanded**.
5. To search in a specific column only, select the **Options** icon to the far right of the search bar. Then select **Search in Selected Column Only**. Search a specific term in your selected column.
6. To close the Find functionality, click the **Close** icon to the left of the search bar. You can also hold down the **Shift** key and then select the **F3** key to use this feature.

A drop-down can be used to see a list of previous searches.

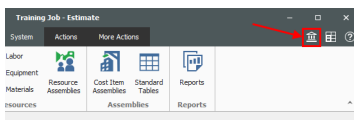
Library Overview

The Library is where you set up and maintain master information that imports into your projects, including resource rates, tags, units of measure, cost item assemblies, and master breakdown structures. It is also where security roles and permissions are configured.

You access the Library from the Backstage view in Estimate. Click the Library button to open.



You can also access the Library by clicking on the Library icon, when on the InEight Estimate landing page.



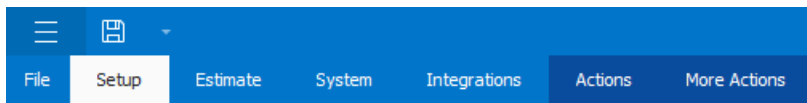
When the Library opens, you see ribbons available under the main menu tabs. Each menu tab has unique sections which hold the necessary forms.

Library Tabs

The Library has four tabs which organizes the forms under sections:

- Setup
- Estimate
- System
- Integrations

The Actions and More Actions tabs show when you open a register and contain functions for the register you have active.

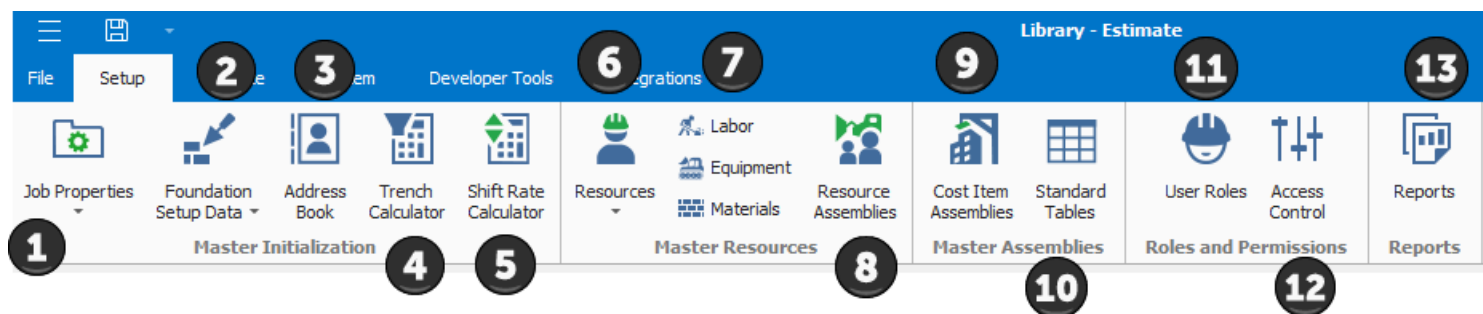


Setup Tab

Overview - Setup Tab

Name		Description
1	Job Properties	The job properties maintained in the library will serve as the default settings for any new estimate that is created from scratch. When creating a new job it will inherit all the job properties set in the master library.
2	Foundation Setup Data	A master set of account codes, tags, and units of measure. When a new folder is created, the master set is automatically copied from the Library to the new folder.
3	Address Book	Used to store and maintain all information pertaining to the companies with whom you work and contact regularly (subcontractors, vendors, architects, etc.).
4	Trench Calculator	Stores and maintains common trench configurations that are used from project to project.
5	Shift Rate Calculator	Allows you to set up shift rate configurations that you can access at the project level.
6	Resources	Opens the Library Resource Rate Register where you can create and edit all resources and resource cost details available for import into your projects.
7	Most Used Resources	For quick access to the Labor, Equipment and Materials tabs of the Master Resource Rate Register.
8	Resource Assemblies	Takes you to the Library Resource Assembly Register where you can set up resource assemblies to import into individual projects.
9	Cost Item Assemblies	Cost Item Assemblies are predictive models to quickly and accurately estimate elements of a job that can be repetitive in nature on the job or from job to job.
10	Standard Tables	The Standard Tables are used to create and/or list job-level table data that is accessible by any of the Cost Item Assemblies that exist in a job. The Standard Table Record allows the user to create and or modify a Table record. The Standard Table Register lists all the job level tables created / available in the

Name		Description
		project.
11	User Roles	Opens the User Roles Register that shows user role names and their description which you can use in the Access Control Register.
12	Access Control	Allows you to customize your system permissions by restricting destinations or commands that only designated roles should have access to.
13	Reports	Opens the Reports window, where you can access all system reports and configure the default report settings.

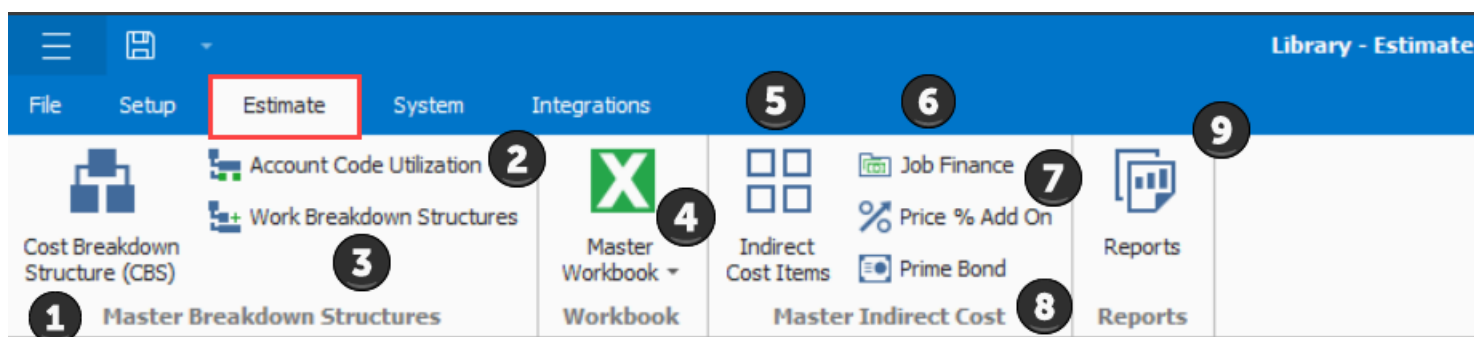


Estimate Tab

Overview - Estimate Tab

Name		Description
1	Cost Break-down Structure (CBS)	Opens the Library Cost Break Structure register, where you can define the CBS that will automatically import when a new project is created.
2	Account Code Utilization	Used to roll estimate line items into an account code hierarchy and benchmark against historical projects in a way that is consistent across projects.
3	Work Break-down Structures	Opens the Library Work Breakdown Structure register, where you can define additional Work Breakdown Structures that will automatically import when a new project is created.
4	Master Workbook	Opens the master Microsoft Excel template which will be embed into each new estimate job folder. The cells in the embed excel workbook can be linked to send information to or from InEight Estimate Fields.
5	Indirect Cost Items	Takes you to the Library Cost Breakdown Structure Register where you can edit and define indirect cost items.

Name	Description
6 Job Finance	Takes you to the Library Cost Breakdown Structure Register where you can edit the Job Financing cost item.
7 Price % Add On	Takes you to the Price % Add On record, where you can define the price % add to be included in the Library CBS.
8 Prime Bond	Opens to the Library Prime Bond record where you can define the bond tables that will import automatically when a new project is created.
9 Reports	Opens the Reports window, where you can access all system reports and configure their report settings.

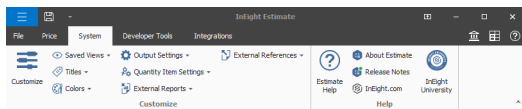


System Tab

Overview - System Tab

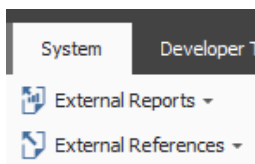
Name	Description
1 Customize	Window to customize the field titles that are displayed throughout various screens in the system, including all cost category titles, user-defined Tags, and more.
2 Saved Views	Allows you to save your views onto a disk or load from a disk.
3 Titles	Allows you to save titles onto a disk or load from a disk.
4 Colors	Allows you to save your colors onto a disk or load from a disk.
5 Output Settings	Allows you to save your output settings onto a disk or load from a disk.
6 Quantity Item Settings	Save your mapped quantity item source settings to your computer. You can then load the saved mapped settings into your Quantity Item Sources Register.
7 External	Menu to not only generate reports created by Estimate, but also to open

Name		Description
	Reports	programs, folders, documents, reports, or Internet resources with the associated program.
8	External References	Allows you to open programs, folders, documents, reports, or Internet resources with the associated program.
9	Help Section	Offers you links to Estimate's general Help menu, information about Estimate (i.e., version number, system information, tech support, etc.), What's New in the new version, and InEight's external website.

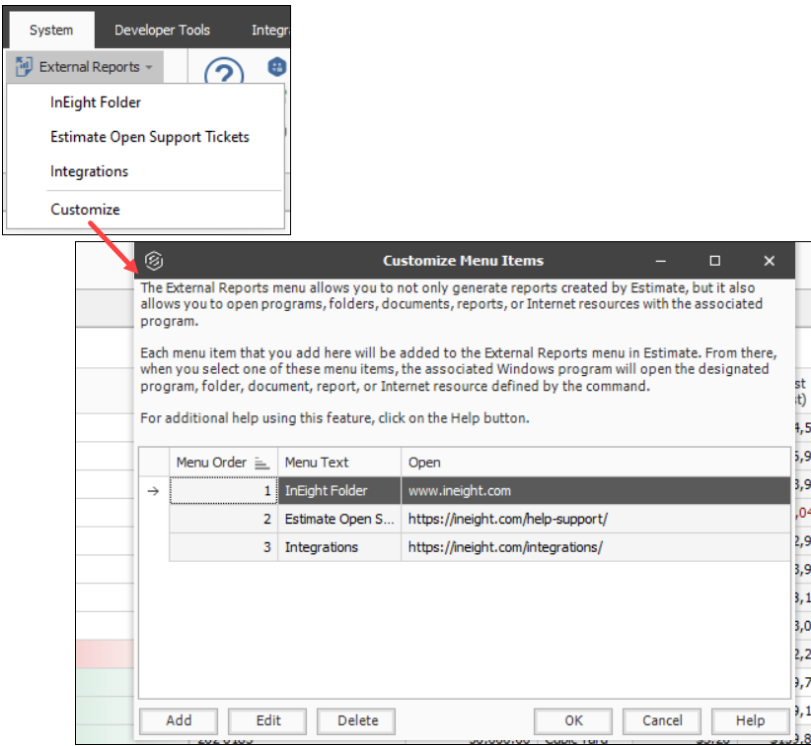


External Reports

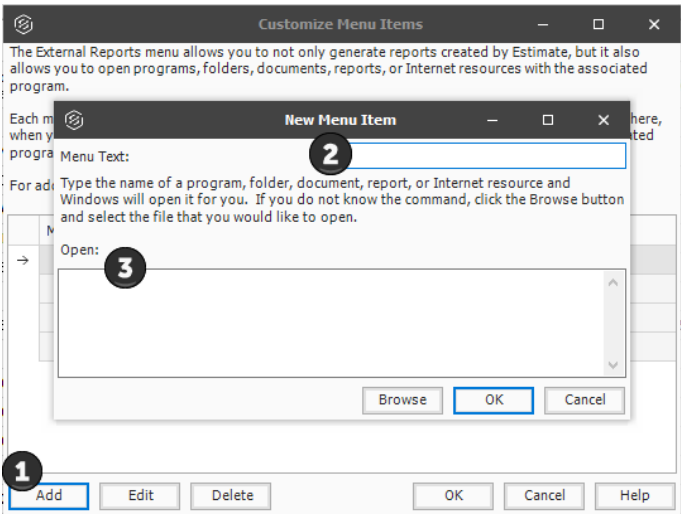
The External Reports menu lets you generate reports created by Estimate, and also lets you open program files, folders, documents, or other internet resources.



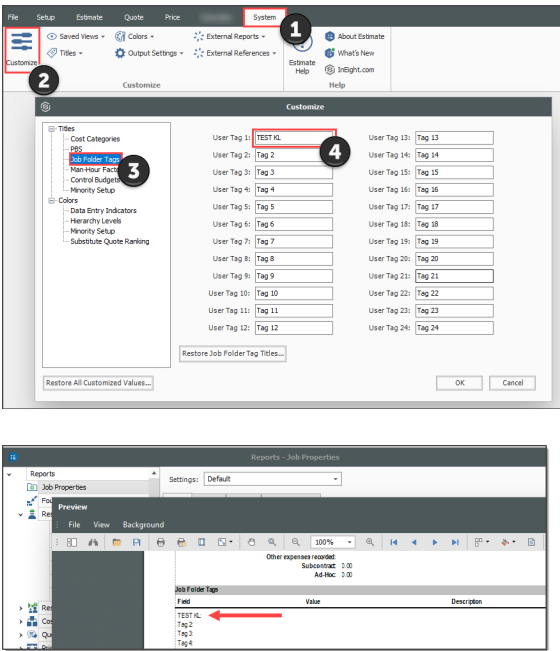
Each menu item can be added to the External Reports menu. Upon selecting one of the menu items, the associated program, file, folder document or URL will open, as defined by the command entered in the Open column.



To add a new menu text, first select the **Add** button and enter a name in the **Menu Text** field, and then type in the location of the new Menu text under the Open field.



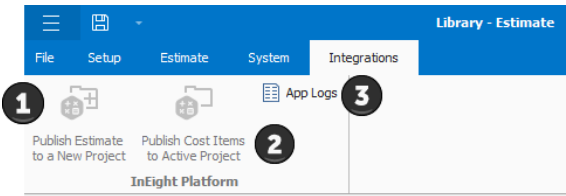
Customized Job Folder Tags match the view of the fields in the Job Properties form.



Integrations

Overview - Integrations Tab

Name		Description
1	Publish Estimate to a New Project	Lets you publish an estimate job to a new project. This requires the installation of the data provider plug-in.
2	Publish Cost Items to Active Project	Lets you publish cost items to an active project. This requires the installation of the data provider plug-in.
3	App Logs	Lets you open the Estimate application logs in Project Suite, view log details, and export to Excel.



App Logs

The InEight Project Suite App Log lets you drill down to the Detail level which helps you find, analyze and solve application errors.

InEight Project Suite App Logs - #42329000

Error

2023-11-28 11:21:18 -0700 [Received: 2023-11-28 11:21:18 -0700]

HDDesign

Design

0b1c7752-578f-4e12-b02b-ccd8fa4d148d [Browse Chain](#)

2023-12-13 11:21:18 -0700

pd1sdwk000INM

EntityChange -> Publish NoMessageTargetsException:

```
No ESB subscriptions exist that match topic=DesignCostItem, workType=EntityChange, sourceDomain=D
at InFlight.Platform.Messaging.ESB.Publisher.<PublishWorkMessageAsync>_10'1.MoveNext()
--- End of stack trace from previous location where exception was thrown ---
at System.Runtime.CompilerServices.TaskAwaiter.ThrowForNonSuccess(Task task)
at System.Runtime.CompilerServices.TaskAwaiter.HandleNonSuccessAndDebuggerNotification(
at System.Runtime.CompilerServices.TaskAwaiter.ValidateEnd(Task task)
at InFlight.Design.Common.BusinessLogic.Services.EntityChangeService.<Publish>_3'
```

Library Job Properties

The Library Job Properties form serves as a template for new jobs. Some of the tabs on the Library Job Properties form hold basic settings that will require a default selection which will apply to all new jobs created from scratch. Time can be saved when utilizing Library Job Properties, because the data and settings you fill out will be automatically imported into a new job. Once imported, these settings can be changed at the job level if necessary.

It may be helpful to complete the following tabs / fields at the Library level:

- Overview Tab Notes Field: Filling out the Notes section at the Library level would be helpful for any instructions or reminders that you want to display on all projects' Job Properties form. For example, "Always double check currency exchange rates"
- Cost Basis Tab: Shift arrangements may or may not be standard across all projects, as well as wage rates and scales. The cost basis default rules should be established within the library.
- Fuel Cost Tab: Entering a default fuel cost here will factor with the utilization of your equipment to be included in your equipment rates

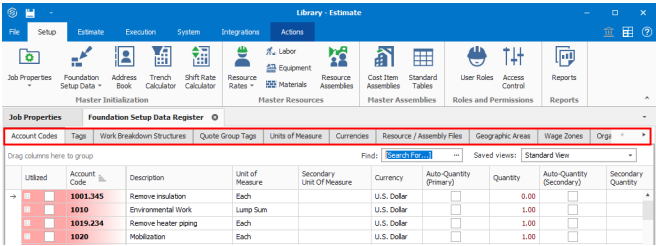
The screenshot displays the 'Library - Estimate' application window. The 'Job Properties' form is open, showing the 'Overview' tab. The 'Cost Basis' and 'Fuel Cost' tabs are highlighted with red boxes. The form includes the following fields and sections:

- Code:** Library
- Status:** Bidding
- Organization:** [Empty field]
- Description:** [Empty text area]
- Notes:** [Empty text area]
- Last Saved:** 11/28/2023 9:32:00 AM
- Job created by:** Sarita [Empty field]
- Source Job:** [Empty field]

At the bottom right, there are 'OK' and 'Cancel' buttons.

Library Foundation Setup Data

Foundation Setup Data is where all drop-down options within Estimate fields are stored. These can serve as category labels, alternate structures or validated tag fields. The different validated fields are organized into tabs on this form.



You should be aware of these category labels:

Category Labels	
Name	Definition
Account Codes	These codes will be set up on the back end and will help you compare your cost and production rates to similar cost items in past projects.
Tags	Some tags are already set up for you. Additional tags can be created and used to group and filter your items.
Work Break-down Structures	Use this format when you need to have multiple variations and summary reports of an estimate. WBS retains the same relationships between items as in the original estimate and only changes the view and how items are arranged in hierarchy.
Units of Measure	These are standardized to relate to one another by a conversion factor. If you need to create a new unit of measure, you will need to reference it to a base unit of measure and can include a conversion factor to allow you to convert back and forth between English and Metric.
Currencies	The default currency is set to U.S. Dollar, but you can also enter the exchange rate for other currencies (such as Canadian) so you can estimate with whatever currency you need. Multiple currencies can be used in the same project. The system base currency can be changed from USD in the backstage view settings, but is a global change for the entire estimate environment.

Currency Name	Exchange Rate	Currency Symbol	Positive Currency Format	Negative Currency Format	Decimal Symbol
CND Dollar	1.00000	\$	\$1.1	(\$1.1)	Period (.)
U.S. Dollar	1.00000	\$	\$1.1	(\$1.1)	Period (.)

When you create a new job folder, all category labels defined in the Library Foundation Setup Data Register will be copied to the new job folder automatically.

Resources

InEight Estimate refers to labor, equipment and material items as Resources. You will use these resources as the basic building blocks used to detail the costs in your estimates.

InEight Estimate organizes resources into seven types:

Resources	
Name	Description
Labor	The human resources that perform direct or indirect work. Direct labor is typically classified by trade (e.g., pipefitters, electricians, iron workers) and title (e.g., foreman, journeyman, laborer).
Construction Equipment	Owned construction equipment.
Rented Construction Equipment	Construction equipment rented from a third party.
Installed Materials	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).

After creating a new job folder, you can import a filtered set of resources from the Library into the new project. This is done on the Cost Basis tab of the Job Properties form.

In the following section, you will learn more about the resources stored in your Library in the Library Resource Rate Register.

Library Resources Register

To open the Library Resources Register, select Labor from the Master Resources ribbon.



Overview – Library Resource Rate Register

Name		Description
1	Tabs	There are tabs along the top of the form for each of the seven resource types, in addition to an All tab that holds the resources of all types. • Notice that you are on the Labor Tab
2	Resource Code	Each record (or row in the register) represents a single resource.
3	Description	The Description provides more detail about the resource.
4	Resource Rate per Unit	This is the resource cost per unit.
5	Utilization Count	Tells you how many units of that resource are being used in the job.
6	Unit of Measure	Each resource is defined with a Unit of Measure.
7	Register	This register includes columns for the resource attribute categories so you can filter and group your resources.

The screenshot shows the 'Resource Rate Register' window. It has a tabbed interface with 'All', 'Labor', 'Construction Equipment', 'Rented Construction Equipment', 'Installed Material', 'Installed Equipment', 'Supplies', and 'Unique'. The 'Labor' tab is selected. Below the tabs is a toolbar with icons for 'New', 'Edit', 'Delete', 'Print', 'Find', 'Filter', 'Group', and 'View'. The main area displays a table with columns: Resource Code, Description, Unit Cost (Scale 1), Unit Cost (Scale 2), Utilization Count, Unit of Measure, Resource File, Description, Wage Zone, and Organizational Category. The table contains several rows of data for different labor resources like 'Carpenter Apprentice', 'Carpenter Journeyman', etc.

Source Job and Source System name fields

The Source Job field provides visibility into the jobs from which the data may have originated from. The Source System Name helps to see the source of the data when integrating with other systems.

Name	Description
4 Cost Category Breakdown	The Cost Category Breakdown is where you enter the costs for the resource. The categories will depend on what type of resource it is (e.g., equipment resources will have equipment cost categories and materials will have material cost categories).
5 Special Instructions / Base Wage Factors	The right side of the record will have additional options to help you define the rate. These options change depending on what type of resource it is.

Resource Rate Register Labor Rate Record

Code: * LCL Description: Carpenter Apprentice

Setup Charge Rate Billing Rate

Scale 1 Scale 2 Scale 3 All Scales

Cost Category Breakdown	Amount	Percent	Is Taxed	Is Insured
Total				
Labor	Varies			
Labor Base	Varies			
Labor Burden	Varies			
Labor Fringes	Varies			
Labor Insurance	Varies			
Labor Taxes	Varies			
Undefined Labor B...	\$0.00			
Undefined Labor	\$0.00			
Materials	\$0.00			
Undefined	\$0.00			

Special Instructions

Use the Materials cost category to add additional labor cost for materials and supplies.

Worker's Comp values for this resource can be adjusted automatically when this resource is employed in a job, based on the geographic location of the work, and the Worker's Comp Overrides listed on the Cost Item on which the resource is employed.

Standard Worker's Comp Overrides can be defined in the Library's Foundation Setup Data Register.

Base Wage Factors for Overtime

☒ Use Base Wage Factors for Scales 2 and 3

Scale 2 Factor: 1.50 x Base Wage

Scale 3 Factor: 2.00 x Base Wage

This option multiplies the Scale 1 base wage by the factors entered here to automatically calculate the base wage for Scales 2 and 3.

Name	Description
6 Setup	There is also a Setup tab where you can define the resource's attributes, plus other settings. These attributes are used for filtering which resource rates to load into a new estimate.
7 Cost Driver	Labor resources default Cost Driver is CI Duration which means their costs are driven by time.
8 Default Quantity	The Default Quantity is typically set to 1 for most cases if you are bringing in the resource you are using at least one.

Setup Charge Rate Billing Rate

Resource File: Standard Labor Rate File

Geographic Area: Southwest

Wage Zone: Wage Zone A

Org. Category: Carpenter

Account Code: *

Cost Driver: CI Duration

Cost Curve: Employed Cost Item

Tag 1: Non Union

Tag 2: Hourly

Tag 3:

Productivity Factor: 1.00

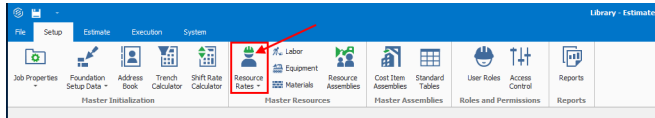
Default Quantity: 1.00

Currency: U.S. Dollar

The following steps walk you through how to create a new labor resource.

Step by Step — Create a Labor Resource

1. From the Library landing page, on the Setup tab, click on Resource Rates from the Master Resources section.



- The Library Resource Rate Register opens
2. Select the Labor tab.
 3. Right click on any row header and select New.
 - A new Labor Rate Record displays
 4. In the Code field, type L + [your initials].
 5. Press the Tab key.
 6. Fill in the Description field.
 7. Click on the resource's Setup tab and select Standard Labor Rate File from the Resource File drop-down list.
 8. Select a **location** for the Geographic Area.
 9. Select **Wage Zone A** for Wage Zone.
 10. Select a **labor type** for the Organizational Category.
 11. For Tag 1, select a **code**.
 12. For Tag 2, select a **code**.
 13. On the Charge Rate tab, enter a **dollar value** for your Labor Base.
 14. Expand Labor Burden and under Labor Fringes, type in a **dollar value** for Pension and Sub-sistence.

Resource Rate Register			
Labor Rate Record			
Code:	LMECHNIGHT	Description:	Mechanic - Heavy Duty
Setup	Charge Rate	Billing Rate	
Scale 1	Scale 2	Scale 3	All Scales
Cost Category Breakdown		Amount	Percent
▼ Total		\$57.00	
▼ Labor		\$57.00	
▼ Labor Base		\$52.00	
▼ Labor Burden		\$5.00	
▼ Labor Fringes		\$5.00	
Travel		\$0.00	0.00
Premium		\$0.00	0.00
Holiday		\$0.00	0.00
Savings		\$0.00	0.00
Pension		\$3.00	5.77
Vacation		\$0.00	0.00
Subsistence		\$2.00	3.85
Health & Welfare		\$0.00	0.00

15. Define an overtime and double-time rate for the resource. Select the checkbox for Use Base Wage Factors for Scales 2 and 3.
16. Set the Scale 2 Factor to 1.50 x Base Wage and Scale 3 Factor to 2.00 x Base Wage.

Base Wage Factors for Overtime

☒ Use Base Wage Factors for Scales 2 and 3

Scale 2 Factor: x Base Wage

Scale 3 Factor: x Base Wage

This option multiplies the Scale 1 base wage by the factors entered here to automatically calculate the base wage for Scales 2 and 3.

17. Click OK, to close the record.

Construction Equipment Resources

- Similar to Labor Resources, Construction Equipment Resources are also duration driven resources by default
- They contain cost categories for ownership and operation costs

Resource Rate Register											
All Labor Construction Equipment Rented Construction Equipment Installed Material Installed Equipment Supplies Unique											
Drag columns here to group											
Resource Code	Description	Resource File Description	Unit of Measure	Productivity Factor	Default Quantity	Waste % Add-on	Unit Cost (Scale 1)	Currency	Utilization Count	Organizational Category	Geograph Area
→ + EAPAV	Asphalt Paver	Standard Equipment Rate...	Hour	1.00	1.00		\$53.40	U.S. Dollar	0.00	Asphalt	
+ EARL	Asphalt Roller	Standard Equipment Rate...	Hour	1.00	1.00		\$21.00	U.S. Dollar	0.00	Asphalt	
+ ECOMP1	Compactor Smooth D...	Standard Equipment Rate...	Hour	1.00	1.00		\$7.00	U.S. Dollar	0.00	Compactor	
+ ECOMP2	Compactor Sheeps F...	Standard Equipment Rate...	Hour	1.00	1.00		\$26.00	U.S. Dollar	0.00	Compactor	
+ ECR110	Crane 110 Ton	Standard Equipment Rate...	Hour	1.00	1.00		\$396.00	U.S. Dollar	0.00	Crane	
+ ECRBT	Boom Truck 15 Ton	Standard Equipment Rate...	Hour	1.00	1.00		\$28.00	U.S. Dollar	0.00	Crane	
+ ECRHC	Hydraulic Crane 25 Ton	Standard Equipment Rate...	Hour	1.00	1.00		\$84.00	U.S. Dollar	0.00	Crane	
+ EDK	Digger D8	Standard Equipment Rate...	Hour	1.00	1.00		\$84.00	U.S. Dollar	0.00	Digger	
+ EDK	Digger D8	Standard Equipment Rate...	Hour	1.00	1.00		\$140.00	U.S. Dollar	0.00	Digger	
+ EG14G	Grader 14G	Standard Equipment Rate...	Hour	1.00	1.00		\$35.00	U.S. Dollar	0.00	Grader	
+ EG160H	Grader 160H	Standard Equipment Rate...	Hour	1.00	1.00		\$91.00	U.S. Dollar	0.00	Grader	

These resources are the fleet of construction equipment that you own.

Rented Equipment Resources

These resources represent the construction equipment that you rent.

- Rented Equipment Resources are also duration driven resources by default
- Contain cost categories for rental and operation cost as well as additional fees
- On the Rental Construction Equipment Record, you will notice a new tab named Quote
 - Quotes will be discussed in detail in Lesson 8 – Quote Management
- You will also note the Tax section. You can check the box to Apply Standard Tax, which pulls the Sales Tax percentage defined on the Cost Basis tab in Job Properties, or you can manually specify a unique sales tax rate

Tax	
Apply Standard Tax	☐
Unique Sales Tax Rate:	0.00 %

Step by Step — Create a Rental Equipment Resource

1. Open the Library Resource Rates Register.
2. Select the Rented Construction Equipment tab.
3. Right click on any row header and choose New; a new Installed Rented Equipment Rate Record displays.
4. In the Code field, type RECR + [your initials], then press Tab.
5. In the Description field, type Crane 110 Ton.
6. Click on the resource's Setup tab and select Standard Rental Rate File from the Resource File drop-down list.
7. Select a resource from the Organizational Category drop-down list.

Code:	RECR110	Description:	Crane 110 Ton
Setup Charge Rate Quote Billing Rate			
Resource File:	Standard Rental Rate File	User Defined 1:	
Geographic Area:		User Defined 2:	
Wage Zone:		User Defined 3:	
Org. Category:	Crane	User Defined 4:	
Account Code:		User Defined 5:	
Plant Location:		User Defined 6:	

8. Move back to the Charge Rate tab to follow the step by step on the next page.

Equipment Consumption Rates

The Construction Equipment and Rented Construction Equipment Resource Rate Records include consumption rates that will factor with the fuel cost you define on the Library Job Properties > Fuel Cost tab to give a fuel cost for your equipment rate.

Job Properties		Construction Equipment Rate Record	
Code:	EAPAV	Description:	Asphalt Paver
Setup Charge Rate Billing Rate			
Cost Category Breakdown	Amount	Fuel Type	Consumption Rate
Total	\$199.00	Gasoline	12.00 gallon/Hour
Owned Equipment	\$0.00		
OE Ownership	\$0.00		
OE Operation	\$199.00		
OE Repair Parts	\$0.00		
OE Repair Labor	\$0.00		
OE Fuel	\$194.00		
OE Lube	\$0.00		

Consumption Rate factored with cost per liter gives you a fuel cost.

The below figure shows where consumption rates are defined on the Construction Equipment Resource Rate Record.

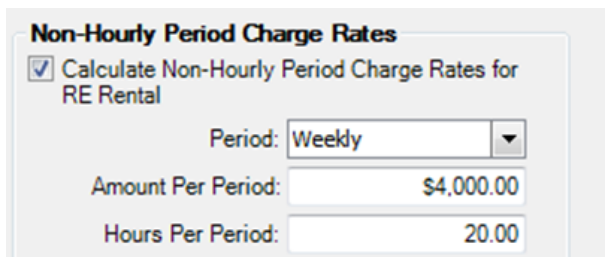
Non-Hourly Rate Calculator

For owned and rented construction equipment, the rate entered must be hourly. If your rate is weekly or monthly, you can use the Non-Hourly Rate Calculator on the Construction Equipment Resource Record

to come up with the hourly rate.

Step by Step — Non-Hourly Rate Calculator

1. Refer back to your last entry's rate amount. Under Non-Hourly Period Charge Rates on the right, check the Calculate Non-Hourly Period Charge Rates checkbox.
2. On the resulting prompt, click OK.
3. In the Period field, select Weekly.
4. In the Amount Per Period field, type in a number value.
5. Type in a number of hours in the Hours Per Period field.



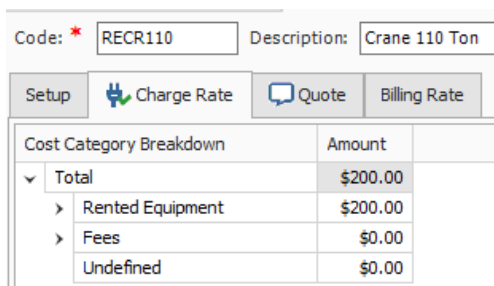
Non-Hourly Period Charge Rates

☒ Calculate Non-Hourly Period Charge Rates for RE Rental

Period:

Amount Per Period:

Hours Per Period:



Code: * Description:

Setup

Cost Category Breakdown	Amount
▼ Total	\$200.00
➤ Rented Equipment	\$200.00
➤ Fees	\$0.00
Undefined	\$0.00

6. Click OK to close the record.

Installed Materials, Installed Equipment & Supplies Resources

- Comparing the Installed Material & Equipment resources to those covered so far, you will note that the unit of measure is not Hour for materials, but it is specific to the kind of material. It is a quantity-driven resource, as opposed to duration-driven like your labor and equipment resources
- You will also note the tax field can pull your standard tax settings from the Cost Basis tab in Job Properties, or a unique sales tax rate can be manually entered in each record
- On record for these resource types, you will notice a new tab named Quote. This tab shows up here because you may have to shop around and get quotes for these resources
 - Quotes will be discussed in detail in Lesson 8 – Quote Management

- In the Setup tab you will see a field named Waste % Add-on. Here you can account for approximate waste percentages
- Cost categories will differ on each type of resource record

Resource Rate Register					
All	Labor	Construction Equipment	Rented Construction Equipment	Installed Material	Installed Equipment
Drag columns here to group					
Resource Code	Description	Unit Cost (Scale 1)	Utilization Count	Unit of Measure	Resource File Description
+ MAMM	Asphalt Pkwy (Paved)	\$12.50	0.00	Ton	Standard Material Rate...
+ MAC	Asphalt Cement	\$195.00	0.00	Ton	Standard Material Rate...
+ MACA1-1/2	Coarse Aggregate 1-1/2 In	\$9.10	0.00	Ton	Standard Material Rate...
+ MAF	Fine Aggregate	\$7.80	0.00	Ton	Standard Material Rate...
+ MAHAL	Aggregate Haul Quarry to P...	\$2.60	0.00	Ton	Standard Material Rate...
+ MAHA3/4	Intermediate Aggregate 3/4...	\$10.40	0.00	Ton	Standard Material Rate...
+ MASAND	Sand	\$7.80	0.00	Ton	Standard Material Rate...
+ MATK	Track	\$1.30	0.00	Gallon	Standard Material Rate...
+ MBR	Aggregate Base Rock	\$8.45	0.00	Ton	Standard Material Rate...
+ MC2000	Concrete 4000 PSI	\$110.50	0.00	Cubic Yard	Standard Material Rate...
+ MC3500	Concrete 3500 PSI	\$104.00	0.00	Cubic Yard	Standard Material Rate...
+ MDRTA	D11 Class A	\$1.30	0.00	Cubic Yard	Standard Material Rate...
+ MDRTB	D11 Class B	\$6.50	0.00	Ton	Standard Material Rate...

Above is an example of the Installed Material tab in the Library Resource Rate Register.

The following steps walk you through how to create a new material resource in InEight Estimate.

Step by Step — Create an Installed Material Resource

1. Select Resource Rates from the Library landing page.
 - The Resource Rate Register displays
2. Select the Installed Material tab.
3. Right click on any row header and select New from the drop-down menu.
 - A new Installed Material Rate Record displays
4. In the Code field, type MGBP + [your initials], then press Tab.
5. In the Description field, type Brick Pavers.
6. Select a unit of measure from the Unit of Measure drop-down list.
7. On the resource's Setup tab, under Resource File select Standard Material Rate File.
8. On the Charge Rate tab, expand Materials and enter a number value in the Installed Materials Amount field.

Code:	MGBPPB	Description:	Brick Pavers
Setup Charge Rate Quote Billing Rate			
Cost Category Breakdown		Amount	
Total		\$5.00	
Materials		\$5.00	
Installed Materials		\$5.00	
Undefined Materials		\$0.00	
Fees		\$0.00	

9. Click OK to finish adding this resource.

Unique Resources

The Unique resource type is a catch-all and can be used for anything from dump fees and security to creating subcontractors as a resource.

- The Unique resources are the only resources that have all cost categories available, as well as all units of measure
- You will also note the tax field which can pull your standard tax settings from the Cost Basis tab in Job Properties, or a unique sales tax rate can be manually entered in each record
- Quotes will be discussed in detail in Lesson 8 – Quote Management

Resource Rate Register										
All Labor Construction Equipment Rented Construction Equipment Installed Material Installed Equipment Supplies Unique										
Drag columns here to group					Find: Resource Code		Saved views: Previous View			
Resource Code	Description	Resource File Description	Unit of Measure	Productivity Factor	Default Quantity	Waste % Add-on	Unit Cost (Scale: 1)	Currency	Utilization Count	Organization Category
+ UCRANE	Crane by the Month	Standard Unique Rate...	Month		1.00	0.00	\$16,500.00	U.S. Dollar	0.00	
+ UDPL	Disposal Fee for Liquids	Standard Unique Rate...	Gallon		1.00	0.00	\$6.00	U.S. Dollar	0.00	Earthwork
+ UDUMP	Dump Fees	Standard Unique Rate...	Load		1.00	0.00	\$100.00	U.S. Dollar	0.00	Earthwork
+ UHAUL	Haul to Job Site 15-20 Miles	Standard Unique Rate...	Ton		1.00	0.00	\$3.00	U.S. Dollar	0.00	Earthwork
+ UPD	Per Diem	Standard Unique Rate...	Day		1.00	0.00	\$150.00	U.S. Dollar	0.00	
+ USS	Security Service	Standard Unique Rate...	Week		1.00	0.00	\$500.00	U.S. Dollar	0.00	

Resource Assemblies

A Resource Assembly is a group of resources. You can create an assembly once and then reuse it as needed in multiple cost items whenever the same combination of resources is needed.



The most common use for an assembly is to group labor resources into crews (e.g., Pipe Crew, Concrete Crew); however, any resource (equipment, materials, etc.) may be grouped into an assembly. Utilizing assemblies allows you to estimate faster, since you can add and manage an entire group of resources at once.

You can create assemblies in the Library and import them into job folders the same way you import resources.

Library Resource Assembly Register

To open the Library Resource Assembly Register, select the Library icon, then select Resource Assemblies from the Master Resources section of the Setup tab.

Overview – Library Resource Assembly Register

Section	Description
1	Each row in the register represents a single resource assembly and is defined with an Assembly Code and Assembly Description.
2	Each assembly can be expanded by clicking the plus  icon next to its Assembly Code.
3	Expanding an assembly reveals the list of resources that make up that assembly. Best practice for creating Assembly codes is to use C for Crew Assemblies, M for Material Assemblies, etc., however you can have labor, equipment, and materials in the same assembly

Resource Assembly Register

Find: [Search For...] Saved views: Standard View

Drag columns here to group

File	Description	Resource File Description	Quantity	Unit of Measure	Unit Cost	Total Cost	Currency	Organizational Category	Geographic Area	Wage Zone	Man Count
1	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
2	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
3	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
4	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
5	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
6	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
7	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
8	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
9	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
10	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
11	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
12	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
13	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
14	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
15	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
16	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
17	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
18	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
19	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
20	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
21	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
22	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
23	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
24	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
25	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
26	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
27	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
28	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
29	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
30	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
31	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
32	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
33	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
34	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
35	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
36	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
37	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
38	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
39	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
40	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
41	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
42	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
43	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
44	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
45	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
46	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
47	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
48	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
49	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
50	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
51	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
52	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
53	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
54	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
55	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
56	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
57	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
58	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
59	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
60	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
61	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
62	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
63	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
64	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
65	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
66	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
67	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
68	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
69	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
70	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
71	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
72	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
73	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
74	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
75	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
76	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
77	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
78	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
79	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
80	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
81	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
82	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
83	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
84	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
85	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
86	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
87	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
88	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
89	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
90	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
91	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
92	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
93	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
94	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
95	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
96	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
97	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
98	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
99	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			
100	Concrete Crew	Standard Assembly...	1.00	Hour	\$200.35	\$200.35	U.S. Dollar	Concrete			

Resource Assembly Record

To open an existing Resource Assembly Record, right click on the row header of an assembly (row) on the Resource Assembly Register and select Open.

Overview – Resource Assembly Record

Name		Description
1	Assembly Code and Description	Each assembly is defined with an assembly Code and an assembly Description.
2	Quantity and Unit of Measure	Each assembly has a quantity and unit of measure. The default is 1 EA. For crew assemblies with all hourly duration driven resources, it is a best practice to change the Qty to Hour, so that when used on a cost item, it will show you the assembly’s unit cost per hour.
3	Assembly Details	The rows in the Assembly Details register represent the resources that make up the resource assembly.
4	Notes	An area where the estimators make notes for records related to the resource assemblies for work orders which is commonly performed by a type of crew.

Resource Assembly Register

Resource Assembly Record

Code: CC00C Description: Concrete Crew

Qty: 1

Resource File: Standard Assembly File

Tag 1:

Geographic Area:

Tag 3:

Wage Zone:

Tag 3:

Org. Category: Concrete Plan Count: 8.00 Equip Count: 2.00

Unit Cost: \$330.38

Currency: U.S. Dollar

Last Changed By:

Last Changed On:

Notes:

Cost Summary

Assembly Details

Find: Search For... Saved view: Previous View

Row Number	Resource Code	Description	Quantity	Unit of Measure	Unit Cost	Currency	Cost Driver	Resource File Description	Organizational Category	Geographic Area	Wage Zone
1	LC2	Carpenter Journey...	2.00	Each	\$28.92	U.S. Dollar	CI Duration	Standard Labor Rate File	Carpenter	Southwest	Wage 2
2	LP2	Finisher	1.00	Each	\$28.07	U.S. Dollar	CI Duration	Standard Labor Rate File	Finisher - Concrete	Southwest	Wage 2
3	LW1	Iron Worker	1.00	Each	\$35.55	U.S. Dollar	CI Duration	Standard Labor Rate File	Iron Worker	Southwest	Wage 2
4	LI3	Laborer	1.00	Each	\$26.97	U.S. Dollar	CI Duration	Standard Labor Rate File	Laborer	Southwest	Wage 2

Productivity Rate Indicator in the CBS Register

The Productivity Indicator shows the field that contains the as-entered value and is driving the estimate for that cost item. This appears as an arrow aligned to the left of the cell as shown below.

Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency	Hours (Duration driven)	Hours (Non-Duration driven)
JOB	20.00	Mile	\$228,294.37	\$4,565,887.34	U.S. Dollar	5,191.90	15.36
Prime Bond	1.00	Lump Sum	\$39,357.30	\$39,357.30	U.S. Dollar		
Price % Add-On	1.00	Lump Sum	\$225,515.71	\$225,515.71	U.S. Dollar		
Job Financing	1.00	Lump Sum	\$0.00	\$0.00	U.S. Dollar		
Indirect Cost Escalation	1.00	Lump Sum	\$0.00	\$0.00	U.S. Dollar		
Direct Cost Escalation	1.00	Lump Sum	\$0.00	\$0.00	U.S. Dollar		
Indirect Cost Add-On	1.00	Lump Sum	\$0.00	\$0.00	U.S. Dollar		
Job Management & Equipment	1.00	Lump Sum	\$157,096.28	\$157,096.28	U.S. Dollar	800.00	0.00
General Expense	1.00	Lump Sum	\$4,200.00	\$4,200.00	U.S. Dollar	0.00	0.00
Direct Cost Add-On	1.00	Lump Sum	\$80,720.35	\$80,720.35	U.S. Dollar		
Mobilization	1.00	Lump Sum	\$13,335.70	\$13,335.70	U.S. Dollar	90.00	0.00
Clearing & Grubbing	10.00	Acre	\$3,918.50	\$39,184.97	U.S. Dollar	80.00	0.00
Unclassified Excavation	50,000.00	Cubic Yard	\$2.21	\$110,560.40	U.S. Dollar	294.67	0.00
Excavation	50,000.00	Cubic Yard	\$0.66	\$33,100.80	U.S. Dollar	128.00	0.00
Embarkment	50,000.00	Cubic Yard	\$1.55	\$77,459.60	U.S. Dollar	166.67	0.00

Being able to see productivity drivers on the CBS register makes it easier to review and modify the estimate as a whole while reducing the potential to accidentally overwrite a manually entered data.

Follow the step by step below to create a Resource Assembly.

Step by Step — Create a Resource Assembly

- From the Library landing page, under the Master Resources section of the Setup tab, select Resource Assemblies.
 - The Resource Assembly Register is shown.
- Right click on any row header and select New from the drop-down menu.
 - A new Resource Assembly Record is shown.
- In the Code field, type CEXC + [your initials] as the unique code for the assembly.
- Add a description in the Description field.
- In the Assembly Details register at the bottom of the screen, click in the Resource Code column in the first blank row, and then select the Resource icon that appears in the cell.
- On the Labor tab of the resulting register, select the resource with the Description: LL2Laborer and click OK to add this resource to the assembly.
- Add two additional resources.

You can use the Ctrl and Shift keys to select multiple resources at once.

- Click OK to save and close the new assembly.

Resource Assembly Register				
Drag columns here to group				
Code	Description	Resource File Description	Quantity	Unit of Measure
+ CCOCN	Concrete Crew	Standard Assembly...	1.00	Hour
+ CCOPB	Equipment Assembly	Standard Assembly...	1.00	Each
+ CQJAE	Grading Crew	Standard Assembly...	1.00	Hour
+ CHAINT	Equipment Maintenance	Standard Assembly...	1.00	Each

Importing Resources

The following procedures inform you how to setup resources in InEight Estimate from an excel sheet.

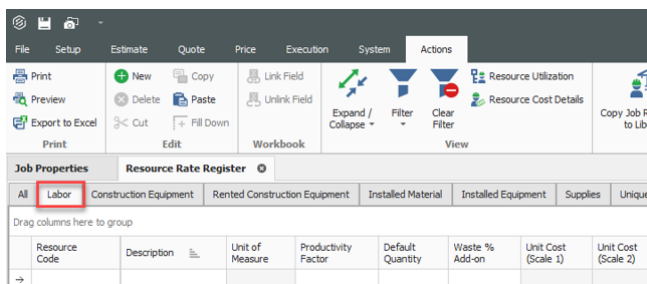
Use of this lesson will draw from other sections of InEight Estimating Manual. Basic understanding of the Sort, Group, Filter, Excel integration functionality in InEight Estimate is required.

Open Resource Rate Register

You can create resources within the Resource Rate Register. This is the location to build out the structure of those resources.

Step by Step — Opening the Labor tab

1. Open the Job Folder or Library that you're going to be working in.
2. From the Ribbon, select the **Setup** tab.
3. Under the Resources section, select **Resource Rates**. The Resource Rate Register opens.
4. Select the tab you want to add resources to.



The layout of this register and excel file is up to the organization and the decisions that are made during the detail design phase. A basic excel file will be provided to your organization as a starting point to work from. If that can't be located, you can easily build one utilizing the views within InEight Estimate.

Creating A Labor Saved View - Resource Rate Register

You can create a view to mirror both the register and excel sheets to easily bring information back and forth from the two applications.

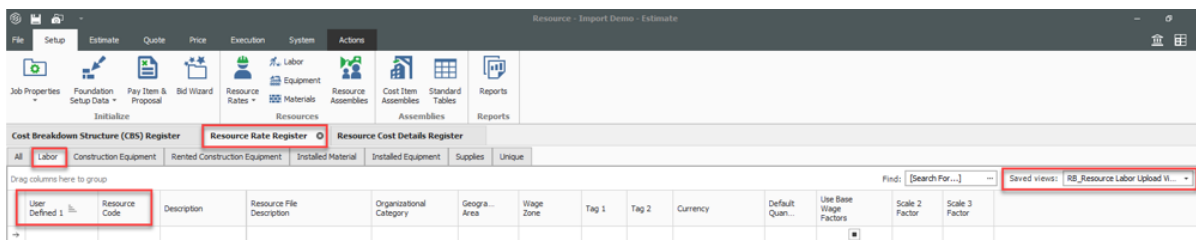
Example of columns:

- User Defined 1
- Resource Code
- Description
- Resource File Description - Validated field
- Geographic Area - Validated field

- Wage Zone - Validated field
- Organizational Category - Validated field
- Tag 1 - Validated field
- Tag 2 - Validated field
- Currency - Validated field
- Default Quantity
- Use Base Wage Factors - Scale Factors
- Scale Factor 2 - Scale Factors
- Scale Factor 3 - Scale Factors

For more information on Validated Tags field, see Validated Tags topic. Scale Factors aren't required if you are manually applying rates to each cost category scale.

The view should appear as shown below with **User Defined 1** in the first column. This field is used for sorting and arranging data accurately moving between Estimate and Excel. You are not limited to UDF 1 and can choose to utilize a field of their choice for sorting.



Setting up the excel file

Go to the Excel sheet and make sure the information in the columns shown in the screenshot are filled out. Basic concepts to keep in mind regarding the excel file:

Sort Code - This column needs to have a high sequential number such as **10000**. This is very important to assign as it will help us authenticate all the labor rates.

Resource Code - A unique Naming convention to be assigned to every labor resource. In this example we have all labor resource starting with a **L** followed by the letters that represent the resource description.

Labor Base - The base wage of the labor resource is entered here. Estimate does not allow \$ sign to be pasted, which is why the cells for the Base column are formatted to **Number**.

UDF 1	Resource Code	Description	Resource File Description	Organizational Category	Geographic Area	Wage Zone	Tag 1	Tag 2	Currency	Default Quantity	Use Base Wage Factors	Scale Factor 2	Scale Factor 3	Total	Labor Base	Tag
10000	LC2	Carpenter Journeyman	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$28.92	22.30	
10001	LSUPF	Foreman Pipe	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$29.92	23.30	
10002	LSUIW	Foreman Iron	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$30.92	24.30	
10003	LSUC	Foreman Civil	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$31.92	25.30	
10004	LSUBM	Foreman Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$32.92	26.30	
10005	LPF1	Lead Pipe Fabricator	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$33.92	27.30	
10006	LPF2	Journeyman Pipefitter	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$34.92	28.30	
10007	LPF3	Pipefitter A	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$35.92	29.30	
10008	LPF4	Pipefitter B	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$36.92	30.30	
10009	LBM1	Lead Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$37.92	31.30	
10010	LBM2	Journeyman Boilermake	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$38.92	32.30	

Creating the resource

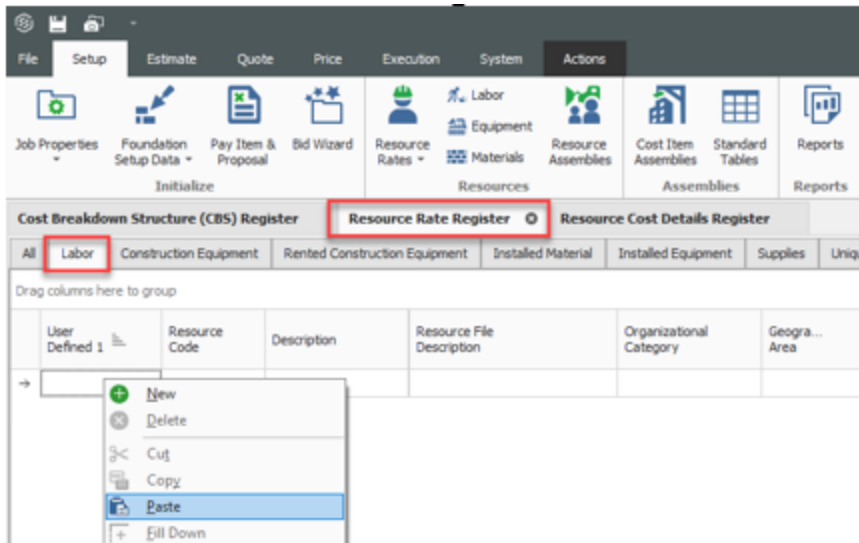
Follow this procedure once you have information filled out in excel.

Step by Step — Creating the Resource

1. Open the excel file.
2. Sort the sheet by sequential number in the **Sort Code** field.
3. Highlight the cells you want to bring into the estimate.
4. Copy the cells using right click and selecting **Copy** from the context menu.

User Defined 1	Resource Code	Description	Resource File Description	Organizational Category	Geographic Area	Wage Zone	Top 1	Top 2	Company	Default Quantity	Use Base Wage Factors	Scale Factor 2	Scale Factor 3	Total	Labor Base
10000	10000	Journeyman	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$28.92	22.10
10001	10001	Foreman Pipe	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$28.92	23.10
10002	10002	Foreman Iron	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$30.92	24.10
10003	10003	Foreman Civil	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$31.92	25.10
10004	10004	Foreman Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$32.92	26.10
10005	10005	Lead Pipe Fabricator	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$33.92	27.10
10006	10006	Journeyman Pipefitter	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$34.92	28.10
10007	10007	Pipefitter A	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$35.92	29.10
10008	10008	Pipefitter B	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$36.92	30.10
10009	10009	Lead Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$37.92	31.10
10010	10010	Journeyman Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1	TRUE	1.50	2.00	\$38.92	32.10

5. Open Estimate to the **Resource Rate Register**.
6. Select the **User Defined 1** column in the Labor tab of the Resource Rate Register.



7. Right click the empty cell and select **Paste** from the context menu. A pop up will appear asking **Are you sure you want to insert the selected values?**
8. Select **Yes** to confirm inserting the selected values.

9. The cells you copied from the excel sheet are now copied into the Resource Rate Register. The Sort code data is pasted in the User defined 1 column. Resource Code & Resource description data is pasted as well.

User Defined 1	Resource Code	Description	Resource File Description	Organizational Category	Geographical Area	Wage Zone	Tag 1	Tag 2	Currency	Default Quantity	Use Base Wage Factors	Scale 2 Factor	Scale 3 Factor
10000	LC2	Carpenter Journey...	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	0.00	0.00
10001	LSUPF	Foreman Pipe	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	0.00	0.00
10002	LSUW	Foreman Iron	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	0.00	0.00
10003	LSUC	Foreman Civil	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	0.00	0.00
10004	LSUBM	Foreman Boilemaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	0.00	0.00
10005	LPF1	Lead Pipe Fabricator	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	0.00	0.00
10006	LPF2	Journeyman Pipefitter	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	0.00	0.00
10007	LPF3	Pipefitter A	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	0.00	0.00
10008	LPF4	Pipefitter B	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	0.00	0.00
10009	LBM1	Lead Boilemaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	0.00	0.00
10010	LBM2	Journeyman Boilem...	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	0.00	0.00

10. For Make sure the sorting is on User Defined 1 column. This allows us to see the information being sorted similar to our data in excel file. Base Wage Factors need to be flagged to turn on with the check box. Your first copy and paste should have activated them. You need to copy and paste again in order to apply the factors.

Scale Factor 2	Scale Factor 3	Total	Labor
1.50	2.00	\$28.92	
1.50	2.00	\$29.92	
1.50	2.00	\$30.92	
1.50	2.00	\$31.92	
1.50	2.00	\$32.92	
1.50	2.00	\$33.92	
1.50	2.00	\$34.92	
1.50	2.00	\$35.92	
1.50	2.00	\$36.92	
1.50	2.00	\$37.92	
1.50	2.00	\$38.92	

User Defined 1	Resource Code	Description	Resource File Description	Organizational Category	Geographical Area	Wage Zone	Tag 1	Tag 2	Currency	Default Quantity	Use Base Wage Factors	Scale 2 Factor	Scale 3 Factor
10000	LC2	Carpenter Journey...	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	1.50	2.00
10001	LSUPF	Foreman Pipe	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	1.50	2.00
10002	LSUW	Foreman Iron	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	1.50	2.00
10003	LSUC	Foreman Civil	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	1.50	2.00
10004	LSUBM	Foreman Boilemaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	1.50	2.00
10005	LPF1	Lead Pipe Fabricator	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	1.50	2.00
10006	LPF2	Journeyman Pipefitter	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	1.50	2.00
10007	LPF3	Pipefitter A	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	1.50	2.00
10008	LPF4	Pipefitter B	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	1.50	2.00
10009	LBM1	Lead Boilemaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	1.50	2.00
10010	LBM2	Journeyman Boilem...	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	Non Union	Hourly	U.S. Dollar	1.00	☒	1.50	2.00

Resource Cost Details

Labor resources are now in the system a user can apply rates to those resources.

Step by Step — Resource Cost Detail

1. From the Ribbon, select the **Actions** tab.
2. Under the View section, select the Resource **Cost Details** option. The **Resource Cost Details Register** opens.
3. Create a view to mirror the accompanying excel sheet or create one to bring in the associated resource cost in the details register.
4. From the Saved views drop down, select the **Labor** view to filter down to only labor resources.
5. Right click a column header and select **Column Chooser**.
6. Drag and drop the columns into the view identified below.

The screenshot shows the 'Resource Cost Details Register' tab in an Excel spreadsheet. A right-click context menu is open over the 'Premium' column header, with the 'Column Chooser' option selected. The 'Column Chooser' pane is visible on the right, listing columns that can be dragged into the view. The spreadsheet data includes columns for Resource Code, Scale, Total, Labor, Labor Base, Labor Burden, Labor Fringes, Travel, Premium, Holiday, Savings, Pension, Vacation, and various fringe benefits.

Resource Code	Scale	Total	Labor	Labor Base	Labor Burden	Labor Fringes	Travel	Premium	Holiday	Savings	Pension	Vacation	Apprenticeship	Undefined Fringe1	Undefined Fringe2	Undefined Fringe3
LBH1	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LBH2	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LC2	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LFP1	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LFP2	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LFP3	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LFP4	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LSBM	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LSUC	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LSUW	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LSUP	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Example of columns – The level of detail and utilization of specific cost categories is a decision for each organization:

- User Defined 1 - Non editable fields from resource rates register
- Resource Code - Non editable fields from resource rates register
- Description - Non editable fields from resource rates register
- Resource File Description - Non editable fields from resource rates register
- Geographic Area - Non editable fields from resource rates register
- Wage Zone - Non editable fields from resource rates register
- Organizational Category - Non editable fields from resource rates register
- Scale - Non editable fields from resource rates register
- Labor Base
- Travel
- Premium
- Holiday
- Savings
- Pension
- Vacation
- Subsistence

- Health & Welfare
- Apprenticeship
- Undefined Fringe 1
- Undefined Fringe 2
- Undefined Labor Fringes
- Bodily Injury & Property Damage
- Workers Compensation
- Undefined Insurance1
- Undefined Insurance2
- Undefined Labor Insurance
- FICA
- FUTA
- SUTA
- Undefined Tax1
- Undefined Labor Taxes
- Undefined Labor Burden
- Undefined Labor
- Construction Supplies
- Undefined Materials
- Undefined
- Billing Rate
- Billing Rate Markup
- Billing Rate Markup %

Filter/Sort/Paste - Resource Cost Details Register

The Labor upload view brings in the columns required to enter Labor base, burdens etc. Every Labor resource has three rows created with Scales 1,2,3. The Scale Column is used to setup Straight time, Over time, Double time.

Cost Breakdown Structure (CBS) Register

Resource Rate Register

Resource Cost Details Register

Drag columns here to group

Resource Code	Scale	Total	Labor	Labor Base	Labor Burden	Labor Fringes	Travel
LBM1	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
LBM1	2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
LBM1	3	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0
LBM2	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0

Step by Step — Filter Resource Cost Detail Register

1. From the Scale column header, click the filter icon..
2. Set the From and To values to 1.

Cost Breakdown Structure (CBS) Register Resource Rate Register **Resource Cost Details Register** Labor Rate Record

Drag columns here to group

User Defined 1	Resource Code	Description	Resource File Description	Organizational Category	Geographic Area	Wage Zone	Scale	Total	Labor Base	Travel	Prem
→ 10009	LBM1	Lead Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A					
10010	LBM2	Journeyman Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A					\$0.00
10000	LC2	Carpenter Journeyman	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A					\$0.00
10005	LPF1	Lead Pipe Fabricator	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A					\$0.00
10006	LPF2	Journeyman Pipefitter	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A					\$0.00
10007	LPF3	Pipefitter A	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A					\$0.00
10008	LPF4	Pipefitter B	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A					\$0.00
10004	LSUBM	Foreman Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A					\$0.00
10003	LSUC	Foreman Civil	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A					\$0.00
10002	LSUW	Foreman Iron	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A					\$0.00
10001	LSUPF	Foreman Pipe	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A					\$0.00

Filter dialog box: From 1 To 1

Buttons: Clear Filter, Custom, Close

3. Back on the excel spreadsheet, highlight the base rates to bring in.
4. Right click and select **Copy** in the context menu.

V30

fx

	A	B	C	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	Required																
2	Validated Field																
3	Not Required																
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	

Resource Rate Register

User Defined 1

Resource Code

Description

*Scale Factor 2

*Scale Factor 3

Total

10000 LC2

Carpenter Journeyman

1.50

2.00

\$28.92

10001 LSUPF

Foreman Pipe

1.50

2.00

\$29.92

10002 LSUW

Foreman Iron

1.50

2.00

\$30.92

10003 LSUC

Foreman Civil

1.50

2.00

\$31.92

10004 LSUBM

Foreman Boilermaker

1.50

2.00

\$32.92

10005 LPF1

Lead Pipe Fabricator

1.50

2.00

\$33.92

10006 LPF2

Journeyman Pipefitter

1.50

2.00

\$34.92

10007 LPF3

Pipefitter A

1.50

2.00

\$35.92

10008 LPF4

Pipefitter B

1.50

2.00

\$36.92

10009 LBM1

Lead Boilermaker

1.50

2.00

\$37.92

10010 LBM2

Journeyman Boilermaker

1.50

2.00

\$38.92

Resource Cost Details Register

Total

Labor Base

Travel

Premium

Holiday

Savings

Pension

Vacation

Subsistence

Health & Welfare

Apprenticeship

Undefined Fringe 1

22.10

0.00

0.00

0.22

0.00

0.66

0.44

0.00

0.66

0.00

0.00

23.10

0.00

0.00

0.22

0.00

0.66

0.44

0.00

0.66

0.00

0.00

24.10

0.00

0.00

0.22

0.00

0.66

0.44

0.00

0.66

0.00

0.00

25.10

0.00

0.00

0.22

0.00

0.66

0.44

0.00

0.66

0.00

0.00

26.10

0.00

0.00

0.22

0.00

0.66

0.44

0.00

0.66

0.00

0.00

27.10

0.00

0.00

0.22

0.00

0.66

0.44

0.00

0.66

0.00

0.00

28.10

0.00

0.00

0.22

0.00

0.66

0.44

0.00

0.66

0.00

0.00

29.10

0.00

0.00

0.22

0.00

0.66

0.44

0.00

0.66

0.00

0.00

30.10

0.00

0.00

0.22

0.00

0.66

0.44

0.00

0.66

0.00

0.00

31.10

0.00

0.00

0.22

0.00

0.66

0.44

0.00

0.66

0.00

0.00

32.10

0.00

0.00

0.22

0.00

0.66

0.44

0.00

0.66

0.00

0.00

5. Go to Estimate. Right click and select **Paste** from the context menu.

Cost Breakdown Structure (CBS) Register Resource Rate Register **Resource Cost Details Register** Labor Rate Record

Drag columns here to group

User Defined 1	Resource Code	Description	Resource File Description	Organizational Category	Geographic Area	Wage Zone	Scale	Total	Labor Base	Travel	Premium	Holiday	Savings	Pension	Vacation	Subsistence
→ 10000	LC2	Carpenter Journeyman	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	1	\$0.00								
10001	LSUPF	Foreman Pipe	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	1	\$0.00								
10002	LSUW	Foreman Iron	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	1	\$0.00								
10003	LSUC	Foreman Civil	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	1	\$0.00								
10004	LSUBM	Foreman Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	1	\$0.00								
10005	LPF1	Lead Pipe Fabricator	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	1	\$0.00								
10006	LPF2	Journeyman Pipefitter	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	1	\$0.00								
10007	LPF3	Pipefitter A	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	1	\$0.00								
10008	LPF4	Pipefitter B	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	1	\$0.00								
10009	LBM1	Lead Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	1	\$0.00								
10010	LBM2	Journeyman Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	1	\$0.00								

Context menu: Copy, Paste

6. You will be prompted with a **Are you sure you want to insert these values?** message as before. Select **Yes** to continue.

Manual Set-Up of Scales 2 & 3 – Optional

If the organization wants to have more in-depth cost details for each scale rather than using scale factors the same procedure will be utilized to copy Labor burden, fringes, and other add-ons to setup Scale 2 & Scale 3.

For Base Wage Factor Columns will not be active if your organization is using method 2.

Resource Rate Register

Cost Breakdown Structure (CBS) Register				Resource Rate Register		Resource Cost Details Register		Labor Rate Record				
All	Labor	Construction Equipment	Rented Construction Equipment	Installed Material	Installed Equipment	Supplies	Unique					
Drag columns here to group								Find: Search For...		Saved views: Previous		
Resource Code	Resource Type	Description	Resource File Description	Unit of Measure	Productivity Factor	Default Quantity	Waste % Add-on	Unit Cost (Scale 1)	Unit Cost (Scale 2)	Unit Cost (Scale 3)	Currency	Use Base Wage Factors
+ LBM1	Labor Rate	Lead Boilermaker	Standard Labor Rate File	Hour	1.00	1.00		\$37.90	\$46.65	\$62.20	U.S. Dollar	☐
+ LBM2	Labor Rate	Journeyman Boilermaker	Standard Labor Rate File	Hour	1.00	1.00		\$38.90	\$48.15	\$64.20	U.S. Dollar	☐
+ LC2	Labor Rate	Carpenter Journeyman	Standard Labor Rate File	Hour	1.00	1.00		\$28.90	\$33.15	\$44.20	U.S. Dollar	☐
+ LPF1	Labor Rate	Lead Pipe Fabricator	Standard Labor Rate File	Hour	1.00	1.00		\$33.90	\$40.65	\$54.20	U.S. Dollar	☐
+ LPF2	Labor Rate	Journeyman Pipefitter	Standard Labor Rate File	Hour	1.00	1.00		\$34.90	\$42.15	\$56.20	U.S. Dollar	☐
+ LPF3	Labor Rate	Pipefitter A	Standard Labor Rate File	Hour	1.00	1.00		\$35.90	\$43.65	\$58.20	U.S. Dollar	☐
+ LPF4	Labor Rate	Pipefitter B	Standard Labor Rate File	Hour	1.00	1.00		\$36.90	\$45.15	\$60.20	U.S. Dollar	☐
+ LSUBM	Labor Rate	Foreman Boilermaker	Standard Labor Rate File	Hour	1.00	1.00		\$32.90	\$39.15	\$52.20	U.S. Dollar	☐
+ LSUC	Labor Rate	Foreman Civil	Standard Labor Rate File	Hour	1.00	1.00		\$31.90	\$37.65	\$50.20	U.S. Dollar	☐
+ LSUIW	Labor Rate	Foreman Iron	Standard Labor Rate File	Hour	1.00	1.00		\$30.90	\$36.15	\$48.20	U.S. Dollar	☐
+ LSUPF	Labor Rate	Foreman Pipe	Standard Labor Rate File	Hour	1.00	1.00		\$29.90	\$34.65	\$46.20	U.S. Dollar	☒

Resource Cost Details Register

Cost Breakdown Structure (CBS) Register			Resource Rate Register		Resource Cost Details Register		Labor Rate Record		
Drag columns here to group									
	User Defined 1	Resource Code	Description	Resource File Description	Organizational Category	Geographic Area	Wage Zone	Scale	Total
→	10000	LC2	Carpenter Journeyman	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$33.15
	10001	LSUPF	Foreman Pipe	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$34.65
	10002	LSUIW	Foreman Iron	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$36.15

Step by Step — Manual Setup of Scales

1. From the Scale column header, click the filter icon..
2. Set the From and To values to 2.

Cost Breakdown Structure (CBS) Register										
Resource Rate Register										
Resource Cost Details Register										
Labor Rate Record										
Drag columns here to group										
User Defined 1	Resource Code	Description	Resource File Description	Organizational Category	Geographic Area	Wage Zone	Scale	Total	Labor Base	Travel
→ 10000	LC2	Carpenter Journeyman	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2			\$0.00
10001	LSUPF	Foreman Pipe	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2			\$0.00
10002	LSUIW	Foreman Iron	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2			\$0.00
10003	LSUC	Foreman Civil	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2			\$0.00
10004	LSUBM	Foreman Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2			\$0.00
10005	LPF1	Lead Pipe Fabricator	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2			\$0.00
10006	LPF2	Journeyman Pipefitter	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2			\$0.00
10007	LPF3	Pipefitter A	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2			\$0.00
10008	LPF4	Pipefitter B	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2			\$0.00
10009	LBM1	Lead Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2			\$0.00
10010	LBM2	Journeyman Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2			\$0.00

- Back on the excel spreadsheet, highlight the base rates to bring in.
- Right click and select **Copy** in the context menu.

Resource Code	Description	Scale Factor 2	Scale Factor 3	Total	Labor Base	Travel	Premium	Holiday	Savings	Pension	Vacation	Subistence	Health & Welfare	Apprenticeship	Undefined Fringe 1
10000 LC2	Carpenter Journeyman	1.50	2.00	\$28.92	22.10	0.00	0.00	0.22	0.00	0.66	0.44	0.00	0.66	0.00	0.00
10001 LSUPP	Foreman Pipe	1.50	2.00	\$29.92	23.10	0.00	0.00	0.22	0.00	0.66	0.44	0.00	0.66	0.00	0.00
10002 LSUIW	Foreman Iron	1.50	2.00	\$30.92	24.10	0.00	0.00	0.22	0.00	0.66	0.44	0.00	0.66	0.00	0.00
10003 LSUC	Foreman Civil	1.50	2.00	\$31.92	25.10	0.00	0.00	0.22	0.00	0.66	0.44	0.00	0.66	0.00	0.00
10004 LSUBM	Foreman Boilermaker	1.50	2.00	\$32.92	26.10	0.00	0.00	0.22	0.00	0.66	0.44	0.00	0.66	0.00	0.00
10005 LPF1	Lead Pipe Fabricator	1.50	2.00	\$33.92	27.10	0.00	0.00	0.22	0.00	0.66	0.44	0.00	0.66	0.00	0.00
10006 LPF2	Journeyman Pipefitter	1.50	2.00	\$34.92	28.10	0.00	0.00	0.22	0.00	0.66	0.44	0.00	0.66	0.00	0.00
10007 LPF3	Pipefitter A	1.50	2.00	\$35.92	29.10	0.00	0.00	0.22	0.00	0.66	0.44	0.00	0.66	0.00	0.00
10008 LPF4	Pipefitter B	1.50	2.00	\$36.92	30.10	0.00	0.00	0.22	0.00	0.66	0.44	0.00	0.66	0.00	0.00
10009 LBM1	Lead Boilermaker	1.50	2.00	\$37.92	31.10	0.00	0.00	0.22	0.00	0.66	0.44	0.00	0.66	0.00	0.00
10010 LBM2	Journeyman Boilermaker	1.50	2.00	\$38.92	32.10	0.00	0.00	0.22	0.00	0.66	0.44	0.00	0.66	0.00	0.00

- Go to Estimate. Right click and select **Paste** from the context menu.

User Defined 1	Resource Code	Description	Resource File Description	Organizational Category	Geographic Area	Wage Zone	Scale	Total	Labor Base	Travel	Premium	Holiday
10000	LC2	Carpenter Journeyman	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$33.15	\$33.15	\$0.00	\$0.00	\$0.00
10001	LSUPP	Foreman Pipe	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$34.65	\$34.65	\$0.00	\$0.00	\$0.00
10002	LSUIW	Foreman Iron	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$36.15	\$36.15	\$0.00	\$0.00	\$0.00
10003	LSUC	Foreman Civil	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$37.65	\$37.65	\$0.00	\$0.00	\$0.00
10004	LSUBM	Foreman Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$39.15	\$39.15	\$0.00	\$0.00	\$0.00
10005	LPF1	Lead Pipe Fabricator	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$40.65	\$40.65	\$0.00	\$0.00	\$0.00
10006	LPF2	Journeyman Pipefitter	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$42.15	\$42.15	\$0.00	\$0.00	\$0.00
10007	LPF3	Pipefitter A	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$43.65	\$43.65	\$0.00	\$0.00	\$0.00
10008	LPF4	Pipefitter B	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$45.15	\$45.15	\$0.00	\$0.00	\$0.00
10009	LBM1	Lead Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$46.65	\$46.65	\$0.00	\$0.00	\$0.00
10010	LBM2	Journeyman Boilermaker	Standard Labor Rate File	Carpenter	Southwest	Wage Zone A	2	\$48.15	\$48.15	\$0.00	\$0.00	\$0.00

- You will be prompted with a **Are you sure you want to insert these values?** message as before. Select **Yes** to continue.
- Follow the same procedure for scale 3.

Non Labor Resource Setup

The same principles can be applied for the other resource types within InEight Estimate. This procedure covers installed material, but can also be used for the other six resource types.

Creating A Materials Saved View - Resource Rate Register

Create a view to mirror both the register and excel sheets to easily bring information back and forth from the two applications.

Example of columns

- User Defined 1
- Resource Code
- Description
- Resource File Description - Validated Tag field
- Geographic Area - Validated Tag field

- Wage Zone - Validated Tag field
- Organizational Category - Validated Tag field
- Tag 1 - Validated Tag field
- Tag 2 - Validated Tag field
- Currency - Validated Tag field
- Apply Standard Tax - Validated Tag field
- Unique Sales Tax
- Unit of Measure - Validated Tag field

Creating A Material Resource

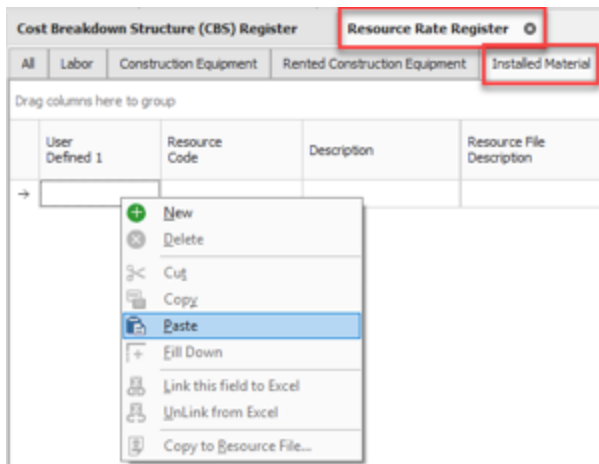
Follow the step by step once you have information filled out in excel.

Step by Step — Creating the Resource

1. Open the excel file.
2. Sort the sheet by sequential number in the **Sort Code** field.
3. Highlight the cells you want to bring into the estimate.
4. Copy the cells using right click and selecting **Copy** from the context menu.

User Defined 1	Resource Code	Description	Resource File Description	Geographic Area	Wage Zone	Organizational Category	Tag 1	Tag 2	Currency	Apply Standard Tax	Unique Sale	Unit of Measure
	10000	MAAM Asphalt Mix (Finish)	Standard Material Rate File			Asphalt	Pave		U.S. Dollar	TRUE		5 Ton
	10001	MAC Asphalt Cement	Standard Material Rate File			Asphalt	Plant Asphalt		U.S. Dollar	TRUE		5 Ton
	10002	MACA1-1/2 Coarse Aggregate 1-1/2 in	Standard Material Rate File			Asphalt	Plant Asphalt		U.S. Dollar	TRUE		5 Ton
	10003	MAFA Fine Aggregate	Standard Material Rate File			Asphalt	Plant Asphalt		U.S. Dollar	TRUE		5 Ton
	10004	MAHAUL Aggregate Haul Quarry to Plant	Standard Material Rate File			Asphalt	Plant Asphalt		U.S. Dollar	TRUE		5 Ton
	10005	MAA3/4 Intermediate Aggregate 3/4 in	Standard Material Rate File			Asphalt	Plant Asphalt		U.S. Dollar	TRUE		5 Ton
	10006	MASAND Sand	Standard Material Rate File			Asphalt	Plant Asphalt		U.S. Dollar	TRUE		5 Ton
	10007	MATK Tack	Standard Material Rate File			Asphalt	Pave		U.S. Dollar	TRUE		5 Gallon
	10008	MBR Aggregate Base Rock	Standard Material Rate File			Base Stone	Aggregate Base		U.S. Dollar	TRUE		5 Ton
	10009	MC2000 Concrete 4000 PSI	Standard Material Rate File			Concrete	Concrete		U.S. Dollar	TRUE		5 Cubic Yard
	10010	MC3500 Concrete 3500 PSI	Standard Material Rate File			Concrete	Concrete		U.S. Dollar	TRUE		5 Cubic Yard
	10011	MDIRTA Dirt Class A	Standard Material Rate File			Earthwork	Water/Sewer		U.S. Dollar	TRUE		5 Cubic Yard
	10012	MDIRTB Dirt Class B	Standard Material Rate File			Earthwork	Water/Sewer		U.S. Dollar	TRUE		5 Ton
	10013	MMH Manhole Precast 4 Ft	Standard Material Rate File			Manholes	Manhole		U.S. Dollar	TRUE		5 Each

5. Open Estimate to the **Resource Rate Register**.
6. Select the **User Defined 1** column in the Installed Material tab of the Resource Rate Register.



7. Right click the empty cell and select **Paste** from the context menu. A pop up will appear asking **Are you sure you want to insert the selected values?**
8. You will be prompted with a **Are you sure you want to insert these values?** message. Click **Yes** to continue.

Create A Material Saved View - Resource Cost Details Register

Installed Material Resources are now in the system. You can apply rates to those resources. Create a view to mirror the accompanying excel sheet or create one to bring in the associated resource cost in the details register.

Step by Step — Material Saved View

1. From the Ribbon, select the **Actions** tab.
2. Under the View section, select the **Resource Cost Details** option. The **Resource Cost Details Register** opens.
3. Create a view to mirror the accompanying excel sheet or create one to bring in the associated resource cost in the details register.
4. From the Saved views drop down, select the **Installed material** view to filter down to only material resources.
5. Right click a column header and select **Column Chooser**.
6. Drag and drop the columns into the view identified below.

Cost Breakdown Structure (CBS) Register Resource Rate Register **Resource Cost Details Register**

Find: [Search For...] Saved views: Labor View

Resource Code	Scale	Total	Labor	Labor Base	Labor Burden	Labor Fringes	Travel	Premium	Holiday	Savings	Pension	Vacation	Apprenticeship	Undefined Fringe1	Undefined Fringe2	Undefined Fringe3
LBM1	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LBM2	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LC2	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LPF1	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LPF2	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LPF3	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LPF4	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LSUBM	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LSUBC	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LSUBW	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
LSUBP	1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Example of columns – The level of detail and utilization of specific cost categories is a decision for each organization:

- User Defined 1 - Non editable fields from resource rates register
- Resource Code - Non editable fields from resource rates register
- Description - Non editable fields from resource rates register
- Resource File Description - Non editable fields from resource rates register
- Geographic Area - Non editable fields from resource rates register
- Wage Zone - Non editable fields from resource rates register
- Organizational Category - Non editable fields from resource rates register
- Unit of Measure - Non editable fields from resource rates register
- Currency - Non editable fields from resource rates register
- Total - Non editable fields from resource rates register
- Installed Materials
- Undefined Materials
- Sales Taxes
- Undefined Fees
- Undefined
- Billing Rate
- Billing Rate Markup
- Billing Rate Markup %

Quantity Checking

The Quantity Checking feature allows you to compare the quantity of a superior cost item to the sum of its relevant subordinate cost item quantities. This setting enables the use of the **Quantity Check** and **Quantity Warning** columns in the Cost Breakdown Structure. The use of these columns can assist in confirming whether or not your quantities are correct.

The subordinate cost item quantities need to have the same unit of measure as the superior cost item before you are able to choose the Quantity Check column.

In the example below, break a concrete pour cost item into four subordinate parts. The Forecast (T/O) Quantity of the superior item will be 156875.00 tons of concrete. Start by dividing each of the four parts into 35000.00 tons each. Once you have broken out this concrete pour, determine if you need a fifth pour or if you should distribute the remaining quantity to the four pours. The factors you keep in mind are the trips and time involved in the extra pour vs capacity of equipment.

Step by Step — Quantity Checking

1. From the Ribbon, select the **Setup** tab.
2. Under the section Initialize, select **Job Properties**. Then select the **Cost Basis** tab.

Quantity checking starts by turning the feature on in the Job Properties. If you want to have quantity checking turned on for all jobs in Estimate, then this setting needs to be turned on in the **Master Job Properties**. The Master Job Properties is located in the **Library**.

3. From the Rules data box, select the **Activate Quantity Checking** check box.

The screenshot displays the software's ribbon interface. The 'Setup' tab is selected, and the 'Job Properties' button is highlighted with a red box. Below the ribbon, the 'Cost Breakdown Structure (CBS) Register' is visible, with the 'Cost Basis' tab selected and highlighted by a red box. The 'Rules' section on the right contains a list of settings, with 'Activate Quantity Checking' checked and highlighted by a red box. Other settings include 'Lock Cost Items to Pay Items' (checked), 'Pay Item Unit Price Precision' (2), 'Activate PBS Changes Log' (unchecked), and 'Maintain CBS Structure at Level' (0). The 'When man-count changes' section has 'Change UM / Man-Hour' selected.

Register

- Next bring a couple of columns into your view on the Cost Breakdown Structure (CBS) Register. Right click on the column header and choose **Go To Column**.
- The Go To Column dialog box appears. Have the **Include columns that are not currently in the view** check box selected.

CBS Position Code	Description	Unit of Measure	Quantity Driver	Cost Source	Cost Segment	Unit Cost	Total Cost (Forecast)	Hours (Duration driven)	Days (Duration driven)	Labor Total Cost
+ 4.2	Finegrade Subgrade	Square Yard	Superior CI	Detail	Direct Cost	\$0.19	\$75,848.36	320.00	40.00	\$39,464.36
+ 4.3	Install Aggregate Base	Ton	Superior CI	Detail	Direct Cost	\$2.17	\$97,567.33	560.00	70.00	\$50,759.33
+ 4.3.1	Place Aggregate Base	Ton	Superior CI	Detail	Direct Cost	\$1.63	\$73,460.92	240.00	30.00	\$33,884.92
+ 4.3.2	Blue Top Aggregate Base	Square Yard	Superior CI	Detail	Direct Cost	\$0.06	\$24,106.42	320.00	40.00	\$16,874.42
+ 5	Asphalt Concrete Hot Mix Type A	Ton	Pay Item	Detail	Direct Cost	\$42.62	\$1,491,580.59	466.67	52.50	\$108,952.25
+ 5.1	Furnish & Haul Hot Mix	Ton	Superior CI	Detail	Direct Cost	\$39.27	\$1,374,562.54	233.33	29.17	\$50,010.87
+ 5.2	Install Hot Mix Type A	Ton	Superior CI	Detail	Direct Cost	\$3.34	\$117,018.05	233.33	23.33	\$58,941.38
+ 6	36 Inch RCP Culvert Class III	Linear Feet	Pay Item	Detail	Direct Cost	\$67.54	\$69,159.49	149.30	18.66	\$20,073.46
+ 6.1	Furnish RCP Materials	Linear Feet	Superior CI	Detail	Direct Cost			0.00	0.00	\$0.00
+ 6.2	Excavate RCP Trench	Cubic Yard	Superior CI	Detail	Direct Cost			37.17	4.65	\$4,963.56
+ 6.3	Install RCP Pipe	Linear Feet	Superior CI	Detail	Direct Cost					\$0.00
+ 6.4	Backfill RCP Pipe	Cubic Yard	Superior CI	Detail	Direct Cost					\$0.00
+ 7	Concrete Pour	Ton	Superior CI	Detail	Direct Cost					\$0.00
+ 7.1	Concrete Batch One	Ton	Fixed	Detail	Direct Cost					\$0.00
+ 7.2	Concrete Batch Two	Ton	Fixed	Detail	Direct Cost					\$0.00
+ 7.3	Concrete Batch Three	Ton	Fixed	Detail	Direct Cost					\$0.00
+ 7.4	Concrete Batch Four	Ton	Fixed	Detail	Direct Cost					\$0.00
+ 8	10 Inch PVC Force Main (SDR21)	Linear Feet	Pay Item	Detail	Direct Cost					\$0.00

- Click **OK** when you have selected your preferred columns.

Next, toggle the check box for the **Quantity Check** column.

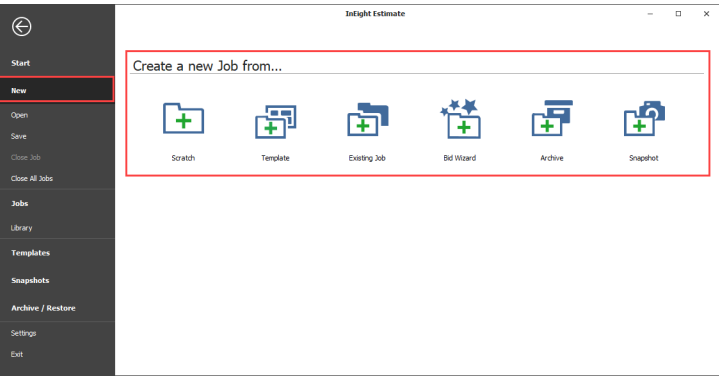
+ 7	Concrete Pour	156,875.00	Ton	☒		Superior CI
+ 7.1	Concrete Batch One	35,000.00	Ton	☐	☒	Fixed
+ 7.2	Concrete Batch Two	35,000.00	Ton	☐	☒	Fixed
+ 7.3	Concrete Batch Three	35,000.00	Ton	☐	☒	Fixed
+ 7.4	Concrete Batch Four	35,000.00	Ton	☐	☒	Fixed

- As you check Quantity Check for the four batches of Concrete, the superior cost item Quantity Warning turns yellow. This is indicating a quantity warning. Hover your mouse over the superior cost item Quantity Warning column. Then, an overlay message appears showing the quantity discrepancy. Apply this discrepancy to the Subordinate cost items. That way, the superior cost item will be the sum of the parts.
- The remaining quantity is 16875.00 tons which does not warrant a fifth pour.

Job Creation

In InEight Estimate, a job represents the *folder* containing your estimate (or version of your estimate), including its related bid items, cost breakdown structure, resources, quotes, and change logs. All the jobs in your organization are stored in the [Job Register](#).

To create a new job, you can choose from multiple options available when selecting **New** in the InEight Estimate Backstage view. The image and table below show the available options.



Option	Description
Scratch	Creates a new job folder from scratch that is empty, containing no existing data.
Template	Creates a job from an existing template, selected from the Template Register. For more information, see "Templates" on page 226.
Existing Job	Creates a job from an existing job, selected from the Job Register. For more information, see "Copy an Existing Job" on page 224.
Bid Wizard	Uses a wizard tool to create a new job by selecting pay items and/or cost items from an existing source job. For more information, see "Bid Wizard" on page 237.
Archive	Creates a new job from an Estimate Job Archive (.est) File. For more information on creating and using job archives, see "Archive and Restore Jobs" on page 354.
Snapshot	Creates a new job from a register containing snapshots for all jobs. You can filter the register of snapshots to find the snapshot you need. For more information, see "Snapshots" on page 248.

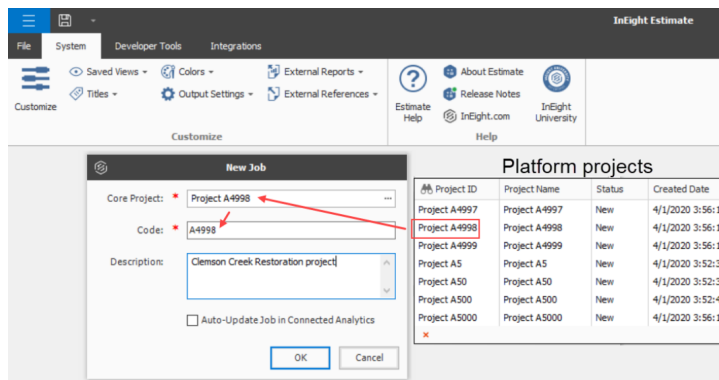
Create a Job from Scratch

When you need a clean estimating environment that is not based on any past work, select the create a new job from **Scratch** option. Creating a job from scratch gives you complete flexibility and ensures no assumptions are carried over from past estimates.

Platform Project association to job

In Estimate, you create a job that represents your project estimate and all the information associated with it. This job must be associated with a project in InEight Platform that represents the overall construction project being managed by your organization, from planning to execution and turnover.

When you select to create a new job, in the New Job window, select a project in the Core Project field drop-down list to associate to your job in Estimate. Core project refers to a project in Platform.



Because projects in Platform are organized in an Organizational Breakdown Structure, associating your job (estimate) to a project in Platform allows your estimates to be included in that organizational structure.

After the job you create is associated to a Platform project, in the Job Register, you can view the job in the context of your organization breakdown structure. In the example below, the job register is filtered to the Tantalum Group > Estimating > **Site Work** level of the organization. Under project ID number 5013592, you can see two jobs, the original estimate and a second version.

Job Register

Organization

Name

Tantalum Group

Archive

Assets

East

Estimating

Industrial Sector

Paving

Renovation

Site Work

Program 1

Stampede Ventures

West

Project ID

Proj... ID	Code	In Use	Description
4985362		1	
4985362	4985362	☐	2020 Clow Creek Shoreline Res
4992404		1	
→ 5013592		2	
5013592	5013592	☐	Springbrook Golf Course Dynam
5013592	5013592-v2	☐	Springbrook Golf Course Dynam
5013787		1	

For more information, see [Job Register](#).

Create a new job from scratch

1. From the Backstage view, select to create a new job from **scratch**.
2. In the New Job dialog box, click in the **Core Project** field to select a Platform job from the list.
3. Modify the **Code** field as needed.
4. Enter a description of the job in the Description field.
5. Determine if you want to select the **Auto-Update Job in Connected Analytics** check box.
6. Click **OK** to create the new project.

Job Properties

When you create a new project, the Job Properties form automatically shows. This is where you can enter basic information about the project. You can access Job Properties on the InEight Estimate landing page > Setup > **Job Properties**.

Overview Tab

The Job Properties form opens to the Overview tab. The image and table below show the Overview options:

FileSetupEstimateQuotePriceSystemIntegrations

Job Properties

Foundation Setup Data

Pay Item & Proposal

Bid Wizard

Resources

Labor

Equipment

Materials

Resource Assemblies

Cost Item Assemblies

Standard Tables

Reports

InitializeResourcesAssembliesReports

Job Properties

Structure (CBS) Register

Job Properties

Overview

Cover Sheet

Cost Basis

Minority Setup

Fuel Cost

Job Folder Tags

Pricing

Schedule

Cash Flow

Equipment Ma

1

Code:

101-1

2

Status:

Bidding

3

Project ID:

101

4

Project Name:

projecNameis 101

5

Description:

Training Job - Maricopa County No. TM2924

7

Notes:

Use this field to record notes, information, special provisions, unusual conditions, etc. You will also find many other places to enter notes in your estimate. You might use this area to enter general job type information and enter more specific notes at the item or record level.

Example: Embankments shall be so constructed that adequate surface drainage will be provided at all times. Roadway embankment materials that consist predominantly of soil shall be placed in horizontal layers not to exceed 250 millimeters (ten inches) in depth before compaction, and each layer shall be compacted to a density not less than 95 percent of maximum density. Unless otherwise specified, the top 150 millimeters (six inches) of the roadbed in both cut and fill sections shall be compacted to 95 percent of maximum density. Maximum density and optimum moisture will be determined by the Engineer in accordance with the "Standard Method of Test for Moisture Density Relationship of Soils Using a 2.5 kilograms (5.5 Pound) Rammer and a 305 millimeter (12-inch) Drop", AASHTO T 99, Method C. The determination of the density of the soil in place will be in accordance with an approved AASHTO method. Placing and compacting areas shall be kept separate.

6

Project Notes:

core.project 101 notes.edit

8

Last Saved: 9/24/2024 10:18:35 AM

Job created by: marappa@ineight

Source Job: Training Job

9

10

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Overview Tab

Name		Description
1	Code	The name of the Estimate job. The name cannot be changed.
2	Status	Current state of the job, such as Bidding, Awarded, or Completed. • When searching for jobs in the Job Folders list, you can filter and sort jobs by their status. • You can set statuses for jobs to fit your company requirements in the Jobs Register > Actions > Tools > Job Status.
3	Project ID	Information in this field originates from the Platform project the estimate is associated with and cannot be changed. You can click the Project ID link to navigate to the project in Platform.
4	Organization	Information in this field originates from Platform.
5	Description	You can enter a job description. You can edit the description any time.
6	Project name	Information in this field originates from the Platform project the estimate is associated with and cannot be changed.
7	Notes	Add estimate related information, such as when creating multiple versions of an estimate for the same Platform project. For example, you can enter <i>This version is per addendum #1</i> or <i>This version is per a specified design change</i> , or <i>This version of the</i>

Name		Description
		<i>estimate is incorporating last minute changes.</i>
8	Project Notes	Information in this field originates from the Platform project the estimate is associated with. The notes can be added and edited at any time in Platform to document specific project-level details.
9	Job created by	Indicates the user or entity that initially created the job.
10	Source job	The name of the original job that the job was copied from.

When you copy a job, the new job shows the name of the person who created the copied job, and the name of the source job the job was copied from.

Cover Sheet Tab

The Cover Sheet tab is where you can define much of the general information about the project. It includes fields to identify the job's location, contacts, and bid details.

The following fields are available:

- Job Location
- City, County, Country, Province/State
- Job Type
- Engineer
- Owner
- Architect
- Forecast Start and Forecast Finish
- Bid Date and Bid Time
- Bid Location
- Estimator
- Opening Type and Proposal Type

- Liquidated Damages (if applicable)

The fields on this tab can be helpful for historical reference and job classification. It is good practice to complete as many of these fields as possible, so you can reference and find the project later. These fields can be updated as needed at any time.

Cost Basis Tab

The Cost Basis tab has some important settings that will affect how costs are calculated in your estimate. The settings reviewed below are the ones you need to consider.

Name		Description
1	Standard Shift Arrangements	The default standard shift arrangements are set up as 8 hours per shift, 1 shift per day, and 5 days per week; this can be changed if a project requires a different standard shift arrangement.
2	Standard Wage Rate Composite:	Allows you to indicate what percentage of your labor hours will be regular time (Scale 1), overtime (Scale 2) or double time (Scale 3). You can enter these percentages manually, or you can use the Shift Rate Calculator to obtain a more accurate figure.
3	Lock Cost Items to Pay Items:	For this sample job, you will check this box. When Cost Items are locked to Pay Items, your level 1 estimate structure is controlled by your list of pay items.
4	Default Currency:	The default will be set to U.S. Dollar, but this can be changed if needed.
5	Sales Tax Rate:	This field is not required but may be used to automatically apply a sales tax to all your material and rental items. The default is set to zero.

Cost Basis Tab Overview

Shift Rate Calculator

Take a closer look at calculating your shift rates using the Shift Rate Calculator. For this example, you will walk through setting up 2 shifts for your project.

Step by Step — Shift Rate Calculator

1. On the Job Properties > Cost Basis tab, select the Shift Rate Calculator button.

2. For Shift 1, type a number value of hours in the Monday through Friday Work Hours fields.

- You can enter up to three shifts for the project

3. For Shift 1, type a number value of hours in the Scale 1 fields.

- Scale 1 will be your regular time and Scale 2 will be any overtime

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Totals
Shift 1								
Work Hours	10.00	10.00	10.00	10.00	10.00	0.00	0.00	50.00
Scale 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scale 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scale 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Enter a number value for hours in the Scale 2 fields (just Monday through Friday).
5. For Shift 2, type a number value for hours as you did above in Step 3.
6. Click OK.

Shift 2								
Work Hours	12.00	12.00	12.00	12.00	12.00	0.00	0.00	60.00
Scale 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scale 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scale 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

- Now you have a blended shift arrangement, and your labor rates are a blend of 64.18% straight-time and 35.82% overtime

Job Properties

Overview

Security

Cover Sheet

Cost Basis

Minority Setup

Full

Standard Shift Arrangements

Standard Wage Rate Composite

Work Hours per Shift

11.17

Scale 1

64.18

%

Pay Hours per Shift

11.17

Scale 2

35.82

%

Shifts per Day

1.71

Scale 3

0.00

%

Days per Week

7.00

Shift / Rate Calculator

Import Filtered Resources

You may have noticed the bottom portion of your Cost Basis tab called the Resource Filter.

Resource / Assembly Filter

Resource / Assembly Type

☒ [All]

☐ [None]

☐ [Non-Blank]

☐ Standard Labor Rate File

Geographic Area

☒ [All]

☐ [None]

☐ [Non-Blank]

Southwest

Wage Zone

☒ [All]

☐ [None]

☐ [Non-Blank]

Wage Zone A

Wage Zone B

Organizational Category

☒ [All]

☐ [None]

☐ [Non-Blank]

☐ Truck Driver - Teamster

☐ Supervisor

☐ Carpenter

☐ Welder

☐ Mechanic

☐ Operator

☐ Remediation

☐ Laborer

☐ Iron Worker

☐ Finisher - Concrete

Select your filters from left to right

OK

Cancel

The Resource Filter portion of the Cost Basis tab is the most important part of Job Properties. You use it to import your labor, equipment, and materials from the Library. Until you import filtered resources, you have no resources (labor, equipment, materials) in your project.

Updated resource rates can be imported into the Library on a regular basis. It is important to update and have the “Latest & Greatest” rates available to import into your estimates.

You will import the rates you need using a set of four filters called Resource Attributes. Especially for labor rates, filtering by these attributes allows you to pare down the master list to just the resources you need.

Each of the resource filter categories are open for use as determined best by your business. The following are examples of common uses:

Resource Attribute Filters	
Name	Description
Resource File Description	This attribute can be used to designate the rate type or the year to which the rates pertain.
Geographic	This attribute is used to designate regions, cities, or provinces based on geo-

Resource Attribute Filters	
Area	graphical location of a project.
Wage Zone	This attribute is typically used specifically for labor resources. For example, it may designate the trade and union agreements your labor resources belong to.
Organizational Category	This attribute can be used to designate what trade or work type your resources pertain to.

Resource filters become more specific from left to right, so it makes sense to start with Resource File Description and end with Organizational Category. The geographic area, wage zone and organizational category attribute titles can be changed to meet your business needs for filtering resources.

You can sort the filter lists by clicking on the filter category titles.

The following steps walk through using the Resource Filter to import resources.

Step by Step — Import Filtered Resources

1. In your Job, go to the Job Properties > Cost Basis tab, select the Labor Rate resource type.
2. Under Resource File Description, select Standard Labor Rate File.
3. In the Geographic Area, select an Area.
4. For Wage Zone (Work Center), select a Wage Zone.
5. For Organizational Category, select All.
6. Follow the same steps for the remaining resource types.
7. Select the Import Filtered Resources button to bring your selected resources into the job.

- For this example, we'll select the following filters for the Labor resource type:

The screenshot shows the 'Resource / Assembly Filter' dialog box with the following selections:

- Resource / Assembly Type:** Labor Rate
- Resource / Assembly File ...:** ☒ Standard Labor Rate File
- Geographic Area:** ☒ Southwest
- Wage Zone:** ☒ Wage Zone A
- Organizational Category:** ☒ [All]

You must select “Import Filtered Resources” to import your resources. Clicking **OK** on the Job Properties form will not import your resources.

Fuel Cost Tab

On this tab you can enter the cost for fuel (or other energy sources). These unit cost will be multiplied by the consumption rates entered on each equipment record to define the fuel operating cost of each piece of equipment. The Cost per UM fields default to \$0.00.

Step by Step — Enter Fuel Costs

1. In your job, open the Job Properties > Fuel Cost tab.
2. In Cost Per UM column, enter a dollar amount into the following:
 - Diesel
 - Gas & Gasoline
 - Off Road Diesel

Fuel Type	Cost Per UM	Currency	Account Code
Diesel	\$4.00	U.S. Dollar	Gallon
Gas	\$3.90	U.S. Dollar	Gallon
Gasoline	\$3.90	U.S. Dollar	Gallon
Off Road Diesel	\$3.20	U.S. Dollar	Gallon

3. Currency should read U.S. Dollar and UM should read Gallon.

Job Folder Tags Tab

On this tab, you can enter tag fields to label your project, so you can reference it later.

Job Folder Tag Assignments	
Tag 1:	Tag 13:
Tag 2:	Tag 14:
Tag 3:	Tag 15:
Tag 4:	Tag 16:
Tag 5:	Tag 17:
Tag 6:	Tag 18:
Tag 7:	Tag 19:
Tag 8:	Tag 20:
Tag 9:	Tag 21: 0.00
Tag 10:	Tag 22:
Tag 11:	Tag 23:
Tag 12:	Tag 24:

Many of these fields are validated fields, meaning you can choose from options in a drop-down list. The names of these tags and the drop-down values are defined at a master level within the Library Foundation Setup Data. Some job folder tags are setup to be date fields or numerical fields. These tags are used to sort and filter the job register as well as for selecting which past estimates to utilize for benchmarking.

Schedule Tab

The Schedule tab is used to define the scheduling options for the integration of Estimate with InEight Schedule, Microsoft Project, or Primavera. The settings you define determine what information is sent to your scheduling application or tool, and how it's structured.

Cost Breakdown Structure (CBS) Register **Job Properties** ✕

Overview | Cover Sheet | Cost Basis | Minority Setup | Fuel Cost | Job Folder Tags | Pricing | **Schedule** | Cash Flow | Equipment M

Integrated Schedule: InEight Schedule ☐ Always use Plug Days when updating Estimate from the schedule

Schedule Currency: U.S. Dollar

Cost Item Roll Up

☒ Automatically calculate Plug Days when rolling up cost items for scheduling purposes

☒ Longest scheduled days among all rolled up cost items

☐ Total scheduled days for all rolled up cost items

Note: When rolling up cost items for scheduling purposes, the Plug Days of the superior cost item will be recalculated when a change is made to the scheduled days of a subordinate.

To force immediate recalculation of Plug Days for superior cost items, use the 'Recalculate Plug Days' button or the 'Calculate Plug Days...' command on the 'Tools' menu in the CBS Register.

Recalculate Plug Days

- **Integrated Schedule** – Select your integrated schedule from InEight Schedule, Microsoft Project, Primavera, or Manual.
- **Schedule Currency** – When you use Microsoft Project or Primavera, you can select the currency type used for the integration. The InEight Schedule and Manual option is set to U.S. Dollar by default.
- **Plug Days** - You can select **Always use Plug Days** when updating Estimate from schedule.
- **Cost Item Roll Up** – You can select to automatically calculate plug days when rolling up cost items for scheduling purposes.

Other Job Properties Tabs

There are several additional tabs on the Job Properties form. The other tabs will not be discussed here because they are either used for project controls, or they will be covered at another time.

Other Job Properties Tabs	
Name	Function
Minority Setup	Used to set up minority participation goals (for example, DBE or MBE) and you want to track minority participation goal attainment status during the bid process,
Job Tracking	Used to select the code that will be used when tracking job progress, define the planned production calculation, define the percent complete calculation, define the forecast methods, and define markup rates for calculating earned revenue on Time and Expense pay items.
Pricing	Used to define how you want the Balanced Unit Price for each of the job's pay items to be calculated when using the AutoPrice feature. You can also choose from several options in determining how markup is defined.
Cash Flow	Defines the cash flow rules (payment terms) that are used in the calculation of Job Financing and cost/revenue realization to generate the curves that display on the Cash Flow form.
Equipment Maintenance	Used to define the calculation of maintenance labor man-hours based on equipment utilization, to capture the impact on total man-hours when changes are made that affect the job's total value.
Benchmarking	Used to establish the historical data to be used for benchmarking the current job, and to define the default benchmark graph display and calculations.
Alternates	Used to define Alternate Scenarios, to assess the impact of those scenarios.

Pay Item Creation

Pay items typically represent the owner required deliverables a contractor must submit pricing for. Within InEight Estimate, pay items are used to distribute the cost calculated in the Cost Breakdown Structure and all markup, fees or contingency calculated in the Price Breakdown Structure to a list of defined items. This allows the total estimate value to be distributed to a structure that is different then the CBS. Pay Items are predominantly used by Contractors to prepare a bid sheet. Owners may use pay items to identify funding sources or for various reporting needs.

Many Bid Forms are organized by grouping bid items for related scopes of work. Pay items within the Pay Item and Proposal screen can be grouped in a hierarchy by utilizing the Position Code column.

You can create pay items in the Pay Item & Proposal Register. Access this form by selecting the Setup tab > Pay Item & Proposal.



Name		Description
1	Proposal and Item Recaps	Related to pricing during bid close-out. You can disregard them at this time.
2	Pay Item Number	Represents the bid item number from the client (if they give you one) or can be a number you specify. This field is alpha-numeric
3	Position Code	Controls the way pay items can be grouped, and provide you with an efficient way to sort.
4	Description	You can enter a pay item description.
5	Pay Quantity and Forecast (T/O) Quantity	The Pay Quantity is the quantity provided by the client. The Forecast (T/O) Quantity is your measured quantity for the item.

Overview – Pay Item & Proposal Register

Pay Item & Proposal Register - Training Job					Item Recap - 200 SITEWORK & ROADWAY				
Current	Target	Forecast	Variance		Description	Unit Price (Current)	Total Price (Current)	Unit Price (Current)	Total Price (Current)
Price: \$6,569,735.00	\$5,897,950.88	\$6,577,223.80	\$671,794.32	OUT					
Markup: \$187,477.27	\$215,692.85	\$1,044,715.27	\$729,022.32	OUT					
Margin%: 15.03	5.35	15.88	\$73,836.84	OUT					

Pay Item Number	Pay Item Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Measure	Currency	Unit Price (Current)	Total Price (Current)	Unit Markup (Current)	Total Markup (Current)	Unit Distribution	Total Distribution	Unit Margin (Current)
200	1	1.00	1.00	Lump Sum	U.S. Dollar	\$395,000.00	\$395,000.00	\$737.74	\$737.74	\$4,435.45	\$4,435.45	
201	2	1.00	1.00	Clearing & Grubbing	Acres	\$5,900.00	\$5,900.00	\$237.09	\$2,370.90	\$1,251.61	\$12,516.08	
202	3	1.00	1.00	Underfoot Excavation	Cubic Yard	\$5.00	\$5.00	\$0.30	\$14,940.72	\$0.03	\$44,494.20	
203	4	1.00	1.00	Aggregate Base	Ton	\$26.50	\$26,500.00	\$0.94	\$37,466.40	\$2.00	\$62,094.62	
204	5	1.00	1.00	Asphalt Concrete Hot Mix Type A	Ton	\$42.45	\$42,450.00	\$2.49	\$94,305.14	\$4.71	\$176,011.38	
205	6	1.00	1.00	WATER & SEWER	U.S. Dollar	\$748,550.00	\$748,550.00		\$34,584.99		\$76,728.25	
206	7	1.00	1.00	36 Inch RCP Culvert Class III	Linear Feet	\$97.45	\$97,450.00	\$4.33	\$4,332.59	\$5.94	\$5,944.54	
207	8	1.00	1.00	30 Inch PVC Force Main (SDR35)	Linear Feet	\$29.50	\$29,500.00	\$1.43	\$17,355.81	\$2.04	\$26,535.34	
208	9	1.00	1.00	24 Inch PVC Gravity Sewer (SDR35)	Linear Feet	\$64.50	\$64,500.00	\$3.16	\$5,464.48	\$7.32	\$23,965.47	
209	10	1.00	1.00	4 Foot Diameter Manhole	Each	\$4,000.00	\$4,000.00	\$225.57	\$3,009.08	\$486.68	\$7,786.90	
210	11	1.00	1.00	STRUCTURAL CONCRETE & BRIDGES	U.S. Dollar	\$631,895.00	\$631,895.00		\$32,304.21		\$76,703.66	
211	12	1.00	1.00	Structural Excavation & Backfill	Cubic Yard	\$28.00	\$28,000.00	\$1.39	\$1,111.52	\$3.18	\$2,528.23	
212	13	1.00	1.00	Steel Reinforcement	Pound	\$1.75	\$1,000.00	\$0.08	\$2,336.33	\$0.12	\$4,011.30	
213	14	1.00	1.00	Business Overhead	Cubic Yard	\$445.00	\$445,000.00	\$77.45	\$75,136.41	\$67.68	\$57,536.46	
							\$6,569,735.00		\$315,692.95		\$645,735.99	

Step by Step — Create a Pay Item

- Open your job and select Setup tab > Pay Item & Proposal from the InEight Estimate landing page.
 - The Pay Item & Proposal Register displays
- In the Pay Item Number column, in the first blank row, type a number value.
- Use the Tab key to move to the Description column and type a description.
- Leave the Pay Quantity at 1.00 and change the Unit of Measure to LS (Lump Sum).
 - The Forecast (T/O) Quantity will auto populate to match your pay quantity, but can be changed later
 - You can tab to the next row to create additional pay items if needed

Pay Item Number	Pay Item Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Measure	Currency	Unit Price (Current)	Total Price (Current)	Unit Markup (Current)	Total Markup (Current)	Unit Distribution	Total Distribution	Unit Margin (Current)
200	1	1.00	1.00	Lump Sum	U.S. Dollar	\$395,000.00	\$395,000.00	\$737.74	\$737.74	\$4,435.45	\$4,435.45	

Pay Item Prices by Category

Owners are increasingly requiring more information from contractors as part of their bid submissions. Many times, this is a further breakdown of a bid price such as separating the price of an item based on its labor cost, material cost or man-hours. Select columns in the Pay Item & Proposal register enable users to summarize their pay item prices by up to 10 price categories.

In addition to seeing the price by category, these additional columns also give users better visibility into how the price is established, including columns for the total cost, total distribution, total markup and markup percent. These new columns make it easier to verify that the distribution of unassigned cost and markup are calculated as intended by the estimator.

Pay Item Number	Position Code	Unit	Lock Quantity	Lock Price	Description	Pay Quantity	Forecast (7/0) Quantity	Unit of Measure	Currency	LABOR Cost	LABOR Cost (Excluded)	LABOR Markup	LABOR Price (Balance)	LABOR Price (Current)	LABOR Markup %	Unit Price (Current)
300	1				STEWORK & ROADWAY				U.S. Dollar	\$291,828.52	\$51,472.21	\$7,224.74	\$320,525.47	\$394,903.06	2.48	
94110101	1.1				Installation	1.00	1.00	Lump Sum	U.S. Dollar	\$21,440.51	\$386.80	\$60.85	\$2,897.16	\$81,345.90	2.48	\$395,600.00
201002	1.2				Clearing & Grubbing	10.00	10.00	Acre	U.S. Dollar	\$14,880.57	\$7,301.27	\$344.82	\$22,526.66	\$22,465.37	2.32	\$5,900.00
202083	1.3				Underserved Excavation	50,000.00	50,000.00	Cubic Yard	U.S. Dollar	\$62,230.08	\$9,800.01	\$1,545.91	\$73,576.00	\$73,159.96	2.48	\$5.50
3035912	1.4				Aggregate Base	40,000.00	45,000.00	Ton	U.S. Dollar	\$99,794.93	\$15,809.26	\$2,479.10	\$118,083.29	\$171,740.65	2.48	\$26.50
3034263	1.5				Asphalt Concrete Hot Mix Type A	38,000.00	35,000.00	Ton	U.S. Dollar	\$112,475.43	\$18,174.87	\$2,794.06	\$133,442.35	\$112,437.69	2.48	\$42.45
400	2				WATER & SEWER				U.S. Dollar	\$128,895.90	\$20,324.84	\$3,202.02	\$152,422.76	\$167,735.54	2.48	
41301044	2.1				36 Inch RCP Culvert Class III	1,000.00	1,024.00	Linear Feet	U.S. Dollar	\$19,602.99	\$3,084.69	\$486.98	\$23,174.66	\$28,284.74	2.48	\$97.45

Standard Proposal report

The Pay Item Standard Proposal report is located in Execution > Reports > Pay Item & Proposal > **Standard Proposal**, and is intended to be used as a bid form, and distributed to other clients, partners, and contractors. In the Details box below, you can determine which key fields you want included and shown on your standard proposal report.

Reports - Standard Proposal

Reports

Job Properties

Foundation Setup Data

Resources

Resource Assemblies

Cost Breakdown Structure

Quotes

Price Breakdown Structure

Pay Item & Proposal

DOT Proposal

Pay Item Summary

Pay Item Currency Comparison

Pay Item Price Breakdown

Billing Rate Reports

Job Tracking

Estimate Comparison Report

Job Register

Library Module

Custom Reports

Saved Views

Budget Exports

A Systems

American Contractor (versions 4.5)

Bidtek Vision

Budget File Worksheet

COC (version 24.0)

COC (version 25.0)

CNC

Comma Delimited File

Settings: Default

Print

Details

Layout

Header/Footer

Show the below Pay Item details

☒ Line Number

☒ Pay Item Number

☒ Position Code

☐ Subtotals

☐ Running Totals

☐ Suspended Items

Filter by currency: No Filter

Show the below Proposal header items

☐ Job Code

☐ Job Description

☐ Bid Date

☐ Bid Time

☐ Job Location

☐ Job City

☐ Job Country

☐ Job State

☐ Job Country

Include Additional Proposal pages

☐ Cover Sheet

☐ Preferences Sheet

Unit Price precision

☒ Truncate values based on decimal precision

☐ Do not truncate values (show decimal precision)

Time for Document

☒ Proposal/Bid

☐ Tender

☐ Custom

Certification Text: ☐ None ☒ Custom

Signature Block: ☐ Submitted By

Settings: Previous

Print

Details

Layout

Header/Footer

Proposal

PROPOSAL

INTEGRITY - PAUL, TRISHA

Job Code:

Training Job - Maricopa County No. TM2024

Job Description:

Training Job - Maricopa County No. TM2024

Job Code:

Training Job

Job Description:

Training Job - Maricopa County No. TM2024

Job City:

Phoenix

Job Country:

Mexico

Bid Date:

5-Jan-2025 9:02:10 PM

Bid Time:

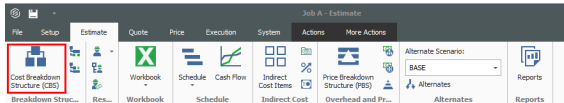
Position Code	Line No.	Pay Item No.	Description	Quantity	Unit of Measure	Unit Price	Total Price
1	20	200	STEWORK & ROADWAY				3,432,700.00
1.1	10	6410100	Installation	1.00	Lump Sum	395,600.00	395,600.00
1.2	20	2010102	Clearing & Grubbing	10.00	Acre	5,900.00	59,000.00
1.3	30	2020103	Underserved Excavation	50,000.00	Cubic Yard	5.50	275,000.00
1.4	40	3035912	Aggregate Base	40,000.00	Ton	26.50	1,060,000.00
1.5	50	3034263	Asphalt Concrete Hot Mix Type A	38,000.00	Ton	42.45	1,613,100.00
2	10	400	WATER & SEWER				718,550.00
2.1	30	41301044	36 Inch RCP Culvert Class II	1,000.00	Linear Feet	97.45	97,450.00
2.2	70	8000200	15 Inch PVC Force Main (SR5)	12,000.00	Linear Feet	29.50	354,000.00
2.3	80	8000300	24 Inch PVC Gravity Sewer (SR5)	3,000.00	Linear Feet	64.50	193,500.00
2.4	90	8000400	4 Foot Diameter Manhole	16.00	Each	4,600.00	73,600.00
3	15	500	STRUCTURAL CONCRETE & BRIDGES				631,800.00
3.1	100	901041208	Structural Excavation & Backfill	800.00	Cubic Yard	28.00	22,400.00
3.2	110	908041102	Steel Reinforcement	30,000.00	Pounds	1.70	51,000.00

Cost Breakdown Structures

The Cost Breakdown Structure (CBS) is the main form where you will do your cost estimating.

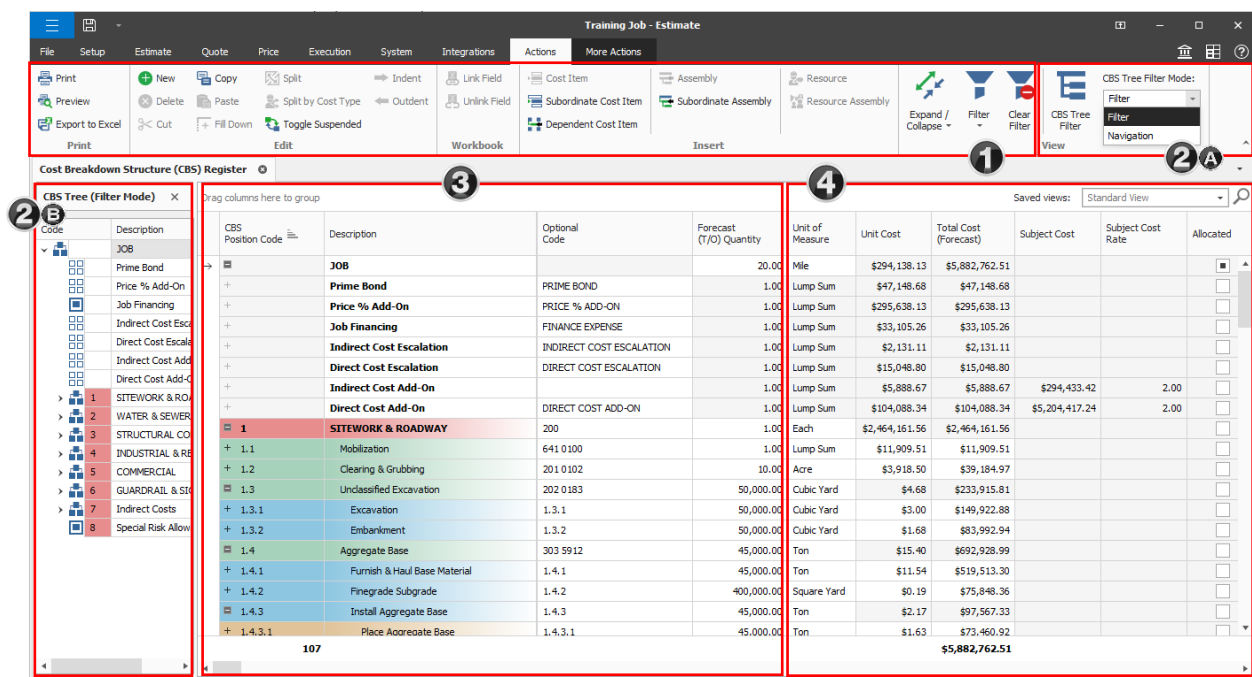
- It is the hierarchy of work activities that make up the estimate
- Each row in the CBS represents a work activity or organizing category and is called a cost item

To access the Cost Breakdown Structure, from the InEight Estimate landing page select the Estimate tab, then under the Breakdown Structure section select Cost Breakdown Structure (CBS).



Overview – Cost Breakdown Structure (CBS) Register

Name		Description
1	Actions Menu	Shortcut icons allow you to edit cost items and import items from other sources such as Excel.
2A	CBS Tree Filter Mode (drop-down)	The CBS Tree filter shows the CBS hierarchy and is used to quickly help filter cost items, instead of scrolling the CBS to locate certain cost items. The CBS Tree Filter lets you choose between a filter mode or a new navigation mode.
2B	CBS Tree Filter or Navigation Mode	Both Filter and Navigation modes on the left side of the page provides you with the visibility of your entire CBS structure, as well as giving you the option to navigate and filter throughout the CBS estimate. The Cost Item record can also be tiled next to the tree to make navigating and filtering possible, while viewing all the cost item record details at the same time.
3	Left CBS register	This side of the register contains all of the estimate activities (cost items) that you create or import, organized into a parent-child hierarchy.
4	Right CBS register	This side of the register contains numerous columns for cost detail, production values, and user-defined tags and fields.



Cost Item Terminology

The CBS contains both direct and indirect costs.

- Direct Cost Items contain costs that pertain directly to the deliverables of the project. Therefore, direct cost items are typically assigned to pay items
- Indirect Cost Items contain overhead costs that are not directly associated with particular deliverable items but contribute to the total cost of the project (e.g., supervision, site office, safety supplies, bid securities). Occasionally an indirect cost item may be assigned to a pay item (e.g., Mobilization costs that are indirect but assigned to a Mobilization pay item).

InEight Estimate uses various terms to describe the parent-child relationships of the multiple levels in the CBS:

Terms	Description
Superior	A Superior cost item has subordinate (child) items below it that determine hours and costs.
Subordinate	A Subordinate cost item is a child to a Superior cost item.
Terminal	A Terminal cost item has no subordinate items. Resources, costs, and production can only be added at the terminal cost item level.

A Terminal cost item may or may not be a subordinate.

The levels of the CBS are referred to as Level 1, Level 2, etc., as you drill down in the structure. As costs are defined on the terminal items, the sum of the terminal cost items roll up to the superior cost items.

A superior cost item can have no costs of its own; its costs are strictly the rolled-up total from the subordinate cost items below it.

You can use superior cost items as buckets for organizing your work.

As hours and costs are defined on the terminal items, the sum of the terminal cost items roll up to the superior cost items.

Work Breakdown Structures

The Work Breakdown Structure (WBS) allows you to reorganize the estimate using different formats such as Construction Specifications Institute (CSI) MasterFormat or UniFormat. WBS formats are used when you need multiple variations and summary reports of an estimate. The WBS retains the same relationships between items as in the original estimate while only changing the view and items arrangement in the WBS hierarchy.

To view the Work Breakdown Structure View Register, in the Ribbon select the tab **Estimate > Work Breakdown Structures**.

Overview – Work Breakdown Structure (WBS) View Register

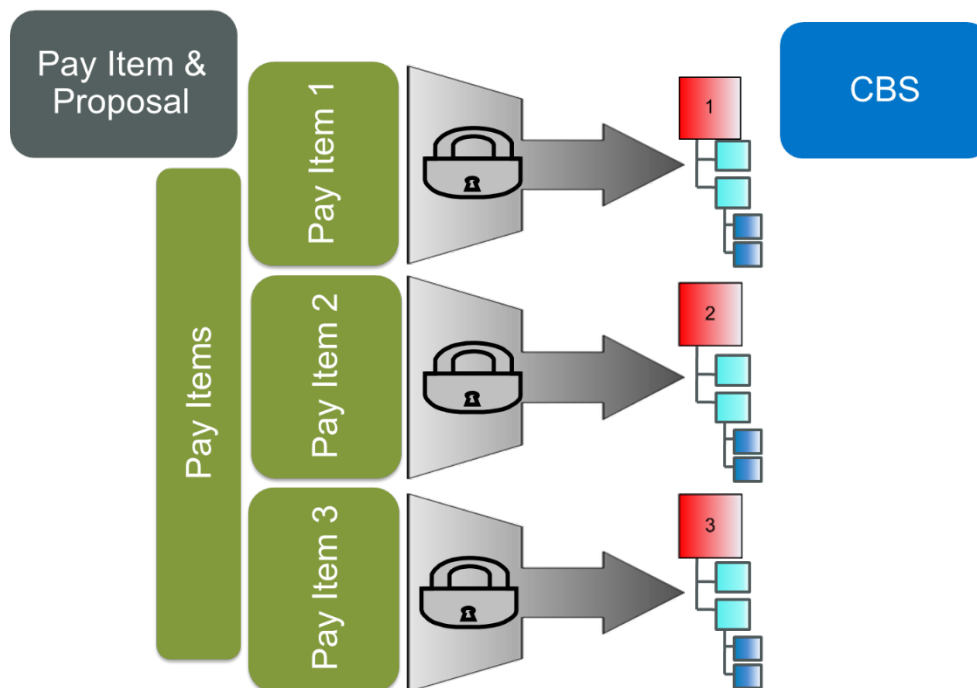
Name		Description
1	WBS Tree	Use the WBS Tree to filter to a particular WBS item.
2	WBS Grid	When a specific WBS item is selected in the WBS Tree, all subordinate WBS items display in the WBS grid.
3	Cost Items	The Cost Items associated with the WBS subordinate in the WBS Grid displays in this data block.

Cost Breakdown Structure (CBS) Register											
Quote Register											
Quote Comparison & Award - Resources											
Work Breakdown Structure View Register											
WBS Tree		WBS Grid									
WBS: CEAS		Find: [Search For...] Saved views: Standard View									
Code Description		Code Description Quantity Unit of Measure Currency Unit Cost Total Cost (Forecast)									
CEAS Civil Engineering Account Code System		CEAS Civil Engineering Account Code System 1.00 Each U.S. Dollar \$2,494,088.07 \$2,494,088.07									
10 GENERAL PROVISIONS		10 GENERAL PROVISIONS 1.00 Lump Sum U.S. Dollar \$35,054.51 \$35,054.51									
10.10 PROJECT SETUP		10.10 PROJECT SETUP 1.00 Each U.S. Dollar \$14,000.00 \$14,000.00									
10.10.100 YARD		10.10.100 YARD 1.00 Each U.S. Dollar \$4,000.00 \$4,000.00									
10.10.200 OFFICE FACILITIES		10.10.200 OFFICE FACILITIES 1.00 Each U.S. Dollar \$2,000.00 \$2,000.00									
10.10.500 UTILITIES		10.10.500 UTILITIES 1.00 Each U.S. Dollar \$8,000.00 \$8,000.00									
10.20 EQUIPMENT SETUP		10.20 EQUIPMENT SETUP 1.00 Each U.S. Dollar \$14,624.39 \$14,624.39									
10.20.100 MOBILIZATION		10.20.100 MOBILIZATION 1.00 Load U.S. Dollar \$11,909.51 \$11,909.51									
37		37 \$2,494,088.07									
Cost Items		Cost Items									
CBS Position Code Description Optional Code Forecast (7/0) Quantity Unit of Measure Unit Cost Total Cost (Forecast) Allocated Allocation Source Currency Cost Adjustment Resource Assembly Quantity		Find: [Search For...] Saved views: Standard View									
23.1 Setup Yard		UNASSIGNED 1.00 Lump Sum \$4,000.00 \$4,000.00									
1		1.00 \$4,000.00									

Locked vs. Unlocked Approach

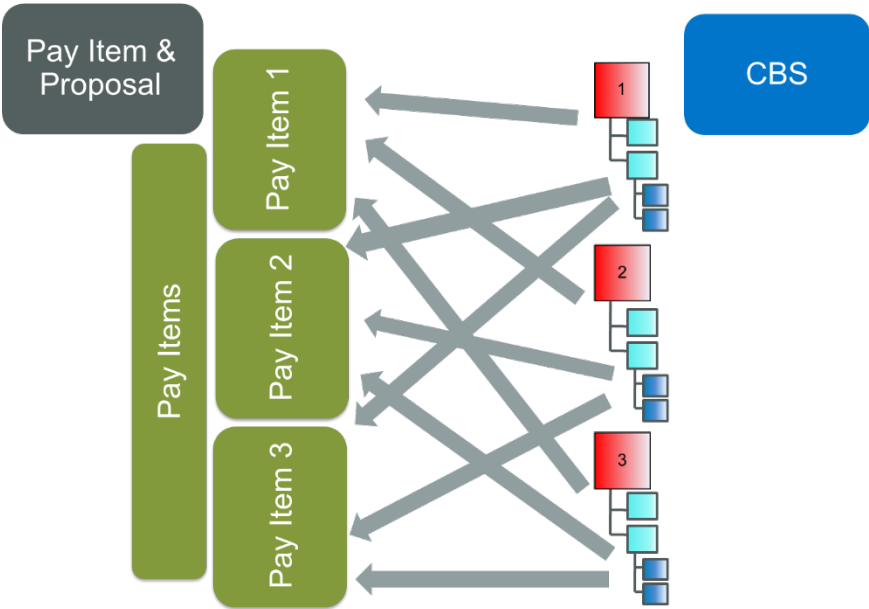
There are two basic approaches to structuring your cost items and pay items. You can choose to work in a “locked approach” or an “unlocked approach.”

In a locked approach, level one cost items are automatically created and assigned to pay items. This locked approach works well when pay items adequately represent the work plan. Subordinate cost items inherit the pay item assignment of superior cost items.



If the Lock Cost Items to Pay Item rule is checked in Job Properties, InEight Estimate will automatically create level 1 cost items in the CBS Register for each of your pay items.

The unlocked approach may work better when the pay items do not adequately represent the work plan. You can then assign your cost items to your pay items in any arrangement. Companies looking to standardize the way they estimate and use templates will want to use this approach as it allows you to dictate the cost breakdown structure. Owners will also typically use the unlocked approach since pay items are not necessary to their estimating process.



The option of working in a locked approach vs. an unlocked approach is available in the Job Properties Form, on the Cost Basis tab under the Rules section. By selecting the checkbox for Lock Cost items to Pay Item, you are choosing to work in a locked approach.

The screenshot shows the 'Job Properties' form with the 'Cost Basis' tab selected. In the 'Rules' section, the checkbox 'Lock Cost Items to Pay Items' is checked. Other visible options include 'Pay Items Unit Price Precision' (set to 2), 'Activate PBS Changes Log', 'Activate Quantity Checking', and 'Maintain CBS Structure at Level' (set to 0). The 'When man-count changes' section has radio buttons for 'Change UM / Man-Hour' (selected) and 'Change Days'.

Take-Off Quantities

In the Cost Breakdown Structure, estimated quantities are entered into the Forecast (T/O) Quantity field with a corresponding unit of measure. The quantity will default to 1 each when you create a new cost item and should be updated to reflect the work being estimated.

CBS Position Code	Description	Forecast (T/O) Quantity
1	Habitatization	1.00
2	Clearing & Grubbing	10.00
3	Unclassified Excavation	50,000.00
3.1	Excavation	50,000.00
3.2	Embankment	50,000.00
4	Aggregate Base	45,000.00
4.1	Furnish & Haul Base Material	45,000.00
4.2	Finegrade Subgrade	400,000.00
4.3	Install Aggregate Base	45,000.00
4.3.1	Place Aggregate Base	45,000.00
4.3.2	Blue Top Aggregate Base	400,000.00

Forecast (T/O) Quantities are only used for your cost items in the CBS Register. Pay Quantities are used for final pricing in the PBS and Pay Item & Proposal forms.

Because the training project is a “locked” job, you already have level 1 cost items, and their default take-off quantities are populated from their corresponding pay item quantities.

The following step by step walks you through adjusting the default take-off quantities on a couple of your cost items.

Step by Step — Adjust take-off quantities

1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
2. In the Forecast (T/O) Quantity column, the Forecast (T/O) Quantity is brought over from the Pay Item & Proposal Register, but here you can adjust it if needed. Practice adjusting the Forecast T/O quantity of one of your cost items.
 - For this example, we'll change Clearing and Grubbing to **15.00 Acre** and Excavation to **40,000 CY**.

1	SITEWORK & ROADWAY	1.00	Each
+ 1.1	Mobilization	1.00	LS
+ 1.2	Clearing & Grubbing	15.00	Acre
+ 1.3	Excavation	40,000.00	CY
2	WATER & SEWER	1.00	Each
+ 2.1	10 PVC Pipe	1,000.00	LF

Cost Item Creation

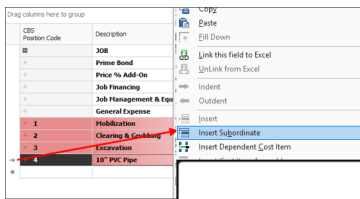
During estimate development, you will create new cost items to break down your work into specific activities. You can create superior and subordinate cost items as needed to organize your work.

Insert Subordinate Cost Item

You can add subordinate cost items in two different ways:

Option 1

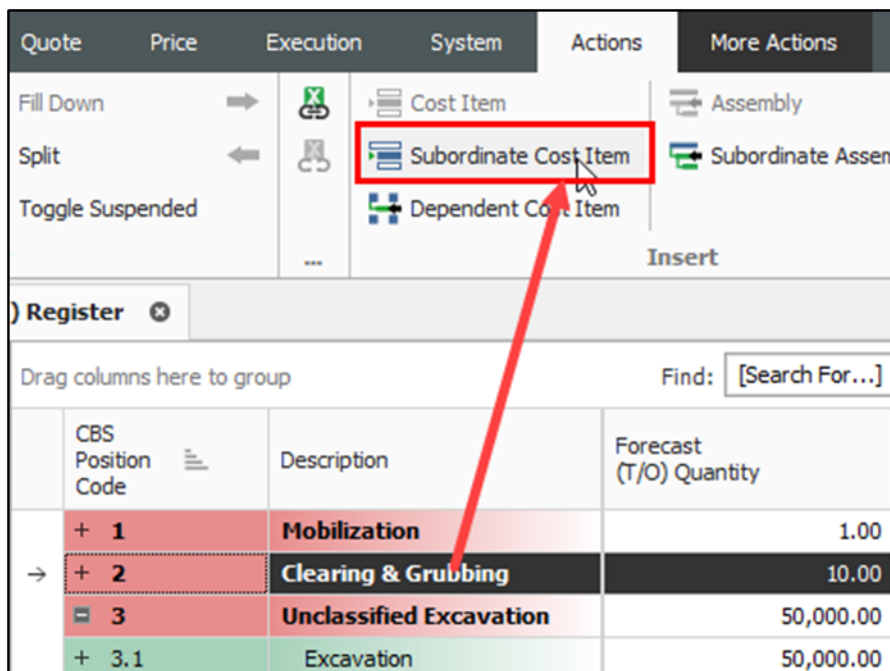
Right-click on the row header of the superior cost item and select Insert Subordinate.



The row header is considered the far left edge of the CBS row where the small arrow appears above. It is used to open records and perform actions on items instead of clicking on cells within the row which will allow you to directly type into the selected cell.

Option 2

Click on the Subordinate Cost Item icon on the Cost Breakdown Structure (CBS) Register toolbar.

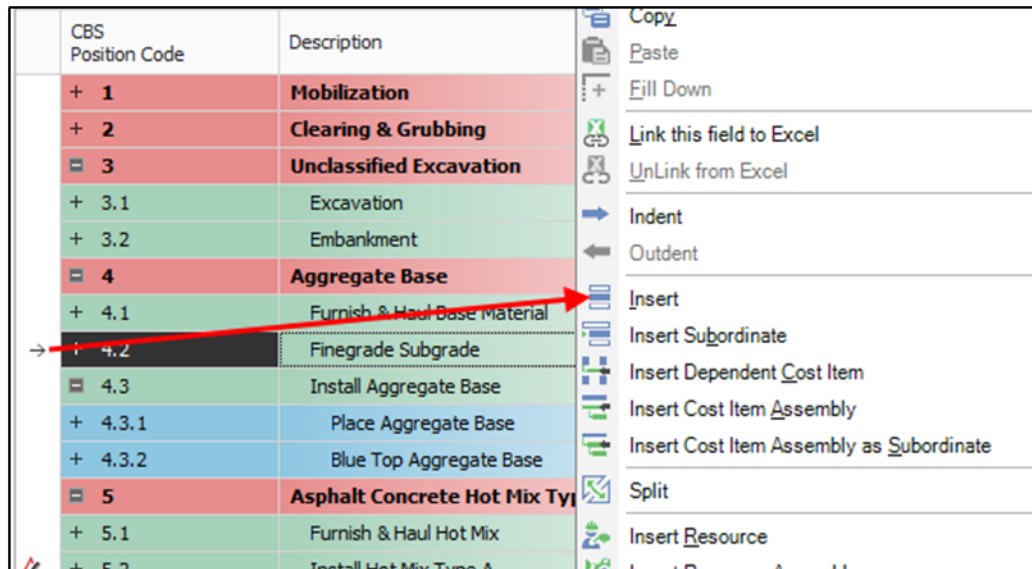


Insert Cost Item

You can add cost items at the same level in two different ways.

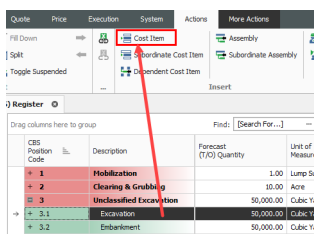
Option 1

Right click on the row header of the superior cost item and select Insert.



Option 2

Click on the Cost Item icon on the Cost Breakdown Structure (CBS) Register toolbar.



Because the project you are working in is a “locked” job (where cost items are locked to pay items), your CBS Register will already have level 1 cost items representing each of your pay items, and each cost item will be assigned to its corresponding pay item.

The following step by step walks you through creating a subordinate (child) cost item for one of your level-one cost items.

Step by Step — Create a subordinate cost item

- 1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
- 2. Right-click on a cost item and select Insert Subordinate.
 - This creates a new subordinate cost item below your selected cost item
- 3. For the subordinate cost item, enter a description.
- 4. Add a quantity and select your Unit of Measure.
 - For this example, we'll insert a subordinate under Clearing & Grubbing for Clearing

1	SITework & ROADWAY	1.00	Each
+ 1.1	Mobilization	1.00	LS
+ 1.2	Clearing & Grubbing	15.00	Acre
+ 1.2.1	Clearing	15.00	Acre
+ 1.3	Excavation	40,000.00	CY
2	WATER & SEWER	1.00	Each
+ 2.1	10 PVC Pipe	1,000.00	LF

You can create a subordinate at the same level, by right clicking on an equal-level cost item and selecting Insert.

Move Cost Items

As you develop your estimate, you may need to move cost items around in the Cost Breakdown Structure. To move a cost item:

- 1. Select the row header of the cost item you wish to move. If you select a superior cost item, it will bring the subordinates along with it.
- 2. Drag and drop the cost item to the right place in your structure. Notice one of two cursor symbols appears:

The symbol with three equal bars will drop the cost item at the same level as the cost item you drop it on.



The symbol with a subordinate bar will make the cost item become a subordinate to the one you drop it on.



Costs and Production

For the cost items you've created, you can now add their costs and production. All information for a cost item is contained in a Cost Item Record.

Cost Item Record

You can open the Cost Item Record by either double clicking on a cost item row header, or right clicking and selecting Open.

Cost Item Record Overview

Name		Description
1	Cost Item Header Information	Provides general information about the cost item. It displays the cost item's take-off quantity, Unit of Measure, and Cost. It also indicates what Cost Source is being used. The Cost Segment drop-down is used to differentiate estimated costs in the Direct Costs, Job Overhead or Business overhead categories.
2	Costing Area	Section where costs are defined. There are three ways to enter costs: Detail, Plug, and Quote. The Cost Summary tab summarizes whatever costs are defined. Under the Cost Segment drop down, you can choose
3	Data Blocks	Contains a set of tabs for entering additional information including production, shift arrangements, man-hour factors, notes, and scheduling information.

Cost Item Record

CBS Code:

Optional Code:

Description:

Forecast (T/O) Qty:

Unit of Measure:

Unit Cost:

Total Cost:

Currency:

3

202 0183

Unclassified Excavation

50,000.00

Cubic Yard

\$4.68

\$233,915.81

U.S. Dollar

3.1

Excavation

50,000.00

Cubic Yard

\$3.00

\$149,922.88

U.S. Dollar

PI Assignment:

PI Line Number:

PI Description:

Cost Segment:

Pay Quantity:

Cost Source:

Alternate:

202 0183

30

Unclassified Excavation

Direct Cost

50,000.00

Detail

BASE

Cost Item Summary

Detail : \$3.00

Plug : \$0.00

Quote : \$0.00

Allocation

Cost Category	Unit Cost	Total Cost	Unadjusted Total Cost	Cost Adjustment Percent	Cost Adjustment Amount	Billing Unit Rate	Total Billing Amount
Total	\$3.00	\$149,922.88	\$149,922.88	0.00	\$0.00	\$3.28	\$163,881.06
Labor	\$0.66	\$33,170.48	\$33,170.48	0.00	\$0.00	\$0.93	\$46,438.66
Owned Equipment	\$2.34	\$116,752.40	\$116,752.40	0.00	\$0.00	\$2.35	\$117,442.40
Rented Equipment	\$0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00
Supplies	\$0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00
Materials	\$0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00
Subcontract	\$0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00
Fees	\$0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00
Allowance	\$0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00
Custom Category1	\$0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00
Undefined	\$0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00

Employment Setup

Identification

Code: ETWT Type: Construction Equipment Rate

Description: Water Truck

Quantity (Less Waste):

Waste % Add-on:

Quantity: 1.00 Productivity Factor: 1.

Cost Driver: Schedule...

Employment Cost

Unit Cost: \$29.60 Total Cost: \$1,302.40

Maintenance Labor Cost

Unit Cost: \$0.00 Total Cost: \$0.00

Cost Segments

The Direct Costs, Job Overhead, and Business Overhead cost segments helps to classify the scope of work so you can report on direct vs indirect costs, and accurately control how markup is spread throughout your bid. This differentiation is necessary to effectively price work based on the risk profile of each segment of cost.

Cost Item Record

CBS Code:

Optional Code:

Description:

Forecast (T/O) Qty:

Unit of Measure:

Unit Cost:

Total Cost:

2

400

WATER & SEWER

1.00

Each

\$496,284.83

2.1

413(B) 0464

36 Inch RCP Culvert Class III

1,024.00

Linear Feet

\$67.54

PI Assignment:

PI Line Number:

PI Description:

Cost Segment:

Pay Quantity:

Cost Source:

Alternate:

413(B) 0464

60

36 Inch RCP Culvert Class III

Direct Cost

1,000.00

Detail

BASE

Cost Item Summary

Detail : \$67.54

Plug : \$0.00

Quote : \$0.00

Allocation

This cost item has subordinate cost items.
Click the Next button to move to a subordinate cost item and enter Details.

Cost Segment:

Direct Cost

Description

Business Overhead

Direct Cost

Job Overhead

Cost Sources

You can define costs on a cost item in one of three ways, called Cost Sources:

Tab	Description
Detail	This is the recommended costing method, where labor, equipment, and material resources are defined, along with productivity, to determine costs.
Plug	This method allows you to enter a unit or total cost directly, without needing to enter resources or production. This should rarely be used, but does have a couple of use cases: • Place holder value until you get more information (from subcontractors or designers) • For preliminary estimates when limited information is available
Quote	The Quote cost source is for contractors, subcontractors or vendor quotes. • Creating and managing quotes is covered in Lesson - Quote Management

The diagram illustrates three cost source tabs: Detail, Plug, and Quote. Each tab is represented by a blue button with a corresponding data table above it.

Detail Tab: Shows a table with columns Code, Description, and Work Hours.

Code	Description	Work Hours
ETWT	Water Truck	130.
ED8	Dozer D8	130.
ES623	Scraper 623	261.
ECOMP1	Compactor Smooth Drum	130.
ECOMP2	Compactor Sheeps Foot	130.
LL2	Laborer	130.

Plug Tab: Shows a table with columns Cost Category, Unit Cost, and Total Cost.

Cost Category	Unit Cost	Total Cost
Total	\$1,090.00	\$1,090.00
Labor	\$500.00	\$500.00
Owned Equipment	\$590.00	\$590.00
Rented Equipment	\$0.00	\$0.00

Quote Tab: Shows a table with columns Company, Contact, Phone, Unit Price, Bond, Conditions, Taxes, and Total.

Company	Acme Guardrail
Contact	Johnson, Joe
Phone	555-555-5555
Unit Price	\$31.00
Bond	\$0.00
Conditions	\$0.00
Taxes	\$0.00
Total	\$31.00

Detail: Crews, Resources, & Productivity

Plug: Directly Entered Cost

Quote: Subcontracts

On each Cost Item Record, InEight Estimate gives you the option to define both Plug and Detail values on each respective tab.

Plug Tab

The Plug tab allows user to input unit or total cost to any of the listed cost categories which can be customized based on company requirements.

Cost Breakdown Structure (CBS) Register

CBS Code	Optional Code	Description	Forecast (T/O) Qty	Unit of Measure	Unit Cost	Total Cost	Currency
17	1200 0100	Toll Booth	1.00	Each	\$25,264.55	\$25,264.55	U.S. Dollar
17.1	0220	Site Preparation	1.00	Lump Sum	\$3,664.55	\$3,664.55	U.S. Dollar

PI Assignment: PI Line Number: PI Description: Cost Segment: Pay Quantity: Cost Source: Alternate:

1200 0100 170 Toll Booth Direct Cost 1.00 Detail BAGE

Cost Item Setup

Default Pay Rules

Composite Wage Scale	Scale 1	Scale 2	Scale 3
For every 8.00 hours worked, pay	100.00	0.00	0.00

Default Shift Arrangements

Work Hours per Shift	Shifts per Day	Days per Week
8.00	1.00	5.00

Default Properties

Account Code: 8000 ☒
 Cost Curve: Linear

Detail Tab

Cost Breakdown Structure (CBS) Register

CBS Code	Optional Code	Description	Forecast (T/O) Qty	Unit of Measure	Unit Cost	Total Cost	Currency
17	1200 0100	Toll Booth	1.00	Each	\$25,264.55	\$25,264.55	U.S. Dollar
17.1	0220	Site Preparation	1.00	Lump Sum	\$3,664.55	\$3,664.55	U.S. Dollar

PI Assignment: PI Line Number: PI Description: Cost Segment: Pay Quantity: Cost Source: Alternate:

1200 0100 170 Toll Booth Direct Cost 1.00 Detail BAGE

Cost Item Setup

Default Pay Rules

Composite Wage Scale	Scale 1	Scale 2	Scale 3
For every 8.00 hours worked, pay	100.00	0.00	0.00

Default Shift Arrangements

Work Hours per Shift	Shifts per Day	Days per Week
8.00	1.00	5.00

Default Properties

Account Code: 8000 ☒
 Cost Curve: Linear

Entering both a detailed and plug cost allows you to define costs at a higher summary level initially (Plug tab), and then define more detail as the estimating process progresses (Detail tab). You can review and compare your plug and detail values by toggling between tabs, but your cost item will only contribute the total cost from one of the tabs based on which cost source is selected.

You control which cost is used by selecting Detail or Plug in the Cost Source field on the Cost Item Record.

Cost Breakdown Structure (CBS) Register

CBS Code	Optional Code	Description	Forecast (T/O) Qty	Unit of Measure	Unit Cost	Total Cost	Currency
17	1200 0100	Toll Booth	1.00	Each	\$25,264.55	\$25,264.55	U.S. Dollar
17.1	0220	Site Preparation	1.00	Lump Sum	\$3,664.55	\$3,664.55	U.S. Dollar

PI Assignment: PI Line Number: PI Description: Cost Segment: Pay Quantity: Cost Source: Alternate:

1200 0100 170 Toll Booth Direct Cost 1.00 Detail BAGE

Cost Item Setup

Default Pay Rules

Composite Wage Scale	Scale 1	Scale 2	Scale 3
For every 8.00 hours worked, pay	100.00	0.00	0.00

Default Shift Arrangements

Work Hours per Shift	Shifts per Day	Days per Week
8.00	1.00	5.00

Default Properties

Account Code: 8000 ☒
 Cost Curve: Linear

The Quote Cost Source can only be selected from the Quote Comparison & Award form. See Lesson 8 – Quote Comparison.

Plug Costs

The following steps walk you through defining a plug cost on a cost item.

Step by Step — Define a plugged cost

1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
2. Right-click on the **row header** for a cost item and select Open.
3. In the Cost Source drop-down field select **Plug**.
4. In the left section of the cost item, select the Plug tab.
5. Click in the Unit cost or Total cost field for a cost category and type in a **Numeric Value**.
 - For this example, on the Mobilization cost item, we'll add \$10,000 in the Total Cost field for both Labor and Owner Equipment.

1	200	SITEWORK & ROADWAY
1.1	641 0100	Mobilization
PI Assignment: PI Line Number: PI Description:		
641 0100	1.1	Mobilization
Cgst Item Summary Detail : \$0.00 Plug : \$20,000.00 Quote : \$0.00 Allocation		
Cost Category	Unit Cost	Total Cost
▼ Total	\$20,000.00	\$20,000.00
> Labor	\$10,000.00	\$10,000.00
> Owned Equipment	\$10,000.00	\$10,000.00
> Rented Equipment	\$0.00	\$0.00

Detail Costs

The Detail cost method is also defined on the Cost Item Record. On the Detail tab, you can add resources (labor, equipment, and material) and define production.

On the Production tab (right side of screen), define production by entering one of the following:

- A duration, or
- A unit per duration, or
- A duration per unit

When you enter a production value, all the other production fields will auto-fill based on what you entered.

Cgst Item Summary Detail : \$11,909.51 Plug : \$20,500.00 Quote : \$500.00 Allocation									
Drag columns here to group Find: [Search For...] Saved views: Previous View									
Row No...	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Meas...	Product... Factor	W... H...	Unit Cost
1	LTL	Tramster			1.00	Each	1.00	80.00	\$30
2	ETLT	Lowboy Trailer			1.00	Each	1.00	80.00	\$30
3	ETTT	Tractor Truck			1.00	Each	1.00	80.00	\$70

Production		Qty Driven Hourly Resources
Duration Driven Resources		
Customize Display		
Days:	10.00	0.00
Shifts:	10.00	0.00
Hours:	80.00	0.00
Man-Hours:	80.00	0.00
Equip-Hours:	160.00	0.00

The hours defined on the Production tab drive the labor and equipment resources you employ on the left, multiplying their unit costs by the production hours.

When you employ material resources, their costs are driven by the quantity you enter into the quantity field.

The Total Cost of each resource is added together to give you the Total Cost for the cost item.

Cost Breakdown Structure (CBS) Register

CBS Code: [641 0100] Description: [Mobilization] Forecast (T10) Qty: [1.00] Unit of Measure: [Lump Sum] Unit Cost: [11,999.51] Total Cost: [11,999.51] Currency: [U.S. Dollar]

PI Assignment: [641 0100] PI Line Number: [10] PI Description: [Mobilization] Cost Segment: [Direct Cost] Pay Quantity: [1.00] Cost Source: [Detail] Alternate: [BASE]

CBS Item Summary: [Detail: \$11,999.51] [Plug: \$20,500.00] [Quote: \$500.00] [Allocation]

Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit Measure	Total Cost (Forecast)	Currency	Cost Curve	Work Hours Rules
1	LT1		Teamster	1.00			Each	\$2,499.51	U.S. Dollar	Employed C...	
2	ETDT		Dump Truck	1.00			Each	\$2,688.00	U.S. Dollar	Employed C...	
3	MBR		Aggregate Base Rock	1.00			Each	\$6,722.00	U.S. Dollar	Employed C...	

Production

Duration Driven Resources

Days: [10.00] Shifts: [10.00] Hours: [80.00] Man-Hours: [80.00] Equip-Hours: [160.00]

Step by Step — Detail costs

1. On the Detail tab, add resources (labor, equipment, and material).
 2. On the Production tab, define production (duration, unit per duration, or duration per unit).
 3. The hours defined on the Production tab drive the labor and equipment resources on the left, multiplying their unit costs by the production hours.
- With material resources, their costs are driven by the quantity entered in the quantity field.

Cost Item Summary

Detail: \$11.54 Plug: \$0.00 Quote: \$0.00 Allocation

rag columns here to group

Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit Measure
1	LT1		Teamster			2.00	Each
2	ETDT		Dump Truck			2.00	Each
3	MBR		Aggregate Base Rock	45,500.00	5.00	47,775.00	Ton

RESOURCES

Production

PRODUCTION

	Duration Driven Resources	Factored Duration Driven Resources	Qty Driven Hourly Resources	Cost Item Summary
Days	45.00	45.00	0.00	45.00
Shifts	45.00	45.00	0.00	45.00
Hours	360.00	360.00	0.00	360.00
Man-Hours	720.00	720.00	0.00	720.00
Equip-Hours	720.00	720.00	0.00	720.00

Add Cost Detail

The following steps walk you through adding resources and production on a cost item.

Step by Step — Add cost detail

1. From the Estimate tab, select Cost Breakdown Structure (CBS).
2. Right-click on row header for a cost item and select Open.
3. Select the Detail tab.
4. A blank row is available to define your costs. With your cursor in the code field, click the Resource Selection icon to open the Resource Selection Register.
5. Select a resource tab (e.g., Labor).

6. Select a resource.
7. Select OK.
8. Repeat the steps to add additional resources as needed.
9. Click in each resource's quantity field to change their quantity as needed.
10. From the lower-right section of the form, select the **Production** tab.
11. Type a **numeric value** in the Days field, then press **Tab**.
12. Click **OK** to close the record.
 - For this example, we'll add cost detail to the Clearing cost item, adding the following labor and equipment resources and production value:

Resource	Quantity
LL2 Laborer	2
LO1 Operator Class 1	1
EL988 Loader 988	1
Cost Item Production Value (in Days)	
8	

Add Assembly

Step by Step — Define cost detail by adding an assembly

1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
2. Right-click on the **row header** for one of the cost items and select **Open**.
3. Select the **Detail** tab.
4. With your cursor in the Resource Assembly field, click the **Resource Assembly Selection** icon to open the Resource Assembly Selection Register.
5. Select an assembly, then click **OK**.
6. Because this crew includes duration-based resources, you need to enter a Production value. Select the **Production** tab.
7. Type a **numeric value** in one of the production fields (e.g., UoM/day), then press **Tab**.

- For this example, on the Grading cost item, we'll add a Grading assembly with a production value of 1 Acre/Day.

1.2.2

Grading

10.00

Acre

\$1,397.01

\$13,970.09

U.S. Dollar

PI Assignment:

PI Line Number:

PI Description:

Cost Segment:

Pay Quantity:

Cost Source:

Alternate:

201 0102

1.2

Clearing & Grubbing

Direct Cost

6.67

Detail

BASE

Cost Item Summary

Detail : \$1,397.01

Plug : \$0.00

Quote : \$0.00

Allocation

Drag columns here to group

Saved views: Previous View

Row Number	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure
1	CGRAD	Grading Crew			1.00	Hour
→						
1	ETWT	CGRAD Water Truck			0.50	Each
2	LL2	CGRAD Laborer			1.00	Each
3	LO3	CGRAD Operator Class 3			2.00	Each
4	EG14G	CGRAD Grader 14G			1.00	Each
5	ECOMP1	CGRAD Compactor Smooth Drum			1.00	Each
6	LO4	CGRAD Operator Foreman			1.00	Each

Production

Duration Driven Resources

Factored Duration Driven Resources

Days

10.00

10

Shifts

10.00

10

Hours

80.00

80

Man-Hours

320.00

320

Equip-Hours

200.00

200

Acre/Day

1

Acre/Shift

1.00

Acre/Hour

0.13

Acre/Man-Hr

0.03

Cost Item Details

The Cost Item Record contains other tabs (called Data Blocks) in addition to the Production tab, for storing and calculating information specific to that cost item.

The screenshot displays the 'Cost Item Setup' dialog box with the following sections:

- Scale 1: Scale 2: Scale 3:** Composite Wage Scale: 100.00, 0.00, 0.00. For every 8.00 hours worked, pay 8.00 hours.
- Period Quantities:** ☐ Use Period Quantities. [Edit](#)
- Default Shift Arrangements:** Work Hours per Shift: 8.00, Shifts per Day: 1.00, Days per Week: 5.00.
- Execution:** Allow As-Built: None.
- Default Properties:**
 - Account Code: 1020
 - Cost Curve: Linear
 - Worker's Comp Override:
 - Quantity Driver: Pay Item
 - Quantity Roll-Up:
 - Quote Group Tag:
 - Tag 1: Estimator 1
 - Tag 2: Roadway
 - Tag 3:
 - Tag 4:
 - Tag 5:
 - Tag 6:

A red box highlights the bottom tab bar containing: Emplo..., Notes, Cost It..., Produc..., Man-H..., Resou..., Schedule, User D..., and Bench...

You can add to or adjust the information on these tabs as needed, based on the cost item's circumstances. In this section, you will review three of the tabs (in addition to the Production tab) you will likely use most often: Cost Item Setup, Notes, and Man-Hour Factors.

Cost Item Setup

On the data block where the Production tab was found, there is also a Cost Item Setup tab where you can adjust wage scale and shift arrangements for a specific cost item.

The composite wage scale and work and pay hours are used in the calculation of the cost of employed labor resources. The data reported on the Default Pay Rules tab is, by default, the composite wage scale and work and pay hours defined on the Job Properties - Cost Basis tab for the current job.

These settings can be modified from the default on a cost item-by-cost item basis.

The Pay Rules for cost items can also be defined or modified on the Cost Breakdown Structure (CBS) Register in the Scale 1, Scale 2, Scale 3, Work Hours Rules, and/or Pay Hours Rules columns in the row of the subject cost item.

Cost Curves

Cost curves are used to determine how the cost of a cost item is distributed over time. The main benefit of defining the cost curve for a cost item is to create a more accurate estimation of the cash flow over the life of a project.

The schedule dates entered on a Cost Item are used to define the periods across which a cost item will incur its costs. A cost item's start and finish dates can be entered manually by the user or established using Schedule Integration, and the time periods (day, week, month, quarter, year) are determined in the Cash Flow settings in Job Properties. For more information on scheduling, see topics Microsoft Project and [Primavera](#).

By default, Cost Items have a linear cost curve, which distributes the cost of the cost item equally across all periods for the Cost Item. There are 5 different types of cost curves that can be selected from in the Cost Item Record > **Cost Item Setup** page.

Cost Item Setup

Default Pay Rules

Scale 1: 100.00Scale 2: 0.00Scale 3: 0.00

Composite Wage Scale: 100.000.000.00

For every 8.00 hours worked, pay 8.00 hours

Period Quantities

☐ Use Period Quantities

Default Shift Arrangements

Work Hours per Shift: 8.00Shifts per Day: 1.00Days per Week: 5.00

Execution

Allow As-Built: None

Default Properties

Account Code: 1110

Cost Curve: Linear

Worker's Comp Override: Description

Quantity Driver: Back Loaded

Quantity Roll-Up: Bell Shaped

Quote Group Tag: Front Loaded

Minority Goal Allowance: Linear

Phase Code:

When man-count changes:

Tag 1: Estimat

Tag 2: Roadw

Tag 3:

Tag 4:

Tag 5:

Tag 6:

Tag 7:

Tag 8:

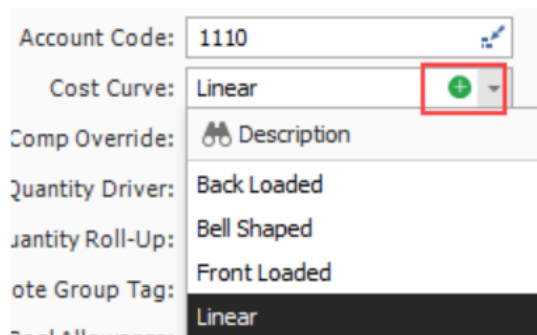
Tag 9:

Tag 10:

Cost curve type	Definition
Back Loaded	Costs are low for most of an activity's timeline, but then increase towards the end. This curve type starts out with a lower slope and gradually becomes steeper as the work progresses. Most resources are assumed to be consumed later in the activity and may be more characteristic of subcontracted work where costs are incurred as the work nears completion.
Bell Shaped	Expenses are low at the start of an activity, increase during construction, and decrease as the project approaches completion. Bell shaped cost curves incur the majority of their costs towards the mid-point of the work and exponentially increase and decrease from the beginning to the end of the activity. This type of curve can be characteristic of larger portions of work that start with a few resources, ramp up to a peak, incurring more costs during the ramp up, then ramp back down as the work nears completion.
Front Loaded	A front-loaded cost curve is when costs are incurred early in a activity. This can happen for several reasons such as early procurement of

Cost curve type	Definition
	materials to take advantage of lower prices or to address long lead times.
Linear	Linear cost curves take the total cost of the activity and spreads it equally amongst the specified periods.
Cost Item Periods	Invoked by using the Period Quantities feature (described below). Cost Item Periods are used to customize cost curves based on the quantities consumed in various periods. In comparison to the other curves which spread the items total cost proportionally based the chosen cost curve, the Cost Item Periods option can generate a more precise distribution of costs to specific periods because the user can simply define how much quantity of work is getting completed in each specific period.

You can also choose to create your own custom cost curve by clicking on the **add button** in the Cost Curve drop-down menu.



The screenshot shows a software interface for 'Cost Item Setup'. It includes fields for 'Account Code' (1110), 'Cost Curve' (Linear), 'Comp Override' (Description), 'Quantity Driver' (Back Loaded), 'Quantity Roll-Up' (Bell Shaped), 'Note Group Tag' (Front Loaded), and 'Test Allowances' (Linear). The 'Cost Curve' dropdown menu is open, showing a list of options: 'Linear', 'Back Loaded', 'Bell Shaped', 'Front Loaded', and 'Linear'. A red box highlights the 'add button' (a green plus icon) next to the 'Linear' option in the dropdown menu.

Custom cost curves let you define your own from and to durations along with their associated values, which need to add up to 100%.

Cost Curve Record - Training Job

Description: * Expedited projects

Number of Points: 8

	From Duration %	To Duration %	Value %
→	0	50	5
	50	50	5
	50	50	10
	50	50	10
	50	100	30
	100	100	10
	100	100	10
	100	100	20

100.00

OK

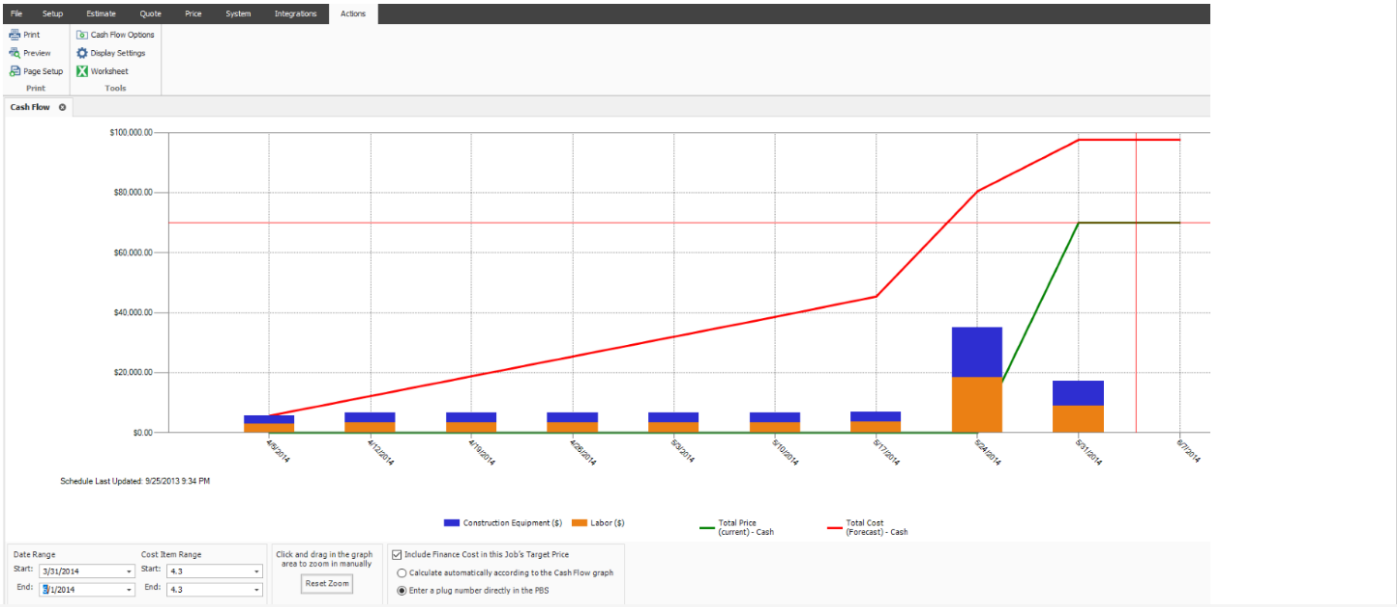
Cancel

Cash Flow

All cost curves, regardless of type, impact the generation of the cash flow graph. The [Cash Flow](#) form provides a graphical representation of the cash flow and resource utilization of your project, so you can quickly assess financing and resource needs.

You can open the Cash Flow form by selecting the **Estimate** tab from the Estimate landing page, then selecting **Cash Flow** from the Schedule section.

To generate a cash flow curve, the estimate must be populated with schedule dates either directly from integration with Primavera, Microsoft project, or input manually.



Cash flow options

The [Cash Flow Options](#) are used to define the cash flow rules (revenue timing, cost timing, cost of money, and quantities) needed to calculate the finance expense and cash flow for your project.

Cash flow rules (revenue timing, cost timing, cost of money, and quantities) describe how cash flow occurs between a contractor and a client, and between contractors or owners and vendors/sub-contractors. Cash flow is then calculated based on both the earning and payment terms you specify, and the job's schedule and pay item prices.

The screenshot shows the 'Cash Flow' dialog box with the 'Job Properties' tab selected. The dialog is divided into several sections: Revenue timing, Cost timing, Cost of money, Reporting Periods, Quantities, and Dates. The 'Revenue timing' section includes options for when bills are submitted to the owner (At the end of the job, Every month on this day: 25, Every 1 weeks, Every 1 days) and the average calendar days elapsed from billing to collection (30 days). It also includes options for retainage (Amount of each billing that is withheld by owner as retainage: 5.00 %) and when retainage is released (At the end of the job, On a specific date). The 'Cost timing' section includes options for when bills are received from subcontractors and vendors (At the end of the job, Every month on this day: 25, Every 1 weeks, Every 1 days) and the average calendar days elapsed from receipt of invoice to payment (35 days). It also includes options for retainage (Amount of each invoice received that is withheld by you as retainage: 5.00 %) and when retainage is released (At the end of the job, On a specific date). The 'Cost of money' section includes options for the average annual interest rate paid to borrow money (8.00 %) and the average annual interest rate earned (3.00 %). The 'Reporting Periods' section includes a dropdown for the period setting for cash flow (Day). The 'Quantities' section includes options for Pay Quantity and Forecast (T/O) Quantity. The 'Dates' section includes a dropdown for the date setting (Early Start / Finish). A 'Cancel' button is located at the bottom right of the dialog.

File Setup Estimate Quote Price System Integrations

Job Properties Foundation Setup Data Pay Item & Proposal Bid Wizard Resources Labor Equipment Resource Assemblies Cost Item Assemblies Standard Tables Reports

Initialize Resources Assemblies Reports

Cash Flow Job Properties

Overview Cover Sheet Cost Basis Minority Setup Fuel Cost Job Folder Tags Pricing Schedule Cash Flow Equip

Revenue timing

Bills are submitted to the owner:

☐ At the end of the job

☒ Every month on this day: 25

☐ Every 1 weeks

☐ Every 1 days

Average calendar days elapsed from billing to collection: 30 days

Amount of each billing that is withheld by owner as retainage: 5.00 %

Retainage is released:

☒ At the end of the job

☐ On a specific date:

☐ Spread revenue using the same Cost Curves as the contributing Cost Items

Cost timing

Bills are received from subcontractors and vendors:

☐ At the end of the job

☒ Every month on this day: 25

☐ Every 1 weeks

☐ Every 1 days

Average calendar days elapsed from receipt of invoice to payment: 35 days

Amount of each invoice received that is withheld by you as retainage: 5.00 %

Retainage is released to subcontractors and vendors:

☒ At the end of the job

☐ On a specific date:

☒ Apply cash timing rules for all procurable cost categories (non labor and equipment), even if their cost source is not set to "Quote"?

Cost of money

Average annual interest rate paid to borrow money (when cost exceeds revenue): 8.00 %

Average annual interest rate earned (when revenue exceeds cost): 3.00 %

Quantities

☐ Pay Quantity

☒ Forecast (T/O) Quantity

Reporting Periods

Period setting for cash flow: Day

Dates

Early Start / Finish

Cancel

Cash Flow Display Settings

The [Cash Flow Display Settings](#) allow you to control what information displays on the Cash Flow graph.

Cash Flow Display Settings

Settings: Previous

☒ Display this text as a custom report title:

Example cash flow

Period: Week

Cost Items

☐ Total Cost (Forecast)

☐ Total Price (current)

☒ Total Cost (Forecast) - Cash

☒ Total Price (current) - Cash

☐ Cash Flow

☐ Finance Cost

☐ As-Built Total Cost

☐ CE-Total Cost Earned (to-date)

Cost Categories

Estimated

As-Built

Planned To Date

Labor

Owned Equipment

Rented Equipment

Supplies

Materials

Subcontract

Fees

Allowance

Custom Category1

Undefined

Resources

☒ Resource Utilization

Summarize resources by: Resource Type

Get data from:

☒ This job's utilized resources

☐ All Library resources

Value

☒ Labor

☒ Construction Equipment

☐ Rented Construction Eq...

☐ Installed Material

☐ Installed Equipment

☐ Supply

☐ Unique

Qty

Cost

AB Qty

AB Cost

Quantity:

None

Cost:

Stacked Bar

As-Built Quantity:

None

As-Built Cost:

None

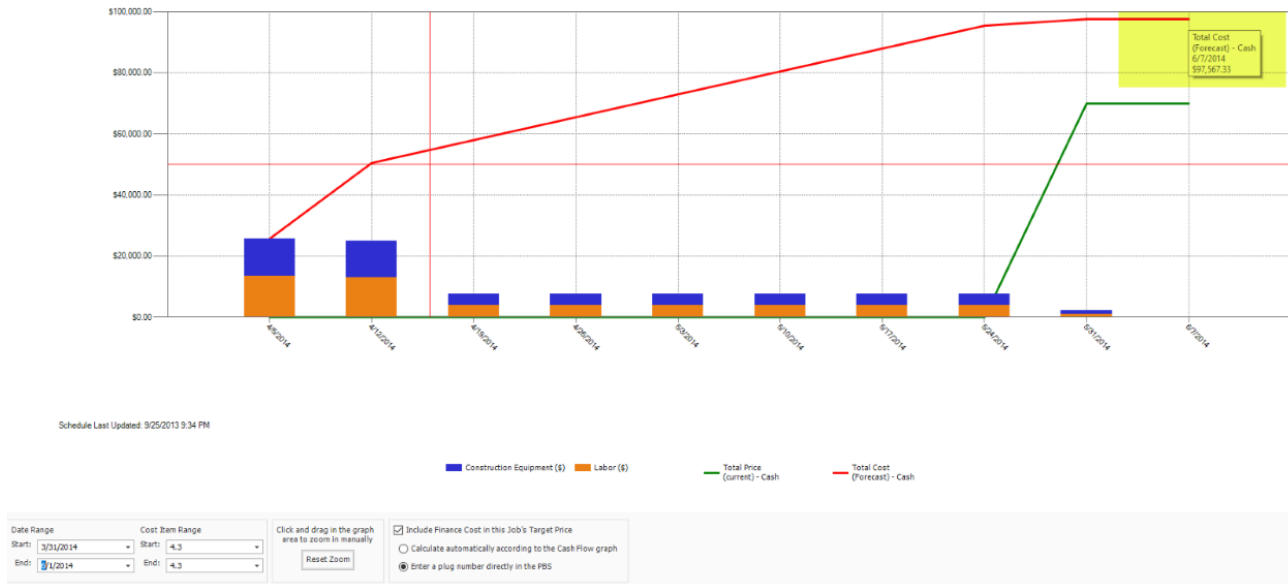
Cash Flow example

Using the Period Quantities cost curve type as an example, on the Cash Flow graph, you can see that 50% of the total cost for this cost item, represented by the red line, is incurred in the first period of the project. Half of the project’s cost is incurred during the first period of the project’s lifespan as determined by what is entered in the cost item’s period quantities.

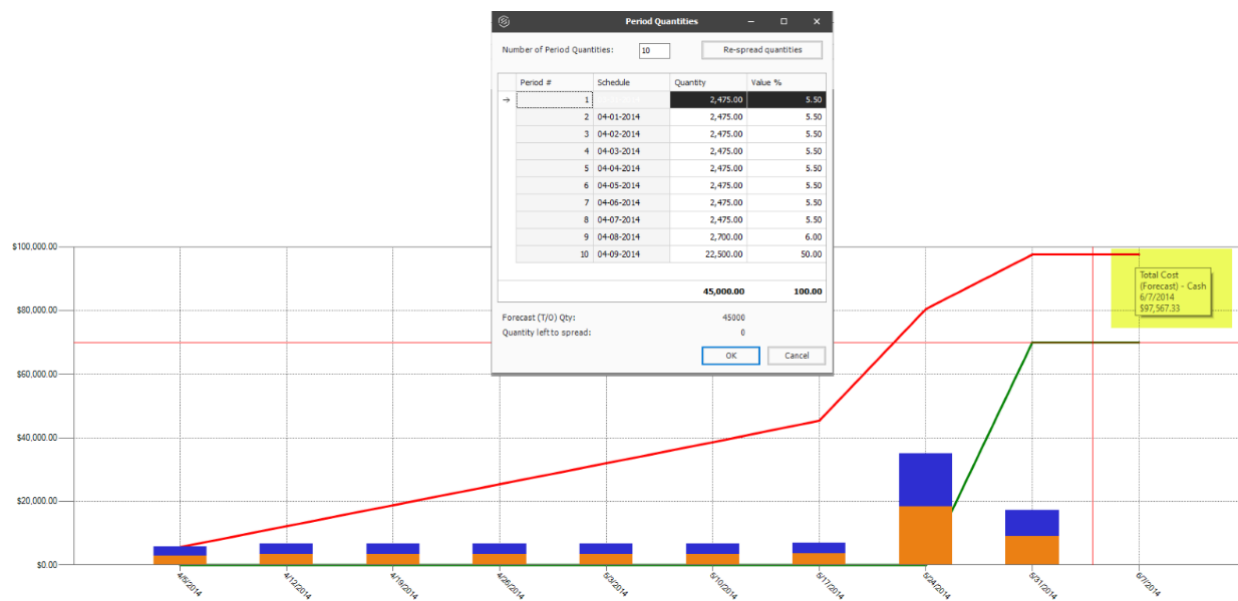
A reason why half of the project’s cost is being used during the first period could be that resources available to perform the project happen to be mostly available during the front end of the project.



After the first period, the project incurs the remaining balance of the total project cost of \$95,000. This is spread equally with quantities of \$5,625 amongst the last three periods. This information helps you to better understand when the owner provides payment, in addition to deciding if more project funding or financing is needed.



Perhaps most costs on this one item will be incurred at the end of the activity, such as a subcontractor billing for most of his work as it nears completion. If it's determined costs are incurred towards the end of the activity, you can attribute most of the cost items quantity in the last period. You can add any number of additional periods to a custom cost curve or to a cost curve defined by period quantities curve and the costs will be proportionally spread across the actual number of periods defined by the Cost Items start and finish dates and cash flow settings. Be aware reducing the number of periods in a front or back end loaded curve may show a steeper total cost in some periods.



Using period quantities as the cost curve helps you determine how much of a cost item's cost is going to be spread in different durations of time.

Period Quantities

Like the other four cost curves, Period Quantities are used to customize cost curves, which show you a graphical representation of the cash flow and resource utilization so you can assess the proper financing and resource project needs. When the Period Quantities check box is selected, the Cost Curve automatically changes to Cost Item Periods.

The screenshot shows the 'Cost Item Setup' dialog box. The 'Period Quantities' section is highlighted with a red box, containing the 'Use Period Quantities' checkbox (checked) and an 'Edit' button. A red arrow points from this checkbox to the 'Cost Curve' dropdown menu in the 'Default Properties' section, which is currently set to 'Cost Item Periods'. Other visible fields include 'Default Pay Rules' (Composite Wage Scale: 100.00, 0.00, 0.00), 'Default Shift Arrangements' (Work Hours per Shift: 8.00, Shifts per Day: 1.00, Days per Week: 5.00), and 'Execution' (Allow As-Built: None). The 'Default Properties' section also includes 'Account Code' (1122.100), 'Quantity Driver' (Superior CI), 'Quantity Roll-Up' (110.20), 'Quote Group Tag', 'Minority Goal Allowance' (100.00), 'Phase Code', and 'When man-count changes' (Change UM / Man-Hour selected). The bottom of the dialog shows a list of tags (Tag 1 to Tag 25) and a taskbar with various application icons.

The Period Quantity calculator uses the cost item quantity assigned to various periods to calculate the specific percentages attributable to each range of periods covered by the cost item. The purpose of using period quantities is to spread costs via the cost curve in the cash flow analysis. For example, if you have an item where 50% of the cost is incurred when you start the work because you have to buy all the material first, then you would want a customized cost curve to reflect that this is how the costs will be incurred over time when building that work.

In the example below, since 50% of the cost is incurred when the project starts, period one's quantity is 50% of 45,000 Forecast (T/O) Qty which is 22,500. The remaining costs are then spread equally across the remaining three periods.

CBS Position Code	Description	Start	Finish	Forecast (T/O) Quantity
4,3	Install Aggregate Base	3/31/2014	5/26/2014	45,000.00

Period Quantities

Number of Period Quantities:

Period #	Schedule	Quantity	Value %
1	03-31-2014	22,500.00	50.00
2	04-01-2014	5,625.00	12.50
3	04-02-2014	5,625.00	12.50
4	04-03-2014	5,625.00	12.50
5	04-04-2014	5,625.00	12.50
		45,000.00	100.00

Forecast (T/O) Qty: 45000
Quantity left to spread: 0

You can also choose to select the Re-spread quantities button to spread the quantities equally among the periods entered in the Number of Period Quantities field.

Period Quantities

Number of Period Quantities:

Period #	Schedule	Quantity	Value %
→ 1		9,000.00	20.00
2		9,000.00	20.00
3		9,000.00	20.00
4		9,000.00	20.00
5		9,000.00	20.00
		45,000.00	100.00

Forecast (T/O) Qty: 45000
Quantity left to spread: 0

Step by Step — Adjust shift arrangements

1. From the Estimate tab, select Cost Breakdown Structure (CBS).
2. Right-click on the **row header** for a cost item and select Open.

3. Select the Cost Item Setup tab in the lower-right portion of the form (the tab name may be abbreviated).
4. In the Default Pay Rules data block, adjust your Composite Wage Scale as needed.

Cost Item Setup

Default Pay Rules

Composite Wage Scale: Scale 1: 80.00 Scale 2: 0.00 Scale 3: 0.00

For every 8.00 hours worked, pay 8.00 hours

Default Shift Arrangements

Work Hours per Shift: 8.00 Shifts per Day: 1.00 Days per Week: 5.00

5. Under the Composite Wage Scale, adjust the number of hours and paid as needed

Cost Item Setup

Default Pay Rules

Composite Wage Scale: Scale 1: 80.00 Scale 2: 20.00 Scale 3: 0.00

For every 10.00 hours worked, pay 10.00 hours

Default Shift Arrangements

Work Hours per Shift: 8.00 Shifts per Day: 1.00 Days per Week: 5.00

6. In the Default Shift Arrangements data block, make changes as needed.

Cost Item Setup

Default Pay Rules

Composite Wage Scale: Scale 1: 80.00 Scale 2: 20.00 Scale 3: 0.00

For every 10.00 hours worked, pay 10.00 hours

Default Shift Arrangements

Work Hours per Shift: 10.00 Shifts per Day: 1.00 Days per Week: 5.00

- For this example, we'll make the following changes on the Clearing cost item:
 - Composite Wage Scale – 80% Scale 1, 20% Scale 2.
 - For every 10 hours worked, pay 10 hours.
 - Default Shift Arrangements – Change Work Hours per Shift to 10.

Cost Item Setup

Default Pay Rules

Composite Wage Scale: Scale 1: 100.00 Scale 2: 0.00 Scale 3: 0.00

For every 8.00 hours worked, pay 8.00 hours

Default Shift Arrangements

Work Hours per Shift: 8.00 Shifts per Day: 1.00 Days per Week: 5.00

Notes

On the Cost Item Record, you can enter any cost item-specific instructions, parameters, or general information on the Notes tab. Below are a few examples of the kinds of notes you might enter:

- For a Hauling cost item: There should be very little waste. If so, we can spread it out in the right of way at MP 111
- For a Structural Excavation and Backfill item: The backfill cannot be the native material. Have to use clean base rock
- For an Underground Pipe cost item: The average depth is close to 10 ft.

You can use the Notes tab to reference cost item changes (e.g., changing shift arrangements, changing a resource rate).

Man-Hour Factors

For items that have known risks or potential resource concerns, you can apply a Man-Hour Factor to take those risks into consideration.

Man-Hour factors are applied on the Man-Hour Factors tab on the Cost Item Record. Factors are applied in relation to 1, where slower production is greater than 1 and faster production is less than 1.

Man-Hour Factors affect both Labor and Equipment Hours.

For example, if you predict production to be 20% slower due to weather concerns, you would type 1.2 in the weather factor field.

Man-Hour Factors

Factor Name	Factor
Factor 1	1.20
Factor 2	1.00
Factor 3	1.00
Factor 4	1.00
Factor 5	1.00
Factor 6	1.00
Factor 7	1.00
Factor 8	1.00
Factor 9	1.00
Factor 10	1.00

Factor Composite: 1.2000

Even after defining a Man-Hour Factor, the Production tab will still display the original Production values.

- To see the factored Production values, click the Customize Display link on the Production tab and select Show Man-Hour Factors
- Both original and factored production are then displayed on the Production tab

Production

Duration Drives Resources

Qty D
H
Rate

Customize Display

Show Man-Hour Factors

Show All

You can apply Man-Hour Factors to multiple cost items at once by Multi-Editing selected cost items on the CBS Register.

Unique Identifier

You may have noticed when you made changes on the Cost Item Setup tab, that the fields you changed and the Cost Item Setup tab became highlighted, indicating they were altered from their original state.

On the CBS Register, the cost item you edited now has a Unique Identifier in the row header indicating the cost item was altered from the default values set in the project job properties or in the project library of resources rates.

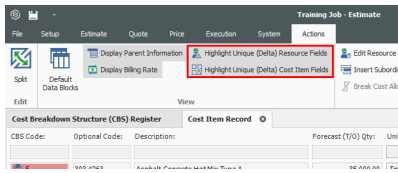
If you hover over the identifier, a pop-up menu appears indicating what data points were changed.



This same identifier will show up for resources as well, if you make changes to the employed resource's cost to be different than the original resource rate imported from the Resource Rate Register.

Highlight Unique (Delta) Toggle

You can turn the highlighting of unique resource and cost item fields off and on from the Actions menu of the Cost Item Record, under the View section.



Cost Drivers

Each type of resource has a default cost driver. For example, Labor resources are duration driven so the cost driver is CI Duration, meaning their costs are driven by the duration of the cost item. If you want an Operator 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.

Drag columns here to group

Find: [Search For...]

Row Number	Code	Resource Assembly	Description	Quantity	Unit of Measure	Unit Cost	Waste % Add-on	Quantity (Less Waste)
1	LL2		Laborer	0.50	Each	\$29.00		
2	LO1		Operator Class...	1.00	Each	\$29.94		
3	EL988		Loader 988	1.00	Each	\$73.75		

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

Drag columns here to group

Find: [Search For...]

Saved views: Previous View

Row Number	Code	Resource Assembly	Description	Quantity	Unit of Measure	Unit Cost	Cost Driver	Waste % Add-on	Quantity (Less Waste)
1	LL2		Laborer	0.50	Each	\$29.00	CI Duration		
2	LO1		Operator Class...	1.00	Each	\$29.94	CI Duration		
3	EL988		Loader 988	1.00	Each	\$73.75	CI Duration		

Cost Driver dropdown menu options: CI Duration, CI Quantity, Fixed, Scheduled Periods

With CI Quantity as your cost driver for the Operator, you can adjust the Work Hours manually, where previously that column was read-only.

Let's say you want your Operator to work specifically 80 hours.

Drag columns here to group

Find: [Search For...]

Saved views: Previous View

Row Number	Code	Resource Assembly	Description	Quantity	Unit of Measure	Unit Cost	Work Hours	Pay Hours	Waste % Add-on	Cost Driver
1	LL2		Laborer	0.50	Each	\$29.00	80	60.00		CI Quantity
2	LO1		Operator Class...	1.00	Each	\$29.94	120.00	120.00		CI Duration
3	EL988		Loader 988	1.00	Each	\$73.75	120.00	120.00		CI Duration

However, since the resource is now quantity driven, if you change the Forecast (T/O) Quantity to 50 you will see that the work hours will still adjust from 12 to 40.

Cost Breakdown Structure (CBS) Register

Cost Item Record

Forecast (T/O) Qty: 50.00

Unit of Measure: Cubic Yard

Unit Cost: \$1,156.70

Total Cost: \$57,835.17

Currency: U.S. Dollar

PI Assignment: 201.0102

PI Line Number: 20

PI Description: Cleaning & Grubbing

Cost Segment: Direct Cost

Pay Quantity: \$0.00

Cost Source: BAGE

Quote: \$0.00

Plug: \$0.00

Allocation

Production

Duration Driven Resources

Factored Duration Driven Resources

Qty Driven Resources

Row Number	Code	Resource Assembly	Description	Quantity	Unit of Measure	Unit Cost	Work Hours	Pay Hours	Waste % Add-on	Cost Driver
1	LL2		Laborer	0.50	Each	\$29.00	240.00	240.00		CI Quantity
2	LO1		Operator Class...	1.00	Each	\$29.94	480.00	480.00		CI Duration
3	EL988		Loader 988	1.00	Each	\$73.75	480.00	480.00		CI Duration

Production Summary:

Resource	Duration Driven Resources	Factored Duration Driven Resources	Qty Driven Resources
Customized Display	40.00	40.00	40.00
Days	40.00	40.00	40.00
Shifts	40.00	40.00	40.00
Hours	480.00	480.00	480.00
Man-Hours	480.00	480.00	240.00
Equip-Hours	400.00	480.00	0.00

If you want it set at 80 hours no matter what changes you make to your quantity, you can change the cost driver to Fixed. Then when you change the Forecast Quantity to 500, the work hours for the Operator will not change and will remain at 80 hours as shown below.

CBS Code	Optional Code	Description	Forecast (TID) Qty		Unit of Measure
2.2		Clearing	500.00		Cubic Yard
PI Assignment:	PI Line Number:	PI Description:	Cost Segment:		
201.002	20	Clearing & Grubbing	Direct Cost		
Cost Item Summary					
Detail: \$106.39		Plug: \$0.00	Quote: \$0.00	Allocation	
Drag columns here to group					
Find: [Search For...] Saved views: Previous View					
...	Code	Resource Assembly	Description	Quantity	Unit of Measure
1	LL2	Laborer	0.00	Each	\$29.00
2	LO1	Operator Class...	1.00	Each	\$29.94
3	EL988	Loader 988	1.00	Each	\$73.75
Work Hours					
Pay Hours					
Waste % Add-on					
Cost Driver					
Quantity (Est. Waste)					
PI					

If you followed along and made any adjustments to cost item 2.1 Clearing, change the Cost Driver for the Operator resource back to CI Duration and the Work Hours back to 100.

Suspend Cost Items

The Suspend feature allows you to turn cost items on and off in order to perform “what-if?” analysis or evaluate alternative approaches to the work.

A cost item can be suspended in InEight Estimate for various reasons including the following:

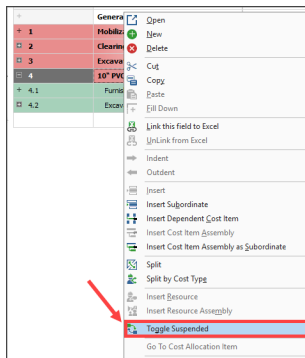
- Manually suspended cost items
- Suspended parent
- Parent with cost source that is not Detail (plugged or quoted)
- Parent cost item with a zero quantity
- Pay item is suspended
- Allocated cost items
- Alternate scenarios:
 - Overridden by another alternate
 - Alternative is not active

Suspended cost items do not contribute any cost to the job's total value. Suspended items can be un-suspended at anytime in order to be included in the total project value.

Step by Step — Suspend a Cost Item

1. On the Cost Breakdown Structure (CBS) Register, select a cost item.
2. Right click on the selection and select Toggle Suspended from the menu.

- You can also select Toggle Suspended under the Edit section of the Actions tab up above
- You can also suspend cost items by checking the Suspend checkbox on the Cost Item Setup tab of a cost item record



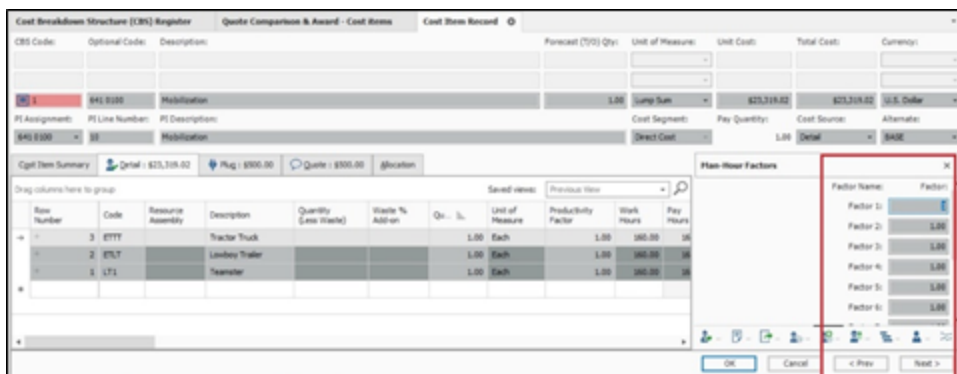
- If a superior cost item is suspended, its subordinate cost items are automatically suspended as well

3.1	Excavate	40,000.00	CF
3.2	Had	1,000.00	LF
4	10" PVC Pipe	1,000.00	LF
4.1	Pump Pipe Materials	1,000.00	LF
4.2	Excavate Install Backfill	1,000.00	LF

- The costs associated with these cost items will no longer contribute to the estimate

Editable Man-Hour Factors in Suspended Cost Items

You can edit Man-Hour Factors for a suspended cost item by creating and maintaining cost items, including Man-Hour Factors. This can be accomplished in a suspended state while having the scope of work included in your estimate. The cost to contribute is excluded from the scope of work until you are ready to make it part of your estimate.



Unsuspend a Cost Item

Follow the step by step below to unsuspend a cost item.

Step by Step — Unsuspend a Cost Item

1. On the Cost Breakdown Structure (CBS) Register, select a cost item.
2. Right click on the selection and choose Toggle Suspended.
 - You can also select Toggle Suspended from the Edit section of the Actions tab
 - You can also unsuspend cost items by unchecking the Suspend checkbox on the Cost Item Setup tab of a cost item record

Suspend Column

Within the CBS Register, the Suspend column indicates which cost items are suspended.

CBS Position Code	Description	Suspend	Forecast (FY) Qty
1	Mobilization	☐	
2	Clearing & Grubbing	☐	
2.1	Clearing	☐	
2.2	Grading	☐	
3	Excavation	☐	
3.1	Excavate	☐	
3.2	Haul	☐	
4	10" PVC Pipe	☒	
4.1	Furnish Pipe Materials	☒	
4.2	Excavate-Install Backfill	☒	

- Hover over the checkmarks to see why the cost item is suspended

4	10" PVC Pipe	☒	
4.1	Furnish Pipe Materials	☒	
4.2	Excavate-Install Backfill	☒	

- You can suspend and unsuspend cost items by checking and unchecking the checkboxes in the Suspend column as well

Adding Cost Adjustments

Total Cost and Billing Adjustments can now be made in the CBS register which can be viewed either from the Standard view of the CBS register, or a saved view affiliated with change.

Cost Breakdown Structure (CBS) Register										
Drag columns here to group										
CBS Position Code	Description	Forecast (FY) Quantity	Unit of Measure	Total Cost (Forecast)	Cost Adjustment	Total Cost Adjustment Amount	Total Cost Adjustment Percent	Labor Cost Adjustment Amount	Labor Cost Adjustment Percent	Owned Equipment Cost Adjustment Amount
3.5	REBAR	1.00	Lump Sum	\$2,512,724.00	☐					
3.5.1	Rebar	1.00	Lump Sum	\$2,512,724.00	☐	\$0.00	0.00	\$0.00	0.00	\$0.00
3.5.2	Post Tension Tendons	1.00	Lump Sum	\$0.00	☐	\$0.00	0.00	\$0.00	0.00	\$0.00
3.5.3	Crane	1.00	Lump Sum	\$105,690.00	☐	\$0.00	0.00	\$0.00	0.00	\$0.00
3.6	034100 - Precast Structural Concrete	2,800.00	SQFT	\$128,640.00	☐					
3.6.1	Precast Panels	27.00	EA	\$64,320.00	☐	\$0.00	0.00	\$0.00	0.00	\$0.00
3.6.2	Crane	1.00	Lump Sum	\$64,320.00	☐	\$0.00	0.00	\$0.00	0.00	\$0.00
4	DIV 04 - MASONRY	1.00	Lump Sum	\$2,326,834.67	☒					
4.1	040000 - Unit Masonry	1.00	Lump Sum	\$2,326,834.67	☒					
4.1.1	CMU Walls	1.00	Lump Sum	\$1,879,709.33	☒	\$1,798,826.67	100.00	\$0.00	0.00	\$0.00
4.1.2	Precast Concrete Caps	1.00	Lump Sum	\$170,882.67	☐	\$0.00	0.00	\$0.00	0.00	\$0.00
4.1.3	Steel Embeds	1.00	Lump Sum	\$170,882.67	☐	\$0.00	0.00	\$0.00	0.00	\$0.00
4.1.4	Scaffolding	1.00	Lump Sum	\$385,360.00	☐	\$0.00	0.00	\$0.00	0.00	\$0.00
4.1.4.1	Setup & Maintain Scaffolding	2.00	Month	\$195,360.00	☐	\$0.00	0.00	\$0.00	0.00	\$0.00
4.1.4.2	Additional Month	0.00	Month	\$0.00	☐	\$0.00	0.00	\$0.00	0.00	\$0.00
4.1.4.3	Netting on Exterior	0.00	Lump Sum	\$0.00	☐	\$0.00	0.00	\$0.00	0.00	\$0.00
5	DIV 05 - METALS	1.00	Lump Sum	\$854,880.00	☐					
261				\$20,381,473.74		\$1,733,328.68		\$17,567.79		\$176.78

Adjustment fields have been added to the CBS to view and modify the adjustment amount and adjustment percent without going into each individual cost item.

Any adjustment made to the Adjustment Amount fields on the CBS register will then have the Adjustment Percent field automatically calculated. Changes made to those fields will be highlighted in yellow signifying an adjustment has been made.

3.6.1	Precast Panels	27.00	EA	\$64,320.00		\$0.00	0.00	\$0.00	0.00
3.6.2	Crane	1.00	Lump Sum	\$64,320.00		\$0.00	0.00	\$0.00	0.00
4	DIV 04 - MASONRY	1.00	Lump Sum	\$2,326,834.67					
4.1	042000 - Unit Masonry	1.00	Lump Sum	\$2,326,834.67					
4.1.1	CMU Walls	1.00	Lump Sum	\$1,676,709.33		\$1,708,926.67	1000.00	\$0.00	0.00
4.1.2	Precast Concrete Caps	1.00	Lump Sum	\$170,882.67		\$0.00	0.00	\$0.00	0.00
4.1.3	Steel Embeds	1.00	Lump Sum	\$170,882.67		\$0.00	0.00	\$0.00	0.00
4.1.4	Scaffolding	1.00	Lump Sum	\$105,360.00					
4.1.4.1	Setup & Maintain Scaffolding	2.00	Month	\$105,360.00		\$0.00	0.00	\$0.00	0.00
4.1.4.2	Additional Month	0.00	Month	\$0.00		\$0.00	0.00	\$0.00	0.00
4.1.4.3	Netting on Exterior	0.00	Lump Sum	\$0.00		\$0.00	0.00	\$0.00	0.00
5	DIV 05 - METALS	1.00	Lump Sum	\$854,880.00					
261				\$20,381,473.74		\$1,733,328.68		\$17,567.79	

Other adjustments fields in the CBS register include the many adjustments fields that have been added to the **Billing Rates View**.

A new Saved view called **Cost Item Adjustment View** has been added to the Cost Breakdown Structure.

Indirect Costs Overview

Indirect costs such as the cost of prime bond, mobilization, or site supplies are typically overhead costs that are not directly associated with a particular project deliverable but contribute to the total cost of the project. However, indirect costs can be assigned to a pay items. This gives you the flexibility to more accurately control the cost basis of bid items and strategically price the work to maximize cost recovery and profit.

Once your direct costs are defined, you can add indirect project costs. Estimate provides two ways you can create indirect costs:

1. **Default Indirect Cost Items:** These are pre-built cost items created by InEight Estimate, located at the top of the CBS Register.

CBS Position Code	Description
308	Prime Bond
	Price % Add-On
	Job Financing
	Indirect Cost Escalation
	Direct Cost Escalation
	Indirect Cost Add-On
	Job Management & Equip...
	General Expense
	Direct Cost Add-On

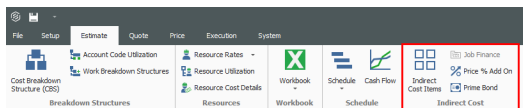
2. **User-Defined Indirect Cost Items:** Any cost item you create in the CBS Register that is not assigned to a pay item is considered indirect cost.

23	Job Overhead - Indirect ...
23.1	Setup Yard
23.2	Trailer Rent
23.3	Utilities

The Cost Breakdown Structure (CBS) located in the Library under the Estimate tab, Master Breakdown Structures section, controls which of the default indirect cost items to copy into new job folders.

Navigation to Indirect Costs

From the Estimate tab of the InEight Estimate landing page, you can quickly access indirect costs from the Indirect Cost section.



- Select Indirect Cost Items to open the Cost Breakdown Structure Register filtered to only your indirect costs
- You can select Prime Bond, Price % Add On, and Job Financing to access those indirects

The following section takes a closer look at the default indirect cost items.

Default Indirect Cost Items

InEight Estimate contains various default cost items to help you calculate your indirect costs.

Independent Indirect Cost Items

Independent indirect cost items function very much like the direct cost items you defined previously:

- Job Management & Equipment
- General Expense

Job Management & Equipment

The sample Job Management & Equipment Record below shows that you can add resources and production just like in your direct cost items. Supervisory staff resources were added, and the production duration is set to 100 days.

The screenshot displays the 'Cost Breakdown Structure (CBS) Register' and 'Cost Item Record' for 'Job Management & Equipment'. The record shows a total cost of \$157,096.28. Below this, a table lists resources and their associated costs:

Row Number	Code	Description	Quantity	Unit of Measure	Unit Cost	Work Hours	Pay Hours	Waste % Add-on	Quantity (Less Waste)	Prod. Factor
1	LSS	Project Superintendent	1.00	Each	\$42.53	800.00	800.00			
2	LSSEC	Secretary	1.00	Each	\$20.41	800.00	800.00			
3	LSPE	Project Engineer	1.00	Each	\$51.03	800.00	800.00			
4	ETST	Service Truck	1.00	Each	\$50.60	800.00	800.00			
5	ETPU	Pickup	2.00	Each	\$15.90	1,600.00	1,600.00			

On the right, the 'Production' tab is active, showing a 'Customize Display' button and a 'Days' field set to 100.00. Below this, a table shows 'Duration Driven Resources' and 'Factored Duration Driven Resources' with values for Days, Shifts, Hours, Man-Hours, and Equip-Hours.

The following Step by Step walks you through defining resources and costs for your Job Management & Equipment indirect cost item.

Step by Step — Add job management & equipment costs

1. In your job, from the Estimate landing page, select the Cost Breakdown Structure (CBS).
2. Double-click on the row header of the **Job Management & Equipment** indirect cost item.
3. Add resources by clicking in the Code column and selecting the **Icon**.
4. Select the **Production** tab.
5. Enter a production value.
6. Click **OK** to close the record.

- For this example, we'll add the following resources and production:

Resource	Quantity
LSSEC Secretary	1
LSSUPT Project Superintendent	1
Cost Item Production Value (in Days)	
	70

Step by Step — Add general expense costs

- From the Estimate tab, select the Cost Breakdown Structure (CBS).
- Right-click the row header of the **General Expense** row header and select **Open**.
 - You could add existing resources here, but in this case, you will create an ad hoc resource.
- In the first blank row, enter a description, quantity and unit of measure.
- Click on (highlight) that row, and then click the **Resource Employment Breakdown** tab.
- Type a **numeric value** in the Undefined Supplies cost category.
- Click **Ok** to close the record.
 - For this example, we'll add General Office Supplies, 1 Lump Sum, \$1,000 in the Supplies category.

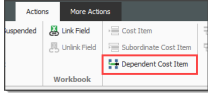
The screenshot displays the 'General Expense' record in the software. The top section shows the record details: 'GENERAL EXPE' with a description of 'General Expense', a quantity of '1.00', and a unit of 'Lump Sum'. The cost is set to '\$1,000.00' with a currency of 'U.S. Dollar'. Below this, the 'Resource Employment Breakdown' tab is active, showing a table with columns for 'Cost Category', 'Scale 1', and 'Unit of Measure'. The table lists 'Total' at \$1,000.00, 'Labor' at \$0.00, 'Owned Equipment' at \$0.00, 'Rented Equipment' at \$0.00, and 'Supplies' at \$1,000.00. The 'Supplies' category is expanded, showing 'Undefined Supplies' with a value of '1000'.

Dependent Indirect Cost Items

The other default indirect cost items are dependent indirect cost items, meaning their costs depend on other costs, prices or hours. They include:

- Direct and Indirect Cost Add-On
- Direct and Indirect Cost Escalation
- Prime Bond

- Price % Add-On
- Job Financing
- Man-Hour Add-On



It's possible to assign any assigned or dependent cost Item to any of the 3 cost segments and provides greater control over where costs exist in the Price Breakdown Structure (PBS).

Cost Breakdown Structure (CBS) Register			Pay Item & Proposal Register		
Drag columns here to group					
CBS Position Code	Description	Cost Segment	Pay Item Assignment	Pay Item Position Code	
	JOB				
+	Prime Bond	Business Over ...			
+	Price % Add-On	Description			
+	Job Financing	Business Overhead			
+	Indirect Cost Escalation	Direct Cost			
+	Direct Cost Escalation	Job Overhead			
+	Indirect Cost Add-On				
+	Mobilization				
1	SITWORK & ROADWAY				
+ 1.1	Mobilization				
+ 1.2	Clearing & Grubbing	Direct Cost	201 0102	1.2	
+ 1.3	Unclassified Excavation	Direct Cost	202 0183	1.3	
+ 1.3.1	Excavation	Direct Cost	202 0183	1.3	

Default Dependent Cost Item Deletion

If you need to use additional dependent cost items, you can create your own, but you must delete all the existing default dependent cost items first.

The following steps walk you through deleting your existing default indirect costs so you can create your own.

Step by Step — Delete existing default dependent cost items

1. From the Estimate tab, select Cost Breakdown Structure (CBS).
2. Select an **Indirect Cost Item** by clicking on its row header.
3. Press and hold the Ctrl or Shift key to select multiple indirect cost items.
4. Right-click on the **selection** and select **Delete**.

5. Select Yes to confirm you want to delete the selected cost items.

Prime Bond

The following steps walk you through adding and defining your prime bond for the job.

Step by Step — Define prime bond

1. From the Estimate tab, select **Cost Breakdown Structure (CBS)**.
2. Right-click on the **row header** for any cost item and insert **Dependent cost Item**.
3. On the resulting Attention prompt, select **Based on Bond Table**.
4. Click **OK**.
5. Right-click on the Prime Bond row header and select **Open**.
6. Use the Table Name drop-down to choose a table (e.g., Example: General Construction).
7. Click **OK** to close the record.

Multiple bond rate dependent items

For certain projects, it may be desirable to calculate costs for bond or insurance premiums based upon multiple different rate tables. It is now possible to add multiple bond/rate table based dependent items in the CBS.

For example, in addition to having a prime bond, the job may also require insurance coverage where the premium is calculated using a rate table-based approach. This can now be accomplished by adding another Bond/Rate-table based dependent cost item to the job.

Cost Breakdown Structure (CBS) Register										
Drag columns here to group										
CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Allocated	Currency	Hours (Duration driven)	
■	JOB		20.00	Mile	\$277,616.11	\$5,552,322.14	■	U.S. Dollar	5,492.23	
+	Prime Bond	PRIME BOND	1.00	Lump Sum	\$42,305.50	\$42,305.50		U.S. Dollar		
+	Insurance	INSURANCE	1.00	Lump Sum	\$140,027.49	\$140,027.49		U.S. Dollar		
+	Job Financing	FINANCE EXPENSE	1.00	Lump Sum	\$29,842.32	\$29,842.32		U.S. Dollar		
+	Indirect Cost Escalation	INDIRECT COST ESCALATION	1.00	Lump Sum	\$2,131.11	\$2,131.11		U.S. Dollar		
+	Direct Cost Escalation	DIRECT COST ESCALATION	1.00	Lump Sum	\$15,048.80	\$15,048.80		U.S. Dollar		
+	Indirect Cost Add-On		1.00	Lump Sum	\$5,823.31	\$5,823.31		U.S. Dollar		
+	Direct Cost Add-On	DIRECT COST ADD-ON	1.00	Lump Sum	\$100,820.54	\$100,820.54		U.S. Dollar		
■ 1	SITework & ROADWAY	200	1.00	Each	\$2,464,161.56	\$2,464,161.56		U.S. Dollar	2,158.33	
+ 1.1	Mobilization	641 0100	1.00	Lump Sum	\$11,909.51	\$11,909.51		U.S. Dollar	80.00	
+ 1.2	Clearing & Grubbing	201 0102	10.00	Acre	\$3,918.50	\$39,184.97		U.S. Dollar	80.00	
+ 1.3	Unclassified Excavation	202 0183	50,000.00	Cubic Yard	\$4.68	\$233,915.81		U.S. Dollar	291.67	

Deleting Bond Tables

Delete bond tables that are not applicable to your estimate by selecting them and then clicking the **Delete** button. You can customize the Bond Table window to only view the tables that are relevant to your estimate from the Table Name drop-down list.

Bond Table

Identification

Table Name:EXAMPLE: GENERAL CONSTRUCTION

Table Name

Last Maintenance:EXAMPLE: EARTHWORK

Bond Rate Layers

EXAMPLE: GENERAL CONSTRUCTION

From

EXAMPLE: PAVING

EXAMPLE: PIPE

EXAMPLE: UNDERGROUND UTILITIES

No Bond Required

\$1,000

10.80000

8.20000

7.00000

5.00000

4.80000

3.50000

3.00000

Bond Table

Cost Item Setup

Notes

Schedule

OK

Cancel

< Prev

Next >

Price % Add-On

The following steps walk you through defining the Price % Add-On.

Step by Step — Define a price % add-on

1. From the Cost Breakdown Structure (CBS) Register, right-click on the row header for any cost item and select Insert Dependent Cost Item.

2. On the resulting Attention prompt, select Based on Job's Price.

Attention

Choose what type of Dependent Cost Item to add:

☒ Based on Job's Price

☐ Based on Job's Finance Cost

☐ Based on Bond Table

☐ Based on Direct Costs

☐ Based on Indirect Costs

☐ Based on CBS Man Hours

☐ Based on CBS Equipment Hours

☐ Based on Resource Utilization

☐ Based on Assembly Utilization

OK

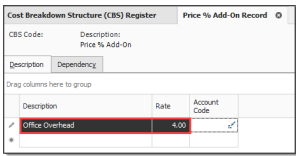
Cancel

3. Click OK.

4. Double-click on the Price % Add On row header to open the record.

CBS Position Code	Description	Optional Code
	JOB	
+	Job Management & Equipment	JOB MANAGEMENT & E...
+	General Expense	GENERAL EXPENSE
	Prime Bond	PRIME BOND
	Price % Add-On	PRICE % ADD-ON
	Utilization	1000

- 5. The Price % Add-on Record opens to the Description tab. Type a description in the Description field and enter a numeric value for rate.



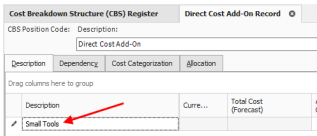
- 6. Click OK to close the record.
 - For this example, we'll enter a description of Office Overhead and a rate of 4%.

Direct Cost Add-On

The following steps walk you through creating a Direct Cost Add-On dependent cost item.

Step by Step — Define a direct cost add-on

- 1. From the Cost Breakdown Structure (CBS) Register, right-click on the row header for any cost item and select Insert Dependent Cost Item.
- 2. On the resulting Attention prompt, select Based on Direct Costs.
- 3. Click OK.
- 4. Double-click on the Direct Cost Add-On row header.
- 5. On the Description tab, type a description in the Description column.



- 6. Press the Tab key (you can define additional rows for other add-on costs as needed).
- 7. Click on the Dependency tab to see what contributes to your subject cost.
- 8. For this activity, leave the default (lower) button selected.



- 9. On the Cost Breakdown tab on the right, add an add-on rate (percentage) or cost at any of the cost category levels you need.
 - This updates the Total Cost (Forecast) of your item on the Description tab
- 10. Click OK to close the record.

- For this example, we'll create a new Direct Cost Add-On, giving it a description of Small Tools with a rate of 10% on the Labor cost category

CBS Position Code: Description: Total Cost: Currency: Alternate:

PI Assignment: PI Line Number: PI Description: Cost Segment: Pay Quantity:

Job Overhead 1.00

Description	Dependency	Cost Categorization	Allocation
Small Tools		U.S. Dollar	\$5,701.36

Drag columns here to group Saved views: Standard View

Cost Category	Subject Cost	Rate	Cost
Total	\$99,107.22	5.75	\$5,701.36
Labor	\$57,013.62	10.00	\$5,701.36
Owned Equipment	\$38,555.52	0.00	\$0.00
Rented Equipment	\$0.00	0.00	\$0.00
Supplies	\$0.00	0.00	\$0.00
Materials	\$3,276.00	0.00	\$0.00
Subcontract	\$0.00	0.00	\$0.00
Fees	\$262.08	0.00	\$0.00
Allowance	\$0.00	0.00	\$0.00
Custom Category1	\$0.00	0.00	\$0.00
Undefined	\$0.00	0.00	\$0.00

Repositioning Dependent Cost Items

Repositioning dependent cost items creates a simpler way to manage the hierarchy of your project by placing items of more importance ahead of other line items.

Since dependent cost items can now be repositioned, a Position Code field has been added with the functionality similar to column remaining the same. The below listed dependent cost item fields are now exposed in the CBS register so you can more easily see the various percentages used in dependent items.

- Subject Cost
- Subject Cost Rate
- Subject Billing Amount
- Subject Billing Rate

These columns can also be found in the new saved view **Bid Review**.

CBS Position Code	Description	Optional Code
1	Job	
+	Prime Bond	PRIME BOND
+	Price % Add-On	PRICE % ADD-ON
+	Job Financing	FINANCE EXPENSE
+	Indirect Cost Escalation	INDIRECT COST ESCALATION
+	Direct Cost Escalation	DIRECT COST ESCALATION
+	Indirect Cost Add-On	INDIRECT COST ADD-ON
+	Job Management & Equipment	JOB MANAGEMENT & EQUIPMENT
+	General Expense	GENERAL EXPENSE
+	Direct Cost Add-On	DIRECT COST ADD-ON
+	Mobilization	641 0100
24.12	Day Two	
+	Prime Bond	PRIME BOND
+	Price % Add-On	PRICE % ADD-ON
+	Job Financing	FINANCE EXPENSE
+	Indirect Cost Escalation	INDIRECT COST ESCALATION
+	Direct Cost Escalation	DIRECT COST ESCALATION
+	Indirect Cost Add-On	INDIRECT COST ADD-ON
+	Job Management & Equipment	JOB MANAGEMENT & EQUIPMENT
+	General Expense	GENERAL EXPENSE
+	Direct Cost Add-On	DIRECT COST ADD-ON

User-Defined Indirect Cost Items

You may prefer to create your own indirect cost items. You create user-defined indirect cost items the same way you create direct cost items. The only difference is that your indirect cost items will not be assigned to pay items. One advantage of creating your own indirect cost items is the ability to create a parent-child structure for your indirect costs.

Here is an example of user-defined indirect cost items, expanded to show their employed resources:

CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)		
5	Indirect Cost	1.00	Each	\$10,584.36	\$10,584.36		
5.1	Head Office	1.00	Each	\$370.32	\$370.32		
...	Description	Quantity	Unit of Measure	Work Hours	Pay Hours	Unit Cost	Total Cost (Forecast)
→ 1	Head Office Project	1.00	Each	8.00	8.00	\$46.29	\$370.32
5.2	Field Office	1.00	Each	\$1,775.04	\$1,775.04		
...	Description	Quantity	Unit of Measure	Work Hours	Pay Hours	Unit Cost	Total Cost (Forecast)
→ 1	Field Office Clerk	1.00	Each	4.00	4.00	\$38.00	\$152.00
→ 2	Field Office Safety M...	1.00	Each	8.00	8.00	\$62.38	\$499.04
→ 3	Field Office Site Super...	1.00	Each	16.00	16.00	\$70.25	\$1,124.00
5.3	Site Facilities	1.00	Each	\$905.00	\$905.00		
...	Description	Quantity	Unit of Measure	Work Hours	Pay Hours	Unit Cost	Total Cost (Forecast)
→ 1	Field Office Telephone	0.50	Month			\$250.00	\$125.00
→ 2	Field Office Trailer	1.00	Each	0.00	0.00	\$5.94	\$5.94
→ 3	Pick Up Truck	1.00	Each	80.00	80.00	\$9.75	\$780.00
5.4	Misc. Expenses	1.00	Each	\$2,765.00	\$2,765.00		
5.5	Supervision	1.00	Each	\$4,769.00	\$4,769.00		

Step by Step — Add user-defined indirect cost items

Let's walk through a specific scenario for this step by step.

- At the bottom of your CBS, create an indirect cost item called Job Overhead with a Forecast (T/O) Quantity of **1** and Unit of Measure of **Each**.
- Add two **subordinates** under the new cost item named Job Trailer and Utilities. Job Trailer is **1 Each** but change Utilities to **1 Lump Sum**.
- Open the Job Trailer cost item by double-clicking on the row header.
 - Assuming there is no Job Trailer in our Resource Rate Register, you will create this resource "on the fly".
- In the Detail grid, click on the **Resource Register** icon in the Code field as if you were going to select from the Resource Rate Register.
- On the Resource Rate Register, click the **Rented Construction Equipment** tab.
- Right-click on one of the **Line Items** and select **New** to add a new resource.
- Enter a Resource Code of **RJT** and description of **Job Trailer**.
- In the Amount column enter **25** for the Rented Equipment category.
- Click **OK** to close the Resource Rate Record.
- Select the **new resource** you created, then click **OK** to return to the cost item record.
- On the cost item record, adjust the Job Trailer quantity to **2**.

12. On the Production tab, enter **70** days.
13. Click **OK** to close the record.
14. On the CBS register, select the **Utilities** cost item by double-clicking on the row header.
15. Create an ad hoc resource on this cost item called **Electricity**, which will be 1 Lump Sum.
16. Finally, go to the Resource Employment Breakdown tab and enter **1500** in the Custom Category1 row.
17. Click **OK** to close the record.

3		Job Overhead				1.00		Each		\$31,740.00		\$31,740.00	
- 3.1		Job Trailer				1.00		Each		\$30,240.00		\$30,240.00	
	Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Work Hours	Pay Hours	Unit Cost	Total Cost (Forecast)	
→	+	1	RJT	Job Trailer			2.00	Each	1,1...	1,1...	\$27.00	\$30,240...	
- 3.2		Utilities				1.00		Lump Sum		\$1,500.00		\$1,500.00	
	Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Work Hours	Pay Hours	Unit Cost	Total Cost (Forecast)	
→	+	1		Electricity	1.00	0.00	1.00	Lump ...			\$1,500...	\$1,500.00	

Job Markup (Profit)

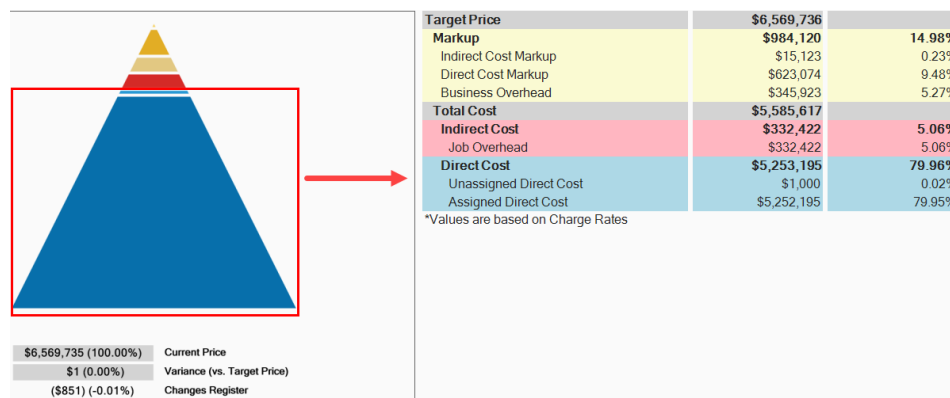
On the Data Map  **Data Map** notice how the different segments within the pyramid coincide with the percentage amounts that make up Direct Costs, Indirect Costs and Target Profit. Illustrations below show how the Data Map values correspond to the values that make up the cost and profit.

To open the Data Map, select the Price tab, then Data Map from the Overhead and Profit section.

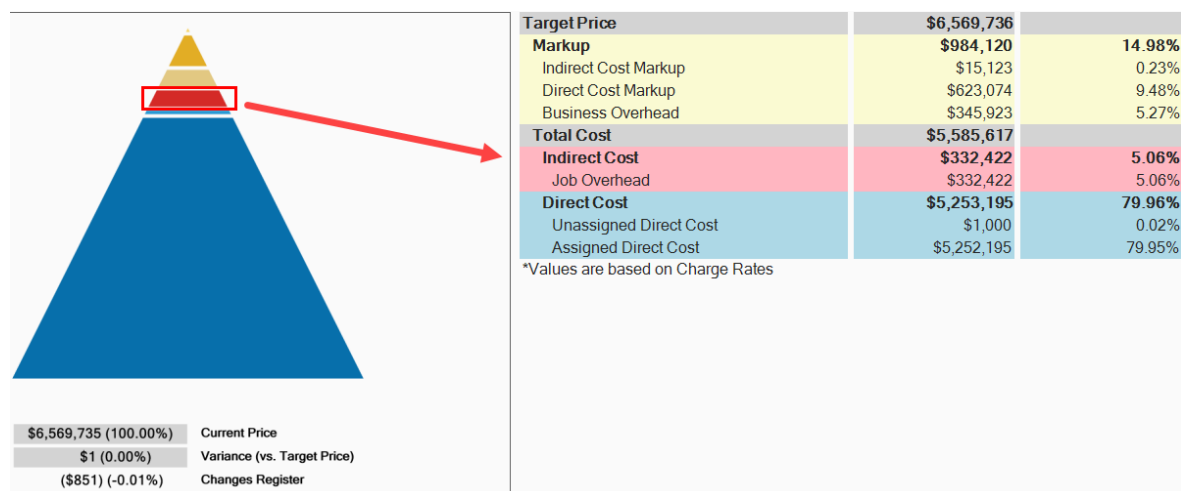
Target Price

For contractors building the price of your project is like building a pyramid. The foundation of your price consists of the direct costs of the job.

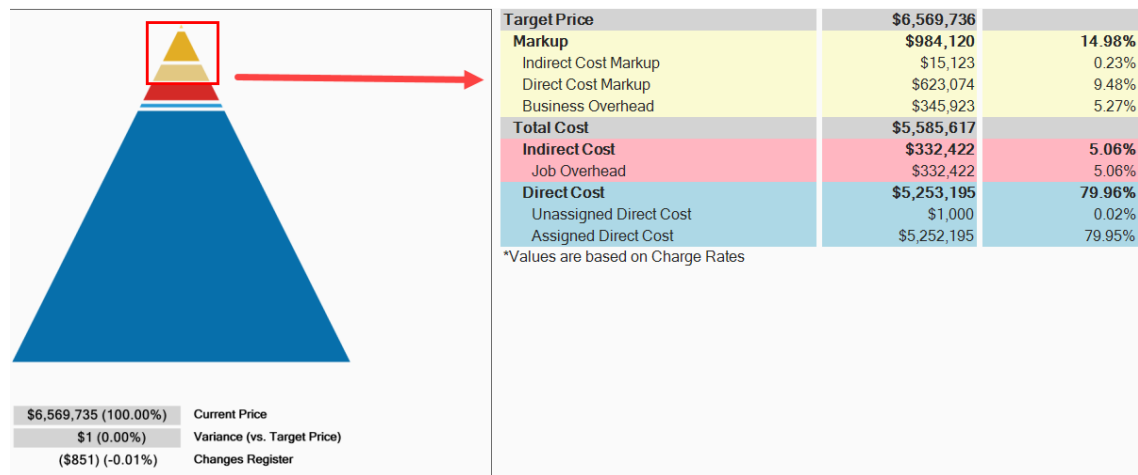
The images below represent a default examples.



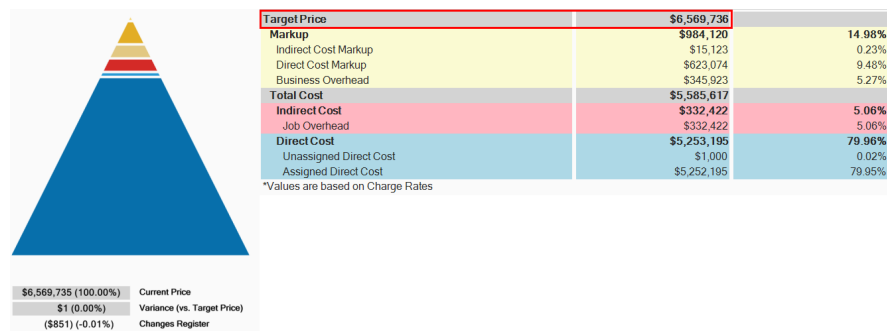
On top of your direct costs, you can decide if costs with a cost segment of business overhead should be indirect costs or markup. You estimate your direct and indirect costs in the CBS Register.



At the top of the pyramid you add an amount for profit. You add profit in the Price Breakdown Structure (PBS) form. There is a very small block at the top of the Data Map, which comprises 0.22% of Indirect Cost Markup.



The total of the direct cost, indirect cost, and profit in the project is referred to in InEight Estimate as the Target Price. This is the final price that you want to submit as your proposal.



Price Breakdown Structure

As you already practiced, your direct and indirect costs are estimated in the CBS. Your project's profit needs to be defined in the Price Breakdown Structure (PBS) form.

The main purpose of the Price Breakdown Structure (PBS) is to add markup (profit) to the estimate. The Price Breakdown Structure is a visual run-down of the costs and profit that make up your Target Price. It helps you analyze how your costs contribute to the price you are targeting, including the amount of profit you would like to include.

You can open the PBS from the InEight Estimate landing page by selecting the Price tab, then Price Breakdown Structure (PBS) from the Overhead and Profit section.

Overview – Price Breakdown Structure

Name		Definition
1	PBS Description	The left side of the screen displays several cost classifications: • Target Profit • Business Overhead • Job Overhead • Direct Cost
2	Various Columns	The Assigned and Unassigned columns show which costs are either assigned or not assigned to pay items. Unassigned costs are spread back to pay items based on the distribution logic set in Job Properties > Pricing. The Total columns represents a summation of both columns. Each layer displays with an amount, and the percentage of the Target Price that this amount represents.
3	PBS Menu	The right side of the screen holds several tabbed pages of information. This information is useful in analyzing the job at a summary level.
4	Refresh Data	To ensure that you are always reviewing the most up-to-date factors and ratios, click the Refresh Summary Data button whenever you are reviewing the data.

Description	Assigned	Unassigned	Total	% of Target
Price Breakdown Structure	\$5,252.19	\$1,317.54	\$6,569.73	100.00
Target Price			\$984,119.62	14.98
Markup			\$638,196.32	9.71
Target Profit			\$15,122.66	0.23
Indirect Cost Markup			\$623,073.66	9.48
Business Overhead			\$295,638.13	4.50
Price % Add-On			\$33,105.26	0.50
Job Financing			\$2,131.11	0.03
Indirect Cost Escala.			\$15,048.80	0.23
Direct Cost Escalator			\$0.00	0.00
Business Overhead			\$0.00	0.00
Total Cost	\$5,252.19	\$332,421.97	\$337,674.16	5.06
Indirect Cost			\$332,421.97	5.06
Job Overhead			\$47,148.68	0.72
Prime Bond			\$5,888.67	0.09
Indirect Cost Add.			\$104,088.34	1.58
Job Overhead I.			\$175,296.28	2.67
Direct Cost	\$5,252.19	\$1,000.00	\$6,252.19	79.96
Direct Cost Items	\$5,252.19	\$1,000.00	\$6,252.19	79.96

Markup Analysis (based on Bid Quantities and Charge Rate Markup)	Markup as % of	Value
Markup as % of All Costs (Target Price - Markup)	17.62	
Markup as % of All Labor Costs	122.70	
Markup as % of All Direct Labor Costs	142.11	
Markup as % of All Indirect Labor Costs	898.32	
Markup as % of All Owned Equipment and Rented Equipment Costs	191.26	
Markup as % of All OE Ownership and RE Rental Costs	239.23	
Markup as % of All OE Operation and RE Operation Costs	177.02	
Markup as % of All Materials Costs	28.61	
Markup as % of All Supplies Costs	3571.02	
Markup as % of All Subcontract Costs	900.51	
Markup per Manhour	\$36.80	
Markup per Equipment hour	\$61.84	

All costs in the Price Breakdown Structure are based on pay quantities (not forecast take-off quantities).

Markup vs. Margin

Let's look at the difference between Markup and Margin.

- Markup is a function of cost, while margin is a function of price
- Markup indicates how much you are marking up the cost

- Margin indicates what percentage of your price the markup represents

The percentages on the main PBS screen are margin, so you can see what percentage each category in the PBS represents compared to the total price. If you enter 10% in the Target Profit field, your profit will be 10% margin of your total price.

Description	Assigned	Unassigned	Total	% of Target
▼ ▲ Price Breakdown Structure				
▼ ▲ Target Price	\$5,252,19...	\$1,317,54...	\$6,569,73...	100.00
▼ ▲ Markup	\$0.00	\$984,119.62	\$984,119.62	14.98
> ▲ Target Profit		\$638,196.32	\$638,196.32	9.71
> ▲ Business Overhead	\$0.00	\$345,923.30	\$345,923.30	5.27
▼ ▲ Total Cost	\$5,252,19...	\$333,421.97	\$5,585,61...	85.02

When you open the Direct or Indirect Markup Records, the Rate percentage there indicates markup of the cost. If you enter 10% markup on \$100, the markup will be \$10.

Within Job Properties, you can choose if costs with a cost segment of business overhead should be indirect costs or markup. If selecting markup, then Business Overhead will be spread within the Markup category of the Price Breakdown Structure. The Total Markup will be the sum of Target Profit and all Items categorized as Business Overhead.

Data Map

Job Properties

Overview

Security

Cover Sheet

Cost Basis

Minority Setup

Fuel Cost

Job Tracking

Job Folder Tags

Pricing

Balanced Price Options

Calculate Balanced Pay Item Prices using:

☒ Cost Amount

☐ Billing Amount

Distribute Unassigned Cost/Billing Amount by:

☒ Individual Categories

☐ Top level Categories

☐ Total Cost/Billing amount

Markup Options

Markup Pay Item by:

☒ Using Weighted Distribution

☐ Keeping Markup with Assigned Costs

Categorize Business Overhead as:

☐ Indirect Cost

☒ Markup

This lets you see the true total cost of the job, including the total markup inclusive of the business overhead. You can also create cost items and categorize them as business overhead, then possibly include overhead costs such as estimating or home office expenses. This provides you with added flexibility in marking up your job.

Define Profit

Before you define profit, review the PBS. You estimated your direct cost items, and you also estimated some indirect cost items in the CBS. You can view your direct and indirect cost totals on the Price Breakdown Structure. Notice you have not defined profit yet.

Description	Assigned	Unassigned	Total	% of Target
▼ ▲ Price Breakdown Structure				
▼ ▲ Target Price	\$5,252,19...	\$645,755.99	\$5,897,950.68	100.00
▼ ▲ Markup	\$0.00	\$315,692.95	\$315,692.95	5.35
▼ ▲ Target Profit		\$0.00	\$0.00	0.00
▲ Indirect Cost Markup		\$0.00	\$0.00	0.00
▲ Direct Cost Markup		\$0.00	\$0.00	0.00
▼ ▲ Business Overhead	\$0.00	\$315,692.95	\$315,692.95	5.35
□□ Price % Add-On	\$0.00	\$265,407.78	\$265,407.78	4.50
□□ Job Financing	\$0.00	\$33,105.26	\$33,105.26	0.56
□□ Indirect Cost Escala...	\$0.00	\$2,131.11	\$2,131.11	0.04
□□ Direct Cost Escalation	\$0.00	\$15,048.80	\$15,048.80	0.26
■ Business Overhead ...	\$0.00	\$0.00	\$0.00	0.00
▼ ▲ Total Cost	\$5,252,19...	\$330,063.05	\$5,582,257.73	94.65
▼ ▲ Indirect Cost	\$0.00	\$329,063.05	\$329,063.05	5.58
▼ ▲ Job Overhead	\$0.00	\$329,063.05	\$329,063.05	5.58
□□ Prime Bond	\$0.00	\$43,789.75	\$43,789.75	0.74
□□ Indirect Cost A...	\$0.00	\$5,888.67	\$5,888.67	0.10
□□ Direct Cost Add...	\$0.00	\$104,088.34	\$104,088.34	1.76
■ Job Overhead I...	\$0.00	\$175,296.28	\$175,296.28	2.97
▼ ▲ Direct Cost	\$5,252,19...	\$1,000.00	\$5,253,194.68	89.07
■ Direct Cost Items	\$5,252,19...	\$1,000.00	\$5,253,194.68	89.07

You can define profit by entering a profit percentage directly on the PBS, or by modifying the Direct or Indirect Cost Markup Records.

The following steps walk you through plugging a Target Profit percentage directly on the PBS form.

Profit as a Percentage of Target Price

Step by Step — Add profit as a percentage of target price

1. Open your job.
2. Select the **Price** tab.
3. Select **Price Breakdown Structure** (PBS) from the Overhead and Profit section.
4. On the Target Profit row, enter a **numeric value** in the % of Target Price column; press **Tab**.
 - For this example, we'll add 10% for the Target Profit.

Profit Through Direct Cost Markup Record

The following steps walk you through how to add profit as markup on the Direct Cost Markup record.

Step by Step — Modify the direct cost markup record

1. On the **PBS** form, double-click on the **Direct Cost Markup** row.
 2. In the record, overwrite the Default entry with **Direct Cost Markup** in the description field.
 3. In the Rate column on the Dependency Cost Breakdown, add a **numeric value** in Labor, Owned Equipment, Materials and Fees categories. Then reset other categories back to **0**.
 4. Click **Ok** to save your changes and return to the PBS.
 5. Click the **Refresh Summary Data** button to see the changes reflected.
- For this example, we'll add a rate of 15 for Labor, 10 for Owned Equipment, 8 for Materials, and 2 for Fees, then zero out all other categories.

Description	Dependency	Allocation	Cost Breakdown			
Drag columns here to group			Saved views: Previous View			
Description	Currency	Total Cost (Forecast)	Cost Category	Subject Cost	Rate	Cost
→ Direct Cost Markup	U.S. Dollar	\$13,081.82	▼ Total	\$102,786...	12.73	\$13,081.82
*			> Labor	\$57,792.70	15.00	\$8,668.91
			> Owned Equipment	\$41,455.92	10.00	\$4,145.59
			> Rented Equipment	\$0.00	0.00	\$0.00
			> Supplies	\$0.00	0.00	\$0.00
			> Materials	\$3,276.00	8.00	\$262.08
			> Subcontract	\$0.00	0.00	\$0.00
			> Fees	\$262.08	2.00	\$5.24
			> Allowance	\$0.00	0.00	\$0.00
			Custom Category 1	\$0.00	0.00	\$0.00
			Undefined	\$0.00	0.00	\$0.00

Cost Estimate Audit/Review

InEight Estimate offers built-in reports to double check your estimate and review different aspects of your project, including material costs, quotes, man-hours and production.

Price Breakdown Structure Tabs

The purpose of the tabs on the Price Breakdown Structure is to assist with estimate reviews.

Markup Analysis	Price Status	Cost Source	Resource Utilization	Minority Goals	Subcontract Status	Vendor Status
-----------------	--------------	-------------	----------------------	----------------	--------------------	---------------

Markup Analysis

On this tab, you can compare your profit to your costs for labor, subcontract and other cost groupings. By seeing the ratios of your markup compared to your different cost categories, you can gauge if you have the right balance of costs in your estimate.

Markup Analysis (based on Bid quantities)

Markup as % of	All Costs (Target Price - Target Profit)	11.11
Markup as % of	All Labor Costs	79.42
Markup as % of	All Direct Labor Costs	94.07
Markup as % of	All Indirect Labor Costs	510.05

For example, if your markup is more than 100% of your Labor cost, it may indicate that you don't have enough labor cost in your estimate to cover the work, which could indicate labor cost overruns during execution that would eat into your profit margin.

Cost Source

The Cost Source tab shows the breakdown of Detail, Plug and Quote cost sources, as well as the amounts and percentages of each that are attributable to Direct and Indirect cost. Your Plug cost source should be the lowest percentage.

Markup Analysis	Price Status	Cost Source	Resource Utilization	Minority Goals	Subcontract Status	Vendor Status
-----------------	--------------	-------------	----------------------	----------------	--------------------	---------------

Cost Source Analysis (based on Bid quantities)								
	Detail		Plug *		Quote		Total	
	Amount	%	Amount	%	Amount	%	Amount	%
Direct Cost	\$5,156,491.67	97.95	\$64,600.00	1.23	\$43,200.00	0.82	\$5,264,291.67	100.00
Indirect Cost	\$638,694.52	98.62	\$5,338.76	0.82	\$3,570.19	0.55	\$647,603.46	100.00
Total	\$5,795,186.19	98.03	\$69,938.76	1.18	\$46,770.19	0.79	\$5,911,895.14	100.00

* Includes values entered as flat amounts (not percentages) on dependent cost items.

Resource Utilization

The Resource Utilization tab shows a breakdown of the man-hours and equipment hours utilized on the job, based on take-off quantities.

Markup Analysis	Price Status	Cost Source	Resource Utilization
-----------------	--------------	-------------	----------------------

Resource Utilization Analysis (based on T/O quantities)	
Total Manhours	26,838.86
Total Equipment Hours	15,961.51
Total Shift Hours	5,508.23
Total Days *	682.70
Total Schedule Days	168.00

* shift hours divided by (hours per shift times shift per day)

Subcontract Status

The Subcontract Status tab displays a breakdown of subcontractor amounts, costs, and percentages for quoted cost items. This is a good place to review how much of your estimate is subcontracted.

Vendor Status

The Vendor Status tab displays a breakdown of vendor information, including amounts and percentages of the Target Price represented by vendors. This is a good place to review how much of your estimate costs come from vendor quotes.

Markup Analysis	Price Status	Cost Source	Resource Utilization	Minority Goals	Subcontract Status	Vendor Status	
Vendor Analysis (based on Bid quantities)							
Number of Vendors		2					
Total Vendor Amount		\$1,442,571.90					
% of Target Price		21.96					
Company Name	Contact	Phone	Amount	Currency	Percent	Street Address	
Example Vendor 4 DBE	Slim, Lester	111-122-1321	\$271,471.20	U.S. Dollar	4.13	400 Fourth Street	
Example Vendor 1	Roberts, Pat	111-123-2134	\$1,171,100.70	U.S. Dollar	17.83	100 Tenth Street	

Spread Target Price Over Pay Items

In the Cost Breakdown Structure you generated your direct and indirect costs, and in the Price Breakdown Structure you added profit to come up with a Target Price for the bid, but you still haven't decided how to spread the Target Price over your pay items.

In Lesson 4 you created pay items for the project in the Pay Item & Proposal Register. You can now go back to the Pay Item & Proposal Register to distribute your Target Price over those pay items.

Current Price vs. Target Price

In InEight Estimate, Current Price means the total price that is currently assigned on your pay items. Open the Pay Item & Proposal Register to see what the Current Price is for your pay items (Price > Pay Item & Proposal).

At this point there is no pricing on your pay items, so your Current Price is \$0.00. This is because you have not yet spread your Target Price (the total of your cost and profit) over your pay items.

Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Meas...	Unit Price (cu...	Total Price (current)
+ Mobilization	1.00	1.00	Each	\$0.00	\$0.00
+ Clearing and Grubbing	10.00	15.00	Acre	\$0.00	\$0.00
+ Excavation	50,000.00	40,000.00	CY	\$0.00	\$0.00
+ 10 " PVC Pipe	1,000.00	1,000.00	LF	\$0.00	\$0.00

Proposal Recap

On the Pay Item & Proposal Register, there is a Proposal Recap table where you can compare your Current Price to your Target Price to see if there is any variance.

Proposal Recap - Training Job					
	Current	Target	Forecast	Variance	
Price:	\$6,455,450.00	\$6,506,904.35	\$6,462,850.00	\$51,454.35	ADD
Profit:	\$599,221.88	\$650,676.22	\$655,858.61	\$5,182.39	CUT
Margin%:	9.28	10.00	10.15	\$10,653.01	CUT

Ideally, you want to add pricing to your pay items until your Current Price equals your Target Price, so that your Variance equals zero. That way you know you are covering all your costs and getting the profit you want.

Notice the Variance column will indicate if you need to ADD or CUT pricing on your pay items to hit your Target Price.

Spread the Target Price

For lump sum contracts, spreading the Target Price may be as simple as spreading it to a single pay item that represents the entire project. However, most jobs will have at least a few pay items defined by the owner, and Unit Price contracts will have many pay items.

There are two main ways to distribute pricing onto your pay items:

1. Define pay item prices manually, by entering a unit or total price, or a margin percentage.
2. Use InEight Estimate's AutoPrice feature to distribute pricing automatically.

Define Pricing for Pay Items Manually

First, you will walk through the process of defining pricing manually. This method requires filling in each item's price based solely on your own judgment.

Step by Step — Define pricing manually

1. From the Estimate landing page, select the Price tab.
2. Select Pay Item & Proposal from the Pay Items section.
3. Select a **Pay Item** row.
4. In either the Unit Price (current), Total Price (current), or % Margin field of a pay item, type a **numeric value**.

For this example, we'll do the following:

- Mobilization pay item – change Total Price (current) to \$20,000.
- Clearing & Grubbing pay item – change % Margin to 5%.

Position Code	Pay Item Number	Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Measure	Unit Price (current)	Total Price (current)	% Margin
1	200	SITEWORK & ROADWAY					\$51,369.60	
+ 1.1	641 0100	Mobilization	1.00	1.00	LS	\$20,000.00	\$20,000.00	-34.67
+ 1.2	201 0102	Clearing & Grubbing	10.00	15.00	Acre	\$3,136.96	\$31,369.60	5.00

Use AutoPrice to Balance and Hit the Target Total

Perhaps you want to get a head start and have InEight Estimate spread your Target Price proportionately over your pay items for you. This can be done using the InEight Estimate AutoPrice feature.

Once distributed, you will still have the ability to adjust your pricing on pay items manually as needed. Look at how you can use the AutoPrice feature.

Step by Step — Use AutoPrice to balance and hit the target total

1. Open the your job in Estimate.
2. From the Estimate landing page, select the Price tab.
3. Click on Pay Item & Proposal to open the Pay Item & Proposal Register.
4. On the Pay Item & Proposal Register menu, choose Actions > Balanced Bid > Hit Target Total.
5. Review the Proposal Recap and see that the Variance is now \$0.00. Now that the job is balanced, you can see that the Current Price and the Target Price are the same, indicating that the costs and profit are spread proportionately over your pay items.

Use AutoPrice to Unbalance and Hit the Target Total

The Autoprice to Unbalance feature in InEight Estimate can automatically distribute profit to account for your over- and underrun items.

InEight Estimate will take profit from your underrun and put it on your overrun by using the Actions > Unbalanced > Hit Target Total feature. The purpose is to maximize your profit by spreading it strategically between these items.

Step by Step — Unbalance hit target total

1. You may encounter overrun and/or underrun items in the Pay Item & Proposal Register of your job.

Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Meas...	Curre...
Excavation	10.00	15.00	Cubic Yard	U.S. Dollar
Clearing & Grubbing	50,000.00	40,000.00	Acre	U.S. Dollar

2. If you do, highlight the row for each item to view it's current balanced item recap.

Item Recap - 2000 Clearing & Grubbing				Item Recap - 3000 Excavation			
	Balanced Unit	Current Unit			Balanced Unit	Current Unit	
Price:	\$4,985.70	\$4,994.91		Price:	\$2.86	\$2.86	
Profit:	\$515.91	\$525.12		Profit:	\$0.29	\$0.29	
Total Cost:	\$4,469.79	\$4,469.79		Total Cost:	\$2.57	\$2.57	
Business Overhead:	\$245.35			Business Overhead:	\$0.15		
Job Overhead:	\$1,681.60			Job Overhead:	\$0.91		
Unassigned Direct Cost:	\$0.00			Unassigned Direct Cost:	\$0.00		
Assigned Direct Cost:	\$2,542.84			Assigned Direct Cost:	\$1.52		

3. On the Pay Item & Proposal Register menu, choose Actions > Unbalanced Bid.

Actions

Link Field

Unlink Field

Assigned Direct Cost Only

Balanced Bid

Unbalanced Bid

Overwrite Locked Pay Items

Custom Auto Price

Workbook

Auto Price

- You will see the changes reflected and how the profit was spread to your overrun and underrun items

Unit Price (current)	Total Price (current)	% Margin
\$3,000.00	\$150,000,000.00	-9.26
\$4,871.84	\$48,718.40	97.68
\$91,100.00	\$91,100.00	10.05

- In the example shown, highlighting each item will show that all your overhead and profit from Excavation was put onto Clearing & Grubbing.

Item Recap - 2000 Clearing & Grubbing			Item Recap - 3000 Excavation		
	Balanced Unit	Current Unit		Balanced Unit	Current Unit
Price:	\$4,985.70	\$11,706.11	Price:	\$2.86	\$1.52
Profit:	\$115.51	\$7,236.32	Profit:	\$0.29	(\$1.05)
Total Cost:	\$4,469.79	\$4,469.79	Total Cost:	\$2.57	\$2.57
Business Overhead:	\$245.35		Business Overhead:	\$0.15	
Job Overhead:	\$1,881.60		Job Overhead:	\$0.91	
Unassigned Direct Cost:	\$0.00		Unassigned Direct Cost:	\$0.00	
Assigned Direct Cost:	\$2,342.84		Assigned Direct Cost:	\$1.52	

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Bid Adjustments

Often you will want to continue adjusting certain pay items and then rebalance to hit the target total.

Lock Price

You can lock down a pay item price and it will not factor in future rebalancing.

Step by Step — Lock Price

1. Select the Lock Price checkbox on an item's row.

Pay Item Number	Description	Lock Price	Pay Quantity	Forecast (T/O) Quantity
+ 202 0183	Unclassified Excavation	☐	50,000.00	50,000.00
+ 641 0100	Mobilization	☒	1.00	1.00
+ 201 0102	Clearing & Grubbing	☐	10.00	10.00

2. After making further adjustments in the next step by step, you will return to the Pay Item & Proposal to rebalance.
 - You can continue to adjust at previous levels aside from solely in the Pay Item & Proposal Register
 - For example, you could make a last-minute adjustment in the PBS or CBS. You can make adjustments anywhere, but for this example an adjustment will be made in the Direct Cost Add-On record at the CBS level

Step by Step — Make Last Minute Bid Adjustments

1. With your job open, select the Estimate tab.
2. Click on Cost Breakdown Structure to open the CBS.
3. Double click on the row header to open the Direct Cost Add-On dependent cost item record.
4. Under the Description tab on the left, click in the blank row under the Description column.
5. Type in a description.
6. Make the adjustment by typing a numeric value in the Cost column of the Materials Cost category under the Cost Breakdown section on the right.

Cost Breakdown			
Cost Category	Subject Cost	Rate	Cost
▼ Total	\$150,759.83	-0.76	(\$1,000.00)
▼ Labor	\$50,969.83	0.00	\$0.00
▼ Owned Equipment	\$60,251.92	0.00	\$0.00
▼ Rented Equipment	\$0.00	0.00	\$0.00
▼ Supplies	\$0.00	0.00	\$0.00
▼ Materials	\$5,276.00	-30.00	(\$1,000.00)
▼ Subcontract	\$0.00	0.00	\$0.00
▼ Fees	\$362.00	0.00	\$0.00
▼ Allowance	\$0.00	0.00	\$0.00
▼ Custom Category1	\$0.00	0.00	\$0.00
▼ Undefined	\$0.00	0.00	\$0.00

- To make a cut, enter a negative value, i.e. -1000

7. Press the Tab key, and your adjustment will be reflected on the left-hand side.

Description	Dependency	Cost Categorization	Allocation
Drag columns here to group			
Description	IF	Curre...	Total Cost (Forecast)
Small Tools	U.S. Dollar		\$5,896.98
Safety & Training	U.S. Dollar		\$2,948.40
→ Cut	U.S. Dollar		(\$1,000.00)

8. Finally, return to the Pay Item & Proposal.

9. On the Actions menu, select Balanced Bid > Hit Target Total.

10. An Auto Price Warning may display, informing you of rounding variances. After reading the details, click the Close button.

Auto Price Warning

Variance due to rounding precision

Estimate attempted to hit your Target Price by spreading the total variance amount across the unlocked pay items in accordance with your selected pricing method. However, due to the items' rounding precision, a variance still exists.

Initial rounding variance: (\$84.43)

Total amount still remaining as a variance after attempting to spread the initial rounding variance proportionately into each unlocked item: (\$0.03)

☐ Turn off this warning about rounding variances for ALL 20BS.

TIP: You can minimize variances due to rounding by specifying greater rounding precision for the unlocked items, and by unlocking items with a quantity of 1.

Undo AutoPricing

Close

- Note on the proposal recap that a variance may still exists because there are limited number of pay items to spread the rounding error over
- Note that the locked item did not adjust, but the other pay items were updated
- Note that you can overwrite locked items for spreading your price by checking the Overwrite Locked Pay Items option on the Actions menu

Actions	
old	Assigned Direct Cost Only
Field	Balanced Bid
Field	Unbalanced Bid
old	Auto Price

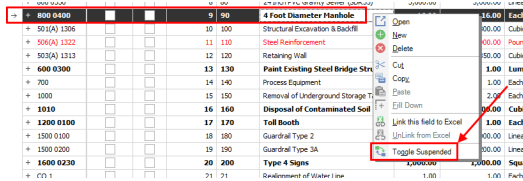
Suspend Pay Items

Like suspending cost items in the CBS Register, you can suspend pay items in the Pay Item & Proposal Register. Suspending a pay item causes it to no longer contribute quantities and pricing to the estimate.

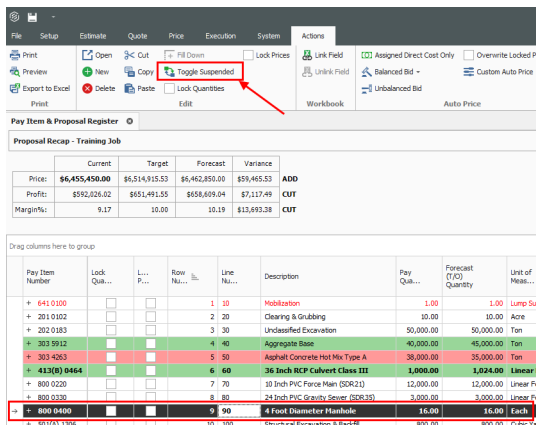
This can be helpful when considering alternate items on a bid submission. Should the client decide to not require a pay item, you can suspend it, causing the pay item and any of its assigned cost items to no longer contribute any cost or price. It will no longer show up on your bid and no longer contribute to the overall total price.

You can suspend/unsuspend pay items in one of three ways:

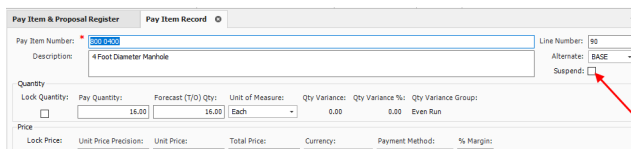
- Right click on the pay item and select Toggle Suspended



- Select the pay item and click Toggle Suspended under the Edit section of the Actions Tab



- Open the pay item record and checking/unchecking the Suspend box



Quote Management Overview

Quote Management Workflow

When you make the decision to send out RFQs (Requests for Quote), as the estimator you will outline the specifications for the request, select the vendors you wish to contact, and issue the request for quotes.

When you receive quotes back from vendors, you can enter their pricing into InEight Estimate, where you can compare them, award them, and update your CBS costs in one fluid process without the need to re-enter data in multiple locations. InEight Estimate lets you enter multiple vendor quotes to enable price comparison.

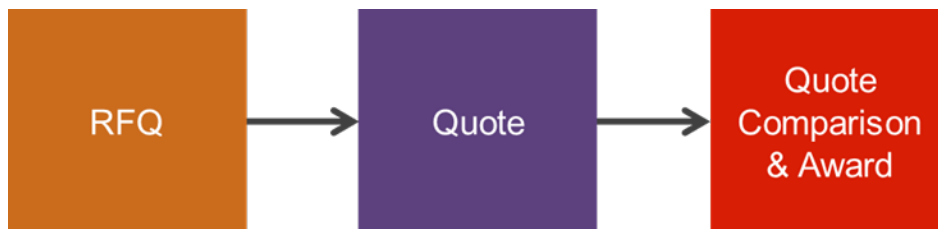
Awarding a quote in InEight Estimate does not mean the vendor is awarded the contract, but rather that their price is selected as the carrying cost in the bid.

InEight Estimate provides a built-in workflow for managing your quotes, consisting of three steps:

1. Creating and publishing Requests for Quote (RFQs)
2. Updating quotes with vendor/subcontractor pricing
3. Comparing and awarding quotes

InEight Estimate has a separate form to manage each step:

1. Request for Quote (RFQ) Register
2. Quote Register
3. Quote Comparison & Award



Quotes and Quote Groups

Typically, an estimate contains two types of quotes:

1. Quotes for resources (materials, equipment) purchased or rented from suppliers.
2. Quotes for subcontracted work.

In InEight Estimate, quotes from suppliers are managed at the resource level. In other words, you can use material resources to represent the items purchased from the supplier.

For the cost items in your project that you plan to subcontract, you can manage quotes at the cost item level, using the cost items themselves as the descriptions on the quote request.

You can use Quote Groups to group together multiple resources or cost items that will be sent in an RFQ package. Using quote group tags can save a great deal of time generating packages of items to request quotes for.

Resource Level Quote Groups

When sending out quotes, you may want to organize your resources into groups based on the type of material, such as pipe, aggregate, or concrete. When creating Requests for Quote, you will be able to select your pre-defined quote group and it will bring all the related resources along with it. You can assign quote groups using a pre-defined tag called a Quote Group in the Resource Rate Register.

Below is an example of resources with a quote group assigned:

Resource Rate Register

All	Labor	Construction Equipment	Rented Construction Equipment	Installed Material	Installed Equipment	Supplies	Unique
-----	-------	------------------------	-------------------------------	--------------------	---------------------	----------	--------

Drag columns here to group

Resource Code	Description	Quote Group	Resource File Description	Unit of Measure
+ IECT	Cooling Towers	Process Equipment Install	Standard Installed Equipment Rate...	Each
+ IEFC	Feeder Controls	Landscaping Work	Standard Installed Equipment Rate...	Each
+ IEHS	Heating System	Process Equipment Install	Standard Installed Equipment Rate...	Each
+ IEPHP	Pump High Pressure	Commercial Work	Standard Installed Equipment Rate...	Each
+ IERMT	Raw Material Tank	Concrete Materials	Standard Installed Equipment Rate...	Each
+ IERS	Recovery System	Process Materials	Standard Installed Equipment Rate...	Each
+ IEST	Separator Tank	Process Materials	Standard Installed Equipment Rate...	Each

CBS Level Quote Groups

For your subcontracted items, you can assign quote groups at the cost item level to group together subcontractor work, such as Commercial Work or Landscaping Work. These labels are assigned using a pre-defined tag called Quote Group in the Cost Breakdown Structure register.

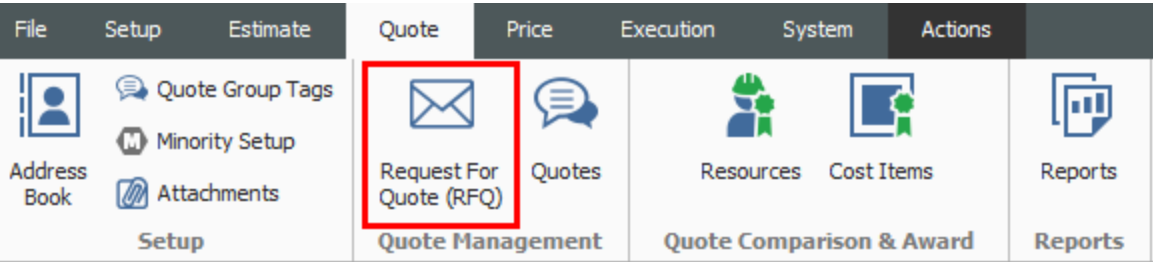
CBS Position Code 	Description	Forecast (T/O) Quantity	Unit of Measure	Quote Group 
 13	Paint Existing Steel Bridge Structure	1.00	Lump Sum	Structural Painting
 14	Process Equipment	1.00	Each	Process Equipment Install
 17	Toll Booth	1.00	Each	Commercial Work
+ 18	Guardrail Type 2	1,000.00	Linear Feet	Guardrail Work
+ 19	Guardrail Type 3A	200.00	Linear Feet	Guardrail Work
+ 20	Type 4 Signs	1,000.00	Square Feet	Sign Work

Requests for Quote

Requests for Quote (RFQs) are invitations to sellers that include a requested list of items or services/pricing and terms. When you create an RFQ in InEight Estimate, you are able to indicate the line items you want to include in the quote, and the vendor(s) to whom you want to send it.

Request for Quote (RFQ) Register Overview

To access the Request for Quote (RFQ) Register, from the InEight Estimate landing page, select the Quote tab, then click on Request for Quote (RFQ).

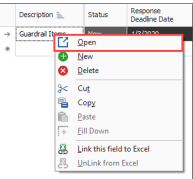


- The RFQ register lists all of the RFQs you’ve created, with a Description, a Status, and a Response Deadline Date

Request for Quote (RFQ) Register									
Drag columns here to group									
Description	Status	Response Deadline Date	Response Deadline Time	Published Date	RFQ Instructions	Buyer's Special Terms	Tag 1	Tag 2	Tag 3
Guardrail Items	New	1/3/2020	11:00 AM						

Request for Quote (RFQ) Record

You can double click on the row header, or right-click on any request for quote in the Request for Quote Register and choose Open to access an existing Request for Quote (RFQ) Record.



Overview – Request for Quote (RFQ) Record

Name		Definition
1	RFQ Description	Each record contains a Description, Deadline Date and Deadline Time fields to identify the RFQ and indicate when a response is due.

2	RFQ Tabs	The record is organized into tabs where you can define the items for the quote, terms & conditions, and the seller companies to receive the RFQ.
---	----------	--

Name		Definition
3	Status and Published Data	The Status and Published Date let you know if it is new or published (sent out), and when it was published.

Request for Quote (RFQ) Record

Description

Guardrail Items

Response Deadline Date: 7/29/2009

Response Deadline Time: 11:00 AM

Line Items

Terms & Conditions

Vendor Companies

Attachments

Setup

Status

New

Published Date

Resources

Cost Items

Drag columns here to group

Saved views: Standard View

	CBS Position Code	RFQ ID	Quote Group Tag	Optional Code	Description	Quantity
→	6.1	6.1	Guardrail Work	1500 0100	Guardrail Typ...	1,000.00
	6.2	6.2	Guardrail Work	1500 0200	Guardrail Typ...	200.00
*						

OK

Cancel

New...

< Prev

Next >

Create an RFQ

When putting together your RFQs, you will be able to select the appropriate material resources and cost items for which you need quotes in your estimate. To create a new RFQ, you have a few options:

- Create RFQ from scratch: This creates an empty RFQ Record for you to define
- Create RFQ from Quote Group Tag(s): This option lets you create an RFQ from a quote group so you can add multiple materials or subcontract items at once
- Create RFQ using Default Seller data: In your address book you can store vendors with a list of their default materials. This option lets you select the vendor and have it automatically find their

materials in the job

New RFQ

Cost Item Identification

Use the following field: CBS Position Code

Please select from the following options:

☒ Create RFQ from scratch

☐ Create RFQ from Quote Group Tag(s)

☒ Only show Quote Group tags that are currently utilized in this job

☒ On the resulting RFQ record, only list resources with utilization currently greater than zero

☐ Create RFQs using Default Seller data

This option scans the job for all Resources and Quote Groups utilized in the job. For any that are listed in the Address Book as 'Default Quotes' for the Sellers you select on the subsequent selection register, a new RFQ record will be added for each Seller listing their default items.

☒ Create separate RFQ records for each Quote Group, per seller?

Description

OK

Cancel

The rest of this section walks through each tab on the RFQ Record in more detail.

Line Items

The Line Items tab lists the resources or cost items selected for the RFQ, including the Description, Quantity, Quote Group, Currency and other user-defined tags.

Response Deadline Date: 7/29/2009 Response Deadline Time: 11:00 AM

Line Items Terms & Conditions Vendor Companies Attachments Setup

Resources Cost Items

Drag columns here to group

	CBS Position Code	RFQ ID	Quote Group Tag	Optional Code	Description	Quantity	Unit of Measure
→	6.1	6.1	Guardrail Work	1500 0100	Guardrail Typ...	1,000.00	Linear Feet
	6.2	6.2	Guardrail Work	1500 0200	Guardrail Typ...	200.00	Linear Feet
*							

Terms & Conditions

This tab provides ample space for you to enter terms, conditions and instructions that need to be included on the RFQ.

Response Deadline Date: 7/29/2009 Response Deadline Time: 11:00 AM

Line Items Terms & Conditions Vendor Companies Attachments Setup

Buyer's Special Terms & Conditions

Any penalties assessed by the owner due to quality control compliance deviations by the supplier will be deducted from the supplier's payment.

RFQ Instructions

Please contact site super John Smith @ 623-555-6982 for delivery instructions.

OK Cancel New... < Prev Next >

Vendor Companies

You will use the Vendor Companies tab to select the suppliers or subcontractors that will be receiving the RFQ. This is done by selecting them from the Estimate Library Address Book. This tab will store all of the pertinent contact information for each seller, including their fax number and/or email address so that you can send them the RFQ.

Response Deadline Date: 7/29/2009 Response Deadline Time: 11:00 AM

Line Items Terms & Conditions Vendor Companies Attachments Setup

Drag columns here to group

	Vendor	Contact	Status	Publish Item Quantities	Vendor Phone
→	SUB18	SUB18 -- Mel Blank	New	☒	111-222-3232
	SUB4	SUB4 -- Harry Belefony	New	☒	111-222-1111
	Ven18	Ven18 -- CARRIE Matty	New	☒	111-333-3434
*				☐	

The following options are particularly noteworthy:

- **Publish Item Quantities:** If you want the RFQ to specify your take-off quantities, select this checkbox. If you want to keep that information to yourself and let the vendors or contractors determine their own quantities, deselect this checkbox

- **Publish To File:** If you choose to Publish To File, Estimate creates a Microsoft Word document with a template filled out. It is ready to print and send, but you have the opportunity to double-check the information before emailing the RFQ

When RFQs are generated for multiple vendors using the Publish To File option, be sure to separate the Microsoft Word document pages and send only the correct pages to each vendor.

- **Publish by Email:** If you choose to publish by email, the Word document is created, the template is filled out, it is attached to an email, and automatically sent to the email address listed for that vendor in the Address Book

When using the Publish by Email option, the process is automatic and it does not give you the opportunity to double check your information before the RFQ is emailed. For this reason, it is recommended to Publish To File, review the information, and then email the RFQ manually.

Attachments

This tab allows you to specify any electronic files that need to be attached to the RFQ, such as drawings or specifications for the work.

Response Deadline Date: 7/29/2009 Response Deadline Time: 11:00 AM

Line Items Terms & Conditions Vendor Companies **Attachments** Setup

Drag columns here to group Saved views: Previous View

File Name	Description	Location	File Type	File Size	Attached By	Date Attached
plumber quote.pdf	plumber quote	Job Folder	Adobe Acrob...	166875	Paul Trippi@ine...	7/31/2023 11:08:21 AM

Setup

The Setup tab lets you indicate what information will display on the published RFQ template, including custom tags. In addition to selecting tags and adding notes on the Setup tab, you can also specify your RFQ Publication Settings and can choose whether you want to include the instructions, special terms and conditions, notes and attachments.

Publish an RFQ

Once created, Estimate allows you to generate a Microsoft Word RFQ template that can be faxed or manually sent via email to the supplier or subcontractor.

When you complete all of the fields that are required for this RFQ, you are ready to publish the RFQ. To do so, select all of the vendors that you want to receive the RFQ and click **Actions > Publish** on the RFQ Record ribbon.

Step by Step — Create and publish an RFQ

This exercise walks through a specific example using the Training Job.

1. From the Estimate landing page, select the **Quote** tab.
2. Select **Request for Quote (RFQ)**.
3. From the Actions tab, click on the **New** icon to create a new RFQ.
4. Select Create RFQ from Quote Group Tag(s), leaving the checkboxes checked to only show quote groups and resources that are being used.
5. Select the **Aggregates** quote group from the right panel.
6. Click OK.
7. In the Response Deadline Date field, select a date two weeks from today, and for the Response Deadline Time, type a time stamp (e.g. 11:00 am).

Response Deadline Date: 7/29/2009	Response Deadline Time: 11:00 AM
Line Items	Terms & Conditions
Vendor Companies	Attachments
Setup	

8. Select the Terms & Conditions tab.
9. Create and type Prices are good for the duration of the contract in the Buyer's Special Terms & Conditions field.
10. Type in All items to be delivered to jobsite by supplier's trucks in the RFQ Instructions field.
11. Select the Vendor Companies tab and click in the **first blank row** in the Company Name column.

Line Items	Terms & Conditions	Vendor Companies	Attachments	Setup
Drag columns here to group				
Vendor	Contact	Status	Publish Item Quantities	Vendor Phone
SUB18	SUB18 -- Mel Blank	New	☒	111-222-3232
SUB4	SUB4 -- Harry Belefony	New	☒	111-222-1111
Ven18	Ven18 -- CARRIE Matty	New	☒	111-333-3434
			☐	

12. Click on the Address book  icon, and then select the following example vendors:
 - Example Vendor 1: Pat Roberts
 - Example Vendor 2: Stan Mark
 - Example Vendor 4: Lester Slim
13. Click OK.
14. Make sure Publish to File is checked for all vendors.
15. Uncheck **Publish by email** for each vendor.
16. Select the **sellers** to whom you want to send the RFQ.
 - Word opens the file automatically for you to review; and from here you can either print it or send it in an email as an attachment

REQUEST FOR QUOTATION

Job: Training Job Training Job - Maricopa County No. TR0204

TO:

FROM:

Name:Pat Roberts

Company:Example Vendor 1

100 Tenth Street

Homestead, AZ 88000

Phone:111-123-2134

Mobile Phone:222-123-1234

Fax:

Email:

Name:Tom Green

Company:Example Prime Contractor 1

400 First Street Suite 4000

Homestead, AZ 88004

Phone:111-122-1111

Mobile Phone:222-112-2211

Fax:

Email:

Job Information:

Training Job

Training Job - Maricopa County No. TR0204

Owner:Example Owner

Job Type:Highway and General Engineering

Job Location:110 1st St 100 to MP 120

City:Phoenix

County:Maricopa

State / Province:Arizona

Country:United States

Est Location:Engineers Office

Est Date:1/8/2020

Est Time:10:00 AM

Measurement System:English

Request for Quote (RFQ) Information:

17. On the Actions tab of the record, select **Publish** to create your RFQ document.

18. Select the folder to publish to.

19. Click **OK** to save the RFQ Record.

RFQ Email Draft

When sending out Requests for Quotes (RFQ) on a bid, it is essential to be able to effectively communicate the project requirements to potential subs or suppliers to ensure you have good quote coverage within your estimate. Email RFQs open as a draft email message, giving you, the sender, the opportunity to control specifically what is sent and customize the message before sending it out to subs and suppliers.

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RFQ from InEight Corporation - SKIP for Training Job - Infrastructure: Training Job - Maricopa County No. TM2924

FileMessageInsertOptionsFormat TextReviewHelpTell me what you want to do

Times New Ro12B I U A

Send

ToCharlie Bravo

Cc

SubjectRFQ from InEight Corporation - SKIP for Training Job - Infrastructure: Training Job - Maricopa County No. TM2924

REQUEST FOR QUOTATION

Job: Training Job-1 Training Job - Maricopa County No. TM2924

TO:

FROM:

Name:Harry Belefony

Company:Example Sub #1
600 First Street Suite 6000
Hometown, AZ 889006

Phone:111-222-1111

Mobile Phone:

Fax:222-221-2212

Email:charlieb1234@example.com

Name:Tom Cross

Company:Example Prime Contractor 1
400 First Street Suite 4000
Hometown, AZ 889004

Phone:111-122-1111

Mobile Phone:

Fax:222-112-2211

Email:

Job Information:

Training Job-1
Training Job - Maricopa County No. TM2924

Owner:	Example Owner
Job Type:	Highway and General Engineering
Job Location:	I-10 MP 100 to MP 120
City:	Phoenix
County:	Maricopa
State / Province:	Arizona
Country:	United States
Bid Location:	Engineer's Office
Bid Date:	1/6/2020
Bid Time:	5:00 AM

Request for Quote (RFQ) Information:

Publication Date: 8/21/2020 3:57 PM

Response Deadline Date: 7/29/2009 11:00 AM

Quotes

When you receive responses to your RFQ, the next step is to enter their pricing in the Quote Register. The Quote Register stores all of the quotes you have for that job. Each quote has a Description and a Quote Status, and each quote displays seller contact information.

In this case, an estimator in charge of receiving quotes would need to determine how best to input these quotes within the Quote register.

Sample Received Quote Scope Sheet

Overview – Received Quote Scope Sheet

Name		Description
1	Section one	Scope item one includes 4 items the subcontractor has considered as work to be done onsite. You may want to consider adding all 4 items as individual quotes. Then creating a package identifying these quotes as on-site work, totaling \$203,000.
2	Section two	Scope item two includes 3 items the subcontractor has considered as work to be done offsite. You may want to consider adding all 3 items as individual quotes. Then creating a package identifying these quotes as offsite work, totaling \$24,650.
3	Exclusions	The subcontractor is showing 9 items they excluded from their scope of responsibility.
4	Qualifications	The subcontractor has included 3 stipulations pertaining to this bid. If selected all 3 are considered accepted terms.

Received
Quote Scope Sheet

DATE: 12/19/2019

PROJECT: TRAINING JOB TRAINING JOB - MARICOPA COUNTY NO. TM024

LOCATION: PHOENIX, AZ

SITE CONCRETE: FORM, SUPPLY AND INSTALL

1

ON-SITE IMPROVEMENTS

1. Vertical Curb, Curb and Gutter, Valley Gutter w/ rebar

2. 4" thick broom finish walk with wire mesh, ramp w/ domes

3. Flow-Through planer slab and walls

4. 8" thick crosswalk paving with rebar 36" x 36" pattern broom finish and 18" x 36" pattern colored aggregate finish (1 location only @ 10' street entrance)

Price: \$203,300

2

OFF-SITE IMPROVEMENTS

1. Curb and Gutter

2. HC Ramps w/ domes, planter w/ rebar

3. 36" x 36" patterned finish walk w/ wire mesh

Price: \$24,650

3

EXCLUSIONS:

1. Layout of lines and grades

2. Site grading

3. Aggregate base and/or compaction, sand cushion

4. Sealants, caulking and waterproofing, precast items

5. Misc post footings and masonry wall footings

6. Supply of embedded iron or metal

7. Demolition

8. Traffic control and pedestrian protection

4

QUALIFICATIONS:

1. Price valid for 90 days

2. GC will provide a concrete pump washout area

3. 5% retention will be released 45 days after completion of our work

Alternate Price to furnish and install 4" aggregate base under parking structure lab. Sand by others. Price based on rock being placed prior to piles, pilecaps and grade beams.

\$24,100

This proposal is good for thirty (30) days from the date herein, after which time Summit Construction reserves the right to review the proposal for any changes in price. Please call me if you need any further information.

Rick
Estimator

Quote Register Overview

To access the Quote Register, choose Quote > Quotes on the main InEight Estimate menu or click the Quotes icon on the toolbar.

Quote Register								
Drag columns here to group								
	Description	RFQ Description	Quote Status	Seller	Company	Quote Total	Awarded Total	Currency
	Aggregates	Aggregates	Accepted	Example Vendor 1 -- Pat Rob...	Example Vendor 1	\$402,192.00	\$402,192.00	U.S. Dollar
	Aggregates	Aggregates	Accepted	Example Vendor 4 DBE -- Les...	Example Vendor 4 ...	\$0.00	\$0.00	U.S. Dollar
	Aggregates	Aggregates	Accepted	Example Vendor 2 -- Stan Mark	Example Vendor 2	\$0.00	\$0.00	U.S. Dollar
⚠	Asphalt Materials		Accepted	Example Vendor 1 -- Pat Rob...	Example Vendor 1	\$1,115,97...	\$1,102,50...	U.S. Dollar
⚠	Asphalt Materials		Accepted	Example Vendor 2 -- Stan Mark	Example Vendor 2	\$1,263,17...	\$13,671.00	U.S. Dollar
	Electrical Work	Electrical Work	Accepted	Architectural Designs, Inc. -- ...	Architectural Desig...	\$4,200.00	\$0.00	U.S. Dollar
	Electrical Work	Electrical Work	Accepted	HD Engineering Group -- Rog...	HD Engineering Gr...	\$4,450.00	\$0.00	U.S. Dollar

Quote Record Overview

The Quote Record establishes who the vendor is, along with quoted prices and all terms and conditions. Once a requested quote returns, you can either create the quote in InEight Estimate from scratch or convert the original RFQ to a quote and enter the supplier or subcontractor pricing. Each Quote Record contains additional fields and options for managing the quote.

Quote Records utilize data blocks allowing you to reposition tabs, detach tabs into individual windows, and redock tabs in new locations. Using the data blocks layout, you can input and maintain important quote data like Vendor Qualifications and Special Terms & Conditions.

Right click on any existing quote in the Quote Register and choose Open to access the Quote Record.

Overview – Quote Record

Name		Description
1	Header block	You can include detailed contact information about the supplier or subcontractor. This automatically fills when you select the seller from the Address Book. The External Ref field can be used to access information specific to the bid/quote.
2	Price block	The Price data block contains a breakdown of pricing information for the quote, including taxes, item conditions, and special conditions.
3	Quote tabs	The tabs at the bottom of the screen hold detailed information regarding the quote.
4	Default Data Blocks	Data blocks include Special Terms & Conditions, Qualifications, Packages, Taxes, Vendor's Profile, Setup, and Minority.

The screenshot shows the 'Quote Record' header block. Callout 1 points to the 'Description' field containing 'Pipe Materials'. Callout 2 points to the 'Total' summary section on the right, showing 'Extended Price: \$0.00', 'Item Taxes: \$0.00', 'Quote Tax: \$0.00', 'Bond: \$0.00', 'Item Conditions: \$0.00', and 'Special Conditions: \$0.00'. Callout 3 points to the 'Resources' tab and the table below it. Callout 4 points to the 'Special Terms & Conditions' section on the right.

Code	RFQ ID	Quote Group	Optional Code	Description	No Split	Free	Awarded	Duration
1	1		1	pay item 1	☒	☐	☐	
2	2		2	pay item 2	☒	☐	☐	

Header Block

The Header block portion of the screen is where you enter in description information pertaining to the quote, along with vendor/contractor information.

There is an External Ref field you can use as a hyperlink for attaching any supporting bid quote attachments from the vendor/contractor.

On the right portion of the header block is where you enter optional information related to:

- Optional Code – A code used to reference the received quote.
- Date – The date the quote is received.
- Source – This is the method by which the quote was received. The options are Email, Fax, Hard Copy, Phone, and Other.
- Currency – System of money in general use for a particular country..
- Ignore – By ignoring the quote, and providing a reason, the quote will turn grey in the Quote Comparison & Award screen.

Quote records

The Quote record header block includes a vendor field with a searchable address book library register drop-down list. You can select shared vendor data to populate your quote header record with Platform's shared master data.

Quote Record

Header

Description: Asphalt Materials

Vendor: 1128354 Alberta Lt... Vendor Name: 1128354 Alberta Ltd Vendor Phone: 780-920-3163

Contact: Alberta -- Frank Ma... First Name: Frank Contact Office:

Primary Email: Frankmatty@gmail.com Last Name: Matty Contact Mobile:

External Ref.:

Address Book Register - Library

Actions

Drag columns here to group

Enter text to search...

Vendor ID	Vendor Name	Vendor Type	Tax ID	Tax Jurisdiction	Address 1
0010087554	1 Alliance Geomatics LLC	Z001	461564451	4803300400	1261A 120th Ave NE
1_NP - Vendor2	1_NP - Vendor2	1_NP Vendor	12345	abc	90th Street
1_NP - Vendor1	1_Vendor1	1_NP Vendor			
1_NP - Vendor1	1_Vendor1	1_NP Vendor			
0010099994	10X Engineered Materials LLC	Z001	824568213	1516913100	1162 Mancheser Ave
0010099994	10X Engineered Materials LLC	Z001	824568213	1516913100	1162 Mancheser Ave

OK Cancel

Using Platform's shared data also reinforces accurate Estimate quote reporting. For example, you can report on which vendors and contacts have been awarded quotes or run a report on how many RFQs have been sent to select vendors and how many RFQs were returned for certain jobs. Additionally, using Platform shared vendors makes it possible to report on all activity related to a particular vendor. Examples include seeing how many subcontract agreements have been executed in InEight Contract, or how many claims/issues a vendor has been involved with in InEight Change. The predominant value for Estimate using Platform vendors, along with other InEight applications, ensures that the same vendors are being used by all applications.

Price Block

The Price block includes the quotes extended price, along with any additional taxes, bonds, item conditions, and special conditions.

Quote Record Tabs

Resources & Cost Items

The Resources & Cost Items tab displays the resources or cost items quoted, along with their estimated quantities and units of measure.

- A Unit Price column is included on this tab for entering the quoted pricing from the seller, either manually or by pasting from an electronic format
- If a Package code is entered, the Unit Price field is greyed out, and the Package code amount is used

- Additional columns are provided for making conditional amount or percentage adjustments to the quote to manage last-minute changes
- A note field is included for explanation changes
- A No Split option indicates that the seller will only provide the quoted goods or services if they are selected to provide all listed items. They will not provide one quoted item without you procuring all others from them as well.
- You can check an item as Free for circumstances where the vendor will include the price of one item with another. Marking the included item(s) as free reminds you there is no quoted price for that item

Resources		Cost Items												
Drag columns here to group						Find: [Search For...]				Saved views: Previous View				
Package	Code	RFQ ID	Quote Group	Optional Code	Description	No Split	Free	Awarded	Du...	Quantity	Unit of Measure	Unit Price	Extended Price	
P1	3.1	3.1		3.1	Excavation, scrapers	☒	☐	☐		1	50,000.00	Cubic Yard	\$0.00	\$0.00
	3.2	3.2		3.1	Excavation, trucks	☒	☐	☐		1	50,000.00	Cubic Yard	P1	\$200,000.00
	3.3	3.3		3.2	Embankment	☒	☐	☐		1	50,000.00	Cubic Yard	P1	P1
P1	3.4	3.4			Rock Excavation	☒	☐	☐		1	3,000.00	Cubic Yard	P1	P1

Cost item tags and user defined fields

There are 25 tag fields in the Quote Record register cost items tab. There are also 15 user defined fields that let you sort, filter, and group on selected quote records more efficiently.

For example, you can use tags and user-defined fields to isolate certain cost items, or group cost items together.

Quote Record

Header

Description: Guard Rail Items

Optional Code:

Date:

Source:

Currency: U.S. Dollar

Status: Received

Ignore: Reason:

Contact: Example Sub #2 - Hel Blank

Phone: 111-222-3332

Company Name: Example Sub #2

Mobile:

First Name: Hel

Fax: 222-222-1111

Last Name: Blank

Email:

External Ref.:

Total

Extended Price: \$30,200.00

Item Taxes: \$0.00

Quote Tax:

Bond:

Item Conditions: \$0.00

Special Conditions:

Total \$30,200.00

Resources

Cost Name

Drag columns here to group

Code

Is

RFQ ID

Tag 11

Tag 12

Tag 13

Tag 14

Tag 15

Tag 16

Tag 17

Tag 18

Tag 19

Tag 20

Tag 21

Tag 22

Tag 23

Tag 24

Tag 25

User Defined 2

User Defined 3

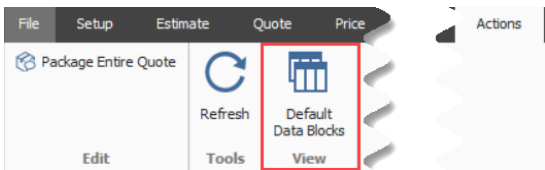
User Defined 4

User Defined 5

6,2

<

- Taxes
- Vendor's Profile
- Setup
- Minority



The seven data blocks appear at the bottom right of the screen.

Special Terms & Conditions

Buyer's Special Terms & Conditions

☒ Vendor's Special Terms & Conditions

Special Conditions Adjustments:

\$0.00

Distribute Special Conditions: ☐ Evenly ☒ Using Weighted Average

☒ Include Special Conditions costs for unawarded quotes in Comparable Totals

Drag columns here to group

Saved views:

Standard View

Row Number	Scope Item	Quote Group	Included	Amount	% of Total	Notes
						\$0.00

Special Terms & Conditions

Qualifications

Packages

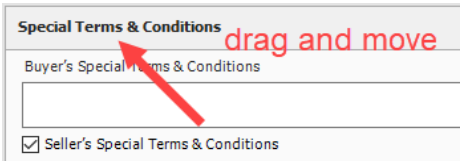
Taxes

Vendor's Profile

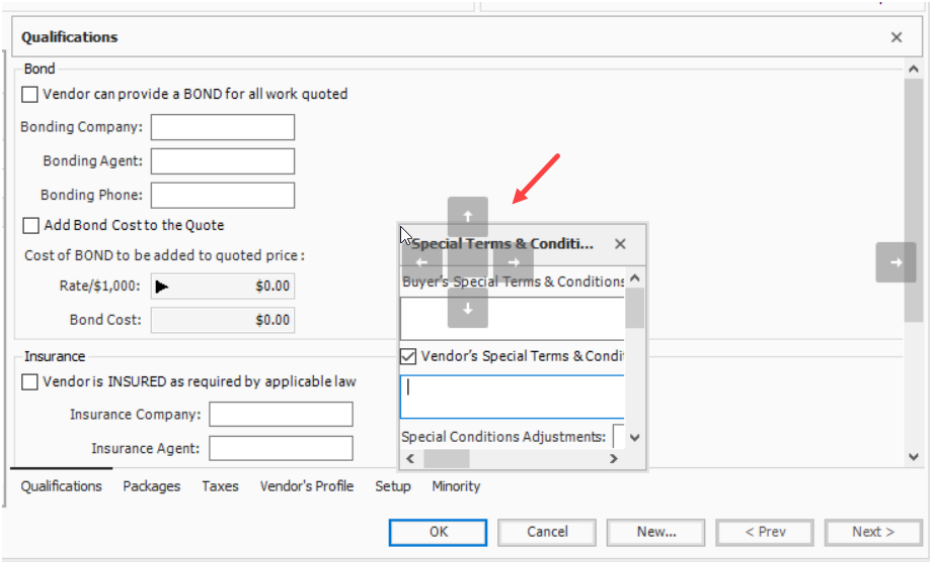
Setup

Minority

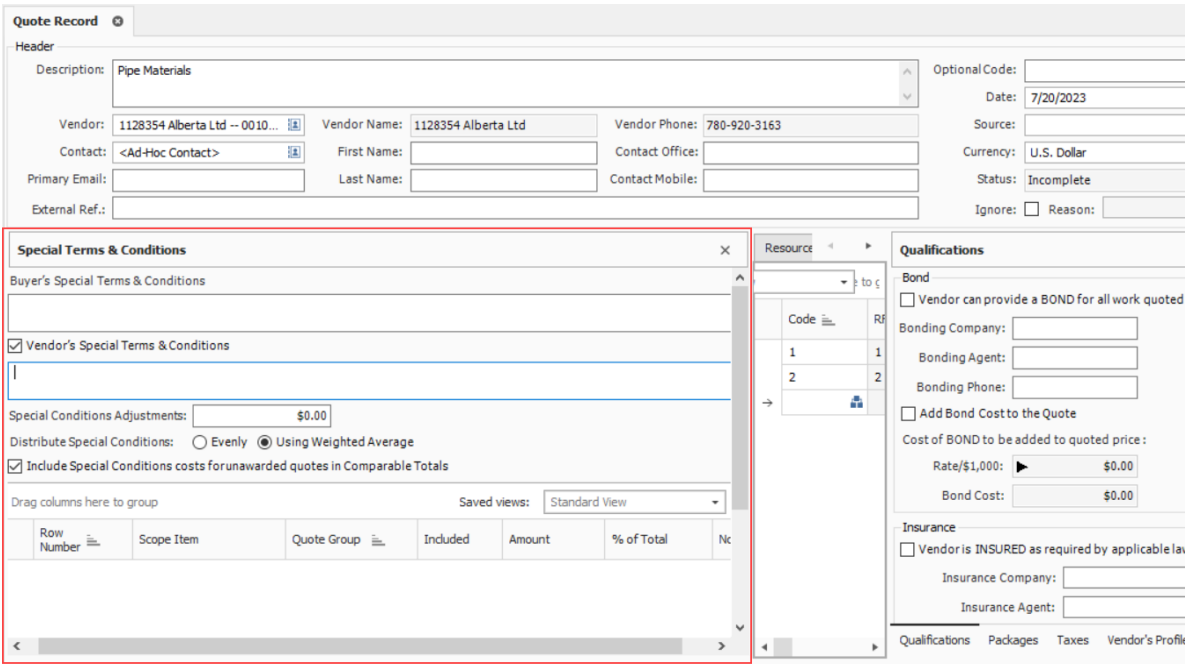
It's possible to move the entire data block, or individual data blocks to other parts of the screen. For example, select the Special Terms & Conditions header row, and drag to the desired part of the screen.



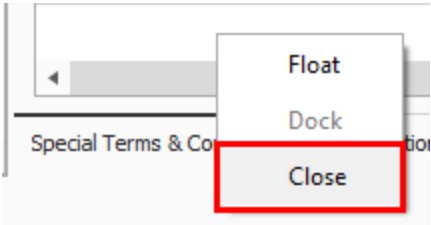
Drop the data block on top of an arrow where you wish to land the data block.



The data block will now reside on the left side of the screen.



You can also close a specific tab if it's not commonly used. In this example, you can right click on a tab (like Special Terms & Conditions) and select close.



Data Block Tabs

Special Terms & Conditions

Special Terms & Conditions is where you can include buyers and sellers special terms, add fixed cost to the quote, and include/exclude scope items.

Special Terms & Conditions

Buyer's Special Terms & Conditions

☒ Vendor's Special Terms & Conditions

Special Conditions Adjustments:

Distribute Special Conditions: ☐ Evenly ☒ Using Weighted Average

☒ Include Special Conditions costs for unawarded quotes in Comparable Totals

Drag columns here to group: Saved views:

Row Number	Scope Item	Quote Group	Included	Amount	% of Total	Notes
					\$0.00	

Special Terms & Conditions | Qualifications | Packages | Taxes | Vendor's Profile | Setup | Minority

Qualifications

This tab allows you to include bond. You can enter the bond rate and the system will calculate the total Bond Cost or vice versa. This tab also allows you to enter insurance contact information and seller license information. If the vendor in the address book already had this information, then this information will get pre-filled when the seller is assigned to the Quote.

Qualifications

Bond

☒ Vendor can provide a BOND for all work quoted

Bonding Company:

Bonding Agent:

Bonding Phone:

☒ Add Bond Cost to the Quote

Cost of BOND to be added to quoted price:

Rate/\$1,000:

Bond Cost:

Insurance

☐ Vendor is INSURED as required by applicable law

Insurance Company:

Insurance Agent:

Insurance Phone:

License

☐ Vendor is LICENSED to perform all work quoted

Licensor:

Class:

ID:

Special Terms & Conditions | Qualifications | Packages | Taxes | Vendor's Profile | Setup | Minority

Packages

Using the Packages feature lets you logically organize quotes into an arranged collection of like grouped packaged quotes. You can determine how to enter quotes from subcontractors and classify them into a package grouping. When you create a package within the Packages block, and give it a monetary value, you can then assign that package code to one or more quote records. The package code is limited to three characters.

When comparing various vendor quotes in the Quote Comparison and Award form, with each quote containing its own scope of work, you can easily distinguish which items belong to each package. This helps to identify which quotes to award in your decision-making process.

As an example, the following Civic Center Parking Structure quote has three packages defined in it. The P1, P2, and P3 on the left represent the grouped package numbers that will be used to determine the package structure in the quote record. The vendor that submitted this quote shows detailed estimates defined for each of the three packaged items, but there is no breakdown provided in the quote of how much each line item is worth. Rather, this quote is showing a package price for each collection of items (scope of work).

Civilworks Inc. 125 Maple St Scottsdale, AZ 85260		Phone (758) 555-9854	
		Civic Center Parking Structure	
December 4, 2009		Addendum 1-6	
Description of Work		Price	
P1	DEMOLITION, EXCAVATION AND GRADING (PARTIAL)		\$150,780.00
	Site Clearing of trees and bushes		
	Demo of AC Paving, Concrete Curbs and Walks		
	Sawcut AC Paving and Concrete		
	Remove storm drain, SS, CB's, MH & pole bases		
	Rough grade parking structure pad, commercial pad		
	Place 12" non-expansive fill		
	Fine grade pads		
	Demo and remove 16th street curbs and paving		
	Grade for new roadway		
P2	ASSISTED PARKING LOT (PARTIAL)		\$43,535.00
	Site Clearing of trees and bushes		
	Demo curbs, excavate for paving		
	Demo median on 16th Street, place temporary paving section		
	Patch pave parking lot with 3" AC over 6" AB		
P3	PAVING (PARTIAL)		\$139,900.00
	Place aggregate base for AC Paving, curbs and walks		
	Place 5" asphalt concrete section		
	<i>Key Exclusions: slurry seal, striping, fencing, concrete work</i>		
OTHER ITEMS			
Load out stockpiled clean spoils			\$26.00/CY
Grade, fabric, place 4" AB for contractor parking (63,000 SF)			\$0.85/SF
Excavate Duct Bank			\$5,900.00
Patch pave AC outside pave area (500 SF)			\$8.00/SF
STANDARD EXCLUSIONS:			
1. Any permits, fees, inspections, plans, bond premiums, soil testing, etc.			
2. Any hard rock excavation. (Hard rock is defined as unable to be removed by CAT D6 or CAT 325 Excavator)			
3. Any trenching for footings of building or masonry structures.			
4. Any temporary fencing or trench plating.			
5. Any export of materials other than specifically included offhauls.			
6. Spoils over 12" in diameter will be offhauled at an additional agreed to cost.			
7. Any structure demolition or removal. (Concrete, asphalt, fencing, trees, buildings, signs, masonry)			
8. Any and all landscape repair, installation, or removal			
9. Any storm water pollution prevention or erosion control unless specifically mentioned.			
10. Base rock under concrete walkways or building slab areas unless specifically mentioned			

Estimate's Package feature lets you pick all the cost items that belong to a particular package, then assign the price to that collection of packages. It then proportionally distributes the total package price across all of the corresponding cost items when comparing and awarding.

Quote Register **Quote Record**

Header

Description: Site work

Vendor: Civilworks Inc. -- Ven 07 Vendor Name: Civilworks Inc. Vendor Phone: 480 555 5698

Contact: Civilworks Inc. -- John Jacobs First Name: John Contact Office:

Primary Email: jacobsjacobs@civilworks.com Last Name: Jacobs Contact Mobile:

External Ref.:

Optional Code:

Date:

Source:

Currency: U.S. Dollar

Status: Received

Ignore: Reason:

Total

Extended Price:

Item Taxes:

Quote Tax:

Bond:

Item Conditions:

Special Conditions:

Total:

Resources **Cost Items**

Package

Saved views: Previous View

Package	Code	Quote Group	Optional Code	Description	No Split	Duration	Quantity	Unit of Measure	Unit Price	Extended Price	Curr
P1 (Demo,Excav,Grading)											
P1	1.3.1		1.3.1	Excavation	☒		1	50,000.00	Cubic Yard	P1 P1 \$150,780.00	U.S.
P1	1.4.2		1.4.2	Finergrade Subgrade	☒		1	400,000.00	Square Yard	P1 P1	U.S.
P1	1.5		303 4263	Asphalt Concrete Hot...	☒		1	35,000.00	Ton	P1 P1	U.S.
P1	1.6		1.3.1	Grading	☒		1	1.00	Cubic Yard	P1 P1	U.S.
P2 (Assisted Parking Lot)											
P2	4.1	Process Equi...	700	Process Equipment	☒		1	1.00	Each	P2 P2 \$43,535.00	U.S.
P2	4.2.1		4.2.1	Remove & Dispose Co...	☒		1	2.00	Each	P2 P2	U.S.
P2	5.1.1		0220	Site Preparation	☒		1	1.00	Lump Sum	P2 P2	U.S.
P3 (Paving)											
P3	1.7		1.3.1	Paving	☒		1	1.00	Cubic Yard	P3 P3 \$139,000.00	U.S.

Packages

Drag columns here to group

Code	Description	Amount
P1	Demo,Excav,Grading	\$150,780.00
P2	Assisted Parking Lot	\$43,535.00
P3	Paving	\$139,000.00

3

Special Terms & Conditions Qualifications Packages Taxes Vendor's Profile Setup Minority

OK Cancel New...

Step by Step — Create a multi-packaged quote

1. From the InEight Estimate landing page, select the Quote tab.
2. Click on the Quotes icon under Quote Management.
3. Double click on an item (e.g. Pipe Materials).

Cost Breakdown Structure (CBS) Register **Quote Register** **Quote Record**

Drag columns here to group

Description	RFQ Description	Quote Status	Seller
Pipe Materials		Received	Example Vendor
Pipe Materials		Received	Example Vendor
Pipe Materials		Received	Example Vendor
Pipe Materials		Received	Example Vendor

4. In the Description field, type in or replace the description.

5. In the Contact field, select a contact.

Cost Breakdown Structure (CBS) Register

Quote Register

Quote Record

Header

Description: Pipe Materials for site improvements.

Contact: Example Vendor 1 -- Pat Roberts

Company Name: Example Vendor 1

6. Click OK

7. Select the Cost Items tab on the left side of the screen.

Resources

Cost Items

Drag columns here to group

	Code	Quote Group	Description
	MPP10	Pipe Materials	Pipe 10" PVC SDR21
	MPP24	Pipe Materials	Pipe 24" PVC SDR35
	MPR36	Pipe Materials	Pipe RCP 36 In
			

8. Add a cost item under Cost Items.

9. Then, add another cost item under Cost Items.

10. On the Packages tab, enter the following 2 new records:

- Code: P1
- Description: On Site
- Amount: \$200,000
- Code: P2
- Description: Off Site
- Amount: \$300,000

Packages														
Drag columns here to group														
	<table><tr><th>Code</th><th>Description</th><th>Amount</th></tr><tr><td>P1</td><td>On Site</td><td>\$200,000.00</td></tr><tr><td>→ P2</td><td>Off Site</td><td>\$300,000.00</td></tr><tr><td>*</td><td></td><td></td></tr></table>	Code	Description	Amount	P1	On Site	\$200,000.00	→ P2	Off Site	\$300,000.00	*			
Code	Description	Amount												
P1	On Site	\$200,000.00												
→ P2	Off Site	\$300,000.00												
*														

11. Type in P1 under Package for cost item 7.

12. Type in P2 under Package for cost item 8.

Resources							Packages		
Cost Items									
Drag columns here to group: [Search For...] ... Saved views: Previous View							Drag columns here to group		
Package	Code	RFQ ID	Quote Group	Optional Code	Description	Net	Code	Description	Amount
P1	7		Pipe Materials	800 0220	10 Inch PVC Force Main...		P1	OnSite	\$200,000.00
P2	8		Pipe Materials	800 0330	24 Inch PVC Gravity Se...		P2	Off Site	\$300,000.00
*									

13. Select OK.
14. Under the Quote Comparison and Award ribbon, select Cost Items.
15. Under Quote Groups, select Pipe Materials.
- Quote Comparison and Award shows the newly created quote with the associated package quotes.

Detail	Example Vendor 1 Pipe Materials	Example Vendor 6 WSE Pipe Materials	Example Vendor 1 Pipe Materials for site improvements
\$22.51	P1 \$290,000.00	P1 \$300,000.00	P1 \$200,000.00
\$52.84	P2 \$126,000.00	P2 \$125,000.00	P2 \$300,000.00
\$428,694...	\$416,000.00	\$425,000.00	\$500,000.00
\$428,694...	\$416,000.00	\$425,000.00	\$500,000.00
\$428,694...	\$0.00	\$0.00	\$0.00
\$428,694...	\$416,000.00	\$425,000.00	\$500,000.00
\$0.00	\$0.00	\$0.00	\$0.00
	11/13/2019 4:1...	11/13/2019 4:4...	11/13/2019 4:3...

- The Package Price can quickly be modified in the Quote Comparison and Award form by selecting the Edit Package action in the Actions tab or by using the right click context menu.

Example Vendor 1 Pipe Materials for site improvements.			
P1	\$200,000.		
P2	\$300,000.		
\$500,000.			
\$500,000.			
\$0.00			
\$500,000.00	\$500,000.00		

Taxes

Item Tax and Quote Tax have been combined to display on a single data block called Taxes. Using the taxes feature allows you to add item taxes to each item's price. You can also add taxes to the quote.

Taxes

Item Tax

☒ Add Item Taxes to each Item's Price

Quote Tax

☒ Add Taxes to the Quote

Taxes to be added to Awarded Total as a Percentage of Total:

Tax Rate:

0.00

Total Tax:

▶ \$450.00

Special Terms & Conditions

Qualifications

Packages

Taxes

Vendor's Profile

Setup

Minority

Seller's Profile

The Seller's Profile tab populates with address book notes and alternate contact information.

Vendor's Profile

Address Book Notes

Example.....save for training as needed.

Alternate Contact Information

☐ Name:

☐ Email:

☐ Phone:

☐ Fax:

☐ Mobile:

Special Terms & Conditions

Qualifications

Packages

Taxes

Vendor's Profile

Setup

Minority

Setup

This tab provides extra space for any additional notes and tags to be assigned to the quote.

Setup

Current Status

RFQ Status:

Last Update: 5/5/2020 7:05:03 PM

Quote Origin: WMFarr

Tags

Tag 1: Pipe

Tag 2:

Tag 3:

Notes

Special Terms & Conditions

Qualifications

Packages

Taxes

Vendor's Profile

Setup

Minority

Minority

This tab allows you to determine if the seller qualifies for any type of minority business, and the ability to apply a certification number.

Minority

Minority Business Enterprise

☐ Vendor qualifies as the following type of MINORITY BUSINESS ENTERPRISE on this job:

☒ DBE

DBE Certification:

☐ MBE

MBE Certification:

☐ WBE

WBE Certification:

☐ OBE1

OBE1 Certification:

☐ OBE2

OBE2 Certification:

☐ OBE3

OBE3 Certification:

☐ OBE4

OBE4 Certification:

☐ OBE5

OBE5 Certification:

☐ OBE6

OBE6 Certification:

☐ OBE7

OBE7 Certification:

Special Terms & Conditions

Qualifications

Packages

Taxes

Vendor's Profile

Setup

Minority

If any of your Data Blocks become deleted on a Quote Record, simply click the Default Data Block icon.

Estimate

Quote

Price

Execution

System

Actions

Refresh

Default Data Blocks

Tools

View

Create a Quote from RFQ

Walk through the steps of creating a quote from an RFQ.

To create a quote from scratch, click the New icon on the Quote Register and fill in the quote details and seller fields manually.

Step by Step — Create a quote from RFQ

This exercise walks through a specific example using the Training Job.

1. From the Estimate landing page, select the **Quote** tab.
2. Select **Request for Quote (RFQ)**.
3. Open the RFQ record for which you've received quotes.
4. Select the **Vendor Companies** tab and select the vendors for whom you need to create quotes. In this case, select all the vendors.
5. From the Actions menu, select **Create Quote**.
6. Click **OK** on the Quotes created prompt.
7. Close the RFQ record and the RFQ register.

Enter Quote Details

Now that you have quotes created, you can enter pricing.

Step by Step — Enter quote details

This exercise walks through a specific example using the Training Job.

1. To open the Quote Register, select **Quote** from the Estimate landing page.
2. Select **Quotes** from the Quote Management section.
3. Open the Aggregates Quote Record for Vendor 1 – Pat Roberts.
4. On the Resources tab, make sure No Split is unchecked for all items.
5. Also on the Resources tab, enter the following unit prices:

Resource Code	Description	Unit Price
MBR	Aggregate Base Rock	\$8.00
MDIRTB	Dirt Class B	\$6.00

6. Click OK to close the Quote Record.

Step by Step — Create a multi-packaged quote

- 1. From the InEight Estimate landing page, select the Quote tab.
- 2. Click on the Quotes icon under Quote Management.
- 3. Double click on an item (e.g. Pipe Materials).

Cost Breakdown Structure (CBS) Register

Quote Register

Quote Record

Drag columns here to group

	Description	RFQ Description	Quote Status	Seller
→	Pipe Materials		Received	Example Vendor
⚠	Pipe Materials		Received	Example Vendor
	Pipe Materials		Received	Example Vendor
⚠	Pipe Materials		Received	Example Vendor
*				

- 4. In the Description field, type in or replace the description.
- 5. In the Contact field, select a contact.

Cost Breakdown Structure (CBS) Register		Quote Register	Quote Record
Header			
Descriptions:	Pipe Materials for site improvements.		
Contact:	Example Vendor 1 -- Pat Roberts		
Company Name:	Example Vendor 1		

- 6. Click OK
- 7. Select the Cost Items tab on the left side of the screen.

Resources		
Cost Items		
Drag columns here to group		
Code	Quote Group	Description
⚠ MPP10	Pipe Materials	Pipe 10" PVC SDR21
MPP24	Pipe Materials	Pipe 24" PVC SDR35
MPR36	Pipe Materials	Pipe RCP 36 In
*		

- 8. Add a cost item under Cost Items.
- 9. Then, add another cost item under Cost Items.
- 10. On the Packages tab, enter the following 2 new records:

- Code: P1
- Description: On Site
- Amount: \$200,000
- Code: P2
- Description: Off Site
- Amount: \$300,000

Packages		
Drag columns here to group		
	Code	Description
	P1	On Site
→	P2	Off Site
*		

11. Type in P1 under Package for cost item 7.
12. Type in P2 under Package for cost item 8.

Resources						
Cost Items						
Drag columns here to group						
[Search For...] Saved views: Previous View						
Package	Code	RFQ ID	Quote Group	Optional Code	Description	No
P1	7		Pipe Materials	800 0220	10 Inch PVC Force Main...	
P2	8		Pipe Materials	800 0330	24 Inch PVC Gravity Se...	
*						

Packages		
Drag columns here to group		
	Code	Description
	P1	OnSite
→	P2	Off Site

13. Select OK.
14. Under the Quote Comparison and Award ribbon, select Cost Items.
15. Under Quote Groups, select Pipe Materials.
- Quote Comparison and Award shows the newly created quote with the associated package quotes.

Detail	Example Vendor 1 Pipe Materials	Example Vendor 6 WSE Pipe Materials	Example Vendor 1 Pipe Materials for site improvements
\$22.51	P1 \$290,000.00	P1 \$300,000.00	P1 \$200,000.00
\$52.84	P2 \$126,000.00	P2 \$125,000.00	P2 \$300,000.00
\$428,694...	\$416,000.00	\$425,000.00	\$500,000.00
\$428,694...	\$416,000.00	\$425,000.00	\$500,000.00
\$428,694...	\$0.00	\$0.00	\$0.00
\$428,694...	\$416,000.00	\$425,000.00	\$500,000.00
\$0.00	\$0.00	\$0.00	\$0.00
	11/13/2019 4:1...	11/13/2019 4:4...	11/13/2019 4:3...

- The Package Price can quickly be modified in the Quote Comparison and Award form by selecting the Edit Package action in the Actions tab or by using the right click context menu.

Example Vendor 1 Pipe Materials for site improvements.	
P1 \$200,000.	Award
P2 \$300,000.	Award And Lock
	Lock
	Unlock
	Edit Quote
	Edit Cost Item
	Edit Package
\$500,000.	
\$500,000.	
\$0.00	\$0.00
\$500,000.00	\$500,000.00

Use Unit Price or Extended Price on Quote Record Item

It's possible to enter the Extended Price for a Quote Item, and the Unit Price is then calculated, which makes entering quotes more efficient and results in less errors.

Quote Record													
Header													
Description: AsphaltMaterials					Optional Code:								
Contact: Example Vendor 2 - Stan Mark					Phone: 111-113-2123								
Company Name: Example Vendor 2					Mobile:								
First Name: Stan					Fax: 222-123-2134								
Last Name: Mark					Email:								
External Ref:					Status: Received								
Ignore:					Reason:								
Resources Cost Items													
Drag columns here to group													
Code	Quote Group	Description	No Split	Free	Awarded	Duration	Quantity	Unit of Measure	Unit Price	Extended Price	Currency	Default Tax Rate	
MAAM	Asphalt Materials	Asphalt Mix (Finish)	☒	☐	☐		1	35,000.00	Ton	\$34.00	\$1,190,000.00	U.S. Dollar	
MAFA	Asphalt Materials	Fine Aggregate	☒	☐	☐		1	1,860.00	Ton	\$7.00	\$13,020.00	U.S. Dollar	

Special Terms & Conditions

Buyer's Special Terms & Conditions

☐ Seller's Special Terms & Conditions

Special Conditions Adjustments:

Distribute Special Conditions: ☒ Evenly ☐ Usual

☐ Include Special Conditions costs for unawarded c

Duplicating an Existing Quote

You can create a new quote by duplicating an existing quote from the Quote Compare & Award form. Duplicate Quotes will contain the same scope as the quote that you previously copied.

Step by Step — Duplicate an existing quote

1. From the InEight Estimate landing page, select the Quote tab.
2. Select the **Resources** icon under Quote Comparison & Award.
3. Highlight any row under the Quote column you want to duplicate.

Cost Breakdown Structure (CBS) Register									
Quote Register									
Quote Comparison & Award - Resources									
Find: [Search For...] Saved views: Standard View									
Resource Code	Description	Utilization Count	Unit of Measure	Unit Cost (Scale 1)	Plug	Detail	Example Vendor 1 Asphalt Materials	Example Vendor 2 Asphalt Materials	Example Vendor 3 Pipe Materials
MAAM	Asphalt Mix (Finish)	36,750.00	Ton	\$31.50	\$34.13	\$34.13	\$31.50	\$35.70	\$34.13
MAFA	Fine Aggregate	1,860.00	Ton	\$7.25	\$8.19	\$8.19	\$7.25	\$7.35	\$8.19
MPP10	Pipe 10" PVC SDR21	12,600.00	Linear Feet	\$13.65	\$3.28	\$3.28	\$3.28	\$3.28	\$13.65
MPP24	Pipe 24" PVC SDR35	3,000.00	Linear Feet	\$22.05	\$20.48	\$20.48	\$20.48	\$20.48	\$22.05
MPP36	Pipe RCP 36 In	1,024.00	Linear Feet	\$32.55	\$34.13	\$34.13	\$34.13	\$34.13	\$32.55
Scope Items									
Summary									
Minority Type									
Quoted Total									
Comparable Total									

4. Select the **Actions** tab.
5. Under the Quotes section, select the **Duplicate Quote** icon.

Print	By Quote Group	Set All to Reviewed	Edit Resource	Edit Quote	Duplicate Quote	Package Entire Quote	Award	Award And Lock	Lock	Quoted Items	Zero Items	Unit Price	Scope Items	Substitute Values	Ignored Quotes	View
Export to Excel	All Quote Groups	Set All to Not Reviewed	Resources	Quote Group Status	Ignore Quote	Edit Package										

Cost Breakdown Structure (CBS) Register									
Quote Register									
Quote Comparison & Award - Resources									
Find: [Search For...] Saved views: Standard View									
Resource Code	Description	Utilization Count	Unit of Measure	Unit Cost (Scale 1)	Plug	Detail	Example Vendor 1 Asphalt Materials	Example Vendor 2 Asphalt Materials	Example Vendor 3 Pipe Materials
MAAM	Asphalt Mix (Finish)	36,750.00	Ton	\$31.50	\$34.13	\$34.13	\$31.50	\$35.70	\$34.13
MAFA	Fine Aggregate	1,860.00	Ton	\$7.25	\$8.19	\$8.19	\$7.25	\$7.35	\$8.19
MPP10	Pipe 10" PVC SDR21	12,600.00	Linear Feet	\$13.65	\$3.28	\$3.28	\$3.28	\$3.28	\$13.65
MPP24	Pipe 24" PVC SDR35	3,000.00	Linear Feet	\$22.05	\$20.48	\$20.48	\$20.48	\$20.48	\$22.05
MPP36	Pipe RCP 36 In	1,024.00	Linear Feet	\$32.55	\$34.13	\$34.13	\$34.13	\$34.13	\$32.55
Scope Items									
Summary									
Minority Type									
Quoted Total									
Comparable Total									

- The resources and prices from the quote you previously selected have been copied into a new Quote Record.
6. From the Header block, enter in any missing information.
 - The information listed in the Header block will not copy over to the duplicated quote.
 7. Enter additional Cost Items in the Quote tabs data block.
 - Check the default data blocks for any information you want to add to your duplicate quote.

Request for Quote (RFQ) RegisterQuote RegisterQuote Record

Header

Description:Asphalt Materials

Vendor:<Ad-Hoc Vendor>

Vendor Name:

Vendor Phone:

Contact:<Ad-Hoc Contact>

First Name:

Contact Office:

Primary Email:

Last Name:

Contact Mobile:

External Ref.:

ResourcesCost Items

Drag columns here to group

	Code	Quote Group	Description	No Split	Free	Awarded	Duration	Quantity	Unit of Measure	Un
✖	MAAM	Asphalt Materials	Asphalt Mix (Finish)	☒	☐	☒	1	35,000.00	Ton	
	MAFA	Asphalt Materials	Fine Aggregate	☒	☐	☒	1	1,860.00	Ton	
	*			☐	☐	☐				

8. Once done, click **OK**.

Quote Comparison & Award

Now that you've received quotes and entered pricing information, you will compare them to determine which is the preferred vendor or contractor to carry their pricing in your estimate. The Quote Comparison & Award forms improve visibility into comparative analytics, while increasing efficiencies in populating the estimate with quoted values.

The Quote Comparison & Award screen is designed to closely match the layout of a vendor comparison sheet. It's designed to show all scope items with prices provided by multiple vendors and substitute pricing where items have been excluded.

Now that you've entered contextual quote information in the Quote Register, the Quote Comparison & Award screen provides you with the ability to make better, and more efficient determinations for awarding the quote.

Quote Comparison & Award Overview

To open the Quote Comparison & Award form, select Quote > Quote Comparison & Award.

Overview – Quote Comparison and Award Form		
Name		Definition
1	Resource and Cost Item Filter	You can show either your quoted resources or cost items.
2	Quote Group Filter	This section provides checkboxes to further filter your items. The Quote Group Filter allows you to mark the quotes as reviewed.
3	Quote Description and Vendor	Your quotes display with the vendor name plus the quote description. - Awarded items have an award symbol  If an item is designated as No Split, it has a chain link icon  - Awarded and Locked items have a lock symbol next to the award symbol 
4	Cost Source Type	The cost source can either be a Plug or Detail type.

Quote Group Tags

Minority Setup

Request For Quote (RFQ)

Quotes

Quote Management

Quote Comparison & Award

Reports

Resources

Cost Items

1

Reports

Quote Comparison & Award - Cost Items

Quote Register

Quote Group(s)

2

Drag columns here to group

Description	Reviewed
Electrical Work	☐
Guardrail Work	☒
Sign Work	☐

CBS Position Code	Description	Forecast T/O Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Plug	Detail	Example Sub #2 Guard Rail Items	Example Sub #1 Guard Rail Items	HD Engineering Group Concrete, Sitework
18	Guardrail Type 2	1,000.00	Linear Feet	\$24.00	\$24,000.00	\$25,000.00	\$25,000.00	\$24,000.00	\$25,000.00	\$50,000.00
19	Guardrail Type 3A	200.00	Linear Feet	\$31.00	\$6,200.00	\$7,000.00	\$7,000.00	\$6,200.00	\$6,500.00	\$7,000.00
Scope Items										
Summary										
Minority Type										
Quoted Total										
Comparable Total										

Edit Mode

You can make last minute modifications to the quote price directly in the Quote Comparison and Award form.

When in Edit mode, the quote item's price, unmodified by the quote's bond cost or special conditions, can be updated. You can modify the Unit price or the Extended price for each of the quote items that are not part of the package or marked as Free.

The updates made to quote items in Quote Compare and Award will update the estimate in real time allowing you to see the impact of the changes in the estimate.

Quote Comparison & Award - Cost Items

Quote Register

Quote Group(s)

2

Drag columns here to group

Description	Reviewed
Concrete, Precast	☐
Concrete, Structural	☒
Doors & Windows	☐
Electrical	☐
Exterior Entry	☐
Fire Protection	☐
Foundations	☐
HVAC	☐
Landscaping Work	☐
Masonry	☐
Painting	☐
Roofing	☐
Stairways	☐
Steel	☐

CBS Position Code	Description	Forecast T/O Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Plug	Detail	Example Sub #2 Guard Rail Items	Example Sub #1 Guard Rail Items	HD Engineering Group Concrete, Sitework
18	Guardrail Type 2	1,000.00	Linear Feet	\$24.00	\$24,000.00	\$25,000.00	\$25,000.00	\$24,000.00	\$25,000.00	\$50,000.00
19	Guardrail Type 3A	200.00	Linear Feet	\$31.00	\$6,200.00	\$7,000.00	\$7,000.00	\$6,200.00	\$6,500.00	\$7,000.00
Scope Items										
Summary										
Minority Type										
Quoted Total										
Comparable Total										

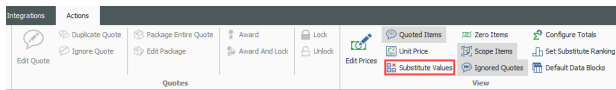
Substitute Values

You can display a substitute value by selecting Actions > Substitute Values.

Notice the entered quotes. One of the vendors did not give pricing for three of the CBS items.

18	Guardrail Type 2	1,000.00	Linear Feet	\$24.00	\$24,000.00	\$25,000.00
19	Guardrail Type 3A	200.00	Linear Feet	\$31.00	\$6,200.00	\$7,000.00
20	Type 4 Signs	1,000.00	Square F...	\$15.00	\$15,000.00	\$15,000.00
27.1	Electrical Work	1.00	Each	\$5,000.00	\$5,000.00	\$5,000.00

When you compare this quote to the others, it can be difficult to see if the total cost of the quote is high or low because it is missing some of the pricing. InEight Estimate can help you make an “apples to apples” comparison by filling in a substitute price for items that are missing.



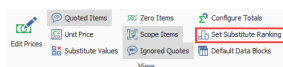
You can tell when it's a substitute value because the price displays in italics.

18	Guardrail Type 2	1,000.00	Linear Feet	<i>\$24.00</i>		<i>\$24,000.00</i>		\$25,000.00
19	Guardrail Type 3A	200.00	Linear Feet	<i>\$31.00</i>		<i>\$6,200.00</i>		\$7,000.00
20	Type 4 Signs	1,000.00	Square F...	<i>\$15.00</i>		<i>\$15,000.00</i>		\$15,000.00
27.1	Electrical Work	1.00	Each	<i>\$5,000.00</i>		<i>\$5,000.00</i>		\$5,000.00

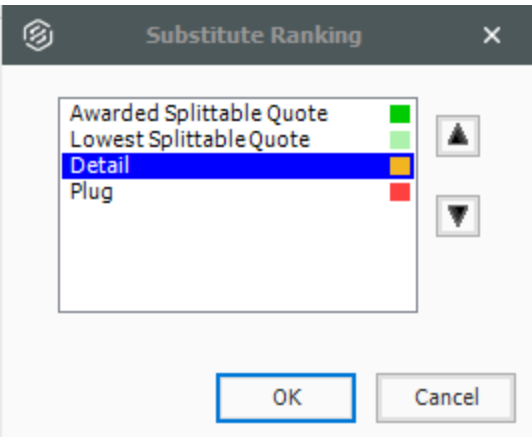
InEight Estimate grabs the substitute value from one of four places:

1. Awarded splittable quote
2. Lowest splittable quote you've received
3. Detail (this only applies to quoting cost items)
4. Plug cost (the rate defined for that resource in InEight Estimate)

You can set the order for a substitute value by selecting Actions > Set Substitute Ranking.



On the resulting Substitute Ranking window, you can use the up and down arrows to change the selection order. It will look from the top to the bottom of the list. The plug being in red represents the most risk, while the Awarded Splittable Quote is the least risk. Users can modify the color coding of these Substitute values by navigating to System Customize dialog and then selecting Substitute Quote Ranking in the colors sections.



Note that the substitute values are color-coded so that back on the Quote Comparison & Award form you can see the source that your substitute value comes from. When you hover- over a substitute value it displays the vendor whose substitute value has been used.

Example Vendor 1 Pipe Materials for site improvement 2		Architectural Designs, Inc. Electrical Work
	P1 \$300,000.00	
	P2 \$125,000.00	
	\$4,200.00	
	\$4,450.00	



HD Engineering Group
Lowest Splittable Quote

When you use a substitute value, it is included in your Comparable Total so you can have a more realistic comparison of your quotes.

Print

Preview

Export to Excel

Quote Groups

All Items

Set All to Reviewed

Set All to Not Reviewed

Edit

Edit Quote

Award

Award And Lock

Lock

Unlock

Edit Package

Quoted Item

Unit Price

Substitute

Print

Layout

Quote Group Status

Cost Items

Quotes

Cost Breakdown Structure (CBS) Register

Request for Quote (RFQ) Register

Request for Quote (RFQ) Record

Quote Group(s)

☐	Description	Reviewed
☐	Electrical Work	☐
☐	Electrical work 2	☐
☐	Electrical work 3	☐
☒	Guardrail Work	☐
☐	Pipe Materials	☐
☐	Sign Work	☐

Drag columns here to group

CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure
18	Guardrail Type 2	1,000.00	Linear
19	Guardrail Type 3A	200.00	Linear
17	Toll Booth	1.00	Each
Scope Items			
Summary			
Minority Type			
Quoted Total			
Comparable Total		<	
Awarded Total			
Quoted Items Total			
Special Conditions			
Last Update			

Display Ignored Quotes

You can view ignored quotes by selecting Actions > Ignored Quotes.

You can ignore a quote by right clicking on the subcontractor header, then selecting Edit Quote.

Example Vendor 2 Asphalt Materials	Example Vendor 1 Pipe Materials for site improvements	Example Vendor 4 DBE Pipe Materials
\$1,311,975.00		
\$13,671.00		
		1,990.00
		6,150.00
		3,331.20
		DBE
\$1,325,646.00		1,471.20
\$1,463,292.60		0,798.35

Award

Award And Lock

Lock

Unlock

Edit Quote

Duplicate Quote

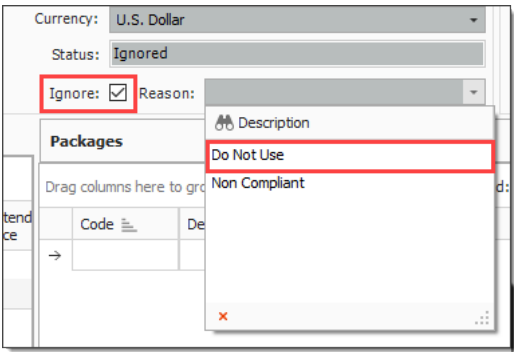
Ignore Quote

Package Entire Quote

Edit Package

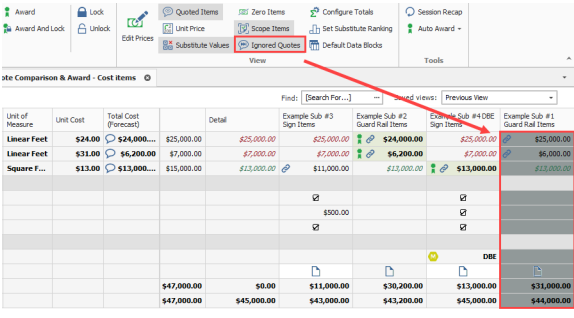
Edit Resource

From the Quote Record screen, select the Ignore check box and also a Reason, then select OK.



If the quote record is already awarded, you will not be able to select the Ignore option.

If the Ignored Quotes button is pressed, the ignored quote will display in grey. An ignored Quote cannot be awarded. The ignored quotes get appended to the right end of the QC&A form.



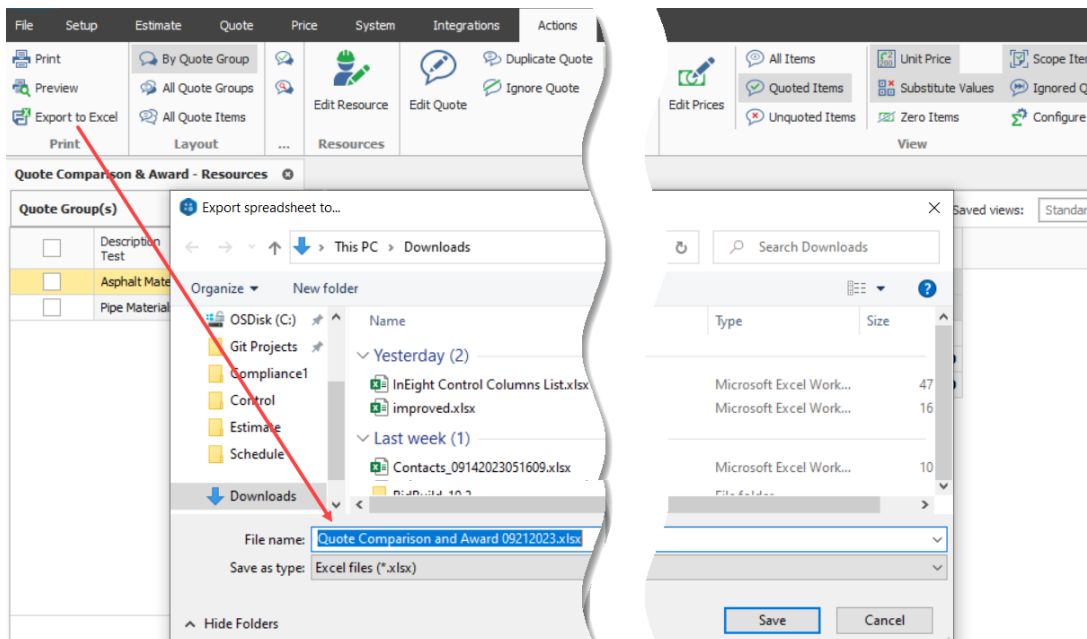
Export Quote Comparison and Award to Microsoft Excel

The Microsoft Excel file generated when you export the Quote Comparison & Award form closely resembles the form in Estimate, so users of this output can more clearly understand what the estimators knew when they made determinations on which numbers to carry.

Unit Cost	Total Cost	Plug	Detail	Guard Rail Items	Vendor1	Cooper Outdoor Advertising Inc	WonderBoy8	WonderBoy9
\$24.00	\$24,000.00	\$25,000.00	\$25,000.00	\$24,000.00	\$24,000.00	\$24,218.75	\$562,344,000.00	\$562,344,000.00
\$31.00	\$6,200.00	\$7,000.00	\$7,000.00	\$6,200.00	\$6,200.00	\$6,781.25	\$145,272,200.00	\$145,272,200.00
	\$0.00	\$0.00	\$0.00	\$30,200.00	\$30,200.00	\$31,000.00	\$707,616,200.00	\$707,616,200.00
	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	\$12,000.00	\$0.00	\$0.00	\$30,200.00	\$30,200.00	\$31,000.00	\$707,616,200.00	\$707,616,200.00
	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	\$12,000.00	\$0.00	\$0.00	\$30,200.00	\$30,200.00	\$31,000.00	\$707,616,200.00	\$707,616,200.00
	\$0.00	\$32,000.00	\$32,000.00	\$30,200.00	\$30,200.00	\$31,000.00	\$707,616,200.00	\$707,616,200.00
	\$12,000.00	\$32,000.00	\$32,000.00	\$30,200.00	\$30,200.00	\$31,000.00	\$707,616,200.00	\$707,616,200.00
	\$0.00	\$0.00	\$0.00	\$30,200.00	\$30,200.00	\$0.00	\$0.00	\$0.00
				5/11/2023 2:38:01 AM	7/24/2023 11:24:01 PM	6/2/2023 12:29:38 AM	6/2/2023 12:37:37 AM	

The Quote Comparison & Award form changes frequently in the closing hours of a bid, which can prompt estimators to keep track of what the subcontractor and supplier quotes might have looked like at any point throughout the bid closing. Some estimators rely on such bid leveling information but do not want to access live information directly in the application, making it crucial to produce an identical output file of the Quote Compare & Award form at any given time.

To create the Quote Comparison & Award Excel file, click on the **Export to Excel** icon. Enter a file name for the Excel file, and then click **Save**.



Additional Quote Comparison and Award functions

The Quote Comparison and Award form contains other notable functions which improves the process of selecting the quote that brings the greatest value to the estimate.

Overview – Additional Quote Comparison and Award Functions

Name		Definition
1	Asterisk next to Quote Item	An Asterisk (*) is displayed on a quote to indicate when that quote includes quote items appearing in other Quote groups.
2	Zero value Plug/Detail	Award quotes to Plug or Detail when its value is zero.
3	Updated Quote Items Tool tip	Quote Item Tool tip displays details including: • Unit Price • Extended Price • Bond • Taxes • Special Conditions • an indicator for a delta quote item

Quote Comparison & Award - Cost Items											
Add to group						Final		Search For...	Reset values	Refresh View	
id	Description	Percent / Qty Quantity	Unit of Measure	Unit Cost	Total Cost (Percent)	Flag	Detail	CBM Concrete Constructors, Inc., Concrete Placement	King Concrete Constructors	Item Concrete Constructors	Low Concrete Constructors
	Network										Low Concrete Constructors
	Shale and Fresh	1.00	Lump Sum	\$2,339,113.00	\$2,339,113.70			\$2,339,113.00	\$2,339,113.00	\$2,339,113.00	\$2,339,113.00
	1.00	Lump Sum	\$0.00	\$0.00	\$0.00			\$0.00	\$0.00	\$0.00	\$0.00
	Summary										
	History Type										
	History										
	Quoted Total				\$1,654,700.00	\$0.00	\$1,654,700.00	\$2,339,200.00	\$2,339,200.00	\$2,339,200.00	\$2,339,200.00
	Compete Total				\$1,654,700.00	\$0.00	\$1,654,700.00	\$2,339,200.00	\$2,339,200.00	\$2,339,200.00	\$2,339,200.00

Configure Totals

You can display and sort additional Summary Totals, Special Conditions, and Last Updated fields by selecting **Actions > Configure Tools**.

Caption	Viable	Sort
Seller	☒	None
Quote Description	☒	None
Minority Type	☒	None
Notes	☒	None
Extended Price	☐	None
Item Taxes	☐	None
Quote Tax	☐	None
Bond	☐	None
Item Conditions	☐	None
Quoted Items Total	☐	None
Special Conditions	☐	None
Quoted Total	☒	None
Substitute Values	☒	None
Comparable Total	☒	Ascending
Awarded Total	☐	None
Last Update	☐	None

Options

Location: ☐ Top ☒ Bottom

OK Cancel

The Options radio button give you better control for viewing totals at the tops of the screen or after the quotes.

After selecting additional captions, the new fields appear at the bottom of the Quote Comparison & Award screen. Notice that the caret symbol next to the Comparable totals in the below screenshot indicates that the Quotes are sorted based on Comparable totals in an ascending order.

CBS Position Code	Description
18	Guardrail Type 2
19	Guardrail Type 3A
20	Type 4 Signs
Scope Items	
	Mobilization
	Survey/Layout
	Temporary Traffic Control
Summary	
	Minority Type
	Notes
	Extended Price
	Item Taxes
	Quote Tax
	Bond
	Item Conditions
	Quoted Items Total
	Special Conditions
	Quoted Total
	Substitute Values
	Comparable Total
	Awarded Total: \$43,200.00
	Last Update

Adding Notes to Quote Comparison & Award

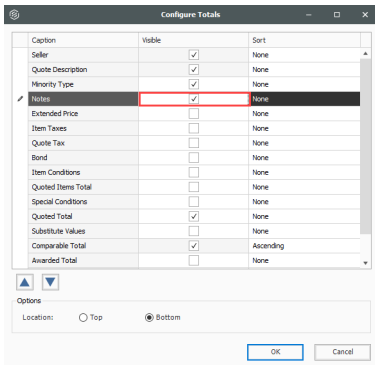
The Notes feature within the Configure Totals tool, allows you to quickly add, edit, and view notes for a quote in the Quote Comparison & Award form. Having visibility into the notes such as phone conversations with vendor/supplier, quotes that need clarification, or notes on other attributes will help you in making better decisions on who to consider when awarding a particular quote.

Step by Step — Add the Notes section to Quote Comparison & Award form

1. From the InEight Estimate landing page, select the Quote tab.
2. Select the **Resources** icon under Quote Comparison & Award.
 - Notice the absence of the Notes section. This is the default option until you follow the next steps.
3. Select the **Actions** tab.
4. From the View section, select the **Configure Totals** icon.

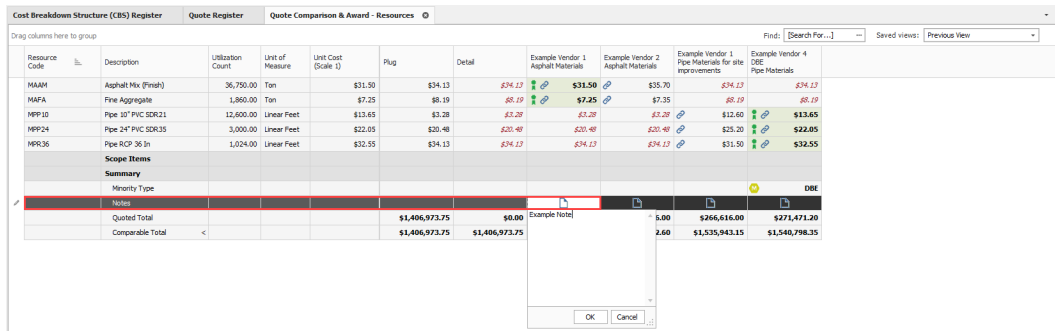
Print	By Quote Group	Set All to Reviewed	Resources	Duplicate Quote	Package Entire Quote	Award	Lock	Quoted Items	Zero Items	Configure Totals	Session Recap
Preview	All Quote Groups	Set All to Not Reviewed	Edit Resource	Ignore Quote	Edit Package	Award And Lock	Unlock	Unit Price	Scope Items	Set Substitute Ranking	Auto Award
Export to Excel	All Quote Items		Edit Quote					Edit Prices	Substitute Values	Ignored Quotes	Default Data Blocks
Print	Layout	Quote Group Status	Resources	Quotes				View			Tools
Cost Breakdown Structure (CBS) Register											
Quote Register											
Quote Comparison & Award - Resources											
Find: [Search For...] Saved views: Previous View											
Resource Code	Description	Utilization Count	Unit of Measure	Unit Cost (Quote 1)	Plug	Detail	Example Vendor 1 Asphalt Materials	Example Vendor 2 Asphalt Materials	Example Vendor 3 Pipe Materials for site improvements	Example Vendor 4 DBE Pipe Materials	
MA4M	Asphalt Mix (Fresh)	36,790.00	Ton	\$31.10	\$34.13	\$34.13	\$31.50	\$35.70	\$34.13	\$34.13	
MA4A	Asphalt Recycle	8,700.00	Ton	\$12.21	\$8.11	\$8.11	\$7.25	\$7.50	\$8.11	\$8.11	
HPD19	Pipe 10" PVC SDR21	12,600.00	Linear Feet	\$13.65	\$3.28	\$3.28	\$3.28	\$1.38	\$12.60	\$13.65	
HPD24	Pipe 24" PVC SDR35	3,000.00	Linear Feet	\$22.05	\$20.48	\$20.48	\$20.48	\$20.48	\$25.20	\$22.05	
HPR36	Pipe RCP 36 In	1,024.00	Linear Feet	\$32.55	\$34.13	\$34.13	\$34.13	\$34.13	\$31.50	\$32.55	
Scope Items											
Summary											
	Minority Type									DBE	
	Quoted Total				\$1,406,973.75	\$0.00	\$1,171,100.70	\$1,325,646.00	\$266,616.00	\$271,471.20	
	Comparable Total	<			\$1,406,973.75	\$1,406,973.75	\$1,308,747.30	\$1,463,292.60	\$1,535,943.15	\$1,540,798.35	

5. Select the check box in the Visible column for the Notes caption.



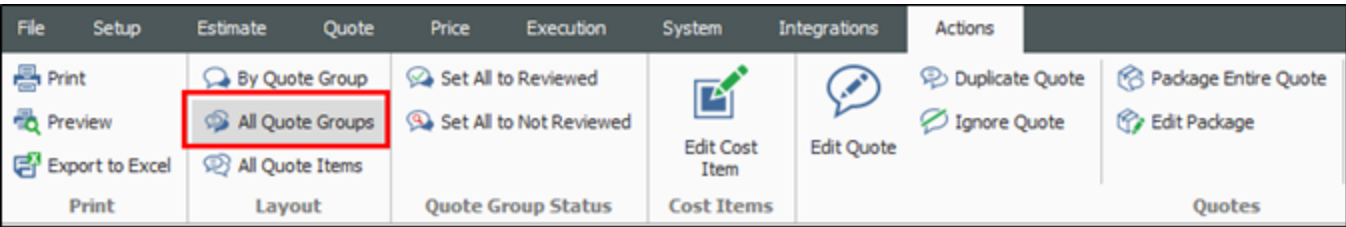
6. Select **OK**.

- The Notes section displays on the Quote Comparison & Award form.



All Quote Groups Layout

The All Quote Group icon, located within the Quote Comparison and Award ribbon, allows you to see all the quote groups at the same time.



You can make appropriate quote group selections based on understanding how choosing a quote group impacts the entire estimate. In addition, the quote groups layout provides you with the visibility and flexibility in aligning scopes, and being able to perform an efficient comparison of various quotes.

Features of this layout include:

Overview – Quote Groups Layout

Name		Definition
1	Totals per Quote Group	Ability to see the Awarded Total Plug, Detail and Quote amount per Quote Group
2	Total Awarded Amount	Visibility into the Total Awarded Amount per Quote Group
3	Comparable totals	Better visibility into the Comparable totals per Quote Group
4	Expand/Collapse	Expand/Collapse individual or All Quote Groups to display the quote items

Print

Preview

Export to Excel

Print

Layout

By Quote Group

All Quote Groups

All Quote Items

Edit Resource

Edit Quote

Ignore Quote

Duplicate Quote

Package Entire Quote

Edit Package

Award

Award And Lock

Quoted Items

Unit Price

Substitute Values

Zero Items

Scope Items

Ignored Quotes

Cost Breakdown Structure (CBS) Register

Quote Comparison & Award - Resources

Find: [Search For...]

Saved views: [5]

Drag columns here to group

Quote Group

Plug

Detail

Quote

Quote Group Total

→ Asphalt Materials

\$0.00

\$0.00

\$1,171,100.70

\$1,171,100.70

Resource Code

Description

Utilization Count

Unit of Measure

Unit Cost (Scale 1)

Plug

Detail

Example Vendor 1 Asphalt Materials

Example Vendor 2 Asphalt Materials

MAAM

Asphalt Mix (Finish)

36,750.00

Ton

\$31.50

\$34.13

\$34.13

\$31.50

\$35.70

MAFA

Fine Aggregate

1,860.00

Ton

\$7.25

\$8.19

\$8.19

\$7.25

\$7.35

Scope Items

Summary

Minority Type

Quoted Total

Comparable Total

Awarded Total: \$1,171,100.70

Minority Type

Quoted Total

Comparable Total

Awarded Total: \$1,171,100.70

Minority Type

Quoted Total

Comparable Total

Awarded Total: \$1,171,100.70

Minority Type

Quoted Total

Comparable Total

Awarded Total: \$1,171,100.70

→ Pipe Materials

\$0.00

\$0.00

\$271,471.20

\$271,471.20

Resource Code

Description

Utilization Count

Unit of Measure

Unit Cost (Scale 1)

Plug

Detail

Example Vendor 3 Pipe Materials

Example Vendor 4 Pipe Materials

MPF10

Pipe 30" PVC SDR21

12,600.00

Linear Feet

\$13.65

\$3.28

\$3.28

\$12.60

\$13.65

MPF24

Pipe 24" PVC SDR35

3,000.00

Linear Feet

\$22.05

\$20.48

\$20.48

\$25.20

\$22.05

MPR36

Pipe RCP 36 In

1,024.00

Linear Feet

\$32.55

\$34.13

\$34.13

\$31.50

\$32.55

Scope Items

Summary

Minority Type

Quoted Total

Comparable Total

Awarded Total: \$271,471.20

Minority Type

Quoted Total

Comparable Total

Awarded Total: \$271,471.20

Minority Type

Quoted Total

Comparable Total

Awarded Total: \$271,471.20

Minority Type

Quoted Total

Comparable Total

Awarded Total: \$271,471.20

You can scan through all the quote groups in the estimate and see if you are carrying the most appropriate quote. You can also review the Totals per Quote Group and better analyze the risks in the estimate based on whether the cost is a plug number, detailed estimate or a quoted value.

Compare and Award Quotes

To award an item, right click on that item and select Award.

Example Sub #3 Sign Items

Example Sub #2 Guard Rail Items

Example Sub #4 DRE Sign Items

\$35,000.00

\$25,000.00

\$25,000.00

\$7,000.00

\$6,000.00

\$7,000.00

\$11,000.00

\$11,000.00

\$11,000.00

\$500.00

\$500.00

\$500.00

\$11,000.00

\$11,000.00

\$11,000.00

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

\$0.00

Award

Award And Lock

Lock

Unlock

Edit Quote

Duplicate Quote

Ignore Quote

Package Entire Quote

Edit Package

Edit Cost Item

The Award icon displays next to the awarded item(s).

Example Sub #2 Guard Rail Items
\$25,264.55
\$24,000.00
\$6,200.00

Once you award a quote in InEight Estimate, you can see it adds the Awarded Total on the comparison screen, and the pricing updates automatically in the Cost Breakdown Structure.

CBS Position Code	Description	Forec... (T/O) Quan...	Unit of Me...	Unit Cost	Total Cost (Fore...	Plug	Detail	Example S Guard Rail
17	Toll Booth	1.00	Each	\$40,000...	\$40,0...	\$25,000.00	\$25,264.55	
18	Guardrail Type 2	1,000.00	Linear ...	\$25.00	\$25,0...	\$25,000.00	\$50,000.00	
19	Guardrail Type 3A	200.00	Linear ...	\$30.00	\$6,00...	\$7,000.00	\$7,000.00	
20	Type 4 Signs	1,000.00	Square...	\$15.00	\$15,0...	\$15,000.00	\$14,000.00	
27.1	Electrical Work	1.00	Each	\$5,000.00	\$5,000...	\$5,000.00	\$3,500.00	
	Summary							
	Minority Type							
	Quoted Total					\$77,000.00	\$25,264.55	\$
	Comparable Total	<				\$77,000.00	\$99,764.55	\$
	Awarded Total					\$20,000.00	\$0.00	
	Quoted Items Total					\$77,000.00	\$25,264.55	\$
	Special Conditions					\$0.00	\$0.00	
	Last Update							7/29/20

You can award multiple Quote items by selecting all the items and then using the right click context menu to award.

Open Status

If a quote is yellow, this indicates that the quote record is open in another screen. Closing out of the quote record, will turn the record back to gray.

Drag columns here to group

	CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Plug
	18	Guardrail Type 2	1,000.00	Linear Feet	\$24.00	\$24,000....	\$25,000
	19	Guardrail Type 3A	200.00	Linear Feet	\$31.00	\$6,200.00	\$7,000
		Scope Items					
		Summary					
		Minority Type					
		Quoted Total					\$32,000.
→		Comparable Total	<				\$32,000.

Award Status

The Award Status indicates whether or not all quotes are awarded within a quote group.

Quote Register		Quote Comparison & Award - Cost Items																	
Quote Group(s)		Drag columns here to group																	
☒	Electrical Work																		
☒	Guardrail Work																		
☒	Sign Work																		
		CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	49	Detail	Example Sub #2 Guard Rail Items	Example Sub #1 Guard Rail Items	Example Sub #4 DBE Sign Items	HD Engineering Group Electrical Work	HD Engineering Group Concrete, Stework	Architectural Design, Inc. Electrical Work	Example Sub #3 Sign Items			
		17	Toll Booth	1.00	Each	\$40,000.00	\$40,000.00	\$25,000.00	\$25,264.55	\$25,264.55	\$40,000.00	\$25,264.55	\$25,264.55	\$25,264.55	\$25,264.55	\$25,264.55			
		18	Guardrail Type 2	1,000.00	Linear Feet	\$25.00	\$25,000.00	\$25,000.00	\$24,000.00	\$24,000.00	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00			
		19	Guardrail Type 3A	200.00	Linear Feet	\$30.00	\$6,000.00	\$7,000.00	\$7,000.00	\$6,200.00	\$6,000.00	\$7,000.00	\$7,000.00	\$7,000.00	\$7,000.00	\$7,000.00			
		20	Type 4 Signs	1,000.00	Square F...	\$15.00	\$15,000.00	\$15,000.00	\$13,000.00	\$13,000.00	\$13,000.00	\$13,000.00	\$13,000.00	\$13,000.00	\$13,000.00	\$13,000.00			
		27.1	Electrical Work	1.00	Each	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00			
			Summary																
			Minority Type																
			Quoted Total					\$77,000.00	\$25,264.55	\$30,200.00	\$71,000.00	\$13,000.00	\$4,450.00	\$50,000.00	\$4,200.00	\$300,000.00			
			Comparable Total	<				\$77,000.00	\$98,764.55	\$71,964.55	\$87,500.00	\$98,764.55	\$98,764.55	\$98,764.55	\$98,964.55	\$385,764.55			

Review

You can keep track of what quote groups have been reviewed by checking the Reviewed check box.

Quote Group(s)			×
☒	Description	Reviewed	
☒	Electrical Work	☐	
☒	Guardrail Work	☒	
☒	Sign Work	☐	

This can be helpful when there are many quotes to track and several users managing them. If any changes are made to quotes within a quote group after the quote group is marked as Reviewed, the quote group will be highlighted in yellow to indicate something changed since the last review.

Quote Group(s) ×		
☒	Description	Reviewed
☒	Electrical Work	☐
☒	Guardrail Work	☒
☒	Sign Work	☒

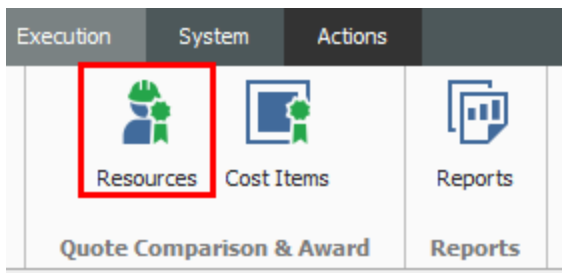
Once reviewed again after the changes, you can uncheck and check the Reviewed checkbox again to indicate it is up to date, and the yellow highlighting disappears.

The following steps walk you through comparing and awarding the Aggregate quotes.

Step by Step — Compare and award quotes

This exercise walks through a specific example using the Training Job.

1. From the main Estimate landing page select Quote>Quote Comparison & Award.
2. Select Resources on the Quote Comparison & Award ribbon.



3. Under Quote Groups, select Aggregates.
4. Review the quotes to determine the lowest bidder:
 - MDIRTB is marked as Free for Example Vendor 4 and their quote is not splittable.
 - Vendor 2 Stan Mark did not give a quote for MDIRTB, so a substitute value is being used.
5. Vendor 2 has the lowest comparable amount for MBR Aggregate Base Rock and Vendor 1 has the lowest comparable amount for MDIRTB, so you decide to award each respectively. Award each of them by right-clicking on the value and selecting **Award**.
6. On the attention prompt click **Yes**.

Package Entire Quote

The Package Entire Quote function allows you to mark an entire quote as a package. This is beneficial if you are attempting to quickly update an existing detailed quote to a lump sum quote from the Quote Record or Quote Compare and Award form.

Position Code	Description	Forecast (EQ) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Plug	Detail	Harrison Construction Concrete, Stewarts	Engle Concrete Corp. Concrete, Stewarts	Barton Concrete Services, Inc. Concrete, Stewarts	CM Concrete Construction, Inc. Concrete, Stewarts
3.1.1	Sidewalk	4,214.00	SQFT	\$9.99	\$42,098.07	\$42,098.07	P1	\$206,000.00	\$242,500.00	\$217,213.00	
3.1.2	Y curb	50.00	LF	\$24.51	\$1,225.52	\$1,225.52	P1				
3.1.3	Curb and gutter	1,200.00	LF	\$24.51	\$29,412.00	\$29,412.00	P1				
3.1.4	Valley gutter	50.00	LF	\$24.51	\$1,225.52	\$1,225.52	P1				
3.1.5	Handicap ramps	139.00	SQFT	\$9.99	\$1,388.61	\$1,388.61	P1				
3.1.6	Truncated dome	1.00	Lump Sum	\$20,000.00	\$20,000.00	\$20,000.00	P1				
3.1.7	Flow thru planter slab	125.00	LF	\$96.04	\$12,005.00	\$12,005.00	P1				
3.1.8	Flow thru planter walls	125.00	LF	\$96.04	\$12,005.00	\$12,005.00	P1				
3.1.9	Median drill	225.00	CY	\$40.02	\$9,004.50	\$9,004.50	P1				
3.1.10	Ballot curb adjacent to	50.00	LF	\$24.51	\$1,225.52	\$1,225.52	P1				
3.1.11	Transfering	2,612.40	B	\$5.99	\$15,658.38	\$15,658.38	P1				

Incomplete Quotes

The Incomplete quotes status indicates if a quote includes quote items that do not yet have a price. This is often the case when vendors respond to an RFQ expressing interest in bidding but do not provide their prices until right before the bid is due. These quotes display in gray in the Quote Compare and Award form.

Position Code	Description	Forecast (EQ) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Plug	Detail	Natomes Masonry, Inc. Masonry	Marquis Masonry, Inc. Masonry	H&P Construction Masonry
4.1.1	CMU Walls	1.00	Lump Sum	\$400,000.00	\$400,000.00	\$400,000.00	P1	\$512,648.00	\$512,648.00	\$512,648.00
4.1.2	Precast Concrete Caps	1.00	Lump Sum	\$14,577.67	\$14,577.67	\$14,577.67	P1	\$12,000.00	\$12,000.00	\$12,000.00
4.1.3	Steel Embeds	1.00	Lump Sum	\$12,148.06	\$12,148.06	\$12,148.06	P1	\$10,000.00	\$10,000.00	\$10,000.00
Scope Items										
Demolition										
Caulking, Sealants & ...										
Scaffolding										
Shoring/Bracing										
Testing/Inspection										
Summary										
Minority Type										
Notes										

Incomplete Quotes that are Scope Only can be viewed in the Quote Compare and Award form using the **Zero Items** toggle. These are quotes that have none of the Items priced. These quotes are displayed to the right of all the Comparable Quotes.

Position Code	Description	Forecast (EQ) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Plug	Detail	Natomes Masonry, Inc. Masonry	Marquis Masonry, Inc. Masonry	H&P Construction Masonry
4.1.1	CMU Walls	1.00	Lump Sum	\$1,678,705.35	\$1,678,705.35	\$1,678,705.35	P1	\$1,678,705.35	\$1,678,705.35	\$1,678,705.35
4.1.2	Precast Concrete Caps	1.00	Lump Sum	\$170,882.07	\$170,882.07	\$170,882.07	P1	\$12,000.00	\$12,000.00	\$12,000.00
4.1.3	Steel Embeds	1.00	Lump Sum	\$170,882.07	\$170,882.07	\$170,882.07	P1	\$10,000.00	\$10,000.00	\$10,000.00
Scope Items										
Demolition										
Caulking, Sealants & Backer Rod										
Scaffolding										
Shoring/Bracing										
Testing/Inspection										
Masonry										
Minority Type										
Notes										
Summary										
Minority Type										
Notes										
Comparable Total										

Scope Items

During the bidding process, it's common for subcontractors and suppliers to provide a quote(s) for work during the tail end of the bidding process. These last-minute offers make it extremely difficult for you to evaluate and compare the various quotes and your ability to award them. With scope items, you can create and evaluate checklists and quote group exclusions, and account for them within the Quote Comparison and Award form.

You can view scope items as a checklist of items that break down the quote's scope of work into individual tasks to aid in the process of evaluating subcontractor and supplier quotes in greater detail. This can be used to ensure that certain items of work are included or excluded. If excluded, the scope items need to be properly accounted for by contractor awarding the quote.

Overview – Quote Record – Scope Items

Section	Description
Seller's Special Terms & Conditions	By default, all scope items are considered included in the quote, and the Special Conditions amount is \$0.00. On the quote record, by selecting the checkbox, you can indicate scope items and uncheck items that are not included. The amount associated with these items will then total up in the Special Conditions subtotal. The person responsible for awarding quotes needs to update the Inclusions field to correspond with what the subcontractor has agreed to include in the quote.

Special Terms & Conditions

Quote Tax

Add Taxes to the Quote: ☐ Yes ☒ No

TAXES to be added to awarded TOTAL as a % of total :

Tax Rate:

0.00

Total Tax:

\$0.00

Item Tax

☒ Add Item Taxes to each item's price

Buyer's Special Terms & Conditions

☒ Seller's Special Terms & Conditions

FIXED COST to be added to Seller's awarded total (any combination of items) :

\$0.00

Distribute Special Condition: ☒ Evenly ☐ Using weighted average

☒ Include Special Conditions costs for unawarded quotes in Comparable Totals

Drag columns here to group

Find:

Search For...

...

Saved views: Previous

	Row Number	Scope Item	Quote Group	Included	Amount	% of Total	Notes
→	1	Permits	Electrical Work	☒			
	2	Surveying and Layout	Electrical Work	☐	\$500.00	14.29	
	3	Temporary Traffic Control Devices	Electrical Work	☒			
	4	Trench and Backfill for Electrical W...	Electrical Work	☒			
						\$950.00	

Special Terms & Conditions

Qualifications

Packages

Seller's Profile

Setup

Minority

Overview – Quote Comparison and Award – Scope Items

Section		Description
1	Scope Items	Quote Comparison and Award checklist items for your quote that help with evaluating subcontractor and supplier quotes in greater detail. This is used to ensure certain items are either included (inclusion) or excluded (exclusion) in the quote and accounted for by the entity awarding the quote.
2	Scope Item	Maintained in Quote Record form. These are the Seller's Special Terms &

Section		Description
	Inclusions	Conditions scope items that the subcontractor is including in their quote price. When the scope item contains a value, the subcontractor is agreeing to perform the work.
3	Scope Item Exclusions	Maintained in Quote record form. These are the Seller's Special Terms & Conditions scope items price. If the Inclusions checkbox is blank, the subcontractor is NOT agreeing to perform the scope items.
4	Scope Item value	An entered value means that the subcontractor is excluding this scope of work. However, you may add an amount because this scope could incur a cost. Once the bid is awarded, you may find another subcontractor to perform the work. You are simply accounting for a cost for this scope of work. In the example below, HD Engineering is not going to paint the electrical equipment, but you know the cost is \$150.00. You are showing this cost to account the cost for this scope of work that needs to happen.
5	Seller's Special Terms & Conditions	By default, all scope items are considered included in the quote, and the Special Conditions amount is \$0.00. On the quote record, by selecting this checkbox, you can indicate scope items and uncheck items that are not included. The amount associated with these items will then total up in the Special Conditions subtotal. The person responsible for awarding quotes needs to update the Inclusions field to correspond with what the subcontractor has agreed to include in the quote.

Cost Breakdown Structure (CBS) Register			Quote Register	Quote Comparison & Award - Cost items
Quote Group(s) ×			Drag columns here to group	
☐	Description	Reviewed	CBS Position Code	Description
☒	Electrical Work	☐		Forecast (T/O) Quantity
☐	Electrical work 2	☐	27.1	1.00
☐	Electrical work 3	☐		
☐	Guardrail Work	☐		
☐	Pipe Materials	☐		
☐	Sign Work	☐		

CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure
27.1	Electrical Work	1.00	Each
1	Scope Items		
	Permits		
	Surveying and Layout		
	Temporary Traffic Control Devices		
	Trench and Backfill for Electrical Work		
	Painting Electrical Equipment		
	Temporary Power and Lighting		
	Summary		
	Minority Type		
	Quoted Total		
	Comparable Total	<	
	Awarded Total		
	Quoted Items Total		
5	Special Conditions		
	Last Update		

The example below in the Quote Register form shows quotes from two subcontractors, both with different quote prices. It is important to understand all scope of work the subs are quoting. By just viewing these quotes alone, it's difficult to understand which quote will provide you with the best value. In other words, just because Example Sub #3 is the lowest priced quote, does not mean it is the best quote to go with.

Quote Register 							
Drag columns here to group							
	Description 	RFQ Description	Quote Status	Seller	Company	Quote Total	Award Total
	Electrical Work	Electrical Work	Accepted	Example Sub #5 MBE -- Chr...	Example Sub #5 MBE	\$4,450.00	
	Electrical Work	Electrical Work	Accepted	Example Sub #3 -- Frank M...	Example Sub #3	\$4,200.00	

The example below in Quote Comparison and Award shows that HD Engineering Group is excluding 3 scope items in their quote that totals \$950. This provides a more granular picture for what is being

Foundation Setup Data Register

Quote Group Tag Record

Description:

Electrical Work

Award Status: Complete

Reviewed: ☐

Last Reviewed:

Quote Last Changed:

Drop columns here to group

Row Num...	Scope Item	Amount	% of Total
1	Permits	\$0.00	
2	Surveying and Layout	\$500.00	
3	Temporary Traffic Control Devices	\$0.00	
4	Trench and Backfill for Electrical Work	\$0.00	
5	Painting Electrical Equipment	\$0.00	
6	Temporary Power and Lighting	\$300.00	

Step by Step — Set up scope items

This exercise walks through a specific example using the Training Job.

1. Open your job.
2. Select the **Setup** tab.
3. Click on **Foundation Data Setup** in the Initialize section.
4. Select the **Quote group tags** tab to set up scope items within a quote group.
5. Create a new Quote Group Tag called **Electrical Work** and click **Ok**.
6. Open **Electrical Work** and add the following scope items:
 - Permits
 - Surveying and Layout
 - Temporary Traffic Control Devices
 - Trench and Backfill for Electrical Work
 - Painting Electrical Equipment
 - Temporary Power and Lighting
7. Enter **500** in the Amount field for Survey and Layout, and a **300** for Temporary Power and Lighting.

8. Click **Ok**.

Row Number	Scope Item	Amount	% of Total
1	Permits	\$0.00	
2	Surveying and Layout	\$500.00	
3	Temporary Traffic Control Devices	\$0.00	
4	Trench and Backfill for Electrical Work	\$0.00	
5	Painting Electrical Equipment	\$0.00	
6	Temporary Power and Lighting	\$300.00	

Step by Step — Set up quotes for scope items

This exercise walks through a specific example using the Training Job.

1. From the **Estimate** tab, click on **Cost Breakdown Structure (CBS)**.
2. Change your saved views to **Quote Group Setup view**.
3. Create a cost item **Entry Gate** with a subordinate **Electrical Work**.
4. Assign the **Electrical Work** quote group to the Electrical work cost item.
5. From the Quote tab, click **Request for Quote (RFQ)** to open the RFQ register.
6. Create an RFQ by selecting the **New** icon on the Actions tab.
7. Select **Create RFQ from Quote Group Tag(s)** and select **Electrical Work**.
8. Click **Ok**.
9. Click on the **Seller Companies** tab and select the following company names:
 - Architectural Designs
 - HD Engineering Group
10. Highlight both companies and select **Publish**.
11. Assuming you've already received quotes back from both companies, create a quote from this RFQ for both companies by selecting the companies and selecting **Create Quote**.

12. Click **Ok** to close the RFQ record.

Description	RFQ Description	Quote Status	Seller
[Enter Description]		Invalid	<Ad-Hoc Address>
[Enter Description]		Invalid	<Ad-Hoc Address>
Aggregates	Aggregates	Received	Example Vendor 1 -- P
Aggregates	Aggregates	Received	Example Vendor 4 DBE
Aggregates	Aggregates	Received	Example Vendor 2 -- S
Asphalt Materials		Received	Example Vendor 1 -- P
Asphalt Materials		Received	Example Vendor 2 -- S
Concrete, Sitework		Ignored	HD Engineering Group
Electrical Work	Electrical Work	Received	Architectural Designs
Electrical Work	Electrical Work	Received	HD Engineering Group

Scope Item Creation and Award

The following Step by Step assumes you are putting out an advertisement for bids for some electrical work on a project. You will add scope items with some fixed costs as a special condition, then will compare quotes in order to decide which vendor quote is the best deal.

Step by Step — Manage and award scope items

This exercise walks through a specific example using the Training Job.

1. Click the **Quote** tab and then click the **Quotes** icon to open the Quote register.
2. Open the Quote Record for HD Engineering Group and enter a Unit Price of **3,500** which is based on the quote you received.
3. Select the **Special Terms & Conditions** tab and select the **Seller's Special Terms & Conditions** radio button.
4. Assuming the HD Engineering is excluding certain scope items from this quote, click on the **Included** checkbox to exclude (uncheck) the following scope items:
 - Surveying and Layout
 - Painting Electrical Equipment
 - Temporary Power and Lighting
5. Type **150** in the Amount field for Electrical Equipment.

- Notice how the 3 scope items you just excluded are now added to the Special Conditions total for the quote.
6. Click **Next** to move to the other Quote record for Architectural Designs.
 7. Enter a Unit Price of **3,700**.
 8. Press **Tab** to move to the **Special Terms & Conditions** tab and select the **Seller's Special Terms & Conditions** (at right) radio button.
 9. Uncheck the inclusions checkbox for **Surveying and Layout**.
 10. Add the amount **500**.
 11. Click **Ok**.
 12. Select the **Quote** tab.
 13. Open the **Quote Comparison and Award** form, and select the **Cost Items** tab.
 14. Under Quote Groups, select **Electrical work**.
 15. Right-click on the quoted amount for Architectural Design and select **Award** to award the work to them.
 16. Click **Yes** on the resulting prompt to mark the quote group as reviewed.

Quote Item Adjustment

Quote items can be adjusted even after a quote has been awarded. This could happen on closing day when a vendor sends in a last minute discount. For example, vendor 3 has sent in a 10% discount on piping materials. This percentage discount is applied to the vendor 3 quote by entering the 10% in the Condition Adjustment column.

Step by Step — Quote item adjustment

From the Ribbon, select the **Quote** tab.

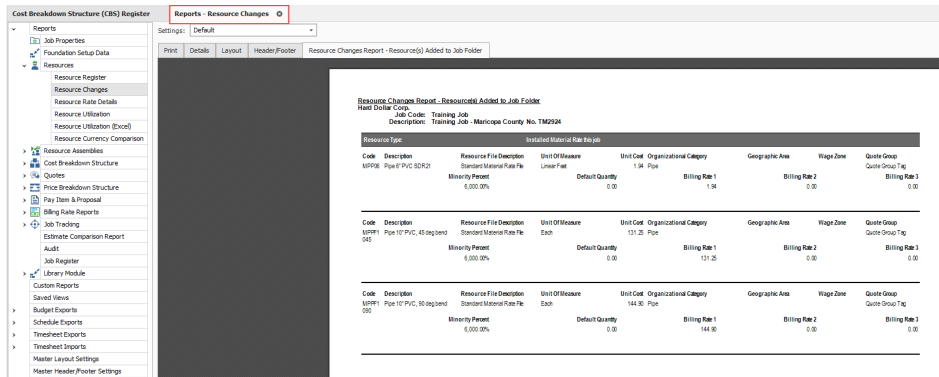
1. Under the Quote Comparison and Award section, select **Resources**.
2. Locate a **Vendor** column.
3. Select the quote you want to edit under the vendor column. In the Ribbon, select the **Actions** tab.
4. Under the Quotes section, select **Edit Quote**. You can also right-click and select **Edit Quote**. This launches the Quote Record.
5. You can make Condition Adjustments by a percentage or an amount. Select the field to adjust the percentage or amount of the **Condition Adjustments**.
6. Items adjustments can be applied individually or by using the multi-edit function. Select multiple resources in the Quote Record, then right-click and select **Open**. This opens the Quote Resource Item Record.
7. If you populate a 10% discount adjustment to all of the items selected using the multi-edit tool, the amount value changes to “Varies”. This is because of the variance in the unit rates for each selected item.
8. Click **Ok** to save the changes to the line items in the Quote record and to save the Quote.

Reports Menu

InEight Estimate provides a lot of out of the box reports, referred to as “canned” or “system” reports, that can help you review and analyze your estimate.

Non-Modal Report dialog box

The Reports dialog is docked along with the other forms and registers. You can continue to work with your estimate without being forced to close the Reports dialog box.



If the report becomes undocked, the job code shows in the reports dialog box header.

Adjustable Reports

Most of the reports within InEight Estimate can be adjusted to output the specific data and reporting format you need. Each report has its own set of output settings for configuring and formatting the report.

All InEight Estimate adjustable reports are accessed from the Reports menu. You may even run the same report multiple times and choose different output settings based on what you want to see or who the intended audience is.

For example, you may choose to run the CBS Details Report several times to satisfy different needs or for different audiences, and include or exclude specific data depending on what you or the report recipients want to see.

- For a group of estimators, you may want to run a CBS Details Report that shows all cost and productivity data for a job
- For field personnel, you may want to run a CBS Details Report that shows no cost data, but all production and resource data
- Finally, for executive management, you may want to run a CBS Details Report that shows summary level information only

The following steps take you through a brief overview of the Reports menu and how you can access it.

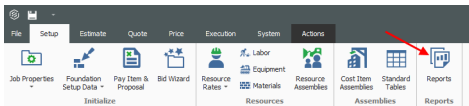
Step by Step — Getting to the Reports menu

1. Open the Training Job, and select Setup tab.

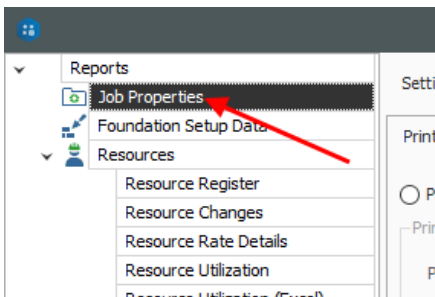
- You access the Reports menu by clicking on the Reports icon

You can access the Reports menu from the Setup, Estimate, Quote, Price, and Execution tabs.

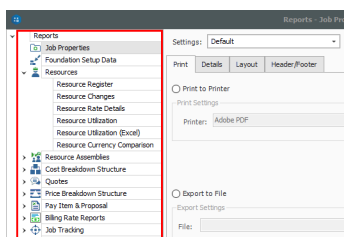
2. Select Reports.



3. Here you select the Report of your choice. For this example, select the first option, Job Properties.

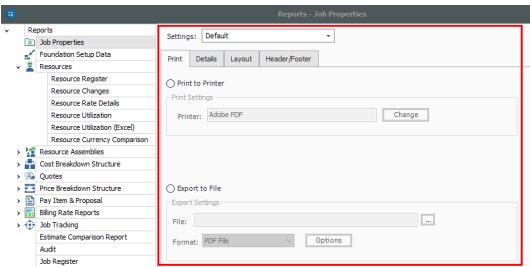


- You will see a split screen with the reports available on the left side bar
- The side bar on the left of the Reports form contains a “tree” of all InEight Estimate adjustable reports

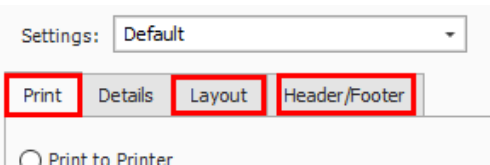


- On the right, when you select a report node on the left, note that it displays the Output Settings on the right side of the form, from which the report settings can be adjusted and the

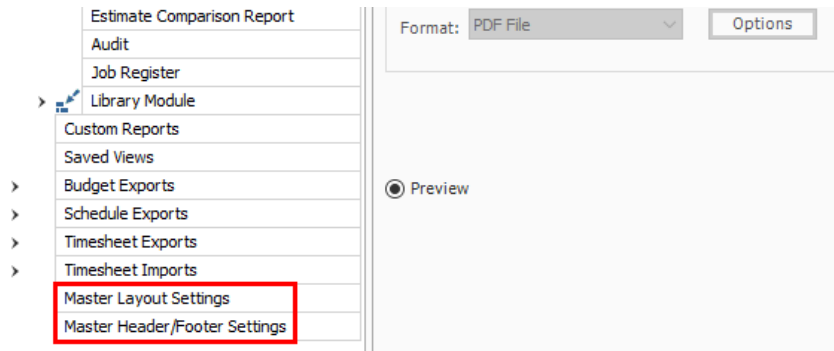
report can then be run



4. Each report has a Print tab, a Layout tab and a Header/ Footer tab specific to that report.



- There are also Master Layout Settings and Master Header/Footer Settings located at the bottom of the left-hand side bar tree. Here you can define settings that will apply to all reports



Output Settings

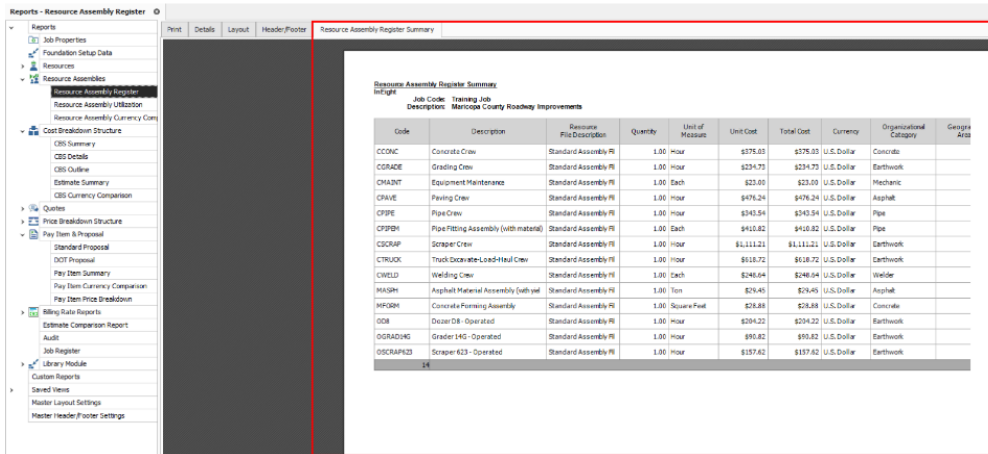
This section provides a more detailed explanation of the output setting tabs.

Report Printing Options

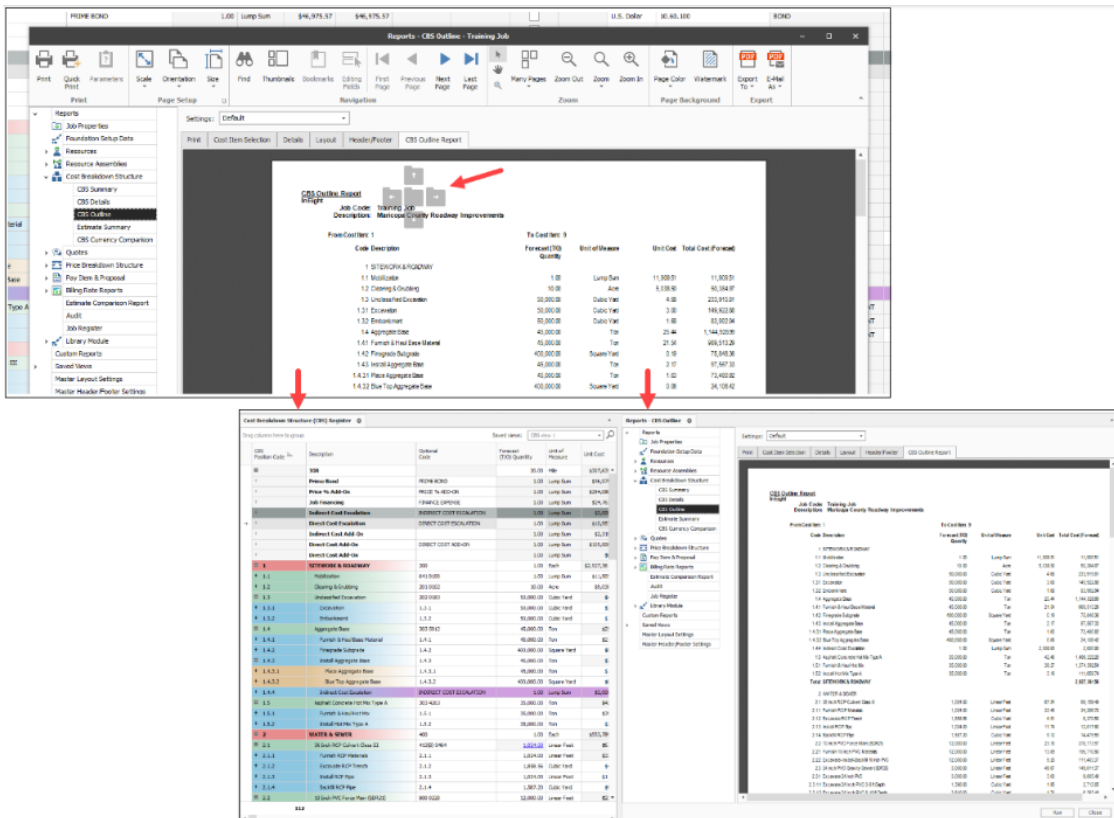
The Print tab includes three options for printing output: Print to Printer, Export to File, and Preview. Export file outputs include PDF, Excel, text, and more.

Print Preview

The Reports print previews opens in its own tab in the Report Dialog. This lets you keep the report open while continuing to use other parts of the application.



You can also undock and float a report on a different form, or you can tile it side by side with another register to view and compare them.



Print Preview Ribbon

The Print Preview menu is displayed on its own ribbon. Menu commands are shown in the ribbon as a contextual Print Preview menu when navigating to Reports > Print > Preview > Run.

Cost Breakdown Structure (CBS) Register Summary

Job Code: Training Job
Description: Maricopa County Roadway Improvements

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure
JOB			20.00	Mile
Prime Bond	PRIMEBOND		1.00	Lump Sum
Price % Add-On	PRICE % ADD-O		1.00	Lump Sum

Apply custom Layouts and Headers/Footers to register reports

You can apply custom Layouts and header/footers to register based reports. Upon saving a view in any register, select the option to save it as a corporate view and include the view in the reports dialog box.

Cost Breakdown Structure (CBS) Register

Job Code: Training Job
Description: Maricopa County Roadway Improvements

Saved Views

Save as Locked Corporate View ☐ Include this view in the Saved Views section of the report control ☐

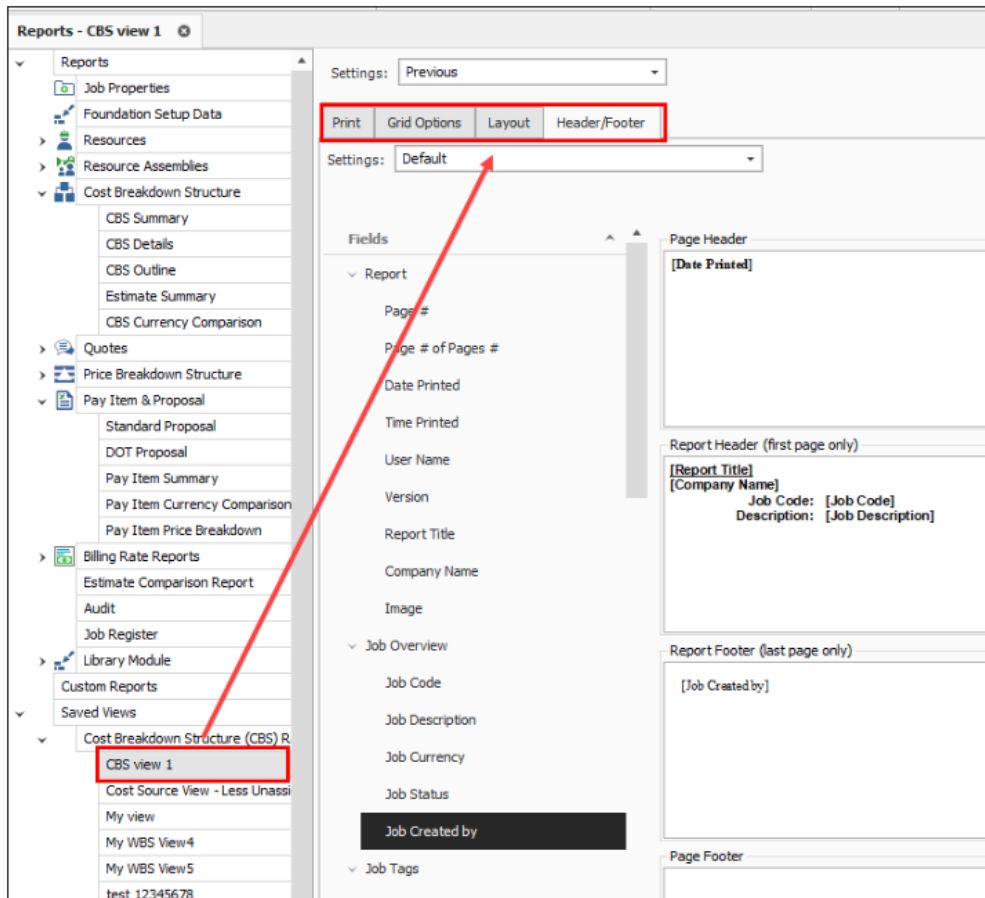
Reports - CBS view 1

Cost Breakdown Structure (CBS) Register CBS view 1

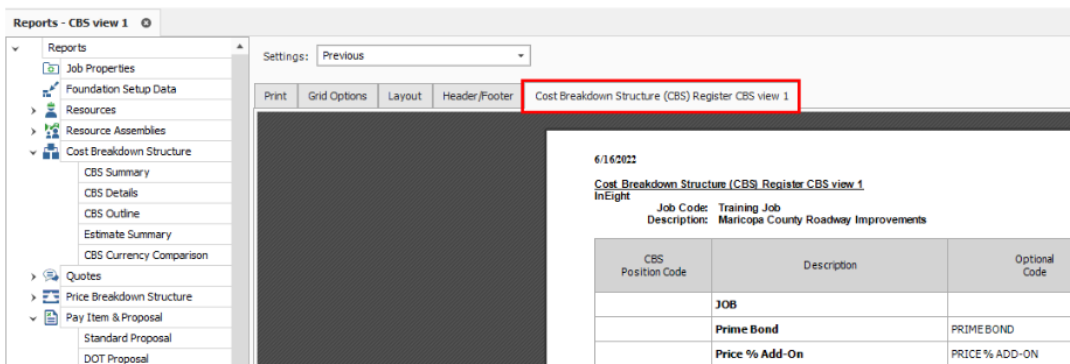
Job Code: Training Job
Description: Maricopa County Roadway Improvements

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Subject Cost
JOB			20.00	Mile	\$307,635.09	\$6,152,713.07	
Prime Bond	PRIMEBOND		1.00	Lump Sum	\$46,675.57	\$46,675.57	
Price % Add-On	PRICE % ADD-ON		1.00	Lump Sum	\$294,080.30	\$294,080.30	
Job Financing	FINANCEEXPENSE		1.00	Lump Sum	\$24,763.92	\$24,763.92	
Indirect Cost Escalation	INDIRECT COST ESCALATION		1.00	Lump Sum	\$2,006.86	\$2,006.86	\$115.0
Direct Cost Escalation	DIRECT COST ESCALATION		1.00	Lump Sum	\$10,957.12	\$10,957.12	
Indirect Cost Add-On	INDIRECT COST ADD-ON		1.00	Lump Sum	\$2,219.14	\$2,219.14	\$115.0
Direct Cost Add-On	DIRECT COST ADD-ON		1.00	Lump Sum	\$108,609.09	\$108,609.09	\$5,494.8
1	SITEWORK & ROADWAY		20.00	Mile	\$2,827,261.36	\$2,827,261.36	
1.1	Mobilization		1.00	Lump Sum	\$11,909.51	\$11,909.51	
1.2	Cleaning & Grubbing		10.00	Acres	\$5,038.59	\$50,385.90	

When selecting a Saved View from the Reports register you can use the Print tab to customize the printing preferences, use the Grid Options tab to change the font type/size, use the Layout tab to modify the design style, and use the Header/Footer tab to insert a header and footer to your report.

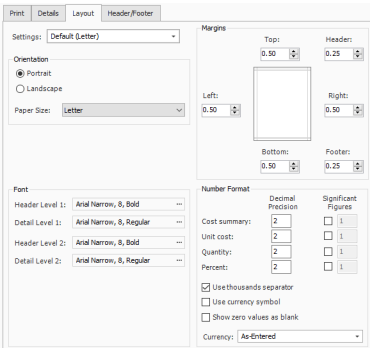


When you click on the Run button it will create a new register-style report. You can modify the layout or header/footer directly in this register. You can also toggle between any of the four other tabs to make modifications and see the changes on the saved view report.



Report Layout Settings

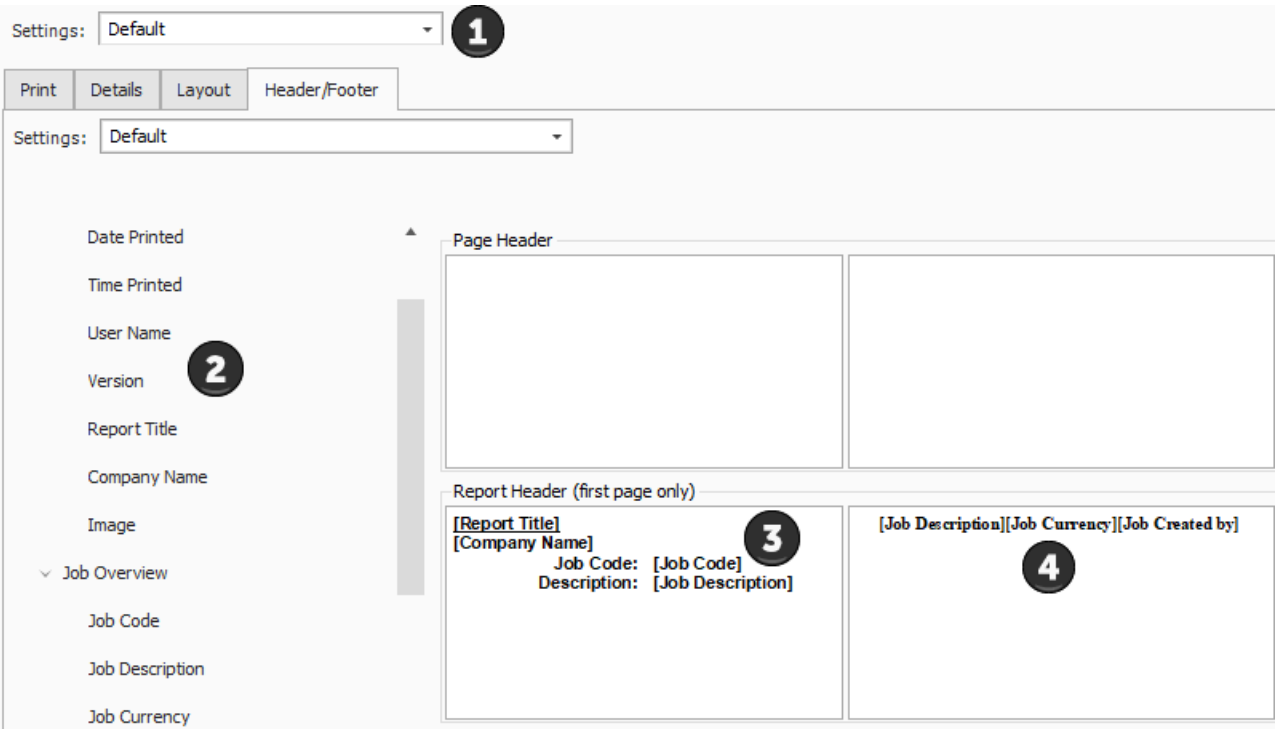
Many of the InEight Estimate adjustable reports include formatting options for the general layout of the report, located under the Layout tab of the report's output settings. Settings for the report include: Orientation, Margins, Font, and Number Format.



Report Header/Footer Settings

Many of the InEight Estimate adjustable reports include the option to define and insert headers and footers into the report. You can add information to the left, middle, or right of the header and footer sections of the report.

- 1. Once you define headers and footers, you can save them for use on other reports.
- 2. You can add page, time, and date stamps as needed, as well as images (e.g., company logo).
- 3. You can also use brackets to have it “stamp” the report with the Job Code and Job Description.
- 4. You can enter your own information as desired.



Cover Sheet fields and Job folder tags

In addition to the existing job code and job description tags in Job Properties, you can use the Cover Sheet fields and Job Folder tags for your headers and footers in all standard reports.

Additional tag values such as contract numbers, work order numbers, PO numbers, company logos, or any other tag fields can also be included. These additions help you customize headers and footers to give the recipients more transparency in the reports.

[illegible]

A Header and Footer field menu exists to the left of the Page Header and Page Footer grid, for all standard reports. This lets you choose which fields from Job Folder Tags and the Cover sheet to include in your report.

Reports - Resource Register

- Reports
 - Job Properties
 - Foundation Setup Data
 - Resources
 - Resource Register**
 - Resource Changes
 - Resource Rate Details
 - Resource Utilization
 - Resource Utilization (Excel)
 - Resource Currency Comparison
 - Resource Assemblies
 - Cost Breakdown Structure
 - Quotes
 - Price Breakdown Structure
 - Pay Item & Proposal
 - Billing Rate Reports
 - Estimate Comparison Report
 - Audit
 - Job Register
 - Library Module
 - Custom Reports
 - Saved Views
 - Master Layout Settings
 - Master Header/Footer Settings

Print | Details | Layout | Header/Footer

Fields

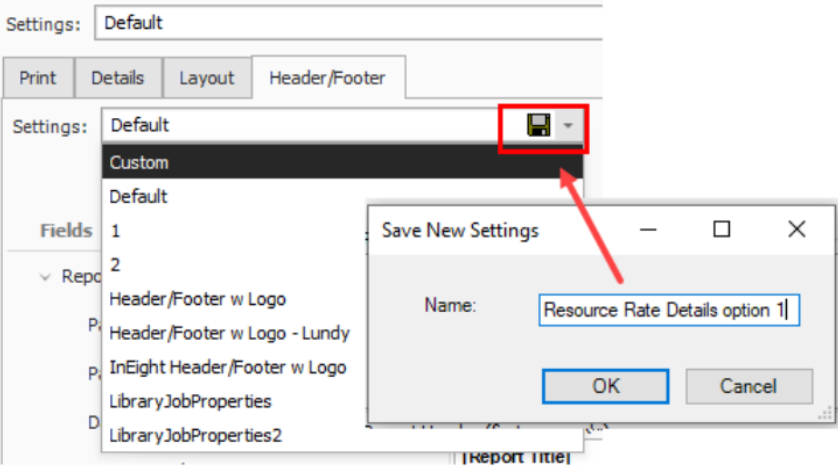
- > Report
- > Job Overview
- > Job Tags
 - Tag 1
 - Tag 2
 - Tag 3
 - Tag 4
 - Tag 5
 - Tag 6
 - Tag 7
 - Tag 8
 - Tag 9
 - Tag 10
 - Tag 11

Page Header

Report Header (first page only)		
[Report Title] [Company Name]	[Job Code]	[User Name]
Description: [Job Description]		
Report Footer (last page only)		
[Company Name]		
Page Footer		
[Date Printed] [Time Printed]	Copyright ©2022 iEight Inc. All Rights Reserved.	[Page # of Pages]

Run Close

You can customize your header and footer layout settings, save them, and re-use them in other reports.



Report Detail Settings

Most reports have a Details tab with various options to configure what information is included on the report.

Settings: Default

Print Details Layout Header/Footer

Show the below Pay item details

- ☒ Line Number
- ☒ Pay Item Number
- ☒ Position Code
- ☐ Subtotals
- ☐ Running Totals
- ☐ Suspended Items

Filter by currency: No Filter

Show the below Proposal header items

- ☐ Job Code
- ☐ Job Description
- ☐ Bid Date
- ☐ Bid Time
- ☐ Job Location
- ☐ Job City
- ☐ Job County
- ☐ Job State
- ☐ Job Country

Include Additional Proposal pages

- ☐ Cover Sheet
- ☐ Preferences Sheet

Unit Price precision

- ☒ Truncate values based on decimal precision
- ☐ Do not truncate values (show decimal precision)

Term for Document

- ☒ Proposal/Bid
- ☐ Tender
- ☐ Custom

Certification Text: ☐ None ☒ Custom

Signature Block:

☐ Submitted By

☐ Include Signature Line

☐ Include Title Line

☐ Include Date Line

Save Output Settings

Once you’ve configured your settings for the report, you can save them as a custom version of that report.

▼ Reports

Job Properties

Foundation Setup Data

▼ Resources

Resource Register

Resource Changes

Resource Rate Details

Resource Utilization

Resource Utilization (Excel)

Resource Currency Comparison

▼ Resource Assemblies

▼ Cost Breakdown Structure

CBS Summary

CBS Details

CBS Outline

▼ Estimate Summary

Estimate Summary - Foreman

CBS Currency Comparison

Settings: Estimate Summary - Foreman

Alternate Scenario: BASE

PrintCost Item SelectionDetailsLayoutHeader/Footer

☒ Print a contiguous range of cost items:

From: 5.1

To: 6.2

☐ Select cost items to print from the register below:

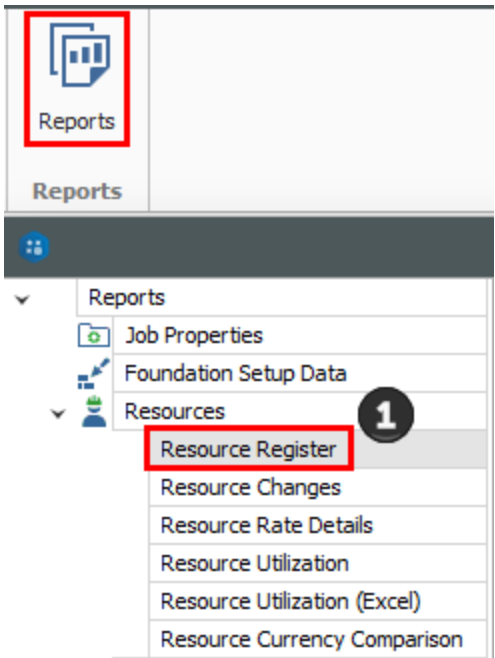
Drag columns here to groupFind: [Search For...] ... Saved

	Include	CBS Position Code	Description
→	☐		Prime Bond
	☐		Price % Add-On
	☐		Job Financing

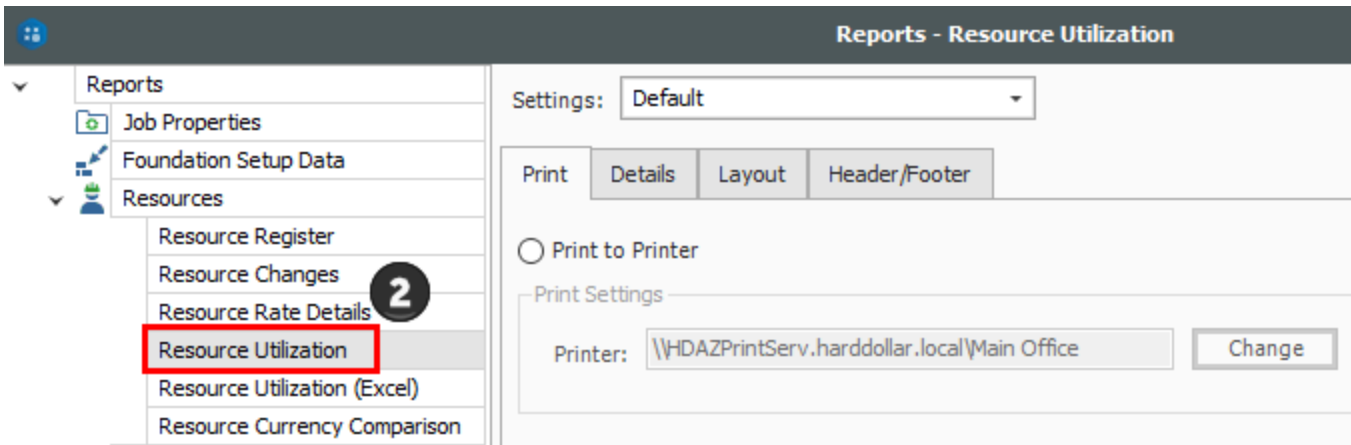
The following steps walk you through configuring the settings and formatting for two different reports.

Step by Step — Configure Report Output Settings (Report 1)

1. Open the Training Job and select Setup >Report>Resources.



2. Under Resources on the left side bar, select Resource Utilization.



3. On the Print tab there are three options. A best practice is to always set to Preview so you can review before printing.

Print Details Layout Header/Footer

☐ Print to Printer

Print Settings

Printer: \\HDAZPrintServ.harddollar.local\\Main Office Change

☐ Export to File

Export Settings

File: ...

Format: PDF File Options

☒ Preview **3**

4. On the Layout tab you can make adjustments based on your preferences.

PrintDetailsLayoutHeader/Footer

4

Settings: Default (Letter, Landscape)

Orientation

Portrait

Landscape

Paper Size: Letter

Margins

Top: 0.50

Header: 0.25

Left: 0.50

Right: 0.50

Bottom: 0.50

Footer: 0.25

Font

Header Level 1: Arial Narrow, 8, Bold

Detail Level 1: Arial Narrow, 8, Regular

Header Level 2: Arial Narrow, 8, Bold

Detail Level 2: Arial Narrow, 8, Regular

Number Format

Decimal Precision

Significant Figures

Cost summary:

2

☐

1

Unit cost:

2

☐

1

Quantity:

2

☐

1

Percent:

2

☐

1

☒ Use thousands separator

☐ Use currency symbol

☐ Show zero values as blank

Currency: As-Entered

5. Move to the Header / Footer tab. Remove the default Report Title from the first page Header only and enter Resource Utilization in the center Report Header box as a title that will appear on the first page only.

6. Go to the Details tab, and you can see the details and options you can select to customize and adjust the report.
7. For this navigation, you will not Filter by currency; leave the selection as No Filter.
8. Under Report Type, choose the first option, Resource Utilization Summary.

- You can choose to select the Hide Zero quantity/cost Resources Employments Details box if you prefer to have your printed report not show any resources that have a dollar value of zero

- You can choose if you want the report at a summary level, or if you want it to reference your cost items when you are looking at a resource
- If you choose Resource Utilization Summary with Employed Cost Items, it adds CBS position to the structure of the report
- You would select this if you wanted to see cost items and resources by the cost item

The Details settings are “sticky” features, meaning they default to what was selected the last time.

- You can use grouping to group by different tags and user-defined fields. Most of them are related to the Resource Rate Register, for example: Geographic Area, Organizational Category, Wage Zone, etc. For this example, group by Resource Organizational Category.
- Next, you can choose the resources you want to see. For this example, select the Labor and Construction Equipment Resource Types.

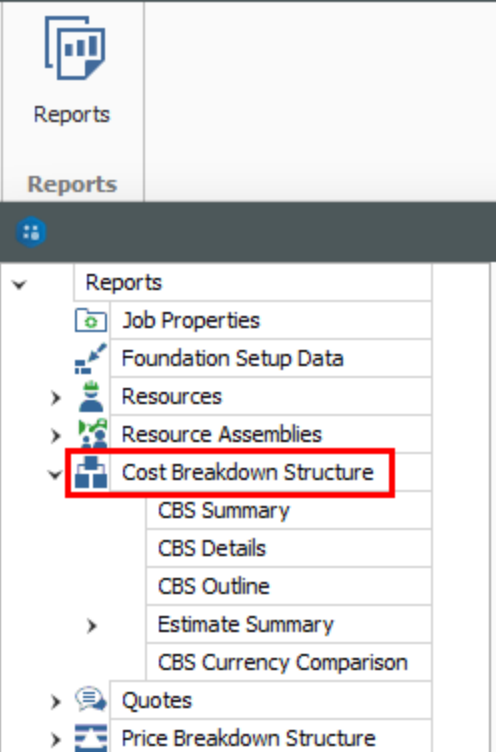
- For this example, you will not make any selections under Columns or Details

- This is just one of many ways to organize and adjust your report.

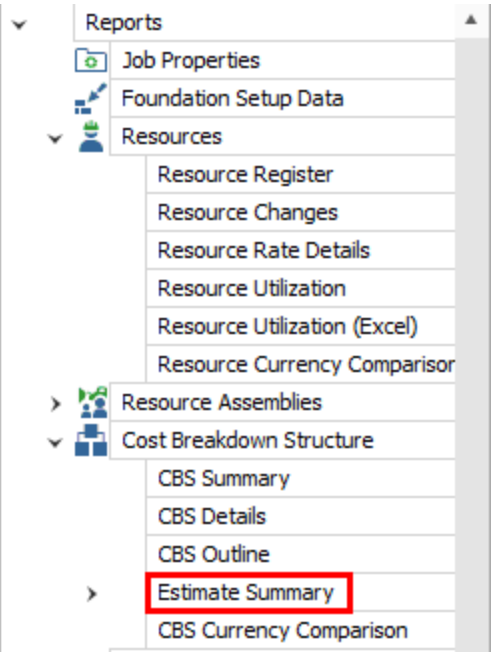
- Click Run to run the report.
 - This report can be helpful for seeing your utilization hours, broken down by regular time and overtime hours
- Click the red X to close this page and open the Construction Equipment page.
- Click the red X to close the Construction Equipment report.

Step by Step — Configure Report Output Settings (Report 2)

- Open the Training Job and select Setup > Reports, then expand the Cost Breakdown Structure node.



2. Under Cost Breakdown Structure on the left side bar, select Estimate Summary.



3. Along with the Print, Details, Layout, and Header / Footer tabs, there is an additional tab called Cost Item Selection. Select this tab.

Settings: Default Alternate Scenario

Print **Cost Item Selection** Details Layout Header/Footer

4. The Cost Item Selection tab allows you to report on a selection of cost items:
 - Print a contiguous range of cost items: Allows you to print a series of cost items in a row. In this case, print just items: select 4.1 in the From field and 4.3.2 in the To field.
 - Select cost items to print from the register below: Allows you to use column filters to select the cost items to include in the report; leave this button unselected.
5. You can roll up your cost items to a certain CBS level for the report as well, depending on the level of detail you need.
6. On the Details tab, select Days for Cost item production field 1, and Man-Hours / UM for Cost item production field 2 (this report allows you to report on two production values).
7. Under Resource Types, uncheck all of the boxes except Labor, ConstructionEquipment, and Installed Material.

Print **Cost Item Selection** Details Layout Header/Footer

Filter by currency: No Filter

General

Group by: No Group

☐ Show Suspended Items

☒ Notes

☒ Awardee

☒ When filtering, only include terminal cost items in total

Fields

Cost item production field 1: Days

Cost item production field 2: Man-Hours/UM

Cost item text field: Currency

Employment text field: Currency

Resource Employments

☒ Print Resource Employment Details

☒ Print resources in row number order

☐ Print resources in alphabetical order

☒ Print resource costs

☒ Print hours for hourly resources

Resource Types

☐ Ad-hoc Employments

☒ Labor

☒ Construction Equipment

☐ Rented Construction Equipment

☒ Installed Material

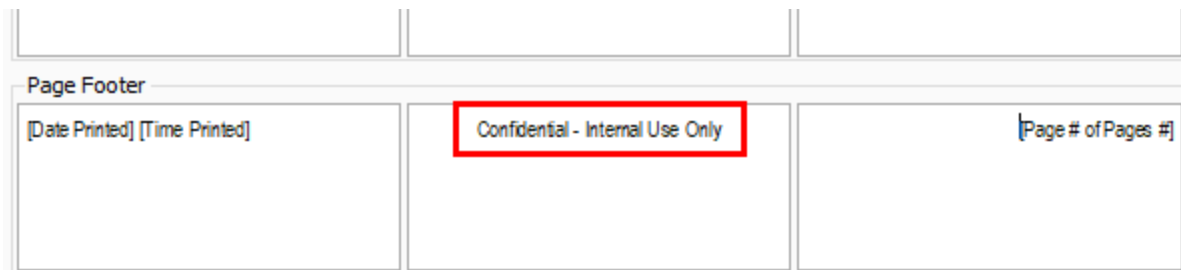
☐ Installed Equipment

☐ Supplies

☐ Unique

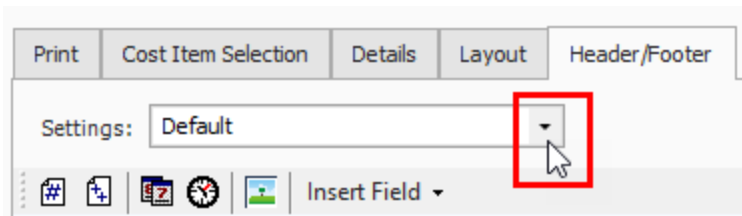
☐ Resource Assemblies

8. Leave the rest of the settings at their defaults, then select the Header / Footer tab.
9. In the center Page Footer field delete the existing text, then type Confidential –Internal Use Only.



Page Footer		
[Date Printed] [Time Printed]	Confidential - Internal Use Only	[Page # of Pages #]

10. To save the settings you've configured, click on the Settings drop-down arrow above the output setting tabs.



Print Cost Item Selection Details Layout Header/Footer

Settings: Default

Insert Field

11. Select the Save disk icon to save the new settings.



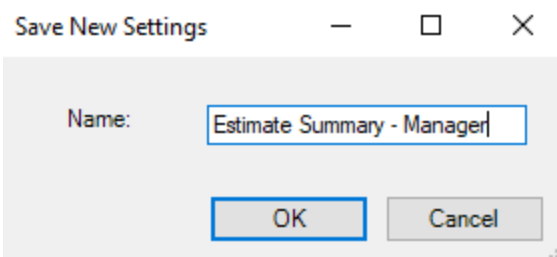
Settings: Default

Custom

Default

Page Header

12. Type Estimate Summary – Manager.
13. Click OK.

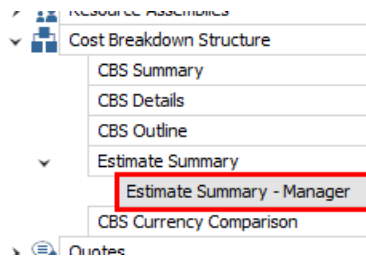


Save New Settings

Name: Estimate Summary - Manager

OK Cancel

- Notice that a custom version of the report now displays under Estimate Summary on the Reports tree on the left



Helpful Reports

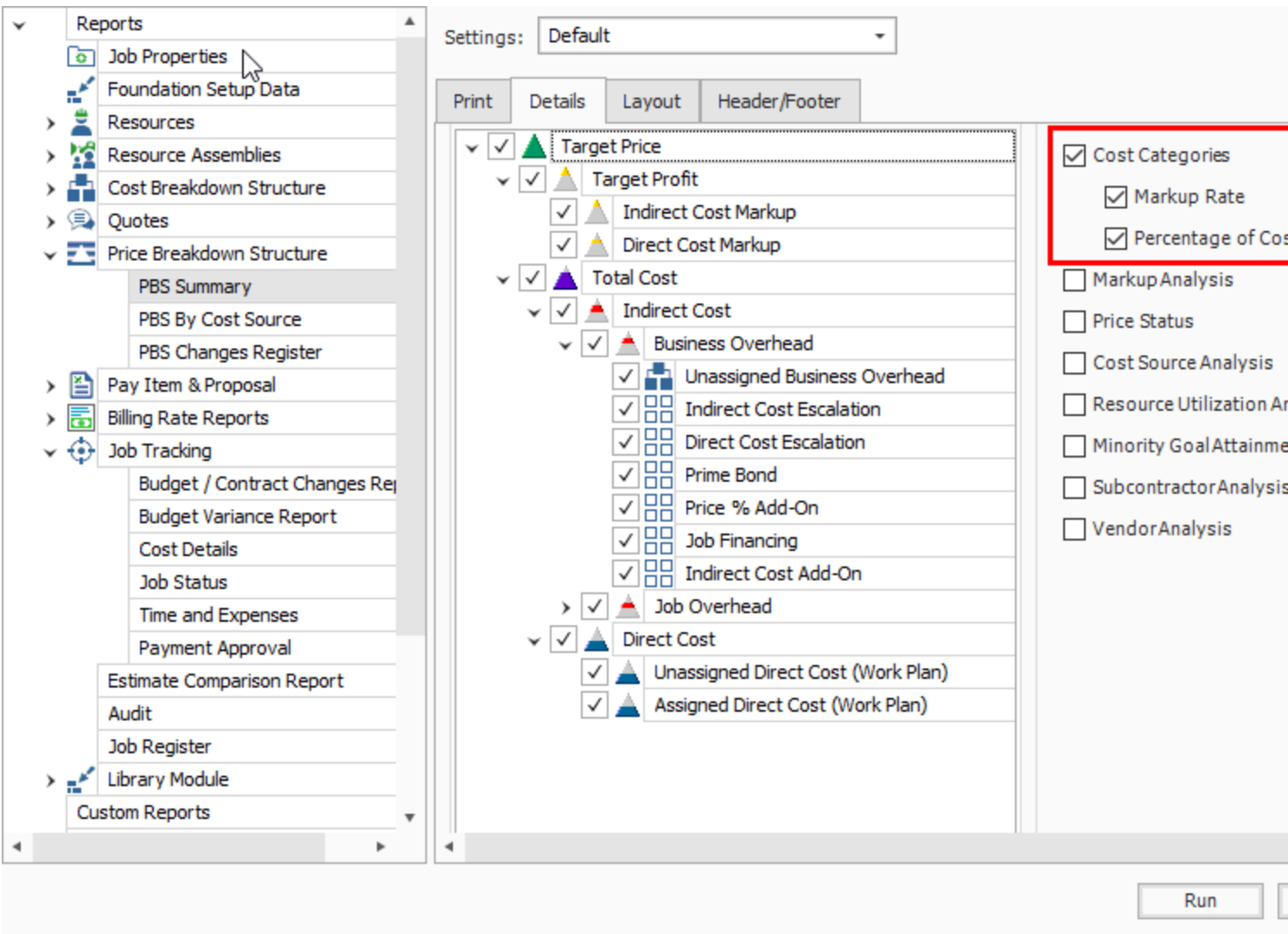
PBS Summary

Under the Price Breakdown Structure Report node, the PBS Summary Report gives a good overview of how your price breaks down by cost category. This provides a high-level overview that is cost category driven, providing information based on the total value of the project.

When selecting your settings on the Details tab, a best practice is to select and include:

- Cost Categories
- Markup Rate
- Percentage of Cost

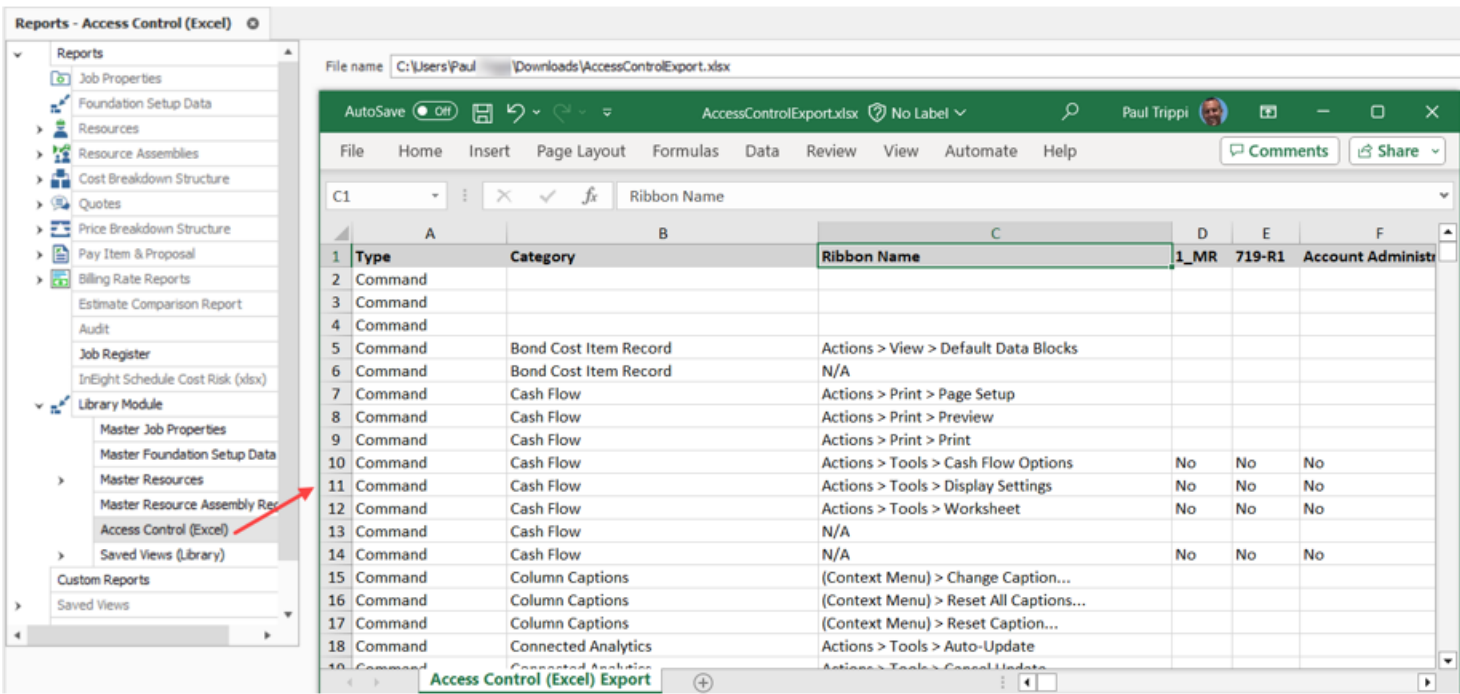
This allows you to see your costs and markup broken out by cost category.



You can also select to show markup rate and what percentage the markup is of your cost.

Access Control

You can use the Access Control report to audit user permissions, command access, and various restrictions without having to search through the Access Control register for this information.



Standard Proposal

Located under the Pay Item & Proposal report node, the Standard Proposal report can be used for contractors required to submit a pricing proposal to a client. It lists all the pay items with the client provided quantities and your final pricing. You can include subtotals (defined on the Pay Item & Proposal Register), cover sheet information, and a signature block.

<u>Proposal</u>								
ACME Company								
Job Code: Training Job								
Description: Training Job - Maricopa County No. TM2924								
Position Code	Line No.	Pay Item No.	Description	Proposal	Quantity	Unit of Measure	Unit Price	Total Price
			Subtotal Description					
1	22	200	SITEWORK & ROADWAY					3,402,700.00
1.1	10	641 0100	Mobilization		1.00	Lump Sum	395,600	395,600.00
1.2	20	201 0102	Clearing & Grubbing		10.00	Acre	5,900.00	59,000.00
1.3	30	202 0183	Unclassified Excavation		50,000.00	Cubic Yard	5.50	275,000.00
1.4	40	303 5912	Aggregate Base		40,000.00	Ton	26.50	1,060,000.00
1.5	50	303 4263	Asphalt Concrete Hot Mix Type A		38,000.00	Ton	42.45	1,613,100.00
2	18	400	WATER & SEWER					718,550.00
2.1	50	413(B) 0464	36 Inch RCP Culvert Class III		1,000.00	Linear Feet	97.45	97,450.00
2.2	70	800 0220	10 Inch PVC Force Main (SDR21)		12,000.00	Linear Feet	29.50	354,000.00
2.3	80	800 0330	24 Inch PVC Gravity Sewer (SDR35)		3,000.00	Linear Feet	64.50	193,500.00
2.4	90	800 0400	4 Foot Diameter Manhole		16.00	Each	4,600.00	73,600.00

CBS Details

Under the Cost Breakdown Structure report node, the CBS Details report can be a helpful report for bid review. On the Details tab you can include or not include any of the information contained in the CBS Register, including cost items with production, costs by category, shift arrangements, resources, and notes.

Cost Breakdown Structure Details														
INTEGR - PAUL TURNER														
Job Code: Training Job														
Description: Training Job - Maricopa County No. TM2924														
From Cost Item: 1					To Cost Item: 3.9									
CBS Position Code	Description	Cost Source	Cost Item		Unit Cost	Total Cost	Unit and Total Costs by Category							
			Forecast (CO)	Quantity UM			Labor	Owned Equipment	Rented Equipment	Materials	Supplies	Subcontract		
	Activation	Cost		1.00 Lump Sum	11,000.01	11,000.01	2,400.01	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
Notes: There are 10 tabs. If you click on any of the tabs at the top of the table, the data will change.														
Amount: \$100 Contingency Allowance in case extra permits are required														
Pay Item Assignment: 141 0100 0000 0000														
Default Properties														
Account Code		Cost Code	Tag 1		Tag 2		Tag 3		Tag 4		Tag 5			
1000		0000	00000000		00000000		00000000		00000000		00000000			
Optional Code		Primary Code	Owner's Obj		Quick Group		Quantity Group		Minority Rate		WC Character			
001 0000		0000	00000000		00000000		00000000		100.00%		00000000			
Default Pay Rate		Wage Scale 1	Wage Scale 2		Resource Work hrs		Resource Pay hrs		Cost Allocation		Work release		SubEntry	Day/entry
		0.00	0.00		0.00		0.00		0.00		0.00		1.00	0.00
Production														
Days		Shifts	Hours		Block Hours		Cost Duration		CostHrs		CostDurHrs		CostEquipHrs	
10.00		10.00	80.00		80.00		140.00		1,760.00		140.00		74.00	
UM (Duration)		10.00	1000.00		1000.00		1000.00		CostEquip		300.00		100.00	
0.10		0.10	0.01		0.01		0.01		10.00		10.00		10.00	
Resource Code														
Description		Quantity	Pay Amount UM		Unit Cost		Total Cost		Unit and Total Costs by Category					
Assembly		Cost/entry	Assembly Code		Tag 1		Tag 2		Tag 3		Workpiece Code			

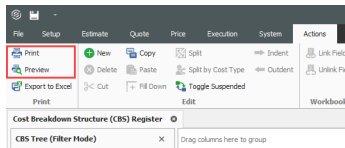
Audit

Under the Job Tracking node, the Audit Report is a very important report to run during estimate review to make sure you didn't leave anything out of the estimate. It checks for a number of potential errors in the estimate, including:

- Zero Price Pay Items
- Zero-value cost items
- Pay items without Cost Items assigned
- Resources with a quantity of zero

Register Reports

At any time, you can print a report of the data in the currently displayed register using the Print or Preview option available from the Actions tab for the register you are in.



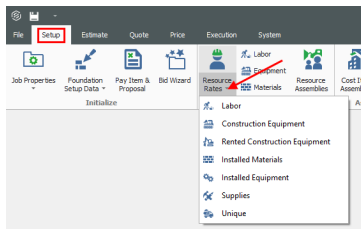
The data that prints is the data currently displayed on the register form. The report will print whatever columns are displayed on the register; if you have customized the display in the register, the report prints that data. In other words, register reports are entirely customizable.

By creating Saved Views, you can report the data on a register form in several different variations.

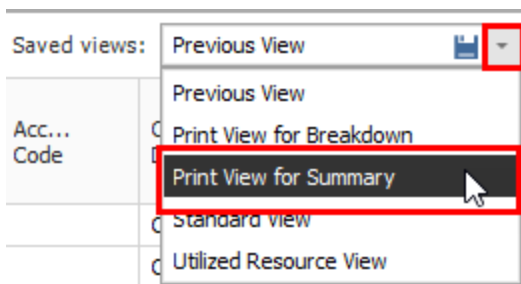
The following step by step example will walk you through creating a custom register report on resource utilization and saving it as a Saved View.

Step by Step — Create a Register Report

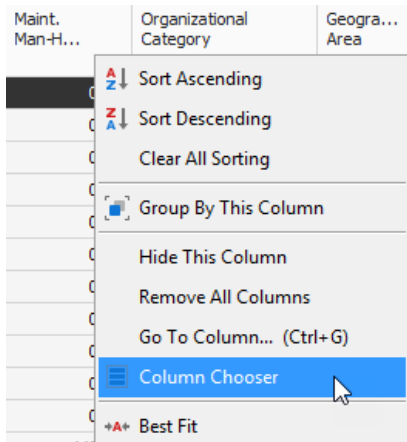
1. Open the Training Job and select Setup tab, then select the Resource Rates drop-down list.



2. From the drop-down list, select Labor.
3. From your Saved Views drop down menu on the Resource Rate Register, select the Print View for Summary view.



4. Notice this view includes utilization hours
5. Right-click on a column header and select Column Chooser.



6. From the Customization window, drag-and-drop the Minority Percent, Unique Sales Tax, (Scale 2), and Maint. Man-Hour Factor columns into the register.
7. Close the Customize window.
8. Sort the Utilization Count column by clicking on the column header twice so that you see the bars descending.
 - This sorts your items so the most utilized resources are at the top

Resource Code	Utilization Count		Maint. Man-H...	Organizational Category
+ LL2	8,946.59		0.00	Laborer
+ LO2	4,734.02		0.00	Operator
+ LT1	3,611.05		0.00	Truck Driver - Team...
+ LO1	1,640.00		0.00	Operator
+ LO4	1,484.63		0.00	Operator
+ LC2	1,188.73		0.00	Carpenter
+ LO3	889.33		0.00	Operator
+ LSSUPT	800.00		0.00	Supervision
+ LSSEC	800.00		0.00	Supervision
+ LSPE	800.00		0.00	Supervision
+ LL3	721.33		0.00	Laborer
+ LIW1	594.37		0.00	Iron Worker

9. Click on the Saved Views drop-down menu and select the Save disc icon to save the view.
10. Name the view Labor Utilization View, and then click OK to save the customized view.
11. From the Actions menu, select Preview to review the report before printing.

Labor Register						
INEIGHT - PAUL TRIPPI E101 - Training Job KL - Sample Training Job						
Resource Code	Description	Utilization Count	Unit of Measure	Unique Salary Tax	Minority Percent	Maint. Man-Hour Factor
L01	Operator Class 1	680.00	Hour	0.00	0.00	0.00
L12	Laborer	590.00	Hour	0.00	0.00	0.00
LSSUP	Project Superintendent	560.00	Hour	0.00	0.00	0.00
LSSC	Secretary	560.00	Hour	0.00	0.00	0.00
L03	Operator Class 3	220.00	Hour	0.00	0.00	0.00
L13	Labor Foreman	200.00	Hour	0.00	0.00	0.00
L04	Operator Foreman	110.00	Hour	0.00	0.00	0.00
LT1	Teamster	100.00	Hour	0.00	0.00	0.00

Register Report Output Settings

Within the Preview for a register report, there are several options to choose from to configure the output of your report.

Page Setup

While in the Preview mode, selecting File > Page Setup provides setup options for the page format:

- Page Size (legal, letter, etc.)
- Paper Width & Height
- Orientation (portrait or landscape)
- Page Margins (left, right, top, bottom)

Exporting to Document

Using the Export function allows you to identify a Print range, Image quality, Password Security, and more. Selecting File > Export Document prints an Adobe Acrobat (*.pdf) report.

Copy an Existing Job

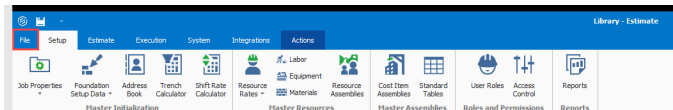
As you build an estimate, you may want to reuse pay items, cost items, or resources from a previous estimate. When you plan to reuse the majority of content within a job, you can simply make a copy of the existing job.

Using the Create a new Job from... Existing Job option on the Backstage View creates an exact replica of the existing job, including the job's properties, pay items, cost items, and resources.

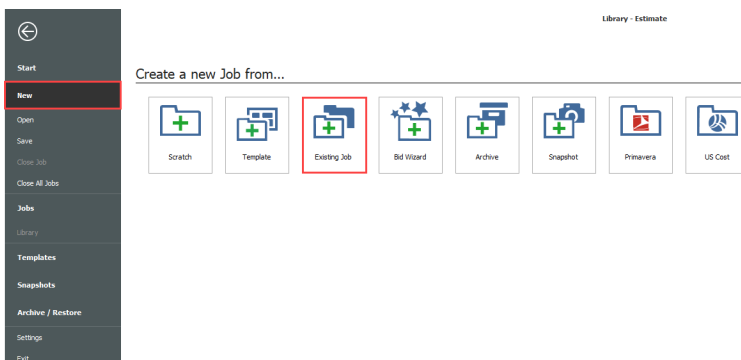
The following Step by Step walks you through how to make a copy of an existing job.

Step by Step — Copy an Existing Job

1. Click the File tab on the Estimate landing page.

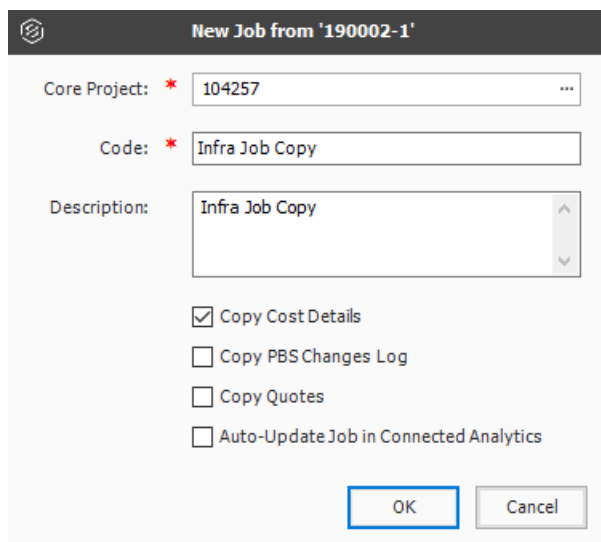


2. From the left side panel, select New, then select Existing Job.



3. The Job Register displays a list of your existing projects; select the Training Job and click OK.
4. On the New Job dialog, click the **ellipses** and select a Core Project.
5. In the Code field, type Infra Job Copy with your initials.
6. To copy the cost details from the existing job to the new job, verify that the Copy Cost Details checkbox is selected
 - If you wanted to copy just the cost item structure without cost details, you would uncheck the box.

7. Uncheck the check for copying the PBS Changes Log, Copy Quotes and Auto-Update Job in Connected Analytics.
8. Click OK to create the new job.



New Job from '190002-1'

Core Project: * 104257

Code: * Infra Job Copy

Description: Infra Job Copy

☒ Copy Cost Details

☐ Copy PBS Changes Log

☐ Copy Quotes

☐ Auto-Update Job in Connected Analytics

OK Cancel

The new job opens with the Job Properties form active, so you can begin to modify the new job as needed. If you look through the tabs on the Job Properties form, you will find that it looks exactly like the job from which it was copied. Other forms, such as the Pay Item & Proposal Register and the CBS Register, also look the same in both jobs until you make modifications in one job or the other.

This is a very easy method for creating a new job, and it is a good choice if you want to copy an entire job. However, if you want to pick and choose which parts of a job to duplicate, the Bid Wizard is a better choice.

Templates

Job Templates provide you the ability to maintain a list of template jobs that can be used to create new jobs. As your company grows and increases the number of projects, the need to standardize the estimating process increases to ensure consistency and reduce the chance of information being overlooked.

In InEight Estimate you can create job folders and store them in a separate register as templates. This allows you to store cost items in master templates separate from the jobs in your Job Register.

You can copy the template's foundation setup data, such as account codes, tags, work breakdown structures, and work group tags to your estimate. In Setup > Foundation Setup Data > **Copy data from another Job**, select a template job to copy its foundation data.

The Copy data from another Job action includes jobs marked as *Is Template*.

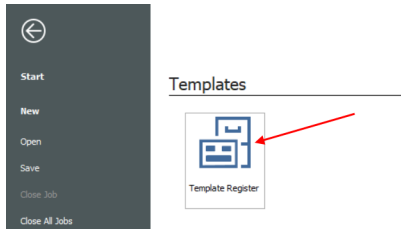
The screenshot shows the InEight Estimate software interface. The top navigation bar includes 'File', 'Setup', 'Estimate', 'System', 'Developer Tools', 'Integrations', and 'Actions'. The 'Actions' menu is open, highlighting the 'Copy data from another Job' option under the 'Tools' section. Below the menu, the 'Job Register' tab is active, displaying a table of jobs. The table has columns for 'Code', 'Project Name', 'Organization', 'Is Template', 'Notes', and 'Project'. The 'Is Template' column contains checkboxes, and the 'MLQ-Template1' row has its checkbox checked, highlighted with a red box.

Code	Project Name	Organization	Is Template	Notes	Project
MLQ-APIM-Test9	MLQ Project 42 ...	S100000 - InEig...	☐		
MLQ-Template1		S100000 - InEig...	☒		
MLQ-Template3		Testing Org	☒		
MLQ-Template4		Testing Org	☒		
MLQ-Template5		Testing Org	☒		
mlq-testjob1	MLQ - Estimate 42	Estimate - MLQ ...	☐		

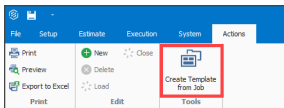
You can create templates from scratch or from existing job folders. The following steps walk you through how to create a new template from an existing job folder.

Step by Step — Create a Template

1. Click the File tab on the Estimate landing page.
2. From the left side panel, select Templates.
3. Under Templates, select the Template Register.

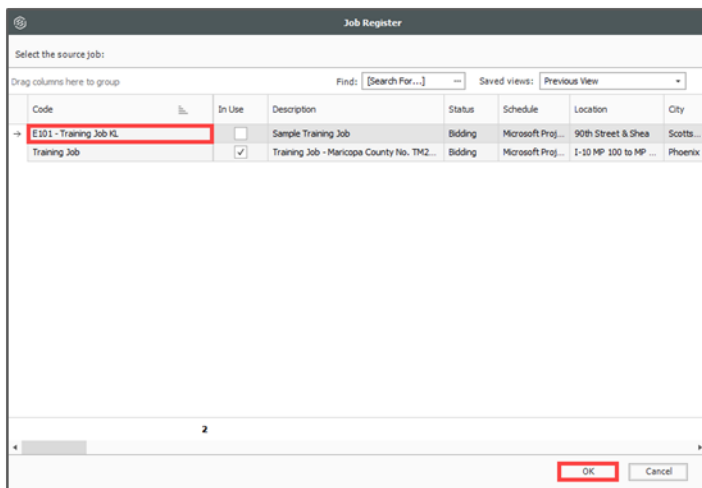


4. From the Actions tab, select Create Template from Job.



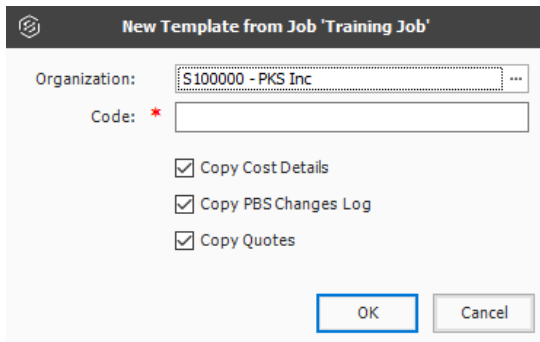
- The Job Register opens for you to select the source job for the template
- Assume that you want to make a template from your E101 Training Job

5. Select the E101 Training Job with your initials, then click OK.



You cannot create templates from jobs that are published to Job Tracking.

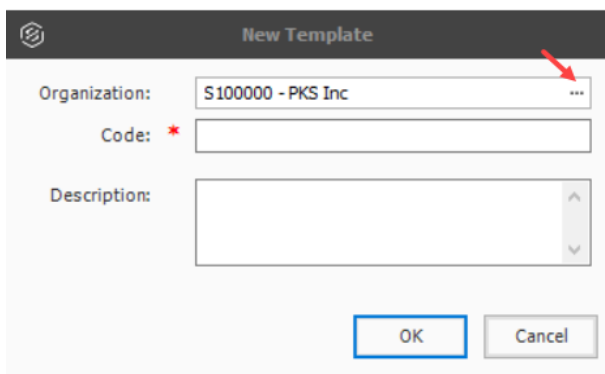
- The New Template From Job 'Training Job' with your initials prompt appears.



The screenshot shows a dialog box titled "New Template from Job 'Training Job'". It contains the following fields and options:

- Organization:** A dropdown menu showing "S100000 - PKS Inc" with an ellipsis button to the right.
- Code:** A text input field with a red asterisk to its left.
- Checkboxes:** Three checkboxes are checked: "Copy Cost Details", "Copy PBS Changes Log", and "Copy Quotes".
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

6. Click the ellipsis to the right of the Organization field.

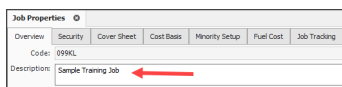


The screenshot shows a dialog box titled "New Template". It contains the following fields and options:

- Organization:** A dropdown menu showing "S100000 - PKS Inc" with an ellipsis button to the right. A red arrow points to this ellipsis button.
- Code:** A text input field with a red asterisk to its left.
- Description:** A text input field with a vertical scrollbar on the right.
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

The Organization Register Library opens.

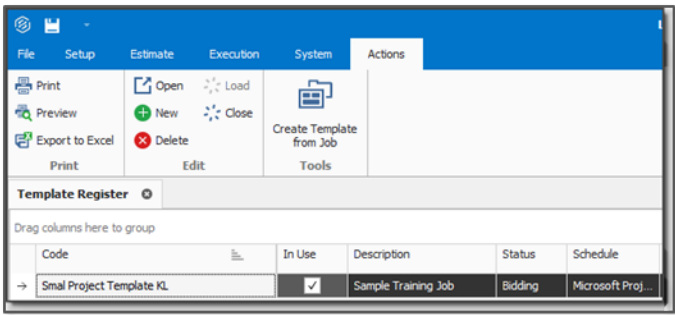
7. In the Organization Register Library, select an **organization** and then click **OK**.
8. In the Code field, type Small Project Template[your initials].
 - Leave Copy Cost Details and Copy PBS Changes Log checked
9. Click OK.
 - The new template is created and opens to the Job Properties form
 - You can add the description in addition to the code for any new job you are creating from a template. This description is later added to the Overview tab of the new job on the Job Properties form



The screenshot shows the "Job Properties" form, Overview tab. It contains the following fields and options:

- Code:** A text input field showing "099KL".
- Description:** A text input field showing "Sample Training Job". A red arrow points to this field.

- Back in the Templates Register, you can see the new template created



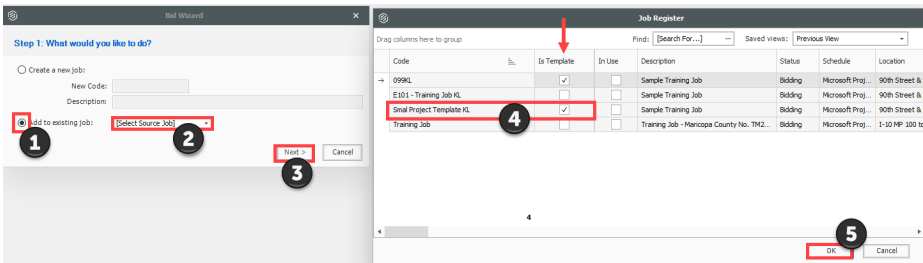
- Similar to copying an existing job, you can create a new job from a template from the New menu in the Backstage View.



- You can also create a new job from a template from the New menu in the Bid Wizard.

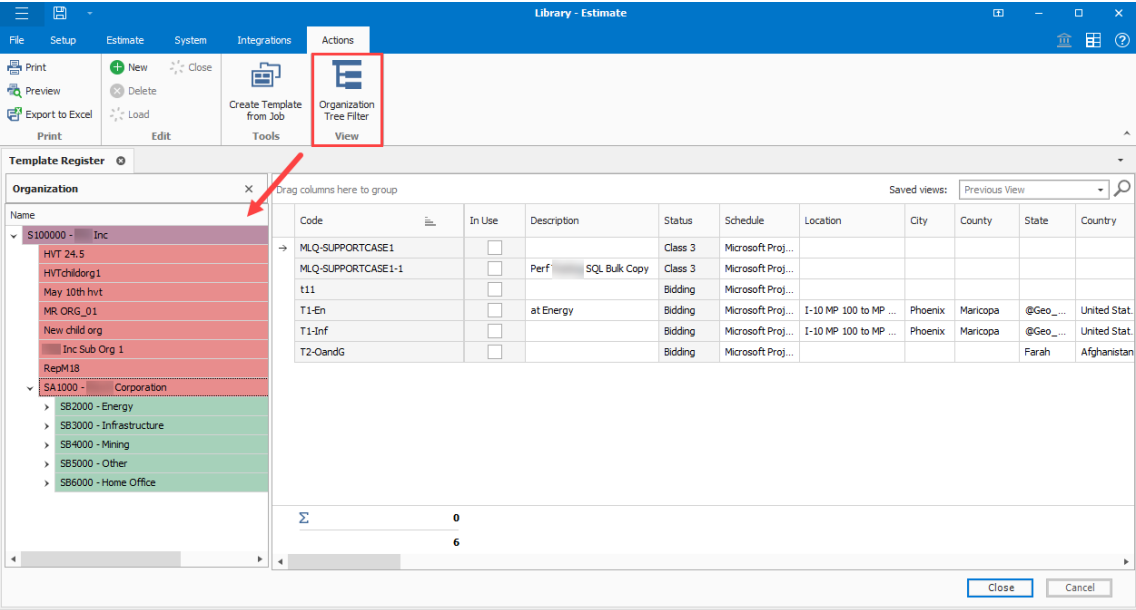


- 10. Select Add to existing job
- 11. From Select Source Job, click the dropdown arrow
- 12. Click Next
- 13. Select a job that is shown as having a Template
- 14. Click OK

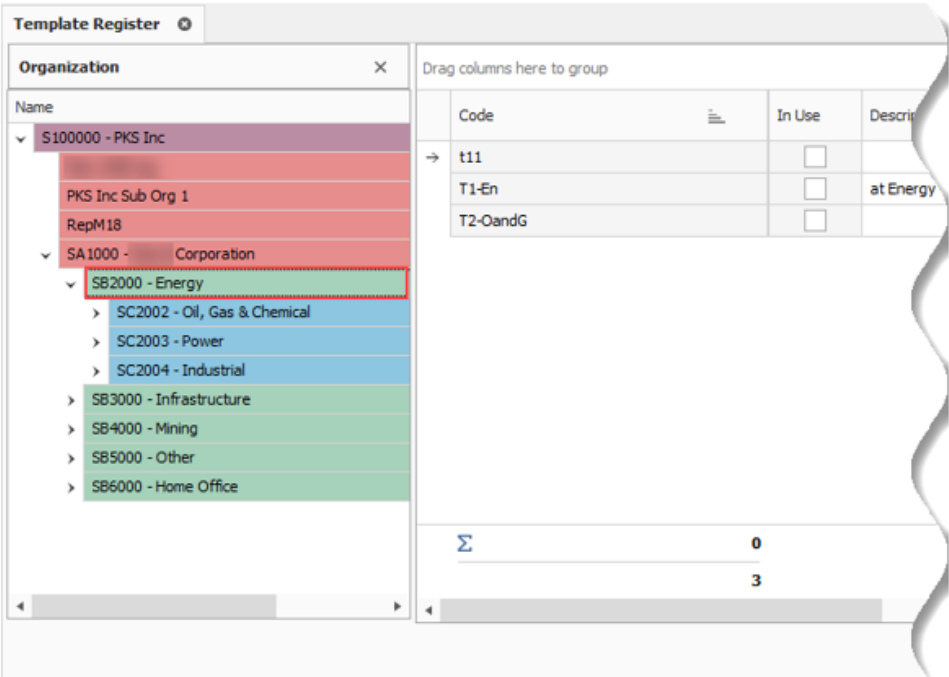


OBS filter tree

The Template register's organization tree filter shows the templates assigned to a selected organization.



Just like the job register, the list of templates is filtered based on the selected organization. The primary difference between the OBS tree filter in the job and template registers is that estimates are associated with projects in the job register, and projects belong to an organization. In the template register, templates belong to an organization.



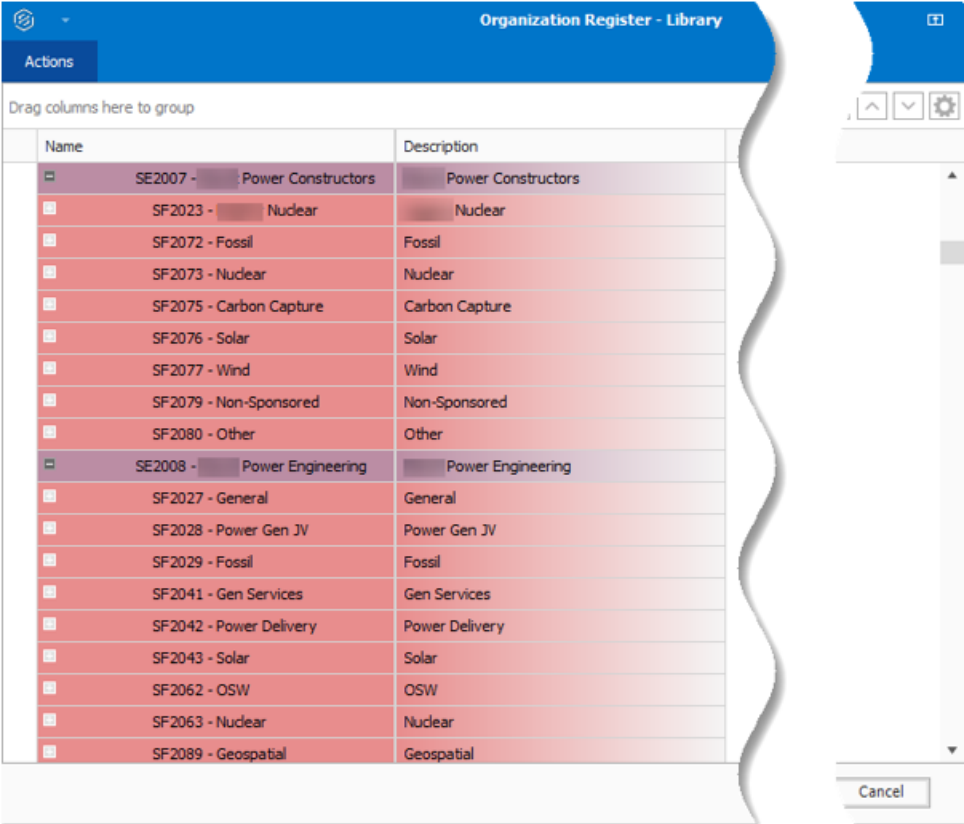
Archive and Restore Templates

The templates feature gives you the ability to archive and restore templates, enabling templates to become portable. You can move templates between different environments. You can also backup the templates similarly to the Jobs Archive and Restore function.

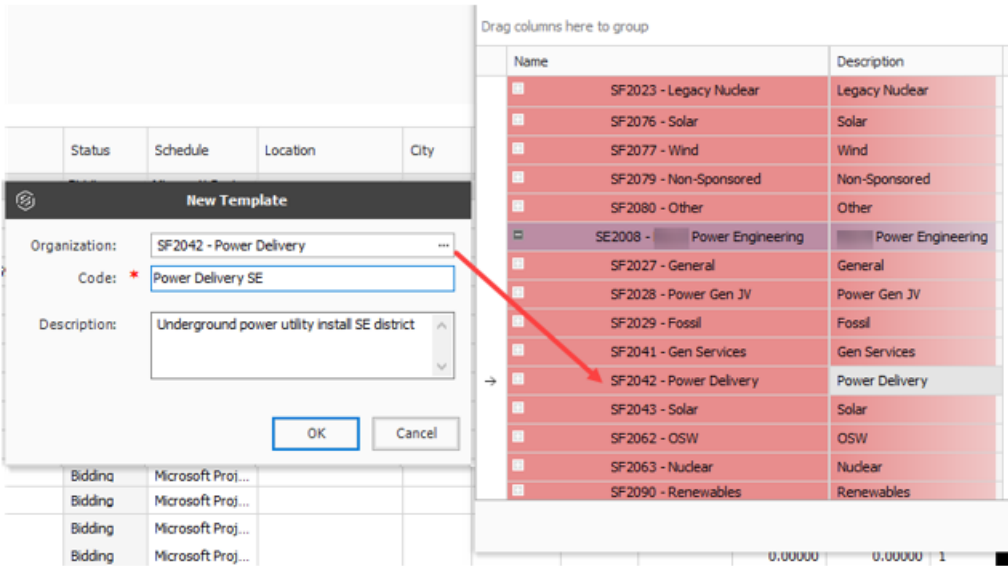
Step by Step — Archive and Restore a Template

1. Click File to open the Backstage View.
2. Select **Archive / Restore**.
 - Several options appear for archiving and restoring your jobs, templates, and library
3. Select Archive Template.
 - The Template Register appears
4. Select the Small Project Template [your initials] template you previously made, then click OK.
5. When prompted to include attachments, click Yes.
 - The Save As window appears
6. Browse to where you want to save the job, then click Save.
7. Select Restore Template from the Archive / Restore page of the Backstage View to begin restoring the template.
8. Browse to the archived template and select it.
9. Click Open.
 - If the template already exists, a prompt will appear asking if you want to overwrite it
 - To overwrite it, select Yes
 - If you select No, you will be prompted to save it under a new Template Code

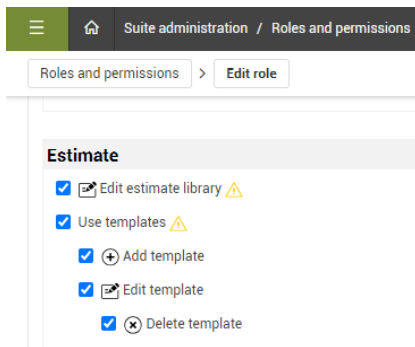
You can assign templates to specific organizational nodes in the OBS, grant permissions, and control user access for templates.



For example, you can assign a template to a specific node level in the OBS that is specific to Power Delivery. The OBS node structure assignment is useful for assigning estimators access to designated templates as determined by an Estimate administrator.



Estimators with the appropriate Estimate/template permissions in Suite Administration > Roles and Permissions > Master Data Libraries > **Estimate**, can use the templates in which they are assigned to in their designated OBS node.

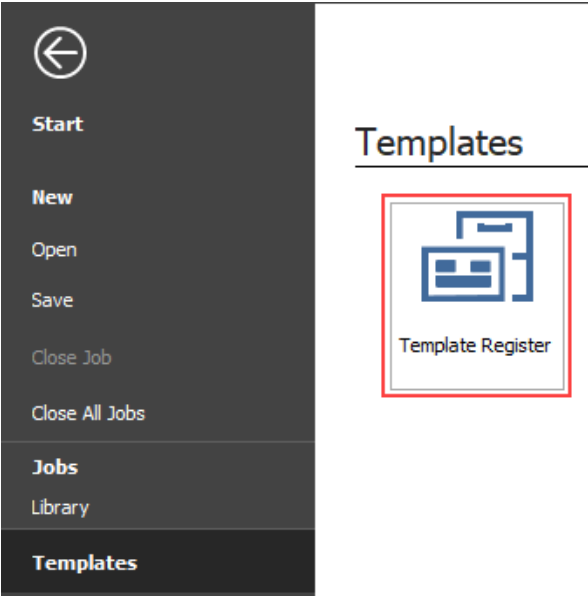


Step by Step — Assign Template to OBS

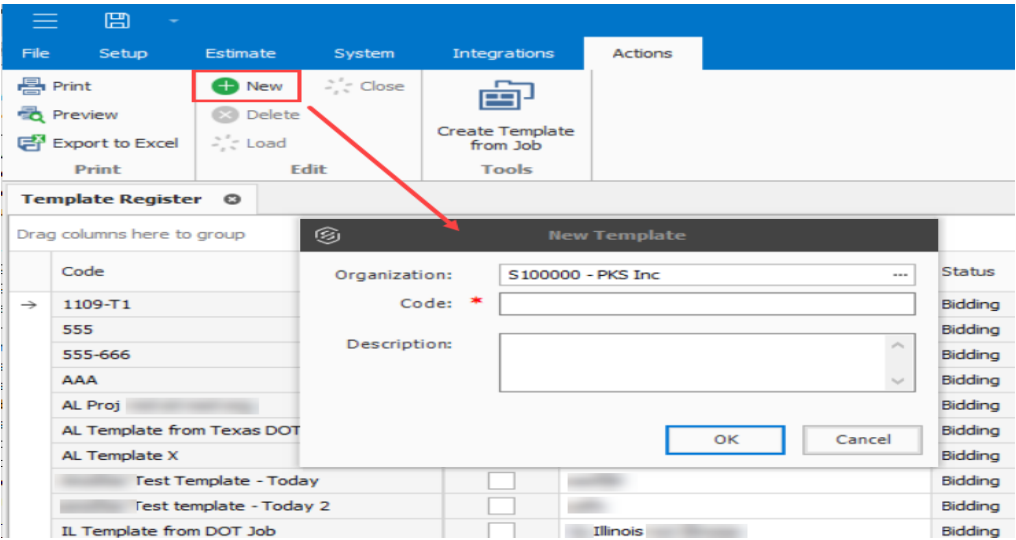
1. Open the Training Job, then select the Templates.



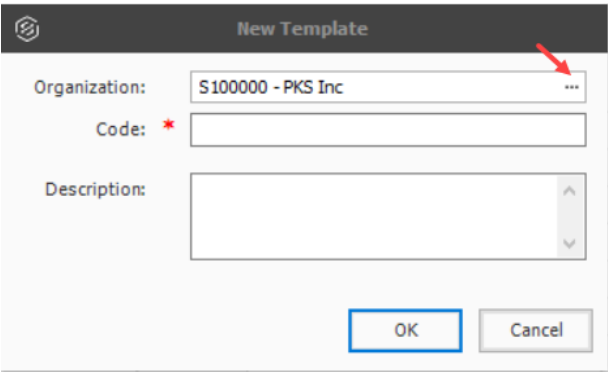
2. Select **Template Register**.



3. Select New.



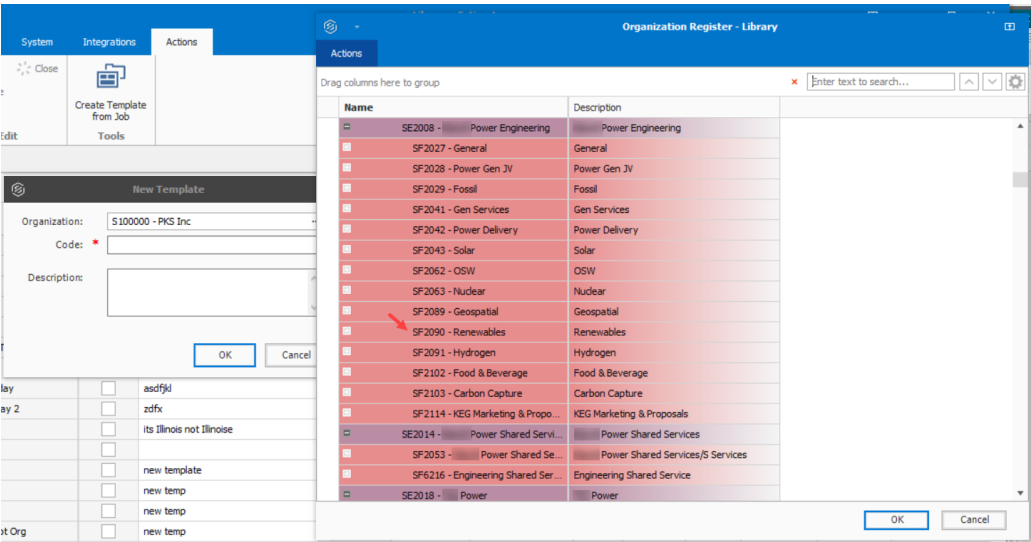
4. Click the **ellipsis** to the right of the Organization field.



The 'New Template' dialog box is shown. It has a title bar with a gear icon and the text 'New Template'. Below the title bar, there are three input fields: 'Organization:' with a dropdown menu showing 'S100000 - PKS Inc' and a red arrow pointing to the dropdown arrow; 'Code:' with a red asterisk and an empty text box; and 'Description:' with an empty text box and a vertical scrollbar. At the bottom, there are two buttons: 'OK' and 'Cancel'.

The Organization Register Library opens.

5. In the Organization Register Library, select **SF2090-Renewables**, and then click **OK**.



The 'Organization Register - Library' window is shown. It has a title bar with a gear icon and the text 'Organization Register - Library'. Below the title bar, there is a search bar with the text 'Enter text to search...'. Below the search bar, there is a table with two columns: 'Name' and 'Description'. The table contains a list of organizations, including 'SE2008 - Power Engineering', 'SF2027 - General', 'SF2028 - Power Gen JV', 'SF2029 - Fossil', 'SF2041 - Gen Services', 'SF2042 - Power Delivery', 'SF2043 - Solar', 'SF2062 - OSW', 'SF2063 - Nuclear', 'SF2089 - Geospatial', 'SF2090 - Renewables' (highlighted with a red arrow), 'SF2091 - Hydrogen', 'SF2102 - Food & Beverage', 'SF2103 - Carbon Capture', 'SF2114 - KEG Marketing & Propo...', 'SE2014 - Power Shared Servi...', 'SF2053 - Power Shared Se...', 'SF6216 - Engineering Shared Ser...', and 'SE2018 - Power'. At the bottom, there are two buttons: 'OK' and 'Cancel'.

The new template will be set at the SF2090-Renewables node in the OBS. Users assigned to the SF2090-Renewables level or above in the OBS will be permitted to use this template when creating estimates.

6. The next step will be to create a new template code and a description to complete the new template creation process.

Template Register

Drag columns here to group

	Code
→	1109-T1
	555
	555-666
	AAA
	AL Proj not at root org
	AL Template from Texas DOT
	AL Template X
	Another Test Template

New Template

Organization: SF2090 - Renewables

Code: *

Description:

OKCancel

What's next: After the template is created you can start to create estimates using a template.

Bid Wizard

InEight Estimate's Bid Wizard is a powerful tool that can help automate the process of setting up estimates by copying information that already exists in other InEight Estimate job folders. The Bid Wizard can be used to create new projects, create a new job from an existing template, or to add to projects that are already underway.

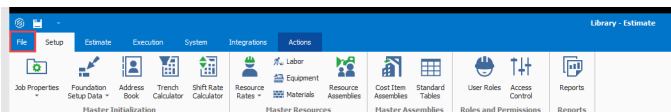
Rather than copying every part of an existing job, the Bid Wizard gives you more flexibility and control over which parts of a job you want to duplicate, e.g., pay items or cost items or both.

In most cases you will be copying cost items, but if you have a project with pay items that are commonly used, you can copy them into a new project. If you select pay items, you will be able to select cost items as well.

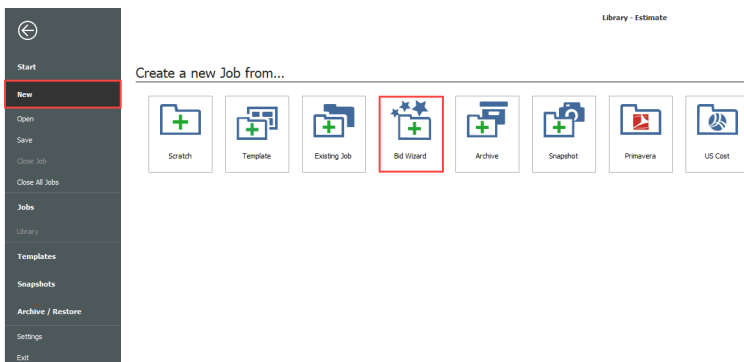
The following Step by Step walks you through how you can use the Bid Wizard to create a new job by importing pay items and their associated costs from an existing job.

Step by Step — Use the Bid Wizard

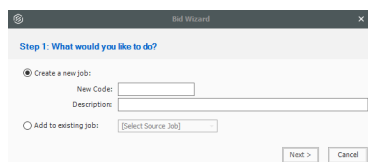
1. To open the Bid Wizard, click the File tab on the Estimate landing page.



2. From the left side panel, select New, then select Bid Wizard.



- The Bid Wizard – Step 1 dialog displays

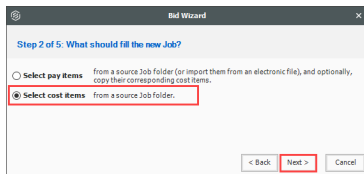


Notice that you can either create a new project or add to an existing project.

3. Type E101 Bid Wizard (with your initials) in the New Code field.
4. Type Bid Wizard Example in the Description field.
5. Click the Next button.

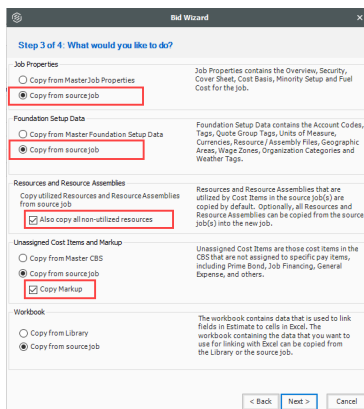
- The Bid Wizard – Step 2 dialog displays

6. Choose Select cost items and click Next.



- The Bid Wizard – Step 3 of 4 dialog displays
- You use this step to indicate which source you want to pull your setup data from (the library or your source job)

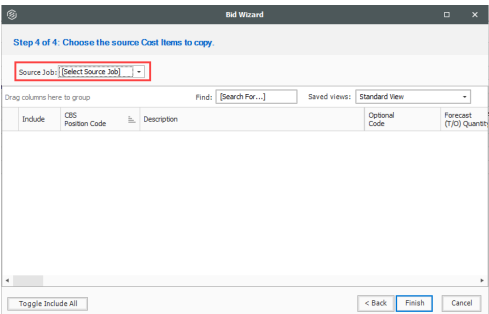
7. For all selections, select Copy from source job.
8. Check the Also copy all non-utilized resources checkbox.
9. Select Copy from source job under Unassigned Cost Items and Markup, and the Copy Markup box is automatically selected.



10. Click Next.

- The Bid Wizard – Step 4 of 4 dialog displays

11. Click the Source Job drop-down arrow.



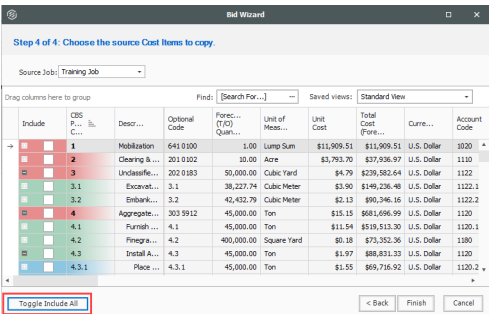
- The Job Register opens

12. Find and select Training Job.

13. Click OK.

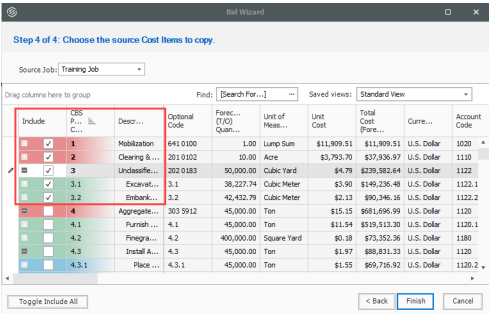
- This screen displays the cost items of the source job (Training Job). All items are automatically selected

14. Use the Toggle Include All button to exclude all selections.



15. Select the checkboxes to include Mobilization, Clearing & Grubbing, and Unclassified Excavation.

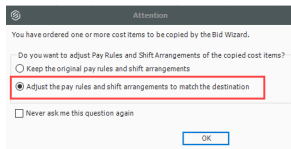
16. Notice that when selecting Unclassified Excavation, that cost item's subordinates are automatically selected



17. Click Finish to add the new job.

- An Attention prompt appears asking, “Do you want to adjust Pay Rules and Shift Arrangements of the copied cost items?”
- Typically, you will want to use the shifts and payment rules of your new destination job.

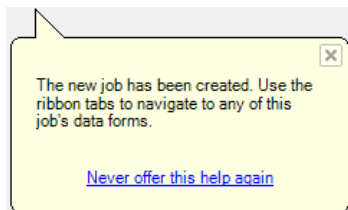
18. Select Adjust the pay rules and shift arrangements to match the destination.



19. Click OK.

- A help bubble appears letting you know the job has been created, and that you can use the ribbon tabs on the Estimate landing page to open any form

20. Close the help bubble by selecting the X in the upper right corner.



21. Open the Estimate > CBS to see the three cost items that were brought in.

Cost Breakdown Structure (CBS) Register				
Drag columns here to group				
CBS Position Code	Description	Really Optional Code	Forecast (T/F) Quantity	Unit of Measure
→	JOB		1.00	Lump Sum
+	Prime Bond	PRIME BOND	1.00	Lump Sum
+	Price % Add-On	PRICE % ADD-ON	1.00	Lump Sum
+	Job Financing	FINANCE EXPENSE	1.00	Lump Sum
+	Indirect Cost Escalation	INDIRECT COST ESCAL...	1.00	Lump Sum
+	Direct Cost Escalation	DIRECT COST ESCALAT...	1.00	Lump Sum
+	Indirect Cost Add-On	INDIRECT COST ADD-ON	1.00	Lump Sum
+	Job Management & Equipment	JOB MANAGEMENT & E...	1.00	Lump Sum
+	General Expense	GENERAL EXPENSE	1.00	Lump Sum
+	Direct Cost Add-On	DIRECT COST ADD-ON	1.00	Lump Sum
+	1 Mobilization	641 0 000	1.00	Lump Sum
+	2 Clearing & Grubbing	201 0 002	10.00	Acre
+	3 Unclassified Excavation	202 0 003	50,000.00	Cubic Yard
+	3.1 Excavation	3.1	38,227.74	Cubic Meter
+	3.2 Embankment	3.2	42,432.79	Cubic Meter

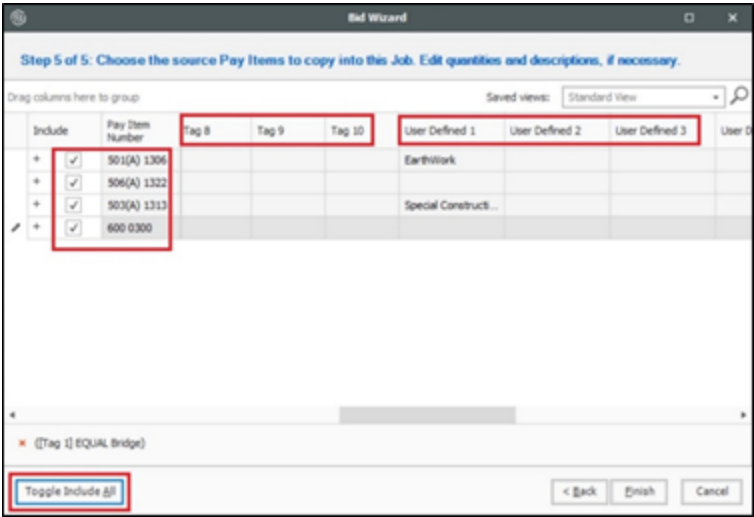
Bid Wizard Updates

While using the Bid Wizard, the Include option is left unchecked by default. A filter is applied to bring in pay items when using the Bid Wizard. The Toggle Include All button only selects the filtered list of items instead of all items.

When the filter criteria is modified, the selected items remain checked even if some of the items might not be visible in the view. When the view is changed, the selected items remain checked.

Tags and UDF fields are included in the **Bid Wizard Selection** register for the cost items and Pay Item & Proposal selection registers. This lets you filter the list of cost items based on a tag or UDF.

When you select the **Toggle Select All** button, only filtered items are included which allow you to include scopes of work relevant to your estimate without having to manually select all items needed.



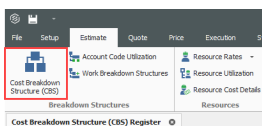
Copy Estimate Data Using Edit Commands

While the Bid Wizard is an efficient way to copy cost history into new projects, you may prefer to use edit commands such as copy and paste to bring cost history into your estimate.

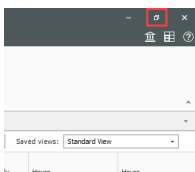
To copy and paste cost history from one job to another, it is beneficial to see the jobs side by side. The following steps walk you through the process.

Step by Step — Copy Estimate Data Using Edit Commands

1. Click the File tab from the Estimate landing page and open the E101 Bid Wizard job you just created.
2. Open the Training Job (if you do not still have it open).
3. Make sure the CBS is open for both jobs by going to the Estimate menu and selecting Cost Breakdown Structure (CBS).



4. Since you have both jobs open and they are in their own application window, align them to side by side by using the minimize icons of each job or utilizing Windows align functionality.



- Note that the window caption identifies the CBS Register for each job

Training Job - Estimate										E101 Bid Wizard - Estimate									
Cost Breakdown Structure (CBS) Register										Cost Breakdown Structure (CBS) Register									
CBS Position Code	Description	Really Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	CBS Position Code	Description	Really Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)						
+	JOB		20.00	Mile	\$3,633,147...	\$72,662,954...	+	JOB		1.00	Lump Sum	\$5,643,071...	\$5,643,071.88						
+	Prime Bond	PRIME BOND	1.00	Lump Sum	\$47,119.07	\$47,119.07	+	Prime Bond	PRIME BOND	1.00	Lump Sum	\$5,492.11	\$5,492.11						
+	Price % Add-On	PRICE % ADD-ON	1.00	Lump Sum	\$295,371.61	\$295,371.61	+	Price % Add-On	PRICE % ADD-ON	1.00	Lump Sum	\$23,005.49	\$23,005.49						
+	Job Financing	FINANCE EXPENSE	1.00	Lump Sum	\$0.00	\$0.00	+	Job Financing	FINANCE EXPENSE	1.00	Lump Sum	\$0.00	\$0.00						
+	Indirect Cost Escalation	INDIRECT COST ESCAL...	1.00	Lump Sum	\$0.00	\$0.00	+	Indirect Cost Escalation	INDIRECT COST ESCAL...	1.00	Lump Sum	\$0.00	\$0.00						
+	Direct Cost Escalation	DIRECT COST ESCALAT...	1.00	Lump Sum	\$19,131.77	\$19,131.77	+	Direct Cost Escalation	DIRECT COST ESCALAT...	1.00	Lump Sum	\$0.00	\$0.00						
+	Indirect Cost Add-On	INDIRECT COST ADD-ON	1.00	Lump Sum	\$59,476.54	\$59,476.54	+	Indirect Cost Add-On	INDIRECT COST ADD-ON	1.00	Lump Sum	\$3,280.16	\$3,280.16						
+	Job Management & Equipment	JOB MANAGEMENT & E...	1.00	Lump Sum	\$125,896.28	\$125,896.28	+	Job Management & Equipment	JOB MANAGEMENT & E...	1.00	Lump Sum	\$125,896.28	\$125,896.28						
+	General Expense	GENERAL EXPENSE	1.00	Lump Sum	\$4,200.00	\$4,200.00	+	General Expense	GENERAL EXPENSE	1.00	Lump Sum	\$4,200.00	\$4,200.00						
+	Direct Cost Add-On	DIRECT COST ADD-ON	1.00	Lump Sum	\$104,203.16	\$104,203.16	+	Direct Cost Add-On	DIRECT COST ADD-ON	1.00	Lump Sum	\$5,788.58	\$5,788.58						
+	1 Mobilization	641 0100	2.00	Lump Sum	\$11,909.51	\$23,819.02	+	1 Mobilization	641 0100	1.00	Lump Sum	\$11,909.51	\$11,909.51						
+	2 Clearing & Grubbing	201 0102	30.00	Acre	\$3,793.70	\$37,936.97	+	2 Clearing & Grubbing	201 0102	30.00	Acre	\$3,793.70	\$37,936.97						
+	3 Unclassified Excavation	202 0183	50,000.00	Cubic Yard	\$4.94	\$246,901.12	+	3 Unclassified Excavation	202 0183	50,000.00	Cubic Yard	\$4.79	\$239,582.64						
+	3.1 Excavation	3.1	38,227.74	Cubic Meter	\$4.10	\$156,554.96	+	3.1 Excavation	3.1	38,227.74	Cubic Meter	\$3.90	\$149,236.48						
+	3.2 Embankment	3.2	42,432.79	Cubic Meter	\$2.12	\$90,146.16	+	3.2 Embankment	3.2	42,432.79	Cubic Meter	\$2.12	\$90,146.16						
+	4 Aggregate Base	303 5912	45,000.00	Ton	\$15.15	\$681,696.99													

5. On the CBS of the Training Job, click the row header on cost item 4 – Aggregate Base and press Ctrl+C to copy the cost item.

→	4	Aggregate Base	303 5912
+	4.1	Furnish & Haul Base Material	4.1
+	4.2	Finegrade Subgrade	4.2
+	4.3	Install Aggregate Base	4.3
+	4.3.1	Place Aggregate Base	4.3.1
+	4.3.2	Blue Top Aggregate Base	4.3.2

When you copy a superior cost item, all of its subordinates are automatically copied.

6. On the CBS of the E101 Bid Wizard job, click the row header on the first blank register row, and press Ctrl+V to paste the cost item.

+	1	Mobilization	641 0100	1.00	Lump Sum
+	2	Clearing & Grubbing	201 0102	10.00	Acre
+	3	Unclassified Excavation	202 0183	50,000.00	Cubic Yard
+	3.1	Excavation	3.1	38,227.74	Cubic Meter
+	3.2	Embankment	3.2	42,432.79	Cubic Meter

7. On the Attention dialog, select Adjust the pay rules and shift arrangements to match the destination and click OK.

Attention

You have ordered one or more cost items to be copied and inserted as subordinates to the Cost Item at CBS Position Code <000>.

Do you want to Adjust Pay Rules and Shift Arrangements of the copied cost items?

☐ Keep the original pay rules and shift arrangements
☒ Adjust the pay rules and shift arrangements to match the destination
☐ Never ask me this question again

OK Cancel

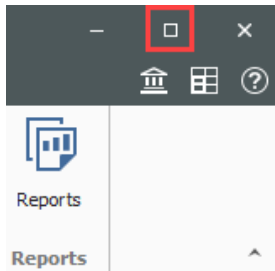
- You can see in the destination job's CBS that you've added the Aggregate Base cost item, along with its subordinate cost items and all cost and productivity detail

Training Job - Estimate										E101 Bid Wizard - Estimate									
Cost Breakdown Structure (CBS) Register										Cost Breakdown Structure (CBS) Register									
CBS Position Code	Description	Really Optional Code	Forecast (TYO) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	CBS Position Code	Description	Really Optional Code	Forecast (TYO) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)						
+	JOB		20.00	Mile	\$3,633,147.00	\$72,662,954.00	+	JOB		1.00	Lump Sum	\$14,870,330.00	\$14,870,330.00						
+	Prime Bond	PRIME BOND	1.00	Lump Sum	\$47,119.07	\$47,119.07	+	Prime Bond	PRIME BOND	1.00	Lump Sum	\$12,328.94	\$12,328.94						
+	Price % Add-On	PRICE % ADD-ON	1.00	Lump Sum	\$295,371.61	\$295,371.61	+	Price % Add-On	PRICE % ADD-ON	1.00	Lump Sum	\$60,524.65	\$60,524.65						
+	Job Financing	FINANCE EXPENSE	1.00	Lump Sum	\$0.00	\$0.00	+	Job Financing	FINANCE EXPENSE	1.00	Lump Sum	\$0.00	\$0.00						
+	Indirect Cost Escalation	INDIRECT COST ESCALATION	1.00	Lump Sum	\$0.00	\$0.00	+	Indirect Cost Escalation	INDIRECT COST ESCALATION	1.00	Lump Sum	\$0.00	\$0.00						
+	Direct Cost Escalation	DIRECT COST ESCALATION	1.00	Lump Sum	\$19,131.77	\$19,131.77	+	Direct Cost Escalation	DIRECT COST ESCALATION	1.00	Lump Sum	\$0.00	\$0.00						
+	Indirect Cost Add-On	INDIRECT COST ADD-ON	1.00	Lump Sum	\$59,476.54	\$59,476.54	+	Indirect Cost Add-On	INDIRECT COST ADD-ON	1.00	Lump Sum	\$11,005.99	\$11,005.99						
+	Job Management & Equipment	JOB MANAGEMENT & EQUIPMENT	1.00	Lump Sum	\$125,896.28	\$125,896.28	+	Job Management & Equipment	JOB MANAGEMENT & EQUIPMENT	1.00	Lump Sum	\$125,896.28	\$125,896.28						
+	General Expense	GENERAL EXPENSE	1.00	Lump Sum	\$4,200.00	\$4,200.00	+	General Expense	GENERAL EXPENSE	1.00	Lump Sum	\$4,200.00	\$4,200.00						
+	Direct Cost Add-On	DIRECT COST ADD-ON	1.00	Lump Sum	\$104,203.16	\$104,203.16	+	Direct Cost Add-On	DIRECT COST ADD-ON	1.00	Lump Sum	\$19,422.52	\$19,422.52						
+	Mobilization	641 0100	2.00	Lump Sum	\$11,909.51	\$22,819.02	+	Mobilization	641 0100	1.00	Lump Sum	\$11,909.51	\$11,909.51						
+	Clearing & Grubbing	201 0102	10.00	Acre	\$5,793.70	\$57,936.97	+	Clearing & Grubbing	201 0102	10.00	Acre	\$3,793.70	\$37,936.97						
+	Unclassified Excavation	202 0183	50,000.00	Cubic Yard	\$4.94	\$246,901.12	+	Unclassified Excavation	202 0183	50,000.00	Cubic Yard	\$4.94	\$246,901.12						
+	Excavation	3.1	38,227.74	Cubic Meter	\$4.10	\$156,554.96	+	Excavation	3.1	38,227.74	Cubic Meter	\$3.90	\$149,236.48						
+	Embankment	3.2	42,432.79	Cubic Meter	\$2.13	\$90,346.16	+	Embankment	3.2	42,432.79	Cubic Meter	\$2.13	\$90,346.16						
+	Aggregate Base	303 5912	45,000.00	Ton	\$15.15	\$681,696.99	+	Aggregate Base	303 5912	45,000.00	Ton	\$15.15	\$681,696.99						
+	Furnish & Haul Base Material	4.1	45,000.00	Ton	\$11.54	\$519,513.30	+	Furnish & Haul Base Material	4.1	45,000.00	Ton	\$11.54	\$519,513.30						
+	Finegrade Subgrade	4.2	400,000.00	Square Yard	\$0.18	\$72,362.36	+	Finegrade Subgrade	4.2	400,000.00	Square Yard	\$0.18	\$72,362.36						
+	Initial Aggregate Base	4.3	45,000.00	Ton	\$1.97	\$88,831.33	+	Initial Aggregate Base	4.3	45,000.00	Ton	\$1.97	\$88,831.33						
+	Place Aggregate Base	4.3.1	45,000.00	Ton	\$1.55	\$69,716.92	+	Place Aggregate Base	4.3.1	45,000.00	Ton	\$1.55	\$69,716.92						
+	Blue Top Aggregate Base	4.3.2	400,000.00	Square Yard	\$0.05	\$19,114.42	+	Blue Top Aggregate Base	4.3.2	400,000.00	Square Yard	\$0.05	\$19,114.42						
+	Asphalt Concrete Hot Mix Type A	303 4263	35,000.00	Ton	\$42.62	\$1,491,580.59													

You can also drag and drop cost items from one CBS to another instead of copying and pasting.

Copied cost items are considered Job Overhead until they are assigned to a pay item

8. To go back to your full screen view of the E101 Bid Wizard job, select the maximize icon.



CBS Bid Wizard

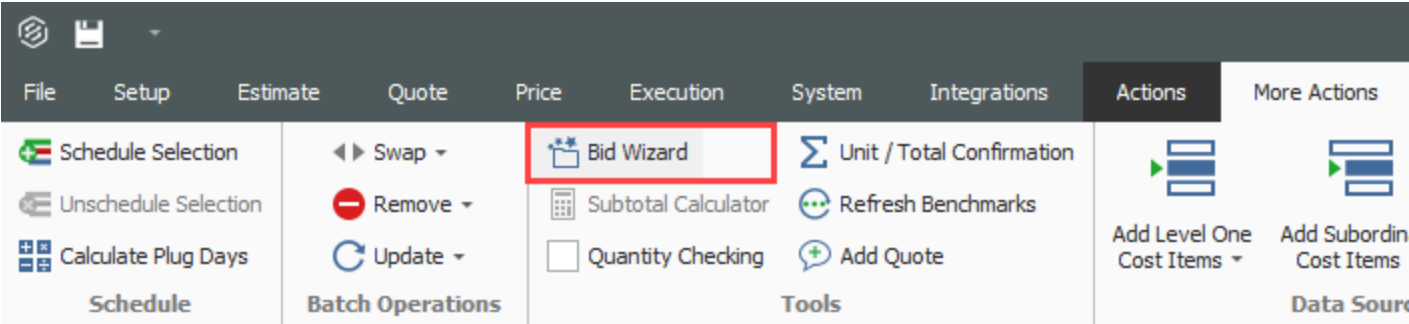
You can also use the Bid Wizard to add cost items while you are in the CBS Register. The following steps walk through using the CBS Bid Wizard.

Step by Step — Use the CBS Bid Wizard

- 1. Click the File tab from the Estimate landing page and open the E101 Bid Wizard job you created.
- 2. From the Estimate tab, select Cost Breakdown Structure (CBS).
- 3. Create a new cost item by typing New in the Description column on the bottom row of the CBS
- 4. Highlight the New row.

4	Aggregate Base	303 5912	45,000.00	Ton
+ 4.1	Furnish & Haul Base Material	4.1	45,000.00	Ton
+ 4.2	Primegrade Subgrade	4.2	400,000.00	Square Yard
+ 4.3	Initial Aggregate Base	4.3	45,000.00	Ton
+ 4.3.1	Place Aggregate Base	4.3.1	45,000.00	Ton
+ 4.3.2	Blue Top Aggregate Base	4.3.2	400,000.00	Square Yard
New			1.00	Each

- 5. To open the CBS Bid Wizard, click the Bid Wizard icon on the More Actions tab.



- The Bid Wizard window opens

- 6. Click in the Source Job column on the New cost item row.

Place Aggregate Base		45,000.00	Ton	[Select Source Job]
Blue Top Aggregate Base		400,000.00	Square Yard	[Select Source Job]
New		1.00	Each	[Select Source J... ▼]

- 7. From the Source Job drop-down list, select Training Job.
- 8. Scroll to the right of the Source Job column and click in the Source CBS Position Code column on the New Cost item row.
 - A source CBS Register window appears
- 9. Select CBS position code 5 – Asphalt Concrete Hot Mix Type A from the register.

Drag columns here to group Find: [Search For...] ... Saved views: Previous View

	CBS Position Code	Description	Really Optional Code	Unit of Measure	Forecast (T/O) Quantity
	4.2	Finegrade Subgrade	4.2	Square Yard	
	4.3	Install Aggregate Base	4.3	Ton	
	4.3.1	Place Aggregate Base	4.3.1	Ton	
	4.3.2	Blue Top Aggregate Base	4.3.2	Square Yard	
→	5	Asphalt Concrete Hot Mix Type A	303 4263	Ton	
	5.1	Furnish & Haul Hot Mix	5.1	Ton	
	5.2	Install Hot Mix Type A	5.2	Ton	
	6	36 Inch RCP Culvert Class III	413(B) 0464	Linear Feet	
	6.1	Furnish RCP Materials	6.1	Linear Feet	
	6.2	Excavate RCP Trench	6.2	Cubic Yard	
	6.3	Install RCP Pipe	6.3	Linear Feet	
	6.4	Backfill RCP Pipe	6.4	Cubic Yard	

OK Cancel

10. Click OK.

11. Click Finish on the Bid Wizard.

- An Attention prompt displays, asking if you want to make adjustments
- Keep the default options selected: Make Adjustments according to their quantity drivers and cost drivers and Adjust the pay rules and shift arrangements to match the destination

12. Click OK.

Attention

You have ordered one or more cost items, or just their details, to be copied by the Bid Wizard.

Do you want to adjust cost items and cost details based on the destination's pay rules?

☐ Do not make adjustments

☒ Make adjustments according to their quantity drivers and cost drivers

Do you want to adjust Pay Rules and Shift Arrangements of the copied cost items?

☐ Keep the original pay rules and shift arrangements

☒ Adjust the pay rules and shift arrangements to match the destination

☐ Never ask me this question again

OK Cancel

- You can see that cost item 5 and its subordinates are now imported into your existing job.
- You could choose a new name for the cost item, or name it Asphalt Concrete Hot Mix Type A to match the original cost item

	4.3	Install Aggregate Base	4.3	45,000.00
+	4.3.1	Place Aggregate Base	4.3.1	45,000.00
+	4.3.2	Blue Top Aggregate Base	4.3.2	400,000.00
		5	Asphalt Concrete Hot Mix Type A	1.00
+	5.1	Furnish & Haul Hot Mix	5.1	1.00
+	5.2	Install Hot Mix Type A	5.2	1.00
				

Snapshots

A job snapshot is a copy of an estimate that provides read-only access to the job as it existed at a specific point in time. You can now filter the Snapshot register to jobs containing snapshots.

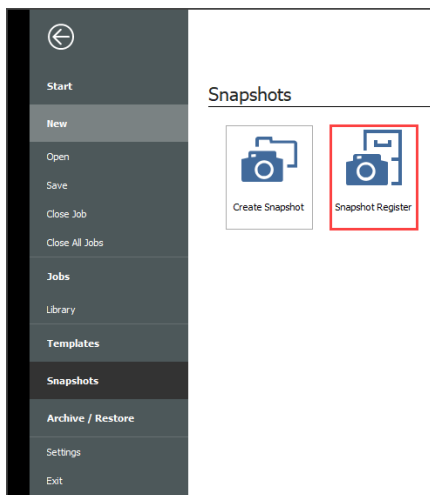
The Snapshot register has some additional columns as well. In addition to the Code, Description, Last Saved, and Version column, the Snapshot register contains all fields that are present on the Jobs register that provides you with an easier way to group, sort, filter, and find the jobs you need.

Snapshot Register

The Snapshot Register is where you will view individual snapshots for specific jobs.

Step by Step — Snapshot Register

1. Click the File tab to open the Backstage View. In the panel, select Snapshots.
2. From the Snapshots form, select the Snapshot Register tab.



3. To view individual snapshots for specific jobs, click the  icon next to the desired job to display the list of snapshots.

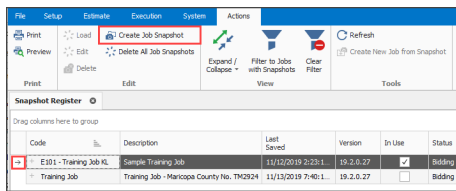
Code	Description
→ E101 - Training Job XL	Sample Training Job
Training Job	Training Job - Maricopa County No. TM2024

Creating a New Job Snapshot

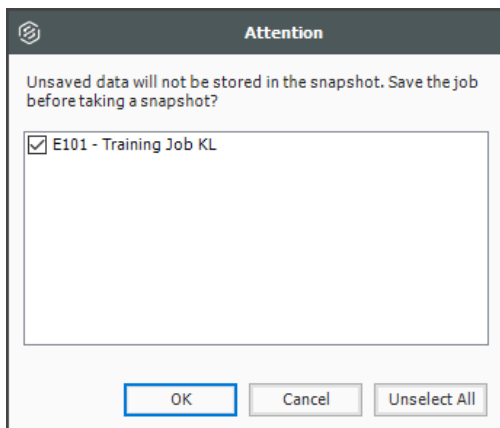
Step by Step — Create a New Job Snapshot

You can create a Job Snapshot from an existing Job.

1. From the Snapshots form, select the Create Snapshot tab.

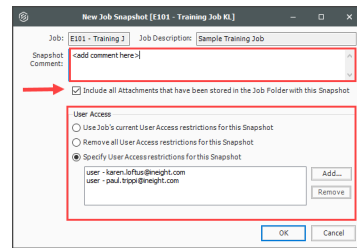


2. If an existing job is open select Save, if you haven't already done so.

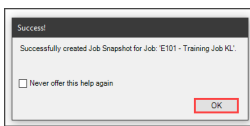


3. A New Job Snapshot [Job Code Here] dialog box appears. From there, you can add a Snapshot comment.
 - If you want to Include all Attachments that have been stored in the Job Folder with this Snapshot, select the check box, otherwise uncheck the box.
 - If you want to Use Job's current User Access restrictions for this Snapshot, select this radio button.
 - If you want to Remove User Access restrictions for this Snapshot and allow read-only access to all users, select this radio button
 - If you want to Specify User Access restrictions for this Snapshot (default selection), select this option
 - Then use the Add and Remove buttons to specify user access using Active Directory.

(Users with current access to the job default onto the list.)



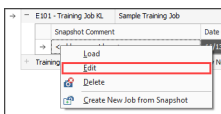
4. Click OK to create the snapshot.
5. A pop-up indicates when the snapshot has been created.



Editing a Job Snapshot

Step by Step — Edit a Job Snapshot

1. From the Snapshot Register, click the  icon next to the desired job to display snapshots.
2. Right-click on the individual snapshot you want to edit and select Edit.



3. The same sort of dialog box opens up as when you created the Snapshot. In this case, from the Edit Job Snapshot [Job Code Here] dialog box, modify the Snapshot Comment and the User Access options as needed.
 - If you want to Include all Attachments that have been stored in the Job Folder with this Snapshot, select the check box. Otherwise, uncheck the box
 - If you want to Use Job's current User Access restrictions for this Snapshot, select this radio button
 - If you want to Remove User Access restrictions for this Snapshot and allow read-only access to all users, select this radio button

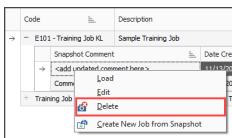
- If you want to Specify User Access restrictions for this Snapshot (default selection), select this option
 - Then use the Add and Remove buttons to specify user access using Active Directory. (Users with current access to the job default onto the list.)

4. Click OK to update the snapshot.

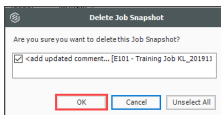
Deleting a Job Snapshot

Step by Step — Delete a Job Snapshot

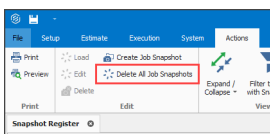
1. From the Snapshot Register, click the  icon next to the desired job to display snapshots.
2. Right-click on the individual snapshot you want to delete snapshots from and select Delete.



3. Click OK



Alternatively, you can delete all Job Snapshots by clicking Delete All Job Snapshots from the Actions tab.

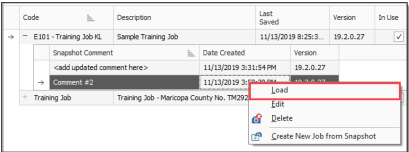


Loading a Job Snapshot

When you load an existing Snapshot, it loads into Estimate as any other job.

Step by Step — Load a Job Snapshot

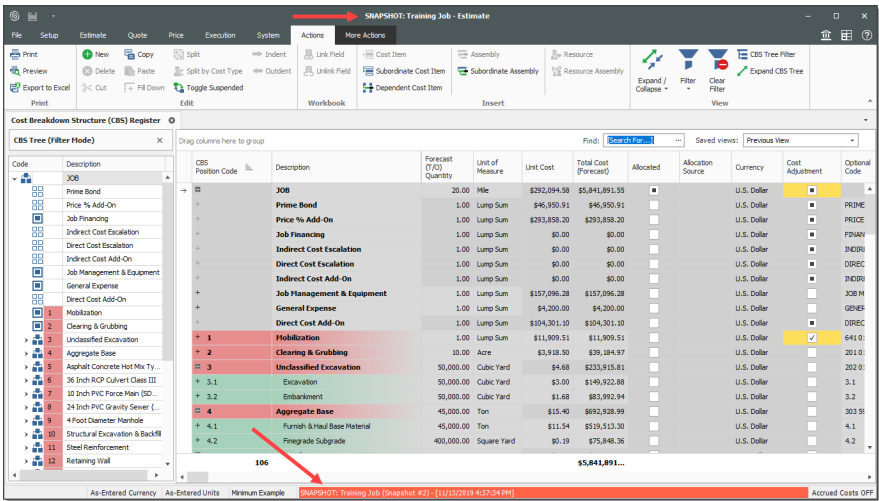
1. Click the File tab to open the Backstage View, then select Snapshots.
2. From the Snapshots form, select the Snapshot Register tab.
3. On the Snapshot Register, click the  icon next to the desired job to display the list of snapshots.
4. Right-click on the individual snapshot you want to load and select Load.



To identify a snapshot in Estimate as a read-only snapshot:

- The job name is preceded by the label **SNAPSHOT:** centered on the top of the toolbar
- A red banner shows the specific snapshot information at the bottom of the screen

A snapshot can be modified, but it cannot be saved as it is read-only.



Export to Excel

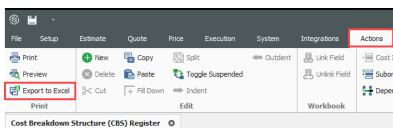
InEight Estimate's integration with Microsoft Excel includes a two-way integration that allows you to update register fields in InEight Estimate with data contained in an Excel workbook, and update Excel cells with data contained in a register column in InEight Estimate.

InEight Estimate includes a workbook export that makes it easy to transfer data out of InEight Estimate register forms to Microsoft Excel spreadsheets. This feature makes it faster and easier to send data from an InEight Estimate register to a spreadsheet, analyze it, modify it, and customize it for any other uses.

The Export to Excel feature is available on all register forms in the system and allows you to export the data currently displayed on a register form to an Excel worksheet.

Step by Step — Export Data to an Excel Workbook

1. Open the Training Job and from the Estimate tab, open the CBS Register.
2. From the Actions tab, select Export to Excel.



3. On the Export spreadsheet to... dialog, browse to the location (folder) in your system where you want to save the workbook, enter CBS Export in the File name field, and click Save.
 - The workbook is saved to that location with the specified file name, and Excel automatically launches and displays the workbook
 - Notice that the columns are formatted, with column headers and filtering turned on

 A screenshot of a Microsoft Excel spreadsheet titled 'CBS Export - Excel'. The spreadsheet displays a list of construction items with columns for Position Code, Description, Forecast (F/O), Unit of Measure, Unit Cost, Total Cost (Forecast), and Currency. The data is formatted with column headers and filtering is turned on.

Position Code	Description	Forecast (F/O)	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
1	CBS Position Code					
2	JOB	20.00	Mile	\$292,316.18	\$5,846,323.66	U.S. Dollar
3	Prime Bond	1.00	Lump Sum	\$46,974.12	\$46,974.12	U.S. Dollar
4	Price % Add-On	1.00	Lump Sum	\$294,067.09	\$294,067.09	U.S. Dollar
5	Job Financing	1.00	Lump Sum	\$0.00	\$0.00	U.S. Dollar
6	Indirect Cost Escalation	1.00	Lump Sum	\$0.00	\$0.00	U.S. Dollar
7	Direct Cost Escalation	1.00	Lump Sum	\$0.00	\$0.00	U.S. Dollar
8	Indirect Cost Add-On	1.00	Lump Sum	\$0.00	\$0.00	U.S. Dollar
9	Job Management & Equipment	1.00	Lump Sum	\$157,096.26	\$157,096.26	U.S. Dollar
10	General Expense	1.00	Lump Sum	\$4,200.00	\$4,200.00	U.S. Dollar
11	Direct Cost Add-On	1.00	Lump Sum	\$104,301.10	\$104,301.10	U.S. Dollar
12	Mobilization	1.00	Lump Sum	\$11,909.51	\$11,909.51	U.S. Dollar
13	Clearing & Grubbing	10.00	Acre	\$5,918.50	\$59,185.00	U.S. Dollar
14	Unclassified Excavation	50,000.00	Cubic Yard	\$4.46	\$223,915.61	U.S. Dollar
15	Aggregate Base	45,000.00	Ton	\$15.40	\$692,928.99	U.S. Dollar
16	Asphalt Concrete Hot Mix Type A	35,000.00	Ton	\$42.62	\$1,491,580.59	U.S. Dollar
17	Furnish & Haul Hot Mix	35,000.00	Ton	\$99.27	\$3,474,562.54	U.S. Dollar
18	Install Hot Mix Type A	35,000.00	Ton	\$3.34	\$117,018.05	U.S. Dollar
19	36 inch RCP Culvert Class III	1,024.00	Linear Feet	\$67.54	\$69,159.49	U.S. Dollar
20	Furnish RCP Materials	1,024.00	Linear Feet	\$33.48	\$34,286.70	U.S. Dollar
21	Excavate RCP Trench	1,858.56	Cubic Yard	\$4.51	\$8,379.59	U.S. Dollar
22	Install RCP Pipe	1,024.00	Linear Feet	\$11.78	\$12,017.60	U.S. Dollar

Cell Select

To copy and paste data in InEight Estimate or to Excel, you can use a feature called Cell Select. Walk through the following steps to learn how to copy specific fields in InEight Estimate to an Excel Spreadsheet.

Step by Step — Cell Select

1. Open the Training Job and from the Setup tab, open the Resource Rate Register.
2. Select the Labor tab.
3. Select Print View for Summary from your Saved Views drop-down menu.
4. From the top-right corner, select the Cell Select  icon, (next to the Help icon). This puts you in *Cell Select* mode, so you can select cells to copy in the same way you would in Excel.
5. With the Cell Select icon active, highlight all information in the Description, Utilization Count and Unit of Measure columns for all Labor resources.

Resource Rate Register					
All	Labor	Construction Equipment	Rented Construction Equipment	Installed Material	Installed Equipment
				Supplies	Uniq
Drag columns here to group					
Resource Code	Description	Utilization Count	Unit of Measure		
+ LC1	Carpenter Apprentice	594.37	Hour		
+ LC2	Carpenter Journeyman	1,188.73	Hour		
+ LC3	Carpenter Foreman	594.37	Hour		
+ LF1	Finisher Apprentice	0.00	Hour		
+ LF2	Finisher	594.37	Hour		
+ LF3	Finisher Foreman	0.00	Hour		
+ LIW1	Iron Worker	594.37	Hour		
+ LIW2	Iron Worker Foreman	0.00	Hour		
+ LL1	Labor Apprentice	0.00	Hour		
+ LL2	Laborer	8,963.73	Hour		
+ LL3	Labor Foreman	721.33	Hour		
+ LMECH	Mechanic	418.44	Hour		
+ LO1	Operator Class 1	1,800.00	Hour		
+ LO2	Operator Class 2	4,019.73	Hour		
+ LO3	Operator Class 3	889.33	Hour		
+ LO4	Operator Foreman	1,421.77	Hour		
+ LREM 01	Principal Eng/Scientist	0.00	Hour		
+ LREM 05	Field Technican	0.00	Hour		
+ LSPE	Project Engineer	800.00	Hour		
+ LSSEC	Secretary	800.00	Hour		
+ LSSUPT	Project Superintendent	800.00	Hour		
+ LT1	Teamster	3,056.77	Hour		
+ LT2	Teamster Foreman	0.00	Hour		
+ LWD	Welder	0.00	Hour		
→ LWDA	Welder Apprentice	0.00	Hour		
*					

- Right click on the selection and select Copy.
- Open an Excel spreadsheet, right click in the A1 field and select Paste Special, choosing CSV as the Source.
- Click OK. The fields you copied from InEight Estimate paste into the spreadsheet.

	A	B	C
1	Carpenter Apprentice	594.3650794 Hour	
2	Carpenter Journeyman	1188.730129 Hour	
3	Carpenter Foreman	594.3650794 Hour	
4	Finisher Apprentice	0 Hour	
5	Finisher	594.3650794 Hour	
6	Finisher Foreman	0 Hour	
7	Iron Worker	594.3650794 Hour	
8	Iron Worker Foreman	0 Hour	
9	Labor Apprentice	0 Hour	
10	Laborer	8963.733879 Hour	
11	Labor Foreman	721.3333333 Hour	
12	Mechanic	418.438986 Hour	
13	Operator Class 1	1800 Hour	
14	Operator Class 2	4019.732279 Hour	
15	Operator Class 3	889.3333333 Hour	
16	Operator Foreman	1421.768 Hour	
17	Principal Eng/Scientist	0 Hour	
18	Field Technician	0 Hour	
19	Project Engineer	800 Hour	
20	Secretary	800 Hour	
21	Project Superintendent	800 Hour	
22	Teamster	3056.768 Hour	
23	Teamster Foreman	0 Hour	
24	Welder	0 Hour	
25	Welder Apprentice	0 Hour	
26			

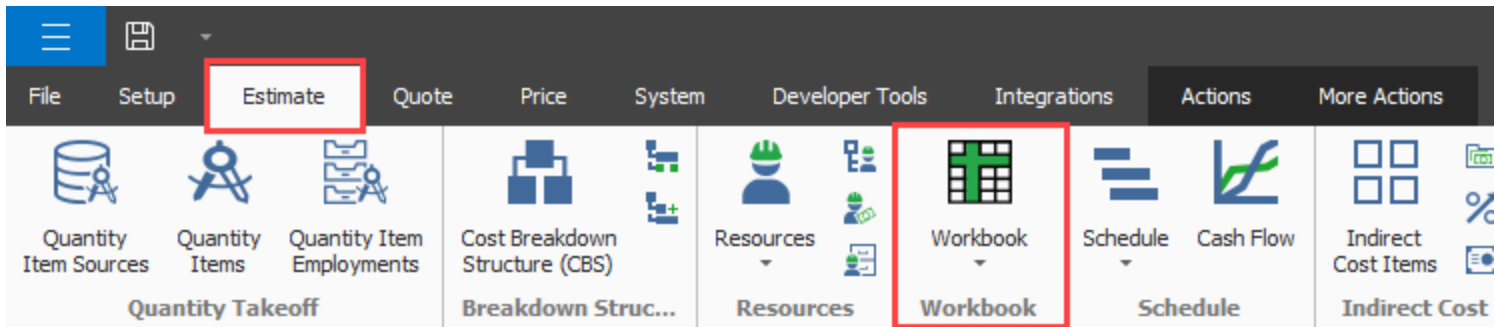
To turn off the Cell Select, simply click the Cell Select Icon again and it deselects

Linking to the Job Workbook

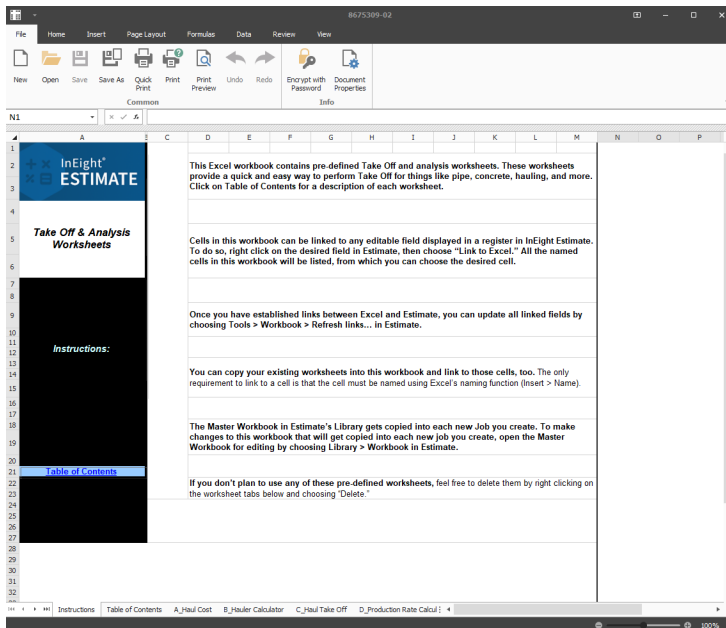
InEight Estimate Workbook

Every job has its own workbook embedded within it for doing side calculations and take-offs. You can link your calculations to fields in InEight Estimate to automatically update them into your estimate. When you create a new job from scratch, the Library Master Workbook is copied to create a new embedded workbook for the job.

The job workbook comes with some pre-defined take-off and analysis worksheets, or you can create your own. Simply open the appropriate job worksheet, plug in your values, and the worksheet will calculate your results. To open your job's workbook, select the **Estimate** tab, and then click on the **Workbook** icon in the Workbook section.



The embedded job workbook for the job opens.



Linking to and from the workbook

InEight Estimate's linking capabilities with the job workbook can be done in one of two ways. A field in InEight Estimate can be populated with a value from the job workbook, or a cell in the worksheet can be populated with the data from an InEight Estimate field. This two-way linking functionality lets you to make quick work of complex chores to perform workbook-based take-off or formula-driven analysis.

6	36 Inch RCP Culvert Class III	413(8) 0464	1,024.00	Linear Feet
+ 6.1	Furnish RCP Materials	6.1	1,024.00	Linear Feet
+ 6.2	Excavate RCP Trench	6.2	1,858.56	Cubic Yard

The following example walks through how to link a simple take-off calculation into InEight Estimate from the job workbook. It is a take-off to determine the size of a concrete foundation.

Step by Step — Link Estimate to the job's workbook

1. Open the Training Job and from the Estimate tab, open the CBS Register.
2. For this example, create a new cost item in the blank row at the bottom of the CBS register and name it Concrete Foundation.

Concrete Foundation		1.00	CY
---------------------	--	------	----

3. Open the job's workbook from the Estimate tab, by selecting the **Workbook** icon.
4. In the job's embedded workbook, create a new worksheet named Concrete Take-off and enter the following fields:

	A	B	C	D	E	F	G
1	Concrete Take-off						
2							
3	Length	10	yards				
4	Width	10	yards				
5	Height	0.5	yards				
6							
7							
8							
9							
10							
11							
12							

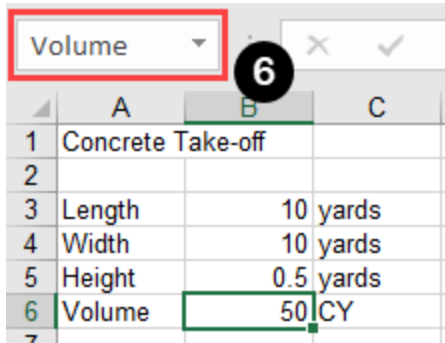
5. Create a new row to calculate the total cubic yards by factoring the length, width, and height quantities.

	A	B	C
1	Concrete Take-off		
2			
3	Length	10	yards
4	Width	10	yards
5	Height	0.5	yards
6	Volume	=sum(B3*B4*B5)	
7			

- Your Volume Total should be 50 cubic yards

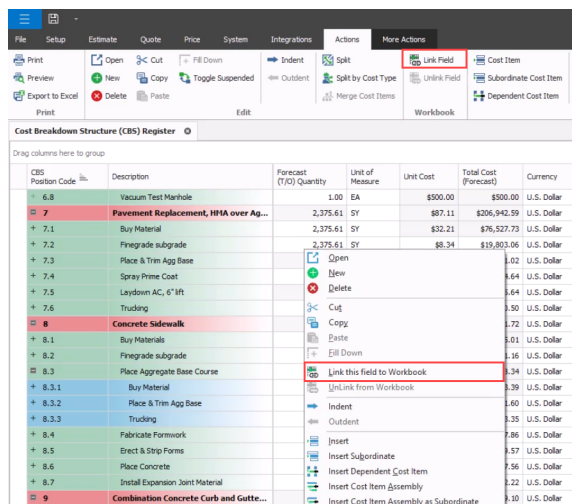
	A	B	C
1	Concrete Take-off		
2			
3	Length	10	yards
4	Width	10	yards
5	Height	0.5	yards
6	Volume	50	CY
7			

- InEight Estimate will only link to named fields in the worksheet. Click in the field you want to name (B6), then click in the Field Name window and type Volume.

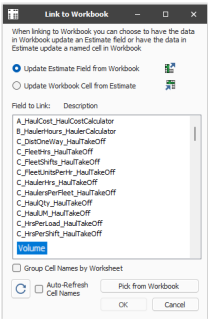


- Go back to the CBS register and right click on the Concrete Foundation cost item Forecast (T/O) Quantity field.
- From the resulting right click menu, select Link this field to Workbook.

- You can also link the field by selecting the field and then selecting **Link Field** from the Actions tab



- On the Link to Workbook dialog, select the Update Estimate Field from Workbook radio button.
- In the Field to link window, select Volume (you may need to click the Refresh  button for the field name to display).



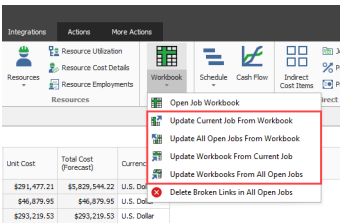
11. Click OK.

- The Forecast Quantity field for Concrete now is linked to the Volume field in the worksheet and populates with the take-off quantity (50)

CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure
26	Concrete Foundation	50.00	CF

Update Links

When data in InEight Estimate or the job workbook changes, you can quickly update all links, in just the currently active job or in all open jobs. Simply select one of the following options from the Workbook drop-down list on the Estimate tab.



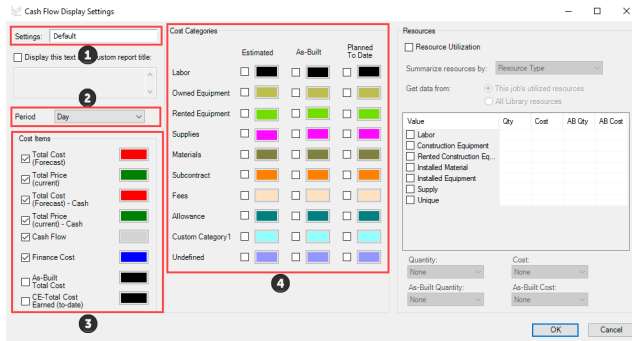
Cash Flow Display Settings

Cost Items and Cost Categories

The Cash Flow Display Settings allow you to control what information displays on the Cash Flow graph. To open the Display Settings click on the Actions > Display Settings  icon in the Tools section.

Overview – Cash Flow Display Settings – Cost Items and Cost Categories

Section	Description
1	You can save your display settings for future use.
2	Select how the graph measures the timing of your cash flow. Options include: Day, Week, Month, Quarter, and Year.
3	Under the Cost Items section, you can select: • Total Cost (Forecast): The total cost of your scheduled cost items, based on when your costs are accrued (when your cost items are scheduled). This is displayed as a dashed line on the graph • Total Price (current): The total revenue of your pay items, based on when the revenue is earned (when your cost items are scheduled). This is displayed as a dashed line on the graph • Total Cost (Forecast) – Cash: The total cost of your scheduled cost items, reflecting the cost timing you specify in the Cash Flow Options. This is displayed as a solid line on the graph • Total Price (current) – Cash: The total revenue of the pay items, reflecting the revenue timing you specify in the Cash Flow Options. This is displayed as a solid line on the graph • Cash Flow: Displays the difference between your Total Cost – Cash and Total Price – Cash values, so you can see if you are making or losing money • Finance Cost: Displays the Cost of Money amount calculated from the settings you specify in the Cash Flow Options
4	You can check the Estimated box for any specific cost categories you need to display. • The other check boxes are used for InEight Estimate Performance



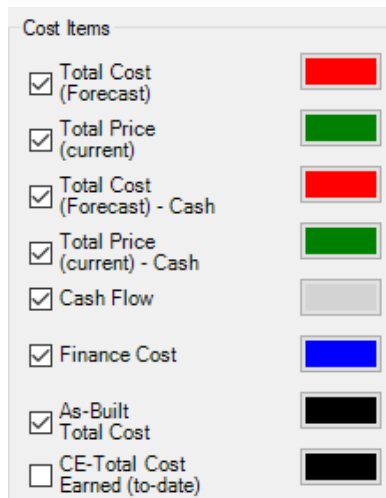
Cash Flow Display Set Up

The following steps walk you through setting up your Cash Flow Display Settings.

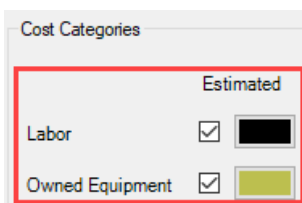
Step by Step — Cash Flow Display Settings Set Up

1. In the E101 – Training Job, from the Estimate tab, select Cash Flow from the Schedule section.
2. On the Actions tab, select Display Settings  to open the Display Settings window.
3. From the Period drop-down list, select Week.
4. Under the Cost Items section, make sure the following are selected:
 - Total Cost (Forecast)
 - Total Price (Forecast)
 - Total Cost (Forecast) – Cash
 - Total Price (Forecast) – Cash
 - Cash Flow

- Finance Cost

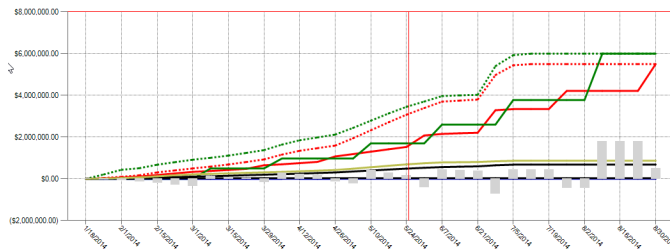


- Under the Cost Categories section, check the Estimated checkbox for the Labor and Owned Equipment categories.

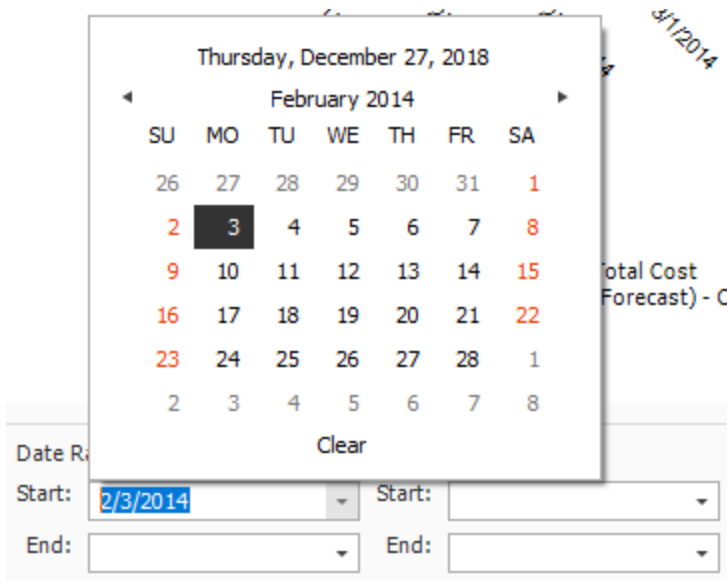


- Click OK to close the Display Settings window.
 - Your Total Cost (Forecast) displays as a dashed red line, indicating your accrued costs based on when your cost items are scheduled and the assigned cost curves for each cost item.
 - Your Total Price (current) displays as a dashed green line, indicating the revenue you've earned, based on the timing of your pay items
 - Your Total Cost (Forecast) – Cash displays as a solid red line, indicating your costs, based on when your cost items are scheduled and the cost timing defined in Cash Flow Options
 - Your Total Price (current) – Cash displays as a solid green line, indicating your revenue, based on the timing of your pay items and the revenue timing defined in Cash Flow Options
 - Your Cash Flow displays grey bars indicating when your cash flow is negative or positive

- Your Finance Cost displays as a blue line on the graph



- To filter your graph by date range, click on the Start drop-down arrow ▾ and select a start date of your date range filter.



- Click on the End drop-down arrow ▾ and select an end date of your date range filter.
 - Your graph now only includes your cost items that fall within the specified date range
- To remove the filter, click in the Start field and press the Backspace key.
- Do the same for the End field.

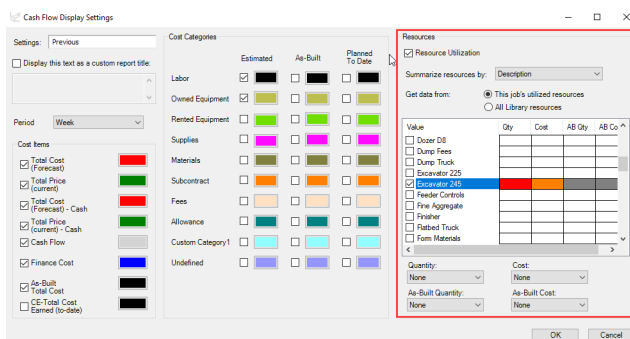
Resource Utilization

You can also use the Cash Flow graph to report on resource utilization. For example, you may want to run a report that displays a work hours curve for a particular labor trade or to see the peak usage times for a particular piece of heavy equipment.

You can run resource utilization graphs based off of any of the following:

- Resource Type
- Resource Code
- Description
- Organizational Category
- Tag 1, 2, and 3
- Quote Group
- Account Code and Cost Item Account Code
- Fuel Type

You set up your resource utilization settings from the same Display Settings window you use for setting up Cash Flow, Display Settings  in the Tools section of the Actions menu.

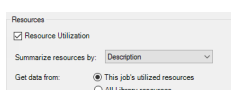


Resource Utilization Display Set Up

The following steps walk you through setting up your Cash Flow graph to report on Resource Utilization.

Step by Step — Resource Utilization Display Setup

1. In the E101 – Training Job, from the Estimate tab, select CashFlow from the Schedule section.
2. On the Actions tab, select Display Settings  to open the Display Settings window.
3. Make sure the all checkboxes are unchecked under the Cost Items and Cost Categories sections.
4. Under the Resources section, check the Resource Utilization checkbox.
5. From the Summarize resources by drop-down list, select Description.



- 6. From the resulting list of Values, select Laborer.
- 7. Click in the Qty field for the selected value and select a color of your choice.
 - In this case the Qty represents the work hours for your Laborer resource
- 8. Click in the Cost field for the selected value and select a different color of your choice.

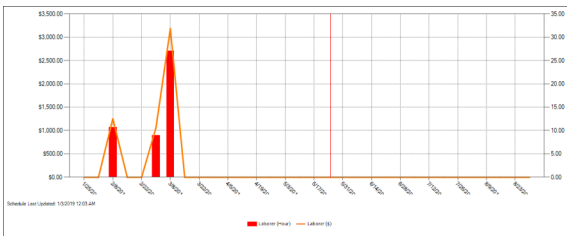
Value	Qty	Cost	AB Qty	AB Co ^
☐ Labor Foreman				
☒ Laborer				
☐ Loader 950				
☐ Loader 950				
☐ Loader 950				

- 9. From the Quantity and Cost drop down lists, you can select how your quantities and costs will display on the graph. In this case select the Quantity to display as a Bar and Cost to display as a Line.

Value	Qty	Cost	AB Qty	AB Co ^
☐ Labor Foreman				
☒ Laborer				
☐ Loader 950				
☐ Loader 950				
☐ Loader 950				

Quantity: Bar Cost: Line

- 10. Click OK to close the Display Settings window.
 - The graph now displays the utilization of your Laborer resource, showing the work hours and costs used over time



The graphs displayed on the Cash Flow form are based on the estimated cost of each cost item and its resource employments (in the case of resource utilization).

Cash Flow Options

The Cash Flow Options are used to define the cash flow rules (revenue timing, cost timing, cost of money, and quantities) needed to calculate the finance expense and cash flow for your project.

Cash flow rules (revenue timing, cost timing, cost of money, and quantities) describe how cash flow occurs between a contractor and a client, and between contractors or owners and vendors/sub-contractors. Cash flow is then calculated based on both the earning and payment terms you specify, and the job's schedule and pay item prices.

To open the Cash Flow Options, click on the Cash Flow Options  icon in the Tools section of the Actions tab.

You can also access Cash Flow Options from the Setup > Job Properties > Cash Flow tab.

1. **Revenue timing:** Revenue is the amount of money actually paid to a contractor by the client for the completion of project deliverables. This section contains options to specify when and how often payment is recieved.
2. **Cost Timing:** Cost is the amount of money expended to complete the scope of the project. This section contains options to specify when and how often you pay contractors, subcontractors and vendors.

To include any of your costs in your cash flow (including indirect costs), they need to be scheduled

3. **Cost of Money:** Represents the financing cost to fund the project. This section contains fields to specify interest rates you pay for the money you borrow, and interest rates you earn for money invested, to determine a total Finance Cost.
4. **Quantities:** Allows you to calculate cash flow based on pay quantities or forecast (T/O) quantities.
5. **Dates:** By default, the scheduled Early Start and Early Finish dates of each cost item (and its resource employments) as listed in the CBS Register, provide the timing of the expenses, revenue, and costs that show up on the Cash Flow graph. You have the option to base cash flow tim-

ing on Start/Finish dates or Late Start/Finish dates.

Cash Flow Options Set Up

The following steps walk you defining settings on the Cash Flow Options form.

Step by Step — Cash Flow Options Setup

1. In the E101 – Training Job, from the Estimate tab, select Setup > Job Properties > Cash Flow.

- You will see the default options already there
- You will adjust a few of those options

2. Change your Revenue timing to Every month on the 10th.

- The average calendar days from billing to collection should be set to 25 days

3. For Cost timing, bills are received from subcontractors and vendors Every month on the 25th.

- Average calendar days elapsed from receipt of invoice to payment should be set to 30 days

- 4. For Cost of money, enter 10% for the Average annual interest rate paid to borrow money (when cost exceeds revenue) and 2% for Average annual interest rate earned (when revenue exceeds cost).

Cost of money	
Average annual interest rate paid to borrow money (when cost exceeds revenue)	10.00 %
Average annual interest rate earned (when revenue exceeds cost)	2.00 %

- 5. Leave all remaining options as originally defaulted.

Cash Flow Overview

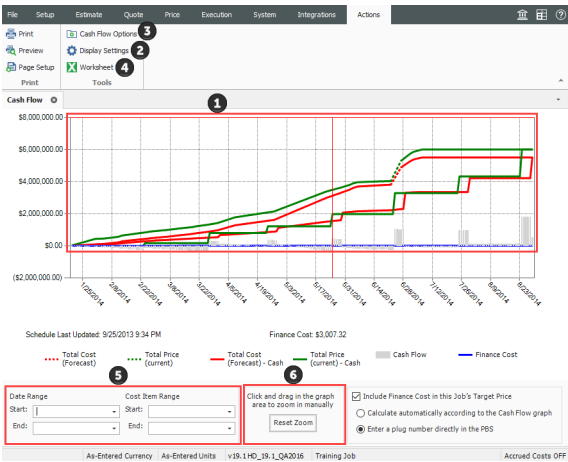
The Cash Flow form provides a graphical representation of the cash flow and resource utilization of your project, so you can quickly assess financing and resource needs.

You can open the Cash Flow form by selecting the Estimate tab from the Estimate landing page, then selecting Cash Flow from the Schedule section.

In order to generate a cash flow curve the estimate must be populated with schedule dates either directly from integration with Primavera, Microsoft project, or input manually.

Overview – Cash Flow Form

Section	Description
1	The graph displays the projected cash flow of your project, along with job financing expense, individual cost category costs and resource utilization. • The x-axis measures time • The left y-axis measures amounts • The right y-axis measures quantities (when resource utilization is displayed) • All graphs depicted on the Cash Flow form can be displayed based on Pay Quantity or Forecast (T/O) Quantity
2	Click on the Display Settings icon to indicate what to display on the graph. • You can display total costs and price or specific cost categories • You can also set the display settings to report on Resource Utilization
3	Click on the Cash Flow Options icon to specify revenue timing, cost timing, and cost of money.
4	Click the Excel icon to export the numerical data represented on the graph into an Excel spreadsheet where you can run additional analysis.
5	You can filter the Cash Flow graph by date range or by a range of cost items.
6	Click and drag over the graph to zoom in on a particular section. Click the Reset Zoom button to restore the graph to its original state.



Haul Calculator

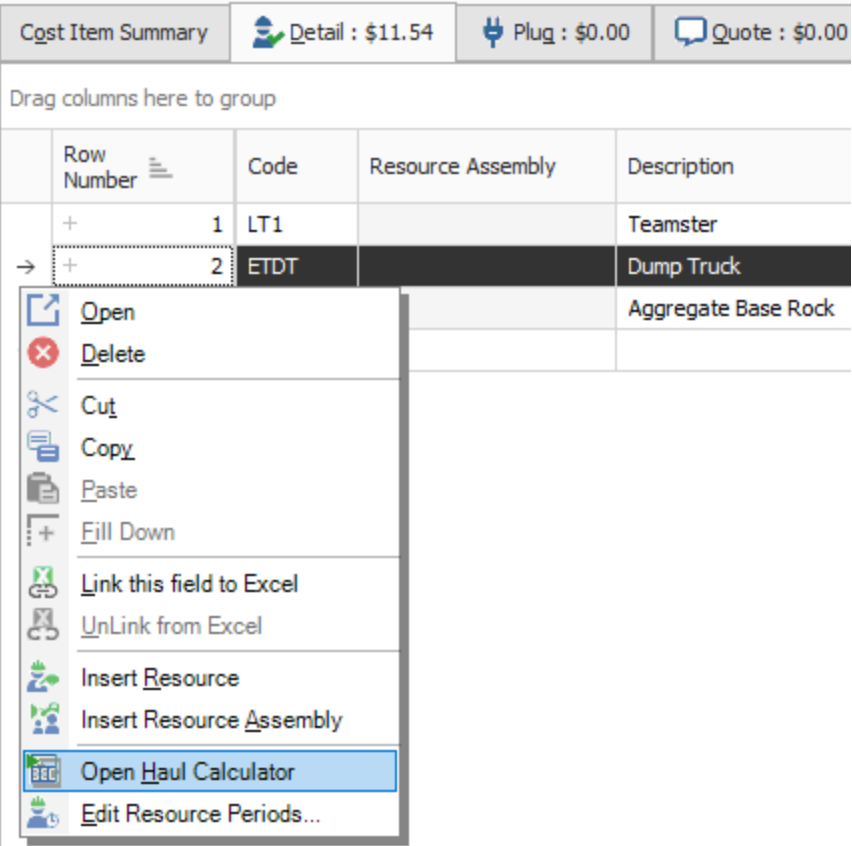
The Haul Calculator allows you to enter the specifics of up to three haul routes (distance, travel speed, etc.). Once entered, you can either:

- Calculate the number of trucks required to complete the haul in a set amount of time, or
- Calculate how long it will take to complete the haul with a set number of trucks

The following activity walks step by step through using the Haul Calculator to calculate the number of trucks needed for a cost item.

Step by Step — Haul Calculator – Calculate Quantity of Trucks

1. Open the Training Job and from the Estimate tab, select Cost Breakdown Structure.
2. Open cost item 4.1 – Furnish & Haul Base Material.
3. On the Cost Item Record, click the Detail tab.
4. Right click on the ETDT – Dump Truck row header and select Open Haul Calculator.



- On the Haul Calculator, select the Calculate quantity of ETDT required to complete haul in duration entered below radio button. (ETDT is the resource code for the Dump Truck you selected.)

Haul Calculator Record - Training Job

☒ Calculate quantity of ETDT required to complete haul in duration entered below
☐ Calculate total duration of haul using quantity of ETDT entered below

- For the Haul Distance, type 5.
- Enter an Average Payload (Ton) of 30.
- For Load Time (Minutes), type 3.
- Enter a Travel Speed Full of 35 Mile/Hour.
- For Dump Time (Minutes), type 2.
- Enter a Travel Speed Empty of 45 Mile/Hour. Notice this calculates a cycle time of 20.24.
- Enter a Work Efficiency of 90 percent.

Route 1

Quantity (Ton) 45,000.00

Haul Distance - One Way (Mile) 5.00

Average Payload (Ton) 30.00

Total Loads 1,500.00

Load Time (Minutes) 3.00

Travel Speed Full (Mile/Hour) 35.00

Dump Time (Minutes) 2.00

Travel Speed Empty (Mile/Hour) 45.00

Cycle Time (Minutes) 20.24

Work Efficiency (%) 90.00

Total Hauler Hours 562.17

Hours Per Shift 8.00

- The calculator shows a result of 1.56 concurrent haulers

Results

Quantity of resource ETDT	1.56	0.00	0.00	1.56	Concurrent Haulers
Total duration (Hours)	0.00	0.00	0.00	360.00	Hours

OK Cancel

- Click OK.
- Your cost item now shows a quantity of 1.56. Round up the Quantity to 2. Also, adjust the Teamster Quantity to 2 (if needed).

Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure
1	LT1		Teamster			2.00	Each
2	ETDT		Dump Truck			2.00	Each
3	HRK		Aggregate Base Rock	45,500.00	5.00	47,775.00	Ton

Step by Step — Haul Calculator – Calculate Total Duration

- Open the Training Job and from the Estimate tab, select Cost Breakdown Structure.
- Open cost item 4.1 – Furnish & Haul Base Material.

- 3. On the Cost Item Record, click the Detail tab.
- 4. Change your Teamster and Dump Truck quantities back to 2 each.
- 5. Right click on the ETDT – Dump Truck row header and select Open Haul Calculator.
- 6. On the Haul Calculator, select the Calculate total duration of haul using quantity of ETDT entered below radio button.
 - With the previous information you entered still there, the calculator calculates a total duration of 281.08 hours

Haul Calculator Record - Training Job

Calculate quantity of ETDT required to complete haul in duration entered below

Calculate total duration of haul using quantity of ETDT entered below

	Route 1	Route 2	Route 3	TOTAL	
Quantity (Ton)	45,000.00	0.00	0.00	45,000.00	Ton
Haul Distance - One Way (Mile)	5.00	0.00	0.00	5.00	Mile
Average Payload (Ton)	30.00	0.00	0.00	30.00	Ton
Total Loads	1,500.00	0.00	0.00	1,500.00	
Load Time (Minutes)	3.00	0.00	0.00	3.00	Minutes
Travel Speed Full (Mile/Hour)	35.00	0.00	0.00	35.00	Mile/Hour
Dump Time (Minutes)	2.00	0.00	0.00	2.00	Minutes
Travel Speed Empty (Mile/Hour)	45.00	0.00	0.00	45.00	Mile/Hour
Cycle Time (Minutes)	20.24	0.00	0.00	20.24	Minutes
Work Efficiency (%)	90.00	100.00	100.00	90.00	%
Total Hauler Hours	562.17	0.00	0.00	562.17	Hours
Hours Per Shift	8.00	8.00	8.00	8.00	

Results

Quantity of resource ETDT	0.00	0.00	0.00	2.00	Concurrent Haulers
Total duration (Hours)	281.08	0.00	0.00	281.08	Hours

OK

Cancel

- 7. Click OK.
 - The Hours field on the Production tab updated to 281.08
 - Your ETDT Dump Truck quantity remains at 2

Trench Calculator

The Trench Calculator allows you to quickly calculate trench, pipe, and bedding values. You can perform pipe-related take-off by defining the details of the trench (e.g., length, depth, width, hinge elevation, backslope, and swell factor), the pipe (diameter, elevation, and waste factor), and up to four beddings.

With this information, the Trench Calculator can automatically calculate:

- Total excavation volume (neat-line)
- Total excavation volume (including swell/shrinkage)
- Total pipe to purchase
- Lift Volume (for up to four beddings)
- Lift Weight (for up to four beddings)

You can use these calculations to define certain cost item setup data:

- You can use the Total Excavation Volume that is calculated as the quantity of the cost item
- You can use the Total pipe to purchase calculation as the quantity of a resource (e.g., pipe) that has been employed to the cost item
- You can use the Lift Volume or Lift Weight that is calculated as the quantity of a resource employed to the cost item in either cubic yards or tons
- You can click the Toggle English / Metric button at the bottom of the dialog to switch between the English and Metric systems for entering data

You can access the Trench Calculator from the Actions tab of a Cost Item Record

When copying cost items in a job or from job to job, the Trench Calculator variable data is included with the data being copied. When a cost item is copied to the clipboard, Trench Calculator variable data is also included.

Trench Calculator – Trench Tab

The following steps walk through using the Trench Calculator to take-off excavation volume.

Step by Step — Trench Calculator – Trench

1. Open the Training Job and from the Estimate tab, select Cost Breakdown Structure.
2. Create a new cost item from the bottom row of your CBS and call it 24" Pipe.
3. Add the following three subordinates and update their Units of Measure:

- Excavate Trench: CY
 - Install Pipe: LF
 - Backfill Trench: CY
4. Open the Excavate Trench Cost Item Record. Add the following resources:
 - LL2 Laborer – 1
 - LO2 Operator Class 2 – 1
 - EX245 Excavator 245 – 1
 5. Adjust the Production to: 100 CY/Hour.

The screenshot shows the 'Cost Item Record' interface. On the left, a table lists resources with a red box highlighting the first three rows:

Row Number	Code	Resource Assembly	Description	Quantity (Enter Waste)
1	LL2		Laborer	
2	LO2		Operator Class 2	
3	EX245		Excavator 245	

On the right, the 'Production' tab is active, showing a table with values:

Days	0.00	0.00
Shifts	0.00	0.00
Hours	0.01	0.00
Man-Hours	0.02	0.00
Equip-Hours	0.01	0.00
CY/Day	800.00	0.00
CY/Shift	800.00	0.00
CY/Hour	100.00	0.00
CY/Man-Hr	50.00	0.00

The 'CY/Hour' value of 100.00 is highlighted with a red box.

6. On the Cost Item Record's Actions tab, select Trench Calculator.

The screenshot shows the 'Training Job - Estimate' interface. The 'Actions' tab is selected, and the 'Trench Calculator' button is highlighted with a red box. Below the 'Actions' tab, there is a 'Tools' section with a 'Trench Calculator' button. At the bottom, a table shows the following values:

Qty:	Unit of Measure:	Unit Cost:	Total Cost:	Currency:
1.00	Each	\$1.74	\$1.74	U.S. Dollars

7. For Trench Length, type 1000.00 feet.
8. For Trench Width (at the bottom) type 4.00 feet.
9. Enter a Trench Depth of 10.00 feet.
10. Enter a Hinge Elevation of 5.00 feet.
11. Enter a Backslope of 45 degrees.

12. Define the Material Swell/Shrinkage Factor (fraction expressed as a decimal) at .10.
 - You can select either a “neat-line” total volume or include swell/shrinkage
13. Select the “Total excavated volume (including swell/shrinkage)” checkbox.

Trench Calculator

Trench Pipe Beddings

Variables

Trench length: 1000.00 feet

Trench width (at bottom): 4.00 feet

Trench depth: 10.00 feet

Hinge elevation: 5.00 feet

Backslope: 45.00 degrees

Material swell/shrinkage factor: 0.10 (decimal)

Results

Total excavation volume (neat-line): 2,407.41 CY

Use this volume as the quantity on this cost item ☐

Total excavated volume (including swell/shrinkage): 2,648.15 CY

Use this volume as the quantity on this cost item ☒

Save Configuration to Library Load Configuration from Library Toggle English / Metric OK Cancel

14. Click Save Configuration to Library and save the Trench calculator as Trench Example with your initials.
15. Click OK.

Trench Calculator – Pipe Tab

You can also use the Trench Calculator to take off how much piping and bedding you need for the trench.

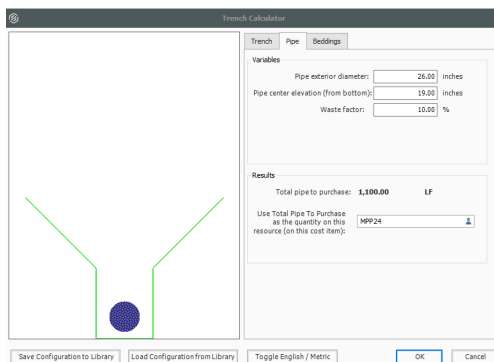
Step by Step — Trench Calculator – Pipe

1. On the CBS Register, adjust the Forecast T/O Quantity for the Install Pipe cost item to 1000 LF.
 - Assume this quantity is based off manual take-off calculations you already did
2. Open the Install Pipe Cost Item Record.
3. Add the Resource Assembly of CPIPE - Pipe Crew and adjust the production to 300 LF / Day.
4. On the Cost Item Record's Actions tab, select Trench Calculator.
5. Select Load Configuration from Library.
6. Select Trench Example (with your initials).

Name	Comments	Pipe Diameter	Unit	Pipe Type	Pipe Class	Agency	Last Changed	Last Chang
New Trench Configuration (bl...		0.00	inches					
24" PVC Sewer at 30' Deep (C)		26.00	inches				7/29/2009 2:13:19 PM	seefar
Trench Example PB		0.00	inches				2/15/2019 11:59:52 AM	Paul Bern

7. Click OK.

8. On the Trench Calculator, select the Pipe tab.
9. Enter the following for the size and position of the pipe:
 - Pipe exterior diameter: 26.00 inches
 - Pipe center elevation (from bottom): 19.00 inches
 - Waste factor: 10%
10. Click on the resource icon to pull up the Resource Rate Register.
11. Select the Installed Material tab.
12. Select MPP24 Pipe 24” PVC SDR35, then click OK.
 - The Pipe variables you entered should match the following image:



13. Click Save Configuration to Library and save the Trench calculator as Trench Example with your initials.
14. When prompted to overwrite the existing saved file, click Yes.
15. Click OK to close the Trench Calculator.

Trench Calculator – Beddings Tab

The following steps walk you using the Trench Calculator to calculate bedding take-offs.

Step by Step — Trench Calculator – Beddings

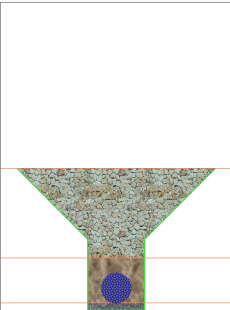
1. Back on the CBS Register, adjust the Forecast T/O Quantity for Backfill Trench to 2300 CY, based on manual calculations.
2. Open the Backfill Trench Cost Item Record.
3. Add the following resources:

- LL2 Laborer – 3
 - LO2 Operator Class 2 – 1
 - RPC Plate Compactor – 1
 - EL950 Loader 950 – 1
4. Adjust the Production to 160 CY/Day.
 5. From the Cost Item Record's Actions tab, select Trench Calculator.
 6. Select Load Configuration from Library
 7. Select Trench Example (with your initials), then click OK.
 8. On the Trench Calculator, select the Beddings tab.
 9. On the Beddings tab, you can define up to four beddings to backfill the trench
 - The variables you enter will determine how much bedding you need
 10. Enter the following variables for each bedding:

	Bedding Lift 1	Bedding Lift 2	Bedding Lift 3
Elevation (from trench floor)	6.00	38.00	76.00
Additional material needed	5.00	5.00	5.00
Conversion factor	1.60	1.70	1.60

- Under Results, you can match each of the Bedding Lifts with a material resource, by selecting the resource icon and selecting the resource you want to employ from the Material tab
11. Selecting the resource from the Tons selection field, select the following materials for each bedding:

	Resource Code	Resource Description
Bedding Lift 1	MASAND	Sand
Bedding Lift 2	MAFA	Fine Aggregate
Bedding Lift 3	MACA1-1/2	Coarse Aggregate



Trench Calculator

TrenchPipeBeddings

Bedding Lift 1Bedding Lift 2Bedding Lift 3Bedding Lift 4

Variables

Elevation (from trench floor):6.00inches

Additional material needed to compensate for compaction:5.00%

Conversion factor (TON per CY):1.60

Results

Lift Volume:77.76CY

Use Lift Volume as the quantity on this resource (on this cost item):

Lift Weight:124.44Tons

Use Lift Weight as the quantity on this resource (on this cost item):MASAND

Save Configuration to Library

Load Configuration from Library

Toggle English / Metric

OK

Cancel

12. Click OK.

- Note that the pipe and bedding materials are added to the cost item with their quantities

Row Number	S.	T.	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure
1			LL2		Laborer			3.00	Each
2			LO2		Operator Class 2			1.00	Each
3			RPC		Plate Compactor			1.00	Each
4			EL950		Loader 950			1.00	Each
5			MASAND		Sand	124.44	0.00	124.44	Ton
6			MAFA		Fine Aggregate	593.66	0.00	593.66	Ton
7			MACAL...		Coarse Aggregate ...	3,327.59	0.00	3,327.59	Ton

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InEight Inc. | Release 20.2

In-Field Calculator

You can use the In-field Calculator to do simple mathematical calculations in any numeric field on records, registers, and tree lists. You use this calculator much like an Excel workbook field, by inserting the cursor in the field where you want to perform a calculation, then pressing the "=" key, followed by a valid arithmetic expression. To display the calculated result, you press the tab key. The resulting value is stored without the arithmetic expression used to calculate the value.

The following steps walk through using the In-field Calculator to calculate the area of how much sandblasting is needed for painting the steel bridge structure specified in the Training Job.

The resulting field value is stored without the arithmetic expression used to calculate the value.

Step by Step — In-Field Calculator

- 1. Open the Training Job and from the Estimate tab, select Cost Breakdown Structure.
- 2. Scroll to find cost item 13.3 Sandblast.
- 3. Click in the Forecast (T/O) Quantity field.

13	Paint Existing Steel Bridge Structure	1.00	Lump Sum
+ 13.1	Setup Equipment	1.00	Lump Sum
+ 13.2	Wash-Remove-Dispose of Water	25,000.00	Square Feet
+ 13.3	Sandblast	250	Square Feet
+ 13.4	Apply Primer	25,000.00	Square Feet
+ 13.5	Paint Top Coat	25,000.00	Square Feet

- 4. Press the = key, then type 10*250.

13	Paint Existing Steel Bridge Structure	1.00	Lump Sum
+ 13.1	Setup Equipment	1.00	Lump Sum
+ 13.2	Wash-Remove-Dispose of Water	25,000.00	Square Feet
+ 13.3	Sandblast	=10*250	Square Feet
+ 13.4	Apply Primer	25,000.00	Square Feet

- 5. Press the Tab key and it calculates the result.

Cost Item Assembly Overview

Overview

Cost Item Assemblies utilize predictive models to quickly and accurately estimate elements of a job that can be repetitive in nature on a single job or from job to job. They use parameter driven estimating to create cost items. They use created parameters and mathematical calculations to incorporate quantity takeoffs and estimate quantification into cost items. A cost item assembly will output fully populated cost items directly into the project CBS. The inputs are dimension values and specification sections, while the output is cost items.

Cost Item Assemblies accomplish the following:

- Model a construction system or component that is quick and easy to employ
- Promote a consistent process of estimating among various users
- Enable less experienced users to more efficiently create an estimate
- Provide good visibility into the assumptions and calculations made to obtain the results
- Provide the flexibility to easily adjust model assumptions and account for varying project requirements from estimate to estimate

All the following can be done with Cost Item Assemblies:

- Assembly employments can be re-opened to modify inputs
- Assemblies can be stored in the Library and imported like resources
- Assemblies can be copied and pasted between projects
- Assemblies can be created from existing project cost items
- Assemblies can be modified for project specific needs
- Assemblies can be modified and employments updated in the project
- Employed assemblies can become permanent cost items by deleting the link
- Assemblies can be created for either metrical or imperial units

Users

There are typically two types of users that work with Cost Item Assemblies:

- The power user, someone like the lead estimator, creates the cost item assemblies
- The end user uses the created assemblies

User Types	
User	Function
Power User	This user can determine what questions need to be answered to create a standard construction system, and how specifically to use those answers in determining the systems quantities, cost and resources to be applied in the estimate. Many companies have spreadsheets that they have created for estimators in the organization to use in estimating specific types of work. If you are the person that often creates or enhances those spreadsheets, you probably fall into the category of being a user that will create Cost Item Assemblies.
End User	This is sometimes a less experienced estimator that will benefit from being provided a set of questions to answer because it can help the estimator develop an understanding for the way the work is estimated and provide them with guidance in gathering the right information. The use of Cost Item Assemblies is not exclusive to less experienced estimators, however. They can be used by anyone involved in the estimating process that wants to quickly create an estimate for a scope of work in a consistent and repeatable way. Cost Item Assemblies can be a great way to initialize an estimate and give the estimator more time to focus on analyzing the job and considering different ways of approaching the work.

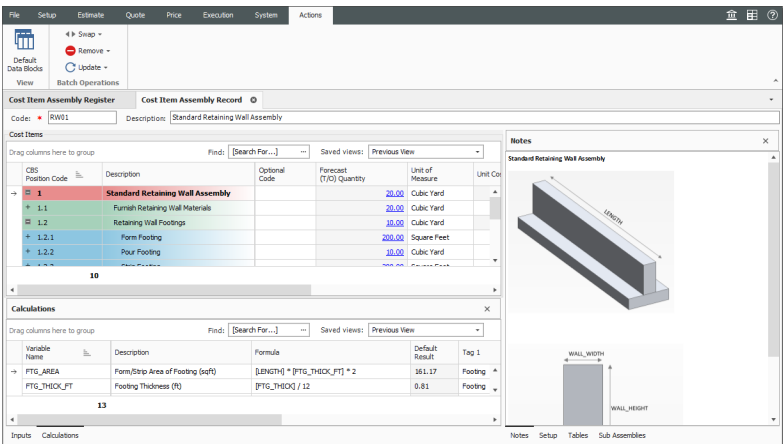
Navigation / Data Blocks

The use of data blocks in the Cost Item Assembly Register allows you to set up a layout that works best for you.

The data blocks in the Cost Item Assembly Record are:

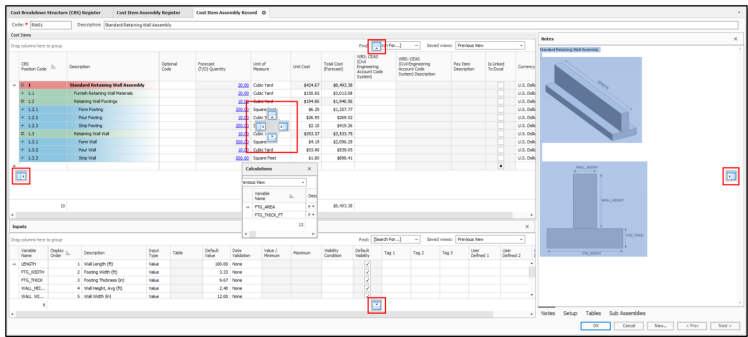
- Cost Items
- Inputs
- Calculations
- Notes
- Setup
- Tables
- Sub Assemblies

The Default Data Block view looks like the following:

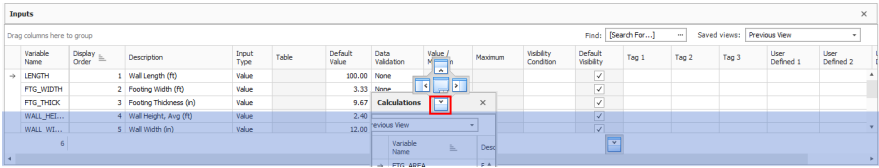


Move Data Blocks

To move Calculations onto the screen, simply click on the name and drag it until the following options appear:



Next, choose where to place it on your screen:



The calculations data block now appears on the screen.

Cost Breakdown Structure (CBS) Register

Cost Item Assembly Register

Cost Item Assembly Record

Code: RW1

Description: Standard Retaining Wall Assembly

Cost Items

Drag columns here to group

CBS Position Code	Description	Optional Code	Forecast (F/C) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	WBS: CEAS (Civil Engineering Account Code System)	WBS: CEAS (Civil Engineering Account Code System) Description	Pay Item Description	Is Linked To Excel	Currency
1	Standard Retaining Wall Assembly		20.00	Cubic Yard	\$424.67	\$8,493.38					U.S. \$
1.1	Furnish Retaining Wall Materials		20.00	Cubic Yard	\$150.65	\$3,013.08					U.S. \$
1.2	Retaining Wall Footings		20.00	Cubic Yard	\$194.66	\$3,893.26					U.S. \$
1.2.1	Form Footings		200.00	Square Feet	\$6.29	\$1,257.77					U.S. \$
1.2.2	Pour Footing		20.00	Cubic Yard	\$28.35	\$566.95					U.S. \$
10						\$8,493.38					

Inputs

Drag columns here to group

Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum	Maximum	Visibility Condition	Default Visibility	Tag 1	Tag 2	Tag 3	User Defined 1	User Defined 2
LENGTH	1	Wall Length (ft)	Value		100.00	None				✓					
FTG_WIDTH	2	Footing Width (ft)	Value		3.30	None				✓					
FTG_THICK	3	Footing Thickness (in)	Value		9.67	None				✓					
WALL_HEIGHT	4	Wall Height, Avg (ft)	Value		2.40	None				✓					
WALL_WIDTH	5	Wall Width (in)	Value		12.00	None				✓					

Calculations

Drag columns here to group

Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3	User Defined 1	User Defined 2	User Defined 3
FTG_AREA	Form/Strip Area of Footing (sqft)	[LENGTH] * [FTG_THICK_FIT] * 2	161.17	Footing					
FTG_THICK_FIT	Footing Thickness (ft)	[FTG_THICK] / 12	0.81	Footing					
FTG_VOL	Volume of Footing Concrete (CY)	[LENGTH] * [FTG_WIDTH] * [FTG_THICK_FIT] / ...	9.94	Footing					

Notes

Standard Retaining Wall Assembly

Notes Setup Tables

OK Cancel New... < Prev Next >

Add and Remove Data Blocks

To look at Setup and Tables, click on the tabs to view them.

Notes

Standard Retaining Wall Assembly

Notes Setup Tables

To get rid of the Notes screen, simply press the X, and to bring it back, click on Default Data Blocks in the ribbon.

Default Data Blocks

View

Batch Operations

4 > Swap

Remove

Update

Cost Item Assembly Creation

Create a Cost Item Assembly Record

Cost Item Assemblies allow you to create intelligent construction systems to automatically estimate various scopes of work, based upon a user providing specification and dimension variables. You can create multiple Cost Item Assemblies and maintain a library of construction systems that are used throughout the estimating department. When creating an assembly, it's helpful to have a solid understanding of the various inputs that will be used and how those inputs will be used to influence the resulting collection of cost items.

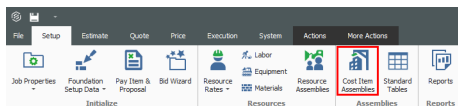
Cost Item Assemblies are created by entering a code and description for the assembly. Both fields can be changed at any time.

Scenario

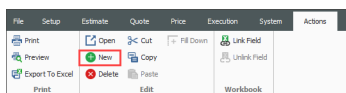
One scope of work that is part of the estimate is a ductbank. This ductbank work entails excavating, laying the conduit, and then either backfilling it with concrete or soil depending on the location, and all conduit runs consist of two conduits. You want to estimate the cost and hours for this work using a cost item assembly.

Step by Step — Create a Cost Item Assembly Record

1. From the Setup tab, click on Cost Item Assemblies.



2. From the Actions tab, click on New.



3. In the Code field, type TEST – Your Initials.
4. In the Description field, type Test Cost Item Assembly - Ductbank.

Cost Breakdown Structure (CBS) Register

Cost Item Assembly Register

Cost Item Assembly Record

Code: * TEST DS

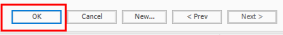
Description: Test Cost Item Assembly - Ductbank

Cost Items

Drag columns here to group

CBS Position Code	Description	Optional Code	Forecast (F/C) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
→ 1	Test Cost Item Assembly - Ductbank		1.00	Each	\$0.00	\$0.00
*						

5. In the bottom right corner, click OK.



- Notice that your Cost Item Assembly now shows up in the Cost Item Assembly Register

Cost Breakdown Structure (CBS) Register			Cost Item Assembly Register				
Drag columns here to group							
Code	Description	Assembly File Description	Default Quantity	Default Unit of Measure	Default Unit Cost	Default Total Cost	Default Currency
RW01	Standard Retaining Wall Assembly	Standard Cost B...	20.00	Cubic Yard	\$424.67	\$8,493.38	U.S. Dollar
→ TEST 05	Test Cost Item Assembly - Ductbank		1.00	Each	\$0.00	\$0.00	U.S. Dollar
*							

Workflow

There is a standard workflow for building cost item assemblies .

1. Define the desired output from an assembly (cost items).
2. Decide what questions the estimator will be required to answer (and what assumptions you want to set).
3. Create input tables for user selections.
4. Create expressions to provide the required results to populate the cost items.

Build Cost Item Assembly Record

Once your Cost Item Assembly has been created, it is time to build the assembly. To begin, you first fill out the setup information, then you use the remaining data blocks to build the assembly record.

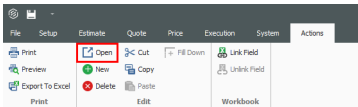
The fields in the Setup tab can be filled with unique names, choice of pull-downs or left blank. The fields on the Setup tab include:

- Assembly file
- Geographic Areas
- Wage Zone
- Org. Category
- Last Changed By is updated when the definition of the assembly is modified, such as the inputs, calculations, cost items, tables, notes, etc.
- Last Changed On is updated when the definition of the assembly is modified, such as the inputs, calculations, cost items, tables, notes, etc.
- The Tag and User Defined field can be filled in by the user

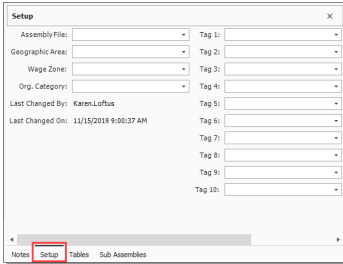
The first four fields are used the same way resource attributes are used to filter which resources are imported from the master library into a project. These will appear on the cost basis tab of job properties as filters to determine which cost item assemblies you import into a new estimate.

Step by Step — Cost Item Assembly Set Up

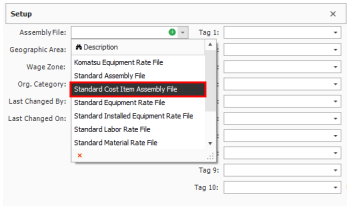
- 1. Select your assembly from the list and click Open from the ribbon.



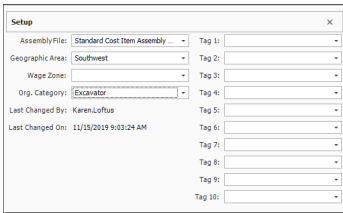
- 2. In the bottom right corner, click on the Setup tab.



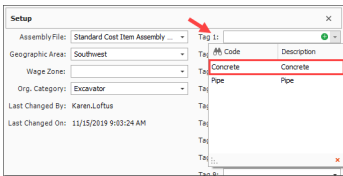
- 3. In the Assembly File drop-down, select Standard Cost Item Assembly File.



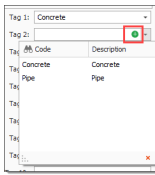
- 4. Select a Geographic Area and Org. Category.



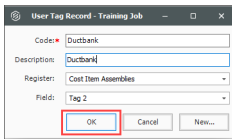
- 5. In the Tag 1 drop-down, select Concrete.



6. In the Tag 2 drop-down, click the Add icon.



7. Enter the following, then click OK.



Cost Items

The Cost Items data block is used to create cost item breakdown structure, where you can assign the default values and resource employments and link the results of the calculated values to the appropriate cost item and resource employment fields. This is where you build a framework of cost items that you want as output from this assembly.

Cost Items for a Cost Item Assembly are created within the Cost Item Assembly Record, not in the CBS Register.

There will be at least one cost item with the following default values which you can override.

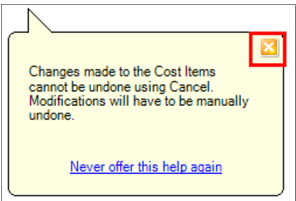
- Default Description is equal to the Assembly Description
- Default Forecast (T/O) Qty = 1
- This is the top-level cost item in the assembly. Any additional cost items will need to be created as subordinates to this cost item

After you complete the values in the Cost Items data block, the steps included in the Calculations data block need to be completed prior to linking any values to the cost items.

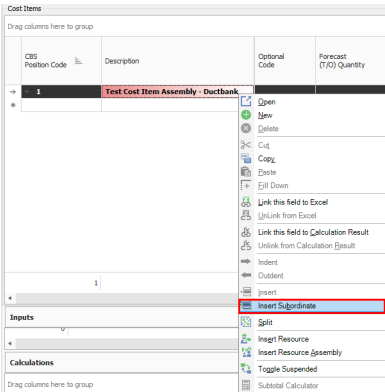
This data block has the same functionality as the CBS register; double-clicking one of the cost items or selecting one of the cost items and choosing Open from the menu will open the Cost Item Record. To quickly perform this work, you can easily copy cost items from the CBS Register and paste them into the Cost Items data block of the Cost Item Assembly Record.

Step by Step — Create Cost Items in an Assembly

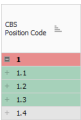
- 1. Click X on the pop up.



- 2. From the Cost Items data block, right click on your cost item and select Insert Subordinate.



- 3. Insert 4 subordinates.



- 4. Enter the descriptions and units of measure as follows:

Cost Item Assembly Register		Cost Item Assembly Record	Cost Item Assembly Record	
Code:	TEST - KL	Description:	Test Cost Item Assembly - Ductbank	
Cost Items				
Drag column(s) here to group				
CBS Position Code	Description	Optional Code	Forecast (T/C) Quantity	Unit of Measure
1	Test Cost Item Assembly - Ductbank			
1.1	Excavate Ductbank		1.00	Each
1.2	Install Ductbank Conduit		1.00	Each
1.3	Pour Concrete		1.00	Each
1.4	Backfill		1.00	Each

Inputs and Tables

The Inputs data block is where you define the questions that will be asked of the user when they employ a Cost Item Assembly. Inputs can be value, table, text or object type inputs and validation rules can be specified for value-type inputs such as minimum or maximum values that are acceptable, or default values that appear when the Cost Item Assembly is employed. These Inputs will be the parameters used in calculations to drive the Cost Item Assembly outputs.

Tables

Tables are used for reference data and can provide functionality similar to a lookup field in excel. Tables may contain account codes, production rates, or other reference fields and can be imported from the Library or copied from one assembly to another. Tables can be assembly specific, project level (Standard), or Enterprise (Library) level (Master Standard). You can populate tables from a project specification list.

Value

The Value field shows the Cost Item Assembly employment dialog input fields with a prefilled value so you don't have to specifically provide or select a value. The Data Validation field determines what type of data validation is enforced when the Cost Item Assembly is employed. This field is enabled only when the Input Type is **Value**. The selections are shown in the Using the Formula Editor step by step in the Inputs and [Calculations Topic](#):

Text

If you are using the same cost item assembly multiple times, the text Input Type can be used with a distinct description to distinguish each of the cost item assemblies in the CBS.

Cost Item Assembly Record

Code: ZRW01 Description: Standard Retaining Wall Assembly

Cost Items

Drag columns here to group

CBS Position Code	Description	Optional Code
1	Standard Retaining Wall Assembly	
+ 1.1	Furnish Retaining Wall Materials	
+ 1.2	Retaining Wall Footings	
+ 1.2.1	Form Footing	
+ 1.2.2	Pour Footing	
+ 1.2.3	Strip Footing	
+ 1.3	Retaining Wall Wall	
+ 1.3.1	Form Wall	
+ 1.3.2	Pour Wall	

11

Inputs

Drag columns here to group

Variable Name	Display Order	Description	Input Type	Table	Def Val
FTG_WIDTH	2	Footing Width (ft)	Value		
FTG_THICK	3	Footing Thickness (in)	Value		
WALL_HEIGHT	4	Wall Height, Avg (ft)	Table		
WALL_WIDTH	5	Wall Width (in)	Text		
CSTR	6	Concrete Strength	Table	CONCSTR (1)	
X	7		Value		
Y	8	text input	Text		
W	9	text another	Text		
INPUT	10		Value		

10

Inputs Calculations

Notes

Standard Retaining Wall Assembly

Notes Setup Tables Sub Assemblies

OK Cancel New... < Prev Next >

In the CBS Cost Item Assembly Input, you can modify the input value with a descriptive specific to this one entry, in addition to changing other input values. For example, you can change the Standard Retaining Wall Assembly cost item and name it to Section A.

re to group

id	Description	Optional Code
	Removal of Underground Storage Tanks	1000
	Remove & Dispose Contents	4.2.1
	Remove & Dispose Tanks	4.2.2
	Disposal of Contaminated Soil	1010
	Test for Contamination	4.3.1
	Excavate & Haul to Site	4.3.2
	COMMERCIAL	1200
	Toll Booth	1200 0100
	Site Preparation	0220
	Concrete Reinforcement	03200
	Cast in Place Concrete	03300
	Concrete Masonry Units	04220
	Paneling	06420
	Wood Doors	08210
	Wood Flooring	09640
	Office Furniture	12510
	Fire Protection Piping	15300
	Interior Luminaires	16510
	GUARDRAIL & SIGNING	1500
	Guardrail Type 2	1500 0100
	Guardrail Type 3A	1500 0200
	Type 4 Signs	1600 0230
	Indirect Costs	UNASSIGNED
	Setup Yard	UNASSIGNED
	Trailer Rent	UNASSIGNED
	Utilities	UNASSIGNED
	Job Management & Equipment	UNASSIGNED

Cost Item Assembly Inputs - S3- TrainingJob

Cost Item Assembly: RW01

Inputs

Drag columns here to **Saved** views: Standard View

Variable Name	Description	Value
INPUT	CI description	Section A
LENGTH	Wall Length (ft)	100.00
FTG_WIDTH	Footing Width (ft)	3.33
FTG_THICK	Footing Thickness (in)	9.67
WALL_HEIGHT	Wall Height, Avg (ft)	2.40
WALL_WIDTH	Wall Width (in)	12.00
CSTR	Concrete Strength	4000 PSI

Notes

Standard Retaining Wall Assembly

Preview

Drag columns here to group

CBS Position Code	Description	Optional Code	Forecast (T/D) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
1	Standard Retaining Wall Assembly		20.00	Cubic Yard	\$424.67	\$8,493.38	U.S. Dollar
1.1	Furnish Retaining Wall Materials		20.00	Cubic Yard	\$150.65	\$3,013.08	U.S. Dollar
						\$8,493.38	

Preview Calculations

4.00	Month	\$2,000.00	\$8,000.00			U.S. Dollar	10.10.500
4.00	Month	\$39,274.07	\$157,096.28			U.S. Dollar	10.30.100

Using the cost item assembly text input values lets you manually enter in a text value to be used in the cost item assembly formula. By not using text input values, if you want multiple sections of a Standard Retaining Wall Assembly, it would be difficult to distinguish between the various instances of the retaining wall assemblies in the CBS.

7.4	Job Management & Equipment	UNASSIGNED	4.00	Month	\$39,274.07	\$157,096.28
7.5	General Expense	UNASSIGNED	1.00	Lump Sum	\$4,200.00	\$4,200.00
8	Special Risk Allowance	UNASSIGNED DIRECT COST	1.00	Each	\$1,000.00	\$1,000.00
9	Section A wall		20.00	Cubic Yard	\$424.67	\$8,493.38
9.1	Furnish Retaining Wall Materials		20.00	Cubic Yard	\$150.65	\$3,013.08
9.2	Retaining Wall Footing		10.00	Cubic Yard	\$194.66	\$1,946.56
9.2.1	Form Footing	TEST_TEXT = [INPUT]	200.00	Square Feet	\$6.29	\$1,257.77
9.2.2	Pour Footing		10.00	Cubic Yard	\$26.95	\$269.52
9.2.3	Strip Footing		200.00	Square Feet	\$2.10	\$419.26
9.3	Retaining Wall Wall		10.00	Cubic Yard	\$353.37	\$3,533.75
9.3.1	Form Wall		500.00	Square Feet	\$4.19	\$2,096.29
9.3.2	Pour Wall		10.00	Cubic Yard	\$53.90	\$539.05
9.3.3	Strip Wall		500.00	Square Feet	\$1.80	\$898.41
9.4	Section A wall		20.00	Cubic Yard	\$0.00	\$0.00

Object

The object input type lets you choose an object that already exists in Estimate, such as existing tags, resources, or account codes. The object list changes dynamically based on data that exists in the current estimate without requiring a manual update to the Cost Item Assembly table data, so users can choose from valid selections.

Cost Item Assembly Record

Code: PIPE-FM01 Description: Install Force Main Pipe

Cost Items

Drag columns here to group

	CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure
→	1	Install Force Main		100.00	Linear
+	1.1	Furnish Pipe 8" Ductile Iron		100.00	Linear

4

Inputs

Drag columns here to group

	Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation
	IN_DESC	1	Segment description (optional)	Text		(Enter se...	None
	IN_QTY	2	Length of Pipe	Value		100.00	None
✎	IN_PIPE	3	Type of Pipe	Object	Resources ▼ MPDIP08		None
	IN_FTG11	4	11 deg bends (ea)	Value	Account Codes	1.00	None
	IN_FTG22	5	22 deg bends (ea)	Value	Quantity Roll-Ups	1.00	None
	IN_FTG45	6	45 deg bends (ea)	Value	Quote Group Tags	1.00	None
	IN_FTG90	7	90 deg bends (ea)	Value	Resource Assemblies	1.00	None
	IN_FTGSS	8	Solid sleeves (ea)	Value	Resources	1.00	None
*					Tags		

As an example, if you were to employ a pipe installation CIA in the CBS, a Type of Pipe input may be required, and by using an Object type input variable, the assembly can show a Resource Selection Register, requiring you to select from a list of resources that currently exist in the job.

Cost Item Assembly: PIPE-FM01

Inputs

Drag columns here to group

	Variable Name	Description	Value
	IN_DESC	Segment description (optional)	STA 2+45 to 5+45
	IN_QTY	Length of Pipe	300.00
→	IN_PIPE	Type of Pipe	MPDIP08
	IN_FTG11	11 deg bends (ea)	0.00
	IN_FTG22	22 deg bends (ea)	0.00
	IN_FTG45	45 deg bends (ea)	10.00
	IN_FTG90	90 deg bends (ea)	2.00
	IN_FTGSS	Solid sleeves (ea)	5.00

8

Preview

Drag columns here to group

	CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
→	1	Install Force Main - STA 2+45 to 5+45		300.00	Linear Feet	\$64.92	\$19,474.83	U.S. Dollar
+	1.1	Furnish Pipe 8" Ductile Iron		300.00	Linear Feet	\$41.90	\$12,568.50	U.S. Dollar
+	1.2	Furnish Pipe 8" Ductile Iron Fittings		1,580.00	Pound	\$2.61	\$4,121.25	U.S. Dollar
+	1.3	Excavate, Lay & Backfill Forcemain		300.00	Linear Feet	\$9.28	\$2,785.08	U.S. Dollar

Picking an Object that exists in the job helps ensure the formulas that use those objects return valid results, such as linking a formula result to the resource employment for the MPDIP10 Pipe 8" Ductile Iron resource as picked from the Resource Rate register.

Cost Item Assembly: PIPE-FM01

Inputs

Drag columns here to group

Variable Name	Description	Value
IN_DESC	Segment description (optional)	STA 2+45 to 5+45
IN_QTY	Length of Pipe	300.00
IN_PIPE	Type of Pipe	MPDIP12
IN_FTG11	11 deg bends (ea)	0.00
IN_FTG22	22 deg bends (ea)	0.00
IN_FTG45	45 deg bends (ea)	10.00
IN_FTG90	90 deg bends (ea)	2.00
IN_FTGSS	Solid sleeves (ea)	5.00

Preview

Drag columns here to group

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
1	Install Force Main - STA 2+45 to 5+45		300.00	Linear Feet	\$96.89	\$29,066.58	U.S. Dollar
1.1	Furnish Pipe 12" Ductile Iron		300.00	Linear Feet	\$66.15	\$19,845.00	U.S. Dollar
1.2	Furnish Pipe 12" Ductile Iron Fittings		3,040.00	Pound	\$2.12	\$6,436.50	U.S. Dollar
1.3	Excavate, Lay & Backfill Force Main		300.00	Linear Feet	\$9.28	\$2,785.08	U.S. Dollar

Resource Rate Register - Training Job - CIA

Actions

All Labor Construction Equipment Rented Construction Equipment Installed Material Installed Equipment

Drag columns here to group

Resource Code	Description	Resource File Description	Unit of Measure	Quantity Roll-Up Code	Quantity Description
MPDIP16	Pipe DI 16 In	Standard Material Rate ...	Linear Feet		
MPDIP08	Pipe 8" Ductile Iron	Standard Material Rate ...	Linear Feet		
MPDIP10	Pipe 10" Ductile Iron	Standard Material Rate ...	Linear Feet		
MPDIP12	Pipe 12" Ductile Iron	Standard Material Rate ...	Linear Feet		
MPDIPF0811	Pipe 8" Ductile Iron, 11 deg ...	Standard Material Rate ...	Each		
MPDIPF0822	Pipe 8" Ductile Iron, 22 deg ...	Standard Material Rate ...	Each		

OK Cancel

Additionally, selection registers often permit new objects to be added on the fly, so if a resource or tag value is missing from the job, it can easily be added while employing the Cost Item Assembly.

Using Object Type Inputs

Object Type inputs can be used in formulas by directly referencing either the Code or the Description as attributes of the input variable. These two fields can be easily referenced and selected using the Formula Editor.

Cost Item Assembly Record

Code: PIPE-FM01 Description: Install Force Main Pipe

Cost Items

Drag columns here to group

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost
1	Install Force Main		100.00	Linear Feet	
1.1	Furnish Pipe 8" Ductile Iron MPDIP08		100.00	Linear Feet	
1.2	Furnish Pipe 8" Ductile Iron Fittings Pipe 8"		501.00	Pound	
1.3	Excavate, Lay & Backfill Force Main		100.00	Linear Feet	

Calculations

Drag columns here to group

Variable Name	Description	Formula
DESC	Cost Item Description	IF([IN_DESC] = "Enter segment description"), "Install Force Main", "Install F...
DESC_FTG	Fittings Cost Item Description	"Furnish" + [IN_PIPE.Description] + "Fittings" + [IN_PIPE.Description]
DESC_PIPE	Pipe Cost Item Description	"Furnish" + [IN_PIPE.Description] + [IN_PIPE.Resource_Code]
FTGONT_11	Count of 11 deg bends	IF([IN_FTG11] < 1, Null, [IN_FTG11])
FTGONT_22	Count of 22 deg bends	IF([IN_FTG22] < 1, Null, [IN_FTG22])
FTGONT_45	Count of 45 deg bends	IF([IN_FTG45] < 1, Null, [IN_FTG45])
FTGONT_90	Count of 90 deg bends	IF([IN_FTG90] < 1, Null, [IN_FTG90])
FTGONT_SS	Count of solid sleeves	IF([IN_FTGSS] < 1, Null, [IN_FTGSS])
FTGCODE_11	11 deg bend fitting code	SUBSTRING([IN_PIPE.Resource_Code], 0, 5) + "F" + SUBSTRING([IN_PIPE...
FTGCODE_22	22 deg bend fitting code	SUBSTRING([IN_PIPE.Resource_Code], 0, 5) + "F" + SUBSTRING([IN_PIPE...

Formula Editor

'Furnish' + [IN_PIPE.Description] + [IN_PIPE.Resource_Code]

Fields

- Constants
- Operators
- Functions
- Logical
- Math
- String

Enter text to search...

IN_FTG11
IN_FTG22
IN_FTG45
IN_FTG90
IN_FTGSS
IN_PIPE.Description
IN_PIPE.Resource_Code
IN_QTY
PIPECODE
QTY

Field Information
Caption: IN_PIPE.Resource_Code
The type of this field is: System.String
Resource - Resource Code

Line: 1, Character: 60, Length: 60, Space Available: 1940

OK Cancel

ObjectValue Function

The ObjectValue function accepts an object type, the key code field and the desired name of the field to be looked up and will return the value of the lookup field for use in a formula.

In the following example, The ObjectValue function looks up the value stored in the User Defined 1 field of the resource whose resource code is stored in the FTGCODE_11 variable. In this case, the return value represents the material resources unit weight and is used to calculate the total weight of the material being installed.

Cost Item Assembly Record

Codes: PIPE-FM01 Description: Install Force Main Pipe

Cost Item	CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost
1		Install Force Main		100.00	Linear Feet	
1.1		Furnish Pipe 8" Ductile Iron PIP08		100.00	Linear Feet	
1.2		Furnish Pipe 8" Ductile Iron Fitting Pipe 8"		501.00	Pound	
1.3		Excavate, Lay & Backfill Foremain		100.00	Linear Feet	

Calculations

Variable Name	Description	Formula
FTGCODE_11	11 deg bend fitting code	SUBSTRING([IN_PIPE.Resource_Code],0,5) + 'F' + SUBSTRING([IN_PIPE.Resource_Code],5,5)
FTGCODE_22	22 deg bend fitting code	SUBSTRING([IN_PIPE.Resource_Code],0,5) + 'F' + SUBSTRING([IN_PIPE.Resource_Code],5,5)
FTGCODE_45	45 deg bend fitting code	SUBSTRING([IN_PIPE.Resource_Code],0,5) + 'F' + SUBSTRING([IN_PIPE.Resource_Code],5,5)
FTGCODE_90	90 deg bend fitting code	SUBSTRING([IN_PIPE.Resource_Code],0,5) + 'F' + SUBSTRING([IN_PIPE.Resource_Code],5,5)
FTGCODE_55	solid sleeve fitting code	SUBSTRING([IN_PIPE.Resource_Code],0,5) + 'F' + SUBSTRING([IN_PIPE.Resource_Code],5,5)
FTGWGT_11	Weight of 11 deg bends	TODOUBLE(OBJECTVALUE('Resources', [FTGCODE_11], 'User Defined 1')) * [IN_FTGT11]
FTGWGT_22	Weight of 22 deg bends	TODOUBLE(OBJECTVALUE('Resources', [FTGCODE_22], 'User Defined 1')) * [IN_FTGT22]
FTGWGT_45	Weight of 45 deg bends	TODOUBLE(OBJECTVALUE('Resources', [FTGCODE_45], 'User Defined 1')) * [IN_FTGT45]
FTGWGT_90	Weight of 90 deg bends	TODOUBLE(OBJECTVALUE('Resources', [FTGCODE_90], 'User Defined 1')) * [IN_FTGT90]
FTGWGT_55	Weight of solid sleeves	TODOUBLE(OBJECTVALUE('Resources', [FTGCODE_55], 'User Defined 1')) * [IN_FTGT55]
FTGWGT_TOTAL	Total weight of all fittings	[FTGWGT_11] + [FTGWGT_22] + [FTGWGT_45] + [FTGWGT_90] + [FTGWGT_55]
PIPECODE	Resource Code for Pipe	[IN_PIPE.Resource_Code]
QTY	Length of Pipe	[IN_QTY]

Formula Editor

Formula: TODOUBLE(OBJECTVALUE('Resources', [FTGCODE_11], 'User Defined 1')) * [IN_FTGT11]

ObjectValue Function Description:

ObjectValue('Resources', [FTGCODE_11], 'User Defined 1')

Returns a column value from the specified object.

The Table parameter can be one of the following:

- 'Accounts' (Account Codes)
- 'QuantityRollups' (Quantity Roll-Ups)
- 'QuoteGroupTags' (Quote Group Tags)
- 'ResourceAssemblies' (Resource Assemblies)
- 'Resources' (Resources)
- 'UserTags' (Tags)

The KeyColumnValue parameter is the unique identifier of the object. E.g. the Resource Code when specifying a resource.

The ReturnColumnName parameter is the name of the column to return. This parameter must specify the default English language column caption. E.g. 'Unit Cost (Scale 1)' to return the Unit Cost of a resource.

Example:

To get the Unit of Measure of the Account Code specified by an Object input named ACCOUNT:

OBJECTVALUE('Accounts', [ACCOUNT.Account_Code], 'Unit of Measure')

Step by Step — Create Input Values

1. Navigate to the Inputs data block. In the first empty field under Variable Name, type in the name of a variable that will be referenced in the formula expressions, such as Length, then press Tab.

Inputs						
Drag columns here to group						
Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation
LENGTH	1		Value		0.00	None

The Variable Name is a free text field and is determined based on how the calculations are referenced in the input values.

- The Display Order field can be set to control the order in which you are prompted to provide the input values
2. Select the Description field and type Ductbank Length (ft), then press Tab.

Inputs

Drag columns here to group

Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum
→ LENGTH	1	Ductbank Length (ft)	Value		0.00	None	
1							

Inputs Calculations

3. In the Input Type field, select Value from the drop-down list. In the Default Value field, type 100.

Inputs

Drag columns here to group

Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum
→ LENGTH	1	Ductbank Length (ft)	Value		100.00	None	
1							

Inputs Calculations

4. Fill out additional fields as shown below:

Inputs

Drag columns here to group

Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum
LENGTH	1	Ductbank Length (ft)	Value		100.00	None	
WIDTH	2	Ductbank Width (ft)	Value		10.00	None	
DEPTH	3	Ductbank Depth (ft)	Value		6.00	None	
RADIUS	4	Conduit Radius (ft)	Value		0.33	None	

Data Validation

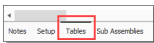
The Data Validation field determines what type of data validation is enforced when the Cost Item Assembly is employed. This field is enabled only when the Input Type is Value. The data validation options are as follows:

Selection	Description
None	No validation is enforced, and any numeric value is permissible.
Equal	Permits the entry of a value that is equal to the value entered in the Value/Minimum field.
Not Equal	Permits the entry of a value that is not equal to the value entered in the Value/Minimum field.
Greater Than	Permits the entry of a value that is greater than the value entered in the Value/Minimum field.
Greater	Permits the entry of a value that is equal to or greater than the value entered in the

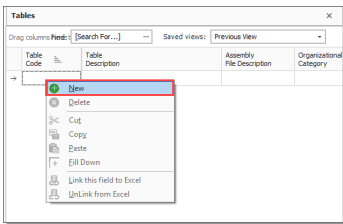
Selection	Description
Than or Equal	Value/Minimum field.
Less Than	Permits the entry of a value that is less than the value entered in the Value/Minimum field.
Less Than or Equal	Permits the entry of a value that is less than or equal to the value entered in the Value/Minimum field.
Between	Permits the entry of a value that falls between the range of numbers defined by the values entered in the Value/Minimum field and the Maximum field.
Not Between	Permits the entry of a value that does not fall between the range of numbers defined by the values entered in the Value/Minimum field and the Maximum field.

Step by Step — Create Input Values from a Table

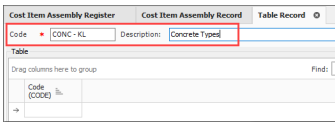
1. In the bottom right corner of the Cost Item Assembly Record, click on Tables.



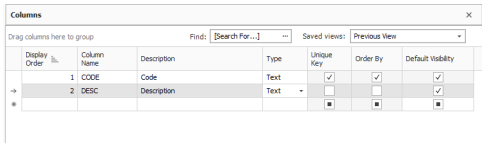
2. Right click in the Table Code field and select New.



3. In the Code field, type CONC – Your Initials, and in the Description field, type Concrete Types.



4. In the Columns section, enter in the following column names and descriptions, choosing the Text Type.



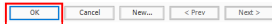
5. Click OK in the bottom right corner.



6. In the Tables section, enter in the following data for the Concrete resource codes and types:

Tables	
Drag columns here to group	Find
Table Code	Table Description
CONC - XL	Concrete Types
MC3300	3000 PSI

7. Click OK in the bottom right corner.



8. Add the following input, selecting Table for the Input Value from the drop-down.

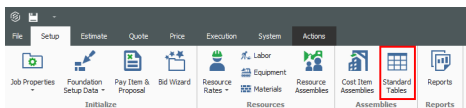
Inputs							
Drag columns here to group							
Variable Name	D. O.	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum
LENGTH	1	Ductbank Length (ft)	Value		100.00	None	
WIDTH	2	Ductbank Width (ft)	Value		10.00	None	
DEPTH	3	Ductbank Depth (ft)	Value		6.00	None	
RADIUS	4	Conduit Radius (ft)	Value		0.33	None	
CONC TYPE	5	Concrete Type	Value		0.00	None	
			Table				

9. From the Table drop-down list, select your CONC table.

Inputs							
Drag columns here to group							
Variable Name	D. O.	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum
LENGTH	1	Ductbank Length (ft)	Value		100.00	None	
WIDTH	2	Ductbank Width (ft)	Value		10.00	None	
DEPTH	3	Ductbank Depth (ft)	Value		6.00	None	
RADIUS	4	Conduit Radius (ft)	Value		0.33	None	
CONC TYPE	5	Concrete Type	Table	CONC - XL			
				MC3300			

Standard Tables

In the Setup tab, you can create standard tables for the project. These are created exactly like tables within the Cost Item Assembly Record. All users in the project have access to the standard tables. These tables can be copied and pasted into the Cost Item Assemblies' tables. You can create, edit, or delete standard tables from the Standard Table Register. You can copy Standard tables from the library, to the library, and from another job.



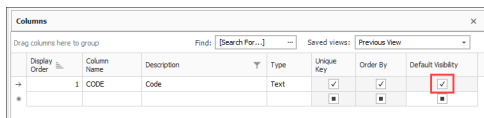
Conditional Inputs

Conditional input expressions can include variables that reference other input values or ask simple Yes/No questions. This allows the user to provide answers to inputs, which are then used to determine if the user is asked to provide more answers for additional inputs. The variable Default Value is used in the conditional input expression, so the input is always hidden when the Cost Item Assembly is initially employed. Therefore, the Default Visibility checkbox is not selected, and when you create an estimate

and employ the Cost Item Assembly in the Cost Item Assembly Inputs view, the conditional input is hidden.

You can then provide information and enter a dimension or a response to a question. Note that:

- If the value entered changes the expression result to True, the conditional input shows
- If you want to see all the inputs in a Cost Item Assembly even if their conditions are not currently evaluating to True, you can click View in Cost Item Assembly Inputs, and then select Show Hidden Inputs. This will display all the conditional inputs for the Cost Item Assembly
- To make it easier for users to select data from tables, you can hide unnecessary table columns in the Table Row Selection Register
- In both Cost Item Assembly Register and Standard Tables Register, go to the Columns data block and clear the Default Visibility checkbox to hide columns in the table



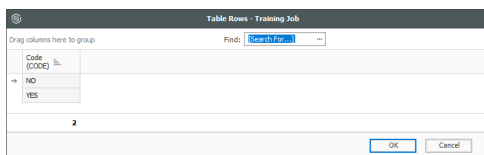
More user tags and user defined fields are available on the Cost Item Assembly > Inputs data block related to a group of variables or with other similarities. A Standard View also exists, so you can define saved views to make use of the additional tags and fields.

Step by Step — Set Conditional Inputs

1. Create a new input as follows, choosing Table as the Input Type, and selecting Standard Table from the drop-down.

Inputs							
Drag columns here to group							
Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum
LENGTH	1	Ductbank Length (ft)	Value		100.00	None	
WIDTH	2	Ductbank Width (ft)	Value		10.00	None	
DEPTH	3	Ductbank Depth (ft)	Value		6.00	None	
RADIUS	4	Conduit radius (ft)	Value		0.33	None	
CONC TYPE	5	Concrete Type	Table	CONC - KL		None	
→ CONC	6	Is Concrete required?	Table	STANDA...		None	

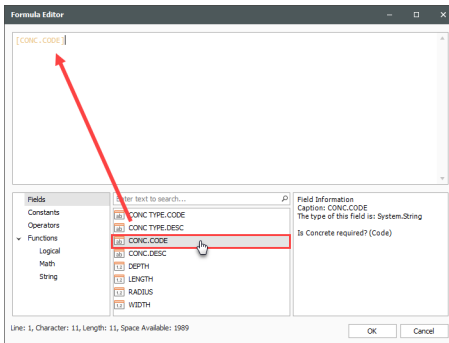
2. Set the Default Value of the CONC variable as No, then click OK.



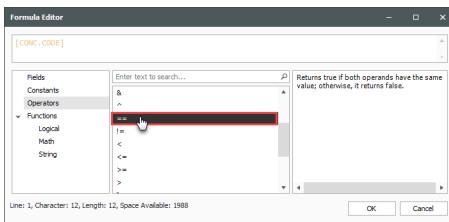
3. In the Visibility Condition field for the CONC TYPE variable, click the fx button.

Inputs										
Drag columns here to group										
Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum	Maximum	Visibility Condition	Default Visibility
LENGTH	1	Ductbank Length (ft)	Value		100.00	None				☒
WIDTH	2	Ductbank Width (ft)	Value		10.00	None				☒
DEPTH	3	Ductbank Depth (ft)	Value		6.00	None				☒
RADIUS	4	Conduit radius (ft)	Value		0.33	None				☒
CONC TYPE	5	Concrete type	Table	CONC_DS		None			☒	☒
CONC	6	Is Concrete required?	Table	STANDARD	NO	None				☒

4. In the Formula Editor, and from the Fields section, double click [CONC.CODE].

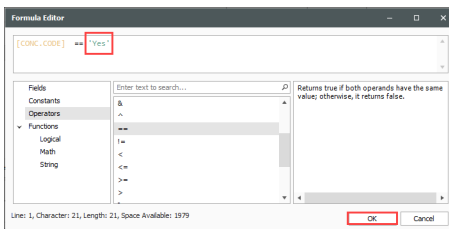


5. In the Operators field, double click on the '=='



6. In the Formula Editor, type 'Yes'.

7. Click OK.



- Notice that the Default Visibility field for CONC TYPE becomes unchecked
- This means that only when the answer to Is Concrete required is Yes, the CONC TYPE input will become visible; otherwise, it will stay hidden

Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum	Maximum	Visibility Condition	Default Visibility
LENGTH	1	Ductbank Length (ft)	Value		100.00	None				☒
WIDTH	2	Ductbank Width (ft)	Value		10.00	None				☒
DEPTH	3	Ductbank Depth (ft)	Value		6.00	None				☒
RADIUS	4	Conduit radius (ft)	Value		0.33	None				☒
CONC TYPE	5	Concrete Type	Table	CONC - DS	None				[CONC.CO...]	☒
CONC	6	Is Concrete required?	Table	STANDARD ...	NO	None				☒

8. In the Tag 1 fields for CONC TYPE and CONC, select Concrete.

Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum	Maximum	Visibility Condition	Default Visibility	Tag 1
LENGTH	1	Ductbank Length (ft)	Value		100.00	None				☒	
WIDTH	2	Ductbank Width (ft)	Value		10.00	None				☒	
DEPTH	3	Ductbank Depth (ft)	Value		6.00	None				☒	
RADIUS	4	Conduit radius (ft)	Value		0.33	None				☒	
CONC TYPE	5	Concrete Type	Table	CONC - DS	None				[CONC.CO...]	☒	Concrete
CONC	6	Is Concrete required?	Table	STANDARD ...	NO	None				☒	Concrete

9. In the Find field under Inputs, select Tag 1.

Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum	Maximum	Visibility Condition	Default Visibility	Tag 1
LENGTH	1	Ductbank Length (ft)	Value		100.00	None				☒	
WIDTH	2	Ductbank Width (ft)	Value		10.00	None				☒	
DEPTH	3	Ductbank Depth (ft)	Value		6.00	None				☒	
RADIUS	4	Conduit radius (ft)	Value		0.33	None				☒	
CONC TYPE	5	Concrete Type	Table	CONC - DS	None				[CONC.CO...]	☒	Concrete
CONC	6	Is Concrete required?	Table	STANDARD ...	NO	None				☒	Concrete

10. Begin typing in Concrete and notice that the CONC TYPE row becomes highlighted.

Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum	Maximum	Visibility Condition	Default Visibility	Tag 1
LENGTH	1	Ductbank Length (ft)	Value		100.00	None				☒	
WIDTH	2	Ductbank Width (ft)	Value		10.00	None				☒	
DEPTH	3	Ductbank Depth (ft)	Value		6.00	None				☒	
RADIUS	4	Conduit radius (ft)	Value		0.33	None				☒	
CONC TYPE	5	Concrete Type	Table	CONC - DS	None				[CONC.CO...]	☒	Concrete
CONC	6	Is Concrete required?	Table	STANDARD ...	NO	None				☒	Concrete

Calculations

Calculations are values produced from expressions that utilize hard values, input values, and lookup values. They can be numerical, Boolean, and/or character expressions. These calculations will provide the method to produce values to use with the cost item output of the assembly. Variable names can contain these special characters:

- A-Z
- 0-9

- _
- ? (Null)

Formulas

The Formula field enables you to create your own custom expressions. You can take assembly inputs and calculate results. Calculation results may be used in other calculations or linked to an assembly's cost item register field values. Formulas can be created with numbers, math operators (e.g., + or – for addition or subtraction), input variable values or other calculation results, table lookup values, or any number of functions that are built into the Formula Editor.

The following formula shows an example of how to calculate the cubic foot volume of concrete in a 10' wide by 15' long by 6" thick slab on grade. The resulting answer is 75 cubic feet.

Variable Name ▲	Description	Formula	Default Result
VOL	Volume of Concrete (cuft)	$10 * 15 * (6.0 / 12)$	75.00

To calculate the same volume in cubic yards (there are 27 cubic feet in a cubic yard), the formula can be rewritten as follows. The resulting answer is 2.78 cubic yards.

Variable Name ▲	Description	Formula	Default Result
VOL	Volume of Concrete (CY)	$10 * 15 * (6.0 / 12) / 27$	2.78

Variables

Variables are placeholders for values that can be changed based upon user input or calculation results, and they can be used to simplify a complex formula. Variables require a name that is unique within the Cost Item Assembly, and the syntax for referencing a variable in a formula is to enclose the entire variable name in [brackets]. Using the preceding example, a calculation named [VOL_CUFT] determines the cubic foot volume of 75. The second formula then references the value stored in the variable [VOL_CUFT] and divides it by 27 to calculate the cubic yard volume of 2.78.

Variable Name ▲	Description	Formula	Default Result
VOL_CUFT	Volume of Concrete (cuft)	$10 * 15 * (6.0 / 12)$	75.00
VOL_CY	Volume of Concrete (CY)	$[VOL_CUFT] / 27$	2.78

Input variables are also used to store user inputs as described above. In the following example, three inputs are created in the Inputs section of the Cost Item Assembly and employing this Cost Item

Assembly will prompt the user to provide the values for the width, length and thickness of the concrete slab, those values are stored in the variables named [WIDTH], [LENGTH] and [THICK] respectively.

Variable Name	Display Order	Description	Input Type	Table	Default Value
WIDTH	1	Width (ft)	Value		10.00
LENGTH	2	Length (ft)	Value		15.00
THICK	3	Thickness (in)	Value		6.00

The [VOL_CUFT] calculation in the following example is the same as in the preceding example, but replaces the 10 foot, 15 foot, and 6 inch values with the variable names, which you would provide when the Cost Item Assembly is employed.

Variable Name	Description	Formula	Default Result
VOL_CUFT	Volume of Concrete (cubic feet)	[WIDTH] * [LENGTH] * ([THICK] / 12)	75.00

As in the preceding example, the [VOL_CY] calculation takes the result of the [VOL_CUFT] calculation and divides by 27 to convert the volume from cubic feet to cubic yards.

Functions

Functions can be used to expand the power of a formula by performing special types of operations on the formula's values. Functions are most commonly used by the name of the function, followed by the values that the function will use to perform the special calculations.

As an example, the Ceiling() function can be used to take the result of a calculation and round it up to the nearest whole number. In using the concrete slab example from above, the calculation [VOL_BUY] will take the result of the [VOL_CY] calculation and round it up from 2.78 CY to 3.00 CY using the syntax Ceiling([VOL_CY]), which represents the amount of concrete you would want to purchase for this work.

Variable Name	Description	Formula	Default Result
VOL_CUFT	Volume of Concrete (cubic feet)	[WIDTH] * [LENGTH] * ([THICK] / 12)	75.00
VOL_CY	Volume of Concrete (CY)	[VOL_CUFT] / 27	2.78
VOL_BUY	Concrete Material Buy (CY)	Ceiling([VOL_CY])	3.00

Null Value

Creating valid formulas can be challenging when calculations start to become more complex. Improper referencing of variables, incorrect spelling of functions, or invalid mathematical operations are all examples of ways in which a formula expression can be invalid. When a formula results in an invalid expression it will return a NULL value. A NULL value is displayed using a '?' character and will preclude you from employing the Cost Item Assembly in the job. In the following example, a formula that divides any number by zero generates a mathematically invalid result and is indicated by the '?' character.

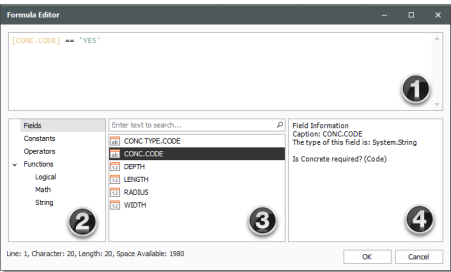
Variable Name	Description	Formula	Default Result
CALC1	Formula Error Example	1/0	?

Formula Editor

The Formula Editor is a tool you can use to assist in the creation of validated formulas that correctly reference variables and ensure the use of proper syntax. Select the fx button to open the Formula Editor.

Overview - Formula Editor

Element		Description
1	Expression Box	Type your formula expression here or add expression elements by double clicking items in the Expression Values section as described below.
2	Expression Elements	Click on an element type to view its categories in the Expression Values list (3).
3	Expression Values	Double-click a value to add it to the Expression Box. If Functions is the selected Expression Element, a drop-down list of various categories of functions will be displayed so the list can be filtered making it easier to find the desired function.
4	Information and Help	When an expression is selected from the Expression Values list (3), an explanation of that expression and how it is used will appear in this window. - If Fields is the selected Expression Element (2), the Expression Values section will list all the available variables used in the Cost Item Assembly, as well as displaying the variable type and the Description as provided by the user in the Description Field of the indicated Input or Calculation variable - If Constants is the selected Expression Element (2), then choosing any of the values in the Expression Values section will provide a brief explanation of the constant - If Operators is the selected Expression Element (2), then choosing a mathematical operator in the Expression Values section will display a brief description of what the operator does - If Functions is the selected Expression Element (2), choosing a Function in the Expression Values section will display the selected functions syntax as well as a brief description of how the function is intended to work



Within the Formula Editor, you can use tables to provide reference data for use in calculations. For example, the following illustration shows a table that stores values for various Concrete Strengths along with their associated resource code values.

Table		
Drag columns here to group		
Code (CODE)	Description (DESC)	
MC2000	4000 PSI	
MC3800	3800 PSI	

Step by Step — Create Calculations

- 1. Drag the Calculations data block into view.

Cost Breakdown Structure (CBS) RegisterCost Item Assembly RegisterStandard Table RegisterCost Item Assembly Record

Cyber: TEST - KLDescription: Test Cost Item Assembly - Ductbank

Cost Item

Drag columns here to group

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
1	Test Cost Item Assembly - Ductbank			1.00 Each	\$0.00	\$0.00	U.S. Dollar
1.1	Excavate Ductbank			1.00 Each	\$0.00	\$0.00	U.S. Dollar
1.2	Install Ductbank Conduit			1.00 Each	\$0.00	\$0.00	U.S. Dollar
1.3	Pour Concrete			1.00 Each	\$0.00	\$0.00	U.S. Dollar
1.4	Backfill			1.00 Each	\$0.00	\$0.00	U.S. Dollar

Calculations

Drag columns here to group

Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3	User Defined 1	User Defined 2	User Def
---------------	-------------	---------	----------------	-------	-------	-------	----------------	----------------	----------

InputCalculations

- 2. In the Variable name field, type Volume, then press Tab.

Calculations

Drag columns here to group

Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3
VOLUME						

The Variable Name field in the Calculations section will be the name that other Calculations can refer or link to and this name must be unique within the context of the Cost Item Assembly, and unique with respect to input variable names.

- 3. Enter the Description Ductbank Volume, then press Tab.

Calculations

Drag columns here to group

Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3
VOLUME	Ductbank Volume					

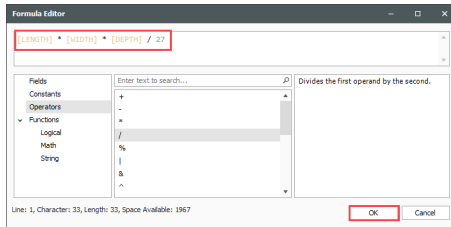
- 4. In the Formula field, select the fx formula editor button.

Calculations

Drag columns here to group

Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3
VOLUME	Ductbank Volume	fx				

5. Select the Field values and Operators as indicated below to create the displayed formula, then click OK.



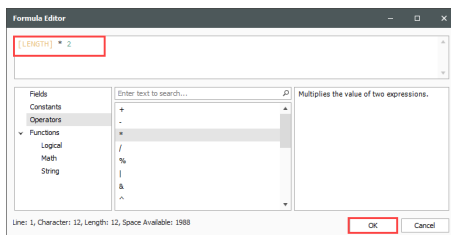
- Notice that the Default Result auto calculates using the calculation and input values provided

Calculations					
Drag columns here to group					
Variable Name	Description	Formula	Default Result	Tag 1	Tag 2
VOLUME	Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22		

6. In the blank row under the Variable Name field, type Conduit and enter the Description Conduit Length, then click the fx button to open the formula editor.

Calculations					
Drag columns here to group					
Variable Name	Description	Formula	Default Result	Tag 1	Tag 2
CONDUIT	Conduit Length	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22		
VOLUME	Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22		

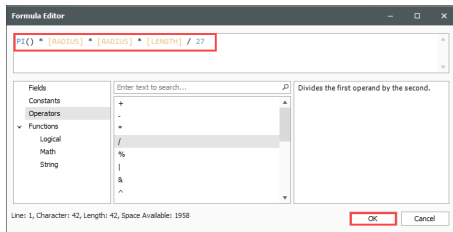
7. Select the Fields value and Operators as indicated below to create the displayed formula, then click OK.



8. In the blank row under the Variable Name field, type Volume2 and enter the Description Conduit Volume, then click on the fx button to open the formula editor.

Calculations					
Drag columns here to group					
Variable Name	Description	Formula	Default Result	Tag 1	Tag 2
CONDUIT	Conduit Length	[LENGTH] * 2	200.00		
VOLUME	Conduit Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22		
VOLUME2	Conduit Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22		

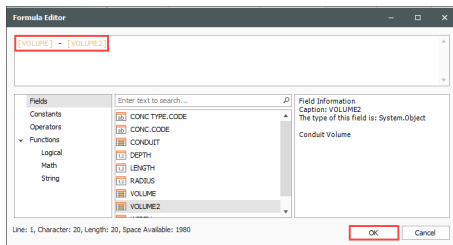
9. Enter the following formula, using the PI() function from the Functions > Math tab, the radius and length from the Fields tab, and the available Operators tab, then click OK.



10. In the blank row under the Variable Name field, type Volume3 and enter the Description Back-fill/Concrete volume, then click on the fx button to open the formula editor.

Calculations							
Drag columns here to group							
Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3	Find
VOLUME	Outbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22				
VOLUME2	Conduit Volume	PI() * [RADIUS] * [RADIUS] * [LENGTH] / 27	1.267109...				
VOLUME3	Backfill/Concrete Volume						

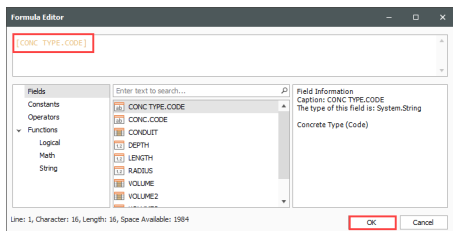
11. Enter the following formula, selecting the already created calculations from the Fields section. Click OK.



12. In the blank row under the Variable Name field, type Concrete and enter the Description Concrete type, then click on the fx button to open the formula editor.

Calculations							
Drag columns here to group							
Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3	Find
CONCRETE	Concrete Type						
CONDUIT	Conduit Length	[LENGTH] * 2	200.00				
VOLUME	Outbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22				
VOLUME2	Conduit Volume	PI() * [RADIUS] * [RADIUS] * [LENGTH] / 27	1.267109...				
VOLUME3	Backfill/Concrete Volume	[VOLUME1] - [VOLUME2]	1.267109...				

13. Enter the following formula, selecting the table value from the Fields tab, then click OK.



- A default result will not appear because a value from the table has not yet been chosen.

Calculations						
Drag columns here to group						
Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3
CONCRETE	Concrete Type	[CONC TYPE CODE]	1			
CONDUIT	Conduit Length	[LENGTH] * 2	200.00			
VOLUME	Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22			
VOLUME2	Conduit Volume	$\pi * [RADIUS]^2 * [LENGTH] / 27$	1.26759...			
VOLUME3	bedd'n Concrete Volume	[VOLUME] - [VOLUME2]	220.952...			

Notes

Notes can be utilized to provide guidance to you on how to use the Cost Item Assembly or provide further clarification on what the various inputs are requiring or how the calculations are being performed. This field supports rich text editing, meaning users can copy and paste from an editing tool various graphics or formatted text such as bold text, bulleted or numbered text, hyperlinks to websites, or various fonts. The Notes data block is displayed on the right side of the Cost Item Assembly Record screen.

Step by Step — Add to the Note Section

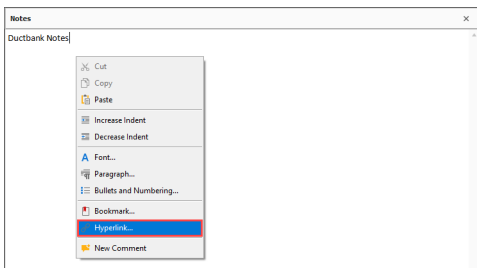
1. Click on the Notes tab in the bottom right corner.



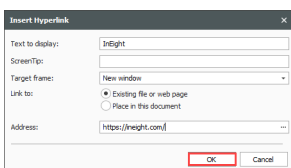
2. In the Notes text box, type Ductbank Notes.



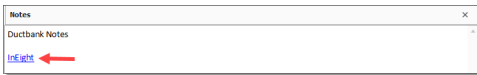
3. Right click within the notes section and select Hyperlink.



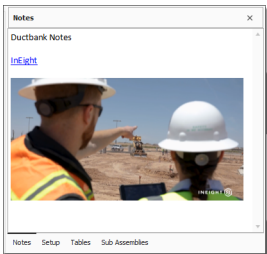
4. Type in a link to your SharePoint or document sharing site, then click OK.



- Note how the hyperlink appears in the notes section.



5. Still in Notes, copy a picture or drawing from your computer, then Paste it into the notes section.



Linking Calculations to Cost Items

The results of calculations can be assigned to any number of different fields in the Cost Items data block of the Cost Item Assembly record. It is common to link dimensional calculations to the Forecast (T/O) Quantity fields of various cost items, but calculation results can be linked to many other fields such as Productivity fields, Description fields, and even Resource Employment fields such as Quantity or Code. You can link multiple cost item fields to a single calculation by holding the CTRL key. To link a calculation to a cost item, you right click on the cost item field and then either select to link to the calculation result from the context menu or from the ribbon.

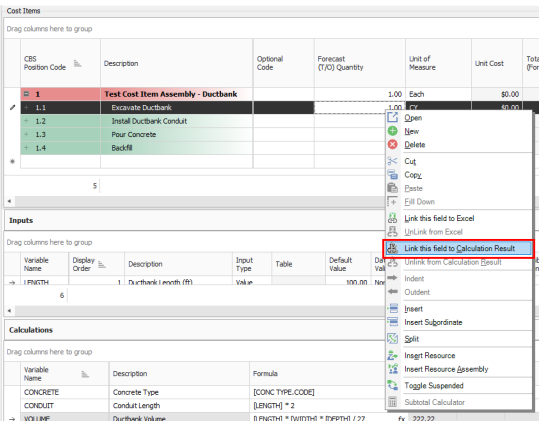


Step by Step — Link Calculations to Cost Items

1. Expand your Cost Items window so that you can see all the cost items.

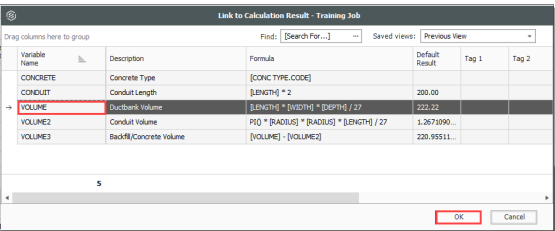
Cost Items										
Find: [Search For...] Saved views: Previous View										
CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	WBS: CEAS (Civil Engineering Account Code System)	WBS: CEAS (Civil Engineering Account Code System)	Pay Item Description	Is Linked To Excel
1	Test Cost Item Assembly - Ductbank		1.00	Each	\$0.00	\$0.00				☐
1.1	Excavate Ductbank		1.00	CY	\$0.00	\$0.00				☐
1.2	Install Ductbank Conduit		1.00	LF	\$0.00	\$0.00				☐
1.3	Pour Concrete		1.00	CY	\$0.00	\$0.00				☐
1.4	Backfill		1.00	CY	\$0.00	\$0.00				☐
5					\$0.00					

2. Right click on the Excavate Ductbank Forecast (T/O) Quantity field and select Link this field to Calculation Result.

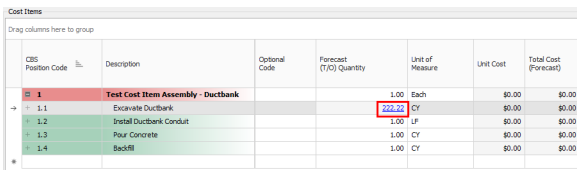


You create calculations prior to linking the values field. The linking of calculation results is similar to linking to Excel values except all linked values update automatically.

3. Select VOLUME, then click OK.



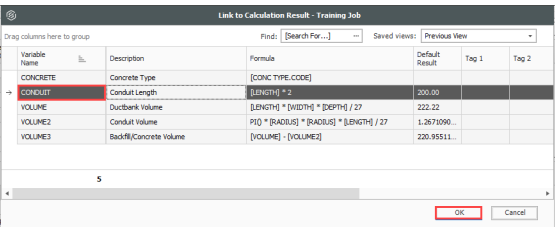
- Note how the Forecast (T/O) Quantity field is now populated with a linked quantity



CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
1	Test Cost Item Assembly - Ductbank			1.00	Each	\$0.00
1.1	Excavate Ductbank		222.22	CY	\$0.00	\$0.00
1.2	Install Ductbank Conduit			LF	\$0.00	\$0.00
1.3	Pour Concrete			CY	\$0.00	\$0.00
1.4	Backfill			CY	\$0.00	\$0.00

4. Right click on the Install Ductbank Conduit Forecast (T/O) Quantity field and select Link this field to Calculation Result.

5. Select CONDUIT, then click OK.



6. Select the Forecast (T/O) Quantity field for Pour Concrete, hold down CTRL, and select the Forecast (T/O) Quantity field for Backfill.

Cost Items

Drag columns here to group

CSI Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
1	Test Cost Item Assembly - Ductbank			Each	\$0.00	\$0.00
1.1	Excavate Ductbank		222.22	CY	\$0.00	\$0.00
1.2	Install Ductbank Conduit		200.00	LF	\$0.00	\$0.00
1.3	Pour Concrete		1.00	CY	\$0.00	\$0.00
1.4	Backfill		1.00	CY	\$0.00	\$0.00

7. Right click and select Link this field to Calculation Result.
8. Select VOLUME3, then click OK.

Link to Calculation Result - Training Job

Find: [Search For...] Saved views: Previous View

Drag columns here to group

Variable Name	Description	Formula	Default Result	Tag 1	Tag 2
CONCRETE	Concrete Type	[CONC.TYPE.CODE]			
CONDUIT	Conduit Length	[LENGTH] * 2	200.00		
VOLUME	Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22		
VOLUME2	Conduit Volume	PI() * [RADIUS] * [RADIUS] * [LENGTH] / 27	1.2672090...		
VOLUME3	Backfill/Concrete Volume	[VOLUME] - [VOLUME2]	220.95311...		

5

OK Cancel

9. In the Inputs data block, select the Default Value field for the CONC TYPE input.
10. Select MC2000, then click OK.

Table Rows - Training Job

Find: [Search For...]

Drag columns here to group

Code (CODE)	Description (DESC)
MC2000	MC2000 PSI
MC3500	MC3500 PSI

2

OK Cancel

- Notice that this value is now populated in the Default Value field.

Inputs

Drag columns here to group

Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation
DEPTH	3	Ductbank Depth (ft)	Value		6.00	None
RADIUS	4	Conduit Radius (ft)	Value		0.33	None
CONC TYPE	5	Concrete Type	Table	CONC - RL	MC2000	None
CONC	6	Is Concrete required?	Table	CONC - RL		None

6

11. Navigate to the Calculations data block.

- Note that the Default Result field is now populated

Calculations

Find: [Search For...] Saved views: Previous View

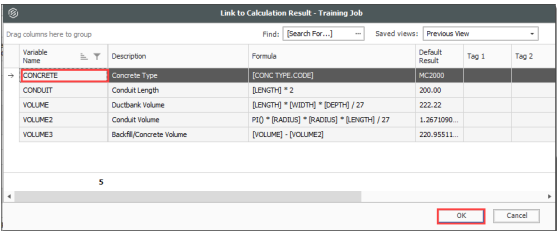
Drag columns here to group

Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3	User Defined 1	User Defined 2
CONCRETE	Concrete Type	[CONC.TYPE.CODE]	MC2000					
CONDUIT	Conduit Length	[LENGTH] * 2	200.00					
VOLUME	Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22					
VOLUME2	Conduit Volume	PI() * [RADIUS] * [RADIUS] * [LENGTH] / 27	1.2672090...					
VOLUME3	Backfill/Concrete Volume	[VOLUME] - [VOLUME2]	220.95311...					

5

Inputs Calculations

- 12. In the Cost Items data block, right click in the Optional Code field for the Pour Concrete cost item, and select Link to Calculation Result
- 13. Select the CONCRETE calculation, then click OK.

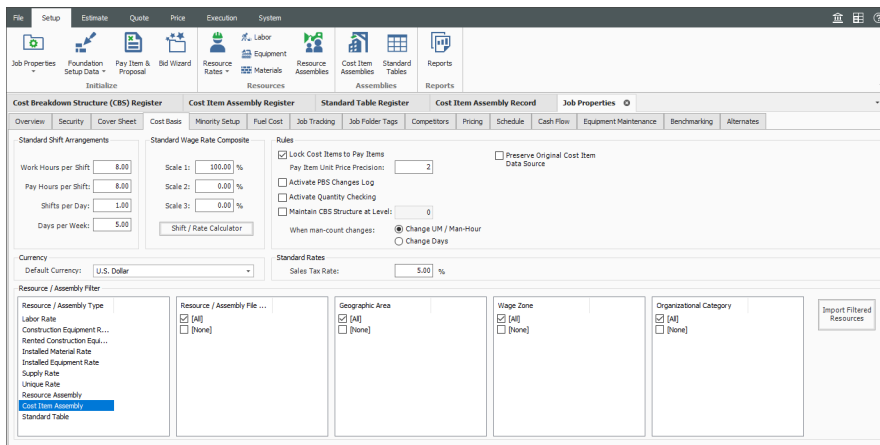


- Note how the optional code for Pour Concrete is now populated

Cost Items							
Drag columns here to group							
CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
1	Test Cost Item Assembly - Ductbank		1.00	Each	\$0.00	\$0.00	U.S. Dollar
1.1	Excavate Ductbank		222.22	CY	\$0.00	\$0.00	U.S. Dollar
1.2	Install Ductbank Conduit		200.00	LF	\$0.00	\$0.00	U.S. Dollar
1.3	Pour Concrete	MC000	220.96	CY	\$0.00	\$0.00	U.S. Dollar
1.4	Backfill		220.96	CY	\$0.00	\$0.00	U.S. Dollar

Cost Item Assembly Employment

When an estimator wants to estimate a scope of work, they can use any available Cost Item Assemblies that have been included in the job. Cost Item Assemblies are employed in the CBS Register in much the same way a resource is employed on a cost item. Cost Item Assemblies can be imported into a project from the Library via the Setup > Job Properties > Cost Basis tab in the same way that resources can be brought in.



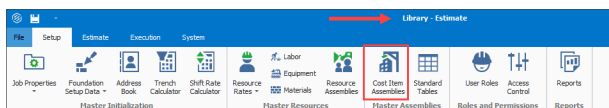
Employment

Employing cost item assemblies comes after they have been created by a lead estimator typically. Employing an assembly means an estimator selects a specific assembly to insert into the CBS register as if adding a new cost item. The estimator will be prompted to provide all the inputs or accept the default assumptions required for that assembly.

Job Properties

Cost Item Assemblies can effectively be used as a starting point for various components of an estimate. You can import job specific cost item assemblies by navigating to the Setup menu and selecting Setup > Job Properties > Cost Basis > Cost Item Assembly.

You can also import cost item assemblies into the Library the same way as doing it from within a job. You can access the Master Cost Item Assembly Register by navigating to the Library > Cost Item Assembly Register.



Insert Cost Item Assemblies

Once your Cost Item Assemblies are created, the cost items must be inserted into the CBS Register. They can be inserted as a subordinate or new cost item anywhere in the CBS hierarchy. To do so, you right click on the position code where you want to place the cost item assembly and select to either insert the assembly as subordinate cost items or as new cost items.

Once the cost items are inserted into the CBS, you can hover over Forecast (T/O) Quantity to see the associated calculation.

Step by Step — Insert Cost Item Assemblies

1. Navigate to the CBS Register.

The screenshot shows the 'Cost Breakdown Structure (CBS) Register' window. It displays a tree view on the left and a detailed table on the right. The table has columns for Code, Description, CBS Position Code, Description, and Forecast (T/O) Quantity. The hierarchy starts with 'JOB' and branches into various cost items like 'Prime Bond', 'Job Financing', 'Indirect Cost Escalation', 'Direct Cost Escalation', 'Job Management & Equipment', 'General Expense', 'Direct Cost Add-On', 'Mobilization', 'Clearing & Grubbing', 'Unclassified Excavation', 'Aggregate', 'Asphalt C', '36 Inch RCP', '10 Inch RCP', '4 Foot DI', 'Structure', 'Steel Rein', 'Retaining', 'Paint Exc', 'Process E', 'Removal', 'Disposal', 'Tall Booth', 'Guardrail', 'Type 4 St', 'Realign', 'Special R', 'Job Over', and 'Change C'.

Code	Description	CBS Position Code	Description	Forecast (T/O) Quantity
JOB		JOB		20.00
+	Prime Bond	+	Prime Bond	1.00
+	Price % Add-On	+	Price % Add-On	1.00
+	Job Financing	+	Job Financing	1.00
+	Indirect Cost Escalation	+	Indirect Cost Escalation	1.00
+	Direct Cost Escalation	+	Direct Cost Escalation	1.00
+	Indirect Cost Add-On	+	Indirect Cost Add-On	1.00
+	Job Management & Equipment	+	Job Management & Equipment	1.00
+	General Expense	+	General Expense	1.00
+	Direct Cost Add-On	+	Direct Cost Add-On	1.00
+	Mobilization	+	Mobilization	1.00
+	Clearing & Grubbing	+	Clearing & Grubbing	10.00
+	Unclassified Excavation	+	Unclassified Excavation	50,000.00
+	Aggregate	+	Aggregate	50,000.00
+	Asphalt C	+	Asphalt C	50,000.00
+	36 Inch RCP	+	36 Inch RCP	45,000.00
+	10 Inch RCP	+	10 Inch RCP	45,000.00
+	4 Foot DI	+	4 Foot DI	400,000.00
+	Structure	+	Structure	45,000.00
+	Steel Rein	+	Steel Rein	400,000.00
+	Retaining	+	Retaining	35,000.00
+	Paint Exc	+	Paint Exc	35,000.00
+	Process E	+	Process E	35,000.00
+	Removal	+	Removal	1,024.00
+	Disposal	+	Disposal	1,858.56
+	Tall Booth	+	Tall Booth	1,024.00
+	Guardrail	+	Guardrail	1,587.20
+	Type 4 St	+	Type 4 St	12,000.00
+	Realign	+	Realign	12,000.00
+	Special R	+	Special R	12,000.00
+	Job Over	+	Job Over	3,000.00
+	Change C	+	Change C	3,000.00

2. Right click on the first cost item in the hierarchy and select Insert Cost Item Assembly as Subordinate.

Drag columns here to group

CBS Position Code	Description	Forecast (T/C) Quantity	Unit of Measure
308	Bew	20.00	Yds
Prime Bon	Getters	1.00	Lump Sum
Price % A	Cat	1.00	Lump Sum
Job Financ	Cat	1.00	Lump Sum
Indirect C	Crat	1.00	Lump Sum
Direct Co	Crat	1.00	Lump Sum
Indirect C	Crat	1.00	Lump Sum
Job Manag	Link this field to Excel	1.00	Lump Sum
General Ex	Link from Excel	1.00	Lump Sum
Direct Co	Indent	1.00	Lump Sum
1	Indent	1.00	Lump Sum
2	Outdent	1.00	Lump Sum
3	Insert	1.00	Cubic Yd
3.1	Insert Subordinate	1.00	Cubic Yd
3.2	Insert Dependent Cost Item	1.00	Cubic Yd
4	Insert Cost Item Assembly as Subordinate	1.00	Ton
4.1	Split	1.00	Square Yd
4.2	Insert Resource	1.00	Ton
4.3	Insert Resource Assembly	1.00	Ton
4.3.1	Place To	1.00	Ton
4.3.2	Toggle Suspended	1.00	Square Yd
5	Go To Cost Allocation Item	1.00	Ton
5.1	Schedule Selection	1.00	Ton
5.2	Unschedule Selection	1.00	Linear Ft
6	Calculate Plug Days...	1.00	Linear Ft
6.1	Subtotal Calculator	1.00	Linear Ft
6.2	Add Quote	1.00	Linear Ft
6.3	Backfill RCP Pipe	1.00	Cubic Yd
7	10 Inch PVC Force Main (SDR21)	12,000.00	Linear Ft
7.1	Purchase 10 Inch PVC Materials	12,000.00	Linear Ft
7.2	Excavate-Install Backfill 10 Inch PVC	12,000.00	Linear Ft
8	24 Inch PVC Gravity Sewer (SDR35)	3,000.00	Linear Ft

3. Select your Cost Item Assembly, then click OK.

Actions

Drag columns here to group

Find: Search For...

Saved views: Previous View

Code	Description	Assembly	Default Quantity	Default Unit of Measure	Default Unit Cost	Default Total Cost	Default Currency
RW01	Standard Retaining Wall Assembly	Standard Cost It...	20.00	Cubic Yard	\$424.67	\$8,493.38	U.S. Dollar
TEST-HL	Test Cost Item Assembly - Ductbank	Standard Cost It...	1.00	Each	\$0.00	\$0.00	U.S. Dollar

2

OK Cancel

4. Click OK again.

Actions

Cost Item Assembly: TEST-HL

Inputs

Drag columns here to group

Find: Search For...

Saved views: Previous View

Variable Name	Description	Value
LENGTH	Ductbank Length (ft)	100.00
WIDTH	Ductbank Width (ft)	10.00
DEPTH	Ductbank Depth (ft)	6.00
RADIUS	Conduit Radius (ft)	0.33

5

Notes

Ductbank Notes

Preview

Drag columns here to group

Find: Search For...

Saved views: Previous View

CBS Position Code	Description	Optional Code	Forecast (T/C) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
1	Test Cost Item Assembly - Ductbank		1.00	Each	\$0.00	\$0.00	U.S. Dollar
1.1	Excavate Ductbank		222.22	CY	\$0.00	\$0.00	U.S. Dollar
1.2	Install Ductbank Conduit		200.00	LF	\$0.00	\$0.00	U.S. Dollar
1.3	Pour Concrete	HC-2000	220.95	CY	\$0.00	\$0.00	U.S. Dollar
1.4	Backfill		220.95	CY	\$0.00	\$0.00	U.S. Dollar

5

\$0.00

Preview Calculations

OK Cancel

- Your Cost Item Assembly is added to the bottom of the CBS

Edit an Employed Cost Item Assembly

Employed Cost Item Assemblies are read-only cost items in the CBS register, but the inputs that were provided by the user to create the cost items can be modified to update the resulting cost items. If you change one variable in the cost item assembly, it will automatically update all associated cost items.

You can update the values of an Employed Cost Item Assembly in two ways:

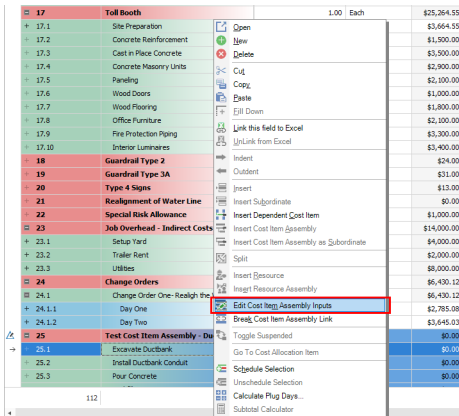
- From the CBS Register
- From the Cost Item Assembly Register

From the CBS Register

You can edit the entire Cost Item Assembly from within the CBS Register.

Step by Step — Edit an Employed Cost Item Assembly from the CBS Register

1. Right click on your Excavate Ductbank cost item and select Edit Cost Item Assembly Inputs.



2. Maximize your screen.
3. Change the Length input value to 120.

Inputs				
Drag columns here to group				
Variable Name	Display Order	Description	Value	
LENGTH	1	Ductbank Length (ft)	120.00	
WIDTH	2	Ductbank Width (ft)	10.00	
DEPTH	3	Ductbank Depth (ft)	6.00	
RADIUS	4	Conduit radius (ft)	0.35	
CONC	6	Is Concrete required?	NO	

4. Click OK.



- Notice how all the quantities for the cost items using the input Length change

25	Test Cost Item Assembly - Ductbank	1.00
25.1	Excavate Ductbank	265.61
25.2	Install Ductbank Conduit	250.00
25.3	Pour Concrete	265.61
25.4	Backfill	265.61

From the Cost Item Assembly Register

You can navigate back to the Cost Item Assembly Register, select your Cost Item Record, and make any changes there. Once the Cost Item Assemblies have been employed, to update the cost items with any changes made in the Cost Item Assembly Register, you need to go back to the CBS Register to

update the cost items. You follow the same steps as above except you do not actually change anything in the edit window, you just click OK to see the updated changes.

Advanced Options

The following step by step demonstrates some advanced options within Cost Item Assemblies, such as conditional inputs and functions.

Step by Step — Advanced Options

1. Navigate to your Cost Item Assembly Record.
2. In the Calculations data block, click on the formula editor for the “Volume” calculation.

Calculations							
Drag columns here to group				Find:			
Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3	
CONCRETE	Concrete Type	[CONC.TYPE.CODE]					
CONDUIT	Conduit Length	[LENGTH] * 2	200.00				
VOLUME	Ductbank Volume	Round([LENGTH] * [WIDTH] * [DEPTH] / 27)	222.22				
VOLUME2	Conduit Volume	PI() * [RADIUS] * [RADIUS] * [LENGTH] / 27	1.267109...				
VOLUME3	Backfill/Concrete Volume	[VOLUME] - [VOLUME2]	220.9528...				

3. Using the Functions tab, select the Round function and put your existing formula within its parenthesis, then click OK.

Formula Editor

Line: 1, Character: 40, Length: 40, Space Available: 1960

OK Cancel

- You now see a rounded number in the Default Result field

Calculations							
Drag columns here to group				Find:			
Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3	
CONCRETE	Concrete Type	[CONC.TYPE.CODE]					
CONDUIT	Conduit Length	[LENGTH] * 2	200.00				
VOLUME	Ductbank Volume	Round([LENGTH] * [WIDTH] * [DEPTH] / 27)	222.22				
VOLUME2	Conduit Volume	PI() * [RADIUS] * [RADIUS] * [LENGTH] / 27	1.267109...				
VOLUME3	Backfill/Concrete Volume	[VOLUME] - [VOLUME2]	220.9528...				

4. You now see a rounded number in the Default Result field
5. Do the same for the Volume2 and Volume3 calculations.

Calculations							
Drag columns here to group				Find:			
Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3	
CONCRETE	Concrete Type	[CONC.TYPE.CODE]					
CONDUIT	Conduit Length	[LENGTH] * 2	200.00				
VOLUME	Ductbank Volume	Round([LENGTH] * [WIDTH] * [DEPTH] / 27)	222.00				
VOLUME2	Conduit Volume	Round(PI() * [RADIUS] * [RADIUS] * [LENGTH] / 27)	1				
VOLUME3	Backfill/Concrete Volume	Round([VOLUME] - [VOLUME2])	221				

6. Create a new calculation. In the Variable Name field, type Include_Conc, enter Include Concrete? in the Description field, then click on the fx button to open the formula editor.

Calculations						
Drag columns here to group						
Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3
CONCRETE	Concrete Type	[CONC TYPE CODE]				
CONDUIT	Conduit Length	[LENGTH] * 2	200.00			
INCLUDE_CONC	Include Concrete?					
VOLUME	Ductbank Volume	Round([LENGTH] * [WIDTH] * [DEPTH] / 27)	222.00			
VOLUME2	Conduit Volume	Round([PI] * [RADIUS] * [RADIUS] * [LENGTH] / 18)	1			
VOLUME3	Backfill/Concrete Volume	Round([VOLUME] - [VOLUME2])	221			

7. Using the If(, ,) function from the Functions tab, and the existing Volume3 calculations from the Fields tab, enter in the following formula, then click OK.

Formula Editor

Line: 1, Character: 37, Length: 37, Space Available: 1963

Enter text to search...

Fields

- Constants
- Operators
- Functions
- Logical
- Math
- String

Field Information

Capitons: VOLUME3
The type of this field is: System.Object

Backfill/Concrete Volume

OK Cancel

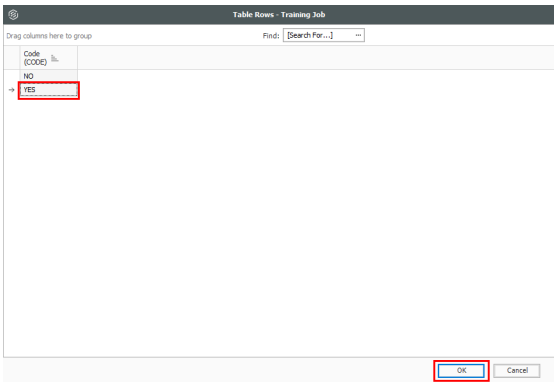
8. Navigate to the CBS Register.
9. Right click on one of your cost assembly items, and select Edit Cost Item Assembly Inputs.

17	Toll Booth	1.00	Each	\$25,264.55
17.1	Site Preparation			\$3,664.55
17.2	Concrete Reinforcement			\$1,500.00
17.3	Cast in Place Concrete			\$3,500.00
17.4	Concrete Masonry Units			\$2,800.00
17.5	Paving			\$2,100.00
17.6	Wood Decks			\$1,000.00
17.7	Wood Flooring			\$1,800.00
17.8	Office Furniture			\$2,100.00
17.9	Fire Protection Piping			\$3,300.00
17.10	Interior Luminaires			\$3,400.00
18	Guardrail Type 2			\$24.00
19	Guardrail Type 3A			\$21.00
20	Type 4 Signs			\$13.00
21	Realignment of Water Line			\$0.00
22	Special Risk Allowance			\$1,000.00
23	Job Overhead - Indirect Costs			\$14,000.00
23.1	Setup Yard			\$4,000.00
23.2	Trailer Rent			\$2,000.00
23.3	Utilities			\$8,000.00
24	Change Orders			\$6,430.12
24.1	Change Order One - Realign the			\$6,430.12
24.1.1	Day One			\$2,785.08
24.1.2	Day Two			\$3,645.03
25	Test Cost Item Assembly - Du			\$0.00
25.1	Encrete Ductbank			\$0.00
25.2	Install Ductbank Conduit			\$0.00
25.3	Pour Concrete			\$0.00

10. On the CONC input, select the ellipses next to the Default Value.

Inputs				
Drag columns here to group				
Variable Name	Display Order	Description	Value	
LENGTH	1	Ductbank Length (ft)	120.00	
WIDTH	2	Ductbank Width (ft)	10.00	
DEPTH	3	Ductbank Depth (ft)	8.00	
RADIUS	4	Conduit radius (ft)	0.33	
CONC	6	Is Concrete required?	NO	

11. Select Yes.



12. Click OK.

- Note how the conditional input CONC TYPE is now displayed

Inputs

Drag columns here to group

Variable Name	Display Order	Description	Value
LENGTH	1	Ductbank Length (ft)	120.00
WIDTH	2	Ductbank Width (ft)	20.00
DEPTH	3	Ductbank Depth (ft)	6.00
RADIUS	4	Conduit radius (ft)	6.33
CONC TYPE	5	Concrete Type	MC200
CONC	6	Is Concrete required?	YES

13. Click OK.

14. Navigate back to your Cost Item Assembly Record.

15. In the Cost Items data block, right click on the Pour Concrete Forecast (T/O) Quantity field.

Cost Items

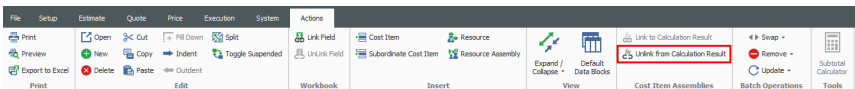
Drag columns here to group

Find: [Search For...]

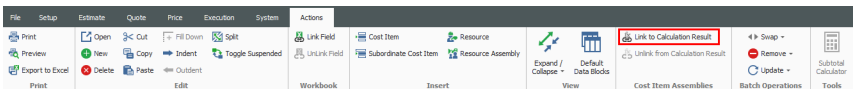
Saved view

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
1	Test Cost Item Assembly - Ductbank		1.00	Each	\$0.00	\$0.00
1.1	Excavate Ductbank		222.00	CY	\$0.00	\$0.00
1.2	Install Ductbank Conduit		200.00	LP	\$0.00	\$0.00
1.3	Pour Concrete	MC200	221.00	CY	\$0.00	\$0.00
1.4	Backfill		221.00	CY	\$0.00	\$0.00

16. From the ribbon, click the Unlink from Calculation Result option.



17. Now click Link to Calculation result.



18. Select the INCLUDE_CONC calculation, then click OK.

Link to Calculation Result - Training Job

Drag columns here to group: Find: [Search For...] Saved view: Previous View

Variable Name	Description	Formula	Default Result	Tag 1	Tag 2
CONCRETE	Concrete Type	[CONC TYPE CODE]			
CONDUIT	Conduit Length	[LENGTH] * 2	200.00		
INCLUDE_CONC	Pour Concrete?	[CONC TYPE CODE] = "P" ? [VOLUME3] : 0			
VOLUME	Ductbank Volume	Round([LENGTH] * [DEPTH] / 2)	222.00		
VOLUME2	Conduit Volume	Round([PI] * [RADIUS] * [RADIUS] * [LENGTH] / 4)	1		
VOLUME3	Backfill Concrete Volume	Round([VOLUME] - [VOLUME2])	221		

6

OK Cancel

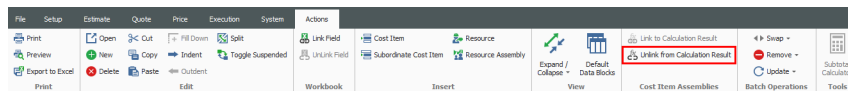
19. Right click on the Pour Concrete Optional Code field.

Cost Items

Drag columns here to group: Find: [Search For...] Saved view

CBS Position Code	Description	Optional Code	Forecast (FO) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
1	Test Cost Item Assembly - Ductbank		1.00	Each	\$0.00	\$0.00
1.1	Excavate Ductbank		222.00	CY	\$0.00	\$0.00
1.2	Install Ductbank Conduit		200.00	LF	\$0.00	\$0.00
1.3	Pour Concrete	MC2000	0.00	CY	\$0.00	\$0.00
1.4	Backfill		221.00	CY	\$0.00	\$0.00

20. From the ribbon, click the Unlink from Calculation Result option.



21. Navigate to the CBS Register.

22. Right click on one of your cost assembly items, and select Edit Cost Item Assembly Inputs.

23. Click OK.

24. Right click on one of your cost assembly items, and select Edit Cost Item Assembly Inputs.

25. Change the default value of CONC to No.

Table Rows - Training Job

Drag columns here to group: Find: [Search For...]

Code (CODE)
NO
YES

OK Cancel

26. Click OK.

27. Click OK again.

- Notice that your Pour Concrete cost item now disappears

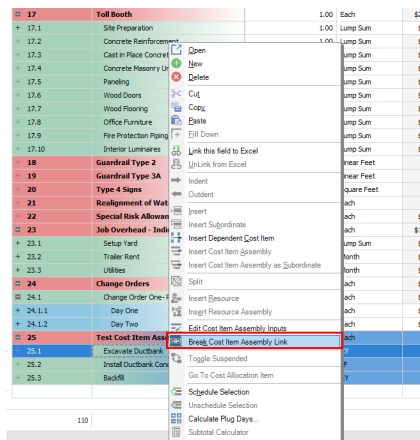
25	Test Cost Item Assembly - Ductbank	1.00	Each	\$0.00
25.1	Excavate Ductbank	262.00	CY	\$0.00
25.2	Install Ductbank Conduit	240.00	LF	\$0.00
25.3	Backfill	265.00	CY	\$0.00

Breaking the Link to a Cost Item Assembly

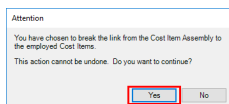
To ensure that the logic used in the calculation of a Cost Item Assembly is retained, employed Cost Item Assemblies are not directly editable in the CBS Register. To customize the results of an employed Cost Item Assembly, you can disassociate it from the originating Cost Item Assembly logic as per the following steps.

Step by Step — Break the Link to a Cost Item Assembly

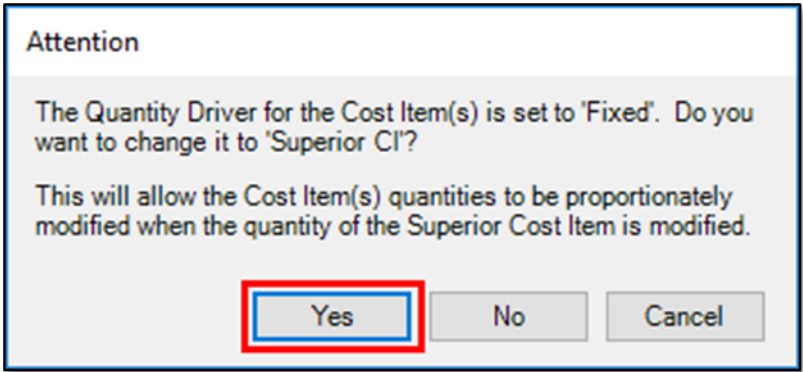
1. Right click your Excavate Ductbank cost item and select Break Cost Item Assembly Link.



2. On the resulting Attention prompt, click Yes.



3. When prompted about changing the Quantity Driver to Superior CI, click Yes.



- Note that the hyperlinks disappear, and the link has been broken

25	Test Cost Item Assembly - Ductbank	1.00	Each
25.1	Excavate Ductbank	257.00	CY
25.2	Install Ductbank Conduit	240.00	LF
25.3	Backfill	265.00	CY

Cost Item Sub-Assemblies

With the Sub-Assemblies in the Cost Item Assemblies form, you can easily create and maintain cost item assemblies that model construction systems and contain multiple complex calculations. Sub-assemblies enable the Cost Item Assemblies feature to be more modular, allowing you to maintain smaller, simpler versions of cost item assemblies and reuse them in multiple places.

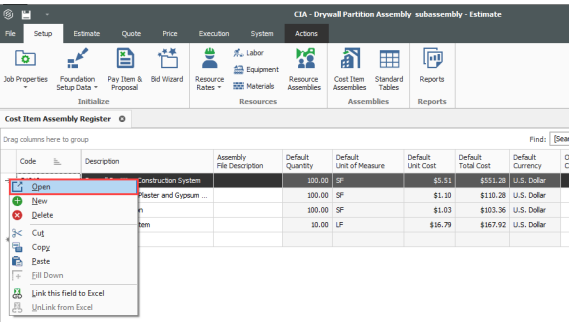
Accessing the Cost Item Assembly Sub Assemblies

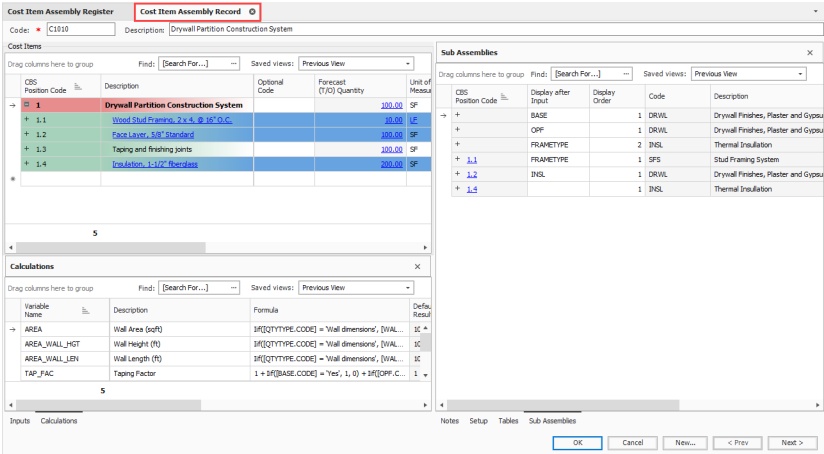
A sub-assembly can be created within a cost item assembly by simply inserting it as a subordinate cost item.

To access a cost item assembly record, select Setup > Cost Item Assemblies. The Cost Assembly register will open.



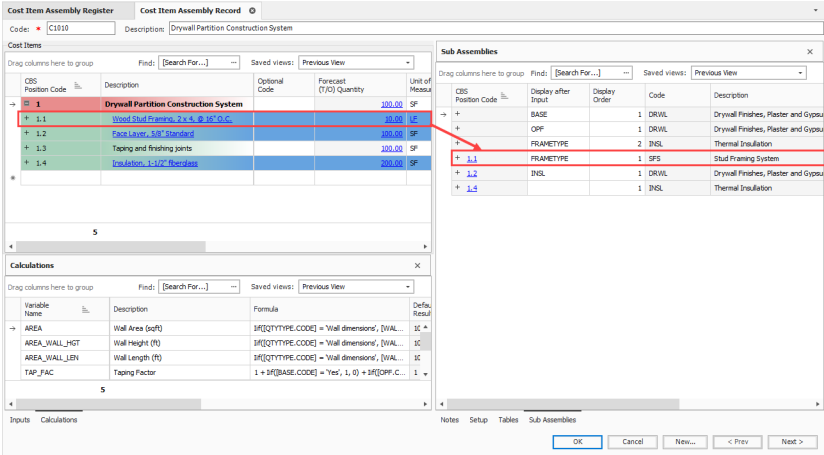
Select the cost item you want to open by double clicking or right click and select Open.



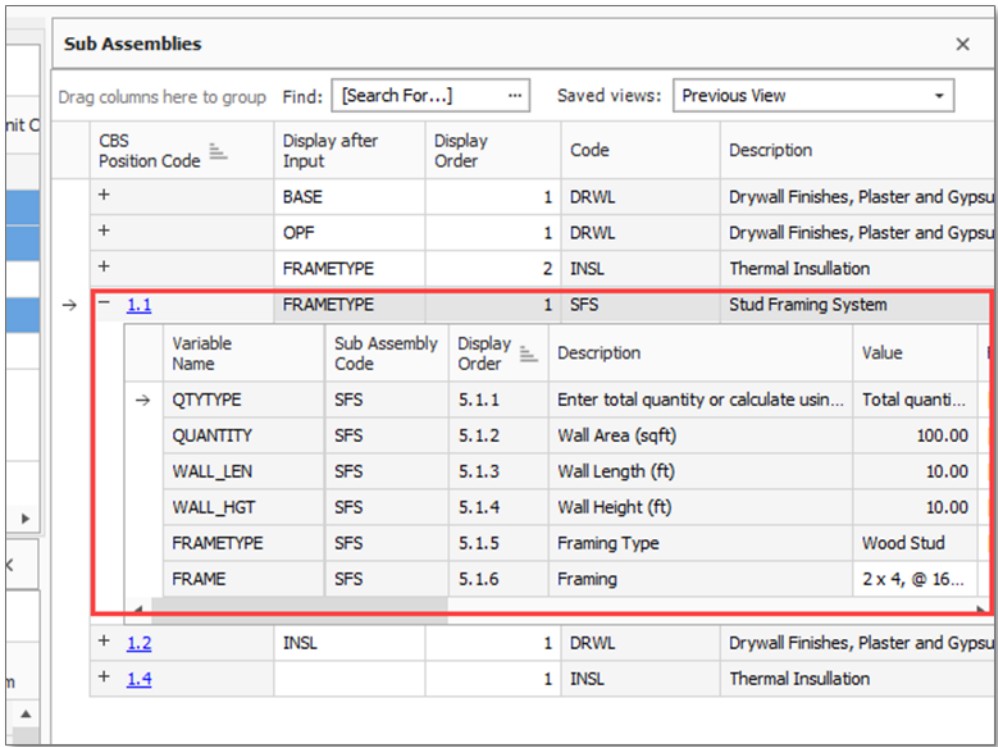


Overview of the cost item assembly sub assembly

Under the Cost Items window you will see the cost item assemblies listed. On the right side of the screen will be the sub assemblies relating to each cost item.

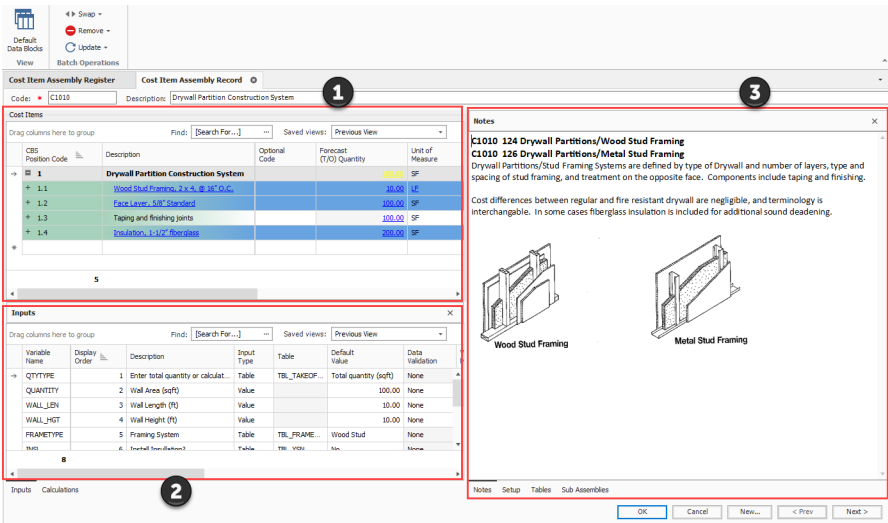


When you expand the sub assemblies on the right, it lists all the elements which make up that sub assembly.

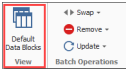


On the Cost Item Assembly Record screen there are three windows. Below are their functions:

	Windows	Description
1	Cost Items	These are the component cost items that will be inserted when the assembly is employed. Fields on the cost items can be linked to Calculations, which are driven by the Input values in window 2.
2	Inputs / Calculations	Inputs: These are the inputs the user will specify during employment of the assembly. These input values drive the Calculations which can be linked to the cost items in window 1. Calculations: This is where Calculations are defined. Calculations can be based on Input values and other Calculations, and the Calculation results can be linked to fields on the assembly's cost items and resource employments.
3	Sub Assemblies	Four tabs appear: Notes, Setup, Tables, and Osub Assemblies. • Notes are displayed when the assembly is employed • Setup shows file and Tag information • Tables link to individual Table Records by Table Code • Sub Assemblies list all the elements which make up that sub assembly

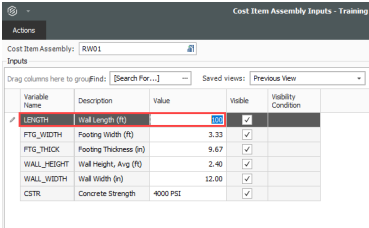


Selecting the Default Data Blocks icon in the top left of the screen will change the view of the Cost Item Assembly Record.

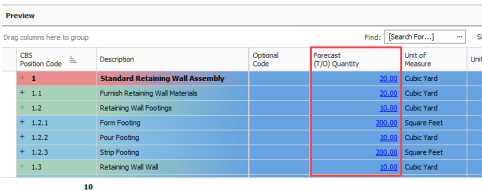


The cost item assemblies input values can then be assigned to the sub-assembly input values for you to answer a question only one time. For example, when providing the total square footage of a wall system, the single input can be used by the cost item assembly and its sub-assemblies. Adjusting values in the questions, will change the preview, as shown below.

From the Cost Item Assembly Record > Sub Assemblies tab, compare how changes affect the Cost Breakdown Structure (CBS) Register:



Changing these values will...
adjust these totals.



Sub-assembly input values can be sorted and shown conditionally based upon your inputs. Then you can employ a cost item assembly which only views the questions that are relevant. For example, a question in the cost item assembly could be, "Is insulation required?". If the answer to the question is yes, then a sub-assembly that defines the cost of installing insulation gets included in the cost item assembly. If the answer is no, then the sub-assembly is not included.

To view the formulas used to calculate the values of the cost items, in the Cost Breakdown Structure (CBS) Register hover over the Forecast (T/O) Quantity line items. This will help you to understand how these values were determined.

Preview

Drag columns here to group

Find: [Search For...] Saved views: Previous View

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
1	Standard Retaining Wall Assembly		20.00	Cubic Yard	\$424.67	\$8,493.38	U.S. Dollar
+ 1.1	Purchase Retaining Wall Materials		20.00	Cubic Yard	\$159.45	\$3,189.00	U.S. Dollar
+ 1.2	Retaining Wall Footings		20.00	Cubic Yard	\$1,946.36	\$3,892.72	U.S. Dollar
+ 1.2.1	Form Footing		20.00	Cubic Yard	\$1,257.77	\$25,155.40	U.S. Dollar
+ 1.2.2	Pour Footing		10.00	Cubic Yard	\$26.95	\$269.52	U.S. Dollar
+ 1.2.3	Strip Footing		200.00	Square Feet	\$2.10	\$419.26	U.S. Dollar
+ 1.3	Retaining Wall Wall		10.00	Cubic Yard	\$353.37	\$3,533.75	U.S. Dollar
10						\$8,493.38	

Preview Calculators

When your Input questions require answers as Yes/No, Unit of Measure, etc., select the field's ellipse to open the table screen. Here you can select the item(s) which relate to your initial selection. When OK is selected, the line item will update with the new selection.

Cost Item Assembly: RW01

Inputs

Drag columns here to group

Find: [Search For...] Saved views: Previous View

Variable Name	Description	Value	Visible	Visibility Condition
LENGTH	Wall Length (ft)	100.00	✓	
FTG_WIDTH	Footing Width (ft)	3.33	✓	
FTG_THICK	Footing Thickness (in)	9.67	✓	
WALL_HEIGHT	Wall Height, Avg (ft)	2.40	✓	
WALL_WIDTH	Wall Width (in)	12.00	✓	
CSTR	Concrete Strength	4000 PSI	✓	

Concrete Strength (STRENGTH)

Resource Code (RESOURCE)

3500 PSI MC3500

4000 PSI MC4000

Step by Step — Creating a Cost Item Assembly Sub Assembly

1. Navigate to Setup > Cost Item Assemblies.
2. Select a cost item assembly.

File Setup Estimate Quote Price Execution System Actions

Job Properties Foundation Pay Item & Proposal Resource Rates Labor Equipment Materials Resource Assemblies Cost Item Assemblies Standard Tables Reports

Cost Item Assembly Register

Drag columns here to group

Code	Description	Assembly Price Description	Default Quantity	Default Unit of Measure	Default Unit Cost	Default Total Cost	Default Currency
C1010	Drywall Partition Construction System		100.00	SF	\$5.51	\$551.28	U.S. Dollar
DRWL	Drywall Finishes, Plaster and Gypsum ...		100.00	SF	\$1.10	\$110.28	U.S. Dollar
INSL	Thermal Insulation		100.00	SF	\$1.03	\$103.36	U.S. Dollar
SFS	Stud Framing System		10.00	LF	\$16.79	\$167.92	U.S. Dollar

- The cost item assembly record will open

The screenshot shows the 'Cost Item Assembly Register' window. The 'Cost Items' tab is active, displaying a table with columns: CBS Position Code, Description, Optional Code, Forecast (F70) Quantity, Unit of Measure, and Unit Cost. The table lists items for a 'Drywall Partition Construction System', including 'Wood Stud Framing', 'Face Layer', 'Taping and finishing joints', 'Insulation', and 'Walls'. The 'Sub Assemblies' tab is also visible, showing a similar table for sub-assemblies like 'BASE', 'OFF', 'FRAME TYPE', and 'INSL'. Below the tables are sections for 'Calculations' and 'Inputs'.

3. With the addition of “Walls” as our example. select a blank line in the Cost Item Assembly and give it a number and description.
4. Right click on the line item and select Insert Cost Item Assembly as Subordinate.

This screenshot shows the 'Cost Item Assembly Register' window with a right-click context menu open over line item 1.4, 'Taping and finishing joints'. The menu options include: Open, New, Delete, Cut, Copy, Paste, Fill Down, Link this field to Excel, Unlink from Excel, Link this field to Calculation Result, Unlink from Calculation Result, Indent, Outdent, Insert, Insert Subordinate, Insert Cost Item Assembly, and 'Insert Cost Item Assembly as Subordinate' (which is highlighted in red).

- The Cost Item Assembly Register sub assembly opens
5. From this screen, select a sub assembly to add and click OK.

The screenshot shows the 'Cost Item Assembly Register - CIA - Drywall Partition Assembly subassembly' window. It displays a table with columns: Code, Description, Assembly File Description, Default Quantity, Default Unit of Measure, Default Unit Cost, Default Total Cost, and Default Currency. The table lists sub-assemblies: 'DRWL' (Drywall Finishes, Plaster and Gypsum Board), 'INSL' (Thermal Insulation), and 'SPS' (Stud Framing System). The 'SPS' row is highlighted in red.

- The window for the sub assembly will open with its details
 - Complete any changes to the values
6. Click OK.

The cost item sub assembly has been added:

Code: C1030		Description: Drywall Partition Construction System								
Cost Items										
Drag columns here to group Find: [Search For...] Saved views: Previous View										
CBS Position Code	Description	Optional Code	Forecast (TFS) Quantity	Unit of Measure	Unit Cost					
+ 1.2	Face Layer, 5/8" Standard		100.00	SF	\$1					
+ 1.3	Taping and finishing joints		100.00	SF	\$0					
+ 1.4	Walls		100.00	SF	\$1					
+ 1.4.1	Wood Stud Framing, 2 x 4 @ 16" O.C.		30.00	LF	\$14					
Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Work Hours	Pay Hours	Unit Cost
1	CARP	Carpenters		2.00		2.00	Each	1.80		\$75.45
2	W.F.S.	Wood framing for par...		30.00	0.00	30.00	LF			\$41.72
Sub Assemblies										
Drag columns here to group Find: [Search For...] Saved views: Previous View										
CBS Position Code	Display after Input	Dl... Or...	C...	Description	Employment Condition					
+ 1	BAGE	1	DRILL	Drywall Finishes, Plaster and Gypsum Board	[BASE.CODE]=Yes					
+ 1	DPF	1	DRILL	Drywall Finishes, Plaster and Gypsum Board	[DPF.CODE]=Yes					
+ 1	FRAMTYRE	2	INSL	Thermal Insulation	[INSL.CODE]=Yes					
+ 1.1	FRAMTYRE	1	SFS	Stud Framing System						
+ 1.2	INSL	1	DRILL	Drywall Finishes, Plaster and Gypsum Board						
+ 1.3.1		1	SFS	Stud Framing System						

Validated Tags

Tags are used to identify or mark records for filtering, sorting and reporting purposes. Think of them as you would any paper tag that you attach to an object to better identify it or find it when you need it.

Tags can be created and made available to all Tags fields throughout the system or can be created for specific Tags fields on specific forms. When created for a specific Tags field on a specific form, the list of available Tags for that field will be limited to those Tags assigned to that field and form. Tags that have not been assigned to a specific field and form will be available to all Tags fields on all forms. After data is tagged, it can be filtered, sorted, and grouped using the filtering and grouping features on the register containing the data.

Validate Field Examples

Examples	Description
Area	Assign construction area to cost items
Phase	Assign construction phase to cost items
Work Type	Assign construction work types to cost items
Estimator	Assign an estimator's name to a cost item for responsibility/tracking
Estimate Scope	Cost item tagging for secondary reporting scope needs
Issues	Issues to discuss during estimate reviews
Risk Level	Assign risk level to cost items for estimate reviews
Division/District/Region Tags	Division/District/Region tags
Review Status	Sections of the estimate that have been reviewed
Contract Type	Contract types
Bid Review Date	Date organization reviewed the bid
Bid Award Date	Date the bid was awarded
Bid Place	Track how the bid placed against competitors if not won
Quantity Verification	Cost item takeoff validation complete

Users can take advantage of validated and non-validate tags in every register within estimate. It will be up to the organization on how they want to best leverage tags in each register.

Register Examples

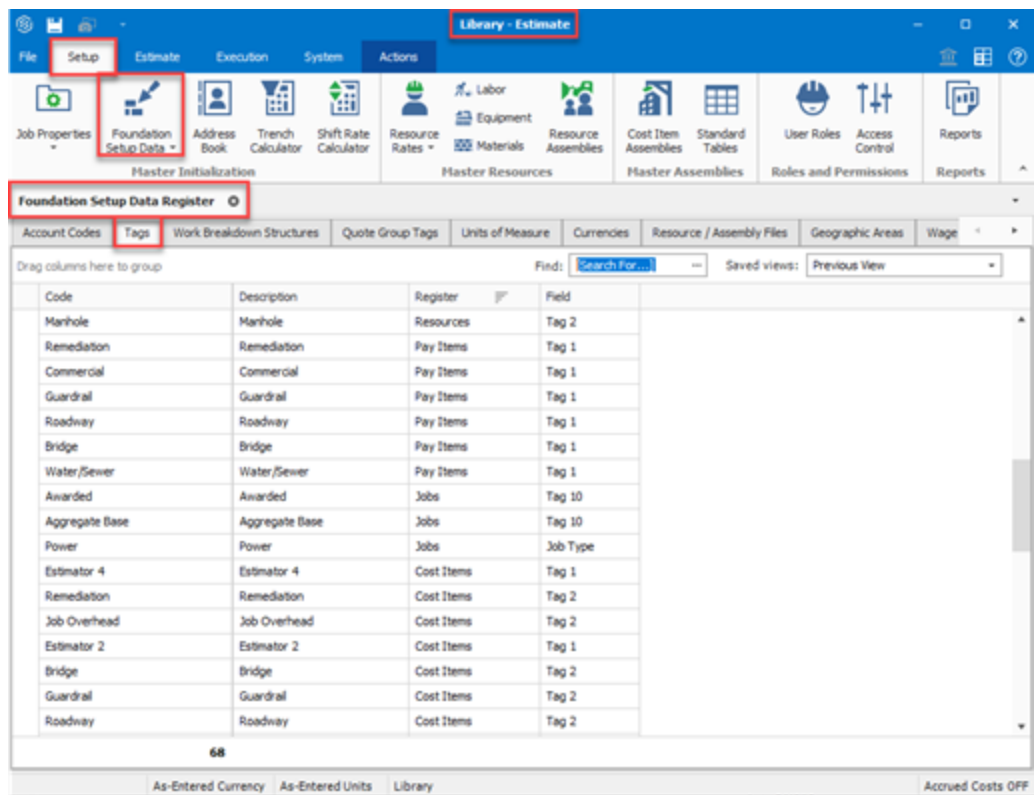


Master Foundation Setup Data – Validated Tags

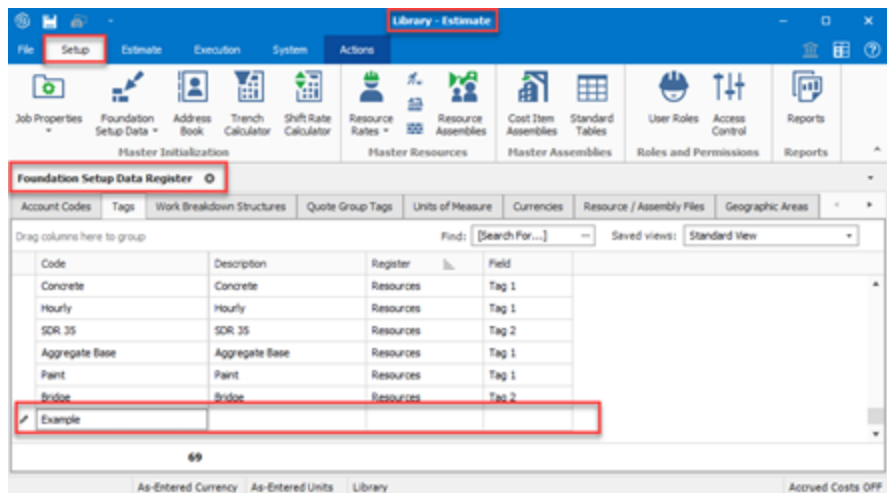
A master set of Tags is created and stored in the **Master Foundation Setup Data - Tags** tab of the Library. When you create a new folder, the master set is automatically copied from the Library to the new folder. If you feel the current job requires new or different Tags to adequately categorize its cost items and resources, you can change, create, or delete them any time you want.

Step by Step — Validated Register Tags

1. From the Backstage View, select **Library** from the left pane navigation.
2. From the Ribbon, select the **Setup** tab.
3. Under the section Master Initialization, select the **Foundation Setup Data** button. The Foundation Setup Data Register opens.
4. From the Foundation Setup Data Register, select the **Tags** tab.



- 5. Click in the first blank cell in the **Code** column. Then enter the code that defines the tag.
- 6. In the **Description** field, enter a description for the tag.
- 7. In the **Register** field, define the type of item to associate with this tag.
- 8. In the **Field** column, define the tag field to associate with this tag.



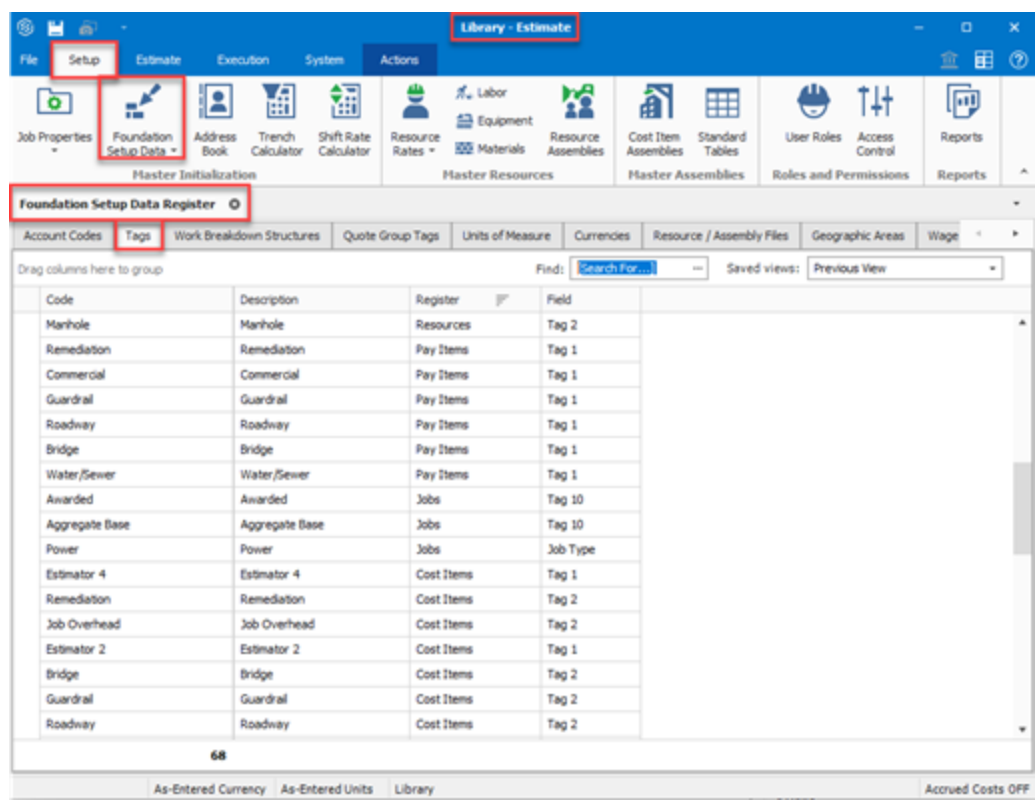
- 9. Repeat the previous steps to add additional tags.

Creating Validate Tags in the Record

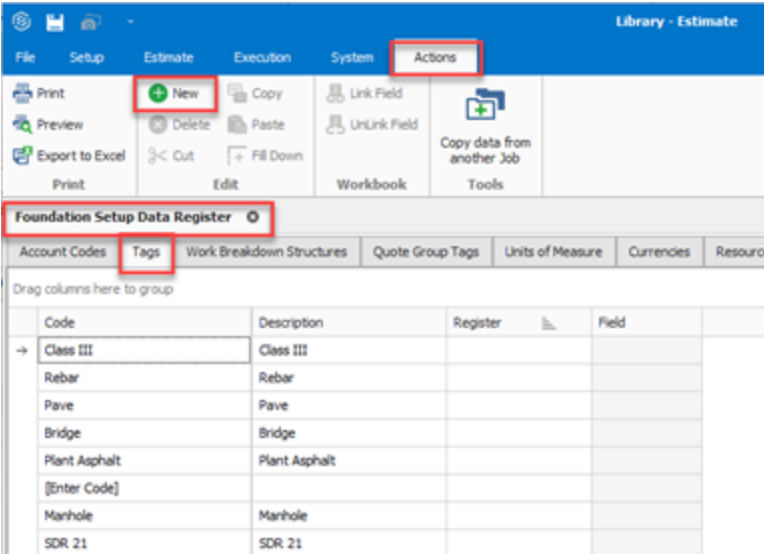
The following steps walk you through how to create validated tags within a User Tag Record.

Step by Step — Validated Record Tags

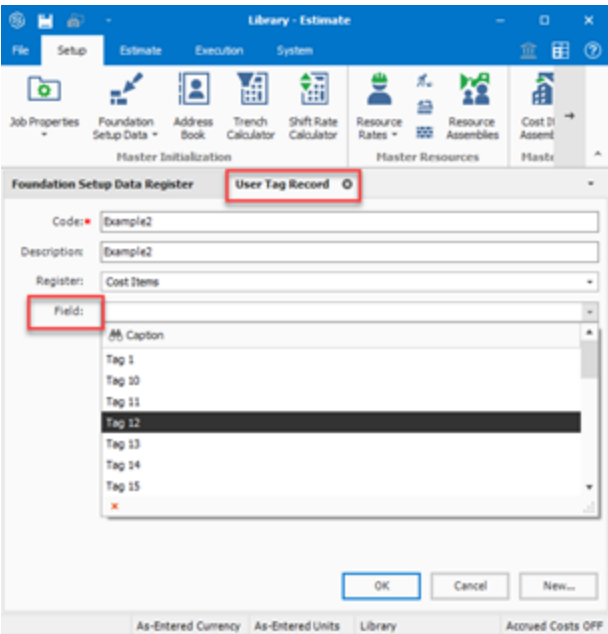
- 1. From the Backstage View, select **Library** from the left pane navigation.
- 2. From the Ribbon, select the **Setup** tab.
- 3. Under the section Master Initialization, select the **Foundation Setup Data** button. The Foundation Setup Data Register opens.
- 4. From the Foundation Setup Data Register, select the **Tags** tab.



- 5. Select the **Actions** tab.
- 6. Under the Edit section, select **New**. A new **User Tag Record** opens.



- 7. In the **Code** column, enter the code that defines the tag.
- 8. In the **Description** field, enter a description for the tag.
- 9. In the **Register** drop down, define the type of item to associate with this tag.
- 10. In the **Field** drop down, define the tag field to associate with this tag.
- 11. When you are finished, click **OK** to close this record and return to the register.



- 12. Repeat the previous steps to add additional tags.

13. To edit pre-existing tags, select the tag you want to edit. Then, in the **Actions** tab, click **Open**. The User Tag Record opens.

Assigning Validate Tags to Cost Items

The following steps walk you through how to assign validated tags to cost items.

Step by Step — Assigning Validate Tags to Cost Items

1. From the Ribbon, select the **Estimate** tab.
2. Then select **Cost Breakdown Structure (CBS)**.
3. Double-click the row that you want to assign tags. The Cost Item Record for that row opens.
 - e.g., Direct Cost Add-On, Indirect Cost Escalation, etc.
4. Select the Cost Item Setup default data block in the lower right portion of the record.
5. Select a tag to add to the **Tag 1** field drop down.
6. Select the Cost Item Setup default data block in the lower right portion of the record.

Cost Breakdown Structure (CBS) Register

Cost Item Record

CBS Code:Optional Code:Description:Forecast (T/O) Q

PI Assignment:PI Line Number:PI Description:

641 010010Mobilization

Cost Item Summary

Detail : \$11,909.51

Plug : \$500.00

Quot

Drawn by: [Search For...]

Saved views: Previous View

Row Number	Code	Resource Assembly	Description	Qua (Les
1	LT1		Teamster	
3	ETTT		Tractor Truck	
2	ETLT		Lowboy Trailer	

Cost Item Setup

Default Shift Arrangements

Work Hours per Shift: 8.00

Shifts per Day: 1.00

Days per Week: 5.00

Job Tracking

Allow As-Built:

Default Properties

Account Code: 1020

Cost Curve: Linear

Worker's Comp Override:

Tag 1: Estimator 1

Tag 2: Roadway

Tag 3:

Tag 4:

Tag 5:

Quantity Driver: Pay Item

Quote Group Tag:

Minority Goal Allowance: 100.00

Phase Code:

When man-count changes: ☒ Change UM / Man-Hour ☐ Change Days

Suspend: ☐

Security

Last Changed By: Ray.Banning

Employment Setup

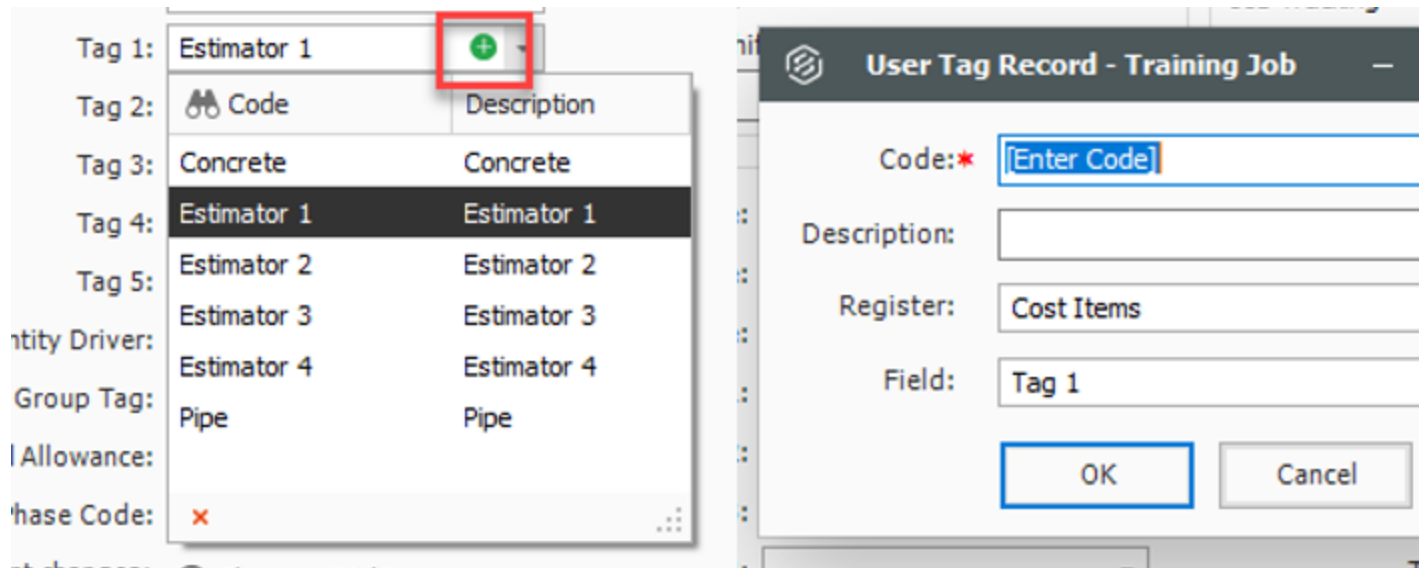
Notes

Cost Item Setup

Production

Man-Hour

If the tag that you want to assign does not display in the drop-down list, you have the ability to add a new tag by clicking on the green plus button that shows to the left of the validation button and adding the new tag to your job's foundation data



7. Repeat the previous steps to add additional tags.

Assigning Validated Tags to an Employed Resource

The following steps walk you through how to assign validated tags to an employed resource.

Estimate provides you with the ability to assign specific tags on a resource-by-resource basis for each employed resource on a cost item.

Tags are master codes and descriptions that are used, generally, for sorting and filtering purposes and allow you to group like data for reporting and review purposes.

Step by Step — Assigning Validate Tags to Employed Resources

1. From the Ribbon, select the **Estimate** tab.
2. Then select **Cost Breakdown Structure (CBS)**.
3. Double-click the row that you want to assign tags. The Cost Item Record for that row opens.
 - e.g., Direct Cost Add-On, Indirect Cost Escalation, etc.
4. In the Cost Item Record, select the **Detail** tab.
5. Select a resource row in the Detail tab and then select the **Employment Setup** default data block in the lower right portion of the record.
6. Select a tag for the **Tag 1** field using the drop down list.

If the tag that you want to assign does not display in the drop-down list, you have the ability to add a new tag by clicking on the green plus button that shows to the left of the validation button and adding the new tag to your job's foundation data.

7. Repeat the previous steps to add additional tags.

Assigning Validated Tags to Pay Items

Tags are master codes and descriptions that are generally used for sorting and filtering purposes, and they allow you to group like data for reporting and review purposes.

Step by Step — Assigning Validate Tags in Pay Item Register

1. From the Ribbon, select the **Price** tab.
2. Under the Pay Items section, select **Pay Item & Proposal**. The Pay Item & Proposal Register opens.
3. In the register, select the pay item that you want to assign a tag.
4. Find and click into the **Tag 1** field. Then select a tag from the drop down list.

If the tag that you want to assign does not display in the drop-down list, you have the ability to add a new tag by clicking on the green plus button that shows to the left of the validation button and adding the new tag to your job's foundation data.

5. Repeat the previous steps to add additional tags.

Assign Tags on the Pay Item Record

Step by Step — Assigning Validate Tags in Pay Item Record

1. From the Ribbon, select the **Price** tab.
2. Under the Pay Items section, select **Pay Item & Proposal**. The Pay Item & Proposal Register opens.
3. In the register, select the pay item that you want to assign a tag.
4. On the Actions tab, click **Open** to open the Pay Item Record.
5. From the Pay Item Record, select the **Tags / User Defined Fields** tab.
6. Click the **Tag 1** field. Then select a tag from the drop down list.

If the tag that you want to assign does not display in the drop-down list, you have the ability to add a new tag by clicking on the green plus button that shows to the left of the validation button and adding the new tag to your job's foundation data.

- Repeat the previous steps to add additional tags. Once done, click **OK**.

Assigning Validated Tags to Price % Add-On

Step by Step — Assigning Validated Tags to Price % Add-On

- From the Ribbon, select the **Estimate** tab.
- Under the Breakdown Structure section, select **Cost Breakdown Structure (CBS)**.
- Double-click on the **PRICE % ADD-ON** row.
- Under the Cost Item Setup default data block, click in the **Tag 1** field. Then, select an account code using the drop down list.

If the tag that you want to assign does not display in the drop-down list, you have the ability to add a new tag by clicking on the green plus button that shows to the left of the validation button and adding the new tag to your job's foundation data.

- Repeat the previous steps to add additional tags. Once done, click **OK**.

The screenshot displays the 'Price % Add-On Record' window, which is part of the 'Cost Breakdown Structure (CBS) Register'. The window shows a table with columns for Description, Rate, and Account Code. The 'Description' column contains 'AGC Dues' and 'Office Overhead'. The 'Rate' column contains '0.50' and '4.00'. The 'Account Code' column is empty. The 'Price % Add-On' field is highlighted in red. The 'Total Cost' is \$314,705.28.

The 'Cost Item Setup' dialog box is open, showing the 'Properties' tab. The 'Currency' is set to 'U.S. Dollar'. The 'Account Code' is empty. The 'Cost Curve' is set to 'Linear'. The 'Tag 1' field is highlighted in red. The 'Tag 2' and 'Tag 3' fields are also visible. The 'Phase Code' is empty. The 'Suspend' checkbox is unchecked. The 'Job Tracking' section shows 'Allow As-Built' as 'No'. The 'Security' section shows 'Last Changed By: Ray.Banning' and 'Last Changed On: 4/2/2019 2:21:13 PM'.

Description	Rate	Account Code
AGC Dues	0.50	
Office Overhead	4.00	

Tag 1	Tag 2	Tag 3
	Code	Description
	Concrete	Concrete
	Estimator 1	Estimator 1
	Estimator 2	Estimator 2
	Estimator 3	Estimator 3
	Estimator 4	Estimator 4
	Pipe	Pipe

Assigning Validated Tags to a Quote Record

Tags are master codes and descriptions that are generally used for sorting and filtering purposes, and they allow you to group like data for reporting and review purposes.

Step by Step — Assigning Validated Tags to Quote Record

1. From the Ribbon, select the **Quote** tab.
2. Under the Quote Management section, select **Quotes**.
3. Open the preferred **Request for Quote Record** by highlighting it on the Quote Register.
4. Then select the **Actions** tab. Under the Edit section, select **Open**. The Quote Record opens.
5. Under the Setup default data block, click in the **Tag 1** field. Then, select a tag using the drop down list.

If the tag that you want to assign does not display in the drop-down list, you have the ability to add a new tag by clicking on the green plus button that shows to the left of the validation button and adding the new tag to your job's foundation data.

6. Repeat the previous steps to add additional tags. Once done, click **OK**.

Cost Breakdown Structure (CBS) Register

Request for Quote (RFQ) Record

Description

Guardrail Items

Status

New

Published Date

Response Deadline Date: 8/4/2020

Response Deadline Time: 12:00 PM

Line Items

Terms & Conditions

Seller Companies

Attachments

Setup

Tag 1:

Tag 2:

Tag 3:

Notes

RFQ Publication Settings

Cost Item Identifier: CBS Position Code

☒ Include RFQ Instructions

☒ Include Buyer's Special Terms & Conditions

☒ Include Notes

☐ Include Attachments

☒ Publish Item Quantities

☒ Publish By Fax

☒ Publish By Email

OK

Cancel

New...

< Prev

Next >

Non-Validated Tags

Tags are used to identify or mark records for filtering, sorting, and reporting purposes.

Tags can be created and made available to all Tags fields throughout the system or can be created for specific Tags fields on specific forms. When created for a specific Tags field on a specific form, the list of available Tags for that field will be limited to those Tags assigned to that field and form. Tags that have not been assigned to a specific field and form will be available to all Tags fields on all forms. After data is tagged, it can be filtered, sorted, and grouped using the filtering and grouping features on the register containing the data.

Non-Validate Field Examples

Examples	Description
Risk description	Identify specific risks against cost items
Superintendent	Identifies responsible person for operations and forecasting
Commodities	Grouping cost items for roll-up and review for specific commodities
Client Tagging	Specific cost item tagging for client
External System Flag	External flags for integration
AWP Planning	Assign a cost item to a Work Plan for operations

Users can take advantage of validated and non-validate tags in every register within estimate. It will be up to the organization on how they want to best leverage tags in each register.

Register Examples



Creating Non-Validate Tags

The following steps walk you through how to create non-validate tags within a Cost Item Record.

Step by Step — Non-Validate Tags in Cost Item Record

1. From the Ribbon, select the **Estimate** tab.
2. Then select **Cost Breakdown Structure (CBS)**.
3. Double-click the row that you want to assign tags. The Cost Item Record for that row opens.
 - e.g., Direct Cost Add-On, Indirect Cost Escalation, etc.
4. Select the **User Defined** default data block in the lower right portion of the record.
5. Click into the **User Defined 1** field and type in the value needed for the cost item.

The screenshot displays the 'Cost Breakdown Structure (CBS) Register' window. At the top, the 'Cost Item Record' tab is selected. Below this, a table lists CBS items. The first item, 'Mobilization' (CBS Code: 641 0100), is selected. To the right of the table, fields for Forecast (700) Qty, Unit of Measure, Unit Costs, Total Costs, and Currency are visible. Below the table, a 'Cost Item Summary' section shows details for the selected item, including 'Detail: \$11,909.51' and 'Plug: \$100.00'. The 'User Defined' section is highlighted with a red box, showing a list of 15 'User Defined' fields. At the bottom of the window, the 'User Defined' button on the ribbon is also highlighted with a red box.

The following steps walk you through how to create non-validate tags within the register.

Cell select and fill down shortcuts can expedite the assigning process.

Step by Step — Non-Validate Tags in Register

1. From the Ribbon, select the **Estimate** tab.
2. Then select **Cost Breakdown Structure (CBS)**.
3. Go to the cost item that you want to add tags and scroll to the User Defined 1 field.

4. Type in the value needed for the cost item.

CBS Position Code	Description	User Defined 1	User Defined 2	User Defined 3	User Defined 4	Man-Hours (Duration driven)
JOB						
Prime Bond						
Price % Add-On						
Job Financing						
Indirect Cost Escalation						
Direct Cost Escalation						
Indirect Cost Add-On						
Job Management & Equipment						
General Expense						
Direct Cost Add-On						
1 Mobilization		Example	Super	Mob	AIIP-001	
2 Clearing & Grubbing		Example	Super	Mob	AIIP-001	
3 Unclassified Excavation		Example	Super	Mob	AIIP-001	
3.1 Excavation		Example	Super	Mob	AIIP-001	
3.2 Embankment		Example	Super	Mob	AIIP-001	
4 Aggregate Base		Example	Super	SiteWork	AIIP-002	
4.1 Furnish & Haul Base Material		Example	Super	SiteWork	AIIP-002	
4.2 Finegrade Subgrade		Example	Super	SiteWork	AIIP-002	
4.3 Install Aggregate Base		Example	Super	SiteWork	AIIP-002	
4.3.1 Place Aggregate Base		Example	Super	SiteWork	AIIP-002	
4.3.2 Blue Top Aggregate Base		Example	Super	SiteWork	AIIP-002	
5 Asphalt Concrete Hot Mix Type A		Example	Super2	SiteWork	AIIP-002	
5.1 Furnish & Haul Hot Mix		Example	Super2	SiteWork	AIIP-002	
5.2 Install Hot Mix Type A		Example	Super2	SiteWork	AIIP-002	
36 Inch RCP Culvert Class III		Example	Super2	SiteWork	AIIP-002	
6.1 Furnish RCP Materials		Example	Super2	SiteWork	AIIP-002	
6.2 Excavate RCP Trench		Example	Super2	SiteWork	AIIP-002	
6.3 Install RCP Pipe		Example	Super2	SiteWork	AIIP-002	
6.4 Backfill RCP Pipe		Example	Super2	SiteWork	AIIP-002	
10 Inch PVC Force Main (NHD31)						

5. Changing the caption can also assist in notating how the field is to be used.

Cost Breakdown Structure (CBS) Register							Cost Item Record	Foundation Setup Data Register	
CBS Tree (Filter Mode)		Drag columns here to group		User Defined 1	User Defined 2	User Defined 3	User Defined 4	Man-Hours (Duration driven)	CR-Ma...
Code	Description	CBS Position Code	Description						
JOB		JOB						25,213.30	
Prime Bond		Prime Bond							
Price % Add-On		Price % Add-On							
Job Financing		Job Financing							
Indirect Cost Esca		Indirect Cost Escalation							
Direct Cost Escala		Direct Cost Escalation							
Indirect Cost Add		Indirect Cost Add-On							
Job Management		Job Management & Equipment						2,400.00	
General Expense		General Expense						0.00	
Direct Cost Add-O		Direct Cost Add-On							
Mobilization		1 Mobilization	Example				AIIP-001	80.00	
Clearing & Grubbi		2 Clearing & Grubbing	Example				AIIP-001	720.00	
Unclassified Excav		3 Unclassified Excavation	Example				AIIP-001	960.00	
Aggregate Base		3.1 Excavation	Example				AIIP-001	800.00	
Asphalt Concrete		3.2 Embankment	Example				AIIP-001	160.00	
36 Inch RCP Culve		4 Aggregate Base	Example				AIIP-002	3,413.33	
10 Inch PVC Force		4.1 Furnish & Haul Base Material	Example				AIIP-002	640.00	
24 Inch PVC Gravi		4.2 Finegrade Subgrade	Example				AIIP-002	1,137.79	
4 Foot Diameter H		4.3 Install Aggregate Base	Example				AIIP-002	1,635.56	
Structural Excavo		4.3.1 Place Aggregate Base	Example				AIIP-002	1,066.67	
Steel Reinforce									
Retaining Wall									
Plant Existing Ste									

Advanced Job Snapshots

A job Snapshot is a copy of an Estimate job that provides read only access to the job as it existed at a specific point in time.

You can use a Job Snapshot to do the following

- Freeze your estimate at various points for audit purposes, such as after take-off is complete, after bid review is complete, or after final subcontractor/supplier prices have been entered.
- Give access to users that need access to the information but are not permitted to modify the data.
- Enable users to access a job while eliminating the concern that someone may inadvertently change live data.
- Copy data from a snapshot version of a job and paste it back into the live job or any other project.
- Create a new job from a snapshot version of a job.

Behind the scenes, the job is saved and maintained as an archive. When a snapshot is loaded, the archive is restored as a local copy. A snapshot can be modified, but changes cannot be saved. Snapshots are managed in the Snapshot Register.

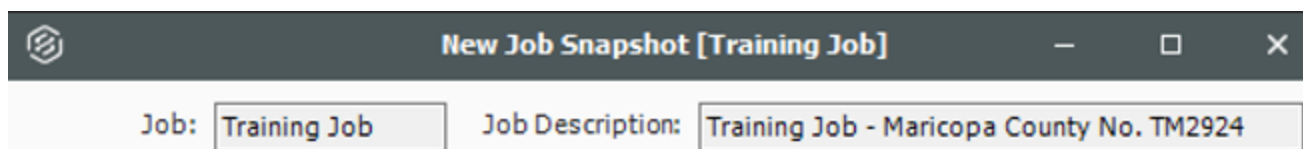
Creating A New Job Snapshot

User access can be set for each snapshot as follows:

- Use job's current User Access restrictions for the snapshot
- Remove all User Access restrictions for the snapshot
- Specify User Access restrictions for the snapshot

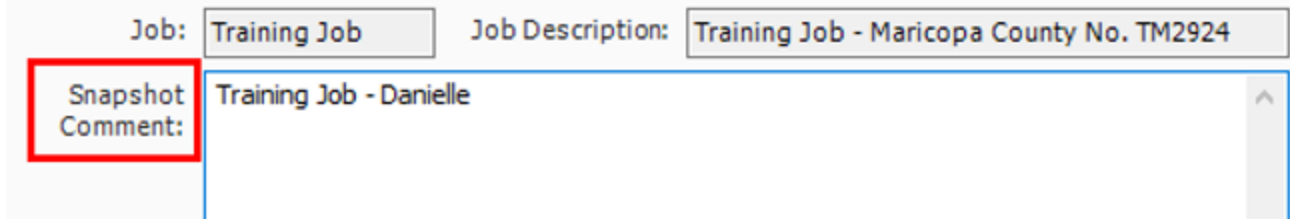
Step by Step — Creating a New Job Snapshot

1. Click on the File tab. From the Backstage View, select **Snapshots** from the left navigation pane.
2. Select **Create Snapshot**.
3. The job name and description display at the top of the dialog.



The screenshot shows a software dialog box titled "New Job Snapshot [Training Job]". It has a standard Windows-style title bar with a minimize button, a maximize button, and a close button. Below the title bar, there are two input fields. The first is labeled "Job:" and contains the text "Training Job". The second is labeled "Job Description:" and contains the text "Training Job - Maricopa County No. TM2924".

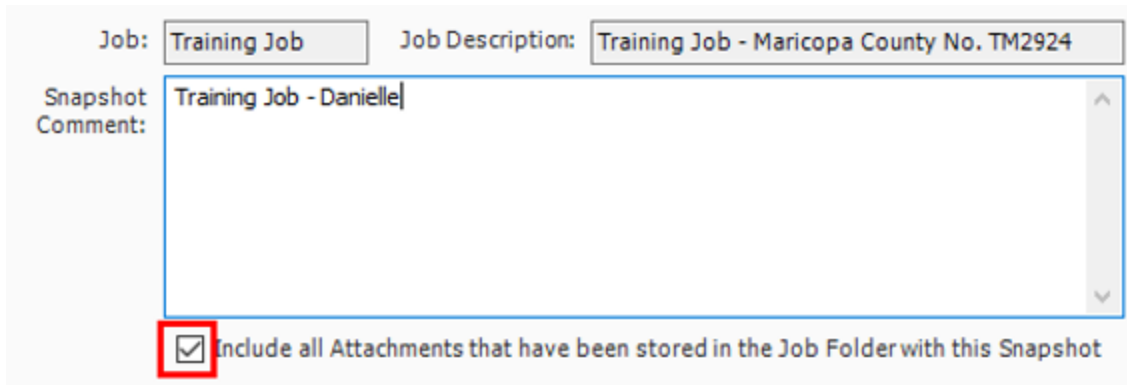
4. In the **Snapshot Comment** area, enter a short description of the snapshot. This comment will be used to identify the snapshot on the **Snapshot Register** form.



Job: Training Job Job Description: Training Job - Maricopa County No. TM2924

Snapshot Comment: Training Job - Danielle

5. To include all attachments that have been stored in the job folder with this Snapshot, select the check box.

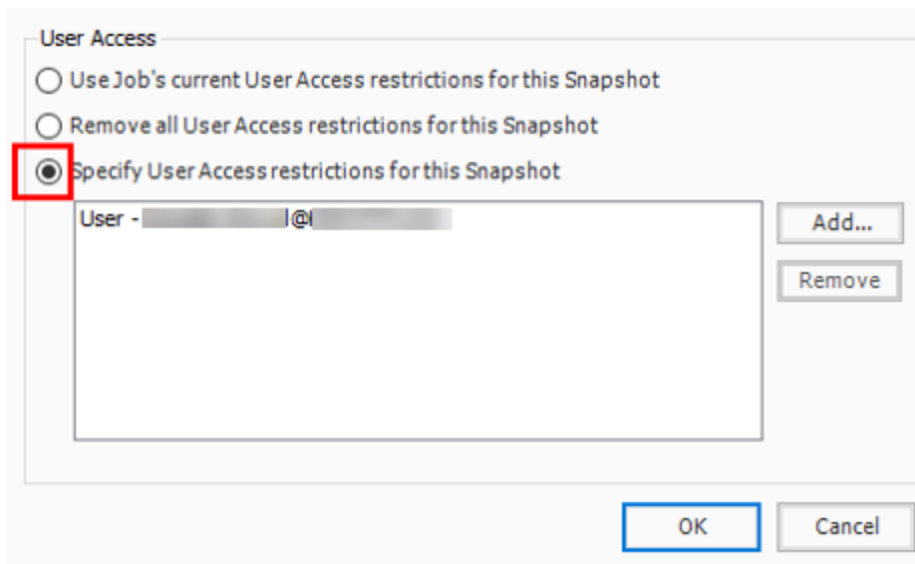


Job: Training Job Job Description: Training Job - Maricopa County No. TM2924

Snapshot Comment: Training Job - Danielle

☒ Include all Attachments that have been stored in the Job Folder with this Snapshot

6. Select the **Specify User Access restrictions for this Snapshot** option.



User Access

☐ Use Job's current User Access restrictions for this Snapshot

☐ Remove all User Access restrictions for this Snapshot

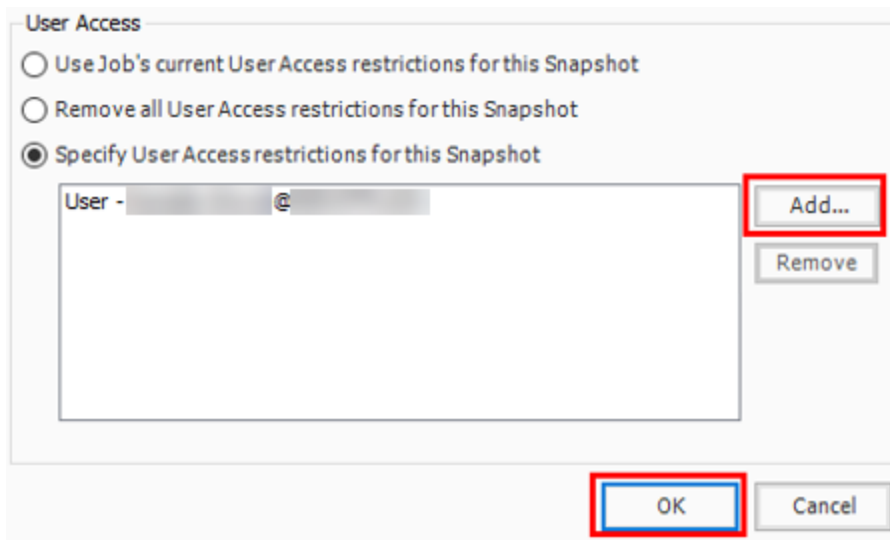
☒ Specify User Access restrictions for this Snapshot

User - []@ []

Add... Remove

OK Cancel

7. Ensure that your name is selected, otherwise click the “Add” button and select yourself. Click OK.



User Access

☐ Use Job's current User Access restrictions for this Snapshot
☐ Remove all User Access restrictions for this Snapshot
☒ Specify User Access restrictions for this Snapshot

User - [] @ []

[Add...]
[Remove]

[OK] [Cancel]

To Create a New Job from a Snapshot

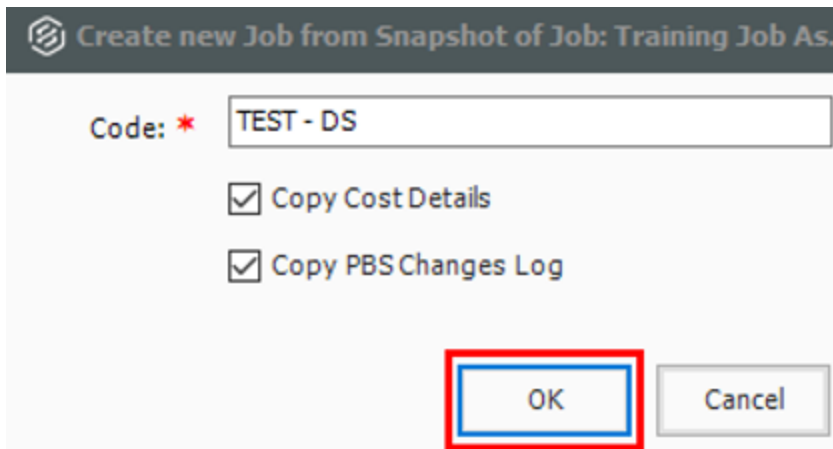
New jobs can be created from existing job snapshots using the following steps.

Step by Step — Creating a New Job from a Snapshot

1. Click on the File tab. From the Backstage View, select **New** from the left navigation pane.
2. Select **Create Snapshot**.
3. Select Create a new Job from... **Snapshot**.
4. Select a snapshot from which to create the job. Click **OK**.

Select a Job Snapshot				
Drag columns here to group		Find: [Search For...]	...	
Code	Description	Last Saved	Version	
→ - Training Job	Training Job - Maricopa County No. TM2924	12/18/2018 8:54:1...	18.4.0.2	
	Snapshot Comment	Date Created	Version	
→	Training Job - Danielle	12/18/2018 9:29:...	18.4.0.2	

5. Enter in a unique code for the new job **TEST – Your Initials**. Check both boxes to copy cost details and PBS changes log into the new job. Click **OK**.



6. Your job will pop up in a new window. Close out of your job and navigate back to the training job.



7. Click **OK** to save.

Load a Job Snapshot

When you load an existing Snapshot, it loads into Estimate like any other job. You can use it for reference and copy data from it to other jobs. A snapshot can be modified, but changes cannot be saved. To identify it in Estimate as a read-only snapshot:

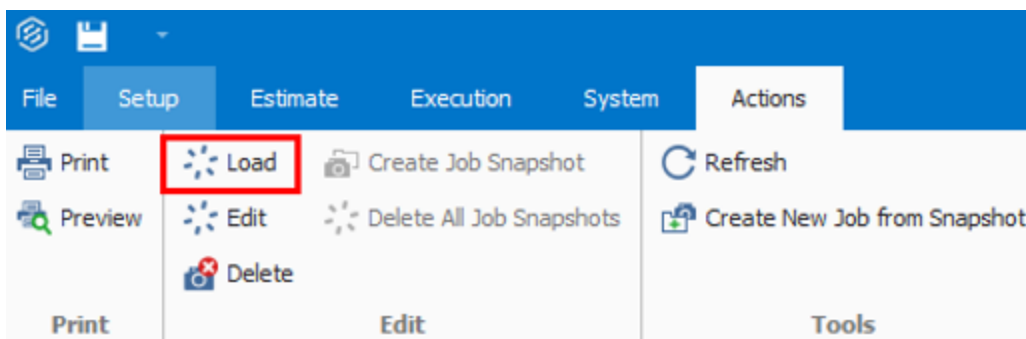
- The job name is preceded by **SNAPSHOT:** in the job tab
- A red banner displays the specific snapshot information in the Current Job area at the bottom of the screen.

Step by Step — Load a Job Snapshot

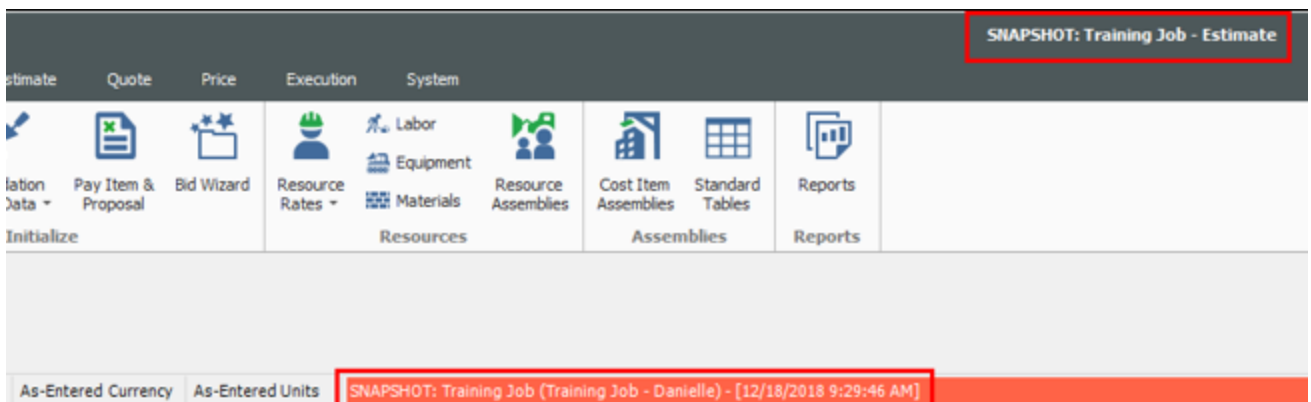
1. Click on the File tab. From the Backstage View, select **Snapshots** from the left navigation pane.
2. Select **Snapshot Register**.
3. Select the snapshot that you would like to load.

Snapshot Register 				
Drag columns here to group				
	Code	Description	Last Saved	
+	TEST - DS	Training Job - Maricopa County No. TM2924	12/18/2018 9:33:2...	
→ -	Training Job	Training Job - Maricopa County No. TM2924	12/18/2018 8:54:1...	
	Snapshot Comment	Date Created	Version	
→	Training Job - Danielle	12/18/2018 9:29:...	18.4.0.2	

4. From the Ribbon, select the Actions tab. Then under the Edit section, select **Load**.



5. Your snapshot opens as indicated by the top and bottom of the screen.



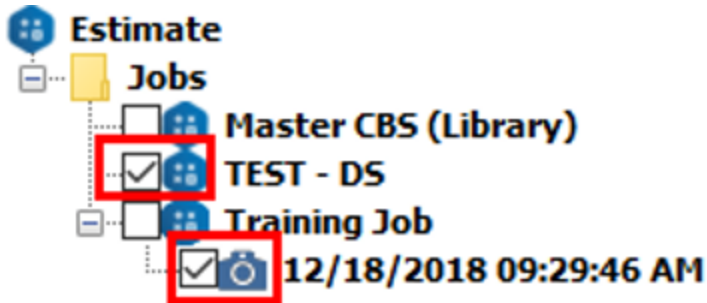
6. Close out of the snapshot. Close out of the Library.

Compare Snapshots in Job Explorer

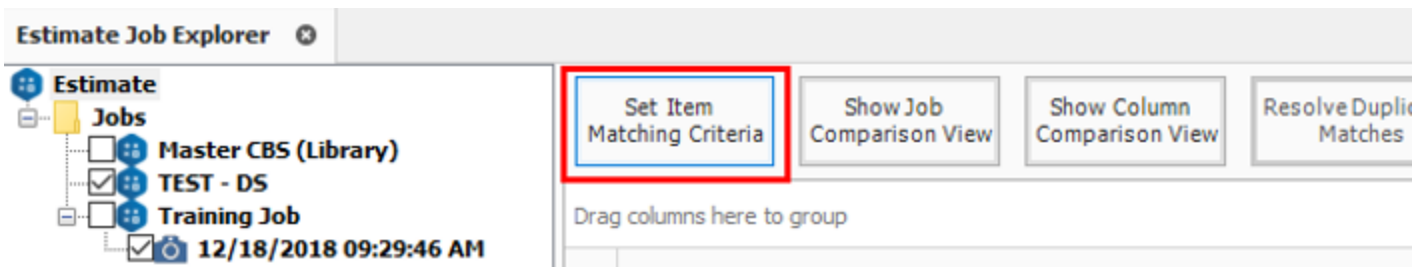
In Estimate Job Explorer, you are able to now compare a snapshot to another snapshot, or a snapshot to a job by selecting them in the tree view.

Step by Step — Compare Snapshots in Job Explorer

1. Click on the File tab. From the Backstage View, select **Job** from the left navigation pane.
2. Select **Compare Jobs**.
3. Select a job and a snapshot from the Estimate Job Explorer.



4. Click **Set Item Matching Criteria**.



5. From the Item Matching Criteria window, select **Account Code**. Then click **OK**.



Item Matching Criteria

Matching Criteria

Indicate which fields you wish to use to match cost items across jobs. For cost items to be considered a match, they must have matching values for ALL of the fields you check below.

☐ Match cost items based on the 'Maintain CBS Structure' rules.

☒ Match cost items using any combination of the following fields:

☐ CBSPosition Code

☐ Tag 1

☐ Tag 12

☐ Tag 23

☐ Description

☐ Tag 2

☐ Tag 13

☐ Tag 24

☐ Optional Code

☐ Tag 3

☐ Tag 14

☐ Tag 25

☐ Unit of Measure

☐ Tag 4

☐ Tag 15

☒ Account Code

☐ Tag 5

☐ Tag 16

☐ Cost Source

☐ Tag 6

☐ Tag 17

☐ Pay Item Assignment

☐ Tag 7

☐ Tag 18

☐ Phase Code

☐ Tag 8

☐ Tag 19

☐ Quote Group

☐ Tag 9

☐ Tag 20

☐ Suspend

☐ Tag 10

☐ Tag 21

☐ Worker's Comp Override

☐ Tag 11

☐ Tag 22

Toggle Include All

Display

Show all items

OK

Cancel

6. On the Estimate Job Explorer, click **Show Column Comparison View**. Once done, click **OK**.

Estimate Job Explorer

Estimate

Jobs

Master CBS (Library)

TEST - DS

Training Job

12/18/2018 09:29:46 AM

Set Item Matching Criteria

Show Job Comparison View

Show Column Comparison View

Resolve M

Drag columns here to group

7. You can now compare the snapshot and the job column by column. Close out of the Library when done.

Drag columns here to group

	CBS Position Code	Description	Qty Training Job (12/18/2018 9:29:46 AM)	Qty TEST - DS	UM Training Job (12/18/2018 9:29:46 AM)
→	0.2	Prime Bond	1.00		Lump Sum
	0.2	Prime Bond		1.00	
	0.3	Price % Add-On	1.00		Lump Sum
	0.3	Price % Add-On		1.00	
	0.4	Job Financing	1.00		Lump Sum
	0.4	Job Financing		1.00	
	0.5	Indirect Cost Escalation	1.00		Lump Sum
	0.5	Indirect Cost Escalation		1.00	

Delete a Job Snapshot

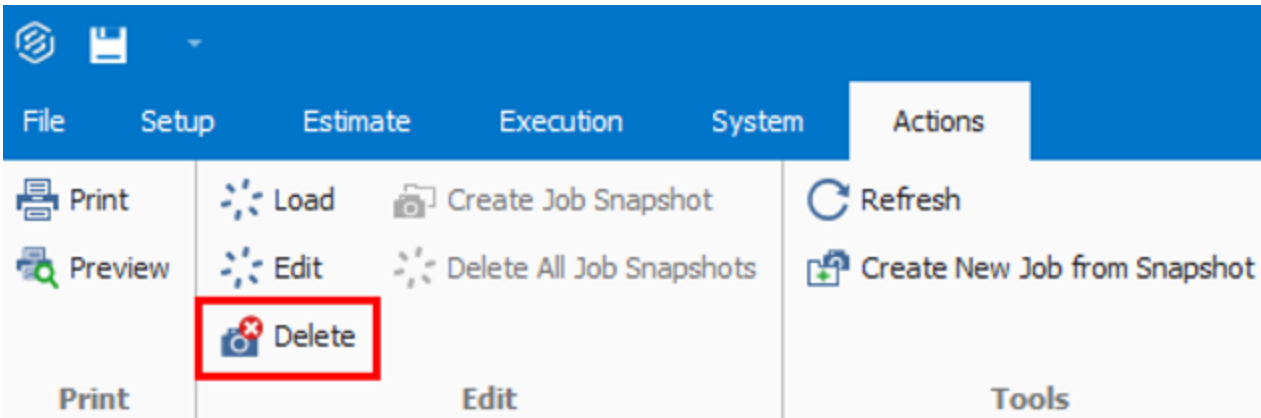
If you decide that you no longer need a snapshot or if you want to delete it for any other reason, you can do so following this step by step.

Step by Step — Delete a Job Snapshot

1. Click on the File tab. From the Backstage View, select **Snapshots** from the left navigation pane.
2. Select **Snapshot Register**.
3. Select the snapshot you want to delete.

Snapshot Register				
Drag columns here to group				
	Code	Description	Last Saved	
+	TEST - DS	Training Job - Maricopa County No. TM2924	12/18/2018 9:33:2...	
→ -	Training Job	Training Job - Maricopa County No. TM2924	12/18/2018 8:54:1...	
		Snapshot Comment	Date Created	Version
→		Training Job - Danielle	12/18/2018 9:29:...	18.4.0.2

4. From the Ribbon, select the **Actions** tab. Under the Edit section, select **Delete**.



- 5. Click **OK** to complete the deletion of the snapshot.

Upgrade Snapshot Version

When a snapshot is selected in the Snapshot Register that is not the same as the Estimate system version, a prompt opens for the user to upgrade the snapshot. The snapshot must be upgraded to be viewed. The snapshot opens automatically after the upgrade is completed, which shows the updated version in the status bar.

Archive and Restore Jobs

One of the most useful features within Estimate is the ability to archive job folders. This feature is used to store job folders that you create in Estimate in a compressed format. This feature is particularly useful when you want to create a backup copy of one or many jobs.

Archiving jobs can also be useful for moving a job from one environment to another, such as sending a job file to another Estimate user in a different office or a different company.

Once you have backed up Estimate job data you always have the ability to restore that data at any time by using the Restore feature.

As a SaaS product, Estimate is sometimes made the casualty of server-side interruptions in service, which are out of Estimate's control. The auto-save function makes attempts to save your data prior to Estimate shutting down. For more information, see the **Estimate resiliency** section in the "General Navigation" on page 12 topic.

Step by Step — Archiving a Job

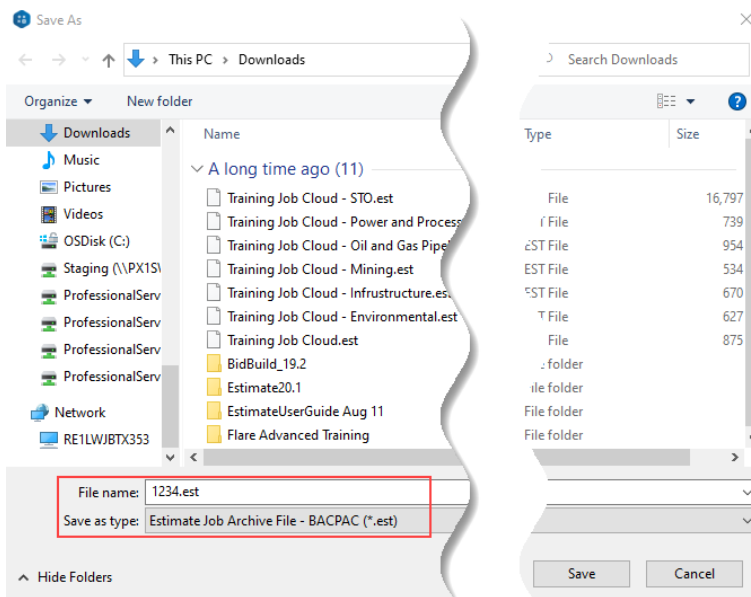
1. Click on the File tab. From the Backstage View, select **Archive/Restore** from the left navigation pane.
2. Select **Archive Job**.
3. From the Job Register, select a job to archive. Click **OK**.



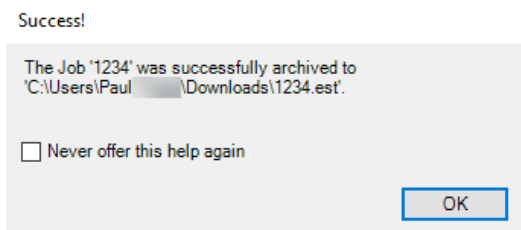
The screenshot shows the 'Job Register' interface. At the top, there's a header 'Job Register'. Below it, a prompt says 'Select the job(s) to archive:'. There's a search bar with 'Find: [Search For...]' and a 'Saved views: Previous View' button. Below the search bar is a table with columns: Code, In Use, Description, Status, Schedule, and Location. The table has two rows. The first row is 'TEST - DS' with an unchecked 'In Use' checkbox. The second row is 'Training Job' with a checked 'In Use' checkbox. The 'Training Job' row is highlighted with a red box.

Code	In Use	Description	Status	Schedule	Location
TEST - DS	☐	Training Job - Maricopa County No. TM2...	Bidding	Primavera	I-10 MP 100 to
→ Training Job	☒	Training Job - Maricopa County No. TM2...	Bidding	Primavera	I-10 MP 100 to

4. Save the .est job on your desktop. Click **Save**. Then click **OK**.



- A success message shows when saved



Restore Job Archive

Once you have archived an Estimate job, you always have the ability to restore that data at any time by using the Restore Job Archive feature. This feature de-compresses a specified archive file and provides you with the ability to overwrite an existing job or specify a new job code where you want to restore your job data.

Step by Step — Restore Job - Estimate in the Cloud

1. Click on the File tab. From the Backstage View, select **Archive/Restore** from the left navigation pane.
2. Select **Restore Job**.
3. Select the archive that you previously saved to your desktop. Click **Open**. The New Job from Archive window opens.

New Job from Archive

Core Project: *

...

Code: *

Description:

☒ Copy Cost Details

☒ Copy PBS Changes Log

☒ Copy Quotes

☐ Auto-Update Job in Connected Analytics

OK

Cancel

4. Click on the **ellipsis** in the Core Project field to [select a Platform job](#).

New Job

Core Project: *

...

Code: *

Description:

Project ID	Project Name	Status	Created Date
101924	Waterloo Stage 1 LRT Project	Active	5/4/2021 9:58:34 AM
101979	East Rail Maintenance Facility	Active	5/4/2021 9:58:34 AM
101984	Pointe St. Charles Maintenance Center	Active	5/4/2021 9:58:34 AM
102007	ViviaNext - H2 VMC	New	12/14/2022 1:16:42 PM
102018	UG Nebraska Misc	Active	10/27/2020 6:04:57 AM
102031	PCCP	Active	7/13/2022 9:38:34 AM
102035	Carlsbad Desalination	Active	1/18/2023 8:51:10 AM

5. Enter a code **TEST RESTORE – Your Initials** in the Core field. Check the boxes to copy cost details, copy PBS changes log, and copy quotes into the new job. Click **OK**.

New Job

Core Project: *

TrainingJob_2023

...

Code: *

TEST RESTORE - PT

Description:

TrainingJob_2023

☒ Copy Cost Details

☒ Copy PBS Changes Log

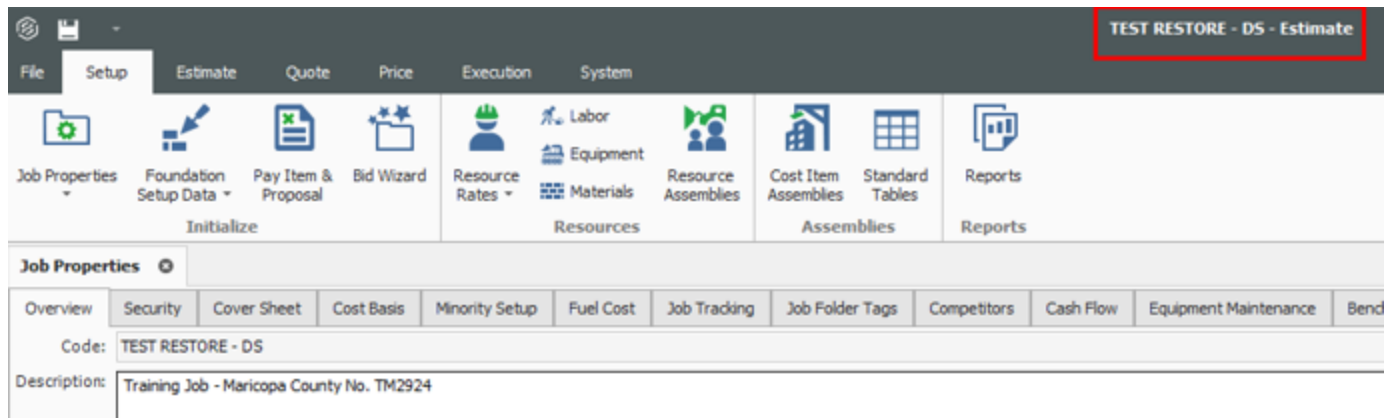
☒ Copy Quotes

☐ Auto-Update Job in Connected Analytics

OK

Cancel

6. Your restored job will open in a new window. Close out of the restored job.



Merge Job with Archive

Once you have archived a job, you have the ability to merge that data with existing job data at any time by using the **Merge Job Archive** feature.

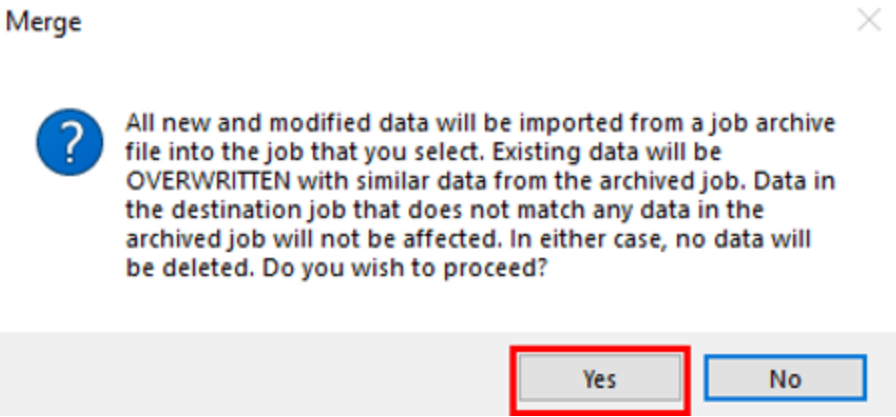
When merging job data, the system looks at your existing job data for matching codes or descriptions. If the system finds a match, the existing data is overwritten (updated) to reflect the data in the archive file. If the system does not find a match, the data is added to the job.

The Merge Job Archive feature does not merge all of the data in the job. The data that is included/merged is as follows:

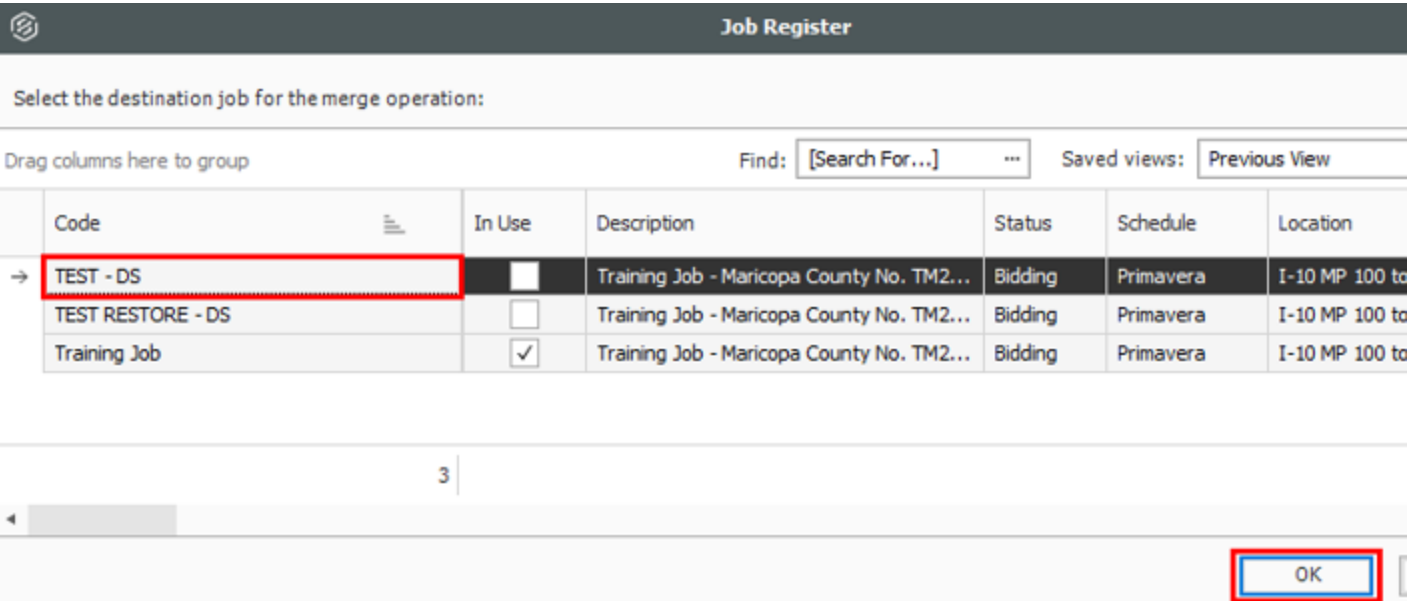
- Foundation Setup Data
- Resource Rates
- Resource Assemblies

Step by Step — Merge Job with Archive

1. Click on the File tab. From the Backstage View, select **Archive/Restore** from the left navigation pane.
2. Select **Merge Job with Archive**.
3. When prompted, select **Yes** to continue.



4. Select your test job, then click **OK**.



- 5. Select the archive saved to your desktop, then click **Open**.
- 6. Click on the **File** tab. From the Backstage View, select **Start** from the left navigation pane.
- 7. Select your test job from the **Open a recent Job** section.

Open a recent Job



8. From the Ribbon, select the **Setup** tab. Then select **Job Properties**.
9. You can now see that your archive and test job have merged data by viewing **Resource Rates**, **Resource Assemblies**, and **Foundation Setup Data**.

Work Breakdown Structures

WBS Overview

The Work Breakdown Structure (WBS) feature lets you create a job in one format and present in a multitude of other formats depending on the need. This can be beneficial when the estimating team or the proposal team needs to present the estimate in a preferred format to a design firm, engineering company, client or any other stakeholders. WBS retains the same relationship between items as in the original estimate and only changes the view and how items are arranged in the hierarchy.

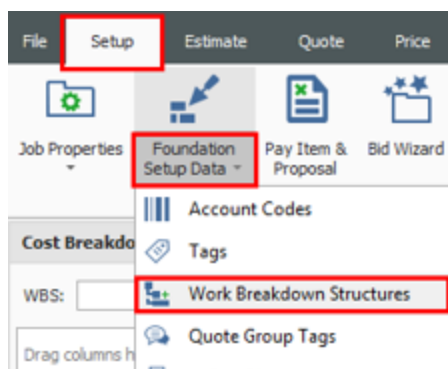
Format Creation

The Work Breakdown Structure provides flexibility to create other formats, such as Construction Specific Institute (CSI) MasterFormat or UniFormat. Use WBS formats when you need to have multiple variations and summary reports of an estimate. This is useful in cases where you want to show different estimates in one particular way, perhaps for a repeat client or designer.

Once you have your general information entered and set up for a format, you can build your hierarchy. This lets you organize and define the information in a format that works best for you. You have the ability to build your hierarchy from scratch or you can use a template. The default Quantity (1.00) & Unit of Measure (Each) are populated in the WBS hierarchies. You are able to change these two items as needed. After a WBS item has been created, it is listed in the Foundation Setup Data Register.

Step by Step — Create a WBS Item

1. From the Ribbon, select the **Setup** tab.
2. Select **Foundation Setup Data** drop down and then select **Work Breakdown Structure**.



3. From the Work Breakdown Structure, select the **Actions** tab.
4. Under the Edit section, select **New**. A new Work Breakdown Structure Record opens.

Cost Breakdown Structure (CBS) Register

Work Breakdown Structure View Register

Foundation Setup Data Register

Work Breakdown Structure Record

Code: Description:

Details

Drag columns here to group

Is Utilized	Code	Description	Quantity	Unit of Measure	Currency
☐					

5. Enter a **Code** and **Description** for the WBS item.
6. From the Setup data block, enter a **Period** in the Hierarchy Separator field.

Setup

Hierarchy Separator:

Tag 1:

Last Changed By:

Tag 2:

Last Changed: 12/18/2018 2:03:57 PM

Tag 3:

Notes:

The Hierarchy Separator is used to separate the parent cost items from the subordinate and terminal cost items.

7. Select the Tag 1 drop down arrow and select **Concrete**.
8. In the Details data block, build your hierarchy by entering items into the **Code** and **Description** fields.

Details

Drag columns here to group

Is Utilized	Code	Description
☐	10	General Provisions
☐	10.10	Project Setup
☐	10.10.100	Yard
☐	10.10.200	Office Facilities
☐	10.10.300	Communications
☐	10.10.400	Supplies/Services
☐	10.10.500	Utilities
☐	10.10.600	Security

- 9. In the Details data block, leave the **Quantity** as the default. Enter in a **Unit of Measure** for each item.

Details						
Drag columns here to group						
	Is Utilized	Code	Description	Quantity	Unit of Measure	Currency
	☐	10	General Provisions	1.00	Lump Sum	U.S. Dollar
	☐	10.10	Project Setup	1.00	Each	U.S. Dollar
	☐	10.10.100	Yard	1.00	Each	U.S. Dollar
	☐	10.10.200	Office Facilities	1.00	Each	U.S. Dollar
	☐	10.10.300	Communications	1.00	Each	U.S. Dollar
	☐	10.10.400	Supplies/Services	1.00	Each	U.S. Dollar
	☐	10.10.500	Initiation	1.00	Each	U.S. Dollar

- 10. Once done, click **OK**.

Assign WBS to CBS

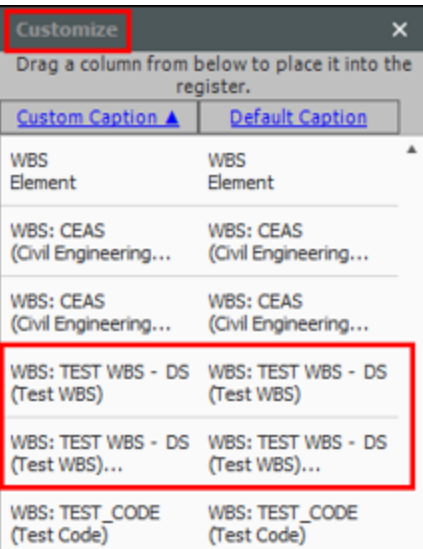
The Cost Breakdown Structure (CBS) Register shows you the WBS Code and Description fields. From here, you can assign your WBS items to any of your CBS items.

Step by Step — Assign WBS item to CBS item

- 1. From the Ribbon, select the **Estimate** tab.
- 2. Select **Cost Breakdown Structure (CBS)**. The Cost Breakdown Structure (CBS) Register opens.
- 3. Right click on any column header and select **Column Chooser**.

Forecast (T/O) Qual	Unit of	Unit Cost
		\$293,095.9
		\$47,069.8
		\$294,928.9
		\$0.0
		\$0.0
		\$18,837.3
		\$0.0
		\$157,096.2
		\$4,200.0
		\$104,301.1
		\$11,909.5
		\$3,918.5
		\$4.6
		\$3.0
		\$1.6
		\$15.4

- 4. In the Customize window, scroll down until you find **WBS: Test WBS**.



5. Drag and drop both columns into the CBS column headers.

Find: [Search For ...] Saved views: Previous						
Forecast (T/O) Quantity	WBS: TEST WBS - DS (Test WBS) Description	Unit of Measure	Unit Cost	Account Description	Labor Total Cost	Owned Equipment To
45,000.00		Ton	\$15.40	Aggregate Base	\$112,269.30	
45,000.00		Ton	\$11.54	Furn and Haul Base Material	\$22,045.61	
400,000.00		Square Yard	\$0.19	Finegrade Subgrade	\$39,464.36	
45,000.00		Ton	\$2.17	Aggregate Base	\$50,759.33	
45,000.00		Ton	\$1.63	Place Aggregate Base	\$33,884.92	
400,000.00		Square Yard	\$0.06	Place Aggregate Base	\$16,874.42	
35,000.00		Ton	\$42.62	Asphalt Concrete	\$108,952.25	
35,000.00		Ton	\$39.27	Furnish and Haul Asphalt Concrete	\$50,010.87	
35,000.00		Ton	\$3.34	Install Asphalt Concrete	\$58,941.38	
1,024.00		Linear Feet	\$67.54	36 Inch RCP	\$20,073.46	
1,024.00		Linear Feet	\$33.48	Furnish 36 RCP Materials	\$0.00	
1,858.56		Cubic Yard	\$4.51	Excavate 36 RCP	\$4,963.56	
1,024.00		Linear Feet	\$11.74	Install 36 RCP	\$6,605.19	
1,587.20		Cubic Yard	\$9.12	Backfill 36 RCP	\$8,504.71	
12,000.00		Linear Feet	\$23.62	10 Inch PVC Force Main	\$54,705.77	
12,000.00		Linear Feet	\$14.33	10 Inch PVC Force Main	\$0.00	
12,000.00		Linear Feet	\$9.28	10 Inch PVC Force Main	\$54,705.77	
3,000.00		Linear Feet	\$49.67	24 Inch PVC Gravity Sewer	\$40,869.88	
3,000.00		Linear Feet	\$3.00	Excavate 24 PVC Gravity Sewer	\$2,973.89	
1,390.00		Cubic Yard	\$1.95	Excavate 24 PVC Gravity Sewer 0-6 ft Depth	\$1,008.84	
3,610.00		Cubic Yard	\$1.74	Excavate 24 PVC Gravity Sewer 6-10 ft De...	\$1,965.05	
3,000.00		Linear Feet	\$32.93	Furnish and Install 24 PVC Gravity Sewer	\$13,676.44	
4,520.00		Cubic Yard	\$9.12	Backfill 24 PVC Gravity Sewer	\$24,219.55	
16.00		Each	\$3,594.03	4 Ft Manhole	\$13,717.27	
16.00		Each	\$2,001.50	4 Ft Manhole	\$0.00	

6. Select a cost item and then click into the empty field from the WBS column you dragged and dropped into the CBS. Click the arrow icon that appears to the right of that field. The **Work Breakdown Structure Detail Register** opens.

CBS Position Code	Description	Forecast (T/O) Quantity	WBS: TEST WBS - DS (Test WBS)	WBS: TEST WBS - DS (Test WBS) Description
+	Direct Cost Add-On	1.00		
+ 1	Mobilization	1.00		
+ 2	Clearing & Grubbing	10.00		
= 3	Unclassified Excavation	50,000.00		
+ 3.1	Excavation	50,000.00		
+ 3.2	Embankment	50,000.00		
= 4	Aggregate Base	45,000.00		

7. Select the WBS item to assign to the cost item. Once done, click **OK**.

Work Breakdown Structure Detail Register - Training Job					
Actions					
Drag columns here to group			Find: [Search For...] ...	Saved views: Pre	
Is Utilized	Code	Description	Quantity	Unit of Measure	
☐	10	General Provisions	1.00	Lump	
☐	10.10	Project Setup	1.00	Each	
☐	10.10.100	Yard	1.00	Each	
☐	10.10.200	Office Facilities	1.00	Each	
☐	10.10.300	Communications	1.00	Each	
☐	10.10.400	Supplies/Services	1.00	Each	
☒	10.10.500	Utilities	1.00	Each	
☐	10.10.600	Security	1.00	Each	
☐	10.20.100	Mobilization	1.00	Load	

8. The WBS selected in the previous step is now populated in that cost item's WBS field.

CBS Position Code	Description	Forecast (T/O) Quantity	WBS: TES DS (Test WBS)
+	Direct Cost Add-On	1.00	
+ 1	Mobilization	1.00	
+ 2	Clearing & Grubbing	10.00	
= 3	Unclassified Excavation	50,000.00	
+ 3.1	Excavation	50,000.00	
+ 3.2	Embankment	50,000.00	10.10.50
= 4	Aggregate Base	45,000.00	
+ 4.1	Furnish & Haul Base Material	45,000.00	
+ 4.2	Finegrade Subgrade	400,000.00	

View WBS Items

In the Work Breakdown Structure View Register you can:

- Select from the list of WBS formats that you want to view your estimate. You can easily change to a different format as needed.
- See the total cost roll up of assigned cost items and subordinate detailed items.
- Select from the hierarchy structure and show utilized cost items and associated resources in a separate panel
- Change quantities of a WBS item.

Only the unit cost is affected when the quantity has been changed.

When you are creating multiple WBS items, you are able to group the data and view the Work Breakdown Structure Hierarchy.

WBS Quantity Roll-Up

The Quantity Roll-Up feature lets you roll up and derive at the parent item's quantity from detailed level takeoff quantities, while eliminating the need to manually calculate these roll-up values. Estimate is capable of automatically rolling up quantities (versus a manual roll-up) directly in the WBS by using the Auto-Quantity (Roll-Up) field.

When a Quantity Roll-Up code is assigned and the Auto Quantity (Roll-Up) option is checked for the item in the WBS register, rollup of the item's quantity happens automatically. When unchecked, you can manually enter a Quantity for the WBS item. This enables you to better control if the WBS Quantities need to be calculated automatically or entered manually.

Work Breakdown Structure View Register

WBS Tree

WBS: CEAS

Code	Description
CEAS	Civil Engineering Account Code S
10	GENERAL PROVISIONS
11	EARTH WORK
12	PAVEMENT WORK
13	BRIDGE WORK
14	CONCRETE STRUCTURES
17	PIPE WORK
20	DEMOLITION/REMOVAL

Drag columns here to group

Code	Description
CEAS	Civil Engineering Account Code System
10	GENERAL PROVISIONS
10.10	PROJECT SETUP
10.10.100	YARD
10.10.200	OFFICE FACILITIES
10.10.500	UTILITIES
10.20	EQUIPMENT SETUP
10.20.100	MOBILIZATION

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Cost Items

Step by Step — View WBS Items

- 1. From the Ribbon, select the **Estimate** tab.
- 2. In the Breakdown Structure section, select **Work Breakdown Structure**. The Work Breakdown Structure View Register opens.
- 3. From the WBS tree, click the WBS drop down arrow and select your WBS item.

WBS Tree

WBS:

Code	Description
CEAS	Civil Engineering Account Code System
TEST WBS - DS	Test WBS
TEST_CODE	Test Code

- 4. In the Cost Items data block, you can view which cost items utilized by a WBS item that you select. You can also view the total cost roll up of assigned cost items

Cost Items										
Drag columns here to group										
Find: Search For... -- Saved views: Previous View										
	CBS Position Code 	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Hours (Duration driven)	Hours (Non-Duration driven)	Hours (Total)
→	+ 3.2	Embankment	3.2	50,000.00	Cubic Yard	\$1.68	\$83,992.94	166.67	0.00	166.67

- Expand your utilized cost item by clicking the + icon in the CBS Position Code. You can now view the associated resources to your cost item and WBS item.

Cost Items

Drag columns here to group

	CBS Position Code		Description		Optional Code		Forecast (T/O) Quantity		Unit of Measure		
→	- 3.2		Embankment		3.2		50,000.00		Cubic Yard		
		→									
			Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Produ Factor
			+	1	LO4	Operator Foreman			1.00	Each	
			+	2	LL2	Laborer			1.00	Each	
			+	3	LO1	Operator Class 1			3.00	Each	
			+	4	EG14G	Grader 14G			1.00	Each	
			+	5	ED8	Dozer D8			1.00	Each	
			+	6	ECO...	Compactor Sheeps F...			1.00	Each	
			+	7	ETWT	Water Truck			1.00	Each	
			+	8	LT1	Teamster			1.00	Each	

Zero Production Values

Estimate stores the production values for a cost item when its quantity is set to zero. This provides flexibility when copying items from templates or other jobs and lets you easily identify items that are yet to be estimated. You can zero the quantities for superior cost items and have the subordinate items and their employments quantities too be zeroed until they are ready to estimate a specific scope of work.

Cost Breakdown Structure (CBS) Register																	
Drag columns here to group																	
Saved views: CBS Production View																	
CBS Position Code	Description	Forecast (F/C) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency	Days (Duration driver)	Hours (Duration driver)	Hours (Non-Duration driver)	Hours (Total)	UM/Day	UM/Shift	UM/Hour	Days (Non-Duration driver)			
3	Unclassified Excavation	50,000.00	Cubic Yard	\$4.68	\$233,915.81	U.S. Dollar	36.46	291.67	44.00	291.67	1,371.43	1,371.43	171.43				
4	Aggregate Base	0.00	Ton	\$0.00	\$0.00	U.S. Dollar	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
4.1	Furnish & Haul Base Material	0.00	Ton	\$0.00	\$0.00	U.S. Dollar	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
4.2	Primegrade Subgrade	0.00	Square Yard	\$0.00	\$0.00	U.S. Dollar	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
4.3	Initial Aggregate Base	0.00	Ton	\$0.00	\$0.00	U.S. Dollar	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
4.3.1	Place Aggregate Base	0.00	Ton	\$0.00	\$0.00	U.S. Dollar	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Work Hours	Pay Hours	Unit Cost	Total Cost (Forecast)	Currency	Tag 1	Tag 2	Cost Curve	Cost Driver	Account
1	LL2		Laborer	1.00		1.00	Each	0.00	0.00	\$26.37	\$0.00	U.S. Dollar	Non Union	Hourly	Employed Co.	CI Duration	1120.2
2	LO2		Operator Class 2	3.00		3.00	Each	0.00	0.00	\$28.07	\$0.00	U.S. Dollar	Non Union	Hourly	Employed Co.	CI Duration	1120.2
3	LT1		Teamster	1.00		1.00	Each	0.00	0.00	\$30.62	\$0.00	U.S. Dollar	Non Union	Hourly	Employed Co.	CI Duration	1120.2
4	EG14G		Grader 14G	1.00		1.00	Each	0.00	0.00	\$60.20	\$0.00	U.S. Dollar			Employed Co.	CI Duration	1120.2
5	ECONP1		Compactor Smooth D...	2.00		2.00	Each	0.00	0.00	\$36.40	\$0.00	U.S. Dollar			Employed Co.	CI Duration	1120.2
6	ETWT		Water Truck	1.00		1.00	Each	0.00	0.00	\$29.60	\$0.00	U.S. Dollar			Employed Co.	CI Duration	1120.2
4.3.2	Blue Top Aggregate Base	0.00	Square Yard	\$0.00		\$0.00		0.00	0.00	0.00	0.00	U.S. Dollar			0.00	0.00	0.00
5	Asphalt Concrete Hot Mix Type A	35,000.00	Ton	\$42.62	\$1,491,580.59	U.S. Dollar	52.50	466.67	0.00	466.67	666.67	666.67	75.00				
5.1	Furnish & Haul Hot Mix	35,000.00	Ton	\$39.27	\$1,374,562.54	U.S. Dollar	29.17	233.33	0.00	233.33	1,200.00	1,200.00	150.00				
5.2	Install Hot Mix Type A	35,000.00	Ton	\$3.34	\$117,018.05	U.S. Dollar	23.33	233.33	0.00	233.33	1,500.00	1,500.00	150.00				
6	36 Inch RCP Culvert Class III	1,024.00	Linear Feet	\$67.54	\$69,159.49	U.S. Dollar	18.66	149.30	15.36	149.30	\$4.87	\$4.87	6.86				
6.1	Furnish RCP Materials	1,024.00	Linear Feet	\$33.48	\$34,286.70	U.S. Dollar	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
6.2	Excavate RCP Trench	1,858.56	Cubic Yard	\$4.51	\$8,379.59	U.S. Dollar	4.65	37.17	0.00	37.17	400.00	400.00	50.00				
82						\$4,967,972.67		492.62	3,987.60	59.36	3,987.60						7.42

Updating the cost item's quantity to a non-zero value restores the production values and calculates the quantities for the subordinates/employments based on the stored factors. This way, you don't lose any of the factors or values.

Cost Breakdown Structure (CBS) Register																		
Drag columns here to group																		
CBS Position Code		Description	Forecast (F/C) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency	Days (Duration driver)	Hours (Duration driver)	Hours (Non-Duration driver)	Hours (Total)	UM/Day	UM/Shift	UM/Hour	Days (Non-Duration driver)			
3	Unclassified Excavation		50,000.00	Cubic Yard	\$4.68	\$233,915.81	U.S. Dollar	36.46	291.67	44.00	291.67	1,371.43	1,371.43	171.43				
4	Aggregate Base		45,000.00	Ton	\$15.40	\$692,928.99	U.S. Dollar	155.00	1,240.00	0.00	1,240.00	290.32	290.32	36.29				
4.1	Furnish & Haul Base Material		45,000.00	Ton	\$11.54	\$518,513.30	U.S. Dollar	45.00	360.00	0.00	360.00	1,000.00	1,000.00	125.00				
4.2	Finegrade Subgrade		400,000.00	Square Yard	\$0.19	\$75,848.36	U.S. Dollar	40.00	320.00	0.00	320.00	10,000.00	10,000.00	1,250.00				
4.3	Initial Aggregate Base		45,000.00	Ton	\$2.17	\$97,567.33	U.S. Dollar	70.00	560.00	0.00	560.00	642.86	642.86	80.36				
4.3.1	Place Aggregate Base		45,000.00	Ton	\$1.63	\$73,460.92	U.S. Dollar	30.00	240.00	0.00	240.00	1,500.00	1,500.00	187.50				
	Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Work Hours	Pay Hours	Unit Cost	Total Cost (Forecast)	Currency	Tag 1	Tag 2	Cost Curve	Cost Driver	Account
	1	LL2		Laborer			1.00	Each	240.00	240.00	\$26.37	\$6,327.91	U.S. Dollar	Non Union	Hourly	Employed Co.	CI Duration	1120.2
	2	LO2		Operator Class 2			3.00	Each	720.00	720.00	\$28.07	\$20,208.47	U.S. Dollar	Non Union	Hourly	Employed Co.	CI Duration	1120.2
	3	LT1		Teamster			1.00	Each	240.00	240.00	\$30.62	\$7,348.54	U.S. Dollar	Non Union	Hourly	Employed Co.	CI Duration	1120.2
	4	EG14G		Grader 14G			1.00	Each	240.00	240.00	\$60.20	\$14,448.00	U.S. Dollar			Employed Co.	CI Duration	1120.2
	5	ECONP1		Compactor Smooth D...			2.00	Each	480.00	480.00	\$36.40	\$17,472.00	U.S. Dollar			Employed Co.	CI Duration	1120.2
	6	ETWT		Water Truck			1.00	Each	240.00	240.00	\$29.60	\$7,104.00	U.S. Dollar			Employed Co.	CI Duration	1120.2
4.3.2	Blue Top Aggregate Base		400,000.00	Square Yard	\$0.06	\$24,106.42	U.S. Dollar	40.00	320.00	0.00	320.00	10,000.00	10,000.00	1,250.00				
5	Asphalt Concrete Hot Mix Type A		35,000.00	Ton	\$42.62	\$1,491,580.39	U.S. Dollar	52.50	466.67	0.00	466.67	666.67	666.67	75.00				
5.1	Furnish & Haul Hot Mix		35,000.00	Ton	\$39.27	\$1,374,562.54	U.S. Dollar	29.17	233.33	0.00	233.33	1,200.00	1,200.00	150.00				
5.2	Install Hot Mix Type A		35,000.00	Ton	\$3.34	\$117,018.05	U.S. Dollar	23.33	233.33	0.00	233.33	1,500.00	1,500.00	150.00				
6	36 Inch RCP Culvert Class III		1,024.00	Linear Feet	\$67.54	\$69,159.49	U.S. Dollar	18.66	149.30	15.36	149.30	\$4.87	\$4.87	6.86				
6.1	Furnish RCP Materials		1,024.00	Linear Feet	\$33.48	\$34,286.70	U.S. Dollar	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
6.2	Excavate RCP Trench		1,858.56	Cubic Yard	\$4.51	\$8,379.59	U.S. Dollar	4.65	37.17	0.00	37.17	400.00	400.00	50.00				
82						\$5,699,195.89		647.62	5,227.60	59.36	5,227.60				7.42			

Parent Cost Items

When the parent cost item's quantity is updated to zero, the subordinate cost item's quantity also updates to be zero. This is applicable for cost items that have the Quantity Driver equal the Superior cost item.

The cost items with drivers that equal the pay item, fixed, or roll-up continues to be **suspended**. For example, let's start with the the parent cost item quantity being driven by the subordinate with the quantity roll up code of the parent cost item made into null/wrong code. Then, the assigned/UOM mismatches. Resulting in the parent cost item equaling 0. Then, the subordinates are suspended.

When the quantity of a subordinate is updated to a non-zero value, the subordinate is **suspended**.

When the quantity of the parent cost item is updated to a non-zero value, the subordinate is **un-suspended** and its values are not updated proportionately.

Terminal Cost Items

For terminal cost items with zero quantity, non-zero quantity employments display in suspended color as they are not contributing.

The employments show as suspended if the employment quantity is changed/modified after the cost item's quantity is set to zero.

If a terminal cost item's quantity is set to zero, the employment's quantity is set to zero and is not suspended. Their value is scaled based on stored factors when the quantity of the Cost Item is set back to a non-zero value.

Upgrading with Zero Value Cost Items

During an upgrade, subordinates with non-zero value remain suspended when the parent cost item has zero quantity. Subordinates with zero value are unsuspended when the parent cost item has zero quantity.

When new cost item's are added to the Job after the Job is locked, and the parent cost item's quantity is set to zero, then the subordinate cost item's quantity field is also set to zero and its quantity field is disabled.

Quantity Roll-Up

Estimate gives you flexibility to determine quantities in different ways depending on the way you prefer to estimate the work. For projects where the estimate is starting with a schedule of quantities, it's common to break down the work into various activities and verify the quantities. In these cases, changing a parent level quantity pushes down the proportional changes to the cost items and resource employments that are subordinate to the modified cost item.

For estimates where very little or no information is provided on the quantities the estimator is bidding on, it is good practice to have these quantities derived from the detailed takeoff quantity calculations and the estimator's analysis of the work plan. The Quantity Roll-up feature enables you to do just that.

Quantity Roll-up is a flexible feature letting you roll up quantities in many different ways. The most common use of Quantity roll-up is for you to pick a parent cost item and then choose the subordinate cost items or resource employments that will roll-up or contribute to the parent cost item's quantity.


Roll Up Quantities

Roll up quantities to the selected cost item's Forecast (T/O) Quantity. First select a Quantity Roll-Up Code, then assign the resource employment to the selected cost item.

Quantity Roll-Up Code: Description: Unit of Measure:

CBS Position Code: Description: Forecast (T/O) Qty:

	Roll-Up	Row Number	Resource Code	Description	Quantity (Less Waste)	Unit of Measure	Quantity Roll-Up Code (current)
	☒	1	MPP10	Pipe 10" PVC SDR21	 12,000.00	Linear Feet	33.30.23
	☐	2	MPP10_AIRVLV	10" PVC Air Relief Valve	12.00	Each	33.30.23
	☐	3	MPP10_BND45	10" PVC 45 deg bend	25.00	Each	33.30.23
	☐	4	MPP10_BND90	10" PVC 90 deg bend	8.00	Each	33.30.23

OK

A green upwards-pointing arrow indicates that cost items and resource employments are contributing to the parent cost item. For an item to contribute, it needs to meet the following criteria:

- The parent cost item has a Quantity Code assigned and its Quantity Driver set to roll-up.
- The contributing cost items or resource employments have a matching roll-up code.
- The contributing cost items or resource employments have units of measure with the same measurement type as the roll-up code.

Cost Breakdown Structure (CBS) Register									
Drag columns here to group									
CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Quantity Driver	Quantity Code			
+ 6.4	Backfill RCP Pipe	6.4	1,587.20	Cubic Yard	Superior CI				
7	10 Inch PVC Force Main (SDR21)	800 0220	12,000.00	Linear Feet	Roll Up	33.30			
→ - 7.1	Furnish 10 Inch PVC Materials	7.1	12,000.00	Linear Feet	Roll Up	33.30			
Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Unit Cost	
→ + 1	MPP10		Pipe 10" PVC SDR21	12,000.00	0.00	12,000.00	Linear Feet	\$13.65	
+ 2	MPP10_AIRVLV		10" PVC Air Relief Value	12.00	0.00	12.00	Each	\$741.00	
+ 3	MPP10_BND45		10" PVC 45 deg bend	25.00	0.00	25.00	Each	\$262.50	
+ 4	MPP10_BND90		10" PVC 90 deg bend	8.00	0.00	8.00	Each	\$126.00	

Quantity Roll-up Codes

Roll up codes are maintained in the Quantity Roll-Ups register in the Foundation Set-Up data.

Job Properties		Cost Breakdown Structure (CBS) Register		Foundation Setup Data Register	
Account Codes	Tags	Work Breakdown Structures	Quantity Roll-Ups	Quote Group Tags	Units of Measure
Drag columns here to group					
Code	Description	Unit Of Measure	Notes	Last Changed On	
33	Utilites	Each		8/21/2020 11:29:01 AM	
33.10	Water	Linear Feet		8/21/2020 11:29:01 AM	
33.10.13	Ductile Iron Pipe	Linear Feet		8/21/2020 11:29:01 AM	
33.10.23	PVC	Linear Feet		8/21/2020 11:29:01 AM	
33.30	Sewer	Linear Feet		8/21/2020 11:29:01 AM	
→ 33.30.13	Ductile Iron Pipe	Linear Feet		8/21/2020 11:29:01 AM	
33.30.23	PVC	Linear Feet		8/21/2020 11:29:01 AM	
33.40	Storm	Linear Feet		8/21/2020 11:29:01 AM	

Units of Measure

Each code has an assigned unit of measure and rolls up when the unit of measurement type for the contributing item matches.

For example, a quantity code of 200 - Pipe with a unit of measure of **linear feet** whose unit of measure type is **length** can roll up the quantity of a contributing item whose unit of measure is one of the following:

- linear feet
- meter
- mile
- inches

As long as the unit of measure type matches, the system automatically applies the conversion factor between those different units of measure and display the calculated value of the quantity in the unit of measurement indicated on the parent cost item or WBS element.

Roll-Up Code Hierarchy

Quantity roll-up code assignments do not have to match the hierarchy code as long as they all share the same parent.

For example, resources could be maintained in the library with roll-up code assignments, such as **200.10 – PVC pipe**, **200.20 – VCP pipe**, etc. Then those resources are rolled up to a parent item with a roll up code assignment of **200**. This combines the different types of pipe into a single roll-up value.

This lets you maintain a very detailed roll-up code structure and have quantities roll up either specifically to a single code or generally to the code's parent based on how the estimator wants to structure the estimate and see quantities roll up.

Rolling up Quantities

Cost Item

Changing the parent-level cost item quantity can also trigger the proportional updating of a non-contributing subordinate cost item quantity.

For example, to estimate a detailed list of material quantities, you select items in that list to contribute to the parent cost item quantity. Now, that cost item quantity contributes to its parent, and then pushes down the quantity proportionally to the install quantity.

Step by Step — Rolling up cost items

1. From the CBS register, select the child cost item you want to roll up subordinate quantities into.

8	24 Inch PVC Gravity Sewer (SDR35)	800 0330	3,000.00	Linear Feet
8.1	Excavate 24 Inch PVC	8.1	3,000.00	Linear Feet
+ 8.1.1	Excavate 24 Inch PVC 0-6 ft Depth	8.1.1	1,390.00	Cubic Yard
+ 8.1.2	Excavate 24 Inch PVC 6-10 ft Depth	8.1.2	3,610.00	Cubic Yard
+ 8.2	Furnish & Install 24 Inch PVC	8.2	3,000.00	Linear Feet
+ 8.3	Backfill 24 Inch PVC	8.3	4,520.00	Cubic Yard
9	4 Foot Diameter Manhole	800 0400	16.00	Each
+ 9.1	Furnish 4 ft Manhole Materials	9.1	16.00	Each
+ 9.2	Excavate-Install-Backfill Manhole	9.2	16.00	Each
10	Structural Excavation & Backfill	501(A) 1306	800.00	Cubic Yard
+ 10.1	Structure Excavation	10.1	800.00	Cubic Yard
+ 10.2	Backfill & Furnish Materials	10.2	800.00	Cubic Yard

2. From the ribbon, select the **More Actions** tab.
3. Under the Tool section, select **Roll Up Quantities**. The Roll Up Quantities window appears.

Roll Up Quantities

Roll up quantities to the selected cost item's Forecast (T/O) Quantity. First select a Quantity Roll-Up Code, then assign the subordinate cost items to the selected cost item.

Quantity Roll-Up Code:	Description:	Unit of Measure:

CBS Position Code:	Description:	Forecast (T/O)
8.1	Excavate 24 Inch PVC	

	Roll-Up	CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Quantity Code
→	☒	8.1.1	Excavate 24 Inch PVC 0-6 ft Depth	1,390.00	Cubic Yard	
	☐	8.1.2	Excavate 24 Inch PVC 6-10 ft Depth	3,610.00	Cubic Yard	

4. In the Quantity Roll-Up Code drop-down, select a roll-up code. The Quantity Roll-Up Register window appears.
5. If no codes are shown in the Quantity Roll-Up Register, select the **Actions** tab in the ribbon.
6. Under the Edit section, select **New**. The Quantity Roll-Up Record appears.

The screenshot shows a software interface titled "Quantity Roll-Up Register - Training Job". At the top, there is a dark header bar with a logo and the title. Below the header, there is a section labeled "Actions" and a search bar with the placeholder text "Enter text to search". The main area displays a table with columns: Code, Description, Unit Of Measure, Notes, Last Changed On, and Last Char By. A modal dialog titled "Quantity Roll-Up Record - Training Job" is open over the table. The dialog contains the following fields:

- Code:** A text field with a red asterisk and the placeholder "[Enter Code]".
- Description:** A text field.
- Unit of Measure:** A dropdown menu with a red asterisk and the selected value "Each".
- Notes:** A large text area.
- Last Changed On:** A date and time field with a red asterisk and the value "11/23/2020 6:06:38 PM".
- Last Changed By:** A text field with the value "Char".

 At the bottom of the dialog are five buttons: "OK", "Cancel", "New...", "< Prev", and "Next >".

7. Enter the required information: **Code** and **Unit of Measure**. The Description and Notes fields are optional.

If your Unit of Measure is not listed in the drop-down list, select the green + to add your preferred Unit of Measure.

8. After you are done filling out the required information, click **OK**. Your rolled up quantity code is shown in the Quantity Roll-Up Register.
9. Click **OK** to return to the Roll Up Quantities window. Your previously created rolled up quantity is automatically selected for the Quantity Roll-Up Code.
10. Select the **Roll-Up** check boxes next to the CBS Position Codes you want to roll up.

Roll Up Quantities

Roll up quantities to the selected cost item's Forecast (T/O) Quantity. First select a Quantity Roll-Up Code, then assign the subordinate cost item to the selected cost item.

Quantity Roll-Up Code: Excavate 24 Inc...

Description:

Unit of Measure: Each

CBS Position Code: 8.1

Description: Excavate 24 Inch PVC

Forecast (T/O):

	Roll-Up	CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Quantity Code (T/O)
	☒	8.1.1	Excavate 24 Inch PVC 0-6 ft Depth	1,390.00	Cubic Yard	
	☒	8.1.2	Excavate 24 Inch PVC 6-10 ft Depth	3,610.00	Cubic Yard	

11. In the Cost Breakdown Structure (CBS) Register, the following columns for your previously selected child cost item are now read-only:

- Forecast (T/O) Quantity
- Unit Cost
- Total Cost (Forecast)

To view only Quantity Roll-Up columns, go to the Saved Views drop-down and select the **Quantity Roll-Up View**. This saved view displays the following columns:

Cost Breakdown Structure (CBS) Register				
CBS Tree (Filter Mode)		Drag columns here to group		
Code	Description	CBS Position Code	Description	Optional Code Forecast (T/O) Quantity
▼	JOB	4.3	Install Aggregate Base	4.3 45,000
□	Prime Bond	+ 4.3.1	Place Aggregate Base	4.3.1 45,000
□	Price % Add-C	+ 4.3.2	Blue Top Aggregate Base	4.3.2 400,000
□	Job Financing	5	Asphalt Concrete Hot Mix Type A	303 4263 35,000
□	Indirect Cost E	+ 5.1	Furnish & Haul Hot Mix	5.1 35,000
□	Direct Cost Esc	+ 5.2	Install Hot Mix Type A	5.2 35,000
□	Indirect Cost A	6	36 Inch RCP Culvert Class III	413(B) 0464 1,024
□	Job Managemen	+ 6.1	Furnish RCP Materials	6.1 1,024
□	General Expen	+ 6.2	Excavate RCP Trench	6.2 1,858
□	Direct Cost Ad	+ 6.3	Install RCP Pipe	6.3 1,024
1	Mobilization	+ 6.4	Backfill RCP Pipe	6.4 1,587
2	Clearing & Gru	7	10 Inch PVC Force Main (SDR21)	800 0220 12,000
3	Unclassified Ex	+ 7.1	Furnish 10 Inch PVC Materials	7.1 12,000
4	Aggregate Bas	+ 7.2	Excavate-Install-Backfill 10 Inch PVC	7.2 12,000
5	Asphalt Concre	8	24 Inch PVC Gravity Sewer (SDR35)	800 0330 3,000
6	36 Inch RCP C	8.1	Excavate 24 Inch PVC	8.1 0
7	10 Inch PVC Fr	+ 8.1.1	Excavate 24 Inch PVC 0-6 ft Depth	8.1.1 0
8	24 Inch PVC Gi	+ 8.1.2	Excavate 24 Inch PVC 6-10 ft Depth	8.1.2 0
9	4 Foot Diamete	+ 8.2	Furnish & Install 24 Inch PVC	8.2 0
10	Structural Exca	+ 8.3	Backfill 24 Inch PVC	8.3 4,520
11	Steel Reinforce			
12	Retaining Wall			
108				

Work Breakdown Structure

You can estimate using a rip and read methodology. Quantities are automatically derived in the WBS, so you can validate your estimate as you go.

For example, a UniFormat WBS can indicate so many dollars per building square foot or a Master-Format WBS can indicate a overall cost per container yard (CY) for concrete.

Job Properties

Cost Breakdown Structure (CBS) Register

WBS Tree

WBS: CEAS

Code

Description

CEAS

Civil Engineering Account Code System

10

GENERAL PROVISIONS

11

EARTH WORK

12

PAVEMENT WORK

13

BRIDGE WORK

14

CONCRETE STRUCTURES

17

PIPE WORK

17.10

APPURTENANCES

17.50

CONCRETE

17.50.100

HANDLE MATERIALS

17.50.120

TRENCH

17.50.142

LAY MAINLINE

17.50.170

BACKFILL

17.60

PLASTIC/PVC/HDPE

17.60.100

HANDLE MATERIALS

17.60.142

LAY MAINLINE

Foundation Setup Data Register

Resource Rate Register

Work Breakdown Structure View Register

Drag columns here to group

Code	Description	Quantity	Unit of Measure	Currency	Unit
17.60	PLASTIC/PVC/HDPE	15,000.00	Linear Feet	U.S. Dollar	
17.60.100	HANDLE MATERIALS	15,000.00	Linear Feet	U.S. Dollar	
17.60.142	LAY MAINLINE	15,000.00	Linear Feet	U.S. Dollar	

3

4

Cost Items

Drag columns here to group

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Allocated	A
7	10 Inch PVC Force Main (SDR21)	800 0220	12,000.00	Linear Feet	\$25.82	\$309,807.60		
7.1	Furnish 10 Inch PVC Materials	7.1	12,000.00	Linear Feet	\$15.02	\$180,262.50		
8	24 Inch PVC Gravity Sewer (SDR35)	800 0330	3,000.00	Linear Feet	\$34.52	\$103,564.24		
8.1	Furnish 24 Inch PVC	8.2	3,000.00	Linear Feet	\$23.64	\$70,931.70		

4

15,000.00

\$251,194.20

Step by Step — Adding Quantity Roll-Up Codes to WBS items

1. From the ribbon, select the **Estimate** tab.
2. Under the Breakdown Structures section, select **Work Breakdown Structures**. The Work Breakdown Structure View Register opens.
3. From the WBS Tree, select the WBS drop-down. Then, select the WBS code you want to open.
4. Highlight the WBS code you want to add a Quantity Roll-Up Code.
5. In the Quantity Roll-Up Code column, select the  icon to the right of the text box. The Quantity Roll-Up Register appears.

- 6. In the Quantity Roll-Up Register, select an existing code to add to the Quantity Roll-Up Code column. Double-click to add it or select **OK**.

Code	Description	Quantity	Unit of Measure
12.40	ASPHALTIC CONCRETE PAVEMENT	1.00	Ton
13	BRIDGE WORK		
13.30	REINFORCEMENT/TENSIONING		
13.30.100	REBAR		
14	CONCRETE STRUCTURES		
14.20	RETAINING WALL		
17	PIPE WORK		
17.10	APPURTENANCES		
17.10.600	MANHOLE		
17.50	CONCRETE		
17.50.100	HANDLE MATERIALS		
17.50.120	TRENCH		
17.50.142	LAY MAINLINE		
17.50.170	BACKFILL		
17.60	PLASTIC/PVC/HDPE		
17.60.100	HANDLE MATERIALS		
17.60.120	TRENCH		
17.60.142	LAY MAINLINE		
17.60.170	BACKFILL		
37			

Quantity Roll-Up

Actions

Drag columns here to group

Code	Description	Unit Of Measure
Excavate 24 I...		Each

- 7. After selecting the Quantity Roll-Up Code to add to your WBS item, the number of quantities in the Quantity column automatically changes to the quantity listed in the roll-up code you selected. The Quantity column for that WBS item then becomes read-only.

Copy Job Resources to Library

Resources are created in the Resource Rate Register. This register is the location where you build out the structure of those resources.

Use of this lesson will draw from other sections of InEight Estimating Manual. Basic understanding of the resources is required.

The following procedure is going to guide you through copying resources from a project back to your library in InEight Estimate.

Step by Step — Copying Job Resources to Library

1. From the Backstage View, select **Open** from the left pane navigation.
2. From the Job Register, select the job that you want to copy resources.
3. Select the **Estimate** tab.
4. Under the Resources section, select **Resource Rates**. The Resource Rate Register opens.
5. Select the **Actions** tab.
6. Under the Tools section, select the option **Copy Job Resources to Library**.

The screenshot displays the InEight Estimate software interface. The top ribbon includes tabs for File, Setup, Estimate, Quote, Price, Execution, System, and Actions. The 'Actions' tab is selected and highlighted with a red box. Below the ribbon, the 'Resource Rate Register' is open, also highlighted with a red box. The 'Resource Rate Register' shows a table of resources with columns for User Defined 1, Resource Code, Description, Resource File Description, Organization Category, Geographic Area, and Wage Zone. The table lists several resources, including MAC, MACA1-1/2, MAFA, MAHAUL, MAIA3/4, and MASAND. The 'Copy Job Resources to Library' button is visible in the bottom right corner, also highlighted with a red box.

User Defined 1	Resource Code	Description	Resource File Description	Organization Category	Geographic Area	Wage Zone
+	MAC	Asphalt Cement	Standard Material Rate ...	Asphalt		
+	MACA1-1/2	Coarse Aggregate 1-1...	Standard Material Rate ...	Asphalt		
+	MAFA	Fine Aggregate	Standard Material Rate ...	Asphalt		
+	MAHAUL	Aggregate Haul Quarr...	Standard Material Rate ...	Asphalt		
+	MAIA3/4	Intermediate Aggregat...	Standard Material Rate ...	Asphalt		
+	MASAND	Sand	Standard Material Rate ...	Asphalt		

- 7. A new window appears prompting you to make a few choices on what is to be updated into the library.

Copy 'Training Job' Data to 'Library'

Resources

Status

Find: [Se

Status	Copy to Library	Resource Type	Resource Code	Description	Resource File Description	Unit of Measure	Unit (Sc
Status: Modified							
Modified	☐	Installed Material Rate	MAAM	Asphalt Mix (Finish)	Standard Material Rate File	Ton	
Modified	☐	Labor Rate	LC1	Carpenter Apprentice	Standard Labor Rate File	Hour	
Modified	☐	Labor Rate	LC2	Carpenter Journeyman	Standard Labor Rate File	Hour	
Modified	☐	Labor Rate	LC3	Carpenter Foreman	Standard Labor Rate File	Hour	
Modified	☐	Labor Rate	LREM 01	Principal Eng/Scientist	Standard Labor Rate File	Hour	

New or Modified Resources in 'Training Job'

	Total	Selected
New Resources:	10	0
Modified Resources:	27	0

Toggle Include All

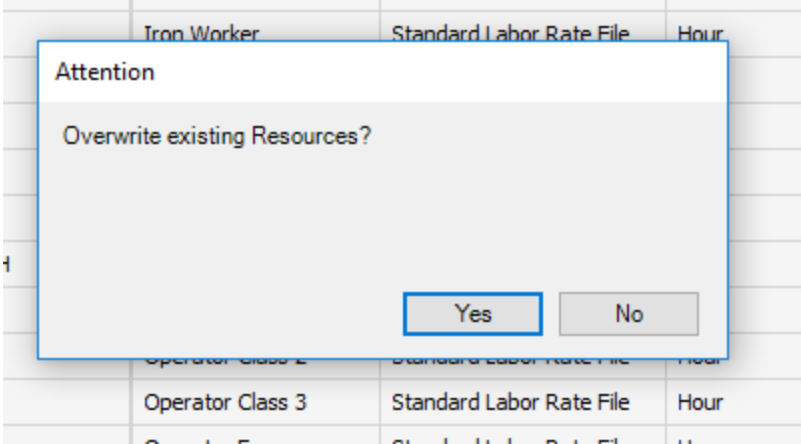
Toggle Include All

Quoted Values

☐ Use quoted values for awarded resources

If any awarded resources are selected, the awarded price will become the new

- 8. The system is grouped by status letting you know what has been modified from the library resources.
- 9. In the main grid, you can select which resources to bring to the library. The bottom of the window has a toggle that allows you to include all the modified or new resources that you wish to bring into the library. If preferred, select **Toggle Include All** located in the New or Modified Resources data block.
- 10. The quoted values allows a user to update the resource rates based on the pricing that came back to be the new value in the library during quotation. If preferred, select the **Use quoted values for awarded resources** check box in the Quoted Values data box.
- 11. Once done, click **OK**.
- 12. A pop-up will appear asking **Overwrite existing Resources?**. To confirm the changes, select **Yes**.



Multi-Edit of Resources

The following procedure is going to guide you through editing multiple resources at one time in InEight Estimate.

Use of this lesson will draw from other sections of InEight Estimating Manual. Basic understanding of the resources is required.

Step by Step — Mutli-Edit Resources

1. From the Backstage View, select **Open** from the left pane navigation.
2. From the Job Register, select the job that you want to copy resources.
3. Select the **Estimate** tab.
4. Under the Resources section, select **Resource Rates**. The Resource Rate Register opens.
5. Select resources to edit.
 - Use **CTRL + Click** to select many specific individual resources.
 - Use **CTRL + SHIFT + Click** to select multiple resources above or below your first selection.
6. In the Ribbon, select the **Actions** tab.
7. Under the Edits section, select **Open**.

The screenshot shows the InEight software interface. The top navigation bar includes tabs: File, Setup, Estimate, Quote, Price, Execution, System, and Actions. The 'Actions' tab is highlighted. Below the navigation bar, there are icons for Job Properties, Foundation Setup Data, Pay Item & Proposal, Bid Wizard, Resource Rates, Labor, Equipment, Materials, and Resource Assemblies. The 'Initialize' and 'Resources' sections are visible. The main content area shows the 'Cost Breakdown Structure (CBS) Register' and the 'Resource Rate Register' tab, which is highlighted. Below this, there are sub-tabs: All, Labor, Construction Equipment, Rented Construction Equipment, and Installed Material. The 'Installed Material' sub-tab is highlighted. The main table displays a list of resources with columns: User Defined 1, Resource Code, Description, and Resource File Description. The table contains 10 rows of data, including items like Asphalt Mix (Finish), Asphalt Cement, Coarse Aggregate, Fine Aggregate, Aggregate Haul, Intermediate Aggregate, Sand, Tack, Aggregate Base Rock, and Concrete.

User Defined 1	Resource Code	Description	Resource File Description
+ 10000	MAAM	Asphalt Mix (Finish)	Standard Material Rate ...
+ 10001	MAC	Asphalt Cement	Standard Material Rate ...
+ 10002	MACA 1-1/2	Coarse Aggregate 1-1...	Standard Material Rate ...
+ 10003	MAFA	Fine Aggregate	Standard Material Rate ...
+ 10004	MAHAUL	Aggregate Haul Quarr...	Standard Material Rate ...
+ 10005	MAIA3/4	Intermediate Aggregat...	Standard Material Rate ...
+ 10006	MASAND	Sand	Standard Material Rate ...
+ 10007	MATK	Tack	Standard Material Rate ...
+ 10008	MBR	Aggregate Base Rock	Standard Material Rate ...
+ 10009	MC2000	Concrete 4000 PSI	Standard Material Rate ...

8. Many of the fields show with the title VARIES. This is caused by different values being present in the same fields.
9. You can edit your chosen resources to be associated with a specific quote group if that option is available in the record. You can update records in bulk for other fields within the InEight Estimate resources. To update the quote group, select the **Setup** tab in the record.
10. Select the **Quote Group Tag** drop down. Then select the specific Quote Group Tag to associate to your chosen resources.

Cost Breakdown Structure (CBS) RegisterResource Rate RegisterResource Cost Details RegisterInst

Code: *VARIESDescription:Varies

Setup

Charge Rate

Quote

Billing Rate

Resource File:Standard Material Rate File

Geographic Area:

Wage Zone:

Org. Category:Asphalt

Account Code:

Cost Driver:CI Quantity

Cost Curve:Employed Cost Item

Tag 1:Varies

Tag 2:

Tag 3:

User Defined 1:Varies

User Defined 2:Varies

User Defined 3:

User Defined 4:

User Defined 5:

User Defined 6:

User Defined 7:

User Defined 8:

User Defined 9:

User Defined 10:

Quote Group Tag:

Notes:

Minority Percent:

Waste % Add-on:

Default Quantity:

Currency:

Description	Award Stat...	Utilized In Quot...	Review...	Last Review...	Quote Last Chang...
Aggregates	Complete	No	No		
Asphalt Materials	Complete	No	No		
Bridge Work	Complete	No	No		
Cables	Complete	No	No		
Commercial Work	Complete	No	No		
Concrete Beams	Complete	No	No		
Concrete Materials	Complete	No	No		

11. Once done, click **OK**. Your chosen resources are now associated to the specified quote group.

Cost Breakdown Structure (CBS) Register			Resource Rate Register		Resource Cost Details Register		
All	Labor	Construction Equipment	Rented Construction Equipment	Installed Material	Installed Equipment	Supplies	Unique
Drag columns here to group							
	User Defined 1	Resource Code	Description	Quote Group	Resource File Description	Geogra... Area	
→	+ 10000	MAAM	Asphalt Mix (Finish)	Aggregates	Standard Material Ra...		
	+ 10001	MAC	Asphalt Cement		Standard Material Rate ...		
	+ 10002	MACA1-1/2	Coarse Aggregate 1-1...		Standard Material Rate ...		
	+ 10003	MAFA	Fine Aggregate	Aggregates	Standard Material Rate ...		
	+ 10004	MAHAUL	Aggregate Haul Quarr...		Standard Material Rate ...		
	+ 10005	MAIA3/4	Intermediate Aggregat...		Standard Material Rate ...		
	+ 10006	MASAND	Sand	Aggregates	Standard Material Rate ...		
	+ 10007	MATK	Tack		Standard Material Rate ...		
	+ 10008	MBR	Aggregate Base Rock		Standard Material Rate ...		
	+ 10009	MC2000	Concrete 4000 PSI		Standard Material Rate ...		

Resource Employment Register

In the closing hours of a bid, it might be preferred to make a last minute modification to a resource charge rate (that is, resource employment), such as overriding the cost of Concrete on various items.

Included in the Resource Employment Register is a detailed list of each individual resource employments, including its assigned cost item. Modifications can be made on an item by item basis.

CBS Position Code	Cost Item Description	Row Number	Code	Resource Type	Resource Assembly	Description	Quantity Ratio	Quantity (Less Waste)	Waste % Add-on
1.1	Excel Import Test	1	ECRHC	Construction Equipment Rate		Hydraulic Crane 25 Ton			
1.2	Clearing & Grubbing	1	LL2	Labor Rate		Laborer			
1.2	Clearing & Grubbing	2	LO4	Labor Rate		Operator Foreman			
1.2	Clearing & Grubbing	3	LT1	Labor Rate		Teamster			
1.2	Clearing & Grubbing	4	LO1	Labor Rate		Operator Class 1			
1.2	Clearing & Grubbing	5	ED6	Construction Equipment Rate		Dozer D6			
1.2	Clearing & Grubbing	6	ETPT	Construction Equipment Rate		Flatbed Truck			
1.2	Clearing & Grubbing	7	ETDT	Construction Equipment Rate		Dump Truck			
1.2	Clearing & Grubbing	8	EL950	Construction Equipment Rate		Loader 950			
1.2	Clearing & Grubbing	9	UDUMP	Unique Rate		Dump Fees	1.000	10.00	
1.3.1	Excavation	1	ED8	Construction Equipment Rate		Dozer D8			

This register lets you work with all resource employments for an estimate without the need to filter the CBS register down to specific employments.

The Resource Employment Register also provides you with flexibility in performing bulk operations such as editing multiple records at once. You can use the fill-down feature to quickly update data for all Resource Employments.

Resource Employment Record

The Resource Employment Record provides you with a concise view of all data related to a single record and lets you customize the employment separately from the Resource Rate Record in the Job Library.

Follow the step by step below to open the form.

Step by Step — Resource Employment Record

1. From the Ribbon, select the **Estimate** tab.
2. Under the Resources section, select **Resource Employments**. The Resource Employment Register opens.

CBS Position Code	Cost Item Description	Row Number	Code	Resource Type	Resource Assembly	Description	Quantity Ratio	Quantity (Less Waste)	Waste % Add-on
1.1	Excel Import Test	1	ECRHC	Construction Equipment Rate		Hydraulic Crane 25 Ton			
1.2	Clearing & Grubbing	1	LL2	Labor Rate		Laborer			
1.2	Clearing & Grubbing	2	LO4	Labor Rate		Operator Foreman			
1.2	Clearing & Grubbing	3	LT1	Labor Rate		Teamster			
1.2	Clearing & Grubbing	4	LO1	Labor Rate		Operator Class 1			
1.2	Clearing & Grubbing	5	ED6	Construction Equipment Rate		Dozer D6			
1.2	Clearing & Grubbing	6	ETFT	Construction Equipment Rate		Flatbed Truck			
1.2	Clearing & Grubbing	7	ETDT	Construction Equipment Rate		Dump Truck			
1.2	Clearing & Grubbing	8	EL950	Construction Equipment Rate		Loader 950			
1.2	Clearing & Grubbing	9	UDUMP	Unique Rate		Dump Fees	1.000		10.00
1.3.1	Excavation	1	ED8	Construction Equipment Rate		Dozer D8			

3. Select a **Resource Employment** you want to open in the Resource Employment Register.
4. Double-click the Resource Employment. The Resource Employment Record now opens.

Account Code: 1110

Resource Assembly Code:

Cost Curve: Employed Cost Item

Worker's Comp Override:

Geographic Area: Southwest

Worker's Comp Override %:

Quantity Roll-Up Code:

Organizational Category: Truck Driver - Teamster

Wage Zone: Wage Zone A

Resource File: Standard Labor Rate File

Tag 1: Non Union

Tag 2: Hourly

Tag 3:

Custom 1:

Custom 2:

Custom 3:

Custom 4:

Custom 5:

Maintenance Labor Cost

Unit Cost: Total Cost:

Pay Rules

Scale 1: Scale 2: Scale 3:

Composite Wage Scale: 100.00 0.00 0.00

Resource Employment Breakdown

Cost Category	Scale 1	Scale 2	Scale 3
Total	\$30.62	\$45.93	\$61.24
Labor	\$30.62	\$45.93	\$61.24
Owned Equipment	\$0.00	\$0.00	\$0.00
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
Fees	\$0.00	\$0.00	\$0.00
Allowance	\$0.00	\$0.00	\$0.00
Custom Category 1	\$0.00	\$0.00	\$0.00
Undefined	\$0.00	\$0.00	\$0.00
Billing Rate	\$42.87	\$64.30	\$85.73
Billing Rate Markup	\$12.25	\$18.37	\$24.50
Billing Rate Markup %	4.00	40.00	40.00

Double-click on an Employment in the CBS or cost item record to open the Employment record.

Quantity Ratio

The Quantity Ratio column in the Resource Employment register represents the ratio between the quantity of a cost item and the quantities of its resource employments.

This column shows you a clearer picture, or reference point of the proportion between the quantity of the cost item and the quantity of the resource employment.

In the example below, the Quantity Ratio of 75 for Reinforcing steel tells you there is a 75:1 ratio, or 75 pounds per cubic yard, between the cost item quantity of 20 CY and the resource employment quantity of 1,500 pounds of rebar. For example, 20 CY of retaining wall multiplied by 75 pounds/CY results in 1,500 pounds of rebar.

Cost Breakdown Structure (CBS) Register									
CBS Position Code	Description			Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total (Forecast)	
15	Retaining Wall				20.00	CY	\$202.87		
	Row Number	Code	Resou... Assem...	Description	Quantity Ratio	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure
+	1	MC2000		Concrete 4000 PSI	1.000	20.00	10.00	22.00	Cubic Yard
→	+	2	MRS	Reinforcing Steel	75.000	1,500.00	5.00	1,575.00	Pound

This makes the scaling factor that is used when changing the Cost Item Forecast (T/O) Quantity more visible, so you can easily see if the ratio being applied is accurate. Adding the Quantity Ratio column to the resource employments records (both Cost Item Details register and the Resource Employments Register) that shows the ratio between the Cost Item Quantity and the Resource Employment Quantity lets you more easily scan an estimate and find any quantity variations that do not look right.

Editing the Quantity Ratio field changes the resource employment quantity, making it easier to ensure the right amount of a resource for a given cost item quantity is being used and changed to scale the resources quantity if necessary.

The Quantity Ratio Units field shows you how the Quantity Ratio is calculated.

Cost Escalation Overview

Escalation is the provision in a cost estimate for increases in the cost of labor, equipment, material due to continuing price changes over time. Escalation is used to estimate the future cost of a project or to bring historical costs to the present. Most cost estimating is done in current dollars and then escalated to the time when the project will be accomplished. A good example could be the employment of union labor over the duration of broader time scope. Often union labor will increase from one year to the next. Another could be weather changes, from summer to winter conditions.

Cost Escalation is based on a schedule and can be applied to any direct cost category by date range. Date range escalation is calculated based on each cost item's scheduled earliest start and finish dates. In this way, escalation changes when the job schedule changes, which means that if you change the schedule at any time and shift any escalated cost items and their costs from one date range to another, the value of escalation and the effective rate changes.

As a user, you have complete control over the subject cost that you would like Direct Cost Escalation to be calculated. In essence, you can override the default settings and choose any of the cost items on the CBS, or define a rule (filter) that uses all cost items matching that rule as your subject cost. For example, you can specify that the subject cost used in the calculation of Direct Cost Escalation will be all cost items in the CBS that are assigned to a pay item and whose unit of measure is cubic yards. Hand picking cost items or defining rules on which subject cost are defined is done on the Dependency tab of the Direct Cost Escalation Record.

The escalation layers represent, in the Price Breakdown Structure (PBS), cost changes that accrue over time across a cost category, based upon when the costs are scheduled to occur using the Schedule module. For example, it represents forecast wage increases that occur midway through construction, or the cost of installed material price inflation in the economy.

You can escalate a job's direct cost two ways:

1. Specify a fixed amount to any one or all of the cost categories.

Cost Breakdown				
Cost Category	Subject Cost	Rate		Cost
▼ Total	\$579,862.35	0.26		\$1,500.00
▼ Labor	\$47,100.53	3.18		\$1,500.00
Labor Base	\$35,995.82	0.00	→	\$0.00
> Labor Burden	\$11,104.71	0.00		\$0.00
Sub Labor	\$0.00	0.00	→	\$1,500.00
> Owned Equipment	\$108,878.13	0.00		\$0.00
> Rented Equipment	\$0.00	0.00		\$0.00
> Supplies	\$0.00	0.00		\$0.00
> Materials	\$403,698.75	0.00		\$0.00
> Subcontract	\$0.00	0.00		\$0.00
> Fees	\$20,184.94	0.00		\$0.00
> Allowance	\$0.00	0.00		\$0.00
Custom Category1	\$0.00	0.00	→	\$0.00
Undefined	\$0.00	0.00	→	\$0.00

2. Specify a fixed rate to any one or all of the cost categories.

Cost Breakdown				
Cost Category	Subject Cost	Rate		Cost
▼ Total	\$579,862.35	0.24		\$1,413.02
▼ Labor	\$47,100.53	3.00		\$1,413.02
Labor Base	\$35,995.82	3.00	←	\$1,079.87
> Labor Burden	\$11,104.71	3.00		\$333.14
Sub Labor	\$0.00	3.00	←	\$0.00
> Owned Equipment	\$108,878.13	0.00		\$0.00
> Rented Equipment	\$0.00	0.00		\$0.00
> Supplies	\$0.00	0.00		\$0.00
> Materials	\$403,698.75	0.00		\$0.00
> Subcontract	\$0.00	0.00		\$0.00
> Fees	\$20,184.94	0.00		\$0.00
> Allowance	\$0.00	0.00		\$0.00
Custom Category1	\$0.00	0.00	→	\$0.00
Undefined	\$0.00	0.00	→	\$0.00

When you specify a fixed rate, the amount varies with the cost total that it is applied. When you specify a fixed amount, the amount remains the same and the rate changes as cost totals change. The last input you make designates which method you prefer. For example, if you last input a figure in the rate field

of a cost category, then it is understood that the rate is to be fixed. The specified method is indicated on the form with an arrow symbol.

To open a Direct Cost Escalation Record, follow the step by step below.

Step by Step — Direct Cost Escalation Record

1. From the Ribbon, select the **Estimate** tab.
2. Under the Breakdown Structures section, select **Cost Breakdown Structure (CBS)**.
3. Double-click the **Direct Cost Add-On** row. The Dependent Cost Item Record opens.
4. Under Saved Views, select the **Date Range View**.
5. Setup the escalation by giving the description a time period name (Quarters for this example). Use the FromDate and ToDate field for each escalation period.

Cost Breakdown Structure (CBS) Register

Direct Cost Add-On Record

CBS Position Code:

Description:

Escalation

Description

Dependency

Cost Categorization

Allocation

Drag columns here to group

	Description	From Date	To Date	Total Cost (Forecast)	Account Code	Cost Driver
	Quarter One	2/13/2014	3/13/2014	\$2,842.30		
	Quarter Two	3/13/2014	6/13/2014	\$4,239.05		
*						

Dependent Cost Items

Dependent cost items are cost items with values calculated based on a percentage of the cost of other items. Examples include insurance the company carries, bonds, and labor overhead.

If you need to use additional dependent cost items, you can create your own, but you must delete all the existing default dependent cost items first.

The following steps walk you through deleting your existing default indirect costs so you can create your own.

Step by Step — Deleting Existing Default Indirect Costs

1. From the Ribbon, select the **Estimate** tab.
2. Under the Breakdown Structure section, select **Cost Breakdown Structure (CBS)**.
3. Select the **Prime Bond** indirect cost item by clicking on its row header.
4. Then press and hold the Shift key while selecting the **Job Financing** indirect cost item. All your dependent indirect cost items are now selected.

Cost Breakdown Structure (CBS) Register							
Drag columns here to group							
	CBS Position Code	Description	Phase Code	Allow As-Built	Cost Source	Cost Segment	Forecast (T/O)
		JOB					
	+	Prime Bond				Office Overhead	
	+	Price % Add-On				Office Overhead	
	+	Direct Cost Add-On				Job Overhead	
→	+	Job Financing				Office Overhead	

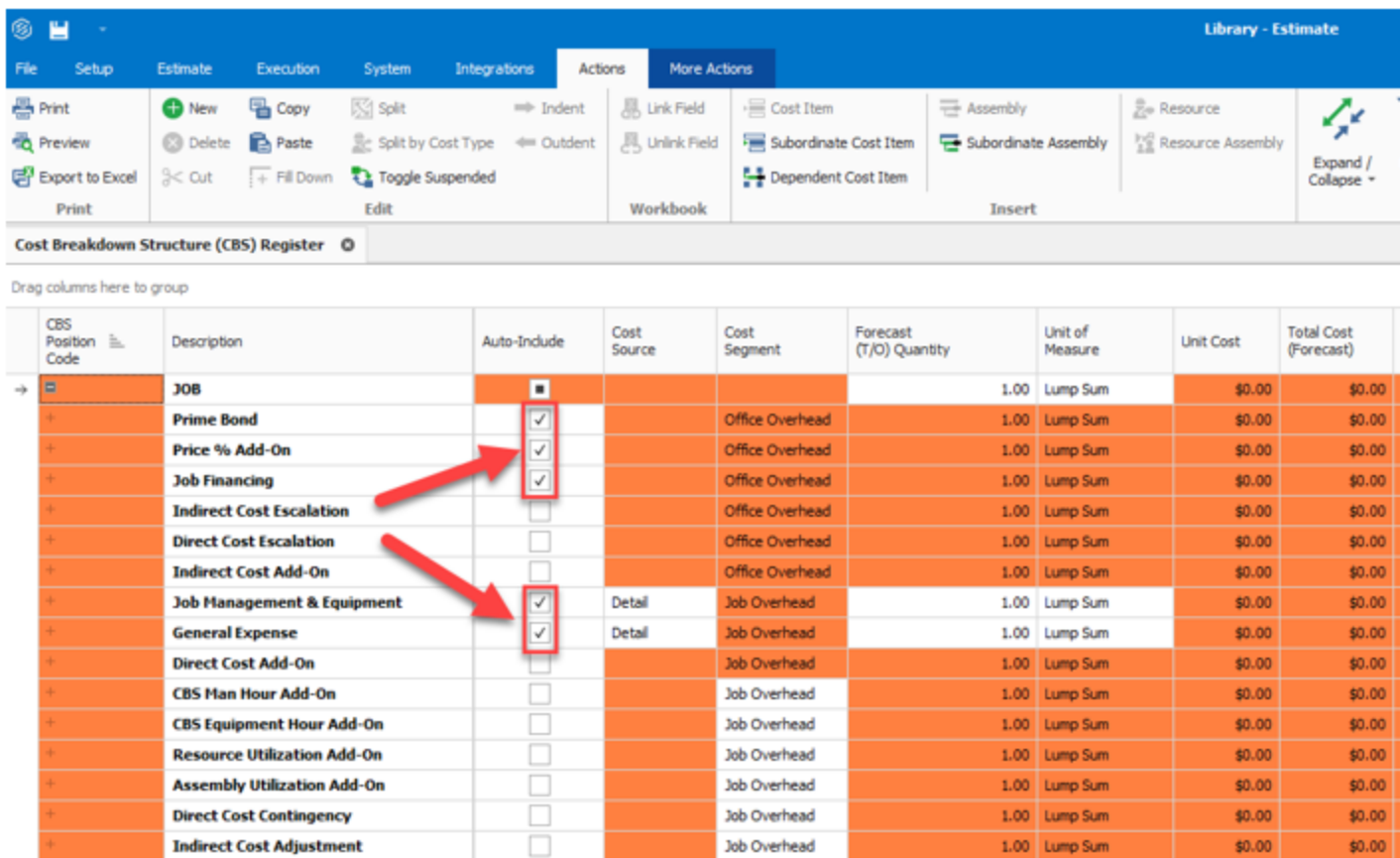
5. Right click on the selection and select **Delete**.
6. Select **Yes** to confirm you want to delete the selected Cost Items. Your indirect cost items are now deleted.

You can also control which default dependent cost items are copied into new jobs from scratch. You do this in the Library from the Master CBS.

The following steps walk you through toggling the inclusion of default dependent cost items in new jobs from scratch.

Step by Step — Toggling Default Dependent Cost Items

1. From the Ribbon, select the **File** tab.
2. Select **Library** from the left pane navigation.
3. From the Library's Ribbon, select the **Estimate** tab.
4. Under the Master Breakdown Structures section, select **Cost Breakdown Structure (CBS)**.
5. Use Column Chooser or Go To Column to bring the **Auto-Include** column into your view.
6. A check mark in the Auto-Include column indicates that those cost items in the Master CBS will be included in new jobs from scratch.



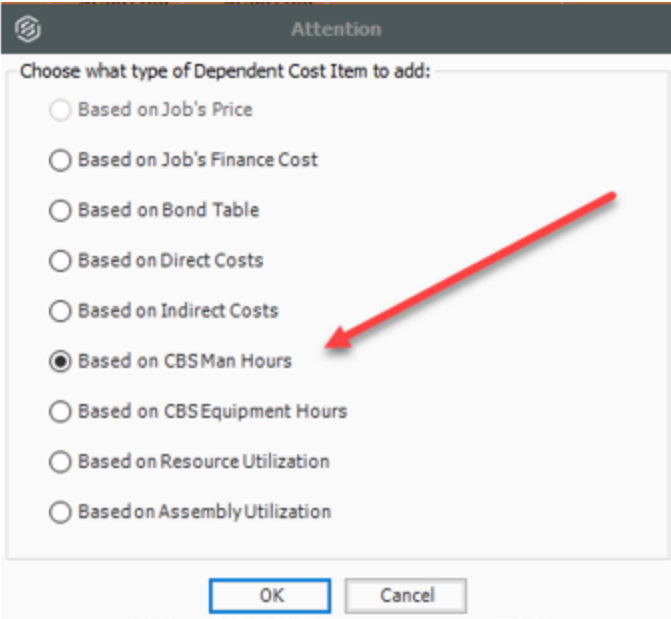
CBS Position Code	Description	Auto-Include	Cost Source	Cost Segment	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
→	JOB	☐			1.00	Lump Sum	\$0.00	\$0.00
+	Prime Bond	☒		Office Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	Price % Add-On	☒		Office Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	Job Financing	☒		Office Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	Indirect Cost Escalation	☐		Office Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	Direct Cost Escalation	☐		Office Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	Indirect Cost Add-On	☐		Office Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	Job Management & Equipment	☒	Detail	Job Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	General Expense	☒	Detail	Job Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	Direct Cost Add-On	☐		Job Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	CBS Man Hour Add-On	☐		Job Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	CBS Equipment Hour Add-On	☐		Job Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	Resource Utilization Add-On	☐		Job Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	Assembly Utilization Add-On	☐		Job Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	Direct Cost Contingency	☐		Job Overhead	1.00	Lump Sum	\$0.00	\$0.00
+	Indirect Cost Adjustment	☐		Job Overhead	1.00	Lump Sum	\$0.00	\$0.00

Define a Contingency Add-On based on Man Hours

The following steps walk you through adding and defining contingency based on man hours for the job.

Step by Step — Define a Contingency Add-On

- 1. From the Ribbon, select the **Estimate** tab.
- 2. Under the Master Breakdown Structures section, select **Cost Breakdown Structure (CBS)**.
- 3. From the Cost Breakdown Structure (CBS) Register, right click on the row header for any cost item and select **Insert Dependent Cost Item**.
- 4. On the resulting Attention prompt, select **Based on CBS Man Hours**.



- 5. Once you are done with the Attention dialog box, Click **OK**.
- 6. Double click on the **CBS Man Hour Add-On** description to highlight the description title.

Cost Breakdown Structure (CBS) Register ⓘ								
Drag columns here to group								
	CBS Position Code	Description	Cost Source	Cost Segment	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
		JOB			1.00	Lump Sum	\$5,604,903.26	\$5,604,903.26
		CBS Man Hour Add-On		Job Overhead	1.00	Lump Sum	\$0.00	\$0.00
		Price % Add-On		Office Overhead	1.00	Lump Sum	\$0.00	\$0.00
		Direct Cost Add-On		Job Overhead	1.00	Lump Sum	\$75,611.02	\$75,611.02
→		Escalation		Job Overhead	1.00	Lump Sum	\$0.00	\$0.00
+ 1		Mobilization	Detail	Direct Cost	1.00	Lump Sum	\$11,909.51	\$11,909.51
+ 2		Clearing & Grubbing	Detail	Direct Cost	10.00	Acre	\$3,918.50	\$39,184.97
+ 3		Unclassified Excavation	Detail	Direct Cost	60,000.00	Cubic Yard	\$4.68	\$279,916.81

- 7. You can customize the visibility by changing the description to **Contingency**.

Drag columns here to group

CBS Position Code	Description	Cost Source	Cost Segment	Forecast (T/O) Quantity
	JOB			1.00
+	Contingency		Job Overhead	1.00
+	Price % Add-On		Office Overhead	1.00
+	Direct Cost Add-On		Job Overhead	1.00
+	Escalation		Job Overhead	1.00

8. Double click on the newly named **Contingency** row header to open the CBS Man Hour Add-On Record.
9. From the Description tab, add a description to the Man Hour Add-On Detail.

Cost Breakdown Structure (CBS) Register

CBS Man Hour Add-On Record

CBS Position Code:

Description:

Contingency

Description

Dependency

Cost Categorization

Allocation

Drag columns here to group

	Description	Total Man-Hours	Add-on Cost/ Man-Hour	Currency	Total Cost (P)
→	Man Hour Contingency	25,948.86	\$0.00	U.S. Dollar	
*					

10. The description allows the total Man-Hours for the job to display.
11. From the record, select the Dependency tab to see what contributes to your subject to cost.

You can also refine how you build your contingency. It can be based on costs where man hours is over 10 hours. You can do this by setting a filter on the Hours (Duration driven) column and choosing **Define Subject Cost using column filtering**.

Hours
(Duration driven)

Forecast
(T/O) Quantity

Unit
Meas

Values

Numeric Filters

From

10.00

To

360.00

Clear Filter

Filter Editor

Close

☐ Define Subject Cost using the Include checkbox for the desired i

☒ Define Subject Cost using column filtering

- All current and future items that match the filter will be include

- The filter is evaluated using the default currency and UM View

11. Define the Contingency Add-On by designating Add-On Cost/Man-Hour column.

Cost Breakdown Structure (CBS) Register

CBS Man Hour Add-On Record

CBS Position Code:

Description:

Contingency

Description

Dependency

Cost Categorization

Allocation

Drag columns here to group

Find: [Search For...] ...

Saved views: Previous

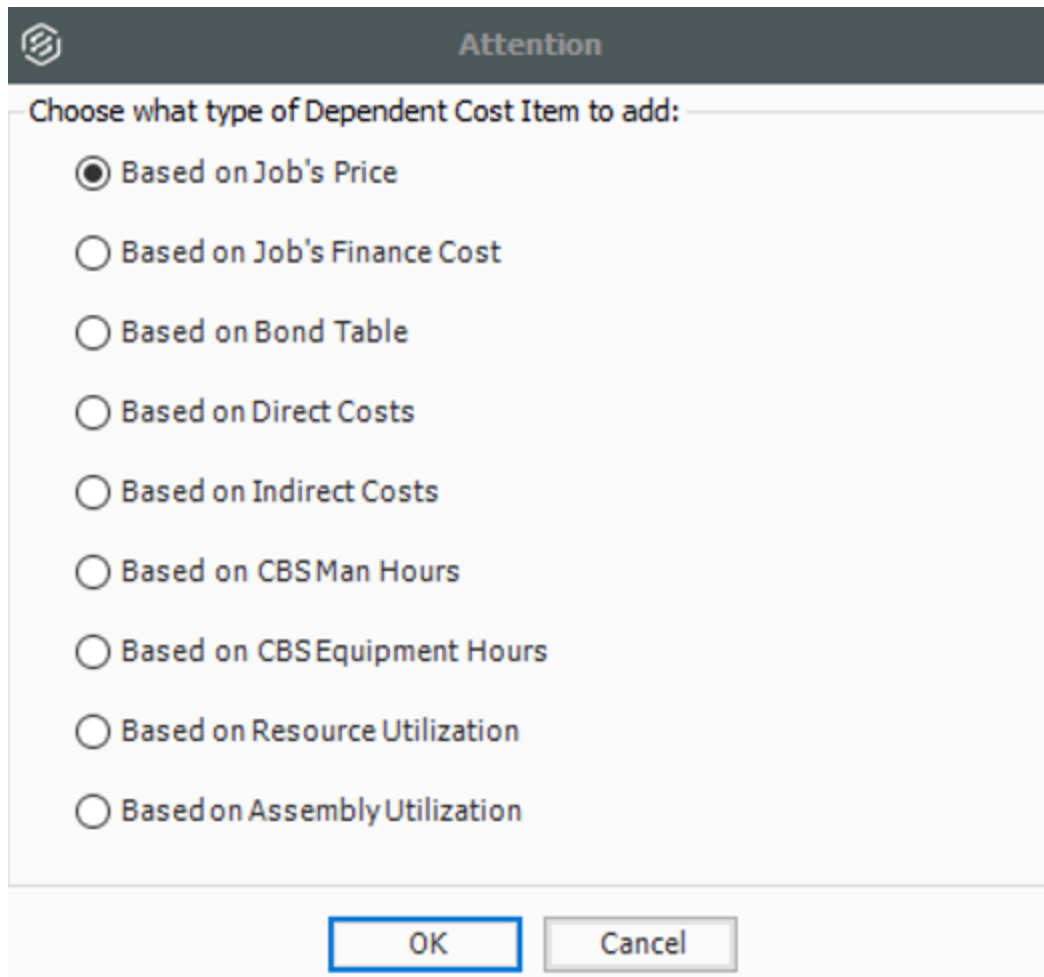
Description	Total Man-Hours	Add-on Cost/ Man-Hour	Currency	Total Cost (Forecast)	Tag 3	Cost Curve	Cost Driver	Account Code
Man Hour Contingency	25,812.86	\$5.00	U.S. Dollar	\$129,064.30		Employed Co...		

Defining a Price % Add-On

The following steps walk you through adding and defining Price % Add-On for the job.

Step by Step — Defining Price Add-On

1. From the Cost Breakdown Structure (CBS) Register, right click on the row header for any cost item and select **Insert Dependent Cost Item**.
2. On the resulting Attention prompt, select **Based on Job's Price**.



The image shows a software dialog box titled "Attention" with a hexagonal icon on the left. The main text inside the dialog says "Choose what type of Dependent Cost Item to add:". Below this text is a list of nine radio button options. The first option, "Based on Job's Price", is selected with a filled circle. The other options are "Based on Job's Finance Cost", "Based on Bond Table", "Based on Direct Costs", "Based on Indirect Costs", "Based on CBS Man Hours", "Based on CBS Equipment Hours", "Based on Resource Utilization", and "Based on Assembly Utilization". At the bottom of the dialog are two buttons: "OK" and "Cancel". The "OK" button is highlighted with a blue border.

Attention

Choose what type of Dependent Cost Item to add:

- ☒ Based on Job's Price
- ☐ Based on Job's Finance Cost
- ☐ Based on Bond Table
- ☐ Based on Direct Costs
- ☐ Based on Indirect Costs
- ☐ Based on CBS Man Hours
- ☐ Based on CBS Equipment Hours
- ☐ Based on Resource Utilization
- ☐ Based on Assembly Utilization

OK Cancel

3. Once you are done with the Attention prompt, click **OK**.
4. Double click on the **Price % Add On** row header to open the record.
5. The Price % Add-on Record opens to the **Description** tab. Type **Office Overhead** in the Description field and type a rate of 4.
 - Office Overhead is now defined with a rate of 4% of the job's price.

Cost Breakdown Structure (CBS) Register ✕						
Drag columns here to group						
	CBS Position Code	Description	Phase Code	Allow As-Built	Cost Source	Cost Segment
		JOB				
→	+	Price % Add-On				Office Overh
	+ 1	Mobilization			Detail	Direct Cost
	+ 2	Clearing & Grubbing			Detail	Direct Cost
	+ 3	Unclassified Excavation			Detail	Direct Cost

- Once done, click **OK** to close the record.

Defining a Direct Cost Add-On

The following steps walk you through creating a Direct Cost Add-On dependent cost item.

Step by Step — Define a Direct Cost Add-On

- From the Ribbon, select the **Estimate** tab.
- Under the Master Breakdown Structures section, select **Cost Breakdown Structure (CBS)**.
- From the Cost Breakdown Structure (CBS) Register, right click on the row header for any cost item and select **Insert Dependent Cost Item**.
- On the resulting Attention prompt, select **Based on Direct Costs**.
- Once you are done with the Attention dialog box, Click **OK**.
- Double click on the **Direct Cost Add-On** row header to open the record.
- On the Description tab, type **Small Tools** in the blank row under the Description column.

Cost Breakdown Structure (CBS) Register **Direct Cost Add-On Record** ✕

CBS Position Code: Description:

Direct Cost Add-On

Description	Dependency	Cost Categorization	Allocation
Drag columns here to group			
Description	Currency	Total Cost (Forecast)	Account Code
→ Small Tools	U.S. Dollar	\$0.00	
*			



8. You can define additional rows for other add-on costs as needed.

- The Dependency Cost Breakdown appears on the right.
- The Subject Cost is the cost that the cost item depends on, based on what is defined on the cost item's Dependency tab.

Total Cost: \$0.00 Alternate: BASE

Cost Breakdown ✕					
Cost Category	Subject Cost	Rate		Cost	
▼ Total	\$5,508,862.12	0.00		\$0.00	
▶ Labor	\$756,110.21	0.00		\$0.00	
▶ Owned Equipment	\$998,389.70	0.00		\$0.00	
▶ Rented Equipment	\$6,639.52	0.00		\$0.00	
▶ Supplies	\$25,687.50	0.00		\$0.00	
▶ Materials	\$3,432,341.75	0.00		\$0.00	
▶ Subcontract	\$113,700.00	0.00		\$0.00	
▶ Fees	\$172,893.44	0.00		\$0.00	
▶ Allowance	\$1,500.00	0.00		\$0.00	
Custom Category 1	\$1,600.00	0.00	→	\$0.00	
Undefined	\$0.00	0.00	→	\$0.00	

9. Click on the Dependency tab to see what contributes to your subject cost.

Cost Breakdown Structure (CBS) Register
Direct Cost Add-On Record

CBS Position Code: Description:

Direct Cost Add-On

Description	Dependency	Cost Categorization	Allocation
Drag columns here to group			
CBS Position Code	Description	Include	User Defined 1
1	Mobilization	☒	
2	Clearing & Grubbing	☒	
3.1	Excavation	☒	
3.2	Embankment	☒	
4.1	Furnish & Haul Base Material	☒	
4.2	Finegrade Subgrade	☒	
4.3.1	Place Aggregate Base	☒	
4.3.2	Blue Top Aggregate Base	☒	
5.1	Furnish & Haul Hot Mix	☒	
5.2	Install Hot Mix Type A	☒	
6.1	Furnish RCP Materials	☒	
6.2	Excavate RCP Trench	☒	

- There are a couple of options at the bottom to control how dependency items are selected. By default, the bottom radio button is selected.
 - The bottom radio button allows you to use column filtering to control what items are included.
 - The top button allows you to manually select the cost items you would like to include.

10. For this activity, leave the default (lower) button selected.

- ☐ Define Subject Cost using the Include checkbox for the desired items
- ☒ Define Subject Cost using column filtering
 - All current and future items that match the filter will be included automatically.
 - The filter is evaluated using the default currency and UM View Mode.

11. Select the **Description** tab. You can define an add-on Rate (percentage) or Cost at any of the cost category levels in the Dependency Cost Breakdown on the right side of the record.
 - You can also add a rate at the Total level to have it apply to all your cost categories.
12. Type 10 in the Rate field at the Labor cost category level, then press Tab.

Hours (Duration driven) Forecast (T/O) Quantity Unit Meas

Values Numeric Filters

From 10.00 To 360.00

Clear Filter Filter Editor Close

- ☐ Define Subject Cost using the Include checkbox for the desired i
- ☒ Define Subject Cost using column filtering
 - All current and future items that match the filter will be include
 - The filter is evaluated using the default currency and UM View

13. Once you are done, click **OK** to close the record.

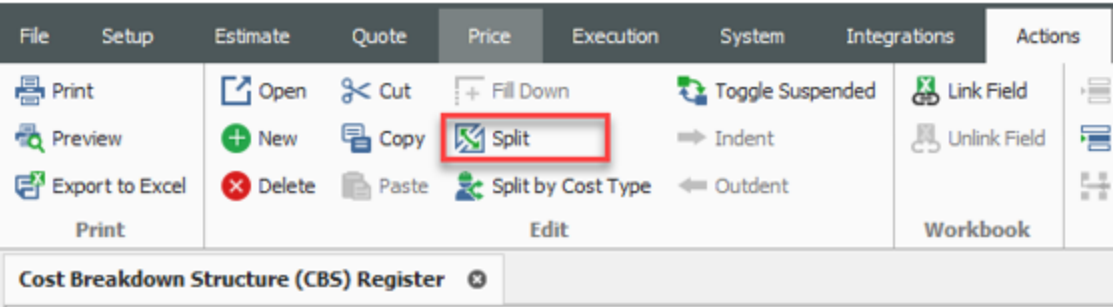
Split Cost Items

You have miles of trench work that you need to break up into phases. You have already defined this trench cost item and entered the details defining the total cost to perform the work. You can split this cost item into 4 phases of work by using the Split feature.

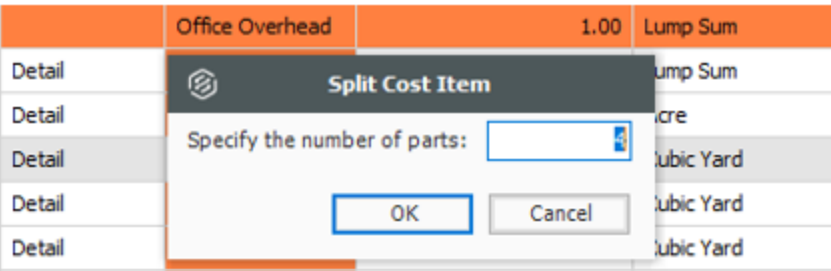
The Split feature changes your Cost Breakdown Structure. Before performing these steps, be sure you have the correct cost item selected for splitting and whether or not the change is needed.

Step by Step — Split Cost Items

- 1. From the CBS Register, select the cost item you want to split.
- 2. From the Ribbon, select the **Actions** tab.
- 3. Under the Edit section, select the option.



- 4. When the Split Cost Item data box appears, enter in the number of parts that you want to split the selected cost item into.



- 5. Select **OK** to copy the previously selected cost item into 4 subordinate cost items with the same description.

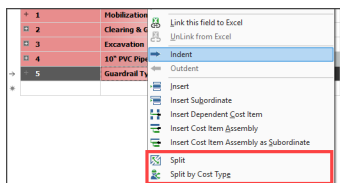
3	Trench Excavation	Detail	Direct Cost
3.1	Trench Excavation - Phase I	Detail	Direct Cost
3.1.1	Excavation	Detail	Direct Cost
3.1.2	Embankment	Detail	Direct Cost
3.2	Trench Excavation - Phase II	Detail	Direct Cost
3.2.1	Excavation	Detail	Direct Cost
3.2.2	Embankment	Detail	Direct Cost
3.3	Trench Excavation - Phase III	Detail	Direct Cost
3.3.1	Excavation	Detail	Direct Cost
3.3.2	Embankment	Detail	Direct Cost
3.4	Trench Excavation Phase IV	Detail	Direct Cost
3.4.1	Excavation	Detail	Direct Cost
3.4.2	Embankment	Detail	Direct Cost

If there are subordinate cost items in the split cost item, those subordinate cost items are then copied into each of the 4 new cost items. The cost item Total Forecast (T/O) Quantity is divided into 4 even quantities. This subsequently divides the cost into 4 even amounts. Add the incremental **Phase** title to the description of the 4 new subordinate Cost Items to identify them later.

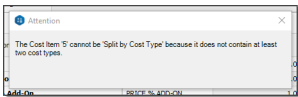
Split by Cost Type

It is common for an estimate to progress through multiple levels of detail. Often a high-level estimate for a particular scope of work consists of a single cost item inclusive of the entire cost of that work in a single line item. As the estimate is further refined, more detail is added and at times it can become necessary to split a cost item by the four main types of costs that make it up, such as separating the material cost from the installation cost.

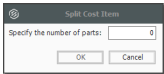
The Split by Cost Type feature gives you the ability to select a cost item or a collection of cost items, and then separate any of the labor, equipment, material, or subcontract costs into separate cost items.



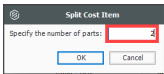
- Right click on a new Cost Item under Guardrail Type 2, and select Split by Cost Item. You can use this option if there at least two types. If not, you will get this pop-up:



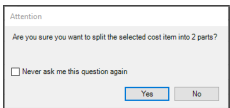
Alternatively, click on Split.



- Enter the number of parts to split and click OK



- You will be asked if you want to proceed. If so, click Yes



The end-result will automatically add subordinate rows which you can now edit.

5	Guardrail Type 2
5.1	Guardrail Type 2
5.2	Guardrail Type 2

Swap Resources

Any resource assembly on the Cost Breakdown Structure (CBS) Register or the Master Cost Breakdown Structure (CBS) Register can be swapped for any other resource. In practice, this feature is useful for making universal adjustments to the cost details. For example, you can swap a Laborer Class 1 for an Operator Class 1 or Corrugated Metal Pipe for Reinforced Concrete Pipe.

You have a great deal of control over the instances (cost items) in which you want to swap one resource for another. You can:

- Swap all instances of one resource for another on all cost items where that resource is employed, whether or not the resource employment is designated as unique.
- Swap one resource for another on all cost items where that resource is not designated as a unique resource employment.
- Swap instances of one resource for another on a select set of cost items where that resource is employed, whether or not the resource employment is designated as unique.
- Swap one resource for another on a select set of cost items where that resource is not designated as a unique resource employment.

In the original estimate, you had employed Dozer D8 for all of the Excavation work. A month after first draft of the estimate, you want to replace all of your employed Dozer D8 resources with the less expensive Dozer D6. To make this resource swap in InEight Estimate, you need to use the Resource Swap tool.

Making changes in the Cost Breakdown Structure (CBS) Register can cause unexpected results. It is good practice to perform an **Archive** of the Job or confirming the changes being committed prior to swapping resources.

Step by Step — Swapping Resources

1. From the Ribbon, select the **Actions** tab.
2. Under the View section, select the **Filter** drop down. Then select the **Filter by Resource** option.

File

Setup

Estimate

Quote

Price

Execution

System

Integrations

Actions

More Actions

Print

Open

Cut

Fill Down

Link Field

Resource

Expand / Collapse

Preview

New

Copy

Unlink Field

Resource Assembly

Clear Filter

Export to Excel

Delete

Paste

Workbook

Insert

Expand CBS Tree

Print

Edit

Cost Breakdown Structure (CBS) Register

Drag columns here to group

CBS Position Code	Description	Forecast (T/O) Quantity	Pay Quantity
3.1	Excavation	50,000.00	50,000.00
1	ETWT		
2	ED8		
3	ES623		
4	ECO...		
5	ECO...		
6	LL2		
7	LO4		
8	ES621		
9	EG14G		
10	LO1		
11	LO2		
3.2	Embankment	50,000.00	50,000.00
27.1.3	Escavate Trench	500,000.00	500,000.00

Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity
1			Water Truck			1.0
2			Dozer D8			1.0
3			Scraper 623			2.0
4			Compactor Smooth Dr...			1.0
5			Compactor Sheeps Fo...			1.0
6			Laborer			1.0
7			Operator Foreman			1.0
8			Scraper 621			2.0
9			Grader 14G			1.0
10			Operator Class 1			4.0
11			Operator Class 2			4.0

Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Productivity Factor	Work Hours	Pay Hours	Unit Cost
1		CTRUCK	Truck Excavate-Load...			1.00	Hour	0.00	900.00	900.00	\$618.72
2		OD8	Dozer D8 - Operated			1.00	Hour	0.00	200.00	200.00	\$204.22

Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Productivity Factor	Work Hours
1	ED8	OD8	Dozer D8			1.00	Each	1.00	100.00
2	LO3	OD8	Operator Class 3			1.00	Each	1.00	100.00

Filter

Clear Filter

Filter to CBS Level

Filter to Terminal Cost Items

Filter to Direct Cost Items

Filter to Indirect Cost Items

Filter by Cost Source Plug

Filter by Cost Source Quote

Filter by Cost Source Detail

Filter to Schedule Relations

Filter by Resource

Filter by Resource Assembly

Filter by Resource Account

Filter by Resource Type

Filter by Unique (Delta) Resources

Filter by Unique (Delta) Cost Items

Filter Cost Items with Excel Links

Filter Allocation Distributions Subordinates

Filter Resources with Waste Percentage

3. When the Filter by Resource window opens, select the **Dozer D8** Resource Code.

Cost Item	Man Count	Man-Hours (Duration driven)	Man-Hours (Maintenance)
1,000.00	0.00	0.00	
1,000.00	0.00	0.00	
1,000.00	0.00	0.00	
1,000.00	0.00	0.00	
1,000.00	0.00	0.00	
1,430.12	12.00	96.00	
1,430.12	12.00	96.00	
1,785.08	6.00	48.00	

Filter By Resource

Enter the resource code of the employed resource that you want to filter to.

Resource Code:

OK

Cancel

Resource Rate Register - Training Job

All

Labor

Construction Equipment

Rented Construction Equipment

Installed Material

Installed Equipment

Drag columns here to group

Find:

Saved views:

Previous View

Resource Code	Description	Resource File Description	Unit of Measure	Productivity Factor	Default Quantity
+ ED6	Dozer D6	Standard Equipment Rate ...	Hour	1.00	
+ ED8	Dozer D8	Standard Equipment Rate ...	Hour	1.00	
+ ETDT	Dump Truck	Standard Equipment Rate ...	Hour	1.00	
+ EX225	Excavator 225	Standard Equipment Rate ...	Hour	1.00	
+ EX245	Excavator 245	Standard Equipment Rate ...	Hour	1.00	
+ ETFT	Flatbed Truck	Standard Equipment Rate ...	Hour	1.00	
+ EMGEN	Generator 700 Watt	Standard Equipment Rate ...	Hour	1.00	
+ EG14G	Grader 14G	Standard Equipment Rate ...	Hour	1.00	
+ EG160H	Grader 160H	Standard Equipment Rate ...	Hour	1.00	
+ ECRHC	Hydraulic Crane 25 Ton	Standard Equipment Rate ...	Hour	1.00	

36

OK

4. Once you have this filter applied, you can see all cost items that have the Dozer D8 employed. From the CBS Register, select the **More Actions** tab.
5. From the Batch Operations section, select the **Swap** drop down. Then select **Swap Resource**.

File

Setup

Estimate

Quote

Price

Execution

System

Integrations

Actions

More Actions

◀▶ Swap

Remove

Update

Batch Operations

Bid Wizard

Quantity Checking

Unit / Total Confirmation

Tools

Refresh Benchmarks

Haul Calculator

Resource Period

Import / Update CBS

Data Source

Cost Breakdown Structure (CBS) Register

Drag columns here to group

CBS Position Code	Description	Forecast (T/O) Quantity	Pay Quantity	Unit of Measure
+	Direct Cost Add-On	1.00		Lump Sum
+	Job Financing	1.00		Lump Sum
+ 1	Mobilization	1.00	1.00	Lump Sum
+ 2	Clearing & Grubbing	10.00	10.00	Acre
+ 3	Unclassified Excavation	50,000.00	50,000.00	Cubic Yard
→ - 3.1	Excavation	50,000.00	50,000.00	Cubic Yard

Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure
+	1	FTWT	Water Truck			1.00	Each
→ +	2	ED8	Dozer D8			1.00	Each
+	3	ES623	Scraper 623			2.00	Each
+	4	ECO...	Compactor Smooth Dr...			1.00	Each
+	5	ECO...	Compactor Sheeps Fo...			1.00	Each
+	6	LL2	Laborer			1.00	Each
+	7	LO4	Operator Foreman			1.00	Each
+	8	ES621	Scraper 621			2.00	Each
+	9	EG14G	Grader 14G			1.00	Each
+	10	LO1	Operator Class 1			4.00	Each
+	11	LO2	Operator Class 2			4.00	Each
+ 3.2	Embarkment			50,000.00		50,000.00	Cubic Yard

File

Setup

◀▶ Swap

Swap R

Swap R

Batch Operatio

Cost Breakdown

6. From the Swap Resource window, select the icon in the **Currently employed resource** section. Then choose the **Dozer D8** resource code.

Resource Rate Register - Training Job

Actions: All Labor Construction Equipment Rented Construction Equipment Installed Material Installed

Find: [Search For...] Saved views: Prev

Drag columns here to group

Resource Code	Description	Resource File Description	Unit of Measure	Productivity Factor
+ ED6	Dozer D6	Standard Equipment Rate ...	Hour	1.0
+ ED8	Dozer D8	Standard Equipment Rate ...	Hour	1.0
+ ETDT	Dump Truck	Standard Equipment Rate ...	Hour	1.0
+ EX225	Excavator 225	Standard Equipment Rate ...	Hour	1.0
+ EX245	Excavator 245	Standard Equipment Rate ...	Hour	1.0
+ ETFT	Flatbed Truck	Standard Equipment Rate ...	Hour	1.0
+ EMGEN	Generator 700 Watt	Standard Equipment Rate ...	Hour	1.0
+ EG14G	Grader 14G	Standard Equipment Rate ...	Hour	1.0
+ EG160H	Grader 160H	Standard Equipment Rate ...	Hour	1.0
+ ECRHC	Hydraulic Crane 25 Ton	Standard Equipment Rate ...	Hour	1.0

36

Swap Resource

Currently employed resource:

New resource to replace currently employed:

☒ Replace only resources that are NOT unique

☐ Replace ALL resources (including unique resources)

OK Cancel

7. Next Choose the **Dozer D6** resource code for the **New resource to replace currently employed** entry.
8. The radio buttons in the Swap Resource window determines if you want to replace unique resources or not. For this example, select **Replace only resources that are NOT unique**.

Unique is referring to resources that have defaults overridden from what was originally designated in the Resource Rate Register. If you choose **Replace only resources that are NOT unique**, then the unique Dozers D8 resource in the cost structure will not be replaced. If you choose **Replace ALL resources (including unique resources)**, then all of the Dozers D8 resources are replaced.

9. In the next step, choose which cost items to perform the swap of Dozer D8 for Dozer D6.

- 3.1	Excavation	Detail	Direct Cost	50,000.00	Cubic Yard	\$3.00				
Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Productivity Factor	Work Hours	Pay Hours
+	1	ETWT	Water Truck			1.00	Each	1.00	44.00	44.00
→	2	ED8	Dozer D8							
+	3	ES623	Scraper 623							
+	4	ECO...	Compactor Smooth Dr...							
+	5	ECO...	Compactor Sheeps Fo...							
+	6	LL2	Laborer							
+	7	LO4	Operator Foreman							
+	8	ES621	Scraper 621							
+	9	EG14G	Grader 14G							
+	10	LO1	Operator Class 1							
+	11	LO2	Operator Class 2							

Selection Register

Drag columns here to group

Find:

Saved v

Include	CBS Position Code	Description	Options Code
☒	3.1	Excavation	3.1
☒	3.2	Embankment	3.2
☒	27.1.3	Escavate Trench	

- 3.2	Embankment	Detail	Direct Cost	500,000.00	Cubic Yard	\$0.17				
Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Productivity Factor	Work Hours	Pay Hours
+	1	LO4	Operator Foreman			3.00	Each	1.00	166.67	166.67
+	2	LL2	Laborer			1.00	Each	1.00	166.67	166.67
+	3	LO1	Operator Class 1			1.00	Each	1.00	166.67	166.67
+	4	EG14G	Grader 14G			1.00	Each	1.00	166.67	166.67
→	5	ED8	Dozer D8			1.00	Each	1.00	166.67	166.67
+	6	ECO...	Compactor Sheeps Fo...			1.00	Each	1.00	166.67	166.67
+	7	ETWT	Water Truck			1.00	Each	1.00	166.67	166.67
+	8	LT1	Teamster			1.00	Each	1.00	166.67	166.67

Toggle Include All

Toggle Hierarchy

+ 27.1.3	Escavate Trench	Detail	Direct Cost	500,000.00	Cubic Yard	\$0.17				
Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure	Productivity Factor	Work Hours	Pay Hours
+	1	LO4	Operator Foreman			3.00	Each	1.00	166.67	166.67
+	2	LL2	Laborer			1.00	Each	1.00	166.67	166.67
+	3	LO1	Operator Class 1			1.00	Each	1.00	166.67	166.67
+	4	EG14G	Grader 14G			1.00	Each	1.00	166.67	166.67
→	5	ED8	Dozer D8			1.00	Each	1.00	166.67	166.67
+	6	ECO...	Compactor Sheeps Fo...			1.00	Each	1.00	166.67	166.67
+	7	ETWT	Water Truck			1.00	Each	1.00	166.67	166.67
+	8	LT1	Teamster			1.00	Each	1.00	166.67	166.67

10. For this example, choose all three cost items which have the Dozer D8 employed.
11. Click **OK** to continue.

Because it can be difficult to revert any changes in the CBS Register you are prompted one more time as a review of the Cost Items which will be affected by the swap.

Swap Resource Effect

The following Cost Items will be affected by this swap resource command:

- 3.1 Excavation
- 3.2 Embankment
- 27.1.3 Escavate Trench

OK Cancel Print

- 12. Select **OK** to continue. The CBS Register can appear blank. Remember that you have the filter applied to only show Cost Items that have the Dozer D8 employed. Remove the filter.

Cost Breakdown Structure (CBS) Register

Drag columns here to group

CBS Position Code	Description	Cost Source	Cost Segment	Forecast (T/O) Quantity	Unit of Measure	Unit Cost
*						

0

✖

([Employed Resource] ED8)

- 13. The Dozer D6 now shows in place of the D8 Dozer.

3.1		Excavation			Detail	Direct Cost		
	Row Number	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	
+	1	ETWT		Water Truck			1.0	
+	2	ED6		Dozer D6			1.0	
+	3	ES623		Scraper 623			2.0	
+	4	ECO...		Compactor Smooth Dr...			1.0	
+	5	ECO...		Compactor Sheeps Fo...			1.0	
+	6	LL2		Laborer			1.0	
+	7	LO4		Operator Foreman			1.0	
+	8	ES621		Scraper 621			2.0	
+	9	EG14G		Grader 14G			1.0	
+	10	LO1		Operator Class 1			4.0	
+	11	LO2		Operator Class 2			4.0	

Employment Details in Swapped Resources

When swapping resources, you have the option to select the Use Default Employment Resources check box. When selected, this check box updates the employment setup values with the defaults from the new resource. This feature lets you use the default employment set up while swapping the resources.

The screenshot displays the 'Swap Resource' dialog box. The 'Currently employed resource' is 'ETDT' and the 'New resource to replace currently employed' is 'ECRBT'. The 'Use Default Employment Setup' checkbox is checked. The background shows a 'Cost Breakdown Structure (CBS) Register' with a hierarchy of cost items. The CBS Register has columns for 'CBS Position Code', 'Description', 'Quantity (Less Waste)', and 'Total Cost (Forecast)'. The hierarchy includes '3.2 Embankment', '4 Aggregate Base', '4.1 Furnish & Haul Base Material', '4.2 Finegrade Subgrade', and '4.3 Install Aggregate Base'.

CBS Hierarchy View for Resource/Resource Assembly Swap

Toggle Hierarchy is added to the Swap Resource and Swap Resource Assembly selection registers. When selected, it allows you to view the superior cost items of your selections in the context of the CBS Register Hierarchy. This enhancement makes it easier for you to determine when the cost items you intended to select are the correct cost items.

00	Each	\$68,690,789...	\$68,690,789.87	☐	U.S. Dollar	520,482.37	12
00	Lump Sum	\$11,909.51	\$11,909.51	☐	U.S. Dollar	80.00	10.20.100
00	Acre						
00	Cubic						
00	Cubic						
00	Cubic						
00	Ton						
00	Ton						
00	Square						
00	Ton						
00	Ton						
00	Square						
00	Ton						
00	Ton						
00	Ton						
00	Each						
00	Linear						
00	Linear						
56	Cubic Yard	\$160.00	\$297,369.60	☐	U.S. Dollar	1,319.11	17.50.120

Selection Register

Drag columns here to group

Saved views: Standard View

Include	CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure
☒	4.1.1.1	Install Feeder Controls	4.1.1.1	2.00	Each
☒	4.1.1.2	Raw Materials Tanks	4.1.1.2	4.00	Each
☒	4.1.1.3	Blended Materials Tanks	4.1.1.3	3.00	Each
☒	4.1.2.1	Install Heating System	4.1.2.1	1.00	Each
☒	4.1.2.2	Separator Tank	4.1.2.2	2.00	Each
☒	4.1.2.3	High Pressure Pumps	4.1.2.3	4.00	Each
☒	4.1.3.1	Install Recovery System	4.1.3.1	1.00	Each

Toggle Include All

Toggle Hierarchy

OK

Cancel

Cost Allocation

The **Cost Item Record - Allocation** tab lets you to spread costs from a single Cost Item Record to one or more other cost items in the Cost Breakdown Structure (CBS) Register.

- **Allocation Item** - The cost item to be allocated, where you define the quantities, resource employments and the logic that determines how to allocate the item throughout the bid.
- **Allocation Target** - A cost item to be the recipient of allocated cost, as defined within the Allocation Item. There may be one or many Allocation Targets for one Allocation Item.
- **Distribution** - A read-only cost item in the CBS representing an Allocation Target's proportional share of the Allocation Item.

You can choose from several methods to determine specifically where and how much cost to spread:

- **Quantity** - Specify the amount of the Allocation Item to be spread to each Allocation Target.
- **Proportionately based on another field** - Allocate proportionately by one of many available cost item values, usually based on time or cost.
- **Percentage** - Specify the percentage of the Allocation Item to spread to each Allocation Target.
- **Unit Cost** - Use the unit cost from the Allocation Item and the quantity of each Allocation Target to drive the Forecast (T/O) Quantity of the Allocation Item.

Cost Item Allocation is a good means of spreading costs throughout a bid for the purpose of determining appropriate bid prices.

Only Level 1 cost items can be allocated, including Add-On and Escalation dependent cost items. A subordinate cost item cannot be allocated, and a cost item that is assigned to a pay item cannot be allocated.

Cost Allocation

With Cost Item Allocation, you can track the cost of one broad cost item by distributing the cost of that item to other cost items, so that the cost can be tracked on a more detailed level. This gives better visibility into the cost that makes up an item. For example, you can spread ST&S from one cost item to multiple cost items that will use ST&S.

Imagine that a large portion of your scope of work for the job you are bidding has concrete. You face the options of batching your own raw materials or purchasing the materials from a supplier. You can use cost allocation to create the cost of a batch plant and allocate it to different items, and then compare this unit cost to the unit cost of purchasing the materials from a supplier.

The Allocation tab allows you to spread costs from an Allocation Item to one or more Allocation Target(s).

In the Allocation Target list, the **[Unit of Measure] Quantity** column caption displays the Unit of Measure of the Allocation Item. For instance, if the Allocation Item's Unit of Measure is **Cubic Yards (CY)**, then the caption displayed for this column is **CY Quantity**.

A Distribution cost item is created as a read-only subordinate cost item under each Allocation Target. It is copied proportionally with the quantity/cost defined to each different item in CBS.

View Filter Excludes Cost Item Allocation Details

A View Filter option is added to show only the level 1 cost item distribution in the allocation destinations to provide you with a clear and comprehensive view of the CBS register, especially when there are many allocations. When you are allocating cost items, the allocations are created in the destination cost item by creating a copy of the entire allocated cost items structure. This filter allows you to simplify the view by displaying only the parent level allocation cost item.

The screenshot displays the 'Cost Breakdown Structure (CBS) Register' window. The 'Filter' dropdown menu is open, showing various filtering options. The option 'Filter Allocation Distributions Subordinates' is highlighted with a red box. The background table lists cost items with their respective details.

CBS Position Code, Ill.	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Allocated	Currency	Hours (Duration driven)
308	PRIME ROAD		20.00	Mile	\$3,996,575.15	\$79,631,903.08		U.S. Dollar	527,494.2
1.1	PRIME ROAD		1.00	Lump Sum	\$312,587.53	\$312,587.53		U.S. Dollar	
1.2	PRIME ROAD		1.00	Lump Sum	\$3,785,175.55	\$3,785,175.55		U.S. Dollar	
1.3	PRIME ROAD		1.00	Lump Sum	\$974,798.06	\$974,798.06		U.S. Dollar	
1.4	PRIME ROAD		1.00	Lump Sum	\$2,131.11	\$2,131.11		U.S. Dollar	
1.5	PRIME ROAD		1.00	Lump Sum	\$687,306.87	\$687,306.87		U.S. Dollar	
1.6	PRIME ROAD		1.00	Lump Sum	\$46,251.26	\$46,251.26		U.S. Dollar	
1.7	PRIME ROAD		1.00	Lump Sum	\$1,449,959.93	\$1,449,959.93		U.S. Dollar	
1.8	PRIME ROAD		1.00	Lump Sum	\$68,650,789.87	\$68,650,789.87		U.S. Dollar	
1.9	PRIME ROAD		1.00	Lump Sum	\$11,909.51	\$11,909.51		U.S. Dollar	
1.10	PRIME ROAD		1.00	Lump Sum	\$3,918.50	\$3,918.50		U.S. Dollar	
1.11	PRIME ROAD		1.00	Lump Sum	\$149,922.88	\$149,922.88		U.S. Dollar	
1.12	PRIME ROAD		1.00	Lump Sum	\$83,992.94	\$83,992.94		U.S. Dollar	
1.13	PRIME ROAD		1.00	Lump Sum	\$1,487.10	\$1,487.10		U.S. Dollar	
1.14	PRIME ROAD		1.00	Lump Sum	\$519,513.30	\$519,513.30		U.S. Dollar	
1.15	PRIME ROAD		1.00	Lump Sum	\$11.54	\$11.54		U.S. Dollar	
1.16	PRIME ROAD		1.00	Lump Sum	\$40,000,000.00	\$40,000,000.00		U.S. Dollar	

Cost Allocation to By Unit Cost

Having an under allocation or over allocation is ok, but it can be fixed by updating the Forecast (T/O) Quantity of the **Concrete Batch Plant**. To do this, change the cost allocation to **by Unit Cost**.

Dependent cost item allocation

When allocating cost for a dependent cost item, the calculation of the cost item's subject cost aligns with the allocation target values (such as values based on quantity, percentage, or unit cost). The target values are the owner's target values. This allows you to better manage allocation values.

When you allocate costs for a dependent cost item that defines its subject costs from other cost items that include allocation from other cost items and select the option *Use owner's quantities to calculate cost*, the subject cost calculation is based on how the cost items are currently allocated. In other words, it includes the distributed costs from the allocated cost item.

The screenshot shows the 'Cost Breakdown Structure (CBS) Register' window with a table of cost items. The 'Cost Item Setup' dialog is open on the right, showing the 'Properties' tab. The 'Detail Method' section has the option 'Use owner's quantities to calculate cost' selected and highlighted with a red box. Other options include 'Cost category breakdown', 'Levered table', 'CBS Man Hours', 'CBS Equipment Hours', and 'Utilization'. The 'Subject cost based on' dropdown is set to 'Default'. The 'Security' section shows 'Last Changed By: Julie Salgado' and 'Last Changed On: 10/26/2023 1:28:58 PM'.

CBS Position Code	Description	Qty	Include	Currency	Forecast (T/C) Quantity	Unit of Measure	Unit Cost	To (%)
000	Indirect Cost Markup	1.00	☐	U.S. Dollar	1.00	Lump Sum	\$288,071.29	
	Direct Cost Markup	1.00	☐	U.S. Dollar	1.00	Lump Sum	\$641,014.37	
	Prime Bond	1.00	☐	U.S. Dollar	1.00	Lump Sum	\$46,691.21	
	Price % Add-On	1.00	☐	U.S. Dollar	1.00	Lump Sum	\$291,520.92	
	Job Financing	1.00	☐	U.S. Dollar	1.00	Lump Sum	\$0.00	
	Indirect Cost Escalation	1.00	☐	U.S. Dollar	1.00	Lump Sum	\$0.00	
	Direct Cost Escalation	1.00	☐	U.S. Dollar	1.00	Lump Sum	\$0.00	
	Indirect Cost Add-On	1.00	☐	U.S. Dollar	1.00	Lump Sum	\$0.00	
	Job Management & Equip...	1.00	☐	U.S. Dollar	1.00	Lump Sum	\$157,096.28	
	General Expense	1.00	☐	U.S. Dollar	1.00	Lump Sum	\$4,200.00	
	Direct Cost Add-On	1.00	☐	U.S. Dollar	1.00	Lump Sum	\$0.00	
1	Mobilization	1.00	☐	U.S. Dollar	1.00	Lump Sum	\$11,909.51	
2	Clearing & Grubbing	10.00	☐	U.S. Dollar	10.00	Acres	\$3,918.50	
3	Unclassified Excavation	50,000.00	☐	U.S. Dollar	50,000.00	Cubic Yard	\$4.68	
3.1	Excavation	50,000.00	☐	U.S. Dollar	50,000.00	Cubic Yard	\$2.00	
3.2	Embarkment	50,000.00	☐	U.S. Dollar	50,000.00	Cubic Yard	\$1.68	
							0.00	

Turning Off Cost Allocation

If determined that you no longer want to spread the cost of an allocated item, you can turn off cost allocation for that cost item. To turn off cost allocation, in the cost item record's Allocation tab, deselect the **Allocate this Item's Cost** check box. The logic that you created to spread the costs are retained, so you can easily select it again later.

Distributions cannot exist in the CBS when a job is published for Job Tracking. To remove distributions, either break the Cost Allocation link or deselect the **Allocate this Item's Cost** check box on the **Cost Item Record - Allocation** tab.

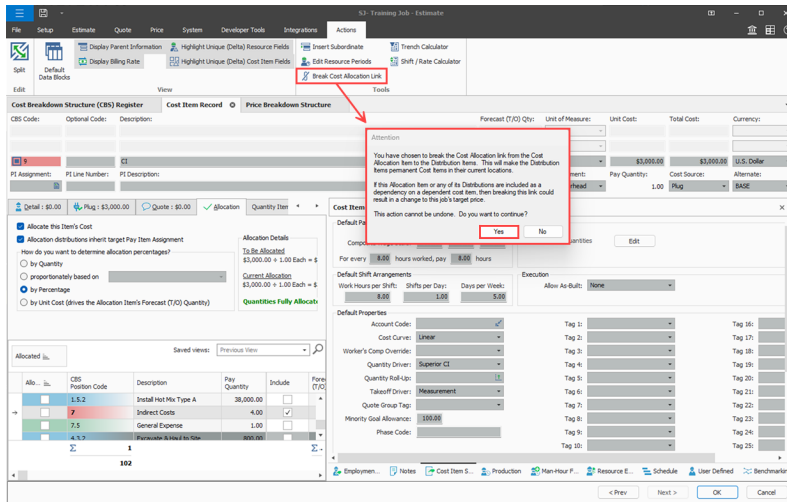
Break cost allocation link

You can break a cost allocation link and make a distribution be a permanent part of the CBS and permit its costs and quantities to be directly editable under the cost items to which it has been distributed.

Breaking the cost allocation link breaks the link from the cost allocation item to the distribution items, making the distribution items permanent cost items in their current locations. If the allocation item or any of its distributions are included as a dependency on a dependent cost item, then breaking the link could result in a change to the job's target price. The action cannot be undone.

Breaking a cost allocation link

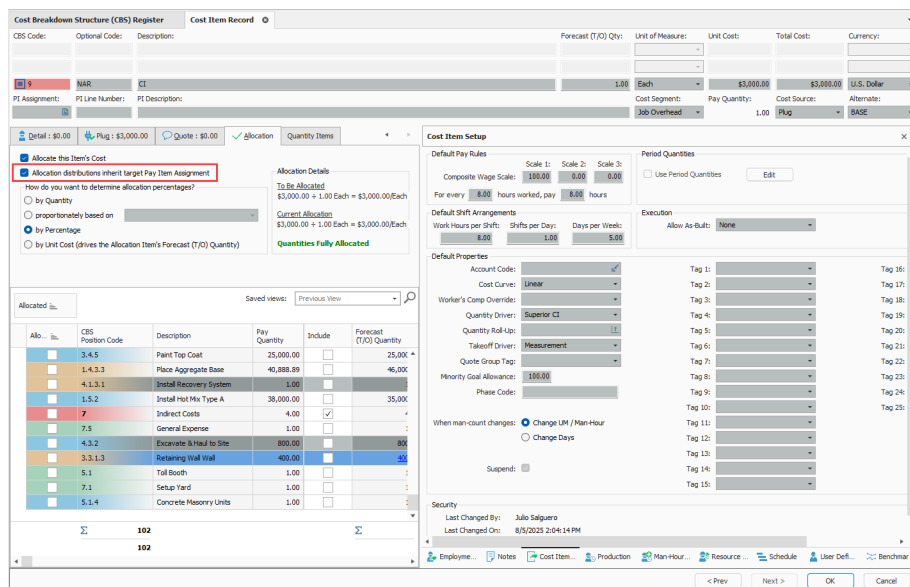
1. In the CBS, open the cost item record.
2. In the Actions tab of the record, click **Break Cost Item Allocation Link**.
3. In the Attention dialog box, click **Yes**.



Pay item assignment for allocation distribution

In locked jobs, the *Allocation distributions inherit target Pay Item Assignment* option is automatically selected and cannot be changed. This is normal Estimate behavior for locked jobs.

In a job that is unlocked, you have the option to select the **Allocation distributions inherit target Pay Item Assignment** check box to use the same allocation distribution for the cost item's costs anytime the cost item is copied and added to a job.



Alarm Limits

The Alarm Limits lets you establish limits to specific pay items to make sure the pricing is within certain limits, i.e. percentage or unit price. The Alarm Limits do not do any calculations. It informs you if either of the limit types are outside the range. If outside the limits, the row is then colored red.

For example, when pricing Mobilization, there can be limits as to the amount that can be entered and how soon to receive payment. In the screen shot below, you can enter up to 10% of the contract price and receive that amount when 5 or 10% of the work is completed.

Pay Item and Proposal register:

Drag columns here to group

Pay Item Number	Lock Price	Row Number	Line Number	Description	Pay Quantity	Unit of Measure	Unit Price (current)	Total Price (current)	% Job Max. Al
+ 641 0100	☐	1	10	Mobilization	1.00	Lump Sum	\$386,800.00	\$386,800.00	
+ 201 0102	☐	2	20	Clearing & Grubbing	10.00	Acre	\$6,120.00	\$61,200.00	
+ 202 0183	☐	3	30	Unclassified Excavation	50,000.00	Cubic Yard	\$8.50	\$425,000.00	

In this case, the limits are between 8 and 10%. The row is colored red to indicate that the Unit Price is not within the percentage limits.

The screen shot below is the record view for Mobilization.

Pay Item Number: * 641 0100

Description: Mobilization

Quantity

Lock Quantity: ☐ Pay Quantity: 1.00 Forecast (T/O) Qty: 1.00 Unit of Measure: Lump Sum Qty Variance: 0.00

Price

Lock Price: ☐ Unit Price Precision: -2 Unit Price: \$386,800.00 Total Price: \$386,800.00 Currency: U.S. Dollar

Overview Earnings Rules Tags / User Defined Fields

Alarm Limits

	Minimum	Maximum
Percentage of Job:	8.00	10.00
Unit Price:	\$0.00	\$0.00

Assignments

Account: 1020

The following is an example for Steel Reinforcement as a Unit Price range.

Drag columns here to group

Pay Item Number	Lock Price	Row Number	Line Number	Description	Pay Quantity	Unit of Measure	Unit Price (current)	Total Price (current)	% Job Max.
+ 800 0400	☐	9	90	4 Foot Diameter Manhole	16.00	Each	\$4,500.00	\$72,000.00	
+ 501(A) 1306	☐	10	100	Structural Excavation & Backfill	800.00	Cubic Yard	\$30.00	\$24,000.00	
+ 506(A) 1322	☐	11	110	Steel Reinforcement	30,000.00	Pound	\$1.60	\$48,000.00	
+ 503(A) 1313	☐	12	120	Retaining Wall	850.00	Cubic Yard	\$535.00	\$454,750.00	

Based on the screen shots, the Unit Price is not within the \$1.00 to \$1.50 range. It is \$1.60.

The record view is now shown.

Pay Item Number: * 506(A) 1322

Description: Steel Reinforcement

Quantity

Lock Quantity: ☐ Pay Quantity: 30,000.00 Forecast (T/O) Qty: 30,000.00 Unit of Measure: Pound Qty Variance: 0.00

Price

Lock Price: ☐ Unit Price Precision: 2 Unit Price: \$1.60 Total Price: \$48,000.00 Currency: U.S. Dollar

Overview Earnings Rules Tags / User Defined Fields

Alarm Limits

	Minimum	Maximum
Percentage of Job:	0.00	0.00
Unit Price:	\$1.00	\$1.50

Assignments

Account: 1330

Subtotals

The subtotal feature is for situations where the Owner wanted subtotals on the proposal form of pay item groups.

The following screen shot is using the supplied Subtotal register view:

Drag columns here to group

Row Number	Pay Item Number	Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Measure	Unit Price (current)	Total Price (current)	Subtotal	Subtotal Description
+	1 641 0100	Mobilization	1.00	1.00	Lump Sum	\$386,800.00	\$386,800.00	☐	
+	2 201 0102	Clearing & Grubbing	10.00	10.00	Acre	\$6,120.00	\$61,200.00	☐	
+	3 202 0183	Unclassified Excavation	50,000.00	50,000.00	Cubic Yard	\$8.50	\$425,000.00	☐	
+	4 303 5912	Aggregate Base	40,000.00	45,000.00	Ton	\$22.00	\$880,000.00	☐	
+	5 303 4263	Asphalt Concrete Hot Mix Type A	38,000.00	35,000.00	Ton	\$35.00	\$1,330,000.00	☐	
+	6 413(B) 0464	36 Inch RCP Culvert Class III	1,000.00	1,024.00	Linear Feet	\$100.00	\$100,000.00	☒	SUBTOTAL: SITEWORK
+	7 800 0220	10 Inch PVC Force Main (SDR21)	12,000.00	12,000.00	Linear Feet	\$28.00	\$336,000.00	☐	
+	8 800 0330	24 Inch PVC Gravity Sewer (SDR35)	3,000.00	3,000.00	Linear Feet	\$64.00	\$192,000.00	☐	
+	9 800 0400	4 Foot Diameter Manhole	16.00	16.00	Each	\$4,500.00	\$72,000.00	☒	SUBTOTAL: WATERWORKS
+	10 501(A) 1306	Structural Excavation & Backfill	800.00	800.00	Cubic Yard	\$30.00	\$24,000.00	☐	

From the Subtotal column, the last item in the subtotal group is where the box is checked. Once the box is checked, then a description may be entered. After the box is checked, the **Subtotal Amount** and **Running Subtotal Amounts** are then displayed in a bold font.

In our standard Proposal Report, there is an option to printout the subtotals.

Reports - Standard Proposal

Reports

- Job Properties
- Foundation Setup Data
- Resources
 - Resource Register
 - Resource Changes
 - Resource Rate Details
 - Resource Utilization
 - Resource Utilization (Excel)
 - Resource Currency Comparison
- Resource Assemblies
- Cost Breakdown Structure
- Quotes
- Price Breakdown Structure
- Pay Item & Proposal
 - Standard Proposal**
 - DOT Proposal
 - Pay Item Summary
 - Pay Item Currency Comparison
 - Pay Item Price Breakdown

Settings: Default

Print Details Layout Header/Footer

Pay Item Numbers

- ☒ Show Line Number
- ☒ Show Pay Item Number

Show these fields above the pay items:

☐ Job Code	☐ Job City
☐ Job Description	☐ Job County
☐ Bid Date	☐ Job State
☐ Bid Time	☐ Job Country
☐ Job Location	

Include

- ☐ Include Cover Sheet
- ☐ Include Preferences Sheet

Filter by currency: No Filter

Term for Document

- ☒ Proposal/Bid
- ☐ Tender
- ☐ Custom

Show

- ☒ Show Subtotals
- ☐ Show Running Totals
- ☐ Show Suspended Items

Unit Price Precision

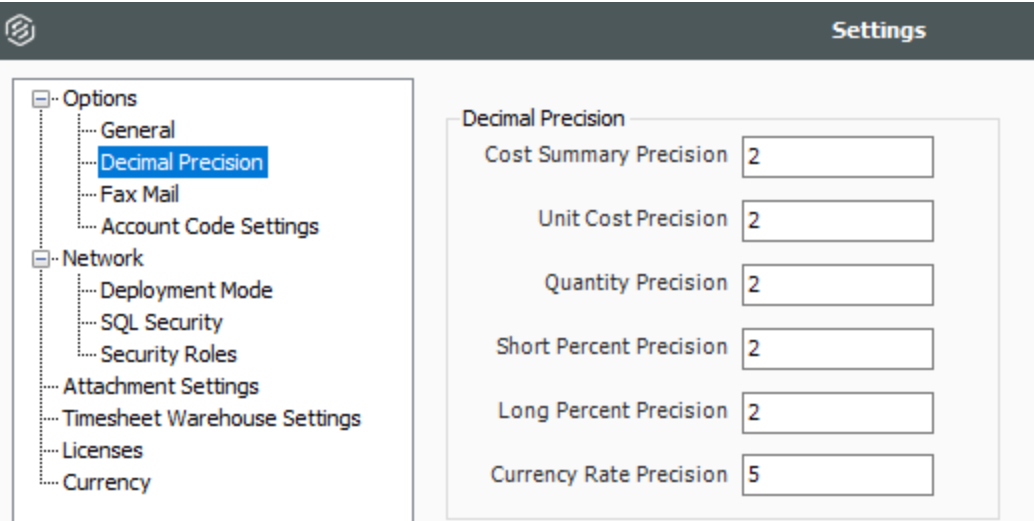
- ☒ Truncate values based on decimal precision
- ☐ Do not truncate values (show decimal places)

Rounding Precision

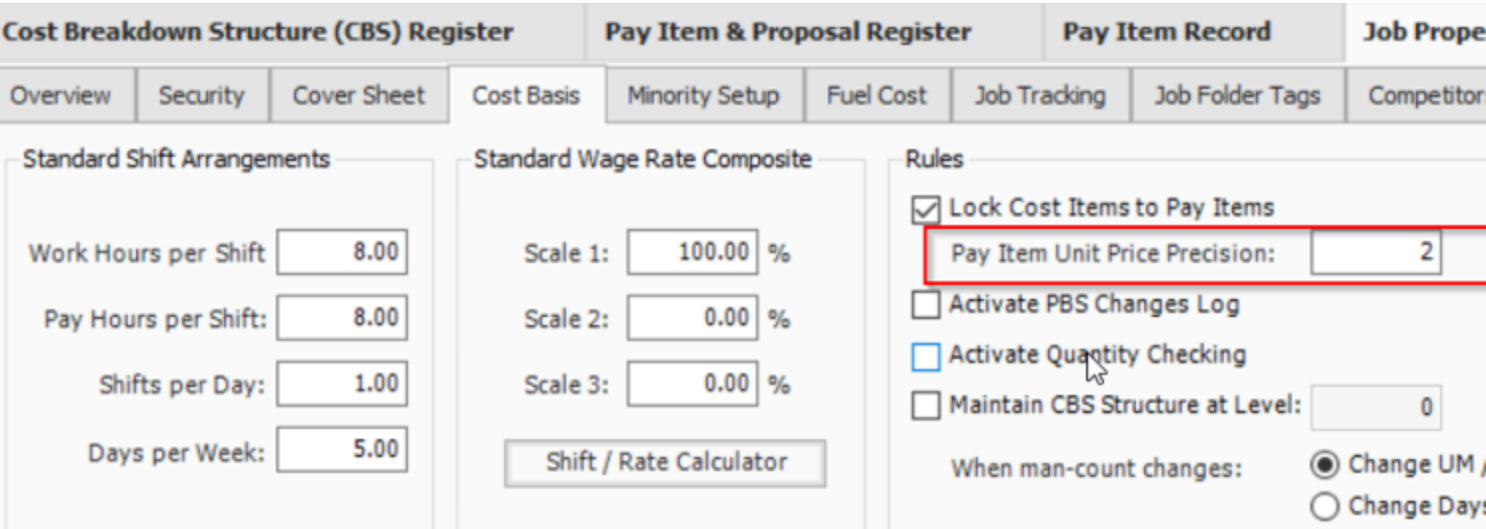
Rounding Precision lets you change the decimal position of the Unit Prices instead of manually entering the values.

You can preset the Unit Price decimals, then using this feature, round up or down the decimals. The job’s default Unit Price decimal is set to 2.

There are two decimal selections to understand. In the **Settings** form from the Backstage View, Decimal Precision lets you to calculate how many decimals to display.



In the **Cost Basis** form from Job Properties, use the Unit Price decimal to calculate the Total Price.



In the following screen shot, the Rounding Precision column is set to 2 for each pay item with the exception of Mobilization, which was changed to -2. The -2 means to the nearest \$100.

Proposal Recap - Copy of Training Job										Item Re
	Current	Target	Forecast	Variance						
Price:	\$6,430,844.00	\$6,430,805.34	\$6,444,775.04	\$38.66	CUT					
Profit:	\$631,629.85	\$631,591.19	\$695,313.98	\$63,722.79	CUT					
Margin%:	9.82	9.82	10.79	\$69,141.39	CUT					

Drag columns here to group

	Pay Item Number	Lock Price	Row Number	Line Number	Description	Pay Quantity	Unit of Measure	Rounding Precision	
	+ 641 0100	☐	1	10	Mobilization	1.00	Lump Sum	-2	
	+ 201 0102	☐	2	20	Clearing & Grubbing	10.00	Acre	2	
→	+ 202 0183	☐	3	30	Unclassified Excavation	50,000.00	Cubic Yard	2	
	+ 303 5912	☐	4	40	Aggregate Base	40,000.00	Ton	2	
	+ 303 4263	☐	5	50	Asphalt Concrete Hot Mix Type A	38,000.00	Ton	2	
	+ 413(8) 0464	☐	6	60	36 Inch RCP Culvert Class III	1,000.00	Linear Feet	2	
	+ 800 0220	☐	7	70	10 Inch PVC Force Main (SDR21)	12,000.00	Linear Feet	2	
	+ 800 0330	☐	8	80	24 Inch PVC Gravity Sewer (SDR35)	3,000.00	Linear Feet	2	
	+ 800 0400	☐	9	90	4 Foot Diameter Manhole	16.00	Each	2	

Change the 2 and 3 pay item row's Rounding Precision to 0 and 1. The Unit Price changed accordingly. In doing so, you are moving the decimal to show tenth, zero, ten dollars, or in the Mobilizations case to the nearest \$100.

Cost Breakdown Structure (CBS) Register

Pay Item & Proposal Register

Job Properties

Proposal Recap - Copy of Training Job

Item R

	Current	Target	Forecast	Variance	
Price:	\$6,428,844.70	\$6,430,805.34	\$6,442,775.74	\$1,960.64	ADD
Profit:	\$629,630.55	\$631,591.19	\$693,314.68	\$61,723.49	CUT
Margin%:	9.79	9.82	10.76	\$67,142.09	CUT

Unas

As

Drag columns here to group

	Pay Item Number	Lock Price	Row Number	Line Number	Description	Pay Quantity	Unit of Measure	Rounding Precision
	+ 641 0100	☐	1	10	Mobilization	1.00	Lump Sum	-2
	+ 201 0102	☐	2	20	Clearing & Grubbing	10.00	Acre	0
	+ 202 0183	☐	3	30	Unclassified Excavation	50,000.00	Cubic Yard	1
	+ 303 5912	☐	4	40	Aggregate Base	40,000.00	Ton	2
	+ 303 4263	☐	5	50	Asphalt Concrete Hot Mix Type A	38,000.00	Ton	2
	+ 413(8) 0464	☐	6	60	36 Inch RCP Culvert Class III	1,000.00	Linear Feet	2
	+ 303 0220	☐	7	70	10 Inch RCP Storm Main (SDS 21)	12,000.00	Linear Feet	2

Payment Methods

There are three types of payment methods to choose from:

- Unit Price
- Fixed Final Pay
- Time and Expense

Cost Breakdown Structure (CBS) Register

Pay Item & Proposal Register

Pay Item Record

Pay Item Number: 202 0183

Description: Unclassified Excavation

Quantity

Lock Quantity: ☐

Pay Quantity: 50,000.00

Forecast (T/O) Qty: 50,000.00

Unit of Measure: Cubic Yard

Qty Variance: 0.00

Qty Variance %: 0.00

Qty Variance Group: Even Run

Price

Lock Price: ☐

Unit Price Precision: 2

Unit Price: \$8.50

Total Price: \$425,000.00

Currency: U.S. Dollar

Payment Method: Unit Price

% Margin: 52

Overview

Earnings Rules

Tags / User Defined Fields

Alarm Limits

Minimum

Maximum

Percentage of Job: 0.00 0.00

Unit Price: \$0.00 \$0.00

Assignments

Account: 1122

Proposal Layout Settings

Insert Subtotal after this Pay Item? ☐ Subtotal Description:

Notes

Type Name

Fixed Final Price

Time & Expenses

Unit Price

Unit price

Unit Price is the default payment method. This option multiplies the unit price with the pay quantity to calculate the total price.

Fixed final price

Fixed Final Price has two applications:

- Include a price for Allowance type pay items.
- Accurately calculate the over/under run pay items that are paid as if they were lump sum items.

Allowance type pay items

Allowance type pay items, sometimes referred to as contingency items, is where the owner provides a pay item and includes their own price for the item to be used by the contractor when completing the bid form. The pay item value becomes part of the proposal where the price for this item is included in the total bid amount and is frequently used by the owner as an allowance for scopes of work that might or might not be used, enabling owners to include in the total value of those items in their budget/contract amount for the project.

To identify a pay item as an allowance item, select **Fixed Final Pay**, and then enter the allowance amount of the pay item, for example \$10,000.

Pay Item Number	Lock Price	Row Number	Line Number	Description	Pay Quantity	Unit of Measure	Unit Price (current)	Total Price (current)	Payment Method
+ 503(A) 1313	☐		12 120	Retaining Wall	850.00	Cubic Yard	\$539.91	\$458,923.50	Unit Price
+ 600 0300	☐		13 130	Paint Existing Steel Bridge Structure	1.00	Lump Sum	\$102,683.94	\$102,683.94	Unit Price
+ 700	☐		14 140	Process Equipment	1.00	Each	\$1,920,341.67	\$1,920,341.67	Unit Price
+ 1000	☐		15 150	Removal of Underground Storage Tanks	2.00	Each	\$12,504.82	\$25,009.64	Unit Price
+ 1010	☐		16 160	Disposal of Contaminated Soil	800.00	Cubic Yard	\$25.96	\$20,768.00	Unit Price
+ 1200 0100	☐		17 170	Toll Booth	1.00	Each	\$29,665.47	\$29,665.47	Unit Price
+ 1500 0100	☐		18 180	Guardrail Type 2	1,000.00	Linear Feet	\$27.29	\$27,290.00	Unit Price
→ + 1500 0200	☒		19 190	Guardrail Type 3A	200.00	Linear Feet	\$35.25	\$7,050.00	Unit Price
+ 1600 0230	☐		20 200	Type 4 Signs	1,000.00	Square Feet	\$14.78	\$14,780.00	Unit Price
+ 11	☐		21 21	Contingency Pay item	1.00	Each	\$10,000.00	\$10,000.00	Fixed Final

You can then lock the \$10,000 pay item so its value does not change when auto-pricing the proposal. Note that the issue now is having a pay item with \$10,000 of price and no assigned costs. Assuming you did not want to add any overhead and profit dollars to the \$10,000 pay item, in the CBS create and assign a cost item to this pay item and then enter a plug cost of \$10,000. The cost category used should be a category that will not be used in a direct or indirect cost markup item, so the markup can be calculated on the other costs in the job. The price of \$10,000 is included in the proposal but is offset by the \$10,000 of cost in a cost category that will not be used in any markup for overhead or profit.

Calculation of over/under run pay items using Fixed Final Pay method

The Fixed Final Pay method is used to accurately calculate the over/under run pay items that are paid as if they were lump sum items. An issue occurs where a pay item is provided with a quantity (i.e., Superstructure Bridge of 10,000 CY) and you must enter a unit price against the 10,000 CY.

However, if the specifications states that this pay item will not be measured for payment and must be paid as if it were a lump sum item, but your quantity takeoff reveals that you will actually install more or less than the 10,000 CY. For example, your takeoff came to 12,000 CY and you entered the Forecast (TO) Quantity with the 12,000 CY.

In the CBS, the cost of this work is calculated based on the 12,000 CY. Typically, in a quantity under-run/overrun situation, Estimate can help you decide how best to price out these items. In this case, you cannot take advantage of the overrun situation. Using the Fixed Final Pay method with a quantity variance, Estimate can prorate the unit price of the item that will be paid for 10,000 CY, while still accounting for the cost to install all 12,000 CY.

The following example shows where you have an overrun normally. It shows that you have the CBS direct cost as \$4.00 times 12000 CY for \$48,000. Notice the direct costs of \$40,000 and the balanced unit of \$5.51. This is the normal calculation if this was a true overrun pay item.

Drag columns here to group

Pay Item Number	Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Measure	Payment Method	Unit Price (current)	Total Price (current)	Total Direct Cost (bid qty)
+ 700	Process Equipment	1.00	1.00	Each	Unit Price	\$1,920,341.67	\$1,920,341.67	\$1,600,196.19
+ 1000	Removal of Underground Storage Tanks	2.00	2.00	Each	Unit Price	\$12,504.82	\$25,009.64	\$15,833.35
+ 1010	Disposal of Contaminated Soil	800.00	800.00	Cubic Yard	Unit Price	\$25.96	\$20,768.00	\$13,721.50
+ 1200 0100	Toll Booth	1.00	1.00	Each	Unit Price	\$29,665.47	\$29,665.47	\$25,269.40
+ 1500 0100	Guardrail Type 2	1,000.00	1,000.00	Linear Feet	Unit Price	\$27.29	\$27,290.00	\$24,004.60
+ 1500 0200	Guardrail Type 3A	200.00	200.00	Linear Feet	Unit Price	\$35.25	\$7,050.00	\$6,201.19
+ 1600 0230	Type 4 Signs	1,000.00	1,000.00	Square Feet	Unit Price	\$14.78	\$14,780.00	\$13,002.49
+ 11	Contingency Pay item	1.00	1.00	Each	Fixed Final Price	\$10,000.00	\$10,000.00	\$0.00
→ + [Enter Pay It...	Superstructure Bridge	10,000.00	12,000.00	CY	Unit Price	\$0.00	\$0.00	\$40,007.67

When you change the payment method to **Fixed Final Price**, the CBS cost of \$48,000 now shows. Then when you price out the pay item, you get a \$48,000 return.

Drag columns here to group

Pay Item Number	Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Measure	Payment Method	Unit Price (current)	Total Price (current)	Total Direct Cost (bid qty)
+ 700	Process Equipment	1.00	1.00	Each	Unit Price	\$1,920,341.67	\$1,920,341.67	\$1,600,195.72
+ 1000	Removal of Underground Storage Tanks	2.00	2.00	Each	Unit Price	\$12,504.82	\$25,009.64	\$15,833.35
+ 1010	Disposal of Contaminated Soil	800.00	800.00	Cubic Yard	Unit Price	\$25.96	\$20,768.00	\$13,721.50
+ 1200 0100	Toll Booth	1.00	1.00	Each	Unit Price	\$29,665.47	\$29,665.47	\$25,269.39
+ 1500 0100	Guardrail Type 2	1,000.00	1,000.00	Linear Feet	Unit Price	\$27.29	\$27,290.00	\$24,004.60
+ 1500 0200	Guardrail Type 3A	200.00	200.00	Linear Feet	Unit Price	\$35.25	\$7,050.00	\$6,201.19
+ 1600 0230	Type 4 Signs	1,000.00	1,000.00	Square Feet	Unit Price	\$14.78	\$14,780.00	\$13,002.49
+ 11	Contingency Pay item	1.00	1.00	Each	Fixed Final Price	\$10,000.00	\$10,000.00	\$0.00
+ [Enter Pay It...	Superstructure Bridge	10,000.00	12,000.00	CY	Fixed Final Price	\$0.00	\$0.00	\$48,009.19

Time and expense

The Time and Expense payment method is used to designate pay items that should be Cost plus pay items when the estimate is published to InEight Control. When the estimate is published to Control, the Time and Expense payment items become Cost plus pay items in Control.

Unbalanced Pricing

The pay items are provided along with the Pay Quantities. If the pay items are to be measured and paid on the final measured quantity, then we can provide information to price the pay items to maximize the return. Some specifications are written that if an over/under pay item runs a certain percent, then the Unit Price is negotiated. Now, understanding this, you can forecast the final revenue result.

The following screen shot shows a typical over and under run situation. The overrun quantities are shown in green and the underrun is shown in red. I have balanced priced the job where all pay items are using their Balanced Unit Price. In the Variance box, the Profit row, there is an ADD of \$4153 dollars.

Proposal Recap - Copy of Training Job					Item Recap - 303 5912 Aggregate Base				
	Current	Target	Forecast	Variance					Balanced Unit
Price:	\$6,430,805.34	\$6,430,805.34	\$6,376,898.78	\$0.00		Price:			\$18.87
Profit:	\$631,591.19	\$631,591.19	\$627,437.72	\$4,153.47	ADD	Profit:			\$1.95
Margin%:	9.82	9.82	9.84	\$1,265.13	CUT	Total Cost:			\$16.91
						Business Overhead:			\$1.01
						Job Overhead:			\$0.95
						Unassigned Direct Cost:			\$0.00
						Assigned Direct Cost:			\$14.95

Drag columns here to group										
Pay Item Number	Lock Quantity	Lock Price	Row Number	Line Number	Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Measure	Unit Price (current)	Total (current)
+ 641 0100	☐	☐		1 10	Mobilization	1.00	1.00	Lump Sum	\$18,300.00	
+ 201 0102	☐	☐		2 20	Clearing & Grubbing	10.00	10.00	Acre	\$5,836.00	
+ 202 0183	☐	☐		3 30	Unclassified Excavation	50,000.00	50,000.00	Cubic Yard	\$6.30	
→ + 303 5912	☐	☐		4 40	Aggregate Base	40,000.00	45,000.00	Ton	\$18.88	
+ 303 4263	☐	☐		5 50	Asphalt Concrete Hot Mix Type A	38,000.00	35,000.00	Ton	\$50.13	
+ 413(B) 0464	☐	☐		6 60	36 Inch RCP Culvert Class III	1,000.00	1,024.00	Linear Feet	\$86.81	
+ 800 0220	☐	☐		7 70	10 Inch PVC Force Main (SDR21)	12,000.00	12,000.00	Linear Feet	\$28.92	

This means that if your Forecast Quantities become the final measure amount, I lose the \$4153 dollars. This is the difference between the Target Profit and the Forecast Profit. The issue is the underrun quantity is priced at its Balanced Price, meaning there is 3000 Ton that I will not be paid for if my 35000 Ton is what I am expecting.

Now, I will use the system's Unbalanced feature to price all the pay items. See the following screen shot.

Proposal Recap - Copy of Training Job						Item Recap - 303 5912 Aggregate Base	
	Current	Target	Forecast	Variance			Balanced Unit
Price:	\$6,428,844.70	\$6,430,805.34	\$6,442,775.74	\$1,960.64	ADD		Price: \$18.87
Profit:	\$629,630.55	\$631,591.19	\$693,314.68	\$61,723.49	CUT		Profit: \$1.95
Margin%:	9.79	9.82	10.76	\$67,142.09	CUT		Total Cost: \$16.91
							Business Overhead: \$1.01
							Job Overhead: \$0.95
							Unassigned Direct Cost: \$0.00
							Assigned Direct Cost: \$14.95

Drag columns here to group

Pay Item Number	Lock Quantity	Lock Price	Row Number	Line Number	Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Measure	Unit Price (current)	Total (current)
+ 641 0100	☐	☐	1	10	Mobilization	1.00	1.00	Lump Sum	\$18,300.00	\$18,300.00
+ 201 0102	☐	☐	2	20	Clearing & Grubbing	10.00	10.00	Acre	\$5,834.00	\$5,834.00
+ 202 0183	☐	☐	3	30	Unclassified Excavation	50,000.00	50,000.00	Cubic Yard	\$6.30	\$3,150.00
→ + 303 5912	☒	☒	4	40	Aggregate Base	40,000.00	45,000.00	Ton	\$26.73	\$1,069.20
+ 303 4263	☐	☐	5	50	Asphalt Concrete Hot Mix Type A	38,000.00	35,000.00	Ton	\$40.89	\$1,553.82
+ 413(B) 0464	☐	☐	6	60	36 Inch RCP Culvert Class III	1,000.00	1,024.00	Linear Feet	\$122.96	\$125,177.60
+ 800 0220	☐	☐	7	70	10 Inch PVC Force Main (SDR21)	12,000.00	12,000.00	Linear Feet	\$28.91	\$346,920.00

What the Unbalanced Autoprice did was to price out the underrun with its Direct Cost only. The overhead and profit share of the underrun was spread proportionately to the overrun items. The underrun was priced lower than normal and the Overrun items were price higher than normal.

Now look at the Variance block and see the Profit row where it now says CUT, meaning if my forecast quantities in up being the final measured quantities, I will pick up an additional \$61,723 dollars in profit.

The CUT simple allows you to decide if you want to keep the final Proposal price as shown, or to CUT the \$61,000 OR ANY PORTION of it from the final Proposal amount to get the job believing your Forecast Quantities is the final measured quantities. Of course you can enter any preferred Unit Price.

Alternate Scenarios

The Alternate scenarios feature allows a contractor to effectively evaluate multiple approaches to an estimate, and quickly identify the most cost efficient way of performing the proposed work. Both owners and contractors need more visibility to see the impact of changes made to the assumption made on the cost model.

For example, a contractor might want to estimate the cost of hauling excavation material using a scraper hauling machine(s). Alternatively, a contractor may want to compare the cost of loading and hauling that same excavation material with a loader truck(s). You should be able to estimate both approaches quickly and switch between various scenarios.

Owners are increasingly requiring contractors to provide alternative items within the bid proposal. Contractors should consider the cost impact of alternative estimate approaches, while also contemplating how to effectively price their work.

The primary purpose for using Alternate Scenarios is to create ‘What If’ type of scenarios to gain a better view of estimating ‘like’ situations. By defining Alternates, you have the ability to compare multiple scenarios within an estimate, in which you can suspend or unsuspend various records.

Manually suspending and unsuspending items can be time consuming and error prone, and can require maintenance of several versions of the estimate. Creating Alternate Scenarios is a solution to this problem.

Base Alternate

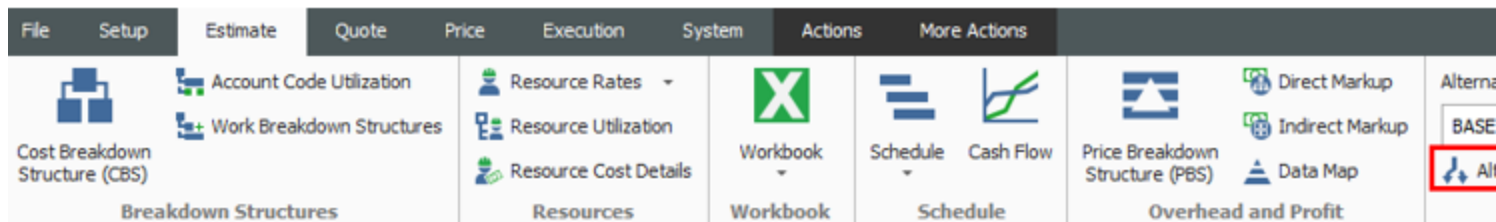
Base Alternate refers to your base or anchor estimate and is part of the estimate’s cost.

CBS Pos... Code	Description	Forecast (T/O) Quantity	Unit of Mea...	Unit Cost	Total Cost (Forecast)	Alternate
	JOB	20.00	Mile	\$298,546.40	\$5,970,927.99	BASE
+	Prime Bond	1.00	Lump Sum	\$47,745.51	\$47,745.51	BASE
+	Price % Add-On	1.00	Lump Sum	\$301,009.62	\$301,009.62	BASE
+	Job Financing	1.00	Lump Sum	\$0.00	\$0.00	BASE
+	Indirect Cost Escalat...	1.00	Lump Sum	\$0.00	\$0.00	BASE
+	Direct Cost Escalation	1.00	Lump Sum	\$11,026.79	\$11,026.79	BASE
+	Indirect Cost Add-On	1.00	Lump Sum	\$0.00	\$0.00	BASE
+	Job Management & ...	1.00	Lump Sum	\$157,096.28	\$157,096.28	BASE
+	General Expense	1.00	Lump Sum	\$4,200.00	\$4,200.00	BASE
+	Direct Cost Add-On	1.00	Lump Sum	\$106,459.21	\$106,459.21	BASE
+ 1	Mobilization	1.00	Lump Sum	\$75,000.00	\$75,000.00	BASE
+ 2	Clearing & Grubbing	10.00	Acre	\$0.00	\$0.00	BASE
 3	Unclassified Excavati...	50,000.00	Cubic Yard	\$6.36	\$317,915.81	BASE
+ 3.1	Excavation, scrapers	50,000.00	Cubic Yard	\$3.00	\$149,922.88	BASE

Alternates Records

Alternate records are used to define alternate scenarios so that you can assess the impact of those scenarios.

To access the Alternates form select the **Estimate** tab. Under the Alternates section, select **Alternates**.



This action opens up the **Alternate Record Details** form.

Names	Description
1. Code	Code of Alternate Scenario.
2. Description	Description of Alternate Scenario.
3. Active	Determines if Alternate Scenario is active within CBS or not.

Names	Description
4. Total Cost (Added)	When Alternate is set to active, it will not be suspended, and its CBS Total Cost will be added to the estimate's Total Cost Forecast. Below example shows the full \$84,000 will be included in the estimate.
5. Total Cost (Suspended)	When Alternate is set to active, Total Cost Suspended will be \$0 because alternate is active part of bid.
6. Total Cost (Net Change)	Difference between Total Cost Added and Total Cost Suspended.

Training Job - Estimate

File Setup Estimate Quote Price Execution System

Job Properties Foundation Setup Data Pay Item & Proposal Bid Wizard Resource Rates Labor Equipment Materials Resources Cost Items Assemblies

Initialize

Job Properties [X]

Job Folder Tags Competitors Pricing Schedule Cash Flow Equipment Maintenance Benchmarking

Drag columns here to group Find: [Search For...] Saved views: Previous

Code	Description	Active	Total Cost (Added)	Total Cost (Suspended)	Total Cost (Net)
BASE	BASE	☒			
ROCK1	Rock Excacation	☒	\$84,000.00	\$0.00	
test 1	testing 1	☐	\$0.00	\$0.00	
		☐			

3

Alternates Record Details

Drill down into an Alternate Record to view and edit its attributes. The Alternate Record details form provides you with a way to setup rules for auto suspending and unsuspending groups of cost items.

Names	Description
1. Assigned to Alternate	Code of Alternate Scenario.

Names	Description
2. Suspended by Alternate	Description of Alternate Scenario.

Cost Breakdown Structure (CBS) Register Job Properties **Alternate Record** ▼

Code: Description: Active: ☐

Pay Items Cost Items

Assigned to Alternate 1 Total Cost (Added): \$179,550.75

Drag columns here to group Find: Saved views: Previous View ▼

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Hours (Duration driven)	Hours (Non-Duration driven)	Hours (Total)	Days (Duration driven)
→ 3.2	Excavation, trucks	3.1	50,000.00	142.86	44.00	142.86	

Suspended by Alternate 2 Total Cost (Suspended): \$149,922.88

Drag columns here to group Find: Saved views: Previous View ▼

CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Hours (Duration driven)	Hours (Non-Duration driven)	Hours (Total)	Days (Duration driven)
→ 3.1	Excavation, scrapers	3.1	50,000.00	125.00	44.00	125.00	

OK Cancel New...

Step by Step — Create Alternate Scenario in CBS

1. From the Ribbon, select the **Estimate** tab.
2. Select **Cost Breakdown Structure (CBS)**. The Cost Breakdown Structure (CBS) Register opens.
3. Using the Unclassified Excavation cost item, type in **Rock Excavation** as a new subordinate.
4. Then type in **3000** in the Forecast T/O Quantity column.
5. Under the Unit of Measure column, select **Cubic Yard**.

3	Unclassified Excavation	50,000.00	Cubic Yard
+ 3.1	Excavation	50,000.00	Cubic Yard
+ 3.2	Embankment	50,000.00	Cubic Yard
+ 3.3	Rock Excavation	3,000.00	Cubic Yard

6. Double click the Rock Excavation cost item to open the cost item's record.
7. Select the **Plug** tab. Under the Subcontract section click into the Unit Cost field for the Subcontract Price.
8. Type **\$28.00** in the Plug Unit Cost column for the Subcontract Price. Once done, click **OK**.

Cost Item Summary		Detail : \$0.00	Plug : \$28.00
Cost Category		Unit Cost	Total Cost
▼ Total		\$28.00	\$84,000.00
> Labor		\$0.00	\$0.00
> Owned Equipment		\$0.00	\$0.00
> Rented Equipment		\$0.00	\$0.00
> Supplies		\$0.00	\$0.00
> Materials		\$0.00	\$0.00
▼ Subcontract		\$28.00	\$84,000.00
Subcontract Price		\$28.00	\$84,000.00
Subcontract Conditions		\$0.00	\$0.00
Subcontract Taxes		\$0.00	\$0.00
Subcontract Bond		\$0.00	\$0.00
Undefined Subcontract		\$0.00	\$0.00
> Fees		\$0.00	\$0.00

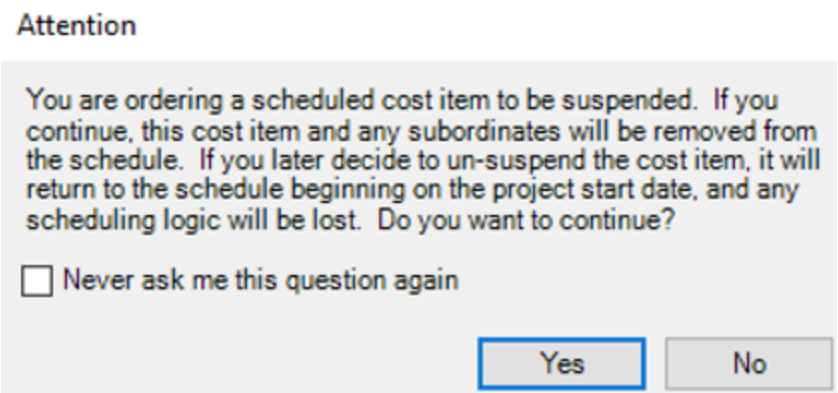
9. On the CBS Register, change your Saved Views to **Alternates View**.
10. Select the Rock Excavation cost item. Under the Alternate column, select the drop down arrow, and then select the **Add** icon. This will open up a new form to create a new Alternate record.

BASE		BASE
Code	Description	Active
BASE	BASE	Yes
		

11. Type **ROCK1** in the Code field, and type **Rock Excavation** in the Description field. Once done, click **OK**.

Code: *	ROCK1	Description:	Rock Excavation
Pay Items Cost Items			

12. An Attention message will appear alerting you the item will be suspended once you move off the field.

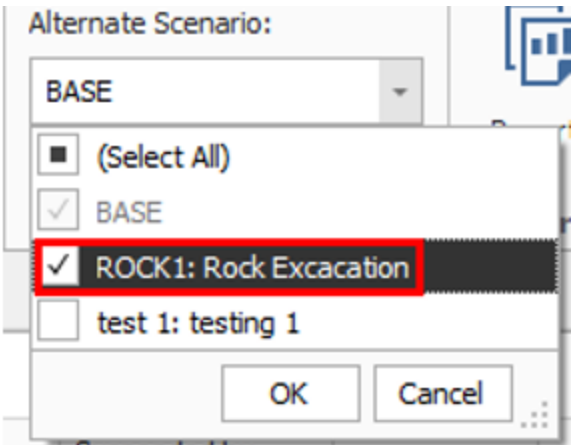


13. Select **Yes**. You see the Rock Excavation item is now in suspended status.

Description	Forecast (T/O) Quantity	Unit Cost	Total Cost (Forecast)	Currency	Alternate	S
Rock Excavation	3,000.00	\$28.00	\$84,000.00	U.S. Dollar	BASE	A

Suspended status is the default status for alternate items.

14. In order to activate this alternate item, select the **Estimate** tab in the Ribbon and go the **Alternate Scenario** drop down in the Alternates section.
15. Then select the **ROCK1** scenario. Once done, click **OK**. The Suspend check box fields is no longer checked for Rock Excavation.



Alternate Scenario’s BASE and ROCK1 are now both included in the Total Cost Forecast in your estimate. This is also known as additive type of alternate, meaning that when it’s active it will be

added to the estimate. When Alternate Scenario Base + ROCK1 are both checked, the cost item assigned to the ROCK1 alternate is included in the Total Cost (Forecast).

CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Current
3	Unclassified Excavation	50,000.00	Cubic Yard	\$9.95	\$497,466.56	U.S. D
+ 3.1	Excavation, scrapers	50,000.00	Cubic Yard	\$3.00	\$149,922.88	U.S. D
+ 3.2	Excavation, trucks	50,000.00	Cubic Yard	\$3.59	\$179,550.75	U.S. D
+ 3.4	Rock Excavation	3,000.00	Cubic Yard	\$28.00	\$84,000.00	U.S. D
4		103,000.00			\$413,473.62	

16. When only the Base Alternate Scenario is checked, the cost item assigned to the ROCK1 alternate is NOT included in the Total Cost (Forecast). Only base alternates are including the estimate's cost.

CBS Position Code	Description	Forecast (T/O) Quantity	Unit Cost	Total Cost (Forecast)	Alternate	Alternate Description
3	Unclassified Excavation	50,000.00	\$8.27	\$413,466.56	BASE	BASE
+ 3.1	Excavation, scrapers	50,000.00	\$3.00	\$149,922.88	BASE	BASE
+ 3.2	Excavation, trucks	50,000.00	\$3.59	\$179,550.75	BASE	BASE
+ 3.4	Rock Excavation	3,000.00	\$28.00	\$84,000.00	ROCK1	Rock Ex
4		100,000.00		\$329,473.62		

When a cost item is assigned to an alternate, it's then considered an alternate item in the estimate and does not contribute to the job's cost until the alternate is 'activated'.

Assigning multiple cost items to one alternate

Any number of cost items can be assigned to a single alternate item. The alternate feature can be used to quickly suspend and unsuspend groups of items. Another manner in which alternates can be used would be to consider two different approaches to completing the same scope of work. In this case the activation of an alternate would replace the preselected cost items.

Imagine you are a contractor and want to assign an Alternate Scenario to your 3.2 Excavation Trucks cost item, and at the same time automatically suspend your 3.1 Excavation Scrapers cost item. You need an Alternate Scenario view showing what would happen when you suspend Excavation Scrapers, but want to keep your Excavation Trucks active. You'd like to evaluate this pricing scenario, especially your Total Cost Forecast.

Step by Step — Multiple Cost Items to an Alternate

1. From the Ribbon, select the **Estimate** tab.
2. Select **Cost Breakdown Structure (CBS)**. The Cost Breakdown Structure (CBS) Register opens.
3. Create a copy of cost item Excavation and rename it **Excavation, scrapers**.
4. Rename the original Excavation cost item to **Excavation, trucks**.
5. Under the Unit of Measure column, select **Cubic Yard**.

3	Unclassified Excavation	50,00
+ 3.1	Excavation, scrapers	50,00
+ 3.2	Excavation, trucks	50,00
+ 3.3	Embankment	50,00
+ 3.4	Rock Excavation	3,00

6. Double click to open the cost item **Excavation, trucks**.
7. Add a new Construction Equipment Resource: code **ETDT Dump Truck**, then select **OK**.
8. Add a new Construction Equipment Resource: code **EL950 Loader 950**, select **OK**.
9. Change the quantity of ETDT Dump Truck to **5**.
10. Add a new Labor Resource: code **LT1 Teamster**, then select **OK**.
11. Change the quantity for LT1 Teamster to **5**.
12. Remove resources **ES621 Scraper 621**, **ES623 Scraper 623**, **L01 Operator Class 1**.
13. Change the quantity for L02 Operator Class to **5**.
14. Change the Cubic Yard/Day to **2800** on the Production tab.
15. Your results should look like this:

Row Number		Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Measure
+	1	ETWT		Water Truck			1.00	Ea
+	2	ED8		Dozer D8			1.00	Ea
+	3	ECOMP1		Compactor Smooth ...			1.00	Ea
+	4	ECOMP2		Compactor Sheeps ...			1.00	Ea
+	5	LL2		Laborer			1.00	Ea
+	6	LO4		Operator Foreman			1.00	Ea
+	7	EG14G		Grader 14G			1.00	Ea
+	8	LO2		Operator Class 2			5.00	Ea
+	9	EL950		Loader 950			1.00	Ea
+	10	ETDT		Dump Truck			5.00	Ea
+	11	LT1		Teamster			5.00	Ea

16. The Unit and Total Cost are now recalculated. Once you are done with all your changes, click **OK** to return to the CBS register.

Unit of Measure:	Unit Cost:	Total Cost:	Currency:
Cubic Yard	\$9.95	\$497,466.56	U.S. Dollar
Cubic Yard	\$3.59	\$179,550.75	U.S. Dollar
Cost Segment:	Pay Quantity:	Cost Source:	Alternate:
Direct Cost	50,000.00	Detail	BASE

X

17. Your Excavation, truck cost item is now worth \$3.59 a Cubic Yard, while your Excavation, scraper cost item is worth \$3.00 a Cubic Yard.

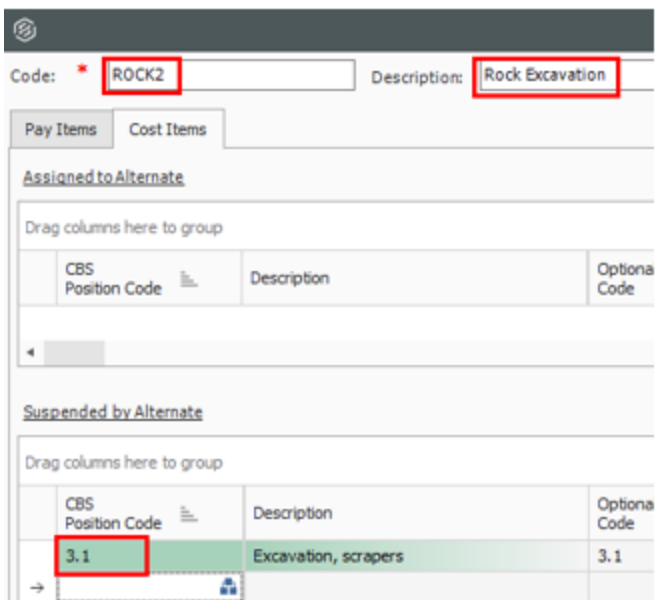
CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure
3	Unclassified Excavation	50,000.00	Cubic Yard
+ 3.1	Excavation, scrapers	50,000.00	Cubic Yard
+ 3.2	Excavation, trucks	50,000.00	Cubic Yard

In order to make these two cost items mutually exclusive, meaning that you want one or the other in the bid, you can set this up via an alternate item. You can set this up so that one is automatically suspended, while the other is active

18. For **Excavation, truck**, add a new Alternate by click on the Alternate field and selecting the **new** icon.

BASE		BASE
 Code	Description	Active
ALT 3	ALT 3	Yes
BASE	BASE	Yes
ROCK1	Rock Excacation	Yes

19. Type **ROCK2** in the Code.
20. Type in **Trucking Excavation** for the description.
21. Click on the Cost Items tab. In the CBS Position Code field, select the **Excavation, scrapers**. Excavation, scrapers will now be suspended when Alternate Excavation, trucks is active.



Code: * **ROCK2** Description: **Rock Excavation**

Pay Items Cost Items

Assigned to Alternate

Drag columns here to group

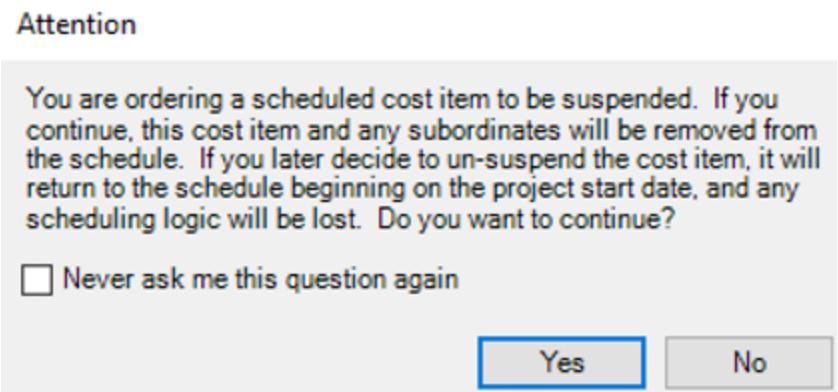
CBS Position Code	Description	Optional Code

Suspended by Alternate

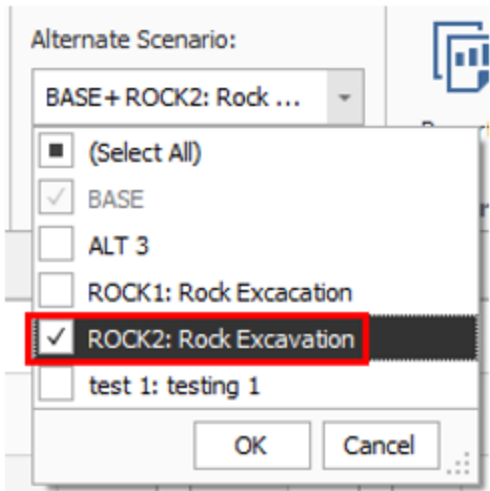
Drag columns here to group

CBS Position Code	Description	Optional Code
3.1	Excavation, scrapers	3.1

22. An Attention message will appear alerting you the item will be suspended once you move off the field. Select **Yes** to continue. On the CBS Register, you now see that **Excavation, trucks** is suspended while Excavation, scrapers is activated.



- 23. In order to activate this alternate item, select the **Estimate** tab in the Ribbon and go the **Alternate Scenario** drop down in the Alternates section.
- 24. Then select the **ROCK2** scenario. Once done, click **OK**.



- 25. The trucks cost item is now active and scrapers has automatically been suspended. Now the Suspended by Alternate column is checked for cost item **Excavation, trucks**.

CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
3	Unclassified Excavation	50,000.00	Cubic Yard	\$6.95	\$347,543.68	U.S. Dollar
+ 3.1	Excavation, scrapers	50,000.00	Cubic Yard	\$3.00	\$149,922.88	U.S. Dollar
+ 3.2	Excavation, trucks	50,000.00	Cubic Yard	\$3.59	\$179,550.75	U.S. Dollar

Pay Item Alternates

An Alternate Scenario is a set of active Alternates that can also be used with Pay Items. It's reasonable for the owner to include pay items as alternates within a job. The owner will most likely base the bid selection criteria primarily on the base bid items, but may also include alternate items in addition.

The contractor will want to understand the cost impact of an alternate if it is awarded. Contractors may not know ahead of time which combination of alternates an owner may choose to award. This feature will help the contractor understand how to spread markup to various bid item prices using different scenarios. This permits easy comparisons between different scenarios.

Imagine you are a contractor and bidding a job where the owner has included a security guard booth pay item as an alternate item in the job. The owner bases the base bid selection criteria on the base bid items, however, the owner elects to include alternate items in the award of the contract too. You as the contractor need to add the new security guard toll booth pay item to analyze the cost impact of adding this alternate, among other scenarios.

Suspending an item is the same as 'Deducting' an item.

The owner's bid could look like this below, where the first eight pay items are base pay items. The last Toll Booth pay item is the owner's Alternate. All items the owner is requesting to see in the contractor's bid.

The one Alternate Construction item below represents a bid item the owner would like to have as part of the bid as well. However, this one alternate is more of a 'would like to have'. The Alternate item(s) help to give the owner the option to accept the Alternates if it still falls within the owner's budget.

SCHEDULE OF UNIT PRICES

Pay Item #	Description	Qty	UofM	Unit Price	Amount
503(A) 1313	Retaining Wall	850	CY	\$ _____	\$ _____
600 0300	Paint Existing Steel Bridge Structure	1	LS	\$ _____	\$ _____
700	Process Equipment	1	EA	\$ _____	\$ _____
1000	Removal of Underground Storage Tanks	2	EA	\$ _____	\$ _____
1010	Disposal of Contaminated Soil	800	CY	\$ _____	\$ _____
1500 0100	Guardrail Type 2	1,000	LF	\$ _____	\$ _____
1500 0200	Guardrail Type 3A	200	LF	\$ _____	\$ _____
1600 0230	Type 4 Signs	1,000	SF	\$ _____	\$ _____

TOTAL AMOUNT OF BID: \$ _____

ALTERNATE CONSTRUCTION ITEMS

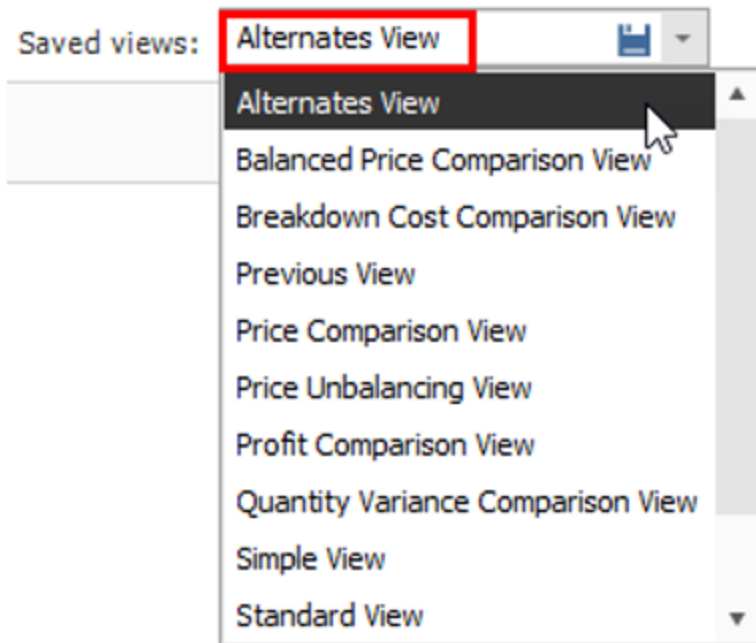
SCHEDULE OF UNIT PRICES

Pay Item #	Description	Qty	UofM	Unit Price	Amount
1200 0100	Guard Toll Booth	1	EA	\$ _____	\$ _____

TOTAL AMOUNT FOR ALTERNATE CONSTRUCTION: \$ _____

Step by Step — Create Pay Item and Proposal Alternate Scenario

1. From the Ribbon, select the **Price** tab.
2. Under the Pay Items section, select **Pay Item & Proposal**. The Pay Item & Proposal Register opens.
3. Select the Saved Views drop down arrow and select **Alternates View**.



4. At the bottom of the register, create a new pay item labeled as **Security Guard Booth** in the Description field. Then in the Pay Item Number field, type in **SG1**.

Pay Item Number	Lock Price	Row Number	Line Number	Description	Pay Quantity	Unit of Measure	Currency	Alternate	Alternate Description
+ 201 0102	☐	2	20	Clearing & Grubbing	10.00	Acre	U.S. Dollar	BASE	BASE
+ 202 0183	☐	3	30	Unclassified Excavation	50,000.00	Cubic Yard	U.S. Dollar	BASE	BASE
+ 303 5912	☐	4	40	Aggregate Base	40,000.00	Ton	U.S. Dollar	BASE	BASE
+ 303 4263	☐	5	50	Asphalt Concrete Hot Mix Type A	38,000.00	Ton	U.S. Dollar	BASE	BASE
+ 413(B) 0464	☐	6	60	36 Inch RCP Culvert Class III	1,000.00	Linear Feet	U.S. Dollar	BASE	BASE
+ 800 0220	☐	7	70	10 Inch PVC Force Main (SDR21)	12,000.00	Linear Feet	U.S. Dollar	BASE	BASE
+ 800 0330	☐	8	80	24 Inch PVC Gravity Sewer (SDR35)	3,000.00	Linear Feet	U.S. Dollar	BASE	BASE
+ 800 0400	☐	9	90	4 Foot Diameter Manhole	16.00	Each	U.S. Dollar	BASE	BASE
+ 501(A) 1306	☐	10	100	Structural Excavation & Backfill	800.00	Cubic Yard	U.S. Dollar	BASE	BASE
+ 506(A) 1322	☐	11	110	Steel Reinforcement	30,000.00	Pound	U.S. Dollar	BASE	BASE
+ 503(A) 1313	☐	12	120	Retaining Wall	850.00	Cubic Yard	U.S. Dollar	BASE	BASE
+ 600 0300	☐	13	130	Paint Existing Steel Bridge Struct...	1.00	Lump Sum	U.S. Dollar	BASE	BASE
+ 700	☐	14	140	Process Equipment	1.00	Each	U.S. Dollar	BASE	BASE
+ 1000	☐	15	150	Removal of Underground Storage Tanks	2.00	Each	U.S. Dollar	BASE	BASE
+ 1010	☐	16	160	Disposal of Contaminated Soil	800.00	Cubic Yard	U.S. Dollar	BASE	BASE
+ 1200 0100	☐	17	170	Toll Booth	1.00	Each	U.S. Dollar	BASE	BASE
+ 1500 0100	☐	18	180	Guardrail Type 2	1,000.00	Linear Feet	U.S. Dollar	BASE	BASE
+ 1500 0200	☐	19	190	Guardrail Type 3A	200.00	Linear Feet	U.S. Dollar	BASE	BASE
+ 1600 0230	☐	20	200	Type 4 Signs	1,000.00	Square Fe...	U.S. Dollar	BASE	BASE
+ CO1	☐	21	21	Realignment of Water Line	1.00	Each	U.S. Dollar	BASE	BASE
+ SG1	☐	22	22	Security Guard Booth	1.00	Each	U.S. Dollar	BASE	BASE

- Now create a new Alternate for the Security Guard Booth pay item using the same steps for your new cost item.
- Click in the Alternates field for the Security Guard Booth Alternate. Select the **add** icon. An Alternate Record opens.
- In the Code field, type in code **ALT3**.
- In the Description field type in **Security Guard Booth Alternate**.

Alternate Record

Code: * ALT 3
Description: Security Guard Booth

- Go into the CBS and copy all of the subordinate cost items for the existing **Toll Booth** cost item. (We will assume the same Toll Booth resources are needed for a Security Guard Booth).

 17	Toll Booth	1.00	Each	\$23
 17.1	Site Preparation	1.00	Lump Sum	\$3
 17.2	Concrete Reinforcement	1.00	Lump Sum	\$
 17.3	Cast in Place Concrete	1.00	Lump Sum	\$
 17.4	Concrete Masonry Units	1.00	Lump Sum	\$2
 17.5	Paneling	1.00	Lump Sum	\$2
 17.6	Wood Doors	1.00	Lump Sum	\$
 17.7	Wood Flooring	1.00	Lump Sum	\$
 17.8	Office Furniture	1.00	Lump Sum	\$2
 17.9	Fire Protection Piping	1.00	Lump Sum	\$3
 17.10	Interior Luminaires	1.00	Lump Sum	\$3

10. Paste the copied cost items into the new **Security Guard Booth** cost item you just created in the PIP.

 22	Security Guard Booth	1.00	Each	\$2
 22.1	Site Preparation	1.00	Lump Sum	\$
 22.2	Concrete Reinforcement	1.00	Lump Sum	\$
 22.3	Cast in Place Concrete	1.00	Lump Sum	\$
 22.4	Concrete Masonry Units	1.00	Lump Sum	\$
 22.5	Paneling	1.00	Lump Sum	\$
 22.6	Wood Doors	1.00	Lump Sum	\$
 22.7	Wood Flooring	1.00	Lump Sum	\$
 22.8	Office Furniture	1.00	Lump Sum	\$
 22.9	Fire Protection Piping	1.00	Lump Sum	\$
 22.10	Interior Luminaires	1.00	Lump Sum	\$

11. The cost items have all been automatically suspended in the CBS. This is because the Security Guard Booth pay item is suspended as well

CBS Position Code	Description	Forecast (T/O) Quantity	Unit Cost	Total Cost (Forecast)	Suspended by Alternate	Suspend
22	Security Guard Booth	1.00	\$25,264.55	\$25,264.55	☐	☒
+ 22.1	Site Preparation	1.00	\$3,664.55	\$3,664.55	☐	☒
+ 22.2	Concrete Reinforcement	1.00	\$1,500.00	\$1,500.00	☐	☒
+ 22.3	Cast in Place Concrete	1.00	\$3,500.00	\$3,500.00	☐	☒
+ 22.4	Concrete Masonry Units	1.00	\$2,900.00	\$2,900.00	☐	☒
+ 22.5	Paneling	1.00	\$2,100.00	\$2,100.00	☐	☒
+ 22.6	Wood Doors	1.00	\$1,000.00	\$1,000.00	☐	☒
+ 22.7	Wood Flooring	1.00	\$1,800.00	\$1,800.00	☐	☒
+ 22.8	Office Furniture	1.00	\$2,100.00	\$2,100.00	☐	☒
+ 22.9	Fire Protection Piping	1.00	\$3,300.00	\$3,300.00	☐	☒
+ 22.10	Interior Luminaires	1.00	\$3,400.00	\$3,400.00	☐	☒

12. In the Pay Item & Proposal Register, activate alternate pay item Security Guard Booth by selecting **Alternate Scenario Base + ALT3** at that top of the form.

The screenshot shows the 'Pay Item & Proposal Register' window. The 'Alternate Scenario' dropdown is set to 'BASE + ALT 3'. The 'Pay Item & Proposal' section is active, showing a table with columns: Current, Target, Forecast, Variance, and ADD. The 'Price' row shows a current value of \$6,337,826.19, a target of \$6,834,120.16, a forecast of \$6,279,104.35, and a variance of \$496,293.97.

	Current	Target	Forecast	Variance	ADD
Price:	\$6,337,826.19	\$6,834,120.16	\$6,279,104.35	\$496,293.97	

13. The **Security Guard Booth** is now activated. You can now see that all of the pay items have been priced including the Security Guard Booth Alternate pay item.

You may need to establish your pay item price first if a price does not yet exist

14. From the register, select the **Actions** tab. Then under the Auto Price section, select the **Balance Bid** drop down.
15. Select the option Hit Target Goal in order to auto price the job. Now all of the pay items have been priced, including the Security Guard Booth Alternate pay item.

Pay Item Number	Lock Price	Row Number	Line Number	Description	Unit Price (current)	Total Price (current)	Total Profit (current)	% Margin
+ 201 0102	☐	2	20	Clearing & Grubbing	\$0.00	\$0.00	\$0.00	0.00
+ 202 0183	☐	3	30	Unclassified Excavation	\$0.00	\$0.00	\$0.00	0.00
+ 303 5912	☐	4	40	Aggregate Base	\$19.52	\$780,800.00	\$78,216.54	10.02
+ 303 4263	☐	5	50	Asphalt Concrete Hot Mix Type A	\$52.80	\$2,006,400.00	\$200,601.14	10.00
+ 413(B) 0464	☐	6	60	36 Inch RCP Culvert Class III	\$86.59	\$86,590.00	\$8,669.56	10.01
+ 800 0220	☐	7	70	10 Inch PVC Force Main (SDR21)	\$29.80	\$357,600.00	\$35,731.53	9.99
+ 800 0330	☐	8	80	24 Inch PVC Gravity Sewer (SDR35)	\$63.73	\$191,190.00	\$19,149.92	10.02
+ 800 0400	☐	9	90	4 Foot Diameter Manhole	\$4,557.94	\$72,927.04	\$7,297.96	10.01
+ 501(A) 1306	☐	10	100	Structural Excavation & Backfill	\$27.88	\$22,304.00	\$2,235.53	10.02
+ 506(A) 1322	☐	11	110	Steel Reinforcement	\$1.79	\$53,700.00	\$5,259.72	9.80
+ 503(A) 1313	☐	12	120	Retaining Wall	\$536.21	\$455,778.50	\$45,676.40	10.02
+ 600 0300	☐	13	130	Paint Existing Steel Bridge Struct...	\$101,279.27	\$101,279.27	\$10,163.56	10.04
+ 700	☐	14	140	Process Equipment	\$1,949,552...	\$1,949,552.96	\$194,662.95	9.99
+ 1000	☐	15	150	Removal of Underground Storage Tanks	\$13,363.93	\$26,727.86	\$2,710.77	10.14
+ 1010	☐	16	160	Disposal of Contaminated Soil	\$30.51	\$24,408.00	\$2,479.23	10.16
+ 1200 0100	☐	17	170	Toll Booth	\$31,068.28	\$31,068.28	\$3,103.76	9.99
+ 1500 0100	☐	18	180	Guardrail Type 2	\$28.96	\$28,960.00	\$2,886.42	9.97
+ 1500 0200	☐	19	190	Guardrail Type 3A	\$37.41	\$7,482.00	\$746.33	9.98
+ 1600 0230	☐	20	200	Type 4 Signs	\$15.69	\$15,690.00	\$1,566.81	9.99
+ CO1	☐	21	21	Realignment of Water Line	\$0.00	\$0.00	\$0.00	0.00
+ [Enter Pay I...	☐	22	22	Security Guard Booth	\$31,068.28	\$31,068.28	\$3,103.76	9.99

Compare Alternate Scenarios

You can price and analyze the impact of each Alternate Scenario to the estimate's Total Price on the Pay Item & Proposal Register. This is after the Alternate Scenarios have been defined, assigned, and activated.

Each Alternate and combination of Alternates represents a different scenario, and prices need to be established for every scenario that you want to compare.

For example, if you have defined Alternate Scenarios 1, 2 and 3, you may wish to price each of them separately, and price any combination of them, and/or you may wish to price the combination of all three.

Be sure to establish bid prices for every alternate or combination of alternates.

Step by Step — Compare Alternate Scenarios

1. From the Ribbon, select the **Price** tab.
2. Under the Pay Items section, select **Pay Item & Proposal**. The Pay Item & Proposal Register opens.
3. On the Pay Item & Proposal Register, select the **Actions** tab. Under the View section, select **Compare Alternative Scenarios**. This action performs a comparison among the various

Alternative Scenarios you've priced so far.

The screenshot shows the 'Actions' panel with various options. The 'Compare Alternate Scenarios' button is highlighted with a red rectangle. Other visible options include 'Assigned Direct Cost Only', 'Overwrite Locked Pay Items', 'Balanced Bid', 'Custom Auto Price', 'Unbalanced Bid', 'Expand / Collapse', 'Default Data Blocks', and 'View'.

4. After selecting Compare Alternative Scenarios, new columns appear on the pay item form. These columns show a comparison of the base bid, plus Alternate Scenarios that have been priced so far.

Pay Item Number	Lock Price	Row Number	Line Number	Description	Unit Price (current)	Total Price (current)	Unit Price (BASE+ALT 3)	Total Price (BASE+ALT 3)	Total Profit (current)
+ 201 0102	☐	2	20	Clearing & Grubbing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
+ 202 0183	☐	3	30	Unclassified Excavation	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
+ 303 5912	☐	4	40	Aggregate Base	\$19.52	\$780,800.00	\$19.52	\$780,800.00	\$78,103.35
+ 303 4263	☐	5	50	Asphalt Concrete Hot Mix Type A	\$52.80	\$2,006,400.00	\$52.80	\$2,006,400.00	\$200,421.84
+ 413(B) 0464	☐	6	60	36 Inch RCP Culvert Class III	\$86.61	\$86,610.00	\$86.59	\$86,590.00	\$8,672.35
+ 800 0220	☐	7	70	10 Inch PVC Force Main (SDR21)	\$29.81	\$357,720.00	\$29.80	\$357,600.00	\$35,796.91
+ 800 0330	☐	8	80	24 Inch PVC Gravity Sewer (SDR35)	\$63.74	\$191,220.00	\$63.73	\$191,190.00	\$19,142.05
+ 800 0400	☐	9	90	4 Foot Diameter Manhole	\$4,558.81	\$72,940.96	\$4,557.94	\$72,927.04	\$7,299.86
+ 501(A) 1306	☐	10	100	Structural Excavation & Backfill	\$27.88	\$22,304.00	\$27.88	\$22,304.00	\$2,231.24
+ 506(A) 1322	☐	11	110	Steel Reinforcement	\$1.79	\$53,700.00	\$1.79	\$53,700.00	\$5,257.72
+ 503(A) 1313	☐	12	120	Retaining Wall	\$536.35	\$455,897.50	\$536.21	\$455,778.50	\$45,689.19
+ 600 0300	☐	13	130	Paint Existing Steel Bridge Struct...	\$101,314.33	\$101,314.33	\$101,279.27	\$101,279.27	\$10,167.93
+ 700	☐	14	140	Process Equipment	\$1,949,681.16	\$1,949,681.16	\$1,949,552.96	\$1,949,552.96	\$194,688.74
+ 1000	☐	15	150	Removal of Underground Storage Tanks	\$13,367.94	\$26,735.88	\$13,363.93	\$26,727.86	\$2,711.80
+ 1010	☐	16	160	Disposal of Contaminated Soil	\$30.52	\$24,416.00	\$30.51	\$24,408.00	\$2,481.93
+ 1200 0100	☐	17	170	Toll Booth	\$31,071.32	\$31,071.32	\$31,068.28	\$31,068.28	\$3,104.28
+ 1500 0100	☐	18	180	Guardrail Type 2	\$28.97	\$28,970.00	\$28.96	\$28,960.00	\$2,895.65
+ 1500 0200	☐	19	190	Guardrail Type 3A	\$37.41	\$7,482.00	\$37.41	\$7,482.00	\$746.13
+ 1600 0230	☐	20	200	Type 4 Signs	\$15.69	\$15,690.00	\$15.69	\$15,690.00	\$1,566.40
+ CO1	☐	21	21	Realignment of Water Line	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
+ [Enter Pay I...	☐	22	22	Security Guard Booth	\$0.00	\$0.00	\$31,068.28	\$31,068.28	\$0.00

5. The current scenario base price Total Price is \$6,307,253.15, however the Alternate Price scenario for the additional Security Guard Booth is \$6,337,826.19

Pay Item Number	Lock Price	Row Number	Line Number	Description	Unit Price (current)	Total Price (current)	Unit Price (BASE+ALT 3)	Total Price (BASE+ALT 3)	Total (cur
+ 201 0102	☐	2	20	Clearing & Grubbing	\$0.00	\$0.00	\$0.00	\$0.00	
+ 202 0183	☐	3	30	Unclassified Excavation	\$0.00	\$0.00	\$0.00	\$0.00	
+ 303 5912	☐	4	40	Aggregate Base	\$19.52	\$780,800.00	\$19.52	\$780,800.00	
+ 303 4263	☐	5	50	Asphalt Concrete Hot Mix Type A	\$52.80	\$2,006,400.00	\$52.80	\$2,006,400.00	
+ 413(B) 0464	☐	6	60	36 Inch RCP Culvert Class III	\$86.61	\$86,610.00	\$86.59	\$86,590.00	
+ 800 0220	☐	7	70	10 Inch PVC Force Main (SDR21)	\$29.81	\$357,720.00	\$29.80	\$357,600.00	
+ 800 0330	☐	8	80	24 Inch PVC Gravity Sewer (SDR35)	\$63.74	\$191,220.00	\$63.73	\$191,190.00	
+ 800 0400	☐	9	90	4 Foot Diameter Manhole	\$4,558.81	\$72,940.96	\$4,557.94	\$72,927.04	
+ 501(A) 1306	☐	10	100	Structural Excavation & Backfill	\$27.88	\$22,304.00	\$27.88	\$22,304.00	
+ 506(A) 1322	☐	11	110	Steel Reinforcement	\$1.79	\$53,700.00	\$1.79	\$53,700.00	
+ 503(A) 1313	☐	12	120	Retaining Wall	\$536.35	\$455,897.50	\$536.21	\$455,778.50	
+ 600 0300	☐	13	130	Paint Existing Steel Bridge Struct...	\$101,314.33	\$101,314.33	\$101,279.27	\$101,279.27	
+ 700	☐	14	140	Process Equipment	\$1,949,681.16	\$1,949,681.16	\$1,949,552.96	\$1,949,552.96	
+ 1000	☐	15	150	Removal of Underground Storage Tanks	\$13,367.94	\$26,735.88	\$13,363.93	\$26,727.86	
+ 1010	☐	16	160	Disposal of Contaminated Soil	\$30.52	\$24,416.00	\$30.51	\$24,408.00	
+ 1200 0100	☐	17	170	Toll Booth	\$31,071.32	\$31,071.32	\$31,068.28	\$31,068.28	
+ 1500 0100	☐	18	180	Guardrail Type 2	\$28.97	\$28,970.00	\$28.96	\$28,960.00	
+ 1500 0200	☐	19	190	Guardrail Type 3A	\$37.41	\$7,482.00	\$37.41	\$7,482.00	
+ 1600 0230	☐	20	200	Type 4 Signs	\$15.69	\$15,690.00	\$15.69	\$15,690.00	
+ CO1	☐	21	21	Realignment of Water Line	\$0.00	\$0.00	\$0.00	\$0.00	
+ [Enter Pay I...	☐	22	22	Security Guard Booth	\$0.00	\$0.00	\$31,068.28	\$31,068.28	
	☐								
		22				\$6,307,253.15		\$6,337,826.19	

Benchmarking Overview

Benchmarking is used to validate an estimate's cost and productivity values by comparing them to relevant historical data, specifically as-built and as-estimated information captured from past jobs in Estimate. Unit cost and unit man-hour benchmark data points are displayed graphically in relation to the current estimate.

When using the Estimate in the Cloud benchmarking feature, it requires the installation of Connected Analytics.

Benchmarking Master Job Properties Form

The **Master Job Properties - Benchmarking** form is used to establish the historical data to be used for benchmarking the current job, and to define the default benchmark graph display and calculations.

The **Master Job Properties - Benchmarking** form includes:

- **Historical Data Source** - Select **As-Estimated** and **As-Built** data from the Data Warehouse.
- **Default Cost Item Matching Criteria, Default Account Code Matching Criteria and Default Jobs Filter** - Define which cost items, account codes and jobs should be included.
- **Benchmark Graph display Options** - Define the data to be represented on both the **X-Axis** and the **Y-Axis** of the graph.
- **Calculate "Average" as-** Define the calculation method as either **Average** or **Weighted Avg (weighted by current Qty)**.
- **Benchmark** - Select a benchmark value of **Cost per Unit, Man-Hours / Unit, or Units / Man-Hour**.
- **Flag an item's variance relative to the benchmark data when** - Define the breakpoints for low, medium and high variance ranges.
- **Don't benchmark items with fewer than <number> historical data points** - Designate the minimum number of data points needed to benchmark an item.

The data in the Master Job Properties - Benchmarking form is automatically copied to any newly created jobs. If all of the jobs that you create in Estimate will use the same rules, defining the data in the Master Job Properties form will save time when you create new job folders in Estimate.

In addition to the primary **Forecast (T/O) Quantity** and **Unit of Measure** on each cost item, **Secondary Quantity** and **Secondary Unit** fields in the Cost Item Record can be used to capture a meaningful, alternative quantity and unit on which to analyze **As-estimated** data.

You can establish the historical data to be used for benchmarking the current job, define the default benchmark graph display, and define high, low and medium variance ranges on the **Job Properties - Benchmarking** form.

Step by Step — Benchmarking Master Job Properties Form

1. From the Backstage View, select **Library** from the left pane navigation.
2. From the Ribbon, select the **Setup** tab. Under the section Master Initialization, select **Job Properties**. The Job Properties register opens.
3. On the Job Properties form, select the **Benchmarking** tab.
4. The **Historical Data Source** defaults to Data Warehouse. Select the historical data to use: **As-Estimated**, **As-Built**, or both.
5. To define **Default Cost Item Matching Criteria**, click the **Edit** button and define your criteria for matching cost items. You can select one or many fields and relate them using AND/OR logic.
6. To define **Default Account Code Matching Criteria**, click the **Edit** button and define your criteria for matching cost items. You can select one or many fields and relate them using AND/OR logic.

A matching benchmark data point will be excluded if its unit of measure type (e.g., area, length, etc.) is different than the unit of measure type of the matching item in the current estimate.

7. To filter the jobs to include, click the Edit button on the **Default Jobs Filter** and define your job filtering criteria.
8. Choose your Benchmark Graph Display Options:
 - Select the data to be represented on the X-Axis:
 - Date
 - Item Quantity (Primary)
 - Item Quantity (Secondary)
 - Ratio (Primary / Secondary)
 - Ratio (Secondary / Primary)
 - Select the data to be represented on the Y-Axis:
 - \$ / Primary Unit
 - Man-Hrs / Primary Unit
 - Primary Units / Man-hr
 - \$ / Secondary Unit
 - Man-Hrs / Secondary Unit
 - Secondary Units / Man-hr
9. Define your average calculation method as either **Average** or **Weighted Avg (weighted by current Qty)**.
10. Define the **Benchmark** values that will be calculated from the historical data set by selecting **Cost per Unit**, **Man-Hours / Unit** and **Units / Man-Hour**.
11. Define the variance ranges to be used for flagging an item relative to the benchmark data:

- To flag an item's variance from the average, select **Its % variance from the average exceeds** and choose the **Low**, **Medium**, and **High** percentages to flag (values are incremented by 1%).
 - To flag an item's standard deviations from the norm, select **Its standard deviations from the norm (using SSTDEVP method) exceeds** and choose the **Low**, **Medium** and **High** values to flag (values are incremented by .1).
12. To customize the display colors for the **Low**, **Medium** and **High** ranges, click on a color block and choose a different color.
 13. To set a minimum number of benchmark data points required for an item to be benchmarked, select a number in the **Don't benchmark items with fewer than historical data points** field.

NOTE: The data in the Master Job Properties form is automatically copied to any newly created jobs. If all of the jobs that you create in Estimate will use the same data, descriptive information and rules, defining the data in the Master Job Properties form will save time when you create new job folders in Estimate.

The screenshot displays the 'Benchmarking Job Properties Form' within a software application. The interface features a top menu bar with 'File', 'Setup', 'Estimate', 'Execution', and 'System'. Below the menu is a toolbar with icons for 'Job Properties', 'Foundation Setup Data', 'Address Book', 'Trench Calculator', 'Shift Rate Calculator', 'Resource Rates', 'Labor', 'Equipment', 'Materials', 'Resource Assemblies', 'Cost Item Assemblies', 'Standard Tables', and 'User Roles'. The 'Job Properties' icon is highlighted with a red box. Below the toolbar is a tabbed interface with tabs for 'Overview', 'Security', 'Cover Sheet', 'Cost Basis', 'Minority Setup', 'Fuel Cost', 'Job Tracking', 'Job Folder Tags', 'Competitors', 'Pricing', and 'Schedule'. The 'Job Properties' tab is active and highlighted with a red box. The form is divided into two main sections: 'As-Estimated' and 'As-Built'. The 'As-Estimated' section includes fields for 'Historical Data Source' (set to 'Data Warehouse'), 'Default Cost Item Matching Criteria' (with an 'Edit...' button), 'Default Account Code Matching Criteria' (with an 'Edit...' button), and 'Default Jobs Filter' (with an 'Edit...' button and 'ALL JOBS' selected). The 'As-Built' section includes similar fields for 'Historical Data Source' (set to 'None'), 'Default Cost Item Matching Criteria' (with an 'Edit...' button), 'Default Account Code Matching Criteria' (with an 'Edit...' button), and 'Default Jobs Filter' (with an 'Edit...' button and 'ALL JOBS' selected). Below these sections are 'Benchmark Graph Display Options' with 'X-Axis' set to 'Item Quantity (Primary)' and 'Y-Axis' set to 'Cost/Primary Unit'. There are also radio buttons for 'Calculate "Average" as:' (selected 'Average', unselected 'Weighted Avg (weighted by current Qty)') and checkboxes for 'Benchmark:' (unselected 'Cost per Unit', unselected 'Man-Hours / Unit', unselected 'Units / Man-Hour'). A section for 'Flag an item's variance relative to the benchmark data when:' includes two radio buttons: 'Its % variance from the average exceeds:' (selected) and 'Its standard deviations from the norm (using STDEVP method) exceeds:' (unselected). The first radio button has three input fields for 'Low', 'Medium', and 'High' variance levels, each with a spinner and a color-coded box (green for Low, yellow for Medium, red for High). The second radio button has three input fields for 'Low', 'Medium', and 'High' standard deviation levels, each with a spinner and a color-coded box (green for Low, yellow for Medium, red for High). At the bottom, there is a field 'Don't benchmark items with fewer than' followed by a spinner set to '0' and the text 'historical data points'.

Benchmarking Job Properties Form

The Job Properties - Benchmarking form is used to establish the historical data to be used for benchmarking the job, and to define the default benchmark graph display and calculations.

The Job Properties - Benchmarking form includes:

- Historical Data Source - Select As-Estimated and As-Built data from the Data Warehouse.
- Default Cost Item Matching Criteria, Default Account Code Matching Criteria and Default Jobs Filter - Define which cost items and which jobs should be included.
- Benchmark Graph display Options - Define the data to be represented on both the X-Axis and the Y-Axis of the graph.

- Calculate "Average" as- Define the calculation method as either Average or Weighted Avg (weighted by current Qty).
- Benchmark - Select a benchmark value of Cost per Unit, Man-Hours / Unit, or Units / Man-Hour.
- Flag an item's variance relative to the benchmark data when - Define the breakpoints for low, medium and high variance ranges.
- Don't benchmark items with fewer than <number> historical data points - Designate the minimum number of data points needed to benchmark an item.

Step by Step — Opening the Job Properties Form

1. On the Ribbon, select the **Setup** tab.
2. Under the Initialize section, select the **Job Properties** drop down arrow.
3. On the drop down list, select **Benchmarking**.

File

Setup

Estimate

Quote

Price

Execution

System

Job Properties

Foundation Setup Data

Pay Item & Proposal

Bid Wizard

Resource Rates

Labor

Equipment

Materials

Resource Assemblies

Cost Item Assemblies

Standard Tables

Reports

Initialize

Resources

Assemblies

Reports

Cost Breakdown Structure (CBS) Register

Cost Item Record

Job Properties

Overview

Security

Cover Sheet

Cost Basis

Minority Setup

Fuel Cost

Job Tracking

Job Folder Tags

Competitors

Pricing

Sched

As-Estimated

Historical Data Source: Data Warehouse

Default Cost Item Matching Criteria: Edit... [Description] EQUAL

Default Account Code Matching Criteria: Edit... [Account Code] EQUAL

Default Jobs Filter: Edit... ALL JOBS

As-Built

Historical Data Source: None

Default Cost Item Matching Criteria: Edit ...

Default Account Code Matching Criteria: Edit ...

Default Jobs Filter: Edit ... ALL JOBS

Benchmark Graph Display Options:

X-Axis: Item Quantity (Primary)

Y-Axis: Cost/Primary Unit

Calculate "Average" as:

☒ Average

☐ Weighted Avg (weighted by current Qty)

Benchmark:

☒ Cost per Unit

☒ Man-Hours / Unit

☒ Units / Man-Hour

Flag an item's variance relative to the benchmark data when:

☒ Its % variance from the average exceeds:

Low

Medium

High

0

5

10

☐ Its standard deviations from the norm (using STDEVP method) exceeds:

0.0

0.5

1.0

Don't benchmark items with fewer than

0

historical data points

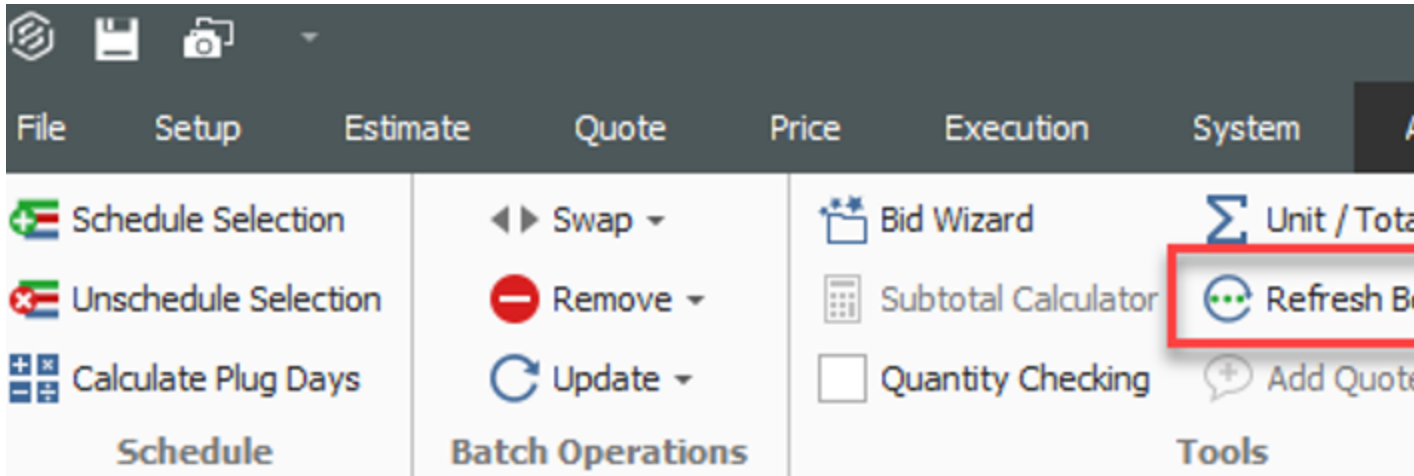
Benchmarking Graph

The defaults for the benchmarking graph are defined on the **Job Properties - Benchmarking** form, but on the Cost Item Record - Benchmarking form you have the ability to override the default criteria in order to expand or contract the amount of historical data being used to calculate benchmark values for a specific cost item. This way, you can filter the historical data sources to only the past jobs that are relevant to that cost item.

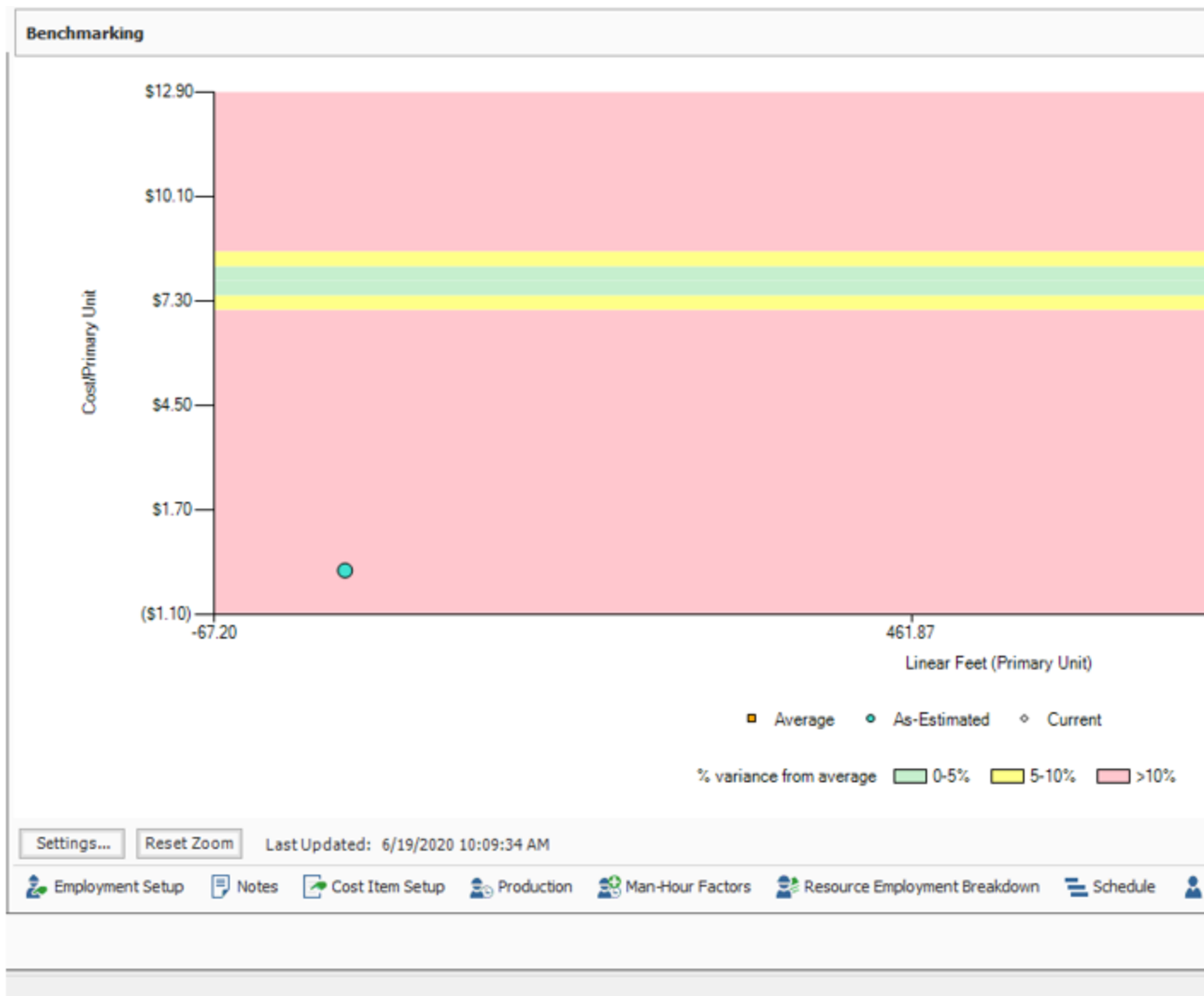
Before starting this procedure, make sure to set up your default benchmarking options, as outlined in the Benchmarking Options topic.

Step by Step — Benchmarking Graph

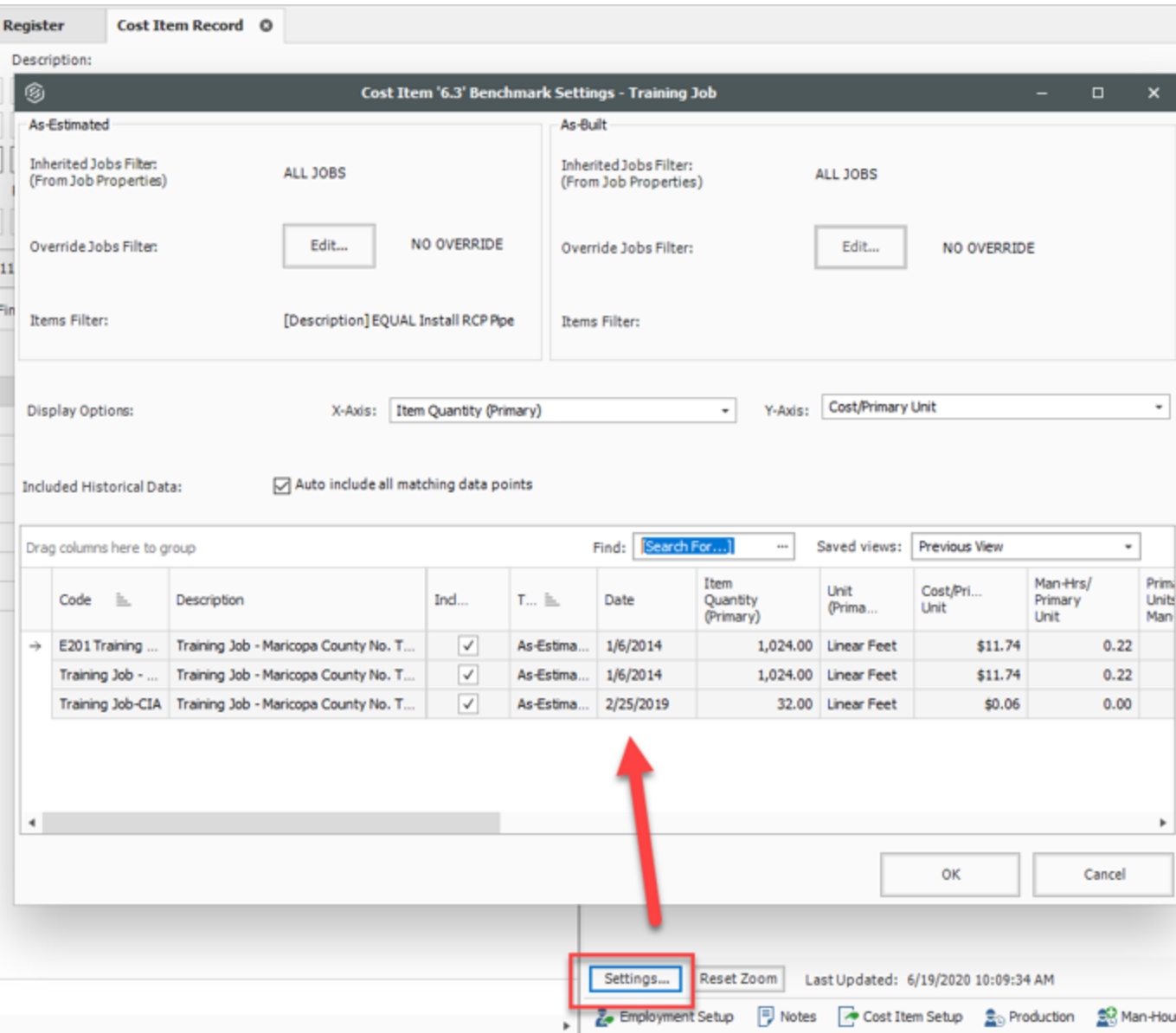
1. From the Ribbon, select the Estimate tab. Under Breakdown Structures, select **Cost Breakdown Structure (CBS)**.
2. On the Cost Breakdown Structure (CBS) Register, select the **More Actions** tab. Under the Tools section, select **Refresh Benchmarks**.



3. The Refresh Benchmarks dialog shows the Last refresh date and the number of Jobs matching filter criteria.
 - If the number of matching jobs is too large or too small, return to step 1 and expand or contract your filtering options.
 - If the number of matching jobs is acceptable, click Refresh Now to proceed.
4. Open the Cost Item Record of any preferred cost item.
5. Click on the **Benchmarking** default data block located in the lower right portion of the Cost Item Record.
6. The benchmarking graph shows the historical benchmark values for this cost item, along with the Current value, the Average value, and the variance ranges represented by each color. This information is calculated and displayed as specified on the Job Properties - Benchmarking form.



7. To refine the values that contribute to this cost item's graph, click the Settings button to display the Settings dialog:
 - To override the job filter for this cost item, click the Edit button in the Override Jobs Filter field and define the filter to use for benchmarking this cost item.
 - To override the Display Options for this cost item, select the desired values from the X-Axis and Y-Axis drop-down boxes.
 - To override the list of jobs that contribute to the Included Historical Data for this cost item, use the Auto include all matching data points toggle to include all or exclude all, and select the individual Include check boxes for the jobs you want to include.
 - When you have completed your customizations for this cost item's benchmarking, click OK to save your changes and return to the Cost Item Record - Benchmarking form.



8. To zoom in on a portion of the graph, click and drag across the portion of the graph that you want to enlarge. To view the entire graph again, click Reset Zoom.



9. To print a Benchmark Report, click the Print button, change any options as necessary on the Benchmark Report dialog, and click Run.



The Benchmark Report window has three tabs: Print, Layout, and Header/Footer. The Print tab is active, showing the following options:

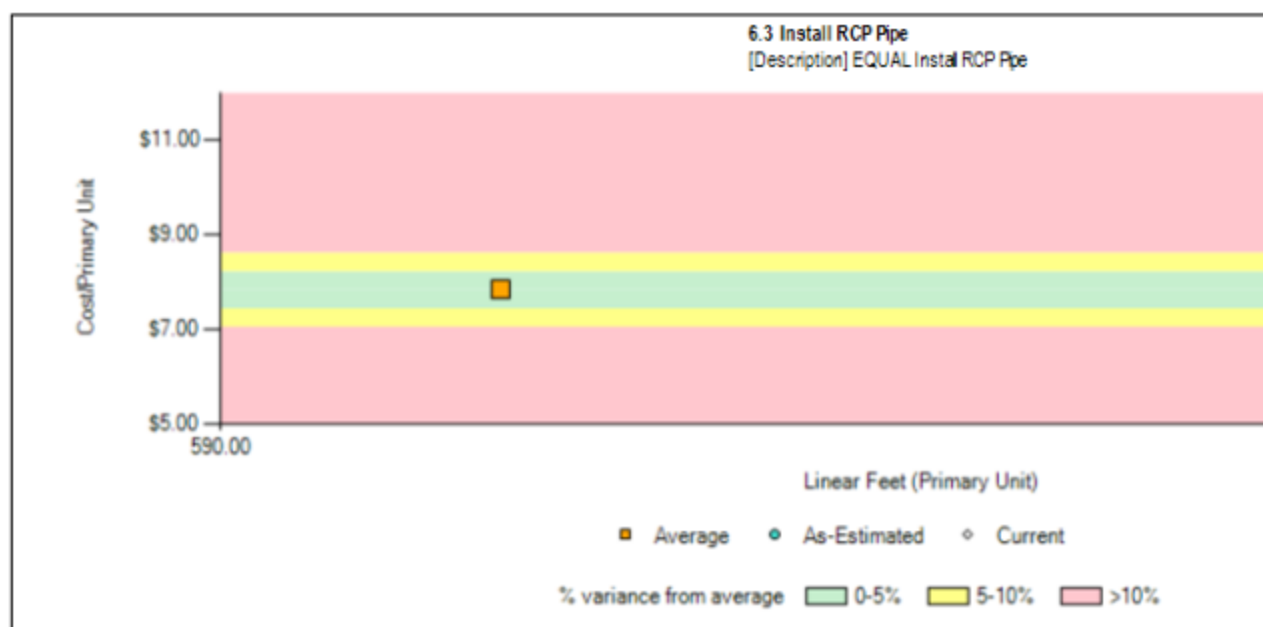
- ☐ Print to Printer
Print Settings: Printer: EPSON150464 (WF-2850 Series) [Change]
- ☐ Export to File
Export Settings: File: [] [...], Format: PDF File [Options]
- ☒ Preview

A red arrow points to the 'Preview' button. At the bottom of the window are 'Run' and 'Close' buttons.

Benchmark Report

Job Code: Training Job
 Description: Training Job - Maricopa County No. TM2924

As-Estimated Jobs Filter: ALL JOBS
 As-Estimated Items Filter: [Description] EQUAL Instal RCP Ppe
 As-Built Jobs Filter: ALL JOBS
 As-Built Items Filter:



Code	Description	Data Point Type	Item Quantity (Primary)	Unit (Primary)	Cost/Primary Unit	Man-Hrs/ Primary Unit	Primary Units/ Man-Hr	Ratio (Primary/ Secondary)	Item Quantity (Secondary)	Secor Unit
	Training Job - Maricopa County No. TM2924	Current	1,024.00	Linear Feet	11.74	0.22	4.46	0.00	0.00	
		Average	693.33	Linear Feet	7.85	0.15	324.40	0.00	0.00	
E201 Training Job - RB	Training Job - Maricopa County No. TM2924	As-Estimated	1,024.00	Linear Feet	11.74	0.22	4.46	0.00	0.00	
Training Job - Infrastructure	Training Job - Maricopa County No. TM2924	As-Estimated	1,024.00	Linear Feet	11.74	0.22	4.46	0.00	0.00	
Training Job- CIA	Training Job - Maricopa County No. TM2924	As-Estimated	32.00	Linear Feet	0.06	0.00	964.29	0.00	0.00	

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Account Code Utilization Register

The Account Code Utilization Register is used to roll estimate line items into an account code hierarchy, with the ability to control which cost items contribute quantity to their parent, in order to benchmark against historical projects in a way that is consistent across projects.

The Account Code Utilization Register is similar to the **Cost Breakdown Structure (CBS)** and the **Master Cost Breakdown Structure (CBS)**, with the following exceptions:

- The rows in the Account Code Utilization Register represent Account Codes rather than individual Cost Items, so the tree structure reflects the Account Code hierarchy rather than the CBS hierarchy.
- The detail rows in the Account Code Utilization Register reflect a terminal Account Code's assigned Cost Items.
- The terminal rows in the Account Code Utilization Register represent each utilized Account Code in the CBS.
- If the Account Code's **Auto-Quantity** setting is set to **Yes**, then the Quantity of the terminal row is equal to the Quantity (Primary or Secondary) of all the cost items in the CBS with that assigned Account Code, and the cost items in the CBS employing resources with that assigned Account Code, provided that they have the same Unit of Measure type as the Account Code.
- Detail rows for each terminal row represent the cost items assigned to the terminal Account Code, including cost items employing resources that are assigned to the terminal Account Code.
- The Account Code Utilization Register can be filtered to display only terminal items by clicking the drop down arrow on the Is Terminal column and selecting Checked.
- When an Account Code is assigned to an employed resource, the resource's total Cost/Mhrs are removed from the Account Code associated with the cost item and placed, instead, in the Account Code assigned to the employed resource.

The parent-child hierarchy for Account Codes is based on the **Account Code Hierarchy Separator**, which is located from the Backstage View **Settings** under the **Options** drop down labeled as **Account Code Settings**. The Hierarchy Separator defines the parent-child relationship within the Account Code structure.

The Account Code Utilization Register is used primarily for analysis, and most of the columns are read-only. Most of these columns originate on the Account Codes tab in the **Foundation Setup Data Register** and the **Master Foundation Setup Data Register**. Modifying an editable column on this form has the same effect as modifying the same field on the Account Codes tab of the Foundation Setup Data Register or on the Account Record. For further information, see **Creating Account Codes**.

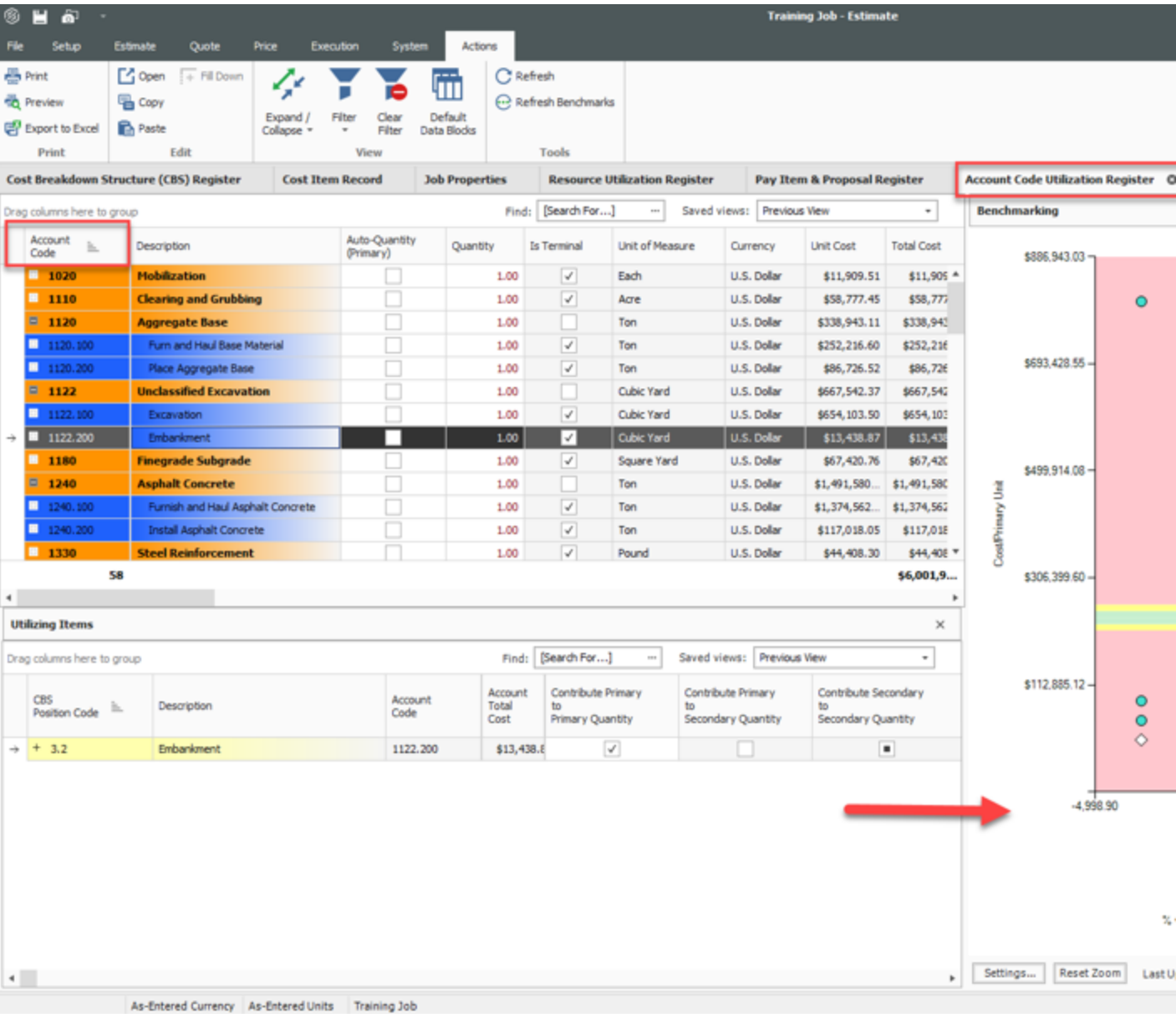
The Benchmarking portion of the form is similar to the **Benchmarking** data block on the Cost Item Record, with the following exceptions:

- The Item Matching criteria is always Account Code.
- Parent account codes will include all matching data points for their child account codes, based on the Hierarchy Separator.
- Account Code rows can be benchmarked at the terminal row level or at any superior row level in the Account Code Utilization Register, meaning that both current estimate values and benchmark values can be compared at any level since both include the values rolled up from their children.

Opening the Account Code Utilization Register

Step by Step — Opening the Account Code Utilization Register

1. From the Backstage View, select **Library** from the left pane navigation.
2. From the Ribbon, select the **Estimate** tab.
3. Under the section Master Breakdown Structures, select **Account Code Utilization**. The Account Code Utilization Register opens.



Account Code Management

The make-up of account codes is dictated by the specifications of your cost accounting system. Each code represents one cost account. Account Codes serve as a standardized coding system to track like operations across a company, for the purpose of global reporting and benchmarking. Multiple CBS cost items can be coded to the same account code if they fall under the same category.

Once an account code has been assigned to each cost item in a job's Cost Breakdown Structure (CBS), the software can automatically or manually summarize all like assignments into one budget line (for each account). Budgets can be captured for both primary and secondary quantities.

Account codes are often used to summarize cost items into standardized categories for use in benchmarking and estimating applications.

They are useful for large company that use multiple levels of accounting-related cost codes for their budget. They are extremely useful for benchmarking purposes. Account Codes provide a common language (set of codes) that you can use across systems.

Account codes can be used to track: quantity, budget, account code tags, unit cost.

Account Code Setup

Account Codes can be setup for a project from the **Foundation Setup Data Register** under the **Account Codes** tab. The columns for populating account code information are as follows:

Column	Description
Utilized	This is a checkbox denoting whether or not the account code is assigned to a cost item in the project.
Account Code	The alpha numeric sequence assigned as the code.
Description	Description detailing the account code's scope.
Unit of Measure	The primary unit of measure for the account code.
Secondary Unit of Measure	The secondary unit of measure for the account code.
Currency	The currency assigned to the account code.
Auto-Quantity (Primary)	Automatically roll up cost item quantities if the cost items and this account code have the same

Column	Description
	primary UoMs. It can also be set on a project specific basis.
Quantity	The default quantity for the account code.
Auto-Quantity (Secondary)	Automatically roll up cost item quantities if the cost items and this account code have the same secondary UoMs. It can also be set on a project specific basis.
Secondary Quantity	The secondary quantity for the 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.

Create an Account Code

Account Codes can be created for the project level within a project or for multiple projects within the **Library**. Account Codes should be as detailed as possible to most accurately benchmark work. Only lead estimators or estimators with a lot of experience should create new account codes.

The master set of Account Codes is created and stored in the **Library** on the **Master Foundation Setup Data** under the **Account Codes** tab. When a new folder is created, the master set is automatically copied from the Library to the new folder.

If you feel the current job requires new or different Account Codes to adequately organize the job's budget, you can change, create, or delete them any time you wish. Account Codes can also be created on-the-fly in the folder.

Step by Step — Create an Account Code

1. From the Setup tab, select the **Foundation Setup Data** drop down and then **Account Codes**.
2. From the **Actions** tab, under the Edit section, select **New**.
3. Enter a unique account code **TEST – Your Initials**. Enter the description **Test Account Code**. Select a Unit of Measure. Enter a quantity.

Info Tags / User Defined Fields

Account Code: TEST DS

Description: Test Account Code

Unit of Measure: Day

Quantity:

Currency: U.S. Dollar

Quantity Contributor: ☐ Primary to Primary ☐ Primary to Secondary ☐ Secondary to Secondary

Utilized: ☐

Auto-Quantity: ☐ Primary ☐ Secondary

Notes:

4. When you are done, click **OK**.
5. Your account code is added to the bottom of the register. The **Utilized** column is unchecked because your account code has not yet been utilized.

Account Codes		Tags	Work Breakdown Structures	Quote Group Tags	Units of Measure	Currencies	Resource / Assembly Files
Drag columns here to group							
	Utilized	Account Code 	Description	Unit of Measure	Secondary Unit Of Measure	Currency	Auto-Quantity (Primary)
	 ☒	1754.300	Install 36 RCP	Linear Feet		U.S. Dollar	☐
	 ☒	1754.400	Backfill 36 RCP	Cubic Yard		U.S. Dollar	☐
	 ☒	1762	10 Inch PVC Force Main	Linear Feet		U.S. Dollar	☐
	 ☒	1763.300	Backfill 24 PVC Gravity Sewer	Cubic Yard		U.S. Dollar	☐
	 ☒	8000	Toll Booths	Each		U.S. Dollar	☐
	 ☒	9000	Risk	Each		U.S. Dollar	☐
	 ☒	CSI-01800	Facility Operations	Lump Sum		U.S. Dollar	☐
→	 ☐	TEST DS	Test Account Code	Day		U.S. Dollar	☐
*	 ☐						☐

Edit an Account Code

Editing an account code is also done through the Foundation Setup Data tab and selecting Account Codes.

Step by Step — Edit an Account Code

1. Select your account code.
2. From the **Actions** tab, under the Edit section, select **Open**.
3. Select the Auto-Quantity **Primary** check box. Notice that your quantity goes to **0**.

Account Code: *

TEST DS

Description:

Test Account Code

Unit of Measure:

Day

Quantity:

0.00

Currency:

U.S. Dollar

Quantity Contributor:

☐ Primary to Primary ☐ Primary to Secondary ☐ Secondary to Secondary

Utilized:

☐

Auto-Quantity:

☒ Primary ☐ Secondary

4. Enter some notes in the **Notes** field.

Utilized:

☐

Auto-Quantity:

☒ Primary ☐ Secondary

Notes:

This is my test account code.

5. Click on the **Tags/User Defined Fields** tab. From the Tag 1 drop down arrow, select **Concrete**.

Info

Tags / User Defined Fields

Tag 1:

Concrete

Tag 2:

Code

Description

Tag 3:

ConcreteConcrete

Tag 4:

PipePipe

Tag 5:

Tag 6:

Tag 7:

Tag 8:

Tag 9:

Tag 10:

User Defined 1:

6. Enter in **test** in the **User Defined 1** field. Once done, click **OK**.

Quantity Contribution

At the project level, you can manage account codes under the **Account Code Utilization Register** or in **Foundation Setup Data**. In the **Account Code Utilization Register**, you can see the account codes assigned to your cost items, along with account code details and quantity contributors.

Other budget information is automatically pulled into the **Account Code Utilization Register** including, Total Cost, Unit Cost, Unit Rates, Primary and Secondary Quantity Ratios, Man Hours, and Account Code Tags. To access this information, scroll through all of the columns in the **Account Code Utilization Register**.

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

Foundation Setup Data Register		Cost Breakdown Structure (CBS) Register		Work Breakdown Structure Record		Account Code Utilization Register		
Drag columns here to group								
	Account Code	Description	Auto-Quantity (Primary)	Quantity	Is Terminal	Unit of Measure	Auto-Quantity (Secondary)	Secondary Quantity
→	1020	Mobilization	☐	1.00	☒	Each	☐	0.00
	1110	Clearing and Grubbing	☐	1.00	☒	Acre	☐	0.00
	1120	Aggregate Base	☐	1.00	☒	Ton	☐	0.00
	1120.100	Furn and Haul Base Material	☐	1.00	☒	Ton	☐	0.00
	1120.200	Place Aggregate Base	☐	1.00	☒	Ton	☐	0.00
	1122	Unclassified Excavation	☐	1.00	☒	Cubic Yard	☐	0.00
	1122.100	Excavation	☐	1.00	☒	Cubic Yard	☐	0.00
	1122.200	Embankment	☐	1.00	☒	Cubic Yard	☐	0.00

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

Contribute Primary to Primary Quantity	Contribute Primary to Secondary Quantity	Contribute Secondary to Secondary Quantity
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐

Account codes will only automatically inherit quantities from cost items/account codes using the same unit of measure.

Contribution Options – Cost Item to Account Code

From the **Account Code Utilization Register**, 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.

Cost Breakdown Structure (CBS) Register Job Properties Foundation Setup Data Register Account Code Utilization Register											
Drag columns here to group											
Account Code	Benchmark MH/ Unit (low)	Benchmark MH/ Unit (high)	Benchmark MH/ Unit (average)	Benchmark MH/ Unit (% variance)	Benchmark MH/ Unit (std. dev.)	Benchmark Units/ MH (low)	Benchmark Units/ MH (high)	Benchmark Units/ MH (std. dev.)	Benchmark Units/ MH (% variance)	Contribute Primary to Primary Quantity	Contribute Primary to Secondary Quantity
1020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	☐	☐
1110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	☐	☐
1120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	☐	☐
1120.100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	☐	☐
1120.200	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	☐	☐
1122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	☐	☐
1122.100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	☐	☐
59											

Utilizing Items											
Drag columns here to group											
CBS Position Code	Description	Account Code	Account Total Cost	Account Total Man Hours	Account Total Man Hours (Maintenance)	Account Total Man Hours (w/ Maintenance)	Contribute Primary to Primary Quantity	Contribute Primary to Secondary Quantity	Contribute Secondary to Secondary Quantity		
+ 3.1	Excavation	1122.100	\$149,922.88	1,250.00	75.00	1,325.00	☒	☐	☐		

Account Code Utilization Register

The **Account Code Utilization Register** keeps track of how the account codes are used for the project. It displays the mapping between CBS items and Account Codes.

The Account Code Utilization Register is accessed through the **Estimate** tab from either within the project (for project specific account codes and cost items) or the **Library** (for Master account codes and cost items).

Account code hierarchy rolls up based on your assignments (just like in the CBS). Quantity contributors (discussed above) can be employed from within the Account Code Utilization Register.

The Account Code Utilization Register is used to roll estimate line items into an account code hierarchy, with the ability to control which cost items contribute quantity to their parent, in order to benchmark against historical projects in a way that is consistent across projects.

The Account Code Utilization Register is similar to the **Cost Breakdown Structure (CBS)** and the **Master Cost Breakdown Structure (CBS)**, with the following exceptions:

- The rows in the Account Code Utilization Register represent Account Codes rather than individual Cost Items, so the tree structure reflects the Account Code hierarchy rather than the CBS hierarchy.
- The Utilizing Items data block in the Account Code Utilization Register reflect a terminal Account Code's assigned Cost Items.
- The terminal rows in the Account Code Utilization Register represent each utilized Account Code in the CBS.

Cost Breakdown Structure (CBS) Register

Account Code Utilization Register

Foundation Setup Data Register

Drag columns here to group

Account Code	Description	Auto-Quantity (Primary)	Quantity	Is Terminal	Unit of Measure
1020	Mobilization	☐	1.00	☒	Each
1110	Clearing and Grubbing	☐	1.00	☒	Acre
1120	Aggregate Base	☐	1.00	☒	Ton
1120.100	Furn and Haul Base Material	☐	1.00	☒	Ton
→ 1120.200	Place Aggregate Base	☒	1.00	☒	Ton
1122	Unclassified Excavation	☐	1.00	☒	Cubic Yard
1122.100	Excavation	☐	1.00	☒	Cubic Yard
1122.200	Embankment	☐	1.00	☒	Cubic Yard
1180	Finegrade Subgrade	☐	1.00	☒	Square Yard
1240	Asphalt Concrete	☐	1.00	☒	Ton
1240.100	Furnish and Haul Asphalt Concrete	☐	1.00	☒	Ton
1240.200	Install Asphalt Concrete	☐	1.00	☒	Ton
1330	Steel Reinforcement	☐	1.00	☒	Pound
1340	Retaining Wall	☐	1.00	☒	Cubic Yard

60

←

Utilizing Items

Drag columns here to group

CBS Position Code	Description	Account Code	Account Total Cost	Account Total Man Hours	Account Total Man Hours
→ + 4.3.1	Place Aggregate Base	1120.200	\$73,460.92	1,200.00	
+ 4.3.2	Blue Top Aggregate Base	1120.200	\$24,106.42	640.00	

- If the Account Code's Auto-Quantity setting is checked, then the Quantity of the terminal row is equal to the Quantity (Primary or Secondary) of all the cost items in the CBS with that assigned Account Code, and the cost items in the CBS employing resources with that assigned Account Code, provided that they have the same Unit of Measure type as the Account Code.

Cost Breakdown Structure (CBS) Register			Account Code Utilization Register		Foundation Setup Data Register		Job Properties	
Drag columns here to group								
Account Code	Description	Auto-Quantity (Primary)	Quantity	Is Terminal	Unit of Measure	Auto-Quantity (Secondary)	Se	Qu
1020	Mobilization	☐	1.00	☒	Each	☐		
1110	Clearing and Grubbing	☐	1.00	☒	Acre	☐		
1120	Aggregate Base	☐	1.00	☒	Ton	☐		
1120.100	Furn and Haul Base Material	☐	1.00	☒	Ton	☐		
1120.200	Place Aggregate Base	☒	45,000.00	☒	Ton	☐		
1122	Unclassified Excavation	☐	1.00	☒	Cubic Yard	☐		
1122.100	Excavation	☐	1.00	☒	Cubic Yard	☐		
1122.200	Embankment	☐	1.00	☒	Cubic Yard	☐		
1180	Finegrade Subgrade	☐	1.00	☒	Square Yard	☐		
1240	Asphalt Concrete	☐	1.00	☒	Ton	☐		
1240.100	Furnish and Haul Asphalt Concrete	☐	1.00	☒	Ton	☐		
1240.200	Install Asphalt Concrete	☐	1.00	☒	Ton	☐		
1330	Steel Reinforcement	☐	1.00	☒	Pound	☐		
1340	Retaining Wall	☐	1.00	☒	Cubic Yard	☐		
60								
Utilizing Items								
Drag columns here to group								
CBS Position Code	Description	Account Code	Optional Code	Forecast (T/O) Quantity	Unit of Measure			
+ 4.3.1	Place Aggregate Base	1120.200	4.3.1	45,000.00	Ton			
+ 4.3.2	Blue Top Aggregate Base	1120.200	4.3.2	400,000.00	Square Yard			

- The Account Code Utilization Register can be filtered to display only terminal items by clicking the filter icon on the “Is Terminal” column and selecting “Checked”.

columns here to group

Account Code	Description	Auto-Quantity (Primary)	Quantity	Is Terminal	Unit of Measure
1122	Unclassified Excavation	☐	1.00	☐ (Custom)	
1122.100	Excavation	☐	1.00	☐ (Blanks)	
1122.200	Embankment	☐	1.00	☐ (Non blanks)	
1180	Finegrade Subgrade	☐	1.00	☒ Checked	
1240	Asphalt Concrete	☐	1.00		
1240.100	Furnish and Haul Asphalt Concrete	☐	1.00		
1240.200	Install Asphalt Concrete	☐	1.00	☒	Ton
1330	Steel Reinforcement	☐	1.00	☒	Pound
1340	Retaining Wall	☐	1.00	☒	Cubic Yard
1340.100	Furnish Retaining Wall Materials	☐	1.00	☒	Cubic Yard
1340.200	Retaining Wall Footings	☐	1.00	☒	Cubic Yard

- The parent-child hierarchy for Account Code is based on the Account Code Hierarchy Separator. The Hierarchy Separator defines the parent-child relationship within the Account Code structure.
- The Account Code Utilization Register is used primarily for analysis, and most of the columns are read-only. Most of these columns originate on the Account Codes tab in the **Foundation Setup Data Register** and the **Master Foundation Setup Data Register**. Modifying an editable column on this form has the same effect as modifying the same field on the Account Codes tab of the Foundation Setup Data Register or on the Account Record.

File

Setup

Estimate

Quote

Price

Execution

System

Actions

Job Properties

Foundation Setup Data

Pay Item & Proposal

Bid Wizard

Resource Rates

Labor

Equipment

Materials

Resource Assemblies

Cost Item Assemblies

Initialize

Resources

Assem

Cost Breakdown Structure (CBS) Register

Account Code Utilization Register

Foundation S

Account Codes

Tags

Work Breakdown Structures

Quote Group Tags

Units of Measure

Currencies

Drag columns here to group

Step by Step — Account Code Utilization Register

- 1. From the Estimate tab under the Breakdown Structures section, select **Account Code Utilization**.
- 2. Select an account code. You can see the cost items that are using the account code below in the **Utilizing Items** data block.

Cost Breakdown Structure (CBS) Register			Cost Item Assembly Register		Cost Item Assembly Record		Foundation Setup Data	
Drag columns here to group								
	Account Code	Description	Auto-Quantity (Primary)	Quantity	Is Terminal	Unit of Measure	Auto-Quantity (Secondary)	
	1020	Mobilization	☐	1.00	☒	Each	☐	
	1110	Clearing and Grubbing	☐	1.00	☒	Acre	☐	
→	1120	Aggregate Base	☐	1.00	☒	Ton	☐	
	1120.100	Furn and Haul Base Material	☐	1.00	☒	Ton	☐	
	1340.300.200	Pour Wall	☐	1.00	☒	Cubic Yard	☐	
	1340.300.200	Gravel Wall	☐	1.00	☒	Cubic Yard	☐	
58								
Utilizing Items								
Drag columns here to group								
	CBS Position Code	Description	Account Code	Account Total Cost	Account Total Man Hours	Account Total Man Hours (Maintenance)		
→	+ 4	Aggregate Base	1120	\$0.00	0.00	0.00		
	+ 4.3	Install Aggregate Base	1120	\$0.00	0.00	0.00		

3. Scroll to the right and find the **Man Hours (w/ Maintenance)** column. This shows the total number of manhours contributing to that account code.
4. Click the ellipses next to the **Find** bar. Select **Unit of Measure**.

☒

Find using 'begins with'

☐

Find using 'contains'

☐

*Account Code

☐

Benchmark Data Points

☐

CB-Currency

☐

CB-Unit of Measure

☐

Currency

☐

Description

☐

OB-Currency

☐

OB-Unit of Measure

☐

Secondary Unit Of Measure

☐

Tag 1

☐

Tag 8

☐

Tag 9

☒

Unit of Measure

☐

User Defined ID

5. In the **Find** field, type in **Each**. Then press <Enter>.

Find:

Each

...

↩

Saved views:

T	Contribute Primary to Primary Quantity	Contribute Primary Secondary Quantity
---	---	--

6. The first account code that matches that Unit of Measure is highlighted.

Drag columns here to group

Account Code	Description	Auto-Quantity (Primary)	Quantity	Is Terminal	Unit of Measure	Auto-Quantity (Secondary)	Secondary Quantity	Secondary Unit Of Measure
→ 1020	Mobilization	☐	1.00	☒	Each	☐	0.00	
1110	Clearing and Grubbing	☐	1.00	☒	Acre	☐	0.00	
1120	Aggregate Base	☐	1.00	☒	Ton	☐	0.00	
1120.100	Furn and Haul Base Material	☐	1.00	☒	Ton	☐	0.00	
1120.200	Place Aggregate Base	☐	1.00	☒	Ton	☐	0.00	
1122	Unclassified Excavation	☐	1.00	☒	Cubic Yard	☐	0.00	
1122.100	Excavation	☐	1.00	☒	Cubic Yard	☐	0.00	
1122.200	Embankment	☐	1.00	☒	Cubic Yard	☐	0.00	
1122.300	Excavate Subgrade	☐	1.00	☒	Cubic Yard	☐	0.00	

7. Press <F3> to move to the next account code that matches that UoM.

Drag columns here to group

	Account Code	Description	Auto-Quantity (Primary)	Quantity	Is Terminal	Unit of Measure	Auto-Quantity (Secondary)	Secondary Quantity	Secondary Unit Of Measure
→	1370	Paint Steel Bridge Structure	☐	1.00	☒	Each	☐	0.00	
	1700	4 Ft Manhole	☐	1.00	☒	Each	☐	0.00	
	1754	36 Inch RCP	☐	1.00	☒	Linear Feet	☐	0.00	
	1754.100	Furnish 36 RCP Materials	☐	1.00	☒	Linear Feet	☐	0.00	
	1754.200	Excavate 36 RCP	☐	1,858.56	☒	Cubic Yard	☐	0.00	
	1754.300	Install 36 RCP	☐	1.00	☒	Linear Feet	☐	0.00	
	1754.400	Backfill 36 RCP	☐	1.00	☒	Cubic Yard	☐	0.00	
	1762	10 Inch PVC Force Main	☐	1.00	☒	Linear Feet	☐	0.00	
	1762	24 Inch PVC Force Main	☐	1.00	☒	Linear Feet	☐	0.00	

8. 8. You can change the quantity contribution of the cost items by checking and unchecking the boxes of the cost items.

Utilizing Items									
Drag columns here to group									
	CBS Position Code	Description	Account Code	Account Total Cost	Account Total Man Hours	Account Total Man Hours (Maintenance)	Account Total Man Hours (w/ Maintenance)	Optional Code	Forecast (T/O) Quantity
+	5.1	Furnish & Haul Hot Mix	1240.100	\$1,374,562.54	1,633.33	0.00	1,633.33	5.1	

Benchmarking

Benchmarking is a way for companies to track their productivity on all of their different projects. Since projects have various cost items and pay items, a way to benchmark and track all of these job uniformly is using account codes. When an account code is assigned to a cost item, the account code tracks all benchmarking data such as total manhours, MH/unit, and quantities.

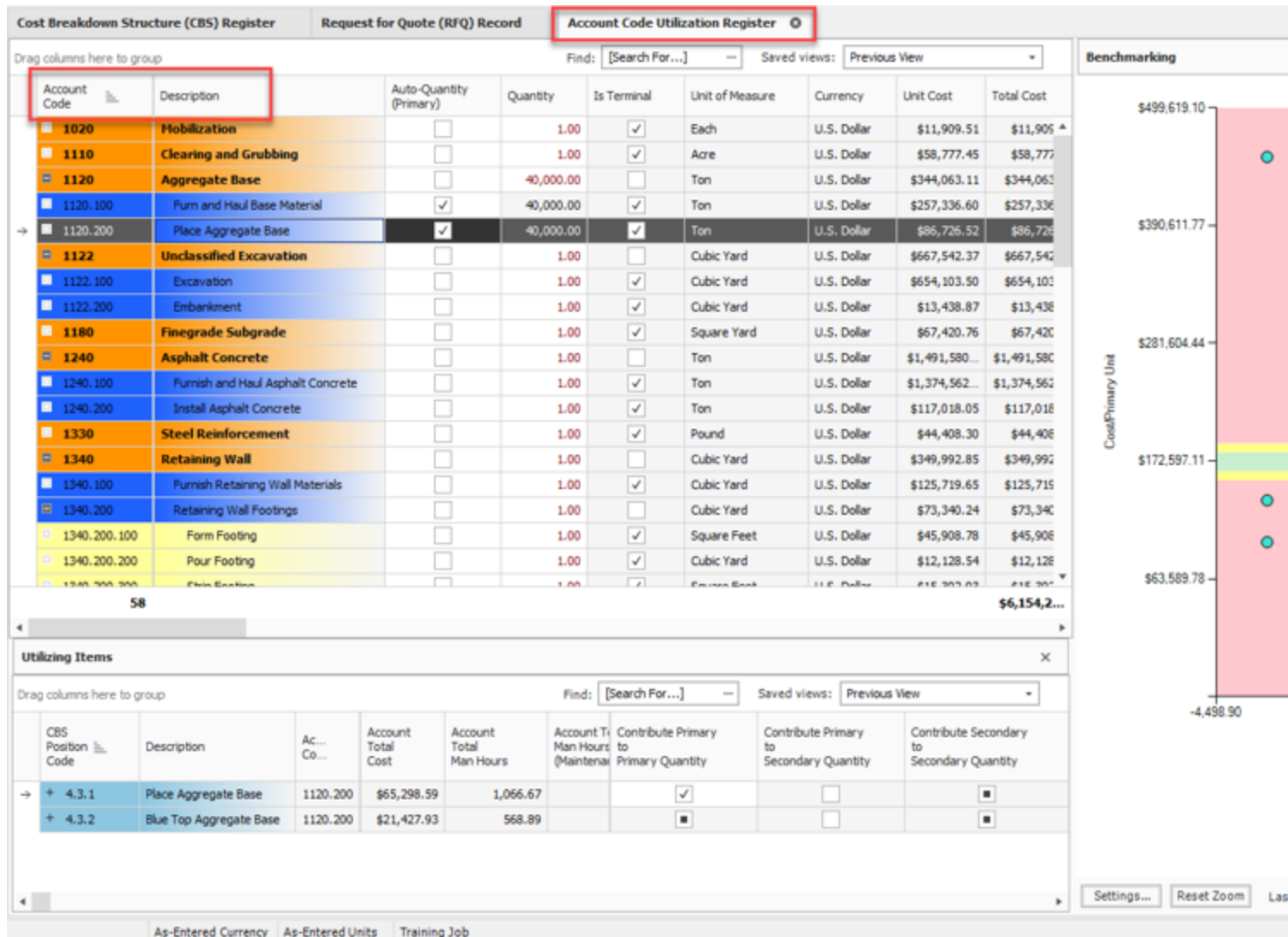
In the Account Code Utilization Register, you can scroll through the columns to find benchmarking data on each account code.

Cost Breakdown Structure (CBS) Register		Job Properties		Foundation Setup Data Register		Account Code Utilization Register		
Drag columns here to group								
	Account Code	Benchmark MH/ Unit (low)	Benchmark MH/ Unit (high)	Benchmark MH/ Unit (average)	Benchmark MH/ Unit (% variance)	Benchmark MH/ Unit (std. dev.)	Benchmark Units/ MH (low)	Benchmark Unit MH (high)
→	1020	0.00	0.00	0.00	0.00	0.00	0.00	
	1110	0.00	0.00	0.00	0.00	0.00	0.00	

Another way projects can benchmark is by using account code tag fields. All of the account codes with the same tags can be benchmarked together.

Also in the Account Code Utilization Register, you can use the Benchmarking Data block to view benchmarked data. The Benchmarking portion of the form is similar to the Benchmarking data block on the Cost Item Record, with the following exceptions:

- The Item matching criteria is always Account Code.
- "Parent" account codes will include all matching data points for their "child" account codes, based on the Hierarchy Separator.
- Account Code rows can be benchmarked at the terminal row level or at any superior row level in the Account Code Utilization Register, meaning that both current estimate values and benchmark values can be compared at any level since both include the values rolled up from their "children".



In the **Setup** tab, under **Job Properties - Benchmarking** tab, you can select where this project will get its historical data. You can set criteria and filters to just pull in certain account codes, certain project data, and certain cost items. You can also configure the Benchmark graph here.

Account Code Assignment

An Account Code can be mapped to multiple CBS items, but a CBS item can only be mapped to one Account Code. Assigning Account Code to cost items is done for benchmarking purposes. It is best

practice to assign account codes to cost items in the estimate phase rather than after the project is awarded and work begins. This is beneficial for tracking account codes over the life of the project (from estimate to completion).

Typically every cost item should be assigned an account code whether it is a terminal cost item or parent cost item.

Account Codes can be assigned directly on the individual cost item, job overhead, or pay item forms.

Step by Step — Assign an Account Code to a Cost Item

1. From the Ribbon, select the **Estimate** tab. Then select **Cost Breakdown Structure (CBS)**.
2. Change the Saved Views to **Account Code View**.
3. Double click on a cost item that has not been assigned an account code.

24.1	Change Order One- Realign the Water	1.00	Each	\$6,430.12	\$6,430.12	U.S. Dollar	
→ + 24.1.1	Day One	1.00	Each	\$2,785.08	\$2,785.08	U.S. Dollar	
+ 24.1.2	Day Two	1.00	Each	\$3,645.03	\$3,645.03	U.S. Dollar	
25	Test Cost Item Assembly - Ductbank	1.00	Each	\$0.00	\$0.00	U.S. Dollar	
+ 25.1	Excavate Ductbank Conduit	222.22	CV	\$0.00	\$0.00	U.S. Dollar	

4. In the **Employment Setup** section, click on the **Cost Item Setup** icon, and find **Default Properties**.

Cost Item Setup [X]

Default Pay Rules

Scale 1: Scale 2: Scale 3:

Composite Wage Scale: 100.00 0.00 0.00

For every 8.00 hours worked, pay 8.00 hours

Default Shift Arrangements

Work Hours per Shift: Shifts per Day: Days per Week:

8.00 1.00 5.00

Default Properties

Account Code: [icon]

Cost Curve: Linear

Worker's Comp Override:

Tag 1:

Tag 2:

Tag 3:

Tag 4:

Tag 5:

Quantity Driver: Superior CI

Quote Group Tag:

Minority Goal Allowance: 100.00

Phase Code:

[icon] [icon] [icon] [icon] [icon] [icon] [icon] [icon]

5. Click the icon next to the **Account Code** field. From the Account Codes Register, select your account code. Click **OK**. Once done, click **OK**.

Default Properties

Account Code:

Cost Curve:

Linear

Worker's Comp Override:

Tag 1:

6. Find that cost item in the CBS. Notice that the **Account Code** field is now populated.

24	Change Orders	1.00	Each	\$6,430.12	\$6,430.12	U.S. Dollar	
24.1	Change Order One- Realign the Water	1.00	Each	\$6,430.12	\$6,430.12	U.S. Dollar	
→ + 24.1.1	Day One	1.00	Each	\$2,785.08	\$2,785.08	U.S. Dollar	TEST D
+ 24.1.2	Day Two	1.00	Each	\$3,645.03	\$3,645.03	U.S. Dollar	

Estimate provides you with the ability to assign specific account codes to each pay item on the **Pay Item & Proposal Register**.

Step by Step — Account Code Utililzation Register

- 1. From the Price tab, select **Pay Item & Proposal**.
- 2. From the **Pay Item & Proposal Register**, select a pay item.
- 3. Find the **Account Code** field for that item.

Pay Item Number	% Job Max. Alarm	Unit Price Min. Alarm	Unit Price Max. Alarm	Account Code	Tag 1
+ 641 0100	10.00	\$0.00	\$0.00	1020	Roadway
+ 201 0102	0.00	\$0.00	\$0.00	1110	Roadway
+ 202 0183	0.00	\$0.00	\$0.00	1122	Roadway
+ 303 5912	0.00	\$0.00	\$0.00	1120	Roadway
+ 303 4263	0.00	\$0.00	\$0.00	1240	Roadway
+ 413(B) 0464	0.00	\$0.00	\$0.00	1754	Roadway
+ 800 0220	0.00	\$0.00	\$0.00	1762	Water/Sewer
+ 800 0330	0.00	\$0.00	\$0.00	1763	Water/Sewer
+ 800 0400	0.00	\$0.00	\$0.00	1700	Water/Se...
+ 501(A) 1306	0.00	\$0.00	\$0.00		Bridge
+ 506(A) 1322	0.00	\$1.00	\$1.50		Bridge
+ 503(A) 1313	0.00	\$0.00	\$0.00		Bridge

4. Click the icon in the Account Code field.

+ 800 0400	0.00	\$0.00	\$0.00	1700	Water/Se...
+ 501(A) 1306	0.00	\$0.00	\$0.00		Bridge
+ 506(A) 1322	0.00	\$1.00	\$1.50		Bridge

5. Select an account code that you wish to assign to that pay item. Once done, click **OK**.

Account Codes Register - Training Job

Actions

Drag columns here to group

Find: ... Saved views:

Utilized	Account Code	Description	Auto-Quantity (Primary)	Quantity	Unit of Measure	Auto-Quantity (Secondary)	Se
☒	1110	Clearing and Grubbing	☐	1.00	Acre	☐	
☒	1120	Aggregate Base	☐	1.00	Ton	☐	
☒	1120.100	Furn and Haul Base Material	☐	1.00	Ton	☐	
☒	1120.200	Place Aggregate Base	☐	1.00	Ton	☐	
☒	1122	Unclassified Excavation	☐	1.00	Cubic Yard	☐	
☒	1122.100	Excavation	☐	1.00	Cubic Yard	☐	
☒	1122.200	Embankment	☐	1.00	Cubic Yard	☐	
☒	1180	Finegrade Subgrade	☐	1.00	Square Yard	☐	
☒	1240	Asphalt Concrete	☐	1.00	Ton	☐	
☒	1240.100	Furnish and Haul Asphalt C...	☐	1.00	Ton	☐	
☒	1240.200	Install Asphalt Concrete	☐	1.00	Ton	☐	
☒	1330	Steel Reinforcement	☐	1.00	Pound	☐	
☒	1340	Retaining Wall	☐	1.00	Cubic Yard	☐	
☒	1340.100	Furnish Retaining Wall Mat...	☐	1.00	Cubic Yard	☐	
☒	1340.200	Retaining Wall Footings	☐	1.00	Cubic Yard	☐	
☒	1340.200.100	Form Footing	☐	1.00	Square Feet	☐	
☒	1340.200.200	Pour Footing	☐	1.00	Cubic Yard	☐	
☒	1340.200.300	Strip Footing	☐	1.00	Square Feet	☐	

60

OK

6. Notice how the account code you selected is now populated in that pay item's account code field.

Drag columns here to group

	Pay Item Number	% Job Max. Alarm	Unit Price Min. Alarm	Unit Price Max. Alarm	Account Code
	+ 641 0100	10.00	\$0.00	\$0.00	1020
	+ 201 0102	0.00	\$0.00	\$0.00	1110
	+ 202 0183	0.00	\$0.00	\$0.00	1122
	+ 303 5912	0.00	\$0.00	\$0.00	1120
	+ 303 4263	0.00	\$0.00	\$0.00	1240
	+ 413(B) 0464	0.00	\$0.00	\$0.00	1754
	+ 800 0220	0.00	\$0.00	\$0.00	1762
	+ 800 0330	0.00	\$0.00	\$0.00	1763
	+ 800 0400	0.00	\$0.00	\$0.00	1700
→	+ 501(A) 1306	0.00	\$0.00	\$0.00	1330
	+ 506(A) 1322	0.00	\$1.00	\$1.50	

Scope Sheets

A scope sheet is a table of default values pertaining to different scope items within a quote group. It is used to more easily compare quotes.

Cost Breakdown Structure (CBS) Register

Foundation Setup Data Register

Quote Group Tag Record

Description: *

Painting Materials

Award Status:

Complete

Reviewed:

☐

Last Reviewed:

Quote Last Changed:

Drag columns here to group

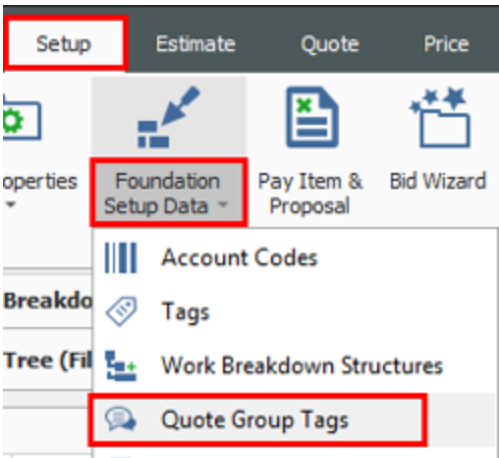
Row Number	Scope Item	Amount	% of Total
*			

Scope sheets can be created from the **Foundation Setup Data Register - Quote Group Tag Record**. You can optionally define a default Amount or % of Total for each scope item.

This is the amount or percentage of total cost to be applied to the total quote if that Scope Item is not included in the scope of a subcontractor/supplier quote. This amount or percentage can also be entered or modified on each **Quote Record**.

Step by Step — Create a Scope Sheet

1. From the Ribbon, select the **Setup** tab. Under the Initialize section, select the Foundation Setup Data drop down, and select **Quote Group Tags**.



- From the Quote Group Tags register, select **Pipe Materials**.
- Select the **Actions** tab from the Ribbon. Then, under the Edit section, select **Open**.
- Under **Row Number**, enter **1** in the first blank row.

Drag columns here to group

	Row Number	Scope Item	Amount	% of Total
	1		\$0.00	

- Under **Scope Item**, enter **5" pipe**.

Drag columns here to group

	Row Number	Scope Item	Amount	% of Total
	1	5" pipe		

- Under the **Amount** section, enter **1000**.

Drag columns here to group

	Row Number 	Scope Item	Amount	% of Total
→	1	5" pipe	\$1,000.00	
*				

7. Fill out the next row as row **2**, **6" pipe**, and **25** as the **% of Total**. Once done, click **OK**.

Drag columns here to group

	Row Number 	Scope Item	Amount	% of Total
	1	5" pipe	\$1,000.00	
→	2	6" pipe		25.00
*				

Scope Sheet Uses

On the **Quote Record - Special Terms & Conditions** tab, you can exclude any scope item that is not included in the scope of a subcontractor/supplier quote. Any default amounts or percentages entered in the **Quote Group Tag Record** default into this tab. You can enter or modify the **Amount** or **% of Total** to be applied to the total quote due to the exclusion of the scope item.

Step by Step — Exclude Scope

1. From the Ribbon, select the **Quote** tab. Under the Quote Management section, select **Quotes**. The Quote Register opens.
2. From the Actions tab, under the Edit section, select **New**.
3. When the Attention dialog box shows, select **Create Quote from Quote Group Tag(s)**. In the Description, check the box next to **Pipe Materials**. Once done, click **OK**.

Attention

Please select from the following options:

☐ Create Quote from scratch

☒ Create Quote from Quote Group Tag(s)

☐ Create Quotes from RFQ

☐ Create Quotes using Default Seller data

☒ Only show Quote Group tags that are currently utilized in this job

☒ On the resulting quote record, only list resources with utilization currently greater than zero

☒ On the resulting quote record, only list resources with utilization currently greater than zero

☐ Create separate Quote records for each Quote Group, per seller?

Description

☐ [Uncheck All]

☐ [Blanks]

☐ Aggregates

☐ Asphalt Materials

☐ Commercial Work

☐ Concrete Materials

☐ Guardrail Work

☐ Manhole Materials

☐ None

☐ Painting Materials

☐ Process Equipment Install

☐ Sign Work

☐ Structural Painting

☒ Pipe Materials

OK

Cancel

4. Select the **Special Terms & Conditions** tab. Uncheck the **Inclusions** box for the **6” pipe**.

Item Prices & Conditions

General Terms & Conditions

Special Terms & Conditions

Seller's Profile

Setup

Notes

Buyer's Special Terms & Conditions

FIXED COST to be added to Seller's awarded total (any combination of items):

\$0.00

Distribute Special Conditions: ☐ Evenly ☒ Using weighted average

☒ Include Special Conditions costs for unawarded quotes in Comparable Totals

Drag columns here to group

Row Number	Scope Item	Quote Group	Inclusions	Amount
1	5" pipe	Pipe Materials	☒	
2	6" pipe	Pipe Materials	☐	

5. Enter the Amount for the **6” pipe** as **1000**.

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Drag columns here to group

	Row Number	Scope Item	Quote Group	Inclusions	Amount 	% of Total	Note
	1	5" pipe	Pipe Materials	☒			
	2	6" pipe	Pipe Materials	☐	 \$1,000.00	0.00	

6. Notice that the total quote price has adjusted.

Price	
Extended:	\$0.00
Item Taxes:	\$0.00
Package Tax Included	
Bond Included	
Item Conditions:	\$0.00
Special Conditions:	\$1,000.00
Total:	\$1,000.00

7.

Quote Comparison and Award Reports

On the Quote Comparison & Award form, you can see the inclusions and exclusions related to all cost items in the job that have quote groups assigned to them, as described in the **Special Terms & Conditions**.

Cost Breakdown Structure (CBS) RegisterFoundation Setup Data RegisterQuote Group Tag RecordQuote RegisterQuote Comparison & Award

Resource ItemsCost Items

Show Items:

By Quote Group(s)

By RFQ(s)

All Items / Column Filtering:

Awarded Total: [sort](#)

\$271,471.20

Quoted Items Total: [sort](#)

Special Conditions: [sort](#)

Quoted Total: [sort](#)

Last Update: [sort](#)

Comparable Total: [sort](#)

Seller: [sort](#)

Saved views: Previous View

	Description	Award Status	Reviewed	Last	Resource Type	Resource Code	Description	Quote Group	Awardee	Account Code	Cost Driver	
☐	[Uncheck All]				Installed Material ...	MPP10	Pipe 10" PVC S...	Pipe Materials	Example Ve...		CI Quan...	En
☐	[Blanks]				Installed Material ...	MPP24	Pipe 24" PVC S...	Pipe Materials	Example Ve...		CI Quan...	En
☐	Asphalt Materials	Complete	☐		Installed Material ...	MPR36	Pipe RCP 36 In	Pipe Materials	Example Ve...		CI Quan...	En
☒	Pipe Materials	Complete	☐									

Reports

Scope sheets can be seen in two reports:

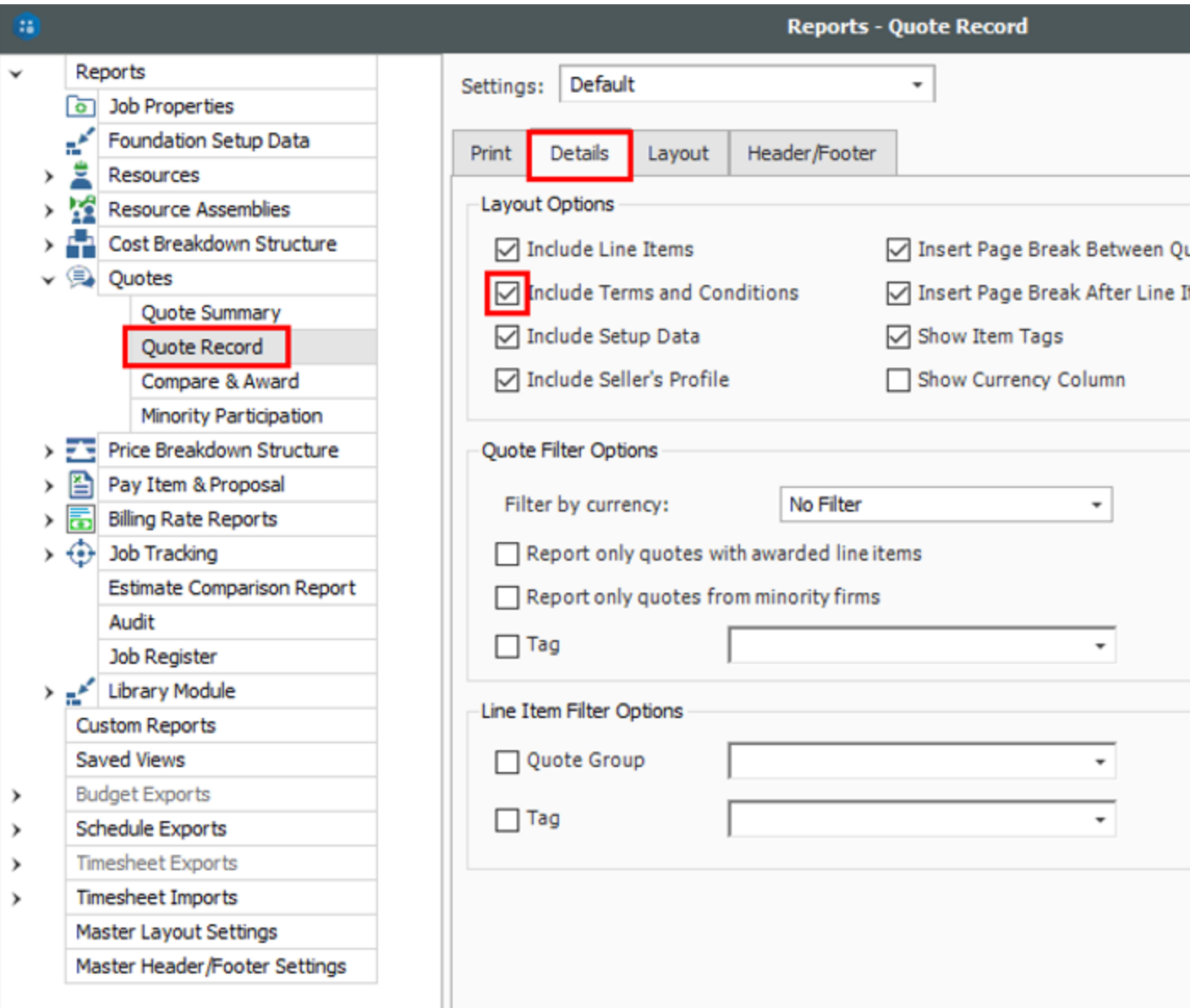
- Quote Record report
- Compare & Award report

Step by Step — Reports

1. From the Ribbon, click on the **Quote** tab. Select the **Reports** option. The Quote Record Report window appears.
2. Under the Quotes drop down, select **Quote Record**. Select the **Details** tab. Check the box next to **Include Terms and Conditions**. Once you are done, click **Run**.

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3. Notice how the scope sheet is shown in the report.

Terms and Conditions

Ignore	Licensed	Insured	Bonded	Bond Cost Per 100
No	No	No	No	0.00

Seller's Conditions

Scope Item Description	Quote Group	Inclu
5" pipe	Pipe Materials	
5" pipe	Pipe Materials	

Seller Setup

4. Under the Quotes report drop down, select **Compare and Award**. Select the **Details** tab. Check the box next to **Include Scope Sheet**. Once you are done, click **Run**.

Reports

Job Properties

Foundation Setup Data

Resources

Resource Assemblies

Cost Breakdown Structure

Quotes

Quote Summary

Quote Record

Compare & Award

Minority Participation

Settings: Default

PrintDetailsFilter OptionsLayoutHeader/Footer

Layout Options

☒ Include Cost Items

☒ Include Substitute Values

☒ Include Resources

☒ Include Special Terms Text

☒ Include Plug and Detail Values

☐ Include Minority Type

☒ Include Scope Sheet

Run

5. Notice how the scope sheet is shown in the report.

Compare and Award

HARD DOLLAR -

Job Code: Training Job

Description: Training Job - Maricopa County No. TM2924

Resource Items

(1 of 1)

Quote Description:

Awarded Total:

Quoted Items Total:

Special Conditions:

Quoted Total:

Last Update:

Comparable Total:

Seller:

Buyer's Special Terms & Conditions:

Seller's Special Terms & Conditions:

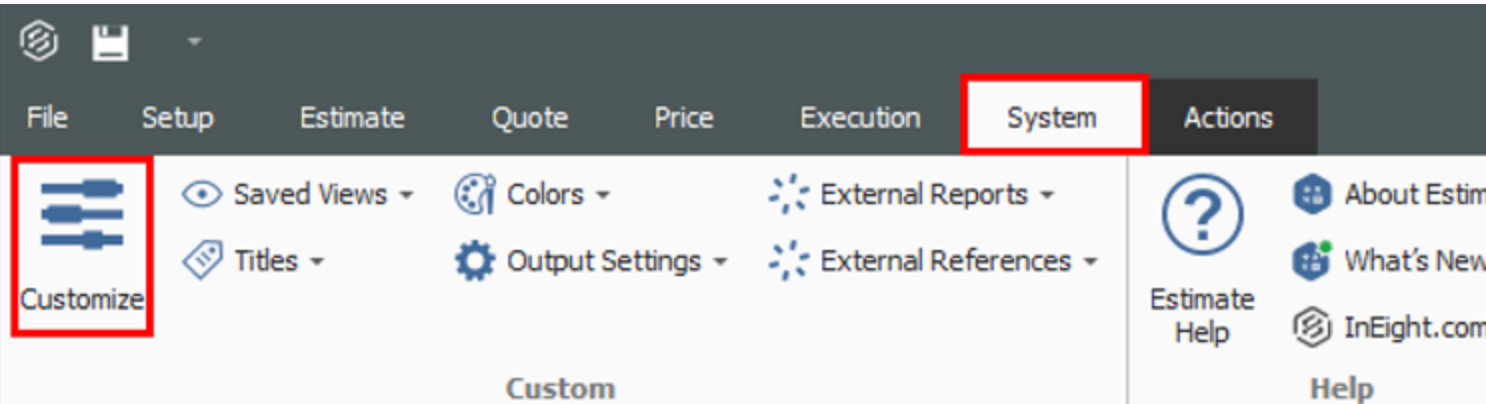
Quote Group	Code	Description	Quantity	UM
Pipe Materials	MPP10	Pipe 10" PVC SDR21	12,600.00	Linear Feet
Pipe Materials	MPP24	Pipe 24" PVC SDR35	3,000.00	Linear Feet
Pipe Materials	MPR36	Pipe RCP 36 in	1,024.00	Linear Feet

Scope Item	Quote Group
5" pipe	Pipe Materials
6" pipe	Pipe Materials

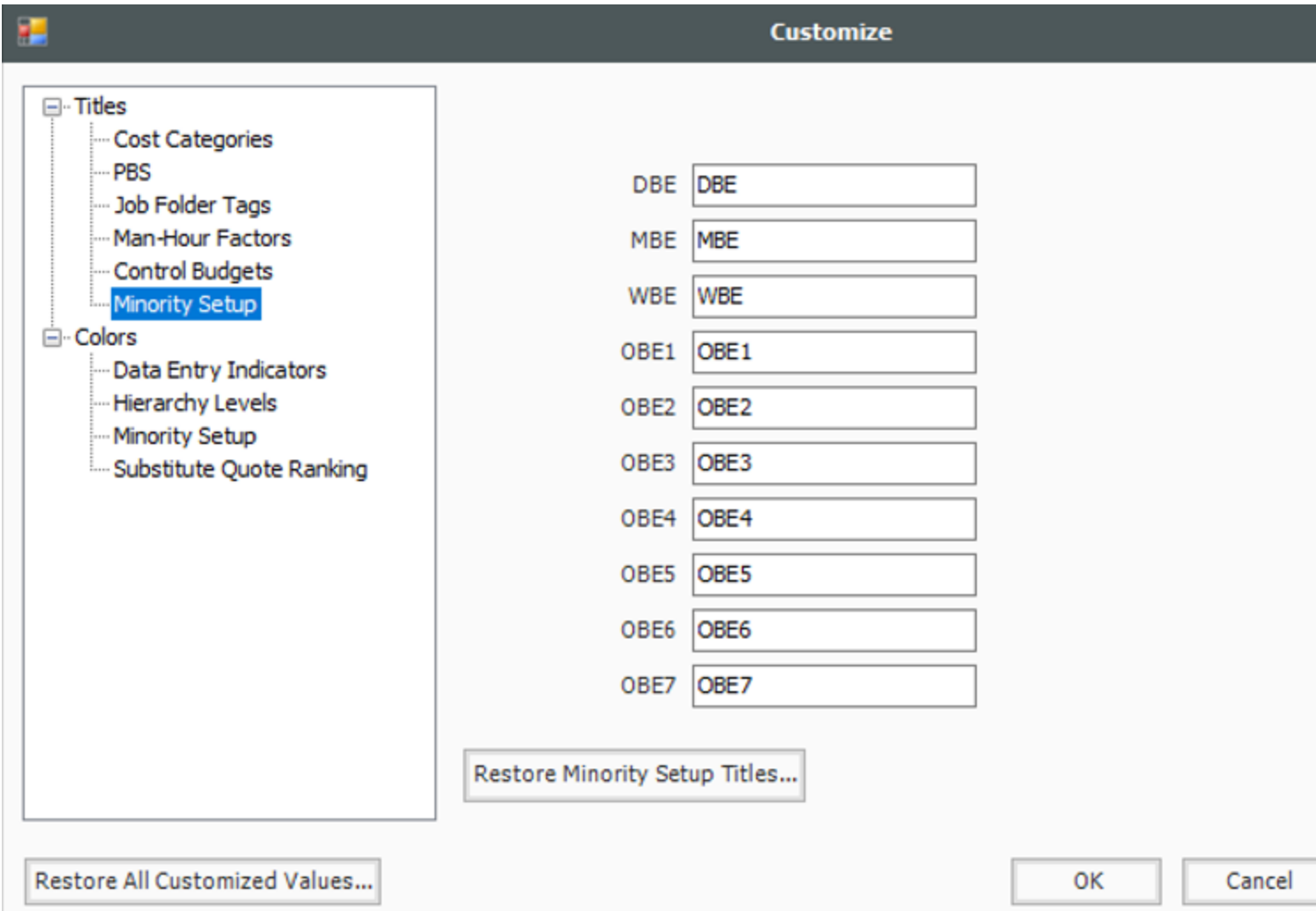
Minority Setup Types

Imagine you are a lead estimator and the job up for bid requires 15% minority participation or good faith efforts. You will want to track this within the estimate to ensure that you are meeting this requirement before executing the bid.

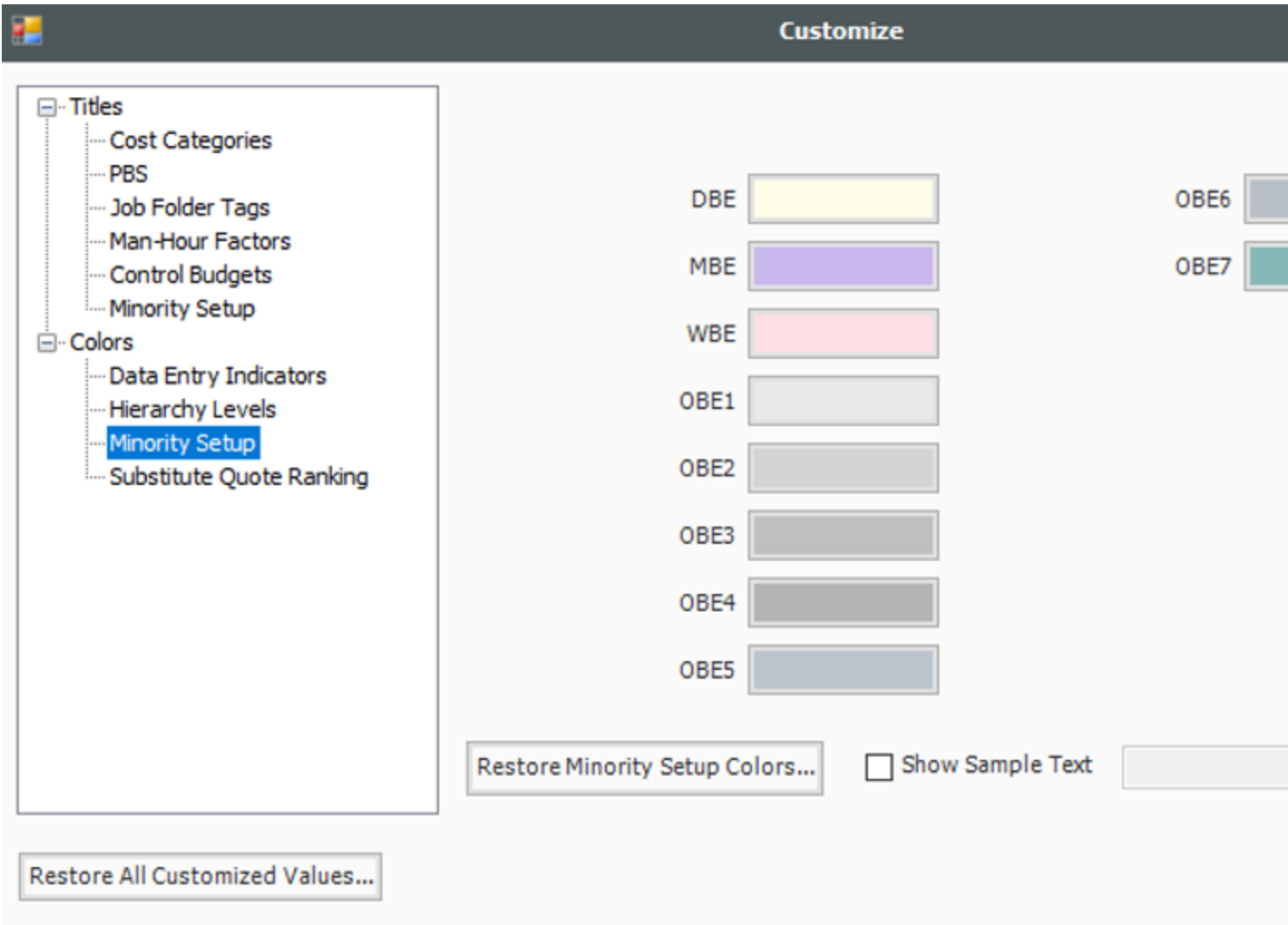
Minority Setup Types can be customized under the **System** tab and clicking on **Customize**.



You can then select Minority setup under **Titles** and customize the minority names.



You can select Minority setup under **Colors** and customized various minority types to help identify them easily.



This enables you to recognize the Minority type of a vendor in registers such as **Quote Comparison** and **Award** just by sight.

Cost Breakdown Structure (CBS) RegisterFoundation Setup Data RegisterQuote Group Tag RecordQuote RegisterQuote Comparison & AwardQuote Record

Resource ItemsCost Items

Show Items:
☒ By Quote Group(s):
☐ By RFQ(s):
☐ All Items / Column Filtering:

Saved views: Previous View

/	Description	Award Status	Reviewed	Last
☐	[Uncheck All]			
☐	[Blanks]			
☐	Asphalt Materials	Complete	☐	
☒	Pipe Materials	Complete	☐	

Resource Type	Resource Code	Description	Quote Group	Awardee	Account Code	Cost Driver	Cost Curv	Plug	Detail
Installed Material ...	MPP10	Pipe 10" PVC S...	Pipe Materials	Example Ve...		CI Quan...	Empl	\$3.28	
Installed Material ...	MPP24	Pipe 24" PVC S...	Pipe Materials	Exa					
Installed Material ...	MPR36	Pipe RCP 36 In	Pipe Materials	Exa					

Awarded Total: \$0.00
\$271,471.20
Quoted Items Total: \$137,646.60
Special Conditions: \$0.00
Quoted Total: \$137,646.60
Last Update: \$137,646.60
Comparable Total: \$137,646.60
Seller: \$137,646.60

Titles

- Cost Categories
- PBS
- Job Folder Tags
- Man-Hour Factors
- Control Budgets
- Minority Setup

Colors

- Data Entry Indicators
- Hierarchy Levels
- Minority Setup
- Substitute Quote Ranking

DBE

MBE

WBE

OBE1

OBE2

OBE3

OBE4

OBE5

Restore Minority Setup Colors

Restore All Customized Values...

You can select a Minority Business Enterprise to assign to the vendor by clicking on the **Minority** tab the **Quote Record**.

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Request for Quote (RFQ) Register

Request

Header

Description: Asphalt Materials

Vendor: <Ad-Hoc Vendor>

Contact: <Ad-Hoc Contact>

Primary Email:

External Ref.:

Resources

Cost Items

Drag columns here to group

Code	Group	Description
MAAM	Materials	Asphalt Mix (Finish)
MAFA	Materials	Fine Aggregate
*		

Quote Record

Optional Code

D

Sou

Curre

Sta

Ign

Total

Extended Price: \$1,062,834.00

Item Taxes: \$53,141.70

Quote Tax:

Bond:

Item Conditions: \$0.00

Special Conditions: \$0.00

Total: \$1,115,975.70

Minority

Minority Business Enterprise

☒ Vendor qualifies as the following type of MINORITY BUSINESS ENTERPRISE on this job:

☒ DBE DBE Certification:

☐ MBE MBE Certification:

☐ WBE WBE Certification:

☐ OBE1 OBE1 Certification:

☐ OBE2 OBE2 Certification:

☐ OBE3 OBE3 Certification:

☐ OBE4 OBE4 Certification:

☐ OBE5 OBE5 Certification:

☐ OBE6 OBE6 Certification:

☐ OBE7 OBE7 Certification:

Special Terms & Conditions

Qualifications

Packages

Taxes

Vendor's Profile

Setup

Minority

OK

Cancel

New...

< Prev

Next >

You can run a Minority Participation report to easily see the progress towards meeting the minority participation goals for a project.

⌵

Reports

Job Properties

Foundation Setup Data

Resources

Resource Assemblies

Cost Breakdown Structure

Quotes

Quote Summary

Quote Record

Compare & Award

Minority Participation

Price Breakdown Structure

Pay Item & Proposal

Billing Rate Reports

Job Tracking

Estimate Comparison Report

Audit

Job Register

Library Module

Custom Reports

Saved Views

Budget Exports

Schedule Exports

Timesheet Exports

Timesheet Imports

Master Layout Settings

Master Header/Footer Settings

Reports - Minority Participation

Settings: Default

Print

Details

Layout

Header/Footer

☐ Print to Printer

Print Settings

Printer:

STRT.COPIER

Change

☐ Export to File

Export Settings

File:

Format:

PDF File

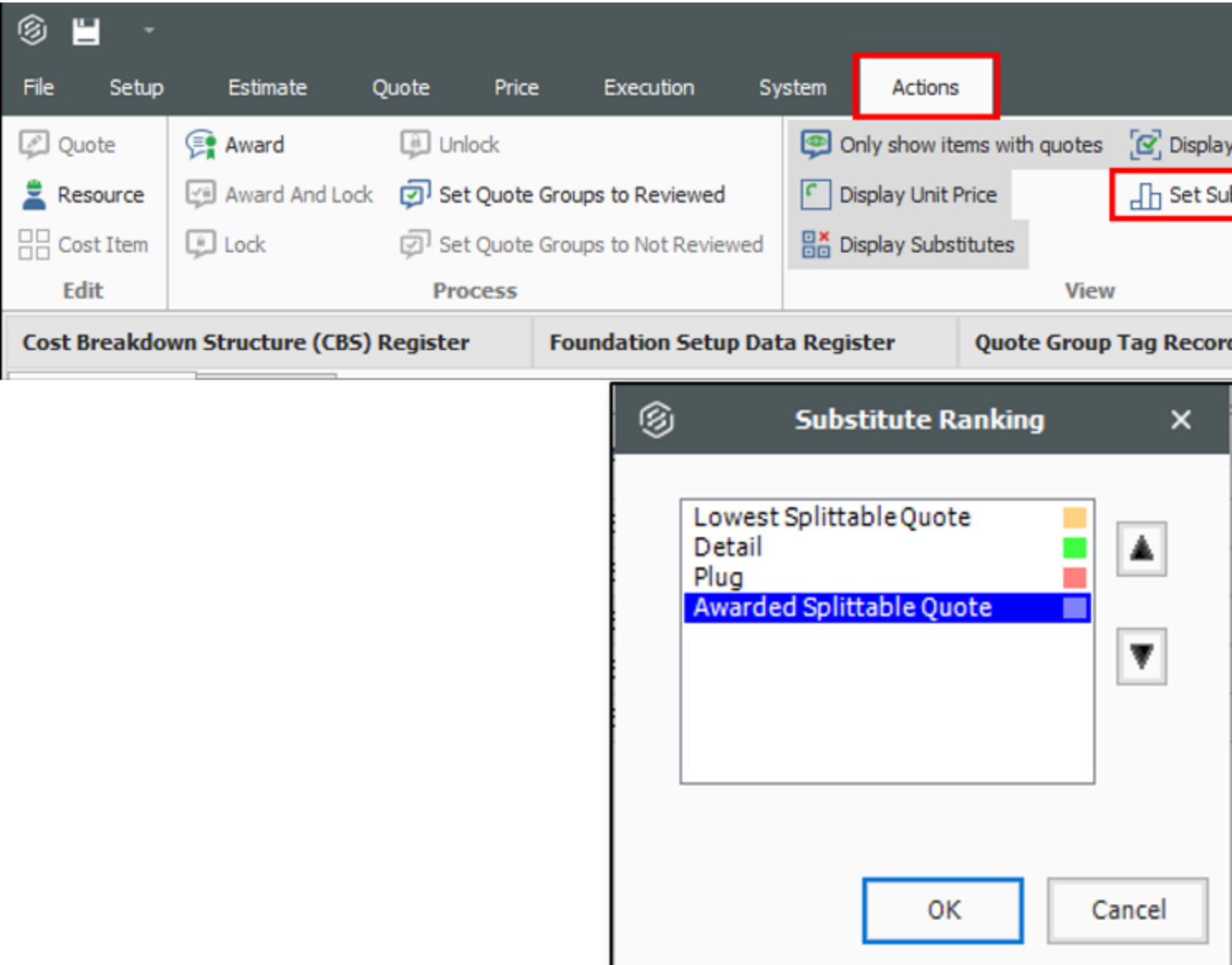
Options

☒ Preview

DBE				
Company: Example Vendor 4 DBE				
Street: 400 Fourth Street				
City: Hometown	State: AZ	Postal: 889090	Country:	
Phone: 111-122-1321			Fax: 222-132-1234	
EMail:				
Company: Example Sub #4 DBE				
Street: 900 First Street Suite 9000				
City: Hometown	State: AZ	Postal: 889009	Country:	
Phone: 111-332-4321			Fax: 222-132-1234	
EMail:				

Quote Comparison and Award Substitute Rankings

To compare quotes from different vendors where not all items are quoted, you can substitute values using the lowest **Awarded Splittable Quote** for items rather than the un-awarded plug value. This offers a more accurate comparison.



Session Recap

To make it easy to review your award session decisions and their effect on the job's price, the Quote Comparison & Award form contains the Session Recap feature. This feature shows which items have been awarded to whom and at what price. In addition, any previously awarded items show the previous award data, including the awardee, unit price, and total price, and the comparable data for the current session.

The effect on direct cost also shows, as well as substitute values used for comparing items on the Quote Comparison & Award form.

Viewing Filtered Items

Follow these steps to display only those resource and cost items that are currently displayed on the Quote Comparison & Award form.

Step by Step — Session Recap Filtered Items

1. From the Ribbon, select the **Quote** tab.
2. Under the Quote Comparison & Award section, select either **Resources** or **Cost Items**.
3. From the Quote Comparison & Award register, select the **Actions** tab.
4. Under the Tools section, select **Session Recap**.
5. From the Session Recap Actions tab, select **View Filtered Items**.

Viewing Quoted Items

Follow these steps to display only those resource and cost items that have been quoted.

Step by Step — Session Recap Filtered Items

1. From the Ribbon, select the **Quote** tab.
2. Under the Quote Comparison & Award section, select either **Resources** or **Cost Items**.
3. From the Quote Comparison & Award register, select the **Actions** tab.
4. Under the Tools section, select **Session Recap**.
5. From the Session Recap Actions tab, select **View Quoted Items**.

Quote Item Views

In the Quote Compare & Award Register, quote item toggles have been added to the **View** subsection. In the View subsection, you will find the following toggles:

- View All Items
- View Quoted Items
- View Unquoted Items

The **All Items** toggle displays both quoted and unquoted items in the Quote Compare & Award Register.

The **Unquoted Items** toggle displays only unquoted items within the same register. This lets you filter quote items down to the ones you have received quotes on. It also filters to the items you have not yet received quotes on but are using in the estimate. That way, you understand where you have good coverage and where may need to follow up on outstanding quotes from subcontractors or suppliers.

Follow the step by step to view different quote items.

Step by Step — Viewing Quote Items

1. From the Ribbon, select the **Quote** tab.
2. Under the Quote Comparison & Award section, select either **Resources** or **Cost Items**.
3. From the Quote Comparison & Award register, select the **Actions** tab.
4. Under the View section, select **Unquoted Items**.
5. You can now view items without quotes in the register. You can also choose to view **All Items** or **Quoted Items**.

File

Setup

Estimate

Quote

Price

Execution

System

Integrations

Actions

By Quote Group

All Quote Groups

All Quote Items

Layout

Edit Cost Item

Edit Quote

Duplicate Quote

Ignore Quote

Package Entire Quote

Edit Package

Award

Award And Lock

Edit Prices

All Items

Quoted Items

Unquoted Items

Unit Price

Substitute Values

Zero Items

Scope Items

Ignored Quotes

Configure Totals

To...

Cost Breakdown Structure (CBS) Register

Quote Comparison & Award - Cost Items

Quote Group(s)

☒

Description

☒

Commercial Work

☒

Process Equipment I...

☒

Structural Painting

Drag columns here to group

CBS Position Code

Description

Forecast (T/O) Quantity

Unit of Measure

Unit Cost

Total Cost (Forecast)

Plug

Detail

13

Paint Existing Steel Bridge ...

1.00

Lump Sum

\$75,727.01

\$75,727.01

\$75,727.01

\$75,727.01

14

Process Equipment

1.00

Each

\$1,599,889.33

\$1,599,889.33

\$1,599,889.33

\$1,599,889.33

17

Toll Booth

1.00

Each

\$25,264.55

\$25,264.55

\$25,000.00

\$25,264.55

Scope Items

Summary

Minority Type

Quoted Total

Comparable Total

\$25,000.00

\$1,700,880.90

\$1,700,616...

\$1,700,880.90

Billing rates

In Estimate, revenue can be forecasted in multiple ways. It is common for contractors to use the Pay Item & Proposal register to assign estimated costs to pay items and submit a price by filling out the owners bid form. However, for projects that do not use pay items, such as a time and material contracts or cost reimbursable type projects, Billing Rates can be used to easily estimate the price of the work for the project owner.

A billing rate is defined as how much the Contractor is charging the client to utilize resources from the Resource Rate Register. The billing rate can also be viewed as how much money a client is expected to pay for utilizing one of the resources for a specified amount of time. It is important for you as a contractor to have a way to more quickly see your charge rate to compare against what you will ultimately bill your client, also known as your billing rate.

Contractors need a reliable method to price projects utilizing various markup strategies with clear visibility into various costs that drive the markup amounts. It is important for contractors to be able to:

- Apply various costs that drive markups.
- Apply billing rate gains (difference between contractor's cost versus billing rates/client cost).
- Have clear visibility into the true margin based on both cost and billing rates.
- Compare the cost and billing rates within the CBS.

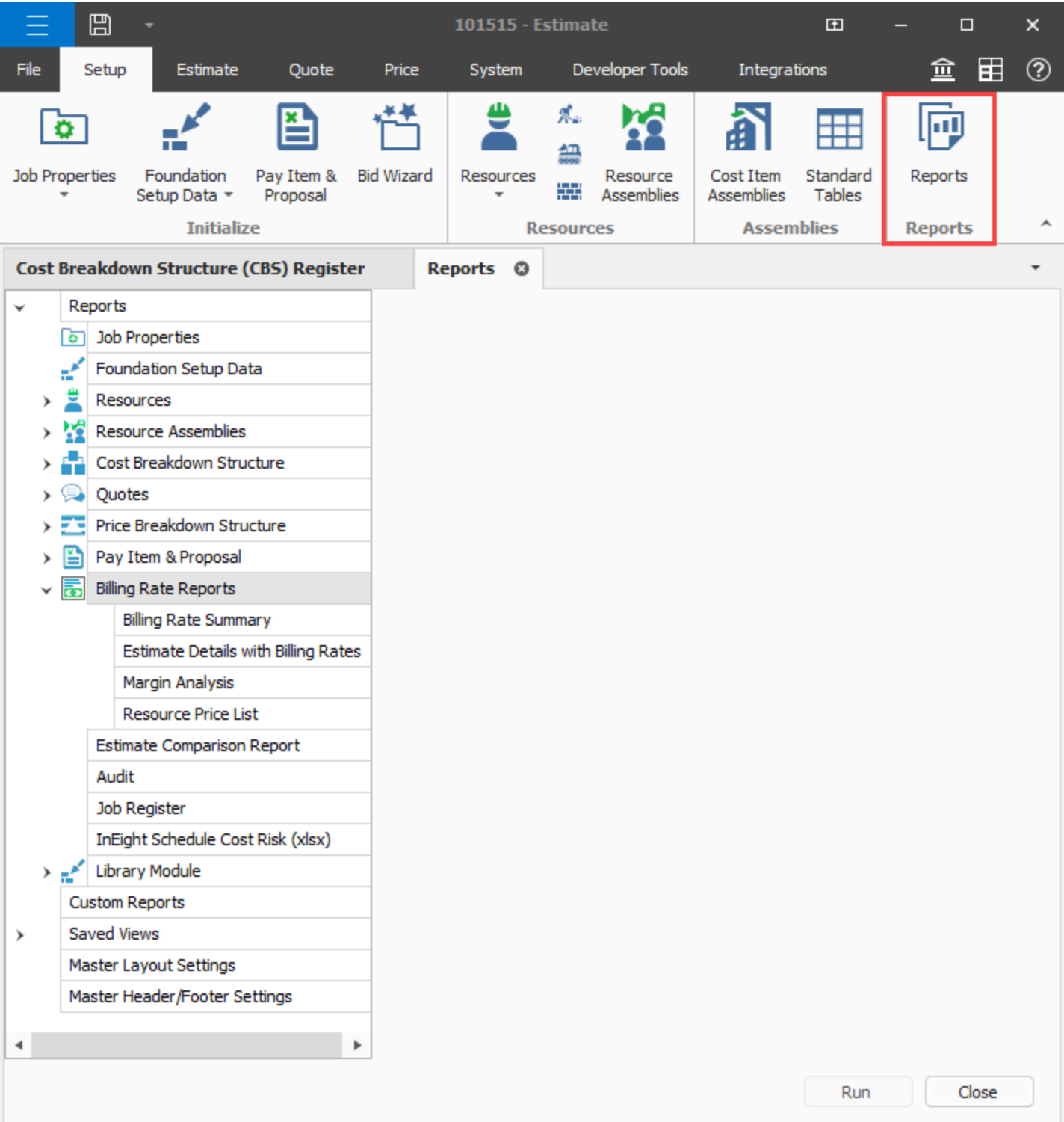
As a result of appropriately pricing projects, contractors can now create and view a variety of Billing Rate reports such as:

- A summary of billing rates in lieu of the cost rates for a client (Estimate Summary reports).
- A cost item breakdown that shows associated cost categories, billing unit rates, and total billing amounts (Billing Rate Summary).
- An analysis of resources and their margins, utilization counts, and billing amounts, (Margin Analysis report).

Billing rates reports overview

There are multiple reports you can run to view resource costs, billing rates, and mark-ups that you can choose to provide to your customer. You could also use these reports to view your markup margins prior to submitting to your customer.

To locate the project reports, select the **Setup** tab, and then select **Reports**.



Billing Rate Summary report

The Billing Rate Summary report shows cost items and include cost category details.

From the Reports window, select **Billing Rate Reports**.

Labor	Owned Equipment	Rented Equipment	Materials	Supplies	Subcontract	Fee	Allowance	Custom Category1	Billing
318.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
318.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
317.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
317.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
636.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

The end of the report shows a total of your Direct and Indirect cost markups and includes a **Total Billing Amount** at the bottom right.

CBS Position Code	Description	Labor	Owned Equipment	Rented Equipment	Materials	Supplies	Subcontract	Fee	Allowance	Custom Category1
28	Carpenter work	318.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		318.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	Fabrication Work	317.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		317.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect Total		636.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Direct Cost Markup		85,875.59	78,408.62	529.38	270,092.56	2,064.64	15,448.00	13,503.13	80.00	48.00
Indirect Cost Markup		10,729.02	5,662.75	160.00	65.52	96.00	0.00	83.28	160.00	640.00
Fee Total		96,604.60	84,071.37	689.38	270,158.08	2,160.64	15,448.00	13,586.41	240.00	688.00
Report Total		97,241.10	84,071.37	689.38	270,158.08	2,160.64	15,448.00	13,586.41	240.00	688.00

Estimate Details with Billing Rates report

The Estimate Details with Billing Rate report shows a selection of resources with associated billing rates and utilization counts.

CBS Position	Resource Code	Description	Billing Unit Rate	Unit of Measure	Utilization Count
28	LC1	Carpenter work Carpenter Apprentice	\$39.84	Hour	8.00
TOTAL					8.00
TOTAL - Carpenter work					8.00
29	LWDA	Fabrication Work Welder Apprentice	\$39.72	Hour	8.00
TOTAL					8.00
TOTAL - Fabrication Work					8.00
GRAND TOTAL					16.00

Cost Item Summary details

The Cost Item Summary tab in a Cost Item Record, allows the estimator to add additional costs to the Resource Billing rates by a percentage or amount. For example, there might have been extra work and a percentage of the work would apply that the owner approves. The Billing reports lists these details for the owner.

The following image shows cost item 3.1 with the adjustment. To see the adjustment, select the **Actions** tab, and then in the **View** section, set the **Display Billing Rate** toggle to show the Billing Rate columns.

Review the two columns, **Total Billing Amount** and **Unadjusted Total Billing Amount**.

The screenshot shows the software interface with the 'Display Billing Rate' toggle selected in the 'View' section. Below, a table displays cost breakdown details for 'Excavation' (CBS Code 3.1). The table includes columns for Cost Category, Unit Cost, Total Cost, Unadjusted Total Cost, Cost Adjustment Percent, Cost Adjustment Amount, Billing Unit Rate, Total Billing Amount, and Unadjusted Total Billing Amount. The 'Total Billing Amount' and 'Unadjusted Total Billing Amount' columns are highlighted with a red box.

Cost Category	Unit Cost	Total Cost	Unadjusted Total Cost	Cost Adjustment Percent	Cost Adjustment Amount	Billing Unit Rate	Total Billing Amount	Unadjusted Total Billing Amount
Total	\$3.05	\$152,320.48	\$152,320.48	0.00	\$0.00	\$3.89	\$194,604.65	\$176,913.32
Labor	\$0.66	\$33,170.48	\$33,170.48	0.00	\$0.00	\$0.88	\$43,785.03	\$39,804.57
Owned Equipment	\$2.38	\$119,150.00	\$119,150.00	0.00	\$0.00	\$3.02	\$150,819.62	\$137,108.75
Rented Equipment	\$0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00	\$0.00

In the Billing Rates report shown at the bottom of the image, you can view the 3.1 cost item estimate details.

Reports

Job Properties

Foundation Setup Data

Resources

Resource Assemblies

Cost Breakdown Structure

- CBS Summary
- CBS Details
- CBS Outline
- Estimate Summary
- CBS Currency Comparison

Quotes

Price Breakdown Structure

Pay Item & Proposal

Billing Rate Reports

- Billing Rate Summary
- Estimate Details with Billing Rat
- Margin Analysis
- Resource Price List

Job Tracking

Estimate Comparison Report

Settings: Previous

Print

Cost Item Selection

Details

Layout

Header/Footer

☒ Print a contiguous range of cost items:

From: 3.1

To: 3.1

☐ Roll-up to CBS Level -1

☐ Select cost items to print from the register below:

Drag columns here to group

Find: [Search For...] Saved views: Previous V

	Include	CBS Position Code	Description	Optional Code
→	☐		Prime Bond	PRIME BOND
	☐		Price % Add-On	PRICE % ADD-ON
	☐		Job Financing	FINANCE EXPENSE
	☐		Indirect Cost Escalation	INDIRECT COST ESCALATION
	☐		Direct Cost Escalation	DIRECT COST ESCALATION
	☐		Indirect Cost Add-On	INDIRECT COST ADD-ON
	☐		Job Management & Equipment	JOB MANAGEMENT & EQUIPMENT
	☐		General Expense	GENERAL EXPENSE

Job Code: Copy of Training Job

Description: Training Job - Maricopa County No. TM2924

CBS Position	Resource Code	Description	Billing Unit Rate	Unit of Measure	Utilization Count
3.1		Excavation			
	LL2	Laborer	\$31.64	Hour	125.00
	LMECH	Mechanic	\$27.60	Hour	75.00
	LO1	Operator Class 1	\$32.66	Hour	500.00
	LO2	Operator Class 2	\$33.68	Hour	500.00
	LO4	Operator Foreman	\$42.87	Hour	62.50
	ECOMP1	Compactor Smooth Drum	\$41.86	Hour	125.00
	ECOMP2	Compactor Sheeps Foot	\$70.84	Hour	125.00
	ED8	Dozer D8	\$199.64	Hour	125.00
	EG14G	Grader 14G	\$69.23	Hour	125.00
	ES621	Scraper 621	\$186.30	Hour	250.00
	ES623	Scraper 623	\$146.05	Hour	250.00
	ETWT	Water Truck	\$34.04	Hour	125.00
	Adjustment				
		TOTAL			
GRAND TOTAL					

Dependent cost item billing work details

You can use dependent cost items with billing work. For example, the contractor might have an agreement with the owner to add additional overhead costs as a percentage of the work, or the owner allows a contingency for unknown work.

Cost Breakdown Structure (CBS) Register

Price Breakdown Structure

Dependent Cost Item Record

CBS Position Code: Description:

Direct Cost Add-On

Description

Dependency

Cost Categorization

Allocation

Find: [Search For...] ... Saved vi

Drag columns here to group

Description	Currency	Total Cost (Forecast)	Account Code	Tag 1	Tag
Contingency	U.S. Dollar	\$102,676.52			

Billing Breakdown

Cost Category

Total

Labor

Owned Equipment

Rented Equipment

Supplies

Materials

Subcontract

Fees

Allowance

Custom Category1

Undefined

Cost Breakdown

Billing Breakdown

The Estimate Details with Billing Rates can include the dependent cost item with billing work.

report

Job Properties

Foundation Setup Data

Resources

- Resource Register
- Resource Changes
- Resource Rate Details
- Resource Utilization
- Resource Utilization (Excel)
- Resource Currency Comparison

Resource Assemblies

Cost Breakdown Structure

Quotes

Price Breakdown Structure

Pay Item & Proposal

Billing Rate Reports

- Billing Rate Summary
- Estimate Details with Billing Rat**

Margin Analysis

Settings: Previous

Print

Cost Item Selection

Details

Layout

Header/Footer

☐ Print a contiguous range of cost items:

From: 3.1

To: 3.1

☐ Roll-up to CBS Level -1

☒ Select cost items to print from the register below:

Drag columns here to group

Find: [Search For...] Saved views: Previous View

	Include	CBS Position Code	Description	Optional Code	Unit Measure
	☐		Job Management & Equipment	JOB MANAGEMENT & EQUIPMENT	Lun
	☐		General Expense	GENERAL EXPENSE	Lun
→	☒		Direct Cost Add-On	DIRECT COST ADD-ON	Lun
	☐	1	Mobilization	641 0100	Lun
	☐	2	Clearing & Grubbing	201 0102	Ac

Job Code: Copy of Training Job
Description: Training Job - Maricopa County No. TM2924

CBS Position	Resource Code	Description	Billing Unit Rate	Unit of Measure	Utilization Count
0.10	Dependent	Direct Cost Add-On			
TOTAL					
TOTAL - Direct Cost Add-On					
GRAND TOTAL					

Margin Analysis report

The Margin Analysis reporting is beneficial for showing both mark-up and margin values for selected resource rates.

CBS Position	Resource Code	Description	Unit Cost	Billing Unit Rate	Unit of Measure	Utilization Count	Total Cost	Total Billing Amount	Mark-Amor
28	LC1	Carpenter work							
		Carpenter Apprentice	\$27.48	\$39.84	Hour	8.00	\$219.83	\$318.75	\$98
		TOTAL				8.00	\$219.83	\$318.75	\$98
		TOTAL - Carpenter work				8.00	\$219.83	\$318.75	\$98
29	LWDA	Fabrication Work							
		Welder Apprentice	\$28.37	\$39.72	Hour	8.00	\$226.96	\$317.74	\$90
		TOTAL				8.00	\$226.96	\$317.74	\$90
		TOTAL - Fabrication Work				8.00	\$226.96	\$317.74	\$90
GRAND TOTAL						16.00	\$446.79	\$636.49	\$189

Additional Markup in the PBS form

Depending how the resource billing rates are determined to accommodate the owner, a fee can be applied using the PBS form.

Markup for Direct Costs shows in the PBS form.

Cost Breakdown Structure (CBS) Register

Price Breakdown Structure

Markup Cost Item Record

CBS Position Code:

Description:

Direct Cost Markup

Description

Dependency

Allocation

Drag columns here to group

ed views: Previous View

	Description	(Forecast)	Account Code	Cost Curve	Total Billing Amount
→	Direct Cost Markup	\$620,483.29		Linear	\$581,339.08
*					

Billing Break

Cost Category

Total

Labor

Owned

Rent

Supplie

Materi

Subcon

Fees

Allowa

Custom

Un defi

Cost Brea

The fee total of the additional markup shows in the Billing Rate Summary report.

Job Code: Copy of Training Job								
Description: Training Job - Maricopa No. TM2924								
CBS Position Code	Description	Forecast Unit of (T/O) Quantity Measure	Labor	Owned Equipment	Rented Equipment	Materials	Supplies	
3.1	Excavation	50,000.00 Cubic Yard	0.88	3.02	0.00	0.00	0.00	0.00
			43,785.03	150,819.62	0.00	0.00	0.00	0.00
Direct Total			43,785.03	150,819.62	0.00	0.00	0.00	0.00
Direct Cost Markup			83,846.78	102,425.17	727.90	362,406.65	2,697.11	0.00
			83,846.78	102,425.17	727.90	362,406.65	2,697.11	0.00
Fee Total			83,846.78	102,425.17	727.90	362,406.65	2,697.11	0.00
Report Total			127,631.81	253,244.79	727.90	362,406.65	2,697.11	0.00