

ROJECT COST MANAGEMENT

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Release 20.1 Last Updated: 17 July 2020



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INTRODUCTION

Course Description

This course covers the concepts and functionality you need to know in order to use the InEight Estimate software successfully. As a result, you will be able to build cost estimates and bid proposals with precision and efficiency.

Course Objectives

As a result of this course, you will be able to use the InEight Estimate software to:

- Construct and modify cost estimates
- Calculate profit and finalize bid proposals
- Review and report on project information
- Integrate with MS Excel and scheduling software (MS Project or Oracle Primavera)
- Manage quotes and use additional time-saving tools

How to Use this Manual

This training manual serves as the working guide during the *E101 Essentials of Project Modeling and Estimating* instructor-led course. The first seven lessons of this document follow a natural progression of putting an estimate together, from set up of a project to finalization of a bid. The remaining lessons cover additional functionality that will help you build and review your project estimate more effectively.

Lessons

The following lessons are covered in this course:

	Course Lessons
Lesson	Торіс
Lesson 1	Estimating Core Concepts
Lesson 2	General Navigation
Lesson 3	Library Setup
Lesson 4	Project Setup
Lesson 5	Estimate Direct Costs
Lesson 6	Estimate Indirect Costs
Lesson 7	Finalize the Estimate
Lesson 8	Quote Management
Lesson 9	Reporting
Lesson 10	Data Reproduction
Lesson 11	Excel Integration
Lesson 12	Schedule Integration
Lesson 13	Cash Flow
Lesson 14	InEight Estimate Calculators
Lesson 15	Cost Item Assemblies

Lesson Format

This manual is designed to be a "hands on" learning guide. As such, each lesson is organized into sections:

Section	Description
Objectives	Specify what you will learn in each lesson.
Topics	Organize the subject matter, with explanations of key concepts and terms.
Step by Steps	Walk you through the "mechanics" of how to perform specific functions in the software. For each step by step, you will use the Training Job that comes pre-loaded in the InEight

Section	Description	
	Estimate Estimating software.	
Exercises	Allow you to practice and reinforce what you learn. For each exercise, you will use the Training Job that comes pre-loaded in the InEight Estimate Estimating software.	
Review	Asks you questions to check what you have learned within each lesson.	

Call-Outs

Throughout the document, you will also find important call-out banners.

TI	Р	Tips are for important notes and information you want to remember.
NO	TE	Notes are for critical information you need to know.

Ongoing Use

This manual is also designed to be a comprehensive reference guide you can use outside of the classroom and revisit as needed. Each lesson is compartmentalized so that you can refer back to each lesson as needed.

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LESSON 1 – ESTIMATING CORE CONCEPTS

Lesson Duration: 30 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Explain the estimating process in InEight Estimate
- Explain key terms and concepts

Lesson Topics

1.1 Overview of the Estimating Process	
Step 1 – Enter Project Details	
Step 2 – Enter Proposal Deliverables	
Step 3 – Calculate Direct & Indirect Project Cost	
Step 4 – Add Markup, Contingency, & Fees	
Step 5 – Distribute Cost + Markup to required Structure	
1.2 Key Concepts and Terms	
1.2.1 Job Folder	
1.2.2 Library	
1.2.3 Form	
1.2.4 Cost Item	
1.2.5 Pay Item	
1.2.6 Resource	
1.2.7 Resource Assembly	
1.2.8 Cost Item Assembly	

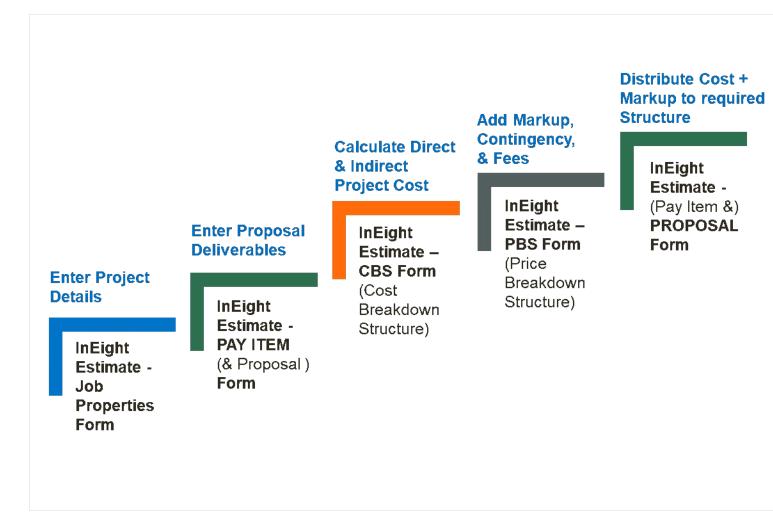
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1.1 OVERVIEW OF THE ESTIMATING PROCESS

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.

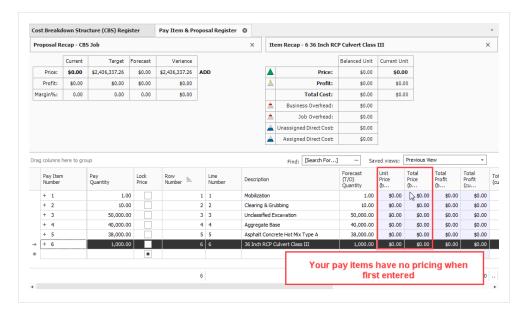
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	Initialize			Resources		Assem	blies	Reports				
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verview Secur	ity Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Trackir	ng Job Folder	Tags	Competitors	Pricing Sch	edule Cash Flo	w Equipmen	it 🗵
dentification												-
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City:	Phoenix		Engineer: Ex	ample Engineer	Fred Jone	s			I Time Me	asure: Contract	Days 👻	
County:	Maricopa		Owner: Ex	ample Owner	Jerry Slate				E Forecas	t Start: 6/11/201	19 -	
Country:	United States	•	Architect: Ex	ample Architect	Robert Fro	nst			E Forecast	Finish: 11/20/20	119 -	
		_								ration:		16
	Arizona	*							Du	ration:		10.
Latitude:		0.00000										
Longitude:		0.00000										
Proposal												
Bid Date:	12/23/2013	-				Opening	Туре:	Public				
Bid Time:	10:00:00 PM					Proposal	Type:	Unit Price				
Estimator:	Example Prime Co	otractor 1 Tor	Cross		1	Plan Ho	Idere ·					
			10033									
Bid Location:	Engineer's Office					Liquidated Dam	nages:					\$1,000.0
Owners Estimate:				\$6,	000,000.00	Liq. Damage	s Per:	Day			*	
					RFQ Contact	: Example Prime	e Contra	ctor 1 Tom Cro	055			
										OK	•	Cancel

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

File	Setup	Estimate	Quote	Price	Execution	Sy	stem	Integrations	Actions	More Act	ions					逾 囲	
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	+	Price % Add-On			PR	ICE % A	DD-ON	1.00		Lump Sum		\$294,928.95		\$294,928.95			
	+	Job Financing		FIN	IANCE E	XPENSE		1.00	Lump Sum		:	\$0.00	\$0.00				
	+		Indirect Cos	t Escalati	ion	IND	DIRECT	COST ESCAL		1.00	Lump Sum			\$0.00	\$0.00		
	+		Direct Cost I	Escalatio	ı	DIRECT COST ESCALAT			1.00	Lump Sum		\$18,83	37.35	\$18,837.35			
	+		Indirect Cos	t Add-On		INDIRECT COST ADD-ON			1.00		Lump Sum		:	\$0.00	\$0.00		
	+		Job Manage	ment & E	quipment	JO	B MANA	GEMENT & E		1.00	Lump Sum		\$157,09	96.28	\$157,096.28		
	+		General Exp	ense		GE	NERAL E	EXPENSE		1.00	Lump Sum		\$4,20	00.00	\$4,200.00		
	+		Direct Cost	Add-On		DIF	RECT CO	OST ADD-ON		1.00	Lump Sum		\$104,30	01.10	\$104,301.10		
	+ 1		Mobilization			64	1 0 100			1.00	Lump Sum		\$11,90	09.51	\$11,909.51		
	+ 2		Clearing & G	irubbing		20	1 0 10 2			10.00	Acre		\$3,9	18.50	\$39,184.97		
	□ 3		Unclassified	Excavati	on	203	2 0 183			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		Embankmen	t		3.2	2			50,000.00	Cubic Yard		\$	\$1.68	\$83,992.94		
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	+ 4.1		Furnish & H	aul Base M	aterial	4.1				45,000.00	Ton		\$	11.54	\$519,513.30		
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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.

Price Breakdown Structure 🛛 🔘		
Description	Cost	% of Target
 Price Breakdown Structure 		
🗸 🔺 Target Price	\$6,553,97	100.00
✓ ▲ Target Profit	\$642,821.40	9.81
🛕 Direct Cost Markup	\$628,520.02	9.59
🛕 Indirect Cost Markup	\$14,301.37	0.22
🗸 🛕 Total Cost	\$5,911,15	90.19
🗸 📥 Indirect Cost	\$646,863.68	9.87
🗸 📥 Business Overhead	\$360,836.18	5.51
Prime Bond	\$47,069.88	0.72
Price % Add-On	\$294,928.95	4.50
Job Financing	\$0.00	0.00
Indirect Cost E	\$0.00	0.00
Direct Cost Esc	\$18,837.35	0.29
Indirect Cost A	\$0.00	0.00
🖶 Unassigned Bu	\$0.00	0.00
🗸 📥 Job Overhead	\$286,027.50	4.36
Job Manageme	\$157,096.28	2.40
General Expense	\$4,200.00	0.06
Direct Cost Ad	\$104,301.10	1.59
🖶 Unassigned Jo	\$20,430.12	0.31
✓ ▲ Direct Cost	\$5,264,29	80.32
🔺 Unassigned Direct	\$1,000.00	0.02
Assigned Direct Co	\$5,263,29	80.31

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.

Propo	sal Reca	cap - Trair	ing Jol	6			>	× 1	tem Recap -	641 0100 Mo	bilization			×
		Ci	urrent	Target	Forecast	Variance					Balanced Unit	Current Unit		
Pr	rice: \$	\$6,455,45	0.00	\$6,553,976.75	\$6,462,850.00	\$98,526.75	ADD			Price:	\$18,300.00	\$386,800.00		
Pro	ofit:	\$544,2	94.64	\$642,821.40	\$604,568.97	\$38,252.43	ADD			Profit:	\$2,049.63	\$370,501.39		
Margir	n%:		8.43	9.81	9.35	\$32,502.50	ADD		1	Fotal Cost:	\$16,298.61	\$16,298.61		
								1	Busines	s Overhead:	\$840.31			
								1	Job	o Overhead:	\$3,546.52			
									Unassigned	Direct Cost:	\$2.26			
-		ere to group				Pay	Forecast (T/	(0)	Find:	Direct Cost: [Search For]			ard View	+ Total Price
ag colu	lumns her	ere to group)						-		. ,	d views: Stand	ard View	•
Pa	lumns her iy Item imber) Descript	ion		Pay Quantity	Forecast (T/ Quantity	/0)	-		. ,	d views: Standa Total Price (current)	ard View Unit Price (balanced)	▼ Total Price (balanced)
Pay	y Item	1						/O) 1.00	Find:	[Search For]	Save	Total Price (current)	Unit Price (balanced)	Total Price (balanced)
Pay Nu	ıy Item ımber	.00	Descript Mobilizat			Quantity	Quantity		Find:	[Search For] Currency		Total Price (current) \$386,800.00	Unit Price (balanced) \$18,300.00	Total Price (balanced) \$18,300
Pay Nu	y Item Imber 641 0 10	00	Descript Mobilizat Clearing	ion		Quantity 1.00	Quantity	1.00 10.00	Find:	[Search For] Currency U.S. Dollar	Unit Price (current) \$386,800.00	Total Price (current) \$386,800.00 \$61,200.00	Unit Price (balanced) \$18,300.00	Total Price (balanced) \$18,300 \$58,673
Pa Nu + + +	y Item Imber 641 010 201 010	00 02 02 02 00 02 00 00 00 00 00 00 00 0	Descript Mobilizat Clearing Unclassi	iion & Grubbing		Quantity 1.00 10.00	Quantity	1.00 10.00	Find: Unit of Measure Lump Sum Acre	Search For] Currency U.S. Dollar U.S. Dollar	Save Unit Price (current) \$386,800.00 \$6,120.00	Total Price (current) \$386,800.00 \$61,200.00 \$425,000.00	Unit Price (balanced) \$18,300.00 \$5,867.33 \$6.31	Total Price (balanced)
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Pay Nui + + + +	y Item imber 641 010 201 010 202 018 303 591	00 1 02 1 83 1 112 4	Descript Mobilizat Clearing Unclassi Aggrega Asphalt	tion & Grubbing fied Excavation te Base		Quantity 1.00 10.00 50,000.00 40,00	Quantity 50, Pricing	1.00 10.00),000.00	Find: [] Unit of Measure Lump Sum Acre Cubic Yard	Search For) Currency U.S. Dollar U.S. Dollar U.S. Dollar	Unit Price (current) \$386,800.00 \$6,120.00 \$8.50 \$22.00	Total Price (current) \$386,800.00 \$61,200.00 \$425,000.00 \$880,000.00 \$1,330,000.00	Unit Price (balanced) \$18,300.00 \$5,867.33 \$6.31 \$19.47	Total Price (balanced) \$18,300 \$58,673 \$315,500 \$778,800
Pay Nu + + + + + +	641 010 201 010 202 018 303 591 303 426	00 102 102 102 102 102 102 102 102 102 1	Descript Mobilizat Clearing Undassi Aggrega Asphalt 36 Inch	tion & Grubbing fied Excavation ate Base Concrete Hot Mix ⁻	ass III	Quantity 1.00 10.00 50,000.00 40,001 38,001	Quantity 50, Pricing	1.00 10.00 0,000.00 is no bid i	Find: [] Unit of Measure Lump Sum Acre Cubic Yard	Search For) Currency U.S. Dollar U.S. Dollar U.S. Dollar		Total Price (current) \$386,800.00 \$61,200.00 \$425,000.00 \$880,000.00 \$1,330,000.00 \$100,000.00	Unit Price (balanced) \$18,300.00 \$5,867.33 \$6.31 \$19.47 \$52.28	Total Price (balanced) \$18,300 \$58,673 \$315,500 \$778,800 \$1,986,640
Pay Nu	y Item mber 641 010 201 010 202 018 303 591 303 426 413(B)	000 1 02 1 112 1 163 1 120 1	Descript Mobilizat Clearing Undassi Aggrega Asphalt 36 Inch	tion & Grubbing fied Excavation tite Base Concrete Hot Mix RCP Culvert Cla	DR21)	Quantity 1.00 10.00 50,000.00 40,00 38,000 1,000	Quantity 50, Pricing 12,	1.00 10.00 0,000.00 is no bid i	Find: [] Unit of Measure Lump Sum Acre Cubic Yard W Sprea tems	(Search For) Currency U.S. Dollar U.S. Dollar U.S. Dollar U.S. Dollar		Total Price (current) \$386,800.00 \$61,200.00 \$425,000.00 \$880,000.00 \$1,330,000.00 \$336,000.00	Unit Price (balanced) \$18,300.00 \$5,867.33 \$6.31 \$19.47 \$52.28 \$87.19 \$29.82	Total Price (balanced) \$18,300 \$58,673 \$315,500 \$778,800 \$1,986,640 \$87,190

1.2 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

1.2.1 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 correct job.

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

1.2.2 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.

1.2.3 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.

Overview	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Folder Tags	Competitors	Pricing	Schedule	Cash Flow	Equipment
Work Hou Pay Hou Shif	shift Ar (Siger urs per Shift rs per Shift: fts per Day: s per Week:	8.00 8.00 1.00	Scale 1: Scale 2: Scale 3:	0.00 %		es Lock Cost Items Pay Item Unit Pr Activate PBS Cha Activate Quantit Maintain CBS Str	ice Precision: anges Log y Checking ucture at Level:	2		Preserv Data So	Tabs re Original Cos burce	f Item
Currency		Fields	Shift	Checkbox		When man-coun Indard Rates	t changes:	Change UM / M Change Days	an-Hour	R	adio butto	ons

TIP

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.

									1
rag	columns here to group			Find: [Search For]	··· Save	ed views: Standa	rd View	•	
	CBS Position Code 📒	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Allocated	
T	+ 1	Mobilization	641 0100	1.00	Lump Sum	\$11,909.51	\$11,909.51		
	+ 2	Clearing & Grubbing	201 0 102	10.00	Acre	\$3,918.50	\$39,184.97		
	□ 3	Unclassified Excavation	202 0183	50,000.00	Cubic Yard	\$4.54	\$226,856.16		
I	+ 3.1	Excavation	3.1	50,000.00	Cubic Yard	\$2.86	\$142,863.22		
I	+ 3.2	Embankment	3.2	50.000.00	Cubic Yard	\$1.68	\$83,992.94		
	□ 4	Aggregate Base	303 View	nultiple	Ton	\$15.40	\$692,928.99		
I	+ 4.1	Furnish & Haul Base Material			Ton	\$11.54	\$519,513.30		
	+ 4.2	Finegrade Subgrade	4.2 Items	at once	Square Yard	\$0.19	\$75,848.36		
I	■ 4.3	Install Aggregate Base	4.3	.00	Ton	\$2.17	\$97,567.33		
I	+ 4.3.1	Place Aggregate Base	4.3.1	45,000.00	Ton	\$1.63	\$73,460.92		
I	+ 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		
	+ 5.1	Furnish & Haul Hot Mix	5.1	35,000.00	Ton	\$39.27	\$1,374,562.54		
	+ 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	413(B) 0464	<u>1,024.00</u>	Linear Feet	\$67.54	\$69,159.49		
	+ 6.1	Furnish RCP Materials	6.1	1,024.00	Linear Feet	\$33.48	\$34,286.70		
	+ 6.2	Excavate RCP Trench	6.2	1,858.56	Cubic Yard	\$4.51	\$8,379.59		
1	+ 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.

TIP

CBS	Code:	Op	tional Code:	Desc	ription:					Forecast (T/O) Qty:	Unit of Me	asure
	4	303	3 5912		egateBa	ase ul Base Ma	tarial				,000.00		
ΡIΑ	ssignment:		ine Number:	PI De	scriptio	n:		ecord fo			,	Cost Segn	
Cos	st Item Summar	ry	Detail :		-	u <u>q</u> : \$0.00		on 1 it					
)rag	columns here	to gr	oup	Find:	[Search	For]		Saved views:	P	revious View		•	
	Row Number ≞		Code	Resource Assemb		Descriptio	n			antity ss Waste)		iste % d-on	Qua
	+	1	LT1			Teamster							
÷	+	2	ETDT			Dump Tru	ick						
	+	3	MBR			Aggregat	e Base Ro	ock		45,500.0	00	5.00	
*													

1.2.4 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 0 100	1.0	0 Lump Sum	\$11,909.51
+ 2	Clearing & Grubbing	201 0 102	10.0	0 Acre	\$3,918.50
□ 3	Unclassified Excavation	202 0 183	50,000.0	0 Cubic Yard	\$4.68
+ 3.1	Excavation	3.1	50,000.0	0 Cubic Yard	\$3.00
+ 3.2	Embankment	3.2	50,000.0	0 Cubic Yard	\$1.68
□ 4	Aggregate Base	303 5912	45,000.0	0 Ton	\$15.40
+ 4.1	Furnish & Haul Base Material	4.1	45,000.0	0 Ton	\$11.54
+ 4.2	Finegrade Subgrade	4.2	400,000.0	0 Square Yard	\$0.19
■ 4.3	Install Aggregate Base	4.3	45,000.0	0 Ton	\$2.17
+ 4.3.1	Place Aggregate Base	4.3.1	45,000.0	0 Ton	\$1.63
+ 4.3.2	Blue Top Aggregate Base	4.3.2	400,000.0	0 Square Yard	\$0.06

1.2.5 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 predominantly used by contractors to prepare a bid sheet. Owners may use pay items to identify funding sources or for various reporting needs.

Pay Item Number	Line Number	Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Measure	Unit Price (current)	Total Price (current)
+ 641 0 100	10	Mobilization	1.00	1.00	Lump Sum	\$386,800.00	\$386,800.00
+ 201 0 102	20	Clearing & Grubbing	10.00	10.00	Acre	\$6,120.00	\$61,200.00
+ 202 0 183	30	Unclassified Excavation	50,000.00	52,000.00	Cubic Yard	\$8.50	\$425,000.0
+ 303 5912	40	Aggregate Base	40,000.00	45,000.00	Ton	\$22.00	\$880,000.0
+ 303 4263	50	Asphalt Concrete Hot Mix Type A	38,000.00	35,000.00	Ton	\$35.00	\$1,330,000.0
+ 413(B) 0464	60	36 Inch RCP Culvert Class III	1,000.00	1,024.00	Linear Feet	\$100.00	\$100,000.0
+ 800 0220	70	10 Inch PVC Force Main (SDR21)	12,000.00	12,000.00	Linear Feet	\$28.00	\$336,000.0
+ 800 0330	80	24 Inch PVC Gravity Sewer (SDR35)	3,000.00	3,000.00	Linear Feet	\$64.00	\$192,000.0

1.2.6 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

1.2.7 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.

sou	rce A	ssembly	/ Regist	ter ©															
g co	lumns	here to g	roup																
Co	ode	<u> </u>	Descrip	otion		Resou File De	rce escription		Quantity		Unit of Measure		Unit	Cost	Total Cost	Currency	Orga Cate	nizational gory	Geograph Area
-	ссо	NC	Concre	ete Crew		Stand	ard Assemb	ly File		1.00	Hour			\$375.03	\$375.03	U.S. Dollar	Conc	rete	
		Row Number	. ≞	Resource Code	Description		Quantity	Unit of Measure	Unit Cost	Curre	ency	Cost Driver	r	Resource File Descr	iption	Organization Category	nal	Geographic Area	Wage Zone
	\rightarrow		1	LC2	Carpenter Journe	eyman	2.00	Each	\$28.92	U.S.	Dollar	CI Du	ra	Standard	Labor Rate File	Carpenter		Southwest	Wage Zon.
			2	LF2	Finisher		1.00	Each	\$28.07	U.S.	Dollar	CI Du	ra	Standard	Labor Rate File	Finisher - Co	onc	Southwest	Wage Zon.
			3	LIW1	Iron Worker		1.00	Each	\$35.55	U.S.	Dollar	CI Du	ra	Standard	Labor Rate File	Iron Worker		Southwest	Wage Zon.
			4	LL2	Laborer		1.00	Each	\$26.37	U.S.	Dollar	CI Du	ra	Standard	Labor Rate File	Laborer		Southwest	Wage Zon.
			5	ECRHC	Hydraulic Crane :	25 Ton	1.00	Each	\$117.60	U.S.	Dollar	CI Du	ra	Standard	Equipment Rate	. Crane			
			6	LC1	Carpenter Appre	ntice	1.00	Each	\$27.48	U.S.	Dollar	CI Du	ra	Standard	Labor Rate File	Carpenter		Southwest	Wage Zon.
			7	LO2	Operator Class 2		1.00	Each	\$28.07	U.S.	Dollar	CI Du	ra	Standard	Labor Rate File	Operator		Southwest	Wage Zon.
			8	ETFT	Flatbed Truck		1.00	Each	\$22.60	U.S.	Dollar	CI Du	ra	Standard	Equipment Rate	. Truck			
			9	LC3	Carpenter Forem	an	1.00	Each	\$31.47	U.S.	Dollar	CI Du	ra	Standard	Labor Rate File	Carpenter		Southwest	Wage Zon.
+	CGR	ADE	Gradin	g Crew		Stand	ard Assemb	ly File		1.00	Hour			\$234.73	\$234.73	U.S. Dollar	Earth	nwork	
+	CMA	INT	Equipm	ent Mainten	ance	Stand	ard Assemb	ly File		1.00	Each			\$73.60	\$73.60	U.S. Dollar	Mech	ianic	
+	CPA	/E	Paving	Crew		Stand	ard Assemb	lv File		1.00	Hour			\$476.24	\$476.24	U.S. Dollar	Asph	alt	

1.2.8 Cost Item Assembly

A **Cost Item Assembly** is a predefined group of cost items that is costed 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.

st Item Assembl	y Register 🛛								
ag columns here to g	roup								
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 - DRS	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

Lesson 1 Review

- 1. Which InEight Estimate form is used to enter basic information about the job as well as define our cost basis?
 - a. Pay Item & Proposal
 - b. Job Properties
 - c. Library
 - d. Job Folder
- 2. All default data and settings copy from the Library into your new job folder *except*:
 - a. Labor rates
 - b. Equipment rates
 - c. Material rates
 - d. All of the above
- 3. These are considered the "building blocks" of the job you employ them to cost items to develop your estimate.
 - a. Assemblies
 - b. Pay Items
 - c. Resources
 - d. Forms

Lesson 1 Summary

As a result of this lesson, you can:

- Explain the estimating process in InEight Estimate
- Explain key terms and concepts

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LESSON 2 – GENERAL NAVIGATION

Lesson Duration: 45 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Navigate the InEight Estimate system interface
- Navigate system settings
- Manage columns in InEight Estimate registers

Lesson Topics

2.1	General Navigation	43
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	2.1.4 Help Bubbles	48
	2.1.5 Data Map	49
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2.1 GENERAL NAVIGATION

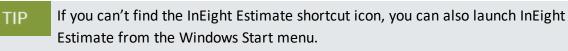
This section explores the layout of InEight Estimate.

Step by Step — Launch InEight Estimate

1. From the Windows desktop, locate the InEight Estimate shortcut icon.



2. Double click on the icon, or right click and select Open.



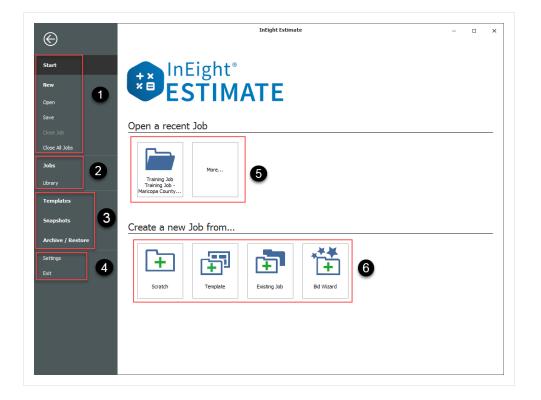
2.1.1 Backstage View

InEight Estimate opens to the Backstage view. You can also get to the Backstage view from other tabs, by selecting the File tab.

Section	Description
Section 1	From the Start page you have the option to create, open or save a project, or close all jobs that are open.
Section 2	You access the Library or open the Jobs page to go to the Job Register, Compare Jobs, delete a job, or do a Primavera Batch Sync.
Section 3	 Templates allows you to create Job templates. You can create job snapshots or access previously created snapshots in the Snapshot Register. You can also archive or back up and restore job folders.
Section 4	Settings allows you to customize options such as General settings, Account Code settings, Timesheet Warehouse settings, Licenses and Currency settings.
Section	From the Open a recent Job section of the Start page, you can open the Training job or click

Section	Description
5	More to open your list of jobs.
Section 6	You have the option of creating a new job from scratch, a template, from an existing job, or using the Bid Wizard.

2.1.2 Overview – Backstage View



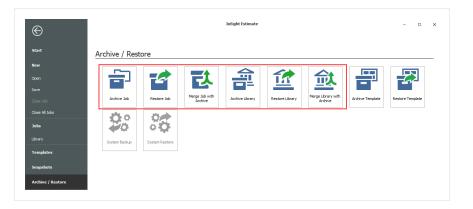
2.1.2.1 Archive / Restore

From the Backstage View, you can back up and restore your jobs using the Archive/Restore feature.

Step by Step — Archive and Restore a Job

- 1. Click File to open the Backstage View.
- 2. Select Archive / Restore.

· Several options appear for archiving and restoring your jobs and library



- 3. Select Archive Job.
 - The Job Register appears
- 4. Select the **Training Job**, 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. To restore the job, select **Restore Job Archive** from the Archive / Restore page of the Backstage View.
- 8. Browse to the archived job and select it.
- 9. Click Open.
 - If the job 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 Job Code

2.1.2.2 Settings

From the **Settings** in the Backstage view, you can adjust some system settings:

- General Settings
- Default Job Start page
- Decimal Precision
- Currency

• Account Code Settings

	Settings	- 0
Options General Decimal Precision Fax Mai Fax Mai Account Code Settings Network SQL Security SQL Security SQL Security SQL Security Roles Attachment Settings Timesheet Warehouse Settings Licenses Currency Currency Settings Sett	General Image: Prompt to Save Every Image: Live Register Scrolling Image: Live Register Scrolling	Navigation Image: Navigation Bar Navigation Bar When a record form is closed, return focus to: Image: Image: Navigation Bar Image: Navigation Bar Image: Image: Navigation Bar Image: Image: Navigation Bar Image: Image: Image: Image: Navigation Bar Image: Image
	Title Bars Show Job Code Show Job Description Show Job Code and Description Language	Job Startup Start Page: Cost Breakdown Stru •
	Select a Language: English (United States) -	
Restore Defaults		OK Cance

2.1.2.3 Prompt to Save

An important setting to visit in the Tools menu is **Prompt to Save**. InEight Estimate does not automatically save your work. Instead, it will prompt you to save as often as you specify in the general settings.

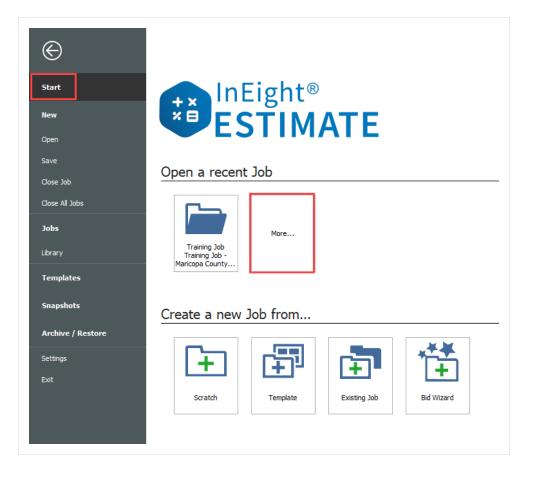
2.1.2.4 Decimal Precision

The **Decimal Precision** setting is also helpful. This is where you can specify the way your numbers display in the system. For example, you may want your costs to display to the hundredth decimal place (2), and your quantities to display as whole numbers with nothing to the right of the decimal (0).

TIP Changing decimal precision does not affect the way your numbers are calculated.

2.1.3 Open a Job Folder

From the Backstage view, you can open a job folder by selecting **Start**. This opens the Start page, where if you see your job, simply click on it to open it. If it's not showing, click on **More**... and select the job from the Job Register. The Job Register is the form that lists all of your existing job folders so you can select the one you need.



Step by Step — Open a Job Folder

- 1. From the Backstage view, under the **Open a recent Job** section, double click on the **Training Job**.
- 2. The job folder opens by default to the Cost Breakdown Structure Register.

						Training Job - I	sumate							đ	
Estimate	Quote	Price	Execution		System	Actions	More Actio	ins						盫	Ħ
C Open	} ≺ Cut	+ Fill Dov	wn	•	A	Cost Item		🔁 Asser	nbly	2	11			E	
🕂 New	唱 Сору	🔀 Split		-	A	🔚 Subordinate C	Cost Item	🔁 Subo	dinate Assembly	120	* *			2	
🗴 Delete	Paste	🔁 Toggle	Suspended			🕂 Dependent Co	ost Item				Expand / Collapse *	Filter	Clear Filter		
		Edit					1	Insert				View			
tructure (CE	85) Register	r O													
group							Find	: [Search	For] …	Save	d views:	Previous Vie	w		•
Des	cription						Unit of Measure	:	Unit Cost			urrency	Optiona Code	al	
JOE	3					1.00	Lump Su	m	\$5,861,800	\$5,861	,800.79 U.	S. Dollar			
Pri	me Bond					1.00	Lump Su	m	\$47,069.28	\$47	,069.28 U.	S. Dollar	PRIME	BOND	
Prie	ce % Add-0	n				1.00	Lump Su	m	\$294,923.52	\$294	,923.52 U.	S. Dollar	PRICE	% ADD-0	N
Job	Financing					1.00	Lump Su	m	\$0.00		\$0.00 U.	S. Dollar	FINANC	CE EXPEN	ISE
	New New Delete tructure (CE group Des Job Prin Prin Prin	New Copy New Copy Delete Paste tructure (CBS) Register group Description JOB Prime Bond	New Copy S Split New Copy S Split Copy S Split Copy Co	 New Copy Split Copy Split Copy Split Copy Copy Paste Totaggle Suspended Edit Description J08 Prime Bond Price % Add-On 	New Copy Splt (Edit Cost) Paste Toggle Suspended Edit (CBS) Register (New Copy Split Image: Split Object Paste Toggle Suspended Image: Split Edit Edit Image: Split Image: Split tructure (CBS) Register O group Description JOB Image: Split Prime Bond Image: Split Price % Add-On Image: Split Job Financing Image: Split	New Copy Split Delete Paste Toggle Suspended Edit Tructure (CBS) Register O Group Description Description Orecast (T/O) Quantity Orecast (T/O) Quantity Prime Bond Prime Sond Discription OB <pob< p=""> OB OB <po< td=""><td>Image: New Copy Split Image: Opy Copy Copy Copy Copy Copy Copy Copy Co</td><td>New Copy Splt Image: Copy of the sector of the sector</td><td>Image: New Participation of the partitipation of the partitipation of the participation of the particip</td><td>● New ● Copy Split ← Image: Split ← Image: Split ● Image: Split ● Image: Split Image:</td><td>● New ● Copy Split ●</td><td>● New ● Copy Split ● B ● Subordinate Cost Item ● Subordinate Assembly ● E</td><td>● New ● Copy Split ● Base Toggle Suspended Edit ● Base ● Toggle Suspended Edit ● Dependent Cost Item ● Subordinate Assembly ● Expand / Filter ● Expa</td><td>● New ● Copy Split ●</td></po<></pob<>	Image: New Copy Split Image: Opy Copy Copy Copy Copy Copy Copy Copy Co	New Copy Splt Image: Copy of the sector	Image: New Participation of the partitipation of the partitipation of the participation of the particip	● New ● Copy Split ← Image: Split ← Image: Split ● Image: Split ● Image: Split Image:	● New ● Copy Split ●	● New ● Copy Split ● B ● Subordinate Cost Item ● Subordinate Assembly ● E	● New ● Copy Split ● Base Toggle Suspended Edit ● Base ● Toggle Suspended Edit ● Dependent Cost Item ● Subordinate Assembly ● Expand / Filter ● Expa	● New ● Copy Split ●

You can change the default form that opens when you start up a job. From the Backstage view, click on **Settings** to change the Job Startup > Start Page settings.

	Settings	- 0
Options General Decimal Precision Fax Mail Account Code Settings Network Opployment Mode SQL Security Security Roles Attachment Settings Timesheet Warehouse Settings Licenses Currency	General Image: Complexity of the second se	Navigation Ribbon Classic Navigation Bar When a record form is closed, return focus to: The last form accessed The form that opened it
I Currency	Title Bars Show Job Code Show Job Description Show Job Code and Description Language Select a Language: English (United States)	Job Startup Start Page: Cost Breakdown Stru Cost Breakdown Structure (CBS) Register Pay Item & Proposal Register Quote Register Quote Comparison & Award Price Breakdown Structure None
Restore Defaults		OK Cancel

2.1.4 Help Bubbles

Help bubbles appear at various times in InEight Estimate, including the first time you open InEight Estimate. These messages contain important information to clarify key functions in the system.

You can dismiss the message until the next time by closing it with the X in the corner or dismiss it permanently by clicking the **Never offer this help again** link.



2.1.5 Data Map

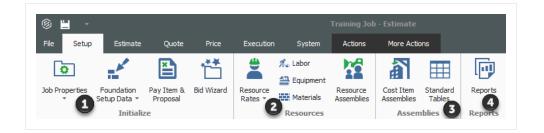
Found in the Price tab, the Data Map is a great way to view a high level summary of your estimate and can be accessed at any time during the estimating process. You can see totals of direct costs, indirect costs, profit, and overall bid price.

				TARGET PROFIT (10.00%)	\$652,207
				Indirect Cost Markup 0.52%	\$34,118
				Direct Cost Markup 9.48%	\$618,089
				INDIRECT COST (9.94%)	\$648,514
		TARGET PRICE		Business Overhead 5.51%	\$359,257
		\$6,522,054		Job Overhead 4.44%	\$289,257
			TOTAL COST		
			\$5,869,847	DIRECT COST (80.06%)	\$5,221,333
\$6,514,916 (99.89%)	Current Price			Unassigned Direct Cost (Work Plan) 0.02%	\$1,000
\$7,139 (0.11%)	Variance (vs. Target Price)			Assigned Direct Cost (Work Plan)	\$5,220,333
(\$851) (-0.01%)	Changes Register			■ 80.04%	40,220,000

2.1.6 InEight Estimate Layout

The layout of InEight Estimate is workflow based. You will move from left to right on the tabs as you enter your data for the project and work on developing your estimate.

2.1.7 Overview - Setup Tab



	Section	Description
1	Initialize	From the initialize section, you can access the following registers. Job Properties is where you enter the basic project details. Foundation Setup Data is where you populate all account codes and validated fields. The Pay item & Proposal Register provides an alternate structure to distribute estimated values. Bid Wizard helps automate the process of setting up estimates by copying information that already exists in other jobs.
2	Resources	In the Resources section, Resource Rates opens the Resource Rate Register, where detail costs for labor, equipment and material is stored. The Resource Assemblies opens the Resource Assembly Register, where you create a combination of resources as an assembly and reuse it as needed in multiple cost items.
3	Assemblies	You can create a Cost Item Assembly to automatically estimate different scopes of work based on input values. Standard tables – allow you to create tables of reference data that can be accessed in any cost item assembly.
4	Reports	The Reports section is available from any tab. Depending on the tab you access it from will bring you to reports specific to that tabs data. Here you will find reports on resources such as Resources Changes, Resource Utilization, and Resource Cost Details.

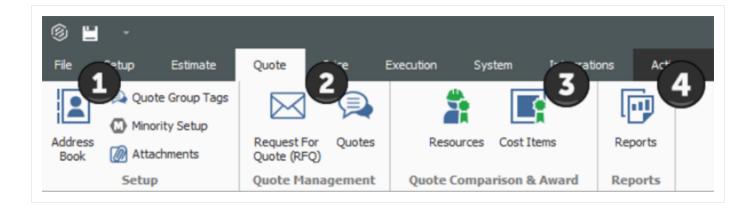
2.1.8 Overview – Estimate Tab

0 💾 🕤					Training Job - Estimate							
File Setup	Estimate Quote P	rice Execution Syst	em Actions	More Actions								
<u>_</u>	Account Code Utilization	🚊 Resource Rates 🕞	X			🛅 Job Finance		🚯 Direct Markup	Alternate Scenario:			
	🔤 Work Breakdown Structures	E Resource Utilization				% Price % Add On		🚯 Indirect Markup	BASE	· 🕞		
ost Breakdown Tructure (CBS)	•	a Resource Cost Details	Workbook 3	Schedule Cash Flow	Indirect Cost Items	Prime Bond	Price Breakdown Structure (PBS)	📥 Data Map 👩	🙏 Alternates 🛛 👩	Reports		
Brea	kdown Structures	Resources 2	Workbook	Schedule	In	direct Cost	Overhea	d and Profit	Alternates	Reports		

	Section	Description
1	Breakdown Structures	From the Breakdown Structures section in the Estimate tab you can access the Cost Breakdown Structure (CBS) Register, Account Code Utilization Register, and Work Breakdown Structures (WBS) Register.
2	Resources	Resource Rate Register is where you create or modify the rate charged for labor, material and equipment resources. Different views of the Resource Rate register such as Resource Utilization and Resource Cost Details are available from the Resources section.
3	Excel Workbook	InEight Estimate's integration with Microsoft Excel is a two-way integration that allows you to update register fields in Estimate with data contained in an Excel workbook, and update Excel cells with data contained in a register field in Estimate. This is where you open the embed excel workbook which is maintained as part of the estimate job folder and where you preform the sync functions to send values back and forth.
4	Schedule	From the Schedule icon, you can access bi-directional integration with Microsoft Project and Oracle Primavera. The Cash Flow graph displays the projected cash flow of your project, along with the job financing expense, individual cost category costs and resource utilization.
5	Indirect Cost Items	Indirect Cost Items filters the CBS register to display cost items that contain overhead costs that are not directly associated with any particular deliverable items. Clicking on % Price Add on or Prime Bond opens up these individual records.
6	Overhead and Profit	Price Breakdown Structure (PBS) Register is a visual run-down of the costs and profit that make up your Target Price. You can access the Direct and Indirect Markup records or see totals of direct costs, indirect costs, profit and overall bid price summarized in a Data Map.
7	Alternates	Alternates are used to define alternate scenarios in order to assess the impact of

	Section	Description
		those scenarios.
8	Reports	From the Reports section, you can run reports on CBS Summary, CBS Details, CBS Outline, CBS Estimate Summary, CBS Currency Comparison.

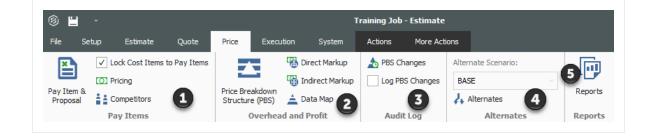
2.1.9 Overview – Quote Tab



	Section	Description
1	Setup	Quotes are organized using Address book, Quote Group Tags, Minority Setup and attachments in the Setup section. Address book stores and maintains all information pertaining to subcontractors, vendors, architects/engineers, etc. that you work with regularly. The Minority Setup tab within Job Properties stores information about the agency that authorizes the status of Minority Enterprises along with their different types. You can use Quote Group Tags to group together multiple resources or cost items that will be sent in a single request for quote package to solicited contractors or vendors
2	Quote Management	Quote Management allows you to access the Requests for Quote (RFQs) register and Quotes. Request for Quotes (RFQs) are invitations to sellers, requesting that they submit pricing to provide services, equipment or material based on the line items and resources included in your estimate. The Quote Register stores all of the quote responses you receive for that job.
3	Quote Comparison & Award	The Quote Comparison & Award section allows you to perform comparative analysis across all the quotes you've received. You can view a comparison of submitted pricing by resources or cost items.

	Section	Description
4	Reports	From the Reports section in Quotes you can run reports on Quote Summary,
		Quote Record, Compare & Award, and Minority Participation.

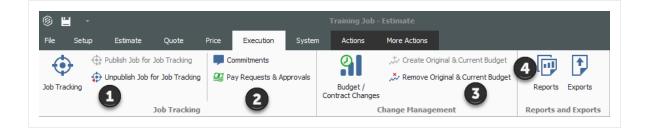
2.1.10 Overview – Price Tab



	Section	Description
1	Pay Items	From the Pay Items section you can lock Cost items to Pay items and access the Pay item & Proposal register. Under Pricing in Job Properties, you can set up how the tool is calculates profit and spreads pricing to your pay items. You can also access Competitor's bid information in Job Properties
2	Overhead and Profit	The Price Breakdown Structure (PBS) Register is a visual run-down of the costs and profit that make up your Target Price. You can access the Direct and Indirect Markup records or see totals of direct costs, indirect costs, profit and overall bid price summarized in a Data Map.
3	Audit Log	You can access the PBS Changes register (which logs any changes that effect the Target Price) and turn on/off logging PBS changes
4	Alternates	Alternates are used to define alternate scenarios in order to assess the impact of those scenarios on the total estimate value.
4	Reports	From the Reports section in the Price tab, you can generate reports for Standard Proposal, DOT Proposal, Pay Item Summary, Pay Item Currency Comparison, Pay Item Price Breakdown.

2.1.11 Overview – Execution Tab

The Execution Tab is for Customers who are utilizing the Job Tracking functionality within InEight Estimate. InEight Control users can disregard this tab.



	Section	Description
1	Job Tracking	You can customize the titles and colors for different fields. You can export and import saved Views, Titles, Colors and Output Settings. You can customize reports generated by Estimate using External reports. External References allows you to open external programs with Estimate.
2	Overhead & Profit	Commitments tracks how much of the current budget has been committed for expenditure. Pay Requests and Approvals automatically calculates earned revenue to provide the data you need to bill your client, as well as approve invoices from your suppliers and subcontractors.
3	Change Management	Budget/Contract Changes is the only way to change current budget or add a pay item after the project has been released for execution and the Original Budget locked. Create Original & Current Budget sets the original and current budget for the project. These should be equal when you initially create it (at the beginning of project execution). Current budget is the only thing that can change after execution. Remove Original & Current Budget removes original and current budget values.
4	Reports and Exports	From the Reports icon, you can run multiple reports on the project. Exports can export budget file, schedule, and timesheet to many different formats.

2.1.12 Overview - System Tab

6 💾	Ť				Training Job - Estimate					
File	Setup	Estimate	Quote	Price	Execution	System	Actions	More Actions		
=	💿 S	aved Views 👻	😋 Colors -		🔆 External Re	ports +	0	🙃 About Estimate		
_	~	itles +	🔅 Output S	Settings +	🔆 External Re	ferences +		🍪 What's New		
Customiz	e.	•					Estimate Help	InEight.com		
			Custom				2	Help		

Se	ection	Description
1	Custom	You can customize the titles and colors for different fields. You can export and import saved Views, Titles, Colors and Output Settings. You can customize reports generated by Estimate using External reports. External References allows you to open external programs with Estimate.
2	Help	You can access a comprehensive help system from the Help menu. You can get information about the Estimate Version and all new updates about the different versions.

2.1.13 Library

Click on the Library icon and the Library opens in its own window.



Users with sufficient security can access master information available in the Library.

TIPThe Library is covered in greater detail in "3.1 Library Overview" on page 71

2.1.14 Open Forms

The following steps assume you already opened the Training Job.

Step by Step — Open Forms

- 1. Click on the **Setup** tab.
- 2. In the Initialize section of the Setup tab, click on the **drop-down menu** for Job Properties and select **Overview** to open the Job Properties form.

6	-		
File	Setup	Estimate	
G	•	-	
Job Pro	operties *	Foundation Setup Data 🔻	Pay I Pro
00	Overview	' D	
0	Security	20	
	Cover Sh	eet	

• Notice that each form opens in its own tab within the active job folder

® 💾 🕘						Training Job
File Setup	Estimate	Quote	Price	Execution	System	
 ۵			<u>_**</u>	4	🕵 Labor	
Job Properties	Foundation Setup Data +	Pay Item & Proposal		ms ope eparate		tesource ssemblies
	Initializ	.e				
Cost Breakdo	wn Structure ((CBS) Regist	ter Jo	b Properties	5 0	

- You can tab between these forms as you are working in InEight Estimate
- Once you are in a register, the Actions and More Actions tabs are available to you. The options available are contextual to that register

9 💾 🕤							Training Job - E	stimate						đ	×
ile Setup	Estimate	Quote	Price	Execution		System	Actions	More Actions						盫	
Print	C Open	⊁ Cut	+ Fill Dow	'n	-	8	Cost Item	t,	Assembly	2.	11			E	
Preview	🕂 New	🖥 Сору	🔀 Split		-	愚	🔚 Subordinate C	ost Item 🗧	Subordinate Assembly	12				2	
Export to Excel	😣 Delete	🖹 Paste	🄁 Toggle	Suspended			🕂 Dependent Co	st Item			Expand , Collapse		Clear Filter		
Print			Edit					Inser	t			View			
ost Breakdown S	tructure (C	BS) Registe	r ©												
ag columns here to	group							Find: [Se	earch For] ····	Save	ed views:	Previous Vie	ew		-
CBS Position Code	≞_ De	scription				Forecas (T/O) Q		Unit of Measure	Unit Cost	Total Co (Foreca		Currency	Pay It Assign		
	30						1.00	Lump Sum	\$5,861,800	*F 0C1	,800.79 L	J.S. Dollar			

ê 💾 🕘			Training Job - E	stimate		
ile Setup Estir	mate Quote F	Price Execution	System Actions	More Actions		
Schedule Selection	∢► Swap -	📸 Bid Wizard	∑ Unit / Total Confirmation	n 💽		
Unschedule Selection	😑 Remove 👻	Subtotal Calculator	😳 Refresh Benchmarks			
📱 Calculate Plug Days	C Update -	Quantity Checking	🗩 Add Quote	Import / Update CBS 🔻		
Schedule	Batch Operations		Tools	Data Source		
ost Breakdown Struct	ture (CBS) Register (3				
ag columns here to group	p			Find: [Search	For]	Saved
CBS Position Code	Description		Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast
	JOB		1.00	Lump Sum	\$5,861,800	\$5,861,8
+	Prime Bond		1.00	Lump Sum	\$47,069.28	\$47,0
+	Price % Add-On		1.00	Lump Sum	\$294,923.52	\$294,9
+	Job Financing		1.00	Lump Sum	\$0.00	

2.2 SYSTEM SETTINGS

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)
- Network settings
- Attachment settings
- Licensing information and settings
- Currency settings

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

Step by Step — System Settings

- 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.
 - TIP

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

)		Settings		- • ×
- Options	Decimal Precision		1	
- General	Cost Summary Precision	Þ		
Fax Mail Account Code Settings	Unit Cost Precision	2		
⊨ Network	Quantity Precision	2		
Deployment Mode SQL Security				
Security Roles Attachment Settings	Short Percent Precision	2		
···· Timesheet Warehouse Settings	Long Percent Precision	2		
Licenses Currency	Currency Rate Precision	5		
			-	

2.3 COLUMNS

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

2.3.1 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.

Currency	Optional Code
U.S. Dollar	
U.S. Dollar	PF IME BOND
U.S. Dollar	PFICE % ADD-ON
U.S. Dollar	FI JANCE EXPENSE
U.S. Dollar	IN IRECT COST ES
U.S. Dollar	DIRECT COST ESC
U.S. Dollar	INDIRECT COST A
U.S. Dollar	JOB MANAGEMENT
U.S. Dollar	GENERAL EXPENSE
U.S. Dollar	DIRECT COST ADD
U.S. Dollar	641 0 100
U.S. Dollar	201 0102
U.S. Dollar	202 0183
U.S. Dollar	3.1

- 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. In this case, drag the **Optional Code** and drop it to the right of the Currency column.

Unit Cost	Total (Fore		Currency	Optiona Code
\$5,861,800	\$5,86	51,800.79	U.S. Dollar	+
\$47,069.28	\$1	47,069.28	U.S. Dol	
\$294,923.52	\$29	94,923.52	U.S. Follar	
\$0.00		\$0.00	U S. Dollar	
\$0.00		\$0.00	U.S. Dollar	
Customize				×
Drag a column		jow to p jister.	lace it into t	he
Custom Captio		Default	t Caption	
Optional Code		Optional Code		^
Owned Equipme Billing	nt	Owned Eq Billing	luipment	
Owned Equipme Total	nt	Owned Eq Total	luipment	
Owned Equipme Total Cost	nt	Owned Ec Total Cost		
Owned Equipme Unit Cost	nt	Owned Eq Unit Cost	luipment	
Pay Hours Rules		Pay Hours Rules	3	
Pay Item Assignment		Pay Item Assignmer	nt	
Pay Item Description		Pay Item Descriptio	n	
Pay Item Line Number		Pay Item Line Numb	er.	-

- You can also unhide a column using the Go To Column feature
- 4. Right click on a Column header and select Go To Column.
- 5. Click on the drop-down menu and select the column you want to unhide.

	To Column –		×
Column:	olumns that are not currently	in the vi	• ew
	ОК	Cano	el

6. Click **OK**.

2.3.2 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.

- 1. 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).
- 2. Click the **Total Cost (Forecast)** column a second time to sort in descending order (e.g.,10 to 1, Z to A).
 - Cost Item 14 Process Equipment should now be at the top of the list

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

Step by Step — Filter Columns

- 1. In the CBS, hover over the **Unit of Measure** column header for the filter icon to appear.
- 2. 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).

Unit	Cost	
ĸ	Cancel	1
	K	Unit Cost K Cancel

- 3. Select **Ton**, then click **OK**.
 - The register now only shows items that have the Ton unit of measure; a description of the filter, along with a red X, is found at the bottom of the form
- 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**.

2.3.2.1 Filter Editor Overview

The Filter Editor displays conditions and groups as a tree branching system.

The Filter Editor grouping feature allows you to increase the amount of *And/Or* statements that originated from the first selected And statement. When you add a new Group, a new Condition is automatically added to that Group.

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

Filter Editor		×
And 🕤		
[WBS: CEAS (Civil Engineering Acco	unt Code System)] Begi	ins with <enter a="" value=""> 🛞</enter>
IOr 💿		
[WBS: CEAS (Civil Engineering /	Account Code System)]	🛯 🕫 Begins w 👻 <enter a="" th="" valu<=""></enter>
		\geqslant Is greater than or equal to \diamondsuit
		< Is less than
		\leqslant Is less than or equal to
		🕰 Is between
		🕰 Is not between
		Rec Contains
		Be Does not contain
		Bec Begins with
4		RE Ends with
		n%⊂ Is like
Load Save	OK	n%: Is not like
45,000.00	Ton	Is any of
400,000.00	Square Yard	 Is none of
35,000.00	Ton	O Is blank
35,000.00	Ton	Is not blank

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.
- 3. Select the Filter Editor button. 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 then 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.

00 And	ith <enter a="" value=""> 🐼</enter>
• Or	ith <enter a="" value=""> ⊗</enter>
🖦 Add Condition	
🚽 Add Group	
≠ Clear All	

- 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. 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**.

2.3.3 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").

Co	st Breakdown Struct	ure (CBS) Register 🛛 🕲		
ra	▼ g columns here to group	Init of		
		Measure Description	(T/O) Quantity	Unit of Measure
		JOB	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.

ost Breakdown Stru	cture (CBS) Register	0				
Unit of Measure 😑						
Unit of Measure	CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit Cost	Total Cost (Forecast)
🛙 Acre	1			10.00		\$39,184.92
Cubic Yard	19			117,865.76		\$498,571.30
🖾 Each	29			59.00		\$1,684,854.23
II LF	1			2,083.95		\$0.00
Linear Feet	11			30,248.00		\$459,303.93
🛛 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		\$276,594.9
Square Yard	2			800,000.00		\$99,954.78
Ton	8			160,000.00		\$2,034,391.03

- 2. To ungroup, right click in the grouping area and select Clear Grouping
 - The column returns to its original location

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

2.3.4 Saved Views

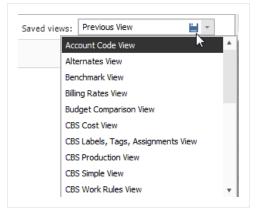
Once you have set up a view the way you like it, you can save the view so you won't have to configure it again later. InEight Estimate also comes with some pre-built views to help you organize the screen the way you want to see it.

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

6	Save Current View
groups,	ame for the current view. All filters, sorts, and column settings will be saved under this that you can recall them later while in this
View nar	me:
Save	as Locked Corporate View
of	clude this view in the Saved Views section the report control
	OK Cancel

- 3. Enter the View Name, then select OK.
 - The new view displays in the drop-down menu
- TIP Saved views are user-specific; you will only see your own saved views when you are logged in.

Lesson 2 Review

- 1. The ______ is a great way to get a summary view of your bid. You can see totals of direct costs, indirect costs, profit and the overall bid price.
 - a. Job Folder
 - b. Data Map
 - c. System tab
 - d. Resource Rate Register
- 2. You can group by more than one column to have multiple grouping levels.
 - 1. True
 - 2. False
- Display settings for Units of Measure, Currency, and Colors can be adjusted from the ______tab.
 - a. Setup
 - b. Estimate
 - c. System
 - d. Help

Lesson 2 Summary

As a result of this lesson, you can:

- Navigate the InEight Estimate system interface
- Navigate system settings
- Manage columns in InEight Estimate registers

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LESSON 3 – LIBRARY SETUP

Lesson Duration: 60 minutes

Lesson Objectives

After completing this lesson, you will be able to use the following forms and explain their purpose:

- Library Job Properties
- Library Foundation Setup Data Register
- Library Resource Rate Register
- Library Assembly Register

Lesson Topics

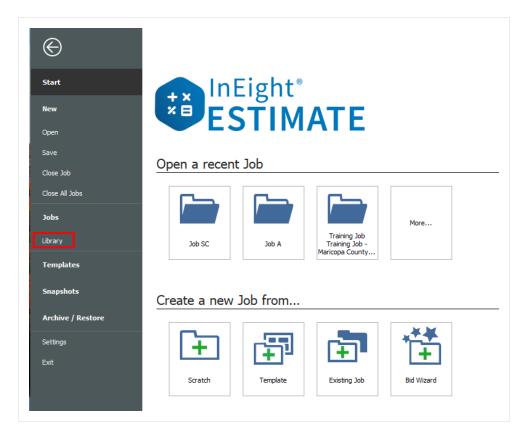
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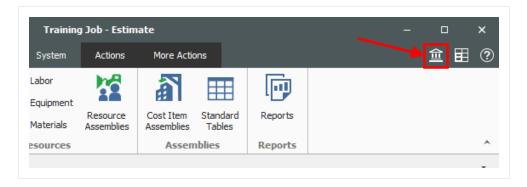
3.1 LIBRARY OVERVIEW

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 on the Library link 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. In this lesson you will learn about each tab and their components.

3.1.1 Library Tabs

The Library has six tabs which organizes the forms under sections. The tabs are:

- Setup
- Estimate
- Execution
- System

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

® 💾 🕞						
File Setup	Estimate	Execution	System	Actions	More Actions	

3.1.1.1 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.

Overview - Setup Tab (continued)

	Name	Description
6	Resource Rates	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 project.
11	User Roles	Opens the Register where you assign users to a role which can include the forms, tabs and menu commands to which each role has access. The user names that are used when setting up your User Profiles come from Active Directory, and they are the user names that each user uses when logging onto his/her personal computer.
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.



3.1.1.2 Estimate Tab

Overview - Estimate Tab

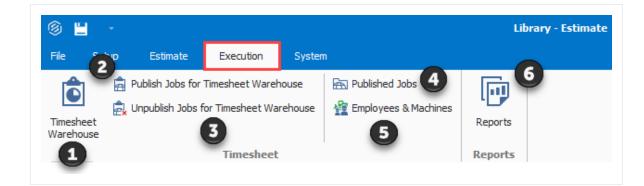
	Name	Description
1	Cost Breakdown Structure (CBS)	Opens the Library Cost Break Structure register, where you can define the CBS that will automatically import when a new project is created.
2	Account Code Utilization	Used to roll estimate line items into an account code hierarchy and benchmark against historical projects in a way that is consistent across projects.
3	Work Breakdown Structures	Opens the Library Work Break 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.
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.



3.1.1.3 Execution Tab

Overview - Execution Tab

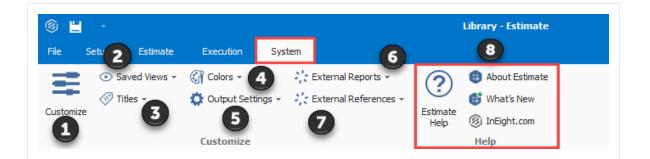
	Name	Description
1	Timesheet Warehouse	Used to document for any period of time (day, week, month, etc.) the employees and machines employed on a cost item (tracked by Account, Phase or CBS Code), how many hours they are employed and optionally, the quantity of work they accomplish.
2	Publish Jobs for Timesheet Warehouse	Links to the Job Register to publish jobs from the Timesheet Warehouse.
3	Unpublished Jobs for Timesheet Warehouse	Opens up a list for to view the unpublished jobs from the Timesheet Warehouse.
4	Published Jobs	Opens to a Register to show the published jobs from the Timesheet Warehouse.
4	Employees & Machines	Opens a register which list all of your company's employees and machines, including their identification number and other associated codes.
5	Reports	Opens the Reports window, where you can access all system reports and configure their report settings.

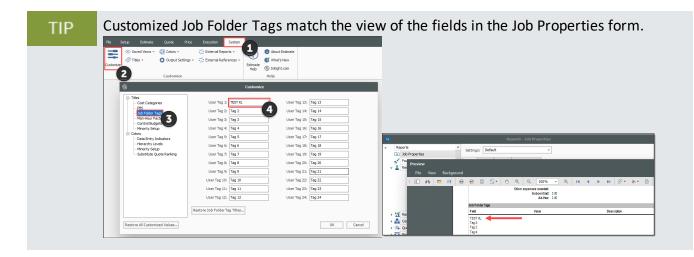


3.1.1.4 System Tab

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	External Reports	Menu to not only generate reports created by Estimate, but also to open programs, folders, documents, reports, or Internet resources with the associated program.
7	External References	Allows you to open programs, folders, documents, reports, or Internet resources with the associated program.
8	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.





3.2 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

lob Properties	Setup Da		Calculator	Shift Rate Calculator	Resource Rates • M	abor quipment aterials Asser Resources	urce Co nblies As	Cost Item Assemblies	Standard Tables	User Rol	Access Control	Repo	rts		
Job Proper	ties ©														
Overview	Security	Cover Sheet	Cost Basis	Minority Se	etup Fuel Cost	Job Tracking	Job Folder	er Tags	Competitors	Pricing	Schedule	Cash Flow	Equipmen	t	•
Notes:															1

3.3 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.

9	💾 🔹 🛀						Lit	brary - Estimate							
File	Setup	Estimate	e Execu	ition S	ystem	Integrations	Actions							童 📰	?
	•	-		甸	1	#	🐔 Labor 🏭 Equipme		a		٢	†4†	I		
Job	Properties	Foundation Setup Data *	Address Book	Trench Calculator	Shift Rate Calculator	Resource Rates *	Materials	Resource		tandard Tables	User Role	s Access Control	Reports		
		Master	Initializatio	n		M	aster Reso	urces	Master Asse	mblies	Roles and	Permissions	Reports		^
Jot	Properties	Four	ndation Setu	up Data Re	gister 🛛										*
Ac	count Codes	Tags V	Vork Breakdov	wn Structure	s Quote	Group Tags	Units of Me	asure Currenci	es Resource	/ Assembly	Files Geog	graphic Areas	Wage Zones	Orga 🔄	Þ
	a columns her	e to group													1
Dra	g columna rici	e to group							Find: Search F	or]	Save	d views: Star	ndard View	•	
Dra	Utilized	Account Code	. Desc	cription		Unit of Measure		Secondary Jnit Of Measure	Find: Search F		uantity	d views: Star Quantity	Auto-Quantity (Secondary)	Seconda Quantity	
Drai →	_	Account _		cription nove insulation	n			Secondary		Auto-Q	uantity		Auto-Quantity	Seconda	
	_	Account E	Rem			Measure	L	Secondary	Currency	Auto-Q	uantity	Quantity	Auto-Quantity	Seconda	y ́
	_	Account a	Remo	iove insulation	ork	Measure Each	L	Secondary	Currency U.S. Dollar	Auto-Q	uantity	Quantity 0.00	Auto-Quantity	Seconda	y ́

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 Breakdown 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 🛓	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.

3.4 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.

3.4.1 Library Resource Rate Register

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

© 💾							Libra	ry - Estimate	2
File S	Setup	Estimate	Exec	ution	System	Integrations	Actions		
¢		-	2	鱼			🐔 Labor		a
Job Proper		Foundation Setup Data *	Address Book	Trench Calculator	Shift Rate Calculator	Resource Rates *	Materials	Resource Assemblies	Cost Item Assemblies
		Master I	nitializatio	on			laster Resourc	es	Master As

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 <i>All</i> 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.

ost	Breakdown St	ructure (CBS) Register	Job Pro	perties	Resource Rate	e Register 🛛 🕲				
All	Labor Cons	struction Equipment Re	ented Construction	n Equipment	Installed Material	Installed Equ	uipment Sup	plies Unique		
rag	column 2: to g	group 3		4		5 Find	: [6 For] ··· Saved vi	ews: 7 jous View	•
	Resource 🚊	Description	Unit Cost (Scale 1)	Unit Cost (Scale 2)		Utilization Count	Unit of Measure	Resource File Description	Wage Zone	Organizational Category
>	+ LC1	Carpenter Apprentice	\$27.48	\$41.22	\$54.96	594.37	Hour	Standard Labor Rate	Wage Zone A	Carpenter
	+ LC2	Carpenter Journey	\$28.92	\$43.38	\$57.84	1,188.73	Hour	Standard Labor Rate	Wage Zone A	Carpenter
	+ LC3	Carpenter Foreman	\$31.47	\$47.20	\$62.94	594.37	Hour	Standard Labor Rate	Wage Zone A	Carpenter
	+ LF1	Finisher Apprentice	\$26.80	\$40.20	\$53.60	0.00	Hour	Standard Labor Rate	Wage Zone A	Finisher - Concrete
	+ LF2	Finisher	\$28.07	\$42.10	\$56.13	594.37	Hour	Standard Labor Rate	Wage Zone A	Finisher - Concrete
- 1	+ LF3	Finisher Foreman	\$32.32	\$48.48	\$64.64	0.00	Hour	Standard Labor Rate	Wage Zone A	Finisher - Concrete

TIP

Resource rate add and search tips:

- You cannot add new resources on the All tab.
- You can search for resources in the Resource Rate Register using the 'Find' field.

Next you will take a look at the different types of resources and how the differ when we drill into resource rate records from each category.

3.4.2 Labor Resources

Looking at your Labor resources more closely, you will see all the Resource Codes for the Labor resources begin with an L. This is a best practice for naming and organizing your resources, but you can also use another organizational method of your choice.

3.4.3 Resource Rate Record

If you need to add cost to a resource, adjust a rate, or just view a more detailed breakdown, you can open the resource's rate record. From the Library Resource Rate Register, double click on the row header for the resource you need to view in greater detail.

Double click on the row header to open					
	rate record		Resource File Description	Unit of Measure	Productivity Factor
+ LC1	Carpenter App	rentice	Standard Labor Rate	Hour	1.0
+ LC1	Carpenter App	rentice	Standard Labor Rate	Hour	1.0
+ LC2	Carpenter Jour	rney	Standard Labor Rate	Hour	1.0
+ LC2	Carpenter Jour	rney	Standard Labor Rate	Hour	1.0
+ LC3	Carpenter Fore	eman	Standard Labor Rate	Hour	1.0

Overview – Resource Rate Record

	Name	Description
1	Record	The record references the resource you are editing.
2	Charge Rate	The Charge Rate tab is the tab the record defaults to and is where you define the cost of the resource.
3	Scale Buttons	The Scale buttons only show up on labor resources. They are used for defining regular time, overtime and double time rates for the resource.
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.

ode: * Setup		Charge Rate	Rate	Apprentice				
Scale	1	Scale 2 Scale 3 A	I Scales					Special Instructions
Cost Ci	atego	ry Breakdown	Amount	()	Percent	Is Taxed	Is Insured	Use the Materials cost category to add additional labor cos for materials and supplies.
✓ Tot	tal Labo	r	Varies Varies					Worker's Comp values for this resource can be adjusted automatically when this resource is employed in a job,
	L	abor Base abor Burden	Varies					based on the geographic location of the work, and the Worker's Comp Override listed on the Cost Item on which the resource is employed.
	- L	Labor Fringes	Varies Varies					Standard Worker's Comp Overrides can be defined in the Library's Foundation Setup Data Register.
	,	Labor Taxes	Varies	· · · ·				Base Wage Factors for Overtime
	ι	Undefined Labor B Indefined Labor	\$0.00 \$0.00	← ←	0.00			Use Base Wage Factors for Scales 2 and 3
>	Mate	erials efined	\$0.00 \$0.00					Scale 2 Factor: 1.50 x Base Wage Scale 3 Factor: 2.00 x Base Wage
								This option multiplies the Scale 1 base wage This option multiplies the Scale 1 base wage by the factor entered here to automatically calculate the base wage for Scales 2 and 3.

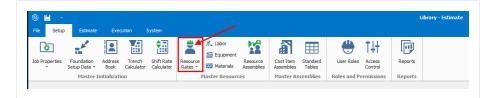
	Name	Description
6	Setup	There is also a Setup tab where you can define the resource's attributes an a few other settings. These attributes are used for filtering which resource rates to load into a new estimate.
7	Cost Driver	Labor resources default Cost Driver is CI Duration which means their costs 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 6 Charge	e 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 8
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.

3.4 Resources

- 3. Right click on any row header and select New.
 - A new Labor Rate Record displays
- 4. In the Code field, type LMECH [your initials].
- 5. Press the **Tab** key.
- 6. In the Description field, type Mechanic Heavy Duty.
- 7. Click on the resource's **Setup** tab and select **Standard Labor Rate File** from the Resource File drop-down list.
- 8. Select **Southwest** for the Geographic Area.
- 9. Select Wage Zone A for Wage Zone.
- 10. Select Mechanic in the Organizational Category.
- 11. For Tag 2, select Non-Union.

Code: * LMECHPB	Description: Mechanic - He	avey Duty
Setup 🐥 Charg	e Rate Billing Rate	
Resource File:	Standard Labor Rate File 🔹	Userl
Geographic Area:	Southwest -	User I
Wage Zone:	Wage Zone A 🔹	Userl
Org. Category:	Mechanic -	Userl
Account Code:	e de la companya de la	User I
Cost Driver:	CI Duration -	Userl
Cost Curve:	Employed Cost Item 👻	Userl
Tag 1:	Hourly -	Userl
Tag 2:	Non Union 👻	Userl
Tag 3:	•	User D

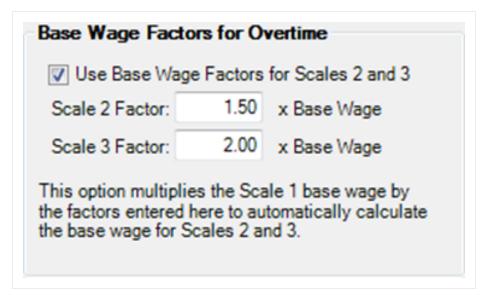
12. For Tag 1, select Hourly.

Code: *	LMECHPB	Description: Mechanic - He	avey Duty
Setup	🔱 Charg	e Rate Billing Rate	
Res	ource File:	Standard Labor Rate File -	Userl
Geogra	aphic Area:	Southwest -	Userl
w	/age Zone:	Wage Zone A -	Userl
Org.	Category:	Mechanic -	Userl
Acco	ount Code:	đ	User I
c	ost Driver:	CI Duration -	Userl
c	ost Curve:	Employed Cost Item 👻	Userl
	Tag 1:	Hourly -	Userl
	Tag 2:	Non Union -	Userl
	Tag 3:	-	User D

- 13. On the Charge Rate tab, enter **\$52.00** for your Labor Base.
- 14. Expand Labor Burden and under Labor Fringes, type **\$3.00** for Pension and **\$2.00** for Subsistence.

			Register				
Code:	* [LMEC	HINEIGHT	Descript	tion: Mechanic -	Heavy Duty	
Setu	D	4. c	harge Rate	Billing	Rate		
Scal	e 1	Sca	ale 2 Scale	e 3 Al	l Scales		
Cost	Cate	gory E	Breakdown		Amount	()	Percent
v ⊺	otal				\$57.00		
~	La	bor		\$57.00			
		Labo	or Base		\$52.00		
	\mathbf{v}	Labo	or Burden		\$5.00		
		۷l	abor 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
			Subsisten	:e	\$2.00	÷	3.85
			Health & V	Velfare	\$0.00	(0.00

- 15. You need to 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.



17. Click **OK**, to close the record.

3.4.4 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
---	----------------------------------	-------------------------------

All	Labor	Construction Equipment	Rented Construction Equipment	Installed Materia	al Installed Equi	ipment Supp	ies Unique					
rag	columns he	re to group					Find: Se	arch For]	··· Saved v	views: Previous	View	•
	Resource Code	E Description	Resource File Description	Unit of Measure	Productivity Factor	Default Quantity	Waste % Add-on	Unit Cost (Scale 1)	Currency	Utilization Count	Organizational Category	Geograp Area
<i>></i>	+ EAPAV	Asphalt Paver	Standard Equipment Rate	Hour	1.00	1.00		\$53.40	U.S. Dollar	0.00	Asphalt	4
	+ EARL	Asphalt Roller	Standard Equipment Rate	Hour	1.00	1.00		\$21.00	U.S. Dollar	0.00	Asphalt	
	+ ECOMP	1 Compactor Smooth	D Standard Equipment Rate	Hour	1.00	1.00		\$7.00	U.S. Dollar	0.00	Compactor	
	+ ECOMP	2 Compactor Sheeps	F Standard Equipment Rate	Hour	1.00	1.00		\$28.00	U.S. Dollar	0.00	Compactor	
	+ ECR110	Crane 110 Ton	Standard Equipment Rate	Hour	1.00	1.00		\$196.00	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	
	+ ED6	Dozer D6	Standard Equipment Rate	Hour	1.00	1.00		\$84.00	U.S. Dollar	0.00	Dozer	
	+ ED8	Dozer D8	Standard Equipment Rate	Hour	1.00	1.00		\$140.00	U.S. Dollar	0.00	Dozer	
	+ 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.

3.4.5 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 **RECR110 [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.

- Code: * RECR110 Description: Crane 110 Ton 🖶 Charge Rate Quote **Billing Rate** Setup Resource File: Standard Rental Rate File User Defined 1: -Geographic Area: User Defined 2: -User Defined 3: Wage Zone: -User Defined 4: Org. Category: Crane -
- 7. Select Crane from the Organizational Category drop-down list.

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

3.4.6 Equipment Consumption Rates

Coat Drivery CI Duration

Account Code:

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.

1

_

User Defined 5:

Lloor Dofined Au

Job Pro	ope	rties	Construction	on Equipment Ra	ate Record
Code:	* [EAPAV	Descrip	tion: Asphalt Pa	aver
Setup		🖶 Charge F	Rate Billing	Rate	
Cost C	ate	gory Breakdo	wn	Amount	Fuel
✓ To	tal			\$199.00	Fuel Type Consumption Rate
~	Ov	vned Equipme	ent	\$199.00	Gasoline 👻 12.00 Gallon/Hour
	>	OE Owners	nip	\$0.00	
~		OE Operation		\$199.00	Consumption Rate factored
		OE Repa	air Parts	\$0.00	with cost per liter gives you a
		OE Repa	air Labor	\$0.00	fuel cost.
		OE Fuel		\$144.00	
		OE Lube	2	\$0.00	Man-Hours for this resource

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

3.4.7 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. The rate for your RECR110 Crane 110 Ton resource is \$4000 per week. 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 **4000**.
- 5. Type **20** in the Hours Per Period field.

Non-Hourly Period Charge Rates Calculate Non-Hourly Period Charge Rates for RE Rental								
Period:	Weekly 💌							
Amount Per Period:	\$4,000.00							
Hours Per Period: 20.00								

• Your hourly Owned Equipment rate will auto-fill with \$200.00

Cod	e: [;]	RECR110	Descript	ion: [Crane	110 Ton
Se	tup	🐈 Charge Rate	Quote Billin		Billin	g Rate
Co	st C	ategory Breakdown		Amo	unt	
¥	То	tal		\$20	00.00	
	>	Rented Equipment	\$	\$20	\$200.00 \$0.00	
	>	Fees				
		Undefined		3	\$0.00	

6. Click **OK** to close the record.

3.4.8 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

Jop	Propertie	s	Resource Rate	Register 🕻					
All	Labor	Const	ruction Equipment	Rented Con	struction Equipm	ent Installed	l Material	Installed Equipment	Supplies
Drag	columns he	ere to gro	oup						
	Resource Code	<u>-</u>	Description		Unit Cost (Scale 1)	Utilization Count	Unit of Measure	Resource File Description	
\rightarrow	+ MAAM		Asphalt Mix (Finisł	ו)	\$32.50	0.00	Ton	Standard Materia	al Rate
	+ MAC		Asphalt Cement		\$195.00	0.00	Ton	Standard Materia	al Rate
	+ MACA	1-1/2	Coarse Aggregate	Coarse Aggregate 1-1/2 In		0.00	Ton Standard Material		al Rate
	+ MAFA		Fine Aggregate	Fine Aggregate		0.00	Ton	Standard Materia	al Rate
	+ MAHAU	JL	Aggregate Haul Q	ggregate Haul Quarry to P		0.00	Ton	Standard Material Ra	
	+ MAIA3	/4	Intermediate Agg	regate 3/4	\$10.40	0.00	Ton	Standard Materia	al Rate
	+ MASAN	ID.	Sand		\$7.80	0.00	Ton	Standard Materia	al Rate
	+ MATK		Tack		\$1.30	0.00	Gallon	Standard Materia	al Rate
	+ MBR		Aggregate Base R	lock	\$8.45	0.00	Ton	Standard Materia	al Rate
	+ MC200	0	Concrete 4000 PS	I	\$110.50	0.00	Cubic Yard	d Standard Materia	al Rate
	+ MC350	0	Concrete 3500 PS	I	\$104.00	0.00	Cubic Yard	d Standard Materia	al Rate
	+ MDIRT	A	Dirt Class A		\$1.30	0.00	Cubic Yard	Standard Materia	al Rate
	+ MDIRT	в	Dirt Class B		\$6.50	0.00	Ton	Standard Materia	al 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 Square Feet 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 type **5.00** in the Installed Materials Amount field.

Code: [×]	MGBPPB	Descripti	on: Brick I	Pavers
Setup	븆 Charge Rate	🖵 Que	ote Billin	g Rate
Cost C	ategory Breakdown		Amount	
✓ Tot	tal		\$5.00	
~	Materials		5	
	Installed Materials		\$5.00	
	Undefined Materia	ls	\$0.00	
>	Fees		\$0.00	
	Undefined		ê0.00	1

9. Click **OK** to finish adding this resource.

3.4.9 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

Al	Labor Con	struction Equipment Rented Con	struction Equipment Install	ed Material	Installed Equipment	Supplies U	hique				
xaç	columns here to	group				Find: Sear	ch For]	··· Saved vie	ws: Previous	View	*
	Resource h.	Description	Resource File Description	Unit of Measure	Productivity Factor	Default Quantity	Waste % Add-on	Unit Cost (Scale 1)	Currency	Utilization Count	Organizatio Category
÷	+ UCRANE	Crane by the Month	Standard Unique Rate	Month		1.00	0.00	\$16,500.00	U.S. Dollar	0.00	
	+ UDFL	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	

3.5 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.

3.5.1 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

a col	umns	here to gro	DUD									Find: [Sea	arch For]	Saved	d views:	Standard View		•
		-	Descri	otion		Resou File De	urce escription	ç	Quantity	Unit of Measure	Unit Cost	Total Cost	Currency	Organization	nal G	ieographic rea	Wage Zone	Man Cour
-	CCO	VC	Concre	ete Crew		Stand	lard Assemb	ily	1.00	Hour	\$330.3	8 \$330.38	U.S. Dolla	ar Concrete			_	
		Row Number	1	Resource Code	Description		Quantity	Unit of Measur		Currency		Resource File Description		Organizational Category	Geograph Area	nic Wage Zone		
	\rightarrow		1	LC2	Carpenter Journe	eyman	2.00	Each	\$28.92	U.S. Dollar	CI Dura	Standard Labor Rat	te File	Carpenter	Southwes	st Wage Zon		
			2	LF2	Finisher		1.00	Each	\$28.07	U.S. Dollar	CI Dura	Standard Labor Rat	te File	Finisher - Conc	Southwes	st Wage Zon		
			3	LIW1	Iron Worker		1.00	Each	\$35.55	U.S. Dollar	CI Dura	Standard Labor Rat	te File	Iron Worker	Southwes	st Wage Zon		
3			4	LL2	Laborer		1.00	Each	\$26.37	U.S. Dollar	CI Dura	Standard Labor Rat	te File	Laborer	Southwes	st Wage Zon		
-			5	ECRHC	Hydraulic Crane	25 Ton	1.00	Each	\$84.00	U.S. Dollar	CI Dura	Standard Equipmen	t Rate	Crane				
			6	LC1	Carpenter Appre	ntice	1.00	Each	\$27.48	U.S. Dollar	CI Dura	Standard Labor Rat	te File	Carpenter	Southwes	st Wage Zon		
			7	LO2	Operator Class 2		1.00	Each	\$30.21	U.S. Dollar	CI Dura	Standard Labor Rat	te File	Operator	Southwes	st Wage Zon		
			8	ETFT	Flatbed Truck		1.00	Each	\$7.00	U.S. Dollar	CI Dura	Standard Equipmen	it Rate	Truck				
D.			9	LC3	Carpenter Forem	ian	1.00	Each	\$33.87	U.S. Dollar	CI Dura	Standard Labor Rat	te File	Carpenter	Southwes	st Wage Zon		
4	CGR	ADE	Gradin	g Crew		Stand	lard Assemb	dy	1.00	Hour	\$175.0	6 \$175.06	U.S. Dolla	ar Earthwork				
+	CMA	INT	Equipn	nent Mainter	ance	Stand	lard Assemb	dy	1.00	Each	\$58.0	0 \$58.00	U.S. Dolla	ar Mechanic			2	

3.5.2 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 or productivity rates which is commonly performed by a type of crew.

	urce Assemb	oly Regi	ister R	Resource Assembly F	Record_0						-		
Cod	e: * CCONC		Description	: Concrete Crew	0						2	Qty:	
F	esource File:	Standa	ard Assembly Fi	le 🔹 Tag 1:		•						UM: Hour	
Geo	graphic Area:			▼ Tag 2:		-					Unit	Cost:	\$330
	Wage Zone:			→ Tag 3:		•					Curr	rency: U.S. Do	llar
0	g. Category:	Concre	ete	 Man Count: 	8.00					•	Last Change	ed By:	
				Equip Count:	2.00					4	Last Change	ed On:	
	Notes:												
Cos		Assembly	y Details										
			-2						Find:	Search For] ··· Sa	ved views: Previous V	/iew	•
	Summary	to group R	-2	Description	Quantity	Unit of Measure	Unit Cost	Currency	Find: E Cost Driver	Search For] ··· San Resource File Description	ved views: Previous V Organizational Category	/iew Geographic Area	• Wage Zone
rag	Summary /	to group R	esource ode	Description Carpenter Journey	Quantity 2.00			Currency U.S. Dollar	Cost	Resource	Organizational	Geographic	Wage Zone
raç	Summary /	to group Ri C	esource lode		2.00	Measure Each	\$28.92		Cost Driver	Resource File Description	Organizational Category	Geographic Area	Wage Zone Wage Z
	Summary /	to group R C 1 L	esource iode C2 F2	Carpenter Journey	2.00	Measure Each	\$28.92 \$28.07	U.S. Dollar	Cost Driver CI Duration	Resource File Description Standard Labor Rate File	Organizational Category Carpenter	Geographic Area Southwest	Wage

Step by Step — Create a Resource Assembly

- 1. From the Library landing page, under the Master Resources section of the Setup tab, select **Resource Assemblies**.
 - The Resource Assembly Register displays
- 2. Right click on any row header and select **New** from the drop-down menu.
 - A new Resource Assembly Record displays
- 3. In the Code field, type **CEXC [your initials]** as the unique code for the assembly.
- 4. In the Description field, type Excavation Assembly.
 - This field is an expanded clarification of the assembly Code
- 5. In the Assembly Details register at the bottom of the screen, click in the **Resource Code** column in the first blank row, then select the **Resource** icon that appears in the cell.
- 6. 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.
- 7. Add the following additional resources: LO2 Operator Class 2 and EX225 Excavator.
 - Once you've added resources, you can indicate how many of them you want in the assembly. In this case, leave the quantities of the assembly resources at 1
- TIP You can use the Ctrl and Shift keys to select multiple resources at once.
- 8. Click **OK** to save and close the new assembly.
 - The new assembly now appears on the Library Resource Assembly Register

Re	source Assemb	ly Register 🛛				
Drag	g columns here to	group				
	Code 📃	Description	Resource File Description	Quantity	Unit of Measure	
	+ CCONC	Concrete Crew	Standard Assembly	1.00	Hour	
÷	+ CEXCPB	Excavation Assembly		1.00	Each	
	+ CGRADE	Grading Crew	Standard Assembly	1.00	Hour	
	+ CMAINT	Equipment Maintenance	Standard Assembly	1.00	Each	

Exercise 3.1 — Create Resources & Resource Assemblies

In this exercise, you will practice creating resources and assemblies in the InEight Estimate Library. In the Library Resource Rate Register, create resources with the following variables:

Labor Resource

Resource Code	LSFA	Wage Zone	Wage Zone A
Resource Description	Field Administrator	Organizational Category	Supervision
Geographic Area	Southwest	Scale 1 Labor Base	\$33.45
Scale 1 Premium	2 percent	Scale 1 Subsistence	\$0.47
Resource File		Standard Labor Rate File	

Select the checkbox for 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.

Rented Construction Equipment Resource

Rented Construction	equipment Resource			
Resource Code	RPW3000	RE Rental Amount	\$3.40	
Resource Description	Pressure Washer 3000 PSI	Organizational Category	Clean & Inspe	ect
Resource File		Standard Rental Rate F	ile	
Installed Material F	Resource			
Resource Code	МССВ	Installed Materials An	nount	\$300.00
Resource Description	Pre-Cast Concrete Catch Basin	Organizational Catego	ory	Concrete
Resource File		Standard Material Rate	e File	
Unit of Measure		Each		

Uncheck the box for Apply Standard Tax and enter a Unique Sales Tax Rate: 6%

In the Library Resource Assembly Rate Register, create resource assemblies with the following codes, descriptions, and resources

	Assembly #1								
Assembly Code	CBRIDGE								
Assembly Description	Bridge Crew								
Resource File	Standard Assembly File								
Unit of Measure	Hour								
Select Wage Zone A Labor Resources for this Assembly.									
Resources on Assembly	Resource Description	Resource Quantity							
LC3	Carpenter Foreman	1							
LL2	Laborer	2							

LC2	Carpenter Journeyman	2
LF2	Finisher	1

Assembly #2

Assembly Code	CRIPRAP
Assembly Description	Rip Rap Replacement Crew
Resource File	Standard Assembly File
Unite of Measure	Hour

Select Wage Zone A Labor Resources for this Assembly.

Resources on Assembly	Resource Description	Resource Quantity
LT2	Teamster Foreman	.5
LO3	Operator Class 3	1
LL2	Laborer	2
EX510	Backhoe JD 510	1
ETPU	Pickup	1
EL950	Loader 950	1

You should end up with the following results

ource de	•≞ ▼	Resource File Description	e	Organizationa Category	l Geog Area	raphic	Wage Zone		Description	Unit of Measure
LSFA		Standard Lat	bor Rate File	Supervision	Sout	Southwest			Field Administrator	Hour
	Scale 🛓	Total	Labor	Labor Base	Labor Burde	n Labor Fi	ringes			
\rightarrow	1 \$33.92		\$33.92	\$33.45	\$0.	47	\$0.47			
	2	\$50.18	\$50.18	\$50.18	\$0.	00	\$0.00			
	3	\$66.90	\$66.90	\$66.90	\$0.	00	\$0.00			

	esou ode	rce 🗸 👻	Descri	iption	-		cription	Unit of Measure	Unit Cost (Scale 1)	Curr	Currency 👻		Organizational Category		
-	RP	W3000	Pressu	ure Washer 3000 PSI		Stan	dard Rental Rate Fil	e Hour	\$3.40	U.S.	Dollar	Clea	n & Inspect	:	
	Total			Rented Equipment	RE Rer	ntal	RE Rent Expense	RE Overhead	RE Finance Expe	ense	RE Insura	ance	RE License	R	
	Þ		\$3.40	\$3.40	\$3	3.40	\$0.00	\$0.00	Ş	0.00	\$	0.00	\$0.00		

Res Coc		rce 🗸 👻	Descriptio	n –	Resource File Description	-	Unit of Measure	Unit Cost (Scale 1)		
			Pre-Cast	Concrete Catch Basin	Standard Material Ra	ate File	Each	\$318.00		
		Total	Materials	Installed Materials	Undefined Materials	Fees	Sales Taxes	Undefined Fe		
	۲	\$318.00	\$300.00	\$0.00	\$300.00	\$18.00	\$18.00	\$0		

Ass	em	bly , 🗆	Asse	mbly		Resource		Quantita	Unit of		Unit Court		Tabel Cash	0		Organization	al	Geogr	aphic
Cod	le		Desc	ription	Y	File Descrip	tion 💌	Quantity	Measure	Ψ.	Unit Cos	t 🖳	Total Cost 👻	Currenc	y 💌	Category	Ψ.	Area	¥
- (B	RIDGE	Bridg	e Crew		Standard A	ssembly File	1.0	00 Hour		\$1	70.11	\$170.11	U.S. Dol	lar				
		Row Number	/	Resource Code	Description	Quantit	y Unit of Measure	Unit Cost	Currency	Co	ist iver	Reso File D	urce escription		Organi Catego	zational ory	Geogra Area		Wage Zone
	۲		1	LC2	Carpenter Journeym	an 2.	00 Each	\$28.92	U.S. Dollar	CI	Duration	Stand	dard Labor Rate	File	Carpen	nter	Southv	vest	Wage Zone
			2	LC3	Carpenter Foreman	1.	00 Each	\$31.47	U.S. Dollar	CI	Duration	Stand	dard Labor Rate	File	Carpen	nter	Southv	vest	Wage Zone
			3	LF2	Finisher	1.	0 Each	\$28.07	U.S. Dollar	CI	Duration	Stand	dard Labor Rate I	File	Finishe	r - Concrete	Southv	vest	Wage Zone
			4	LL2	Laborer	2.	0 Each	\$26.37	U.S. Dollar	CI	Duration	Stand	dard Labor Rate	File	Labore	r	Southv	vest	Wage Zone

ode	ode 🖭 🎙		Descrip	otion		Reso File D	urce escription		Quar		Unit of Measure	Unit Cost	Total Cost	Currency		Geographic Area	Wage Zone		
CRIPRA		RAP	Rip Ra	Rap Replacement Crew			Standard Assembly		1.00		Hour	\$152.89	\$152.89	U.S. Dollar					
	Row Num		<u>1</u>	Resource Code	Description		Quantity	Unit o Meas		Unit Cost	Currency	Cost Driver	Resource File Description		Organizational Category	Geographic Area	Wage Zone		
	÷		1	LL2	Laborer		2.00 Eac			\$26.37	U.S. Dollar	CI Duration	Standard Labor	Rate File	Laborer	Southwest	Wage Zon		
			2	LO3	Operator Class 3		1.00	Each		\$30.62	U.S. Dollar	CI Duration	Standard Labor	Rate File	Operator	Southwest	Wage Zon		
			3	3	3	LT2	Teamster Forema	n	0.50	Each		\$32.32	U.S. Dollar	CI Duration	Standard Labor	Rate File	Truck Driver - Teamster	Southwest	Wage Zon
			4	EL950	Loader 950		1.00	Each		\$14.18	U.S. Dollar	CI Duration	Standard Equip	ment Rate	Loader				
			5	ETPU	Pickup		1.00	Each		\$4.20	U.S. Dollar	CI Duration	Standard Equip	ment Rate	Truck				
			6	EX510	Backhoe JD 510		1.00	Each		\$35.00	U.S. Dollar	CI Duration	Standard Equip	ment Rate	Excavator				

Congratulations, you have completed this exercise!

Lesson 3 Review

- 1. 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.
 - a. True
 - b. False
- 2. This resource type is a catch-all and can be used for anything from dump fees and security to creating subcontractors as a resource.
 - a. Installed Materials
 - b. Unique
 - c. Labor
 - d. Construction Equipment
- 3. The Construction Equipment and Rented Construction Equipment Resource Rate Records include consumption rates that will factor with the fuel cost you define where?
 - a. Library Foundation Setup Data
 - b. Library Resource Rates
 - c. Job Properties
 - d. Cost Breakdown Structure

Lesson 3 Summary

As a result of this lesson, you can define, adjust and explain:

- Library Job Properties
- Library Foundation Setup Data Register
- Library Resource Rate Register
- Library Assembly Register



LESSON 4 – PROJECT SETUP

Lesson Duration: 45 minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Create a new project
- Enter Job Properties
- Create pay items in the Pay Item & Proposal Register

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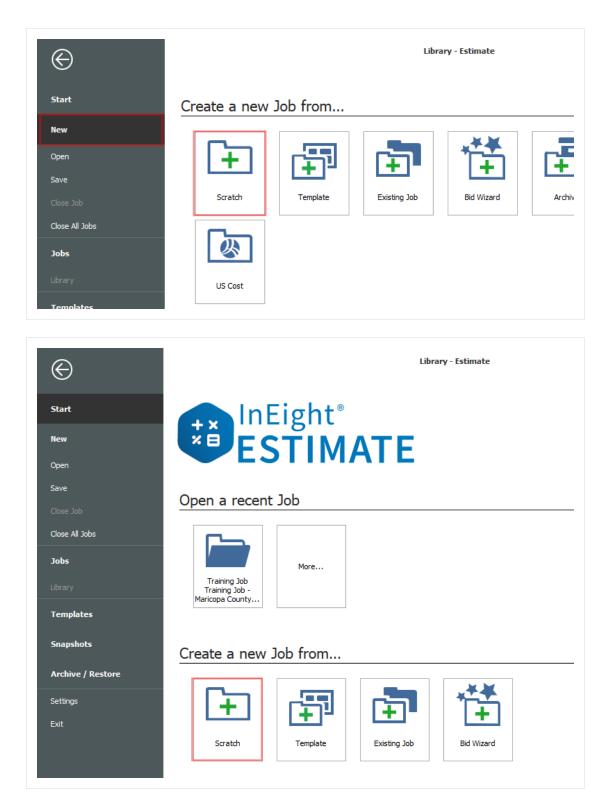
4.1 JOB CREATION

As discussed in Lesson 1, a job folder contains all pertinent information for a single project, and it is independent from any other job. When you create a new job folder, all your estimating and managing of the project will be stored in that folder.

First, you will create a new job from scratch.

Step by Step — Create a New Job

 From the InEight Estimate Backstage view, under the Create a new Job from... section, select Scratch, or select New > Scratch from the left sidebar menu.



2. On the New Job dialog, type E101 - Training Job (with your initials) in the Code field.

- The Job Code must be unique to differentiate between projects
- 3. Type **Sample Training Job** in the Description field.
 - The Description field is usually a longer title and helps you identify the project
 - It is not required, but best practice is to have a good description to make it easier to find the job

9	New Job
Code: *	E101 - Training Job SC
Description:	Sample Training Job
	OK Cancel

- 4. Click **OK** to create the new project.
 - The project is created and the Job Properties form for the new project automatically displays

4.2 JOB PROPERTIES

When you create a new project, the **Job Properties** form automatically displays. This is where you can enter basic information about the project. To open the Job Properties form at any other time, on the InEight Estimate landing page, select the **Setup** tab and click **Job Properties**.

4.2.1 Overview Tab

The Job Properties form opens to the Overview tab.

Overview – Overview Tab

	Name	Description
1	Job Code and	Contain the information you entered on the New Job dialog.

Overview – Overview Tab (continued)

	Name	Description
	Description	The Description can be changed at any time if necessaryThe Code cannot be changed
2	Status	 Indicates where in the process this project is (e.g., Bidding, Awarded, etc.) When searching for jobs in the Job Folders list, you can filter and sort jobs by their status These job statuses can be adjusted to fit your company requirements in the Jobs Register, Tools Menu, Job Statuses.
3	Notes	 Used to document project specifics. Information in this field is created in InEight Estimate and it is not integrated with other programs

Overview	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Folder Tags	Competitors	Pricing	Schedule	Cash Flow	Equipment	t Maintenance	Benchma	4
l		ining Job SC	0									2	Status:		
scription:	Sample Tra	aining Job	•												
Notes:															

TIP You can change your Job Code by making a copy of the job with a new code.

4.2.2 Security Tab

When you set up the job, you can secure it so only those working on the estimate will have access. You can adjust security at the field level or at the job level.

The following steps walk you through how to set up security. For now, you will leave the Security tab as is without making any specific selections; however, the following steps guide you through making any security changes when needed in the future.

Step by Step — Set Up Job Level Security

- 1. On the Job Properties > Security tab, select the **Restrict access to this Job...** check box.
 - Notice the checkbox to "Allow ALL users with Bid Wizard access to use this job as a source" is checked by default. Make sure to keep this checked
- 2. Click the Add Users / Groups button to add users.
- 3. In the Select Users or Groups dialog, type the email addresses for those that need access and then click **OK**.
 - If you don't know the email address, you can type the name of the user, and click the Check Names box to find the appropriate user.

lesource /	Assembly R	legister	Job Properti	es O								
Overview	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Folder Tags	Competitors	Pricing	Schedule	c	
Estimate P	rotection											
Enable	e field level e	estimate protect	ion 🦲	Passwoi	rd:							
User Acces			- 1									
		this is h to the f		1		Al Lucare with Pi	id Winned accounts	use this is has				
✓ Restri	ccaccess to	this job to the fo	nowing users	1	Allow	ALL USERS WITH D	id Wizard access to	use this job as	Studie			
Users allo	owed in this	job:						(۷			
user - Sus	an.Cappellor	ni@INEIGHT.CON	1	5								
									Ac	dd Users / Gr	oups	
											-	_
										dd Users / Gr e Selected Us	-	_
											-	_
										e Selected Us	-	
									Remove	e Selected Us	-	
									Remove	e Selected Us	-	

• The job can now only be opened by those listed under Users allowed in this job

4.2.3 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)

Overview	Security	Cover Sheet	Cost Basis	Minority Se	tup Fuel Co	st Job Tracking	Job Folder Tags	Competitors	Pricing	Schedule	Cash Flow	Equipment	-
Identificatio	on												
Loca	ation: I-1	10 MP 100 to MP 1	20	Type:	Highway and	General Engineerin)		Contra	act Duration:			1
	City: Ph	oenix		Engineer:	Example Engin	eer Fred Jones			1 Tir	me Measure:	Contract Day	'S ▼	
Co	unty: Ma	aricopa		Owner:	Example Owne	er Jerry Slate			E Fo	recast Start:	1/6/2014	•	
Cou	untry: Ur	nited States	•	Architect:	Example Archi	tect Robert Frost			E For	ecast Finish:	6/5/2014	*	
S	State: Ar	izona	-							Duration:			1
Lati	tude:		0.00000]									
Longi	itude:		0.00000]									
Proposal													
Bi	d Date:	12/23/2013 •	•				Opening Type:	Public					
Bio	d Time: 🛛	10:00:00 PM					Proposal Type:	Unit Price					
5-6	imator:	Example Prime Con	tractor 1 - Tor	n Cross			Plan Holders:						

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.

4.2.4 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

Overview Secure Cover Sheet	Cost Basis	Min 2 etup	Fuel Cost	Job Tracking	Job Folder Tag	Competitors	Pricing	Schedule	Cash Flow	Equipment	4
Standard Shift Arrangements Work Hours per Shift 8.00 Pay Hours per Shift: 8.00 Shifts per Day: 1.00 Days per Week: 5.00 Currency	Scale 1: Scale 2: Scale 3:	: 0.00 %		es Lock Cost Items Pay Item Unit Pr Activate PBS Ch Activate Quantit Maintain CBS Str When man-coun ndard Rates	ice Precision: Inges Log y Checking ucture at Level: t changes:	0) Change UM / M) Change Days	lan-Hour	Preserv Data So	e Original Cos urce	t Item	
Labor Rate	source / Assem [All] [None] Disc plasted	bly File ^	Geographic A		Wage Zone [All] [None] Cline plant	5.00 %			egory ^	Import Fil Resour	

4.2.5 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.

Overview	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Folder Tags	Competitors	Pricing	Schedule	Cash Flow	Equipment	
Work Ho Pay Hou Shi	Shift Arrange urs per Shift Irs per Shift: fts per Day: s per Week:	8.00 8.00 1.00	Scale 1 Scale 2 Scale 3	. 0.00 %		Lock Cost Items Pay Item Unit Pr Activate PBS Cha Activate Quantit	ice Precision: anges Log y Checking ucture at Level: t changes:	2 0 Change UM / M Change Days	an-Hour	Preserv Data So	e Original Cos urce	t Item	
Currency Default	Currency:	U.S. Dollar				ndard Rates Sales Tax Rate:		0.00 %					

- 2. You can enter up to three shifts for the project. For Shift 1, type **10** hours in the Monday through Friday Work Hours fields.
 - Scale 1 will be your regular time and Scale 2 will be your overtime

Actions								
👔 Load Calculat	or from Library							
🛱 Save Calculat	or to Library							
Clear All								
Too	s							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	TOTAL
Shift 1								
Work Hours	10.00	10.00	10.00	10.00	10.00		0.00	50.00
Scale 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	0.00
Scale 2		0.00	0.00	0.00	0.00	0.00	0.00	0.00

3. For Shift 1, type **8** hours in the Scale 1 fields and **2** hours in the Scale 2 fields (just Monday through Friday).

• You should now have the following for Shift 1:

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	TOTAL
Shift 1								
Work Hours	10.00	10.00	10.00	10.00	10.00	0.00	0.00	50.00
Scale 1	8.00	8.00	8.00	8.00	8.00	0.00	0.00	40.00
Scale 2	2.00	2.00	2.00	2.00	2.00	٥	0.00	10.00
Scale 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. For Shift 2, enter the following:

Work Hours	12.00	12.00	12.00	12.00	12.00	12.00	12.00	84.00
Scale 1	8.00	8.00	8.00	8.00	8.00	6.00	0.00	46.00
Scale 2	4.00	4.00	4.00	4.00	4.00	6.00	12.00	38.00
Scale 3	Ō	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

Job Proper	ties O				
Overview	Security	Cover Sheet	Cost Basis	Minority Setup	Fue
-Standard S	hift Arranger	ments	-Standard Wa	age Rate Composite	2
Work Hou	ırs per Shift	11.17	Scale 1:	64.18 %	
Pay Hou	rs per Shift:	11.17	Scale 2:	35.82 %	
Shif	fts per Day:	1.71	Scale 3:	0.00 %	
Days	s per Week:	7.00	Shift (/ Rate Calculator	

6. Now that you have worked through an example, change the shift arrangements back to the default standard shift arrangements of 8 hours per shift, 1 shift per day, and 5 days per week and the standard wage rate composite should be set back to the default of scale 1 set to 100%.

4.2.6 Import Filtered Resources

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

		Select your filters to right		Iron Worker
ource / Assembly Type or Rate ustruction Equipment R ted Construction Equi talled Material Rate alled Equipment Rate ply Rate que Rate ource Assembly t Item Assembly dard Table	Resource / Assembly File [[Al] [[Vone] [[Non-Blanks]] Standard Labor Rate File	Geographic Area	Wage Zone [/] [Al] [[None] [[Non-Blanks] Wage Zone A UWage Zone B	Organizational Category [[AII] [[None] [Non-Blanks] [Truck Driver - Teamster [Supervision [Carpenter [Welder [Mechanic [Operator [Remediation [Laborer]

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 Area	This attribute is used to designate regions, cities, or provinces based on geographical 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.

Resource Attribute Filters

Organizational This attribute can be used to designate what trade or work type your resources Category 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.

TIP 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

- In the E101 Training Job, on the Job Properties > Cost Basis tab, select the Labor Rate resource type.
- 2. Under Resource File Description, select **Standard Labor Rate File**.
- 3. For Geographic Area, select **Southwest**.
- 4. For Wage Zone (Work Center), select Wage Zone A.
- 5. For Organizational Category, select All.



- 6. Select the **Construction Equipment** resource type.
- 7. Select the **Standard Labor Rate File** for the Resource File Description, leaving the Geographic Area, Wage Zone, Organization Category set at **All.**
- 8. Do the same for the remaining resource types (including Assembly).
- 9. Select the Import Filtered Resources button to bring your selected resources into the job.

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

4.2.7 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 E101 Training Job, open the Job Properties > Fuel Cost tab.
- 2. Under Cost Per UM enter the following:
 - Diesel: \$4.20
 - Gas & Gasoline: **\$3.90**
 - Off Road Diesel: \$3.20

Ov	erview	Security	Cover 9	Sheet	Cos	st Basis	Mino	ority Setup	Fuel Co	st .
Drag	g columns	shere to gro	up							
	Fuel Type			Cost Per UM		Curre			Account Code	
	Diesel			\$	4.20	U.S. Do	lar	Gallon		
	Gas			\$	3.90	U.S. Do	lar	Gallon		
	Gasolin	e		\$	3.90	U.S. Do	lar	Gallon		
	Off Roa	ad Diesel		\$	3.20	U.S. Do	lar	Gallon		

- 3. Currency should read U.S. Dollar and UM should read Gallon.
 - In this example, if the gasoline cost per gallon is \$2.80 and your truck consumes 3 gallons per hour, you will have an hourly fuel cost of \$2.80 X 3 or \$8.40

4.2.8 Job Folder Tags Tab

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

Overview	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Folder Tags	Competitors	Pricing	Schedule
Job Folder	Tag Assignm	ents								
	Tag	1:		•		Tag 13:			•	
	Tag	2:				Tag 14: 12	2/31/2004		•	
	Tag	3:				Tag 15: 12	2/31/2004		*	
	Tag	4:		•		Tag 16: 12	2/31/2004		•	
	Tag	5:				Tag 17: 12	2/31/2004		•	
	Tag	6:				Tag 18: 12	2/31/2004		•	
	Tag	7:				Tag 19: 12	2/31/2004		•	
	Tag	8:		-		Tag 20: 12	2/31/2004		•	
	Tag	9:		-		Tag 21:		0.0	10	
	Tag 1	0:		-		Tag 22: 12	2/31/2004		•	
	Tag 1	1:		-		Tag 23: 12	2/31/2004		•	
	Tag 1	2:		-		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.

4.2.9 Schedule Tab

The Schedule tab is used to define the scheduling options for the integration between InEight Estimate Primavera or Microsoft Project. The settings you define here determine what information is sent to your scheduling tool, and how it will be structured.

- At the top of the Schedule tab, the Integrated Schedule can be set to Primavera or Microsoft Project or Manual
- You will need to confirm the proper settings are defined on each of the Schedule sub-tabs. These

settings are defined in detail in Lesson 12 - Schedule Integration

Overview	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Folde	er Tags	Competitors	
Integrated	Schedule:		Primavera	-	Alwa	ys use Plug Day	s when up	dating Es	timate from th	
Schedule C	Currency:		U.S. Dollar	•						
Cost Item Roll Up Login Options			Mapping Option	s Resources	Expense Costs Actuals		Tags Activity		Calendars	
costition										
	matically ca	lculate Plug Day	s when rolling up	cost items for sc	heduling purp	oses				
Auto			s when rolling up		heduling purp	oses				

4.2.10 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.
Competitors	For an estimate that is being submitted for a competitive bid, this is a place to track a list of competitors and if available, store competitor price submissions for reference and trend tracking.
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
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.

	Other Job Properties Tabs
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.

Exercise 4.1 — Define Job Properties

In this exercise, you will continue to define your Job Properties from in the E101 training job you have created. Complete the following steps:

1. On the Cover Sheet tab, fill out the following fields:

Job Location	90 th Street & Shea
City	Scottsdale
County	Maricopa
Country	United States
State	Arizona
Туре	Infrastructure
Engineer	Fred Jones
Owner	Jerry Slate
Architect	Robert Frost
Contract Duration	80
Time Measure	Calendar Days
Forecast Start	October 15, 2019
Duration (days)	70
Bid Date and Bid Time	10/1/2019 2:00 PM
Estimator	Jim Sly
Bid Location	123 Main Street
Owner's Estimate	\$500,000.00
Opening Type	Public
Proposal Type	Unit Price
Plan Holders	10
Liquidated Damages	\$1000.00 Per Day
RFQ Contact	Jim Sly

2. On the Cost Basis tab:

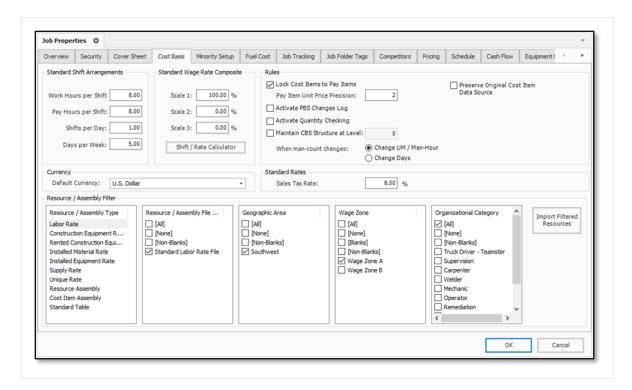
- Ensure the Shift Arrangement is 8 hours a day, 5 days a week
- Ensure the Wage Composite is set to 100% Scale 1
- Ensure the Sales Tax is set to 8%

You should end up with the following results

The following Cover Sheet properties are defined:

Overview	Securit	ty Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Folder Tags	Competitors	Pricing	Schedule	Cash Flow	Equipment I	1
Identificati	on												
Loc	ation:	90th Street & Shea		Type: In	frastructure				Contr	act Duration:			80
	City:	Scottsdale		Engineer: E	ample Engineer	Fred Jones			I T	ime Measure:	Calendar Day	∕s +	
Co	ounty:	Maricopa		Owner: E	ample Owner	Jerry Slate			I F	orecast Start:	10/15/2019	•	
Co	untry:	United States -	•	Architect: E	ample Architect	Robert Fros	st		E Fo	recast Finish:	12/24/2019	•	
5	State:	Arizona -	-							Duration:			70
Lati	itude:		0.00000]									
Long	itude:		0.00000]									
Proposal													
Bi	d Date:	10/1/2019 -]				Opening Type:	Public					
Bi	d Time:	2:00:00 PM					Proposal Type:	Unit Price					
Est	timator:	Hard Dollar Corpora	tion - Chief Es	timator Jim Sly		1	Plan Holders:						10
Bid Lo	ocation:	123 Main Street					Liquidated Damages:					:	\$1,000.00
Owners Es	timate:				\$	500,000.00	Liq. Damages Per:	Day				•	
						050 61	Hard Dallas Comment	chief Setting					1
						Krų Contact:	Hard Dollar Corporati	on - Chier Estimat	tor Jim S	му			(1)
												_	

The following Cost Basis settings are defined:



Congratulations, you have completed this exercise!

4.3 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.

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	Row Number	Controls the order of your pay items.
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.

4.3.1 Overview – Pay Item & Proposal Register

Proposal F	ecap - Training Jo	b				×	tem Reca	ip - 641 0100 Mol	oilization			×
	Current	Target	Forecast	Variance	1			[Balanced Unit	Current Unit	1	
Price:	\$6,455,450.00	\$6,784,866.85	\$6,462,850.00	\$329,416.85	ADD		\	Price:	\$18,300.00	\$386,800.00		
Profit:	\$332,824.93	\$662,241.78	\$407,269.16	\$254,972.62	ADD		1	Profit:	\$2,049.61	\$370,504.52	-	
Margin%:	5.16	9.76	6.30	\$247,720.91	ADD			Total Cost:	\$16,295.48	\$16,295.48		
							Bus	iness Overhead:	\$837.67		_	
						1	7	Job Overhead:	\$3,546.12	1		
							Unassig	ned Direct Cost:	\$2.18	1		
						4	Assig	ned Direct Cost:	\$11,909.51]		
orag colu	re to group			4		e	Find	d: [Search For]	··· Sav	ed views: Brea	kdown Cost Compa	rison 👻
Pay Iter Number	n 😑 Row Number	Line Number	Description			Pay Qua	intity	Forecast (T/O) Quantity	Unit of Measure	Currency	Unit Price (current)	Total Price (current)
	0100	1 10	Mobilization	ı			1.00	1.0	0 Lump Sum	U.S. Dollar	\$386,800.00	\$386,800
→ + 641		2 20	Clearing &	Grubbing			10.00	10.0	0 Acre	U.S. Dollar	\$6,120.00	\$61,200
→ + 641 + 201	0102	2 20										
+ 201	0102 0183	3 30	Unclassified	d Excavation			50,000.00	50,000.0	0 Cubic Yard	U.S. Dollar	\$8.50	\$425,000

Step by Step — Create a Pay Item

- 1. Open the **E101 Training Job** and select **Setup** tab **>Pay Item & Proposal** from the InEight Estimate landing page.
 - The Pay Item & Proposal Register displays
- 2. In the Pay Item Number column, in the first blank row, type **1000**.
 - Notice the Row Number and Line Number columns automatically fill with a number for you
- 3. Use the **Tab** key to move to the Description column and type **Mobilization**.
- 4. 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.



Exercise 4.2 — Create Pay Items

In this exercise, you will practice creating pay items in the Pay Item & Proposal Register. Complete the following steps, using the E101 – Training Job.

Pay Item Number	Description	Pay Quantity	Unit of Measure
2000	Clearing & Grubbing	10.00	Acre
3000	Excavation	50,000.00	СҮ
4000	10" PVC Pipe	1,000.00	LF

You should end up with the following results

D	rag columns here to g	roup						
	Pay Item Number	Lock 🖵	Row Number / 💌	Line Number 👻	Description	Pay Quantity 👻	Forecast (T/O) Quantity	Unit of Measure
	+ 1000		1	1	Mobilization	1.00	1.00	LS
	+ 2000		2	2	Clearing & Grubbing	10.00	10.00	Acre
	+ 3000		3	3	Excavation	50,000.00	50,000.00	CY
	+ 4000		4	4	10" PVC Pipe	1,000.00	1,000.00	LF
Ø.								

Congratulations, you have completed this exercise!

Lesson 4 Review

- 1. This is where you enter basic information about the job as well as define your cost basis.
 - a. Pay Item & Proposal
 - b. Job Properties
 - c. Library
 - d. Job Folder
- 2. On the Job Properties form, this tab is where you enter information such as the start date, bid date, job type and location.
 - a. Overview
 - b. Cover Sheet
 - c. Cost Basis
 - d. Foundation Setup Data
- 3. These are the project deliverables; anything the owner agrees to measure and pay for.
 - a. Cost Items
 - b. Resources
 - c. Target Price
 - d. Pay Items

Lesson 4 Summary

As a result of this lesson, you can:

- Create a new job
- Enter Job Properties
- Create pay items in the Pay Item & Proposal Register



LESSON 5 – ESTIMATE DIRECT COSTS

Lesson Duration: 90 minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Explain the Cost Breakdown Structure and its purpose
- Create cost items
- Add costs and production
- Manage cost item details

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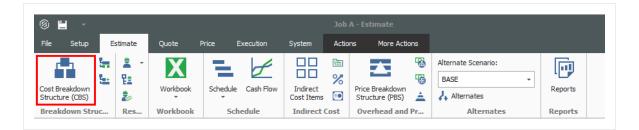
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5.1 COST BREAKDOWN STRUCTURES

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.
2	CBS Tree	The CBS tree mirrors your CBS hierarchy and can be used to quickly filter to a particular section of the CBS by selecting that line on the CBS Tree.
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.

=ile Setup	Estimate	Q	uote Price	Execution Syst	tem	Actions More	Actions				盒目
占 Print	🕂 New	밑	Copy 🕅	Split 🖛	₽) 🗮 Cost Item	📑 As	sembly	2		E
🔁 Preview	😣 Delete	e	Paste	Toggle Suspended	A	E Subordinate Cos	t Item 🛛 🖶 Su	bordinate Assembly	10		P /1
Export to Excel	X Cut	+	Fill Down 🗰	Indent			Item		Expar	nd / Filter C	lear ilter
Print	Ŭ		Edit				Insert			View	
Cost Breakdown	Structure (G	65) R	egister Ø								
		2						1	-		
CBS Tree (Filter	Mod ×	Dra	g columns here to	o group	3		Find: [Search	For]	Saved vie	CBS Simple View	•
Code	Descrip	Г	CBS Position 🖭 Code	Description	-	Optional Code	Forecast (T/O)	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency
× 📫	JOE *			108			Quantity	Mile	4000 045 A	*******	u.c. pallar
	Prin		+				20.00		\$303,015.45		
	Pric		+	Prime Bond		PRIME BOND	1.00		\$48,224.33		U.S. Dollar
	Job	÷	+	Price % Add-On		PRICE % ADD	1.00		\$305,319.01		
88	Indi		+	Job Financing		FINANCE EXPE	1.00		\$0.00		
88	Dire		+	Indirect Cost Escalat	ion	INDIRECT CO	1.00	Lump Sum	\$0.00	\$0.00	U.S. Dollar
88	Indi		+	Direct Cost Escalatio	n	DIRECT COST	1.00	Lump Sum	\$18,837.35	\$18,837.35	U.S. Dollar
	Job		+	Indirect Cost Add-Or	1	INDIRECT CO	1.00	Lump Sum	\$0.00	\$0.00	U.S. Dollar
	Gen		+	Job Management &	Equip	JOB MANAGE	1.00	Lump Sum	\$157,096.28	\$157,096.28	U.S. Dollar
88	Dire		+	General Expense		GENERAL EXP	1.00	Lump Sum	\$4,200.00	\$4,200.00	U.S. Dollar
1	Mot		+	Direct Cost Add-On		DIRECT COST	1.00	Lump Sum	\$107,964.74	\$107,964.74	U.S. Dollar
	Clea		+ 1	Mobilization		641 0 100	1.00	Lump Sum	\$11,909.5	\$11,909.51	U.S. Dollar
2			+ 2	Clearing & Grubbing		201 0 102	10.00	Acre	\$3,918.50	\$39,184.97	U.S. Dollar
■ 2 > 📫 3	Unc										

5.1.1 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. Direct cost items will therefore be 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).

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

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

NOTE 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.

TIP

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.

5.1.2 Work Breakdown Structures

The Work Breakdown Structure (WBS) allows you to easily 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

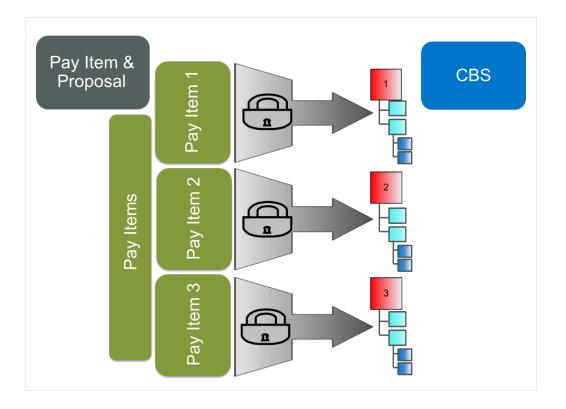
N	ame	Description
1	WBS Tree	Use the WBS Tree to filter to a particular WBS item.
2	WBS Grid	When a specific WBS item is selected in the WBS Tree, all subordinate WBS items display in the WBS grid.
3	Cost Items	The Cost Items associated with the WBS subordinate in the WBS Grid displays in this data block.

WBS Tree	×	Dra	ag columns here to group	2			F	ind: [Search	For] …	Saved views:	Standard View	*
WBS: CEAS		•	Code 📃	Description				Quantity	Unit of Measure	Currency	Unit Cost	Total Cost (Forecast)
Code	Description		CEAS	Civil Engineering Account	t Code System			1.00	Each	U.S. Dollar	\$2,494,088.	\$2,494,088.07
✓ CEAS	Civil Engineering Account Code System		□ 10	GENERAL PROVISIONS				1.00	Lump Sum	U.S. Dollar	\$35,054.5	\$35,054.51
> 10	GENERAL PROVISIONS		■ 10.10	PROJECT SETUP				1.00	Each	U.S. Dollar	\$14,000.0	\$14,000.00
> 11	EARTH WORK	→	10.10.100	YARD				1.00	Each	U.S. Dollar	\$4,000.0	\$4,000.00
> 12	PAVEMENT WORK		10.10.200	OFFICE FACILITIES				1.00	Each	U.S. Dollar	\$2,000.0	\$2,000.00
> 13	BRIDGE WORK		10.10.500	UTILITIES				1.00	Each	U.S. Dollar	\$8,000.0	\$8,000.00
> 14	CONCRETE STRUCTURES		■ 10.20	EQUIPMENT SETUP				1.00	Each	U.S. Dollar	\$14,624.3	\$14,624.39
> 17	PIPE WORK		0 10.20.100	MOBILIZATION				1.00	Load	U.S. Dollar	\$11,909.5	\$11,909.51
Cost Items 3												×
Orag columns here to group	2						Fi	nd: [Search F	for]	Saved views:	Standard View	•
CBS Position Code	Description		ptional ode	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Allocated	Allocation Source	Currency		Resource Assembly Quantity
	Setup Yard		NASSIGNED	1.00	Lump Sum	\$4,000.00	\$4,000.00			U.S. Dollar		

5.1.3 Locked vs. Unlocked Approach

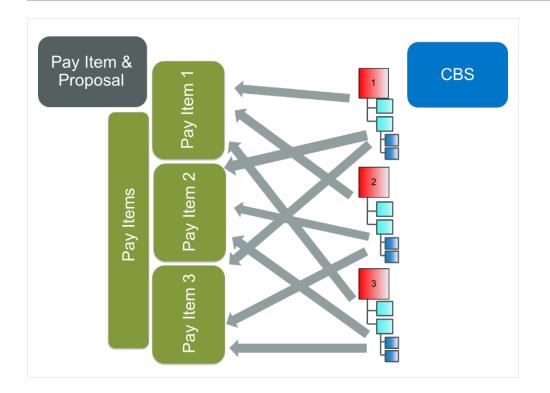
There are two basic approaches to structuring your cost items and pay items. You can choose to work in a "locked approach" or an "unlocked approach."

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.



NOTE 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.

Job Proper	ties 🛛									_
Overview	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Folder Tags	Competitors	Pricing	
Standard S	hift Arranger	ments	Standard Wa	age Rate Composite	Rule	s				
Pay Hou Shit	urs per Shift rs per Shift: fts per Day: s per Week:	8.00	Scale 1 Scale 2 Scale 3 Shift	: 0.00 %		Lock Cost Items Pay Item Unit Pri Activate PBS Cha Activate Quantity Maintain CBS Str When man-count	ice Precision: anges Log y Checking ucture at Level:	2 0 O Change UM / M) Change Days	an-Hour	

5.1.4 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.

	iS sition ៉ 📃 ide	Description	Forecast (T/O) Quantity
+	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
+	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

NOTE

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. In the E101 Training Job, from the InEight Estimate landing page, on the Estimate tab, select Cost Breakdown Structure (CBS).
 - In the **Forecast (T/O) Quantity** column, the Forecast (T/O) Quantity was brought over from the Pay Item and Proposal Register, but here you can adjust it if needed
 - For each cost item, you can enter the T/O quantity, followed by the unit of measure in the next column
- 2. For this example, change Clearing & Grubbing to **15.00 Acre** and Excavation to **40,000.00 CY**.

1	Mobilization	1.00	LS
2	Clearing & Grubbing	15.00	Acre
3	Excavation	40,000.00	CY
4	10 " PVC Pipe	1,000.00	LF

5.2 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.

5.2.1 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.

Drag columns here to gro	pup		Copy	
CBS Position Code	Description	1 +	<u>P</u> aste <u>F</u> ill Down	
	ЗОВ	l 🚆	Link this field to Excel	
+	Prime Bond	1	-	
+	Price % Add-On	CD.	<u>U</u> nLink from Excel	
+	Job Financing	-	Indent	
+	Job Management & Eq	u 🛶	Outdent	
+	General Expense		1	
+ 1	Mobilization		<u>I</u> nsert	
+ 2	Clearing & Grubbing		Insert Su <u>b</u> ordinate	
+ 3	Excavation	-+	Insert Dependent <u>C</u> ost Item	
→ 4	10" PVC Pipe			
*		1		

The row header is considered the far left edge of the CBS row where the small arrow appear 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.

Quo	te Price	6	Execution	System	Actions	More Actions	
Fill D)own	-	🗸 📜	Cost Item		Assembly	
Split	:	-	8 1	Subordinate	Cost Item	🔁 Subordinate Asser	
Togg	gle Suspended		5-8	• Dependent C	to item		
					1	Insert	
Re	gister O						
Drag	g columns here	to grou	qı			Find: [Search For]	
	CBS Position 🗎 Code		Description			ecast D) Quantity	
	+ 1		Mobilizatio	on		1.00	
\rightarrow	+ 2		Clearing &	Grubbing		10.00	
	□ 3		Unclassifie	ed Excavatio	n	50,000.00	
						50,000.00	

5.2.2 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.

	CBS Position Code	Description	Ē	Copy Paste
	+ 1	Mobilization	+	<u>F</u> ill Down
	+ 2	Clearing & Grubbing	8	Link this field to Excel
	3	Unclassified Excavation	A	UnLink from Excel
	+ 3.1	Excavation	-	Indent
	+ 3.2	Embankment	+	Outdent
	□ 4	Aggregate Base		
	+ 4.1	Furnish & Haul Dase Material		Insert
-	i 4.2	Finegrade Subgrade		Insert Subordinate
	4.3	Install Aggregate Base		Insert Dependent <u>C</u> ost Item
	+ 4.3.1	Place Aggregate Base	긑	_ ,
	+ 4.3.2	Blue Top Aggregate Base	7	Insert Cost Item Assembly as Subordinate
	5	Asphalt Concrete Hot Mix Ty	n	Split
	+ 5.1	Furnish & Haul Hot Mix	2.	Insert <u>R</u> esource
,	+ 50	Install Hot Mix Type A	12	1 ID 1 II

Option 2

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

Quo	te Pric	ie E	Executio	n Sy	/stem	Actions	More Actions	
Fill D	own	\Rightarrow	×	• 🔚 Cos	t Item		Assembly	2
Split		-	₼	- 🗐 s 🕩	ordinate C	ost Item	🔁 Subordinate Assem	ibly 🎦
Togg	jle Suspende	d		🕂 Dep	endent Co	st Item		
:						1	Insert	
) Reg	gister 🛛							
Drag	; columns he	re to grou	q				Find: [Search For]	
	CBS Position Code	<u>=</u>	Descrip	tion			ecast)) Quantity	Unit of Measure
	+ 1		Mobili	zation			1.00	Lump Su
	+ 2		Cleari	ng & Gru	bbi <mark>l</mark> g		10.00	Acre
	□ 3		Unclas	ssified Ex	cav tion		50,000.00	Cubic Ya
÷	+ 3.1		Exca	vation			50,000.00	Cubic Ya
	+ 3.2		Emba	ankment			50,000.00	Cubic Ya

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. In the E101 Training Job, from the InEight Estimate landing page, on the Estimate tab, select Cost Breakdown Structure (CBS).
- 2. Right click on the Clearing & Grubbing cost item and select Insert Subordinate.
 - This creates a new cost item (2.1) below cost item 2
- 3. For cost item 2.1, type the Description Clearing.
- 4. Keep the quantity at **15** and keep Units of Measure as **Acre**.

CBS Position Code 🗎	Description	Forecast (T/O) Quantity	Unit of Measure
	ЈОВ	1.00	Lump Sum
+	Prime Bond	1.00	Lump Sum
+	Price % Add-On	1.00	Lump Sum
+	Job Financing	1.00	Lump Sum
+	Job Management & Equipment	1.00	Lump Sum
+	General Expense	1.00	Lump Sum
+ 1	Mobilization	1.00	LS
□ 2	Clearing & Grubbing	15.00	Acre
+ 2.1	Clearing	15.00	Acre
+ 3	Excavation	50,000.00	CY
+ 4	10" PVC Pipe	1,000.00	LF

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

5.2.3 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.



Exercise 5.1 — Create Cost Items

In this exercise, you will practice creating additional cost items. Create the following cost items, using your E101 – Training Job:

Code	Description	Forecast (T/O) Quantity	Unit of Measure
2.2	Grading	10	Acre
3.1	Excavate	40,000	СҮ
3.2	Haul	40,000	СҮ
4.1	Furnish Pipe Materials	1,000	LF
4.2	Excavate-Install-Backfill Pipe	1,000	LF

You should end up with the following results

CBS Position Code 🗎	Description	Forecast (T/O) Quantity	Unit of Measure
+ 1	Mobilization	1.00	LS
2	Clearing & Grubbing	15.00	Acre
+ 2.1	Clearing	15.00	Acre
+ 2.2	Grading	10.00	Acre
□ 3	Excavation	40,000.00	CY
+ 3.1	Excavate	40,000.00	CY
+ 3.2	Haul	40,000.00	CY
4	10" PVC Pipe	1,000.00	LF
+ 4.1	Furnish Pipe Materials	1,000.00	LF
+ 4.2	Excavate-Install-Backfill Pipe	1,000.00	LF

Congratulations, you have completed this exercise!

5.3 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.

5.3.1 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

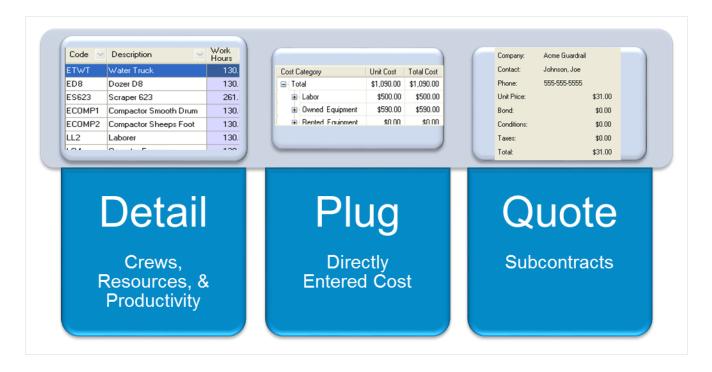
	Name	Description
1	Cost Item Header Information	Provides general information about the cost item. It displays the cost item's take- off quantity, Unit of Measure, and Cost. It also indicates what Cost Source is being used.
2	Costing Area	Section where costs are defined. There are three ways to enter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

BSCO	ode:	Optional Code:	Description:					Fore	cast (T/O) Qty:	Unit of Measur	e:	Unit Cost:	Total Cost:	Currency:	
		30 UnclassifiedExcavation Summary													
13		202 0183	Unclassified B	cavation					50,000.00	Cubic Yard	Y	\$4.68	\$233,915.8	U.S. Dollar	
3.	1	3.1	Excavation						50,000.00	Cubic Yard	•	\$3.00	\$149,922.88	U.S. Dollar	
[Assi	ignment:	PI Line Number:	PI Description:							Cost Segment:		Pay Quantity:	Cost Source:	Alternate:	
202.03	183 -	30	Unclassified E	cavation						Direct Cost	~	50,000.00	Detail +	BASE	
											-	-			
C <u>o</u> st I	Item Summar	y 🍃 <u>D</u> etail : \$	3.00 🗳 Plug	: \$0.00 📮	<u>Q</u> uote : \$0.00	Allocation					Er	nployment Setup			×
ost C	ategory		Unit Cost	Total Cost	Unadjusted Total Cost	Adjustment	÷	Cost Adjustment Amount	Billing Unit Rate	Total Billing Amount			Type: Construction I	Equipment Rate	e
To	tal		\$3.00	\$149,922.88	\$149,922.88	0.00		\$0.00	\$3.28	\$163,881.06		Description: Water Tr	uck		
>	Labor		\$0.66	\$33,170.48	\$33,170.48	0.00		\$0.00	\$0.93	\$46,438.66		Quantity (Less Waste):		ste % dd-on:	
>	Owned Equi	ipment	\$2.34	\$116,752.40	\$116,752.40	0.00		\$0.00	\$2.35	\$117,442.40		wdstej:			
>	Rented Equ	ipment	\$0.00	\$0.00	\$0.00	0.00		\$0.00	\$0.00	\$0.00		Quantity:	1.00 Produc	tivity Factor:	1
>	Supplies					0.00		\$0.00		\$0.00		Cost Driver: Sd			
>	Materials				40.000	0.00		\$0.00		\$0.00		Cost Driver: So	nedule +		
- 1 I	Subcontract	t	-			0.00		\$0.00		\$0.00		Employment Cost			
>	Fees		-			0.00		\$0.00		\$0.00		Unit Cost: \$29	.60 Total Cost:	\$1,302,40	
`						0.00		\$0.00		\$0.00					
	Undefined	legory I	\$0.00	\$0.00	\$0.00	0.00	→ →	\$0.00 \$0.00		\$0.00 \$0.00		Maintenance Labor Cost			
	Undelined		\$0.00	\$0.00	\$0.00	0.00	-	\$0.00	\$0.00	ş0.00		Unit Cost: \$0	.00 Total Cost:	\$0.00	

5.3.2 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 <i>Lesson - Quote Management</i>



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

5.3.2.1 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.

Cos	t Breakdo	wn Structure (CB	S) Register	Cost Item Rec	ord ©								
CBS	Code:	Optional Code	: Description:			Forecast (T/0)) Qty:	Unit of Measure	:	Unit Cost:	Total Cost:	Currency:	
h	17	1200 0100	Toll Booth				1.00	Each	v v	\$25,264.55	\$25,264.55	U.S. Dollar	
	17.1	0220	Site Prepara	tion			1.00	Lump Sum	-	\$3,664.55	\$3,664.55	U.S. Dollar	
PI As	ssignment:	PI Line Numbe	r: PI Descriptio	on:				Cost Segment:		Pay Quantity:	Cost Source:	Alternate:	
120	0 0 1 0 0	170	Toll Booth					Direct Cost	~	1.00	Detail 👻	BASE	
Cos	t Item Sumr	nary 🍃 Detail	\$3,664.55	Plug : \$2,500.00	Quote : S	\$0.00 <u>A</u> llocatio	n		Cos	st Item Setup			×
Cost	t Category		Unit Cost	Total Cost					De	efault Pay Rules			7.6
¥ 1	Total		\$2,500.0	\$2,500.00							Scale 1: Scale	2: Scale 3:	
)	> Labor		\$0.0	0 \$0.00						Composite Wage Sc	ale: 100.00 0.	0.00	
)	> Owned E	quipment	\$0.0	0 \$0.00						For every 8.00 ho	urs worked, pay 8.0	0 hours	
)	> Rented I	Equipment	\$0.0	0 \$0.00								-	
;	> Supplies		\$0.0	\$0.00						efault Shift Arrangeme			
)	> Materials	1	\$0.0	0 \$0.00					w	/ork Hours per Shift:	<u> </u>	ays per Week:	
)	> Subcont	act	\$2,500.0	\$2,500.00						8.00	1.00	5.00	
)	> Fees		\$0.0	0 \$0.00					De	efault Properties			
)	> Allowand	e	\$0.0	0 \$0.00						Account Co	de: 8000	1	
	Custom	Category1	\$0.0	0 \$0.00							ve: Linear		
	Undefine	ed .	\$0.0	\$0.00						Cost Cu	ve: Linear	•	
E	Billing Rate		\$0.0	\$0.00					•				•
E	Billing Rate M	1arkup	\$0.0	\$0.00				*		' 🎰 P 🕵	😫 📜 S	. 🏦 🗦	≿ В.

5.3.2.2 Detail Tab

CBS	17 1200 0100 Toll Booth 17.1 0220 Site Preparation Assignment: PI Line Number: PI Description: 800 0100 170 Toll Booth gst Item Summary Description: Cuptatil: 92 Detail: \$3,664.55 Plug: \$2,500.00 93 columns here to group Find: [Search For] Saved views: Row C Resource Assembly Description Quantity Nu C Resource Master Waster)		Forecas	t (T/O) Qty	:	Unit of Measu	re:	Unit Cost:	Total Cost:	Currency:								
	17	1200	0100	Т	oll Booth	h					1.0	00	Each	Ŧ	\$25,264.55	\$25,264.55	U.S. Dollar	
	17.1	7.1 0220 Site Preparation ignment: PI Line Number: PI Description: 0100 170 Toll Booth Item Summary Detail: \$3,664.55 Plug: \$2,00.00 olumns here to group Find: [Search For] Resource Assembly Description - 1 L2 Laborer									1.	00	Lump Sum	•	\$3,664.55	\$3,664.55	U.S. Dollar	
I A:	1200 0100 Toll Booth 17.1 0220 Site Preparation signment: PI Line Number: PI Description: 0 0100 170 Toll Booth t Item Summary Spetal: \$3,664.55 ♥ Plug: \$2,500.00 columns here to group Find: [Search For] Row C Resource Assembly Description + 1 L12 Laborer + 2 L01 Operator Class 1 + 3 EG14G Grader 14G + 4 ETWT Water Truck												Cost Segment	:	Pay Quantity:	Cost Source:	Alternate:	
120	0 0 1 0 0 -	170		Т	oll Booth	h							Direct Cost	~	1.00	Detail -	BASE	
)rag	Row _	-		Resource	2			Saved	Quantity (Less	evious '	Waste %		₹ Qua	L	Composite Wage Sc	ale: 100.00 0.	0.00	
÷	+	E. C Assembly Description		Waste)		Add-on		3.00	E	·								
		shere to group Find: [Search For] C Resource Assembly Description 1 LL2 Laborer 2 LO1 Operator Class 3 EG14G Grader 14G		1					1.00	F	-							
Image: state in the state i																		
		+	5 LT:	1			1	eamster						1.00	E D		de: 8000	1
*																	-	
														141				

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.

	Forecas	t (T/0) Qty:	Unit of Measu	ure:	Unit Cost:	Total Cost:	Currency:
		1.00	Each		\$24,100.00	\$24,100.00	U.S. Dollar
	Forecast (T/0) Qty: Unit of Measure: Unit Cost: Total Cost: Currer 1.00 Each \$24,100.00 \$24,100.00 U.S. I 1.00 Lump Sum \$2,500.00 \$2,500.00 U.S. I Cost Segment: Pay Quantity: Cost Source: Allern Direct Cost 1.00 Each Plug Jote : \$0.00 Allocation Cost Item Setup Detail Views: Previous View Plug Quote Quantity Waste Qua Y Composite Wage Sca		U.S. Dollar				
			Cost Segmen	t:	Pay Quantity:	Cost Source:	Alternate:
			Direct Cost		1.00	Plug	BASE -
		ocation		6	act Itom Cotup	A Description	
1.00 Each 1.00 Lump Sum 1.00 Lump Sum Cost Segment: Pay Quantity: Cost Segment: Pay Quantity: Direct Cost 1.00 Plug BASE Add-on Cost Item Setup Default Pay Rules Plug Quantity Waste % Add-on 3.00 1.00 E 1.00 E 1.00 E 0 3.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 1.00 0 8.00 0 2.00							
ved views:	Forecast (T/O) Qty: Unit of Me Forecast (T/O) Qty: Unit of Me International Internatio				Default Pay Rules	Plug	
(Less	у	%	Qua			a	
			3.00		Default Shift Arrangeme	er.	
			1.00	F	-		
				E	8.00	Г ÷	×
					Default Properties		
			1.00	E		de: 8000	1
					COSt Cu	Linear	

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

5.3.3 Plug Costs

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

Step by Step — Define a Plugged Cost

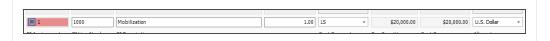
- 1. In the E101 Training Job, from the InEight Estimate landing page, on the Estimate tab, select Cost Breakdown Structure (CBS).
- 2. Right click on the row header for cost item 1 Mobilization and select Open.
- 3. In the **Cost Source** drop-down field select **Plug**.

Pay Quantity:	Cost Source:	Alternate:
1.00	Detail	- BASE -
	# Description	h
t Item Setup	Detail	
fault Pay Rules	Plug 📐	
Composite Wage Sc	Quote	
or every 8.00 ho	ι	
fault Shift Arrangeme	r	
ork Hours per Shift:	-	
8.00	···	×

- 4. In the left section of the Cost Item, select the **Plug** tab.
 - This gives you the list of all cost categories, where you can enter either a Unit or Total Cost
- 5. Click in the LaborUnit Cost field and type **10,000**. Click in the **Owned Equipment Unit Cost** field and type **10,000**.

Co	ost 1	Item Summary	🚊 <u>D</u> etail : \$	0.00	🐈 Plug	: \$20,000.00	2			
Co	st C	Category		Uni	it Cost	Total Cost				
-	То	tal		\$	20,000.00	\$20,000.00				
	>	Labor		\$	10,000.00	\$10,000.00				
	>	Owned Equipme	ent	\$	10,000.00	\$10,000.00				
	>	Rented Equipme	ent		\$0.00 \$0					
	>	Supplies			\$0.00	\$0.00				
	>	Materials			\$0.00	\$0.00				
	>	Subcontract			\$0.00	\$0.00				
,	>	Fees			\$0.00	\$0.00				
	>	Allowance			\$0.00 \$0.0					
		Custom Catego	ry1		\$0.00	\$0.00				
		Undefined			\$0.00	\$0.00				
	Bill	ing Rate		\$	20,000.00	\$20,000.00				
	Bill	ing Rate Markup			\$0.00	\$0.00				
	Bill	ing Rate Markup	%		0.00	0.00				

• The Total Cost for the cost item should now auto-calculate to be \$20,000.00



5.3.4 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.

ag	columns here	to group				Find: [S	Search For]	··· Sav	ed views: Previ	ous View		-		Prod	uction	Qty Driven Hourly	
	Row	с	Resource	Description	Quantity (Less	Waste %	Quantity	Unit of	Product	w	Pay	Unit		Duration Driv	ven Resources	Resources	
	Nu =	C	Assembly	Description	Waste)	Add-on	Quantity	Mea	Factor	н	н	Cost		Custo	omize Display		
	+ 1	1 LT1		Teamster			1.00	Each	1.00	80.00	80.00	\$30		Days:	10.00 ৰ	0.00	
	+ 2	2 ETLT		Lowboy Trailer			1.00	Each	1.00	80.00	80.00	\$33		Shifts:	10.00	0.00	
	+ 3	B ETTT		Tractor Truck			1.00	Each	1.00	80.00	80.00	\$78		Hours:	80.00	0.00	
E														Man-Hours:	80.00	0.00	
						Resour	rces							Equip-Hours:	160.00	0.00	
													4		,		×.

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.

Cos	t Breakdo	wn St	tructure (C	BS) Register	Cost Iter	m Record 🛛 🕲											
CBS	Code:	0	ptional Cod	e: Description	1:			Forecast (T/	0) Qty:	Unit	of Measure:	Unit Co	st:	Total Cost:		Currency:	
	1	6	41 0100	Mobilizatio	n				1.00	Lum	p Sum 👻		\$11,909.51	\$11,	909.51	U.S. Dolla	r
I A:	ssignment:	PI	I Line Numb	er: PI Descript	ion:					Cost	Segment:	Pay Qua	ntitv	Cost Source:		Alternate	
641	0100	- 1	0	Mobilizatio	n					Dire	ct Cost 🚽 🚽		1.00	Detail	•	BASE	
Cos	t Item Sumr	nary	🏂 Detail	: \$11,909.51	🛱 Plug : \$20,	.500.00 💭 Quot	e:\$	500.00 <u>A</u> llo	cation				Productio	n			×
rag	columns he	re to (group	La construcción de la construcci	Find: Sea	arch For] ···] s	Saved views:	Previo	view		•					F Duratio
	··· =	%		Cost Driver	Quantity (Less	Productivity Factor		Total Cost	Curre		Cost Curve	Work Hours		Duration [)riven Re stomize [Ri (x
			dd-on		Waste)			(Forec				Rules		Days:		10.00	
<i>→</i>	+	1		CI Duration		1	1.00	\$2,449.51			Employed C					_	•
	+	2		CI Duration		1	1.00	\$2,688.00	U.S. Do	llar	Employed C			Shifts:		10.00	
	+	3		CI Duration		t	.00	\$6,272.00	U.S. Do	llar	Employed C			Hours:		80.00	
*														Man-Hours:		80.00	
														Equip-Hours:		160.00	

5.3.4.3 Add Cost Detail

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

Step by Step — Add Cost Detail

1. In the E101 – Training Job, from the InEight Estimate landing page, on the Estimate tab, select

Cost Breakdown Structure (CBS).

- 2. Right click on the row header for cost item **2.1 Clearing** and select **Open**.
- 3. Select the **Detail** tab.
 - Notice there is no cost on the Detail tab since no cost detail is defined

Vrag columns here to group Find: Search For] … Saved views: Previous View -													
	Row =	Code	Resource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of Mea	Product Factor	W H	Pay Hours	Unit Cost	Total Cost (Forec
•													

4. A blank row is available to define your costs. With your cursor in the code field, click the **Resource Selection** ^A icon to open the Resource Selection Register.

Drag	; columns here to	o group	
	Row Number	Code 🗎	Resource Assembly
1			.

- 5. On the Labor tab, select the LL2 Laborer resource.
- 6. Select OK.

					Find	[Search For]		Saved vi		Previous View		-
_	columns here to gro	oup			Find	[Search Por]		Saveu vi	ews:	Previous view		•
	Resource 들	Description		Resource File Description		Unit of Measure	Produ Facto		Defau Quant		Resource Type	1
-	+ LIW1	Iron Worker		Standard Labor Rate	File	Hour		1.00		1.00	Labor Rate	
-	+ LIW2	Iron Worker Foren	nan	Standard Labor Rate	File	Hour		1.00		1.00	Labor Rate	
-	+ LL1	Labor Apprentice		Standard Labor Rate	File	Hour		1.00		1.00	Labor Rate	
] -	+ LL2	Laborer		Standard Labor Rate	File	Hour		1.00		1.00	Labor Rate	
4	∔ LL3	Labor Foreman		Standard Labor Rate	File	Hour		1.00		1.00	Labor Rate	
-	+ LMECH	Mechanic		Standard Labor Rate	File	Hour		1.00		1.00	Labor Rate	
-	+ LO1	Operator Class 1		Standard Labor Rate	File	Hour		1.00		1.00	Labor Rate	
-	+ LO2	Operator Class 2		Standard Labor Rate	File	Hour		1.00		1.00	Labor Rate	
	+ LO3	Operator Class 3		Standard Labor Rate	File	Hour		1.00		1.00	Labor Rate	
	+ LO4	Operator Foreman		Standard Labor Rate	File	Hour		1.00		1.00	Labor Rate	
					-1							
	124											

- The labor resource you selected is now employed on the cost item
- 7. In the new blank row, click in the **Code** field and click on the **Resource Selection** icon to open the Resource Selection Register.
- 8. Select the Labor tab, then select the LO1 Operator Class 1 resource.
- 9. Click **OK**.
- 10. In the new blank row, click in the **Code** field and click on the **Construction Equipment** tab, then select the **EL988 Loader 988** resource.
- 11. Click **OK**.
 - Notice that the two labor resources and the construction equipment resource are now employed on your cost item
 - You will leave all of our quantities set to 1. You should end up with the following employed

resources and quantities:

rag	g columns here	to group				
	Row Nu ⊨	Code	Resource Assembly	Description	Quantity	Unit of Mea
÷	+ :	LL2		Laborer	1.00	Each
		2 LO1		Operator Class 1	1.00	Each
	+ :	B EL988		Loader 988	1.00	Each
*						

12. Because these are duration-based resources, you need to enter a Production value. From the lower-right section of the form, select the **Production** tab.

	Man	Count:	2.00			
	Equip	Count:	1.00			
🔄 Cos	🚉 Pro	🛃 Ма	😫 Res	🔁 Sch	💄 Use	≈в

- 13. Type **8** in the Days field, then press **Tab**.
 - Notice the red arrow indicating where production was defined
 - Notice that the Total Cost of the cost item is defined, based on the resources and productivity you defined

Ц	2.1			Clearin	Ig		15.00	Acre +	\$553.10		\$8,296.52	U.S
PI A	ssignment:		PI Line Number:	PIDeso	cription:			Cost Segment:	Pay Quantity:	Cost Sourc	e:	Alte
200	0	-	2	Clearin	ig & Grubbing			Direct Cost	10.00	Detail	•	BA
Co	st Item Sumn	nary	Detail :	\$553.10	붲 Plug : \$0.00	Ģ · ·	Production					
[Se	earch For]		···· p Saved	views: F	Previous View	-					Qty Drive Hour	
	Row -				Resource				Duration Driven Res	ources	Resourc	
	Nu =		Code		Assembly	Description			Customize D	isplay		
	+	1	LL2			Laborer			Days:	8.00 ┥	0.0	00
	+	2	LO1			Operator Class			Shifts:	þ	0.0	00
	+	3	EL988	1		Loader 988			Hours:	64.00	0.0	00
÷									Man-Hours: 1	28.00	0.0	00
→ *												

14. Next, adjust the production by typing **1** in the Acre/Day field.

• You can see that the red arrow indicates where the adjustment was made and it automatically changed the days to 15

H	2	2000	Clearin	g & Grubbing		15.00	Acre	~	\$1,037.06	\$15,555.97	U.S. Dolla
	2.1		Clearin	g		15.00	Acre	-	\$1,037.06	\$15,555.97	U.S. Dolla
PI A	ssignment:	PI Line Number:	PI Desc	ription:			Cost Segment:		Pay Quantity:	Cost Source:	Alternate
200	0 ~	2	Clearin	g & Grubbing			Direct Cost	~	10.00	Detail +	BASE
Cos	t Item Summa	ry 💁 Detail : \$	\$1,037.06	₽ Plu <u>g</u> : \$0.00	Quote : \$0.00	Allocation		Produ	uction		
Drag	columns here	to group	Find: [S	Search For] ···	Saved views: Pro	evious View	-				Qty Driv Hou
	Row Nu ≞	Code		Resource Assembly	Description		Quantity (Less Waste)			n Driven Resources <u>Customize Display</u>	Resou
	+	1 LL2			Laborer				Day	rs: 15.00	0
	+	2 LO1			Operator Class 1				Shift	ts: 15.00	0
÷	+	3 EL988	2		Loader 988				Hou	rs: 120.00	0
*									Man-Hou	rs: 240.00	0
									Equip-Hou	rs: 120.00	0
									Acre/Da	y: 1.00 ┥	c

15. Click **OK** to close the record.

5.3.4.4 Add Assembly

Step by Step — Define Cost Detail by Adding an Assembly

- 1. Open the E101 Training Job, from the InEight Estimate landing page, on the Estimate tab, select Cost Breakdown Structure (CBS).
- 2. Right click on the row header for cost item **2.2 Grading** and select **Open**.
- 3. Select the **Detail** tab.
 - A blank row is available to define your costs
- 4. With your cursor in the Resource Assembly field, click the **Resource Assembly Selection** icon to open the Resource Assembly Selection Register.

Drag	g columns here to	o group		
	Row 🛓	Code	Resource Assembly	Descript
ı				12

- 5. Select the CGRADE Grading Crew assembly, then select OK.
 - 2000 Clearing & Grubbing 2 Grading 2.2 PI Assignment: PI Line Number: PI Description: ~ 2 2000 Clearing & Grubbing Cost Item Summary Solution Cost Item Summary Cost Item Summary Drag columns here to group Quantity (Less Waste) Waste Row Nu... ⊨ Resource Assembly Code Description Qua... % Add-on CGRADE 1 Grading Crew Quantity Waste % (Less Waste) Add-on Unit of Measure Productivity Factor Resource Assembly Row Num... 🖭 Code Description Quan... 1 ETWT CGRADE 0.50 Each Water Truck 1.00 2 LL2 CGRADE Laborer 1.00 Each 1.00 3 LO3 CGRADE Operator Class 3 2.00 Each 1.00 4 EG14G CGRADE Grader 14G 1.00 Each 1.00 5 ECOMP1 CGRADE Compactor Smooth Drum 1.00 Each 1.00 6 LO4 CGRADE Operator Foreman 1.00 Each 1.00
 - The assembly you selected is now employed on the cost item

- 6. Because this crew includes duration-based resources, you need to enter a Production value. Select the **Production** tab.
- 7. Type 1 in the Acre/Day field, then press Tab.

Production			×
		Qty Driven Hourly	
Duration Drive	en Resources	Resources	
Custor	nize Display		
Days:	10.00	0.00	
Shifts:	10.00	0.00	
Hours:	80.00	0.00	
Man-Hours:	320.00	0.00	
Equip-Hours:	200.00	0.00	
Acre/Day:	1.00	• 0.00	
Acre/Shift:	1	0.00	
Acre/Hour:	0.13	0.00	
Acre/Man-Hr:	0.03	0.00	
Acre/Equip-Hr:	0.05	0.00	
Days/Acre:	1.00	0.00	
Shifts/Acre:	1.00	0.00	
4			•

• You should end with the following result:

- 2			2000		Clearin	ng & Grubbir	ng			15.00	Acre		\$2,301.20	\$34,518.06	U.S
L 2.	.2				Gradin	g				10.00	Acre		÷ \$1,896.21	\$18,962.09	U.S
PI Ass	ignme	ent: F	PI Line	Number:	PI Des	cription:					Cost Seg	ment:	Pay Quantity:	Cost Source:	Alte
2000		~	2		Clearin	ng & Grubbir	ng				Direct Co	st	- 6.67	Detail -	BA
Cost	Item S	ummary	\$	Detail : \$1	1,896.21	🛱 Plug	: \$0.00	💭 Quote : \$0.00	Allocation				Production		
Drag o	olumn	s here to	group) F	Find:	Search For]	Saved views:	Previous View		•				Q
	Row .					Resource					Quantity		Duratio	on Driven Resources	F
	Nu	-	Code			Assembly		Description			(Less Waste)			Customize Display	
→ -	-	1				CGRADE		Grading Crew					Da	ays: 10.00	
		Row	1	Code	Resour		Description		Quantity	Waste %	Quan.	1	Shi	fts: 10.00	
		Num.	—		Assem				(Less Waste)	Add-on	-		Hou	urs: 80.00	
) ->		1	ETWT	CGRAE	ЭE	Water Tru	dk			*		Man-Hou	urs: 320.00	
			2	LL2	CGRAD	ЭE	Laborer					11	Equip-Ho	urs: 200.00	
			3	LO3	CGRAE	ЭE	Operator (Class 3					Edub		
			4	EG14G	CGRAD	Œ	Grader 14	G			*		Acre/D	ay: 1.00 ┥	l –
	4											x			

• Notice the Total Cost of the cost item is defined, based on the resources included in the assembly and the productivity you defined

Exercise 5.2 — Define Cost Detail

For cost items you create in InEight Estimate, you need to add resources, assemblies and production to define their costs. In this exercise, you will practice defining cost details. Complete the following steps, using your E101 – Training Job:

Add the following resources to 3.1 Excavate cost item

Code	Description	Quantity
LO1	Operator Class 1	1
LL2	Laborer	2
LL3	Labor Foreman	1
EX225	Excavator 225	1
CY/Hour	400	

Add the following resources to 3.2 Haul cost item

Code	Description	Quantity
L01	Operator Class 1	1
LL2	Laborer	2
LL3	Labor Foreman	1
LT1	Teamster	1
EL950	Loader 950	1
ETDT	Dump Truck	1
EX225	Excavator 225	1

Add the following production value to cost item

CY/Hour	400
---------	-----

Add the following resources to 4.1 Furnish Pipe Materials cost item

	Code	Description	Quantity
N	/IPP10	Pipe 10" PVC SDR21	1,000 with 5% Waste % Add-on = 1,050 LF

Add the following assembly to 4.2 Excavate-Install-Backfill Pipe cost item

Resource Assembly	Description	Quantity
CPIPE	Pipe Crew	1

Add the following production value to cost item

Days

3

You should end up with the following results

CBS Position Code 🗎	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
+ 1	Mobilization	1.00	Lump Sum	\$20,000.00	\$20,000.00
2	Clearing & Grubbing	15.00	Acre	\$2,301.20	\$34,518.06
+ 2.1	Clearing	15.00	Acre	\$1,037.06	\$15,555.97
+ 2.2	Grading	10.00	Acre	\$1,896.21	\$18,962.09
□ 3	Excavation	40,000.00	CY	\$1.52	\$60,723.96
+ 3.1	Excavate	40,000.00	CY	\$0.51	\$20,587.04
+ 3.2	Haul	40,000.00	CY	\$1.00	\$40,136.93
□ 4	10" PVC Pipe	1,000.00	LF	\$11.89	\$11,893.33
+ 4.1	Furnish Pipe Materials	1,000.00	LF	\$3.54	\$3,538.08
+ 4.2	Excavate-Install-Backfill Pipe	1,000.00	LF	\$8.36	\$8,355.25

Congratulations, you have completed this exercise!

5.4 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.

Default Pay Rules			
	Scale 1: Sca	ale 2: Scale 3:	
Composite Wage Scale:	100.00	0.00 0.00	
For every 8.00 hours v	vorked, pay 8	8.00 hours	
Default Shift Arrangements -			
Work Hours per Shift: Shif	fts per Day:	Days per Week:	
8.00	1.00	5.00	
Default Properties			
Account Code:	1110	d.	
Cost Curve:	Linear	•	
Worker's Comp Override:		-	
Tag 1:	Estimator 1	•	
Tag 2:	Roadway	•	
Tag 3:		•	
Tag 4:		•	
Tag 5:		-	
	[

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.

5.4.1 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.

Default Pay Rules	Scale 1: Scale 2: Scale 3:
Composite Wage Scale:	Scale 1. Scale 2. Scale 3. 100.00 0.00 0.00
For every 8.00 hours w	vorked, pay 8.00 hours
Default Shift Arrangements –	
Work Hours per Shift: Shif	ts per Day: Days per Week:
8.00	1.00 5.00
Default Properties	
Account Code:	1110 🛫
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
Suspend:	Change Days

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.

Step by Step — Adjust Shift Arrangements

- 1. Open the E101 Training Job, from the InEight Estimate landing page, on the Estimate tab, select Cost Breakdown Structure (CBS).
- 2. Right click on the row header for cost item **2.1 Clearing** 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 wage scale to 80 for Scale 1 and 20 for Scale 2.

15.00 Acre	 \$1,079.93 \$16,198.97 U.S. Dollar 	•
Cost Segment:	Pay Quantity: Cost Source: Alternate:	
Direct Cost	- 10.00 Detail - BASE	-
	Cost Item Setup	×
-	Default Pay Rules Scale 1: Scale 2: Scale 3:	P 4
Quantity (Less	Composite Wage Scale: 80.00 0.00	[
Waste)	For every 8.00 hours worked, pay 8.00 hours	
	Default Shift Arrangements	J
	Work Hours per Shift: Shifts per Day: Days per Week:	
	8.00 1.00 5.00	
	Default Properties	

• Notice that your Laborer and Operator Class 1 Unit Costs go up because you are now using a blended (80% scale 1, 20% scale 2) rate

Drag	g columns here t	o group F	ind: [Searc	th For] ···	 Saved views: 	Previous View		•
	Row Number	Unit Cost	Code	Resource Assembly	Description 🛓	Quantity	Unit of Measure	Quan (Less
÷	+ 1	\$31.22	LL2		Laborer	1.00	Each	

5. Under the Composite Wage Scale, adjust the hours so that for every **10** hours worked, pay **10** hours.

Default Pay Rules			
	Scale 1:	Scale 2:	Scale 3:
Composite Wage Scale:	80.00	20.00	0.00
For every 10.00 hours v	worked, pay	10.00 h	ours
Default Shift Arrangements -			
Work Hours per Shift: Shi	0	Dava	oer Week:

6. In the Default Shift Arrangements data block, change the Work Hours per Shift to 10. Leave

Shifts per Day at 1 and Days per Week at 5.

ost Item Setup		
Default Pay Rules		
	Scale 1: S	Scale 2: Scale 3:
Composite Wage Sca	le: 80.00	20.00 0.00
For every 10.00 hou	rs worked, pay	10.00 hours
Default Shift Arrangemen	ts	
Work Hours per Shift:	Shifts per Day:	Days per Week:
	-	5.00

- Notice that your hours did not change on the cost item (they will remain constant)
- However, if you go back to the Production tab, you will also see that it automatically adjusted your other production values based on the new settings (e.g., Days changed from 15 to 12, Acre/Day is now 1.25 instead of 1)

Production		>	<
Duration Driv	en Resources	Qty Driven Hourly Resources	
Custo	mize Display		
Days:	12.00	0.00	
Shifts:	12.00	0.00	
Hours:	120.00	0.00	
Man-Hours:	240.00	0.00	
Equip-Hours:	120.00	0.00	
Acre/Day:	1.25	• 0.00	
Acre/Shift:	1.25	0.00	
Acre/Hour:	0.13	0.00	
Acre/Man-Hr:	0.06	0.00	
Acre/Equip-Hr:	0.13	0.00	
Days/Acre:	0.80	0.00	
Shifts/Acre:	0.80	0.00	*
		•	

5.4.2 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.

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

5.4.3 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.

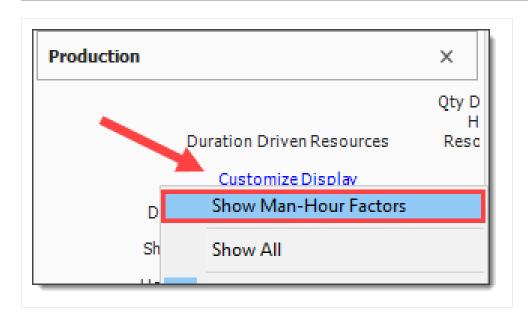
TIP Man-Hour Factors affect both Labor and Equipment Hours.

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

Ian-Hour Factors	
Factor Name:	Factor:
Factor 1:	1.20
Factor 2:	1
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
FactorComposite:	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



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

5.4.4 Unique Identifier

TIP

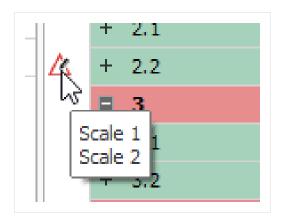
You may have noticed when you made changes on the Cost Item Setup tab, that the fields you changed and the Cost Item Setup tab became highlighted, indicating they were altered from their original state.

efault Pay Rules				
		Scale 1:	Scale 2:	Scale 3:
Composite W	age Scale:	80.00	20.00	0.00
For every 8.0	0 hours v	vorked, pay	y 8.00 h	ours
efault Shift Arra	ngements –			
Vork Hours per	Shift: Shif	fts per Day	: Days p	er Week:
8.0	0	1.00)	5.00
efault Properties				
Acco	unt Code:			d.
Co	ost Curve:	Linear		-
Worker's Comp	Override:			•
	Tag 1:			-
	Tag 2:			•
	Tag 3:			•
	Tag 4:			•
	Tag 5:			•
Quanti	ity Driver:	Superior C	I	-
Quote G	roup Tag:			•
Minority Goal A	llowance:	100.00		
Pha	ase Code:			
Vhen man-count	changes:	Chang	e UM / Man-	Hour
		O Chang		
Suspend:		0		

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.

		אחר	
nd	+	Prime Bond	PRIM
dd-On	+	Price % Add-On	PRIC
icing	+	Job Financing	FINA
gemen ⁺	+	Job Management & Equipment	JOB
xpense	+	General Expense	GENE
on	+ 1	Mobilization	1000
& Grubb	2	Clearing & Grubbing	2000
n	+ 2.1	Clearing	
Pipe 🛛 🖄	+ 2.2	Grading	
	a 3	Excavation	3000
	+ 3.1	Excavate	
	+ 3.2	Haul	
		toll pure pr	4000

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.

) Fil	gdtol [Search Fi	or] ··· Saved v	views: Previous View	-	Cos	st C	Category	Scale 1	Scale 2
					¥	To	tal	\$28.00	\$40.
	Row	Code	Resource Assembly	Description		>	Labor	\$28.00	\$40.
	NU		Assembly			>	Owned Equipment	\$8.68	\$0.
	+ 1	LL2		Laborer		>	Rented Equipment	\$0.00	\$0.
Ą	+ 2	LO1		Operator Class 1		>	Supplies	\$0.00	\$0.
	3	EL988		Loader 988	1	>	Materials	\$0.00	\$0.
*	\mathbf{X}					>	Subcontract	\$0.00	\$0.
						>	Fees	\$0.00	\$0.
						>	Allowance	\$0.00	\$0.
							Custom Category1	\$0.00	\$0.
							Undefined	\$0.00	\$0.
						Billi	ling Rate	\$28.00	\$40.
							ling Rate Markup	\$0.00	\$0.
						Rilli	ling Rate Markun %	0.00	0

5.4.4.1 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.

6 🗎	-						Training Jo	ob - Estimate	
File	Setup	Estimate	Quote Pr	rice	Execution	System	Actions		
M		📃 Display F	arent Informati	on 🍰	Highlight Unique	(Delta) Res	ource Fields	🛓 Edit Reso	ource
	100	🧰 Display B	Billing Rate	29	Highlight Unique	(Delta) Cos	t Item Fields	🔚 Insert Su	bord
Split	Default Data Bloc							🔏 Break Co	st All
Edit				View					
Cost B	reakdown	Structure (CBS)) Register	Cos	t Item Record	0			
CBS Co	de:	Optional Code:	Description:				Foreca	st (T/O) Qty:	Un
		202 4262	Annahalh Gan		at Mix Tupa A			25,000,00	Te

5.4.5 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.

Row Number	1	Code	Resource Assembly	Description	Quantity	Unit of Mea	Unit Cost	Waste % Add-on	Qua (Les Was
+	1	LL2		Laborer	0.50	Each	\$29.00		
+	2	LO1		Operator Clas	1.00	Each	\$29.94		
+	3	EL988		Loader 988	1.00	Each	\$73.75		
	-		6						

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

	Row Number	<u>1</u>	Code	Resource Assembly	Description	Quantity	Unit of Mea	Unit Cost	Cost Driver	Waste % Add-on	Quantity (Less Waste)	priv sto
1	+	1	LL2		Laborer	0.50	Each	\$29.00	CI Duration 👻			
	+	2	L01		Operator Clas	1.00	Each	\$29.94	A Description		Í	
	+	3	EL988		Loader 988	1.00	Each	\$73.75	CI Duration			
E									CI Quantity			
									Fixed 43			
									Scheduled Perio	ods		
									×			

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.

Cost
Driver
CI Quantity
CI Duration
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.

Cos	t Breakdown	Struc	cture (CBS)	Register	Cost Item Record	© Cost Ite	m Record											
CBS	Code:	Optic	onal Code:	Description:						Forecast (T/O) Qty:	Unit of M	leasure: Unit Cos	t:	Total Cos	t:	Currency:	
	2.2			Clearing							50.00	Cubic Ya	rd -	\$1,156.70		\$57,835.17	U.S. Dollar	
PLA	ssignment:	PI Lin	ne Number:	PI Description								Cost Seg	ment: Pay Qua	tity:	Cost Sou	rce:	Alternate:	
20	0102 -	20		Clearing & Gr	ubbing							Direct Co	ost -	50.00	Detail	*	BASE	
Co	st Item Summar	у	💁 <u>D</u> etail : \$1	,156.70 	Plug : \$0.00	uote : \$0.00 A	location						Production					×
Dra	columns here	to grou	up			Find: [Sear	th For]	Saved	views: Previo	us View		•				Fa Duration		ty Driv Hou
	Row		Code	Resource Assembly	Description	Quantity	Unit of Mea	Unit Cost	Work Hours	Pay Hours	Waste % Add-on	0 D	Durat	ion Driven	Resources e Display	Res		Resou
R	+	1	LL2		Laborer	0.50	Each	\$29.00	240.00	240.00	Add-on	c	c	ays:	40.00		48.00	48
	+	2	LO1		Operator Clas	1.00	Each	\$29.94	480.00	480.00		с	s	iifts:	40.00		48.00	48
	+	3	EL988		Loader 988	1.00	Each	\$73.75	480.00	480.00		C	н	ours:	400.00		180.00	480
											Γ		Man-H	ours:	400.00		180.00	240
*																		

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.

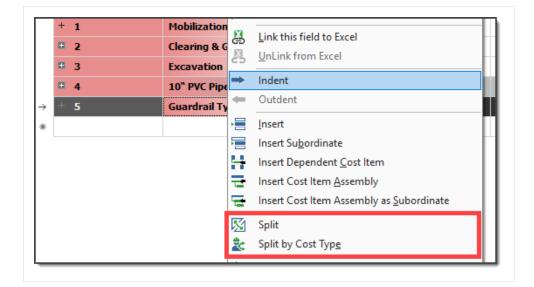
CBS	Code:		Optional Code:	Descripti	ion:						F	orecast (T/O) Qty	: Unit of Me	asur
	2.2			Clearing								500.	00 Cubic Yar	1
PI A:	ssignm	ent:	PI Line Number	r: PI Descri	iption:								Cost Segn	nent
201	0102		20	Clearing	& Grubbing								Direct Cos	t
Cos	t Item S	Summar	y 🍃 Detail :	\$106.39	₩ Plug : \$0.00 (Quote : \$0.00	Allocation							
Drag	ı column	s here	to group					Find:	Gearch For]	Save	d views: Pro	evious View	•]
	⊨		Code	Resource Assembly	Description	Quantity	Unit of Mea	Unit Cost	Work Hours	Pay Hours	Waste % Add-on	Cost Driver	Quantity (Less Waste)	F
4	+	1	LL2		Laborer	0.50	Each	\$29.00	80.00	80.00		Fixed		
	+	2	L01		Operator Clas	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		

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

5.4.5.2 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:

(1) Attention		×
The Cost Item '5' canno two cost types.	t be 'Split by Cost Type' because it does not	contain at least
o		.o .o
Add-On	PRICE % ADD-ON	1.0

Alternatively, click on Split.

9	Split Cost Ite	2m
Specify the	number of parts: [0
	ОК	Cancel

• Enter the number of parts to split and click OK

9	Split Cost Item					
Specify the nur	nber of parts:	2				
	ОК	Cancel				
	U.V.	Guncer				

• You will be asked if you want to proceed. If so, click Yes

Attention	
Are you sure you want to sp	lit the selected cost item into 2 parts?
Never ask me this quest	ion again
	Yes No

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

5.4.6 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 unsuspended 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 the 10" PVC Pipe 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



• The 10" PVC Pipe cost item is now suspended, and since it was a superior cost item, the subordinates are automatically suspended along with it

+ 3.1	Excavate	40,000.00	LT
+ 3.2	Haul	40,000.00	CY
□ 4	10" PVC Pipe	1,000.00	LF
+ 4.1	Furnish 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

Step by Step — Unsuspend a Cost Item

- 1. On the Cost Breakdown Structure (CBS) Register, select the 10" PVC Pipe 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

5.4.6.3 Suspend Column

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

CBS Position Code	Description	Suspend	Forecast (T/O) Qu
+ 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

+ 3.2	Haul	
□ 4	10" PVC Pipe	✓
+ 4.1	Furnish Pipe Materials	×
+ 4.2	Excavate-Install-Backfill	13 ²
		Parent is Suspended

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

5.4.7 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.

	ture (CBS) Register 🛛									
ag columns here to grou	p						Find:	[Search For] ····	Saved views: Cost Iten	Adjustment View 👻
CBS Position Code	Description	Forecast (T/O) 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	\$2,618,414.00						
+ 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	042000 - Unit Masonry	1.00	Lump Sum	\$2,326,834.67						
+ 4.1.1	CMU Walls	1.00	Lump Sum	\$1,879,709.33	✓	\$1,708,826.67	1000.00	\$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	þ	\$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	\$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			\$854,880.00						
	1			\$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.

	261			\$20,381,473.74		\$1,733,328.68		\$17,567.79	
5	DIV 05 - METALS	1.00	Lump Sum	\$854,880.00					
+ 4.1.4.3	Netting on Exterior	0.00	Lump Sum	\$0.00		\$0.00	0.00	\$0.00	0.0
+ 4.1.4.2	Additional Month	0.00	Month	\$0.00		\$0.00	0.00	\$0.00	0.0
+ 4.1.4.1	Setup & Maintain Scaffolding	2.00	Month	\$105,360.00		\$0.00	0.00	\$0.00	0.0
■ 4.1.4	Scaffolding	1.00	Lump Sum	\$105,360.00					
+ 4.1.3	Steel Embeds	1.00	Lump Sum	\$170,882.67		\$0.00	þ	\$0.00	0.0
+ 4.1.2	Precast Concrete Caps	1.00	Lump Sum	\$170,882.67		\$0.00	0.00	\$0.00	0.0
+ 4.1.1	CMU Walls	1.00	Lump Sum	\$1,879,709.33	\checkmark	\$1,708,826.67	1000.00	\$0.00	0.0
■ 4.1	042000 - Unit Masonry	1.00	Lump Sum	\$2,326,834.67					
■ 4	DIV 04 - MASONRY	1.00	Lump Sum	\$2,326,834.67					
+ 3.6.2	Crane	1.00	Lump Sum	\$64,320.00		\$0.00	0.00	\$0.00	0.0
+ 3.6.1	Precast Panels	27.00	EA	\$64,320.00		\$0.00	0.00	\$0.00	0.0

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

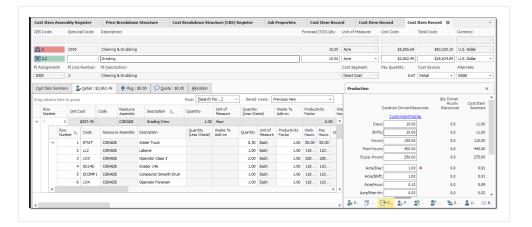
A new Saved view called **Cost Item Adjustment View** has been added to the Cost Breakdown Structure.

Exercise 5.3 — Manage Cost Item Details

In this exercise, you will practice making adjustments to your cost item details. Complete the following steps, using your E101 – Training Job:

- 1. Open the Cost Item Record for cost item 2.2 Grading.
- From the Cost Item Setup tab, change the Composite Wage Scale to 80% Scale 1, 20% Scale 2.
- 3. Change the Default Shift Arrangements to **10** Work Hours per Shift, **1** Shift per Day, **5** Days per Week. Also adjust for every **10** hours worked, pay **10** hours.
- 4. From the **Man-Hour Factors** tab, apply a Man-Hour Factor of **1.1** to the same cost item.
- 5. On the Notes tab, type Added man-hour factor due to hard soil conditions.

You should end up with the following results for 2.2 Grading



Congratulations, you have completed this exercise!

Lesson 5 Review

- 1. Resources, costs, and production can only be added to what type of cost item?
 - a. Superior
 - b. Terminal
 - c. Parent
- 2. What Cost Source is used for defining resources and production?
 - a. Plug
 - b. Detail
 - c. Quote
- 3. On the Cost Item Record, what tab is used for changing the cost item's Default Shift Arrangements?
 - a. Cost Item Setup
 - b. Production
 - c. Man-Hour Factors
 - d. Notes

Lesson 5 Summary

As a result of this lesson, you can:

- Explain the Cost Breakdown Structure and its purpose
- Create cost items
- Add costs and production
- Manage cost item details

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LESSON 6 – ESTIMATE INDIRECT COSTS

Lesson Duration: 45 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Explain how indirect costs are defined in InEight Estimate
- Estimate default indirect cost items
- Estimate user-defined indirect cost items

Lesson Topics

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6.1 INDIRECT COSTS OVERVIEW

Once your direct costs are defined, you can add indirect project costs. InEight 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
	ЈОВ
+	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

TIP 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.

6.1.1 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.

® 💾 -							
File Setup	Estimate Quote Pr	rice Execution Sys	tem				
6 -1	Account Code Utilization	불 Resource Rates 🕞	X	_			🛅 Job Finance
	💶 Work Breakdown Structures	22 Resource Utilization					% Price % Add On
Cost Breakdown Structure (CBS)		action to the text of	Workbook	Schedule *	Cash Flow	Indirect Cost Items	💽 Prime Bond
Brea	kdown Structures	Resources	Workbook	Sch	edule	In	direct Cost

- 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.

6.2 DEFAULT INDIRECT COST ITEMS

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

6.2.1 Independent Indirect Cost Items

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

- Job Management & Equipment
- General Expense

6.2.1.1 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.

	st Breakdown	Jun	uccure (cu	5) Register C	ost Item Recor													•
CBS	Code:	Opti	ional Code	: Description:						Forecast (T/	D) Qty:	Unit of M	easure:	Unit C	ost:	Total Cost:	Currency:	
														~				
														~				
		JOB	B MANAGEN	1E Job Management	& Equipment						1.00	Lump Sur	n	-	\$157,096.28	\$157,09	6.28 U.S. Dollar	
PI A	ssignment:	PI Li	ine Numbe	r: PI Description:								Cost Seg	ment:	Pay Q	antity:	Cost Source:	Alternate:	
	÷											Job Over	head	*	1.00	Detail	* BASE	
		_																
														Productio	-			
Cos	st Item Summar	У	<mark>≧∕ D</mark> etail :	\$157,096.28 🛱 F	lug : \$0.00	Quote : \$0.0	0 <u>A</u> llocation							Productio	n			×
_	st Item Summar g columns here		_	\$157,096.28 9 F	lug : \$0.00		[Search For]	5	aved views:	Previous View		•]	Productio	n		Factored Duration Driven	
Drag		to gro	_	2 \$157,096.28 P	Quantity		-	S Work Hours	Pay	Previous View Waste % Add-on	Quantity (Less Wa		Produ Facto	Productio	Duration	Driven Resources	Duration Driven Resources	
Drag	g columns here	to gro	oup Code			Find:	[Search For]	Work	Pay	Waste %			Produ		Duration Cust	omize Display	Duration Driven Resources (x 1.0000)	
Drag	g columns here	to gro	oup Code	Description	Quantity	Find: Unit of Measure Each	[Search For] Unit Cost	Work Hours	Pay Hours	Waste %			Produ	E	Duration <u>Cust</u> ays:	omize Display 100.00	Duration Driven Resources (x 1.0000) 100.0	x (
Drag	g columns here	to gro 1 2	oup Code LSS 1	Description Project Superintend	Quantity	Find: Unit of Measure Each	[Search For] Unit Cost \$42.53	Work Hours 800.00	Pay Hours 800.00	Waste %			Produ	E	Duration <u>Cust</u> ays:	00000 100.00	Duration Driven Resources (x 1.0000) 100.0 100.0	
Drag	Row Number =_ +	to gro 1 2 3	oup Code LSS 2 LSSEC	Description Project Superintend Secretary	Quantity 1.00 1.00 1.00	Find: Unit of Measure Each Each	[Search For] Unit Cost \$42.53 \$20.41	Work Hours 800.00 800.00	Pay Hours 800.00 800.00	Waste %			Produ	E SI He	Duration Cust ays: ifts: burs:	omize Display 100.00 100.00 800.00	Duration Driven Resources (x 1.0000) 100.0 100.0 800.0	
Drag	Row Number =_ +	to gro 1 2 3 4	Code LSS 2 LSSEC LSPE	Description Project Superintend Secretary Project Engineer	Quantity 1.00 1.00 1.00 1.00	Find: [Unit of Measure Each Each Each	[Search For] Unit Cost \$42.53 \$20.41 \$51.03	Work Hours 800.00 800.00 800.00	Pay Hours 800.00 800.00 800.00	Waste %			Produ	E	Duration Cust ays: iifts: ours: ours:	00000 100.00	Duration Driven Resources (x 1.0000) 100.0 100.0	

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 the E101 Training Job, from the InEight Estimate landing page, select the Estimate tab.
- 2. Select Cost Breakdown Structure (CBS).
- 3. Double click on the Job Management & Equipment row header.
 - You can see that this record looks like the direct cost item records that you have been working with thus far in the CBS

Cos	t Break	down Stru	cture (CBS)	Register	Cost Item Re	cord (lost I	tem Record	0								-
CBS	Code:	Opt	ional Code:	Description			Fo	recast (T/O) Qty	:	Unit of Mea	sure:		Unit Cost:	Total Cost:		Currency:	
												Ŧ					
												~					
		JOE	MANAGEME	Job Manage	ment & Equipment			1	.00	Lump Sum		-	\$0.00		\$0.00	U.S. Dollar	
A I	ssignme	nt: PIL	ine Number:	PI Descripti	on:					Cost Segme	ent:	1	Pay Quantity:	Cost Source	e:	Alternate:	
		Ŧ								Job Overhe	ad	Ŧ	1.00	Detail	-	BASE	
_	t Item Si columns	here to gro	Detail : \$0 Dup Fin Resource A	d: [Search I		uote : \$0.00 Saved views: Quantity	Prev	vious View Unit of Measure	Un	• it Cost	Wo	Ide	ntification Code: Type: scription:				×
÷													uantity (Less Waste):		Product	d-on:	
												4	Cost Driver:	~]	ictor:	•
											1	٠				- •	\approx

4. Here you will add Labor resources by clicking in the Code column and selecting the icon. Add

LSSEC Secretary and LSSUPT Project Superintendent.

					Reso	Description	0	Unit of	Unit	Work	Pr
			Code		Asse	Description	Qua	Meas	Cost	Hours	Fa
	+	1	LSSEC			Secretary	1.00	Each	\$21.97	0.00	
4	+	2	LSSUPT	2		Project Superintend	1.00	Each	\$45.78	0.00	

- 5. Select the **Production** tab.
- 6. Type **70** in the Days field.
 - This represents the length of the job

FIU	iction		
		on Driven Res stomize Disp	
	Days:	70.00	<
	Shifts:	70.00	

7. Click **OK** to close the record.

Step by Step — Add General Expense Costs

- 1. In the E101 Training Job, from the InEight Estimate landing page, select the Estimate tab.
- 2. Select Cost Breakdown Structure (CBS).
- 3. Right click on the **General Expense** row header and select **Open**.
 - The General Expense cost item record also looks identical to a direct cost item record
 - You could add existing resources here, but in this case, you will create an ad hoc resource
 - Assume you don't have a resource for General Office Supplies
- 4. Type **General Office Supplies** in the Description column.

	GI	ENERAL EXPI	E Gen	eral Exp	pense				
PI A	ssignment: PI	Line Numbe	r: PI D	escript	ion:				
	Ŧ								
Co	st Item Summary	違 <u>D</u> etail	: \$0.00	₩ P	ʻlu <u>q</u> : \$ 0.00	<u> </u>	0.00	Allocation	
Dra	g columns here to g	roup						· · · · · · · · · · · · · · · · · · ·	
	Row E. Code Resource Assembly Description		Quar (Less	ntity Waste)	Waste % Add-on				
→ + 1					General Off	ìce Supplies		0.00	0.00

- 5. Type **1** in the Quantity field.
- 6. For the Unit of Measure, select Lump Sum from the drop down.
 - Notice that the Unit Cost column is read only
- 7. Click on (highlight) that row, and then click the Resource Employment Breakdown tab.
- 8. Type **1,000** in the Undefined Supplies cost category.
 - The amount entered automatically fills into the unit and total cost columns

C₂	st Item Summary	2/	<u>D</u> etail	: \$1,000.00	붲 Plug : \$0.00	Quote :	: \$0.00 <u>A</u> locati	on								Reso	urce Employment Breakdown	×	×
Drag	columns here to	group							Fi	ind: [Search I	For] !	aved views:	Previous Vi	ew	-	Cost	Category	Scale 1	
	Row _			Resource			Quantity	Waste %		Unit of	Productivity	Work	Pay		Total Cost	▼ T	stal	\$1,000.00	٠
	Number 🖳	Code	-	Assembly	Description		(Less Waste)	Add-on	Quantity	Measure	Factor	Hours	Hours	Unit Cost	(Forecast)	->	Labor	\$0.00	
÷	+ 1		1		General Office Si	pples	1.00	0.00	1.00	Lump Sum	1.00			\$1,000.00	\$1,000.	\rightarrow	Owned Equipment	\$0.00	
*																-	Rented Equipment	\$0.00	
																Ý	Supplies	\$1,000.00	
																	Undefined Supplies	\$1,000.00	
																>	Materials	\$0.00	
															\$1,000.00	<u> </u>	Subcontract	#0.00	*
a																ê -	. 🖗 a 🛃 a 🏦 a 😫 a 🤋	≞a ≗a ≈	¢.,

TIP You are only allowed to enter information in the Resource Cost Breakdown if the resource row is selected, otherwise fields will not display.

9. Click **OK** to close the record.

6.2.2 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

Actio	ns More Actio	ons	
uspended	📙 Link Field	E Cost Item	1
	📇 Unlink Field	Subordinate Cost Item	5
		<table-cell-rows> Dependent Cost Item</table-cell-rows>	
	Workbook		

6.2.2.2 Default Dependent Cost Item Deletion

NOTE 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. In the E101 Training Job, from the InEight Estimate landing page, select the Estimate tab.
- 2. Select Cost Breakdown Structure (CBS).
- 3. Select the Prime Bond indirect cost item by clicking on its row header.
- 4. Press and hold the Shift key while selecting the Job Financing indirect cost item.
 - All your dependent indirect cost items are now selected

	CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure
	•	ЗОВ	20.00	Mile
	+	Prime Bond	1.00	Lump Sum
	+	Price % Add-On	1.00	Lump Sum
\rightarrow	+	Job Financing	1.00	Lump Sum
	+	Job Management & Equipment	1.00	Lump Sum
	+	General Expense	1.00	Lump Sum

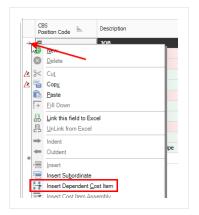
- 5. Right click on the selection and select **Delete**.
- 6. Select **Yes** to confirm you want to delete the selected Cost Items.
 - Your indirect cost items are now deleted

6.2.2.3 Prime Bond

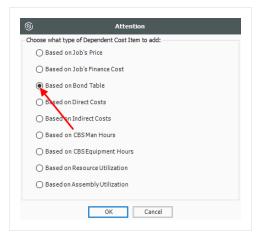
The following steps walk you through adding and defining your prime bond for the job.

Step by Step — Define Prime Bond

- 1. In the E101 Training Job, from the InEight Estimate landing page, select the Estimate tab.
- 2. Select Cost Breakdown Structure (CBS).
- 3. 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 Bond Table**.



- 5. Click OK.
 - The Prime Bond indirect cost item now displays at the top of your CBS
- 6. Right click on the Prime Bond row header and select **Open**.
 - Prime Bond represents the insurance for the job
 - This is an irregular form and uses bond rate tables
 - The form's Bond Table Name defaults to No Bond Required until a saved Bond Table Name is chosen

Cost Breakdown	Structure (CBS) I	Register	Bond Cost Item Record			
CBS Code:	Description: Prime Bond					Total Cost \$0.00
Dependenc <u>v</u>		Bond Table	:			×
Cost is calculatec based on Target Price.		Identifica Tab Last Main Bond Rate	le Name: No Bond Required			Edit Name New
		From	<u>1</u>	То	Cost per \$1,00	00

7. Use the Table Name drop-down to choose EXAMPLE: GENERAL CONSTRUCTION

Cost Breakdown	Structure (CBS) I	Registe	r Bond Co	st Item Record 🔹				
CBS Code:	Description: Prime Bond							tal Cost 8,681.9
Dependency		Bond	l Table					×
Cost is calculated		Ide	ntification					
cost is calculated based on Target			Table Name:	EXAMPLE: GENERAL CONSTRUCTION		6 K	Edit Name	New
Price.		Lac	t Maintenance:	🏘 Table Name		43		
		Las	c rialitenance.	EXAMPLE: BRIDGE		- 1		
		Bor	nd Rate Layers	EXAMPLE: EARTHWORK		-		
			From	EXAMPLE: GENERAL CONSTRUCTION)		
		\rightarrow		EXAMPLE: PAVING			10.8	0000
				EXAMPLE: PIPE			8.2	0000
				EXAMPLE: UNDERGROUND UTILITIES			7.0	0000
				No Bond Required			5.0	0000
				×		.::	4.8	0000
				\$20,000,000.01	\$40,000,000.00		3.5	0000

- 8. Click **OK** to close the record.
 - The Prime Bond indirect cost item is now added to your CBS

CBS Position Code 🗎	Description	Optional Code	Forecast (T/O) Qua
	JOB		
+	Job Management & Equipment	JOB MANAGEMENT & E	
+	General Expense	GENERAL EXPENSE	
+	Prime Bond	PRIME BOND	
+ 1	Mobilization	1000	
= 3	Classing & Crubbing	2000	

6.2.2.4 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
O Based on Job's Finance Cost
O Based on Bond Table
O Based on Direct Costs
O Based on Indirect Costs
O Based on CBSMan Hours
O Based on CBSEquipment Hours
O Based on Resource Utilization
O 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	F
	ЈОВ		
+	Job Management & Equipment	JOB MANAGEMENT & E	
+	General Expense	GENERAL EXPENSE	
+	Prime Bond	PRIME BOND	
4	Price % Add-On	PRICE % ADD-ON	
+ 1	Mobilization	1000	Τ

5. The Price % Add-on Record opens to the **Description** tab. Type **Office Overhead** in the Description field and type a rate of **4**.

Cost Breakd	own Structure	(CBS) Registe	er Pr	rice % Add-On Re	cord 🛛
CBS Code:	Descrip Price %	otion: Add-On			
<u>D</u> escription	Dependenc <u>y</u>				
Orag columns l	here to group				
Descripti	on		Rate	Account Code	
Office Ov	verhead		4.00	s.	
*					

- Office Overhead is now defined with a rate of 4% of the job's price
- 6. Click **OK** to close the record.

6.2.2.5 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 **Small Tools** in the blank row under the Description column.

CBS Position (Code:	· · ·	ion: ost Add-On			
Description	Depe	endenc <u>v</u>	Cost Categorization	Allocation		
Drag columns	here to	group				
Descripti	on	_	/	Curre	Total Cost (Forecast)	

- 6. Press the **Tab** key (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

			٦	Fotal C	Cost:	A
				\$1	0.00	BASE
Cost	Breakdown					
Cost C	Category	Subject Cost	Rate		Cost	
✓ To	tal	\$130,759.83	0.00			\$0.00
>	Labor	\$58,969.83	0.00			\$0.00
>	Owned Equipment	\$68,251.92	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

7. Click on the **Dependency** tab to see what contributes to your subject cost.

• These are the cost items on which this Direct Cost Add-On depends

		Direc	: Cost Add-On				
<u>D</u> es	scription	Dependency	Cost Categorization	<u>A</u> llocat	tion		
Drag	g columns l	here to group					
	CBS Position	Code ៉	Description		Include	Currency	Op Co
	1		Mobilization		\checkmark	U.S. Dollar	10
<u>/</u> &	2.1		Clearing		\checkmark	U.S. Dollar	
<u>/</u>	2.2		Grading		\checkmark	U.S. Dollar	
	3.1		Excavate		\checkmark	U.S. Dollar	
	3.2		Haul		\checkmark	U.S. Dollar	
	4.1		Furnish Pipe Materials		~	U.S. Dollar	
	4.2		Excavate-Install-Backfill P	ine	\checkmark	U.S. Dollar	

- 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
- 8. For this activity, leave the default (lower) button selected.

Toggle Include All	\bigcirc Define the Subject Cost by viewing all available items and clicking the Include box for the desired items	
(Affects displayeditems only)	Define the Subject Cost using column filtering (all current and future items that match the filter will be included automatically)	

- 9. Click on the **Description** tab, where 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
- 10. Type **10** in the Rate field at the Labor cost category level, then press **Tab**.

Со	st Breakdown			
Cos	t Category	Subject Cost	Rate	Cost
¥	Total	\$130,759.83	0.00	\$0.00
	> Labor	\$58,969.83	10	\$0.00
	 Owned Equipment 	\$68,251.92	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
	> Econ	¢262.09	0.00	±0.00

11. Click **OK** to close the record.

6.2.2.6 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
3	ЈОВ	
+	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
	Direct Cost Add-On Mobilization	DIRECT COST ADD-ON 641 0100
+ 1 + 24.1.2	Mobilization	
+ 1 + 24.1.2 + 25	Mobilization Day Two	641 0 100
+ 1 + 24.1.2 + 25 + 26	Mobilization Day Two Prime Bond	641 0 100 PRIME BOND
+ 1 + 24.1.2 + 25 + 26 + 27	Mobilization Day Two Prime Bond Price % Add-On	641 0100 PRIME BOND PRICE % ADD-ON
+ 24.1.2 + 25 + 26 + 27	Mobilization Day Two Prime Bond Price % Add-On Job Financing	641 0100 PRIME BOND PRICE % ADD-ON FINANCE EXPENSE
 + 1 + 24.1.2 + 25 + 26 + 27 + 28 	Mobilization Day Two Day Two Prime Bond Price % Add-On Job Financing Indirect Cost Escalation	641 0100 PRIME BOND PRICE % ADD-ON FINANCE EXPENSE INDIRECT COST ESCALATION
 + 1 + 24.1.2 + 25 + 26 + 27 + 28 + 29 	Mobilization Day Two Prime Bond Price % Add-On Job Financing Indirect Cost Escalation Direct Cost Escalation	641 0100 PRIME BOND PRICE % ADD-ON FINANCE EXPENSE INDIRECT COST ESCALATION DIRECT COST ESCALATION
 + 1 + 24.1.2 + 25 + 26 + 27 + 28 + 29 + 30 	Mobilization Day Two Day Two Prime Bond Price % Add-On Job Financing Indirect Cost Escalation Direct Cost Escalation Indirect Cost Add-On	641 0100 PRIME BOND PRICE % ADD-ON FINANCE EXPENSE INDIRECT COST ESCALATION DIRECT COST ESCALATION INDIRECT COST ADD-ON

6.3 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:

CB: Pos	S sition (Code	1		Description			orecast '/O) Quantit	y	Unit of Measur	e	Un	it 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	
			1	Desc	ription	Quant	ity	Unit of Measure	Work Hours	Pay Hours	Unit Co	ost	Total Cost (Forecast)	
	\rightarrow	+	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
		+ 1 Field Office Clerk		Quant	ity	Unit of Measure	Work Hours	Pay Hours	Unit Co	st	Total Cost (Forecast)			
	≜			1.	00	Each	4.00	4.00	\$38.	00	\$152.00			
	Δ			1.	00	Each	8.00	8.00	\$62.	38	\$499.04			
		+	3	Field	Office Site Supe	1.	1.00 Each		16.00	16.00	\$70.	25	\$1,124.00	
-	5.3				Site Facilities				1.00	Each			\$905.00	\$905.00
			1	Desc	ription	Quant	ity	Unit of Measure	Work Hours	Pay Hours	Unit Co	st	Total Cost (Forecast)	
	\rightarrow	+	1	Field	Office Telephone	0.	50	Month			\$250.	00	\$125.00	
		+	2	Field	Office Trailer	1.	00	Each	0.00	0.00	\$5.	94	\$0.00	
		+	3	Pick (Jp 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

- At the bottom of your CBS, create an Indirect cost item called Job Overhead with a Forecast (T/O) Quantity of 1 and a Unit of Measure of Each.
- Add two subordinates under the new cost item named Job Trailer and Utilities. Job Trailer is also 1 Each but change Utilities to 1 Lump Sum.

5	Job Overhead	1.00 Each
+ 5.1	Job Trailer	1.00 Each
+ 5.2	Utilities	1.00 Lump Sum

- 3. Open the **Job Trailer** cost item by double clicking on the row header.
 - Assuming there is no Job Trailer in your Resource Rate Register, you will create this resource "on the fly"
- 4. 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.

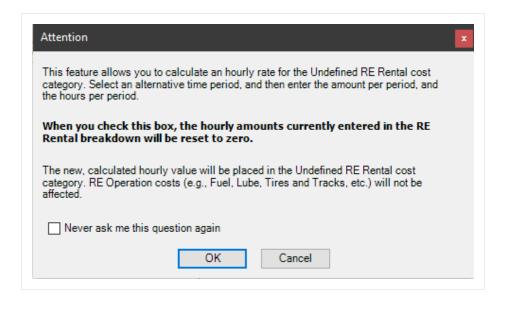
- 5. On the Resource Rate Register, click the **Rented Construction Equipment** tab.
- 6. Right click on one of the line items and select **New** to add a new resource.

A	ction	IS		• • •	<u> </u>				
All		Labor	Constr	uction Equipment	Rented Cons	struction Equipment	Ins	talled Material	Installe
Dra	ig col	umns he	ere to gro	pup	Find	: [Search For]		·· Saved vie	ws: Pre
	Re Co	source de	<u>=</u>	Description		Resource File Description		Unit of Measure	Producti Factor
\rightarrow	+	RCOM	þ	Rental Co	New	Rat	e	Hour	
	+	RLT		Light Tow	<u>IN</u> EW	Rat	e	Hour	
	+	+ RPC		Plate Com 📮	Сору	Rat	e	Hour	
	+	RPU		Rental Pickup		Standard Rental Rat	e	Hour	

- 7. Enter a Resource Code of **RJT** for the Rented Construction Equipment Resource.
- 8. In the Description field, type Job Trailer.

👤 Code: *	RJT	Rented Co		n Equipment Rate Record - Training Job — 🗆	×
Setup	🔱 Charge Rate	🖵 Quot	e Billing F	Rate	
Cost Ci	ategory Breakdown tal Rented Equipment Fees Undefined	A	mount \$0.00 \$0.00 \$0.00 \$0.00	Fuel Fuel Fuel Type Consumption Rate 0.00 Unit/Hour Fuel Acc × 0.00 If a fuel type and consumption is specified above, this machine's fuel cost is calculated using the cost per unit of measure for the fuel type specified in the Job Properties form and the fuel cost defined in the charge rates on this form is ignored. Mainter Autor Autor Never offer this help again Assembly containing the Maintenance Labor resources:	-
				Use job default: CMAINT	10
				() Use:	10
				Maintenance Man-Hours per 0. equipment utilization hour:	.00
				equipment utilization hour: Non-Hourly Period Charge Rates Calculate Non-Hourly Period Charge Rates for RE Rental	

- You do not need to enter Fuel, but the Job Trailer's cost is given to you at a charge per week, so you will use the Non-Hourly Period Charge Rates to figure out the hourly cost
- 9. Select the **Calculate Non-Hourly Period Charge Rates for RE Rental** checkbox; this will allow you to edit the fields below the checkbox. A pop-up box will appear.
- 10. Click **OK** on the resulting prompt.



TIP

You may need to expand the resource record to see all of the fields to fill out.

- 11. Select **Weekly** as the Period, and type **1,000** as the Amount Per Period.
- 12. Since the Period is Weekly, type **40** in the Hours Per Period field.

Non-Hourly Period	Lilarge Rates	
Calculate Non-Hou	rly Period Charge Rates	for RE Rental
Period:	Weekly	•
Amount Per Period:		\$1,000.00
Hours Per Period:		40.00

- 13. Press the Tab key so the change takes effect on your Cost Category Breakdown (on the left).
 - Now you can see that \$25.00 auto-filled into the Rented Equipment category, as well as your Standard Sales Tax of \$2.00 under Fees in the Cost Category Breakdown, to equal a total of \$27.00 per hour

Setup	🔱 Charge Rate	Qu	ote	Billin	g R					
Cost Category Breakdown Amount										
✓ Tot	al		\$2	27.00	Г					
>	Rented Equipment		\$2	25.00	L					
>	Fees		\$	\$2.00	L					
	Undefined			\$0.00						

14. Click **OK** to close the Resource Rate Record.

- 15. Select the new **RJT** resource you created, then click **OK** to return to the Cost Item Record.
- 16. On the Cost Item Record, adjust the Job Trailer Quantity to **2**, assuming you will have 2 Job Trailers on site.
- 17. Finally, adjust your production by entering the duration of the job.
 - You estimate the project duration to be 70 Days

Detail :	\$30,240.0	0 🛱 Plug : \$0	.00 📮 Quote	: \$0.00 <u>A</u> lloca	ition					Production		×
group			Fir	d: [Search For.] ···	Saved views: Pr	evious View	-]		Factored Duration Driven	¢
Code		Description	Quantity	Unit of 🚊	Unit Cost	Productivity Factor	Work Hours	Pay Hours	Wast % Add-(Customize Display	Resources (x 1.0000)	
RJT		Job Trailer	2.00	Each	\$27.00	1.00	1,120.00	1,120.00		Days: 70.00	◀ 70.00	
										Shifts: 70	70.00	

- 18. Click **OK** to close the record.
- 19. On the CBS register, select the Utilities cost item by double clicking on the row header.
- 20. Create another ad hoc resource on this cost item called Electricity, which will be 1Lump Sum.

Drag	columns here	to group	Fir	nd: [Search For	.] Sa	ved views:	Prev	ious View	-
	Row Num	Code		Description	Quantity	Unit of Mea ⊨		Unit Cost	Productivity Factor
1	+ 1			Electricity	1.00	Lump Sum	-	\$0.00	1.00
*									

21. Finally, go to the Resource Employment Breakdown tab and enter your forecasted electricity cost for the duration of the job. Type **1,500** on the Custom Category1 row.

Cos	t Item Summa	ry	🍃 <u>D</u> etail	: \$1,500.00	₩ Plug : \$0.0	00 🖵 Qua	te : \$ 0.00	Allocati	ion		R	eso	urce Employment Breakdown	>
Drag	columns here	to g	roup Find:	[Search Fo	r] S	aved views:	Previous	View	•		Co	ost C	Category	Scale 1
											~	То	tal	\$1,500.00
	Row	Co	de		Description	Quantity	Unit	of 🛓	Unit	Proc Fac		>	Labor	\$0.00
	Num						Mea.		Cost	Fac		>	Owned Equipment	\$0.00
÷	+ 1	Γ		1	Electricity	1.	00 Lump	Sum	\$1,500.00			>	Rented Equipment	\$0.00
*												>	Supplies	\$0.00
		-								-		>	Materials	\$0.00
												>	Subcontract	\$0.00
												>	Fees	\$0.00
												>	Allowance	\$0.00
													Custom Category 1	\$1,500.00

22. Click **OK** to close the record.

• Your user-defined indirect cost items now contain production and costs

□ 5	Job Overhead	1.00	Each	\$31,740.00	\$31,740.00
+ 5.1	Job Trailer	1.00	Each	\$30,240.00	\$30,240.00
+ 5.2	Utilities	1.00	Lump Sum	\$1,500.00	\$1,500.00

Exercise 6.1 — Define Indirect Costs

In this exercise, you will practice entering Indirect Costs. Complete the following steps, using the E101 – Training Job:

- 1. Double click on the **Price % Add On** row header.
- You already have Office Overhead as your first line item. In the next blank row type Corporate Insurance in the Description field and enter a rate of .10.
- 3. Click **OK** to close the record.
- 4. Double click on the **Direct Cost Add-On** row header.
- You already have Small Tools as your first line item. On the Description tab, type Safety
 & Training in the next blank row's Description field, then press Tab.
- 6. The Dependency Cost Breakdown appears on the right. Enter a rate of **5** for Labor Costs only.
- 7. Click **OK** to close the record.

You should end up with the following results

Cos	st Breakdown Structure (CBS) Regist	er Pi	rice % Add-O	Record O				-
CBS	S Code: Description: Price % Add-On							Total Cost: \$9,082.87
<u>D</u> e:	scription Dependency					Cost Item Setup		×
Drag	g columns here t Eigd au [Search For]	··· Sav	ved views: Pr	evious View	•	Properties		
	Description	Dete	Account			Currency:	U.S. Dollar	•
	Description	Rate	Code			Account Code:		1
÷	Office Overhead	4.00				Cost Curve:	Linear	
	Corporate Insurance	0.10						
*						Tag 1:		•
						Tag 2:		

CBS	Position	Code: Descript	ion:									Т	otal Co	ost: A
		Direct Co	ost Add-	On]		\$8,845.	.47 BASE
<u>D</u> es	cription	Dependency	Cost C	ategorization	Allocation			Cost	Breakdown					
Drag	Giladan	[Search For]		Saved views	: Previous Vi	ew 👻]	Cost	Category	Subject	Cost	Rate		Cost
						Total Cost	_	V To	otal	\$130,	759.83	2.25		\$2,948.49
	Descript	ion		7	Curre	(Forecast)	i i	\rightarrow	Labor	\$58,	969.83	5.00		\$2,948.49
	Small To	ols			U.S. Dollar	\$5,896	.98		Owned Equipment	\$68,	251.92	0.00		\$0.00
→	Safety 8	& Training			U.S. Dollar	\$2,948	49		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

Congratulations, you have completed this exercise!

Lesson 6 Review

- 1. The ______ in the Library controls which of the default indirect cost items to copy into new job folders?
 - a. Job Properties
 - b. Foundation Setup Data
 - c. Cost Breakdown Structure
- 2. 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.
 - a. True
 - b. False
- 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 ______.
 - a. Resources
 - b. Pay Items
 - c. Assemblies

Lesson 6 Summary

As a result of this lesson, you can:

- Explain how indirect costs are defined in InEight Estimate
- Estimate default indirect cost items
- Estimate user-defined indirect cost items

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LESSON 7 – FINALIZE THE ESTIMATE

This lesson is primarily suited towards contractors who must add profit or markup to their total estimated cost, which will be submitted in the form of a bid or proposal. Most owners can divert from this lesson as it's more geared towards adding profit and markup. There are a few use cases in which an owner may wish to use the price breakdown structure. For example: to add risk, contingency, or reserves if it is preferred, these are not shown directly in the budget line items. The price breakdown structure also provides a summary level review of the total estimate and is a great reference during estimate reviews.

Lesson Duration: 45 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Add job markup (profit)
- Use tools on the PBS form to review your estimate
- Spread Target Price over pay items
- Make bid adjustments

Lesson Topics

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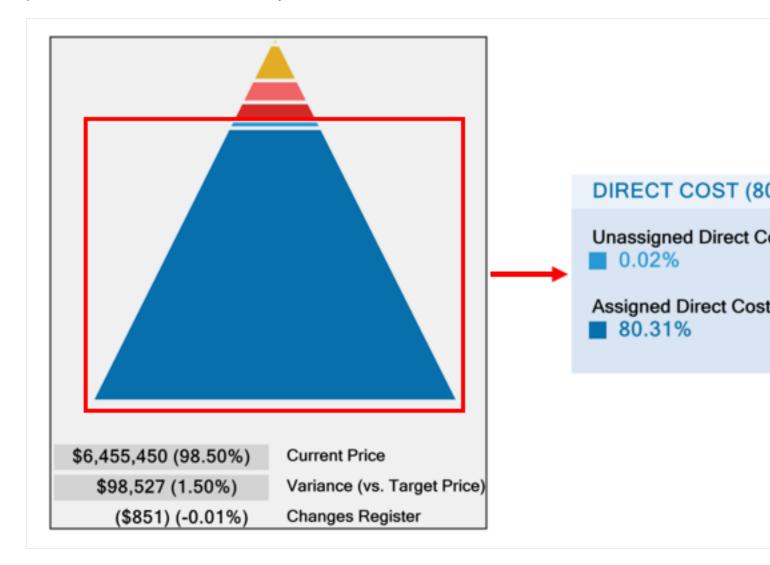
7.1 JOB MARKUP (PROFIT)

On the Data Map ^{A 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.

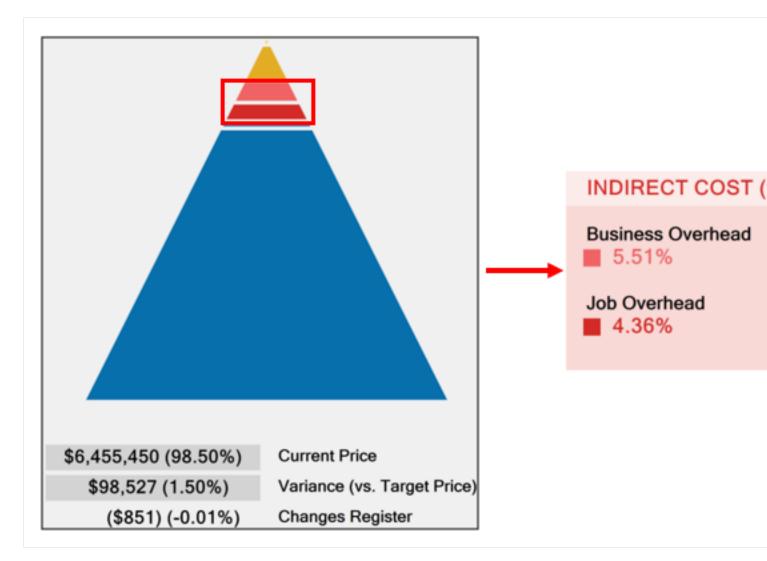
To open the Data Map, select the Price tab, then Data Map from the Overhead and Profit section.

7.1.1 Target Price

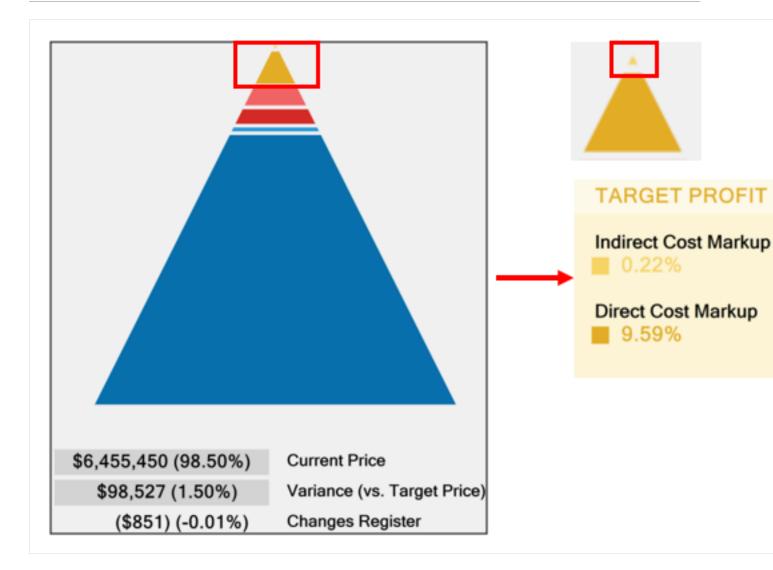
For contractors building the price of your project is like building a pyramid. The foundation of your price consists of the direct costs of the job.



On top of your direct costs, you add your indirect costs which consist of Business and Job Overhead. You estimated your direct and indirect costs already in the CBS Register.



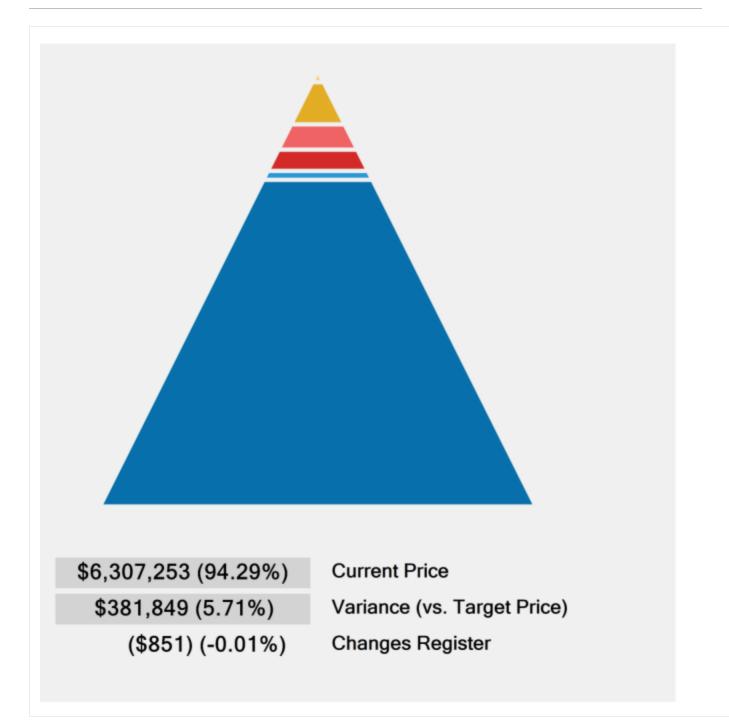
At the top of the pyramid you add an amount for profit. You add profit in the Price Breakdown Structure (PBS) form. There is a very small block at the top of the Data Map, which comprises 0.22% of Indirect Cost Markup.



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.

TAF

\$



7.1.2 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.

	Name	Definition
1	PBS Description	 The left side of the screen displays several cost classifications: Target Profit Business Overhead Job Overhead Direct Cost
2	Cost and % of Target	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.

Overview – Price Breakdown Structure

Description	Cost	% of Target	Markup Analysis	Price Status	Cost Source	Resource Utiliz
🗸 🔺 Price Breakdown Structure						
✓ ▲ Target Price	\$6,553,976.75	100.00	Markup Analysis	s (based on Bi	d quantities)	
🗸 🛕 Target Profit	\$642,821.40	9.81				
🛕 Direct Cost Markup	\$628,520.02	9.59				
💧 Indirect Cost Markup	\$14,301.37	0.22	Markup as % of All Costs (Targ	rget Price - Targ	get Price - Target Profit)	
🗸 🛕 Total Cost	\$5,911,155.36	90.19	Markup as % of	All Labor Cos	sts	
🗸 📥 Indirect Cost	\$646,863.68	9.87				
🗸 📥 Business Overhead	\$360,836.18	5.51	Markup as % of	All Direct Lab	or Costs	
Prime Bond	\$47,069.88	0.72	Markup as % of	All Indirect La	har Casta	
Price % Add-On	\$294,928.95	4.50	Markup as % of	All Indirect La	ibor costs	
	\$0.00	0.00	Markup as % of	All Owned Eq	uipment and Re	nted Equipmer
Indirect Cost E	\$0.00	0.00				
Direct Cost Esc	\$18,837.35	0.29	Markup as % of	All OE Owner	ship and RE Ren	tal Costs
Indirect Cost A	\$0.00	0.00	Markup as % of	All OE Operat	ion and REOper	ation Costs
📑 Unassigned Bu	\$0.00	0.00				
y 📥 Job Overhead	\$286,027.50	4.36	Markup as % of	All Materials (Costs	
Job Manageme	\$157,096.28	2.40	Markup as % of	All Supplies C	Costs	
General Expense	\$4,200.00	0.06				
Direct Cost Ad	\$104,301.10	1.59	Markup as % of	All Subcontra	ct Costs	
Unassigned Jo	\$20,430.12	0.31	Markup per Manhour			
V 📥 Direct Cost	\$5,264,291.67	80.32				
Unassigned Direct	\$1,000.00	0.02	Markup per Equip	ment hour		
Assigned Direct Co	\$5,263,291.67	80.31				

TIP All costs in the Price Breakdown Structure are based on pay quantities (not forecast takeoff quantities).

7.1.3 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	Cost	% of Target
 Price Breakdown Structure 		
🗸 🔺 Target Price	\$6,553,976.75	100.00
🗸 🛕 Target Profit	\$642,821.40	9.81
🛕 Direct Cost Markup	\$628,520.02	9.59
🛕 Indirect Cost Markup	\$14,301.37	0.22
🗸 🛕 Total Cost	\$5,911,155.36	90.19

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.

7.1.4 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		Cost	% of Target
🗸 🔺 Price Brei	akdown Structure		
🗸 🔺 Targe	et Price	\$6,114,674.94	100.00
🗸 🛕 T	arget Profit	\$0.00	0.00
Profit 🌲	Direct Cost Markup	\$0.00	0.00
	Indirect Cost Markup	\$0.00	0.00
🗸 🔺 Te	otal Cost	\$6,114,674.94	100.00
	Indirect Cost	\$621,662.45	10.17
~	📥 Business Overhead	\$331,060.53	5.41
	Prime Bond	\$44,873.37	0.73
	Price % Add-On	\$275,160.37	4.50
	Job Financing	\$0.00	0.00
Indirect	Indirect Cost Escalation	\$0.00	0.00
Costs	Direct Cost Escalation	\$11,026.79	0.18
	Indirect Cost Add-On	\$0.00	0.00
	Unassigned Business Overhead	\$0.00	0.00
~	📥 Job Overhead	\$290,601.91	4.75
	Job Management & Equipment	\$157,096.28	2.57
	General Expense	\$4,200.00	0.07
	Direct Cost Add-On	\$108,875.52	1.78
	unassigned Job Overhead	\$20,430.12	0.33
Direct	Direct Cost	\$5,493,012.49	89.83
Direct	🔺 Unassigned Direct Cost (Work Plan)	\$1,000.00	0.02
Costs	Assigned Direct Cost (Work Plan)	\$5,492,012.49	89.82

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.

7.1.4.1 Profit as a Percentage of Target Price

Step by Step — Add Profit as a Percentage of Target Price

- 1. Open the E101 Training Job in InEight Estimate.
- 2. From the InEight Estimate landing page, select the **Price** tab.
- 3. Select **Price Breakdown Structure (PBS)** from the Overhead and Profit section.

4. On the Target Profit row, type **10** in the % of Target Price column, then press **Tab**.

Notice that entering the 10% Target Profit has the following effects, once you tab off the field:

- Your Target Price increases
- Indirect and Direct Cost Markup values automatically have amounts pushed down to them
- The amounts for both Prime Bond and Price % Add-On increase, as they are based on a percentage of the Target Price
- Direct Cost and Job Overhead amounts don't change, but their % of Target Price changes

7.1.4.2 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 Price Breakdown Structure (PBS) form, double click on the Direct Cost Markup row.

Description		Cost	% of Target
🗸 🔺 🗸	Breakdown Structure		
🗸 🔺 Ta	arget Price	\$6,568,772.37	100.00
	Target Profit	\$656,877.24	10.00
- 1	🛕 Direct Cost Markup	\$623,140.54	9.49
-	Indirect Cost Markup	\$33,736.70	0.51
× 🔺	Total Cost	\$5,911,895.14	90.00

2. In the Markup Cost Item Record, override the Default entry with **Direct Cost Markup** in the Description field.

<u>D</u> eso	cription Dependency			ocation
2	columns h Descriptic	0	Currency	
Direct Cost Markup			ι	J.S. Dollar
→				

3. In the Rate column on the Dependency Cost Breakdown, type **15** in the Labor Cost Category, **10** for Owned Equipment, **8** for Materials and **2** for Fees. Reset the other categories back to **0**.

Co	st C	Category	Subject Cost	Rate		Cost
¥	То	otal	\$133,226.64	12.15		\$16,191.02
	>	Labor	\$59,096.84	15.00		\$8,864.53
	>	Owned Equipment	\$70,591.72	10.00		\$7,059.17
	>	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 Category1	\$0.00	0.00	÷	\$0.00
		Undefined	\$0.00	0.00	÷	\$0.00

• Notice the average rate rolls up at the Total cost category level

- 4. Click **OK** to save your changes and return to the PBS.
 - The Direct Cost Markup now is a different percentage of the Target Price, and the Target Profit and Target Price have changed

Descriț	ption		Cost	% of Target
- 🔺	Price Brea	kdown Structure		
~	🔺 Targe	t Price	\$248,161.82	100.00
	🗸 🛕 Ta	arget Profit	\$25,249.17	10.17
		Indirect Cost Markup	\$9,058.15	3.65
	A	Direct Cost Markup	\$16,191.02	6.52
	🗸 🔺 To	otal Cost	\$222,912.65	89.83

5. Click the **Refresh Summary Data** button on the PBS to see the changes reflected.

7.2 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.

7.2.1 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

7.2.1.1 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	s (based on Bid quantities)	
Markup as % of	All Costs (Target Price - Target Profit)	11.11
Markup as % of	All LaborCosts	79.42
Markup as % of	All Direct Labor Costs	94.07

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.

7.2.1.2 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.

	is Cost Source	Resou	rce Utilization	Minori	ty Goals	Subcontract Stat	us v	endor Status	
Analysis (ba	ased on Bid quant	ities)							
	Detail		Plug *	*		Quote		Total	
	Amount	%	Amo	unt	%	Amount	%	Amount	4
ect Cost	\$5,156,491.67	97.95	\$64,600	0.00	1.23	\$43,200.00	0.82	\$5,264,291.67	10
ect Cost	\$638,694.52	98.62	\$5,338	3.76	0.82	\$3,570.19	0.55	\$647,603.46	100
Total	\$5,795,186.19	98.03	\$69,938	8.76	1.18	\$46,770.19	0.79	\$5,911,895.14	10
	ect Cost	Detail Amount ect Cost \$5,156,491.67 ect Cost \$638,694.52	Amount % ect Cost \$5,156,491.67 97.95 ect Cost \$638,694.52 98.62	Detail Plug Amount % Amo ect Cost \$5,156,491.67 97.95 \$64,600 ect Cost \$638,694.52 98.62 \$5,338	Detail Plug * Amount % Amount ect Cost \$5,156,491.67 97.95 \$64,600.00 ect Cost \$638,694.52 98.62 \$5,338.76	Detail Plug * Amount % Amount % ect Cost \$5,156,491.67 97.95 \$64,600.00 1.23 ect Cost \$638,694.52 98.62 \$5,338.76 0.82	Detail Plug * Quote Amount % Amount % Amount ect Cost \$5,156,491.67 97.95 \$64,600.00 1.23 \$43,200.00 ect Cost \$638,694.52 98.62 \$5,338.76 0.82 \$3,570.19	Detail Plug * Quote Amount % Amount % Amount % ect Cost \$5,156,491.67 97.95 \$64,600.00 1.23 \$43,200.00 0.82 ect Cost \$638,694.52 98.62 \$5,338.76 0.82 \$3,570.19 0.55	Detail Plug* Quote Total Amount % % Amount % Amount % % Amount %

7.2.1.3 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.



7.2.1.4 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.

7.2.1.5 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 Sta	atus Vendor Status	
Vendor Anal	ysis (based on	Bid quantities))				
Number of Ven	dors	2	1				
Total Vendor A	mount	\$1,442,571.90	(
% of Target Pri	ice	21.96	(
Company Name		Contact	Phon	ie	Amount	Currency	Perc
Example Vendor	4 DBE	Slim, Leste	sr 111-	-122-1321	\$271,471.20	U.S. Dollar	4
Example Vendor	1	Roberts, P	/at 111-	-123-2134	\$1,171,100.70	U.S. Dollar	17

7.3 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.

7.3.1 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)
+ Mobiliation	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

7.3.2 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	1			
Price:	\$6,455,450.00	\$6,506,904.35	\$6,462,850.00	\$51,454.35	ADE			
Profit:	\$599,221.88	\$650,676.22	\$655,858.61	\$5,182.39	СUT			
Margin%:	9.28	10.00	10.15	\$10,653.01	СUT			

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.

7.3.3 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.

7.3.4 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 InEight Estimate landing page, select the **Price** tab.
- 2. Select Pay Item & Proposal from the Pay Items section.
 - Review the Proposal Recap and determine where adds or cuts are needed. Since your Current Price is \$0.00, you need to add the entire Target Price to your pay items

	Current	Target	Forecast	Variance	
Price:	\$0.00	\$248,161.82	\$0.00	\$248,161.82	ADD
Profit:	(\$222,912.65)	\$25,249.17	(\$219,532.90)	\$244,782.07	ADD
Margin%:	0.00	10.17	0.00	\$244,399.25	ADD

- 3. Select the row for pay item Mobilization.
 - Notice at the top-right of your register you have an Item Recap to tell you what the direct cost, overhead and profit would be for the Civil Work pay item if it was balanced

Item Recap - 1000 Mobilization								
		Balanced Unit	Current Unit					
	Price:	\$31,225.08	\$0.00					
1	Profit:	\$3,216.65	(\$28,008.43)					
	Total Cost:	\$28,008.43	\$28,008.43					
۸	Business Overhead:	\$1,929.76						
۸	Job Overhead:	\$6,078.66						
A	Unassigned Direct Cost:	\$0.00	1					
A	Assigned Direct Cost:	\$20,000.00	1					

4. First, define pricing manually. In the Total Price (current) field for the Mobilization item, type **20,000**.

Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Meas	Unit Price (current)	Total Price (current)
Mobilization	1.00	1.00	Lump Sum	\$20,000.00	\$20,000.00

5. On the pay item Clearing & Grubbing, use Go to Column (<Ctrl> - G) to find the **% Margin** column, bring it in next to the Total Price (current) column, and type **5**.

Pay Item Number	Description	Pay Qua	Forecast (T/O) Quantity	Unit of Meas	Curre	Unit Price (current)	Total Price (current)	% Margin
+ 1000	Mobilization	1.00	1.00	Lump Sum	U.S. Dollar	\$20,000.00	\$20,000.00	-40.04
+ 2000	Clearing & Grubbing		15.00		U.S. Dollar	\$4,705.04	\$47,050.40	5.00
+ 3000	Excavation	50,000.00	40,000.00	CY	U.S. Dollar	\$0.00	\$0.00	0.00
+ 4000	10" PVC Pipe	1,000.00	1,000.00	LF	U.S. Dollar	\$0.00	\$0.00	0.00

7.3.5 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.

TIP

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.

7.3 Step by Step 1 — Use AutoPrice to Balance and Hit the Target Total

- 1. Open the **E101 Training Job** in InEight Estimate.
- 2. From the InEight 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.

7.3.6 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.

7.3 Step by Step 2 — Unbalance Hit Target Total

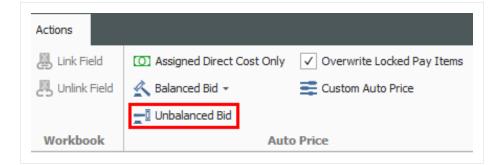
1. Within the Pay Item & Proposal Register of your E101 – Training Job, note your overrun and underrun items.

Description 📻 Y	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. Highlight the row for each item to view it's current balanced item recap.

	em Recap - 2000 Clearin	ig da drubbilig		-	em Recap - 3000 Excava		
		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	
ł	Job Overhead:	\$1,681.60	_	<u> </u>	Job Overhead:	\$0.91	
l	Unassigned Direct Cost:	\$0.00	_		Unassigned Direct Cost:	\$0.00	
N.	Assigned Direct Cost:	\$2,542.84	-		Assigned Direct Cost:	\$1.52	-

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



• You will see the changes reflected for Clearing & Grubbing and Excavation and how the profit was spread to your overrun and underrun items

		Forecast				
Description T	Pay Quantity	(T/O) Quantity	Unit of Measure	Currency	Price ent) 📒	Total F (curre
+ Clearing Grubbing	50,000.00	40,000.00	Acre	U.S. Dollar	\$3,000.00	\$150
+ Excavation	10.00	15.00	Cubic Yard	U.S. Dollar	\$4,871.84	
+ Mobilization	1.00	1.00	Lump Sum	U.S. Dollar	\$91,100.00	

4. Lastly, if you highlight each item you will note that all your overhead and profit from Excavation was put onto Clearing & Grubbing.

It	em Recap - 2000 Clearin	ng && Grubbing		It	em Recap - 3000 Excava	tion	
		Balanced Unit	Current Unit			Balanced Unit	Current Unit
	Price:	\$4,985.70	\$11,706.11		Price:	\$2.86	\$1.52
1	Profit:	\$515.91	\$7,236.32		Profit:	\$0.29	(\$1.05
	Total Cost:	\$4,469.79	\$4,469.79		Total Cost:	\$2.57	\$2.57
Å.	Business Overhead:	\$245.35			Business Overhead:	\$0.15	
Å.	Job Overhead:	\$1,681.60	1	1	Job Overhead:	\$0.91	
A	Unassigned Direct Cost:	\$0.00			Unassigned Direct Cost:	\$0.00	
A	Assigned Direct Cost:	\$2,542.84	1		Assigned Direct Cost:	\$1.52	

Exercise 7.1 — Manually Price Pay Items

To finalize your bid proposal, you will apply final pricing (costs and profit) to your pay items either manually or using the AutoPrice tool. In this exercise, you will practice entering prices manually for your pay items. Complete the following steps, using your E101 – Training Job.

- 1. Continue manually pricing items in the Pay Item & Proposal Register.
- 2. Type **2.75** in the Unit Price (current) column for pay item Unclassified Excavation.
- 3. Type **2** in the % Margin field for pay item 4000 10" PVC Pipe.
- 4. Check your variance to see if you need to add or cut your current pricing to hit your Target Price.

You should end up with the following results

Pay Item Number	Row =	Description	Pay Quantity	Forecast (T/O) Quantity	Unit of Meas	Unit Price (current)	Total Price (current)	% Margin
+ 1000	1	Mobilization	1.00	1.00	Lump Sum	\$20,000.00	\$20,000.00	-40.04
+ 2000	2	Clearing & Grubbing	10.00	15.00	Acre	\$4,705.04	\$47,050.40	5.00
+ 3000	3	Excavation	50,000.00	40,000.00	CY	\$2.75	\$137,500.00	6.44
+ 4000	4	10" PVC Pipe	1,000.00	1,000.00	LF	\$22.00	\$22,000.00	1.99

According to the Proposal Recap, you need to add \$21,611.42 to reach your Target Price.

Proposal R	ecap - E101 - Tra	aining Job PB2			
	Current	Target	Forecast	Variance]
Price:	\$226,550.40	\$248,161.82	\$222,575.60	\$21,611.42	ADD
Profit:	\$3,637.75	\$25,249.17	\$3,042.70	\$22,206.47	ADD
Margin%:	1.61	10.17	1.37	\$21,823.65	ADD

Congratulations, you have completed this exercise!

7.4 BID ADJUSTMENTS

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

7.4.1 Lock Price

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

7.4 Step by Step 1 — Lock Price

1. Select the **Lock Price** checkbox on the Mobilization row.

Pay Item Number	Description 📻 Y	Lock Price	Pay Quantity	Forecast (T/O) Quantity
+ 202 0183	Unclassified Excavation		50,000.00	50,000.00
+ 641 0 100	Mobilization	\checkmark	1.00	1.00
+ 201 0102	Clearing & Grubbing		10.00	10.00

- Mobilization's price is now locked
- 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

7.4 Step by Step 2 — Make Last Minute Bid Adjustments

- 1. With the E101 Training 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 **Cut** for the new description.
- 6. Make the cut in Material cost by typing **-1000** in the Cost column of the Materials Cost category under the Cost Breakdown section on the right.

Co	st C	ategory	Subject Cost	Rate		Cost
¥	То	tal	\$130,759.83	-0.76		(\$1,000.00)
	>	Labor	\$58,969.83	0.00		\$0.00
	>	Owned Equipment	\$68,251.92	0.00		\$0.00
	>	Rented Equipment	\$0.00	0.00		\$0.00
	>	Supplies	\$0.00	0.00		\$0.00
	>	Materials	\$3,276.00	-30		(\$1,000.00)
	>	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

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

Des	scription	Dependenc <u>v</u>	Cost Categorization	Allocation		
Drag	g columns ł	nere to group				
	Descripti	on	1	Curre	Total Cost (Forecast)	Ac Co
	Small Too	ols		U.S. Dollar	\$5,896.98	
	Safety &	Training		U.S. Dollar	\$2,948.49	
\rightarrow	Cut			U.S. Dollar	(\$1,000.00)	
*						

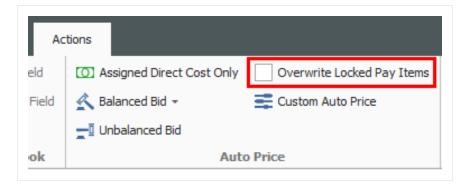
- 8. Finally, return to the Pay Item & Proposal.
 - You see a notification letting you know that changes have been made and the Pay Item & Proposal must be refreshed to reflect the changes

Refresh	Changes have been m in the Proposal Recap		n Recapidata block, ar	nd the data displayed
	in some columns on th	is form. Click to refr	resh the screen with th	he latest changes.

- 9. Click the **Refresh** button.
- 10. On the **Actions** menu, select **Balanced Bid > Hit Target Total**.
- 11. An Auto Price Warning displays, informing you of rounding variances. After reading the details, click the **Close** button.

B	Auto Price Warning	– ×
Variance due to rounding p	precision	
across the unlocked pay	t your Target Price by spreading the tot items in accordance with your selected p is' rounding precision, a variance still ex	pricing method.
	Initial rounding variance:	(\$84.43)
attempting to spr	till remaining as a variance after ead the initial rounding variance onately into each unlocked item:	(\$0.03)
Turn off this warning	about rounding variances for ALL JOBS	
	riances due to rounding by specifying o ed items, and by unlocking items with a	
		cl
	Undo AutoPricing	Close

- Note on the proposal recap that a variance still exists because there are limited number of pay items to spread the rounding error over
- Note that Mobilization did not adjust, since Mobilization's price was locked, 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



7.4.2 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

	1 000 0000		v	00	בדנותו דיים טומיוני שבייבו נשתשש	,	3,000.00	3,000.00	LINCOL
\rightarrow	+ 800 0400		9	90	4 Foot Diameter Manhole	Г ?	Open	16.00	Each
	+ 501(A) 1306		10	100	Structural Excavation & Backfill	6	New	:00.00	Cubic
	+ 506(A) 1322		11	110	Steel Reinforcement		Delete	00.00	Pounc
	+ 503(A) 1313		12	120	Retaining Wall	W		50.00	Cubic
	+ 600 0300		13	130	Paint Existing Steel Bridge Str		Cu <u>t</u>	1.00	Lump
	+ 700		14	140	Process Equipment		Cop <u>v</u>	1.00	Each
	+ 1000		15	150	Removal of Underground Storage T		<u>P</u> aste	2.02	Each
	+ 1010		16	160	Disposal of Contaminated Soil	+	<u>Fill Down</u>	00.00	Cubic
	+ 1200 0100		17	170	Toll Booth	8	Link this field to Excel	1.00	Each
	+ 1500 0100		18	180	Guardrail Type 2	R	UnLink from Excel	00.00	Linear
	+ 1500 0200		19	190	Guardrail Type 3A	5	Toggle Suspended	:00.00	Linear
	+ 1600 0230		20	200	Type 4 Signs		1,000.00	1,000.00	Squa
	+ CO 1		21	21	Realignment of Water Line		1.00	1.00	Fach

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

File Set	up <u>Es</u>	timate	Qu	uote	Price Exe	cutio	n Syste	m	Actions				
Print	Г	Open			+ Fill Down		Lock P	rices	🔉 Link Field	O Assign	ned Direct Cost (Only Overwrite	e Locked
Preview		New	Ŭ		Toggle Suspe	ended	1		Junlink Field	K Balanc		Custom A	uto Pric
Export to		Delete	_	Paste	Lock Quantiti				CD	- Unbala			
Print		Delete	_8	Tuste	Edit	100			Workbook		ancea bia	Auto Price	
Pay Item 8	Proposal	Register	۵		Luit				WORDOOK			AutoThec	
Proposal R	lecap - Tra	aining Job	,										
		Current		Targe	t Foreca	ast	Variance	1					
Price:	Price: \$6,455,450.00 \$6,514,915.53 \$6,462,850.00 \$59,465		\$59,465.53	ADD)								
Profit:	\$592	2,026.02	\$6	651.491.55	5 \$658,609	.04 \$7,117.49		сит					
						.04		COL					
Margin%:		9.17		10.00		.19	\$13,693.38	сот					
Margin%: rag columns Pay Iter Number	n						\$13,693.38	_			Pay Qua	Forecast (T/O) Quantity	
rag columns Pay Iter	n	up		10.00	0 10.	.19 Line	\$13,693.38 : Des	СЛ				(T/O)	Mea
rag columns Pay Iter Number	n 0 100	up		10.00	Row =	.19 Line Nu.	\$13,693.38 2 Des Mol	cut cription			Qua	(T/O) Quantity	Meas
Pay Iter Number + 641 + 201	n 0 100	up		10.00	Row = 1	.19 Line Nu. 10	\$13,693.38 Des Mol Cle	CUT cription pilization aring &	1 n		Qua 1.00	(T/O) Quantity 1.00	Meas
Pay Iter Number + 641 + 201	n 0100 0102 0183	up		10.00	Row = 1 2 2	.19 Line Nu. 10 20	\$13,693.38 Des Mol Cle Uno	CUT cription pilization aring &	n n .Grubbing .d Excavation		Qua 1.00 10.00	(T/O) Quantity 1.00 10.00	Meas Lump Acre
rag columns Pay Iter Number + 641 + 201 + 202 + 303 + 303	m 0100 0102 0183 5912 4263	up		10.00	Row 10	Line Nu. 10 20 30 40 50	\$13,693.38 Des Mol Cle Unx Age Asp	cut cription pilization aring & classifier gregate phalt Co	n Grubbing Id Excavation Base Parcete Hot Mix Typ		Qua 1.00 10.00 50,000.00 40,000.00 38,000.00	(T/O) Quantity 1.00 10.00 50,000.00 45,000.00 35,000.00	Meas Lump Acre Ton
Pay Iter Number + 641 + 201 + 202 + 303 + 303 + 413	m 0 100 0 102 0 183 5912 4263 4263 (B) 0464	up		10.00	Row 10.	Line Nu. 10 20 30 40 50 60	\$13,693.38 Des Mol Cle Unn Age Asp 36	CUT cription pilization aring & dassifie gregate phalt Co Inch R	n Grubbing Id Excavation Base Oncrete Hot Mix Typ RCP Culvert Class	ш	Qua 1.00 10.00 50,000.00 40,000.00 38,000.00 1,000.00	(T/O) Quantity 1.00 10.00 50,000.00 45,000.00 35,000.00 1,024.00	Meas Lump Acre Ton Ton Ton Line
rag columns Pay Iter Number + 641 + 201 + 202 + 303 + 303	m 0100 0102 0183 5912 4263 4263 (B) 0464 0220	up		10.00	Row 10	Line Nu. 10 20 30 40 50 60 70	\$13,693.38 Des Mol Cle Unx Agg Asp 36 10	cut cut cut cut cut cut cut cut cut cut	n Grubbing Id Excavation Base Parcete Hot Mix Typ	; III 21)	Qua 1.00 10.00 50,000.00 40,000.00 38,000.00	(T/O) Quantity 1.00 10.00 50,000.00 45,000.00 35,000.00	Ton Ton Line Linea

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

Pay Item Number:	* 800 0400						Line Number: 90
Description:	4 Foot Diameter 1	Manhole					Alternate: BASE
							Suspend:
Quantity							K _
Lock Quantity:	Pay Quantity:	Forecast (T/O) Qty:	Unit of Measure:	Qty Variance:	Qty Variance %:	Qty Variance Group:	
	16.00	16.00	Each 👻	0.00	0.00	Even Run	
rice							

Lesson 7 Review

- 1. What are all costs in the Price Breakdown Structure based on?
 - a. Pay Quantities
 - b. Forecast (T/O) quantities
 - c. Direct Costs
 - d. Indirect Costs
- 2. When adding profit, it must be the same amount for direct and indirect costs.
 - a. True
 - b. False
- 3. What options do you have to enter profit on the PBS?
 - a. % Mark-Up, % Margin, and Fixed Dollar Amount
 - b. % Mark-Up or % Margin
 - c. Fixed Dollar Amount Only
- 4. Once distributed, you still can adjust your pricing on pay items manually as needed.
 - a. True
 - b. False

Lesson 7 Summary

As a result of this lesson, you can:

- Add job markup (profit)
- Use tools on the PBS form to review your estimate
- Spread Target Price over pay items
- Make bid adjustments

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LESSON 8 – QUOTE MANAGEMENT

Lesson Duration: 60 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Create and publish RFQs
- Define quote pricing
- Compare and award quotes
- Create and analyze scope items

Lesson Topics

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8.1 QUOTE MANAGEMENT OVERVIEW

8.1.1 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.

TIP

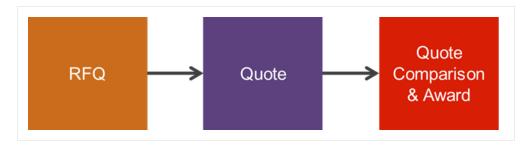
Awarding a quote in InEight Estimate does not mean the vendor is awarded the contract, but rather that their price is selected as the carrying cost in the bid.

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



8.1.2 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.

8.1.2.1 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.

eso	ource Rat	e Register	0							
All	Labor	Construction	Equipment	Rented Construction	on Equipment	Installed M	aterial	Installed Equipment	Supplie	es Uniq
ag	columns he	ere to group								
	Resource Code	<u>1</u>	Description		Quote Group		Resou Descrip	rce File otion		Unit of Measure
	+ IECT		Cooling Tow	ers	Process Equipm	nent Install	Standa	ard Installed Equipment F	Rate	Each
	+ IEFC		Feeder Controls		Landscaping Work		Standard Installed Equipment Rate		Rate	Each
	+ IEHS	IEHS Heating System		tem	Process Equipment Install		Standard Installed Equipment Rate		Rate	Each
	+ IEPHP		Pump High Pressure		Commercial Work		Standard Installed Equipment Rate		Rate	Each
	+ IERMT		Raw Material Tank		Concrete Materials		Standard Installed Equipment Rate		Rate	Each
	+ IERS		Recovery S	ystem	Process Materia	als	Standa	ard Installed Equipment F	Rate	Each
	+ IEST		Separator T	ank	Process Materia	als	Standa	ard Installed Equipment F	Rate	Each

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

8.1.2.2 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
1 3	Paint Existing Steel Bridge Structure	1.00	Lump Sum	Structural Painting
1 4	Process Equipment	1.00	Each	Process Equipment Insta
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

8.2 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.

8.2.1 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).

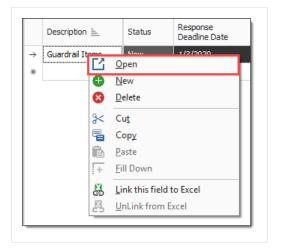


• The RFQ register lists all of the RFQs you've created, with a Description, a Status, and a Response Deadline Date

Cost Breakdown Structure (CBS) Register				Resource Rate Register Request for Quote (RFQ) Register				•			
ra	g columns here to grou	p									
	Description 📃	Status	Response Deadline Date	Response Deadline Time	Published Date	RFQ Instructions	Buyer's Special Terms	Tag 1	Tag 2	Tag 3	Notes
	Guardrail Items	New	1/3/2020	11:00 AM		D	D				D
÷						D	D				

8.2.2 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.
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.

Proce	-SS									
equest	for Quote (RFQ)	Register	1 st	for Quote (RFQ) Record 🛛					
Descripti	ion		U				1			
Guardra	ail Items									
							_			
Respon	se Deadline Date:	6/28/201	9 -	Response Dead	dline Time: 11:0	0:00 AM				
Line Iter	ms Terms & Co	nditions	Seller Companies	Attachments	Setup					
Resourc	es Cost Items	_								
TCC3001C	les Cost Items				-					
						Find	Search For	r]	Save	ud vi
Drag colu	umns here to group					Find	I: [Search For	_	Save	ed vi
Drag colu CBS	umns here to group		Quote Grou Tag	up : Opti	onal Descri		l: [Search For Quantity	r] ··· Unit of Measure	Save	
Drag colu CBS	umns here to group		Quote Grou Tag Guardrail W	Cou	e Descri		_	Unit of	Save	ed vi Cur U.S
Orag colu CBS Pos	umns here to group	RFQ ID	rag	/ork 150	e Descri 0 0 100 Guard	ption	Quantity	Unit of Measure	Save	Cu

8.2.3 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

Cost Item Identification	
Use the following field: CBS Position Code	•
Please select from the following options:	
Create RFQ from scratch	🛆 Description
O 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?	

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

8.2.3.1 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.

Line	e Items	Terms & Con	ditions	Seller	Companies	Attachm	nents	Setup					
Re	sources	Cost Items	1										
)rag	g columns	here to group				Find	[Sea	rch For.	.] …	Sa	ved views: Pr	evious View	•
	CBS Position	Code 🖭 🔻	RFQ ID		Quote Group Tag	1	Optior Code	nal	Description		Quantity	Unit of Measure	Currency
<i>→</i>	18		18		Guardrail Wo	rk	1500	0100	Guardrail Ty	p	1,000.00	Linear Feet	U.S. Dollar
	19		19		Guardrail Wo	rk	1500	0200	Guardrail Ty	D	200.00	Linear Feet	U.S. Dollar

8.2.3.2 Terms & Conditions

This tab provides ample space for you to enter terms, conditions and instructions that need to be included on the RFQ.

Line Items	Terms & Conditions	Seller Companies	Attachments	Setup		
Buyer's Spec	cial Terms & Conditions -					
	11	and the second second second	al an and the second second		ucted from teh supplier's payment.	
Any penaltie	is assessed by the owne	er due to quality contr	oi compliance dev	ions by the supplier will be dedi	ucted from ten supplier's payment.	~
Any penaltie	s assessed by the owne	er due to quality contr	oi compliance dev	ions by the supplier will be ded	ucted from ten supplier's payment.	_
Any penaltie	is assessed by the owne	er due to quality contr	oi compliance dev	ions by the supplier will be deal	ucted from ten supplier's payment.	<u></u>
		er que to quality contr	oi compliance dev	ions by the supplier will be ded	ucted from ten supplier's payment.	~
RFQ Instruct					ucted from ten supplier's payment.	~

8.2.3.3 Seller Companies

You will use the Seller Companies tab to select the suppliers or subcontractors that will be receiving the RFQ. This is done by selecting them from the InEight 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.

ine	Items I	erms & Conditions	Seller Co	magniae	Attachments	Setup				
ine	Tuems I	erms a conditions	Seller Co	mpanies	Attachments	setup				
ag	columns he	re to group								
Ī	c			Eine b	Last		D. H.L.	D. L.K.L		D. H.L.
	Company Name		<u> </u>	First Name	Last Name	Status	Publish Item Quantities	Publish by Fax	Fax	Publish by Email
-										
	Example Su	b #1 Harry Belefo	ту	Harry	Belefony	New	\checkmark	\checkmark	222-221-2	\checkmark
	Example Su	b #2 Mel Blank		Mel	Blank	New	✓	~	222-222-1	\checkmark
	Example Su	b #3 Frank Matty		Frank	Matty	New	✓	✓	222-222-3	~

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 by Fax**: If you choose to publish by fax, InEight Estimate creates a 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
 - NOTE When RFQs are generated for multiple vendors using the Publish by Fax option, be sure to separate the MS 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
 - NOTE 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 by Fax, review the information, and then email the RFQ manually.

8.2.4 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 D	eadline Date:	1/3/2020)	▼ R	lesp	onse Deadli	ine Tir	ne: 11:00 AM		
Line Items	Terms & Cond	itions	Seller Co	mpanies	Att	achments	Set	q		
)rag columns	here to group									
File Nam	e 🚊	Descript	tion	Location		File Type		File Size	Attached By	Date Attached
→ File Exp	ort.pdf 🛛 🔊	Plumbing	g quote	C:\Users\	.	Adobe Acro	ob	58640	karen.loftus@i	11/19/2019 8:00:16 AM

8.2.5 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.

Response D	eadline Date: 1/3/20	20 🔹	Response Deadli	ine Time:	11:00 AM	
Line Items	Terms & Conditions	Seller Companies	Attachments	Setup		
	Tag 1:	•	Notes			
	Tag 3:	-]			
-RFQ Publica	ation Settings					
Cost Item I	Identifier: CBS Po	sition Code 🛛 👻				
✓ Include ✓ Include	RFQ Instructions Buyer's Special Terms Notes Attachments	& Conditions				
 ✓ Publish ✓ Publish ✓ Publish 	-					

8.2.6 Publish an RFQ

Once created, InEight Estimate allows you to generate a Microsoft Word RFQ template that can be faxed or automatically 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.

8.2 Step by Step 1 — Create and Publish an RFQ

- 1. Open the **Training Job**.
- 2. From the InEight Estimate landing page, select the **Quote** tab.
- 3. Select Request for Quote (RFQ).
- 4. From the Actions tab, click on the **New** icon to create a new RFQ.
- 5. Select **Create RFQ from Quote Group Tag(s)**, leaving the checkboxes checked to only show quote groups and resources that are being used.
- 6. Select the Aggregates Quote Group Description.

Cost Item Identification	Q
Use the following field: CBS Position Co	de 🔹
Please select from the following options:	
○ Create RFQ from scratch	Description [Uncheck All]
Oreate RFQ from Quote Group Tag(s)	Blanks] Asphalt Materials
Only show Quote Group tags that are currently utilized in this job	Commercial Work Concrete Materials Guardrail Work
On the resulting RFQ record, only list resources with utilization currently greater than zero	Landscaping Work Manhole Materials None
O Create RFQs using Default Seller data	Painting Materials Pipe Materials Process Equipment Install
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.	Process Materials Sign Work Structural Painting
✓ Create separate RFQ records for	

7. Click **OK**.

- The Request for Quote (RFQ) Record is created with two aggregate line items
- The Description field is automatically filled with the name of the quote group

	cription gregates]												
	sponse De		Date:	12/27/2		→ F		ise Deadli	ine Tin Setu					
				iluons	Jeller Co	inpanies	Attac	linents	Jett	Ψ.				
Re	sources	Cost	Items											
Drag	g columns	here to	group								Find:	[Search For]		Sa
	Code 🛓	-	Quote Tag	Group	<u>=</u>	Descriptio	n	Quantity	,	Unit of Measure		Currency	Tag 1	
\rightarrow	MBR		Aggreg	ates		Aggregate	e B	47,77	75.00	Ton		U.S. Dollar	Aggreg	jate
	MDIRTB		Aggreg	ates		Dirt Class	В	14	10.00	Ton		U.S. Dollar	Water/	/Sev
*														_

8. In the Response Deadline Date field, select a date two weeks from today, and for the Response Deadline Time, type **2:00 PM**.

Response D	eadline Date: 1/31/2	020 👻	Response Deadl	ine Time:	2:00 PM
Line Items	Terms & Conditions	Seller Companies	Attachments	Setup	

- 9. Select the Terms & Conditions tab.
- 10. Type **Prices are good for the duration of the contract** in the Buyer's Special Terms & Conditions field.
- 11. Type All items to be delivered to jobsite by supplier's trucks in the RFQ Instructions field.

Response Deadline Date: 1/31/2020 Response Deadline Time: 2:00 PM	
Line Items & Conditions Seller Companies Attachments Setup	
Buyer's Special Terms & Conditions	
Prices are good for the duration of the contract	~
	× .
RFQ Instructions	
All items to be delivered to jobsite by supplier's trucks	P.1
All items to be delivered to jobsite by supplier's trucks	

12. Select the Seller Companies tab and click in the first blank row in the Company Name column.

a have be seen a				ments	Setup			
ns here to group	Find:	Search For]		Saved	views:	Previous View		•
iny	h.	First Name	Last Name	Statu	IS	Publish Item Quantities	Phone	Mob
	3	ų.						
	any		any Erst Name	any Erst Last Name Name	any Erst Last Stat		Name Name Suatus Item Quantities	Name Name Status Item Quantities Phone

- 13. Click on the Address book icon, and select the following example vendors, then click **OK**:
 - Example Vendor 1: Pat Roberts
 - Example Vendor 2: Stan Mark
 - Example Vendor 4: Lester Slim
- 14. Make sure **Publish by Fax** is checked for all sellers, and that they all have Fax numbers.
 - Also make sure Publish by Email in unchecked for each vendor

Line Iter	ns Terms & Conditions	Seller Companies	Attachm	ents Setu	p					
yrag colu	mns here to group				Find: [Search Fi	w]	Saved views	Previous V	fiew	٠
Com	pany .	First	Last	Status	Publish	Publish	Fax	Publish	Phone	Mobile Phor
Nam	ie 🖹	Name	Name	a contrata	Item Quantities	by Fax		by Email		
Nam	nple Vendor 1 Pat Roberts	Name Pat	Roberts	New	Item Quantities	by Fax	222-123-1	by Email	111-123-2	
Nam	e							by Email		

15. Select the sellers to whom you want to send the RFQ.

Company 🛓	First Name	Last Name
Example Vendor 1 Pat Roberts	Pat	Roberts
Example Vendor 2 Stan Mark	Stan	Mark
Example Vendor 4 DBE Lester Slim	Lester	Slim

16. Under the Actions tab of the record, select **Publish** to create your RFQ document.

© L	-							_	
File	Setup	Estimate	Quote	Price	Execution	System	Actions		
	olish								
🕀 Cre	ate Quote								
Pro	ocess								
Cost B	reakdown	Structure (CB	S) Register	Re	equest for Quo	te (RFQ) Reg	ister	Request for Quote (RFQ) Record	Θ

• MS 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

KE	QU	ES	T FOR QU	ΟΤΑΤΙΟΝ	
Job: Training Job	Training Job - N	faricopa County N	ło. TM2924		
TO:			FROM:		
Name: Company:	Pat Roberts Example Ve 100 Tenth S Hometown,	ndor 1 treet	Name: Company:	Tom Cross Example Prime Contractor 1 400 First Street Suite 4000 Hometown, AZ 889004	
Phone: 111-123-213 Mobile Phone: Fax: 222-123-123 Email:			Phone: Mobile Phone: Fax: Email:	222-112-2211	
Job Information		-	- Maricopa County No. TM2924		
Job Information		Training Job Example Ow	- Maricopa County No. TM2924 ner		
Job Information Owner: Job Type:		Training Job Example Ow Highway and	- Maricopa County No. TM2924 ner General Engineering		
Job Information Owner: Job Type: Job Location:		Training Job Example Ow Highway and I-10 MP 100	- Maricopa County No. TM2924 ner General Engineering		
Job Information Owner: Job Type: Job Location: City:		Training Job Example Ow Highway and I-10 MP 100 Phoenix	- Maricopa County No. TM2924 ner General Engineering		
Job Information Owner: Job Type: Job Location: City: County:		Training Job Example Own Highway and I-10 MP 100 Phoenix Maricopa	- Maricopa County No. TM2924 ner General Engineering		
Job Information Owner: Job Type: Job Location: City: County: State / Province:		Training Job Example Ow Highway and I-10 MP 100 Phoenix	- Maricopa County No. TM2924 ner General Engineering to MP 120		
Job Information Owner: Job Type: Job Location: City: County: State / Province: Country:		Training Job Example Owi Highway and I-10 MP 1001 Phoenix Maricopa Arizona United States	- Maricopa County No. TM2924 ner General Engineering to MP 120		
Job Information Owner: Job Type: Job Location: City: County: State / Province:		Training Job Example Own Highway and I-10 MP 1001 Phoenix Maricopa Arizona	- Maricopa County No. TM2924 ner General Engineering to MP 120		
Job Information Owner: Job Type: Job Location: City: County: State / Province: Country: Bid Location:		Training Job Example Owi Highway and I-10 MP 1001 Phoenix Maricopa Arizona United States Engineer's O	- Maricopa County No. TM2924 ner General Engineering to MP 120		

17. Click **OK** to save the RFQ Record.

8.3 QUOTES

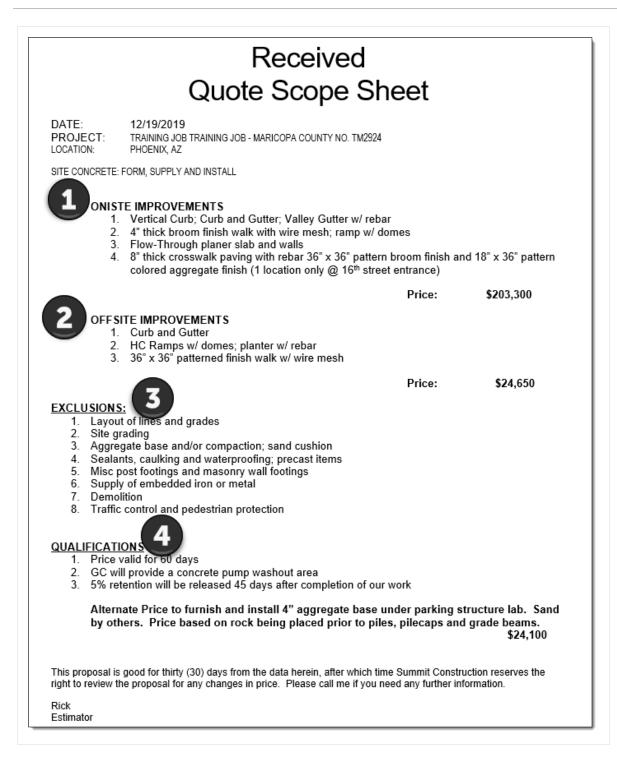
When you receive responses to your RFQ, the next step is to enter their pricing in the Quote Register. The Quote Register stores all of the quotes you have for that job. Each quote has a Description and a Quote Status, and each quote displays seller contact information.

In this case, an estimator in charge of receiving quotes would need to determine how best to input these quotes within the Quote register.

8.3.1 Sample 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

Overview – Received Quote Scope Sheet



8.3.2 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.

Que	ote Register 🛛 🕲					
Drag	g columns here to group					
	Description 📃	RFQ Description	Quote Status	Seller	Company	Quote Total
	Aggregates	Aggregates	Accepted	Example Vendor 1 Pat Rob	Example Vendor 1	\$402,192.00
	Aggregates	Aggregates	Accepted	Examples Vendor 4 DBE Les	Example Vendor 4	\$0.00
	Aggregates	Aggregates	Accepted	Example Vendor 2 Stan Mark	Example Vendor 2	\$0.00
<u>&</u>	Asphalt Materials		Accepted	Example Vendor 1 Pat Rob	Example Vendor 1	\$1,115,97
<u> </u>	Asphalt Materials		Accepted	Example Vendor 2 Stan Mark	Example Vendor 2	\$1,263,17
	Electrical Work	Electrical Work	Accepted	Architectural Designs, Inc	Architectural Desig	\$4,200.00
	Electrical Work	Electrical Work	Accepted	HD Engineering Group Rog	HD Engineering Gr	\$4,450.0

8.3.3 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 include Special Terms & Conditions, Qualifications, Packages, Taxes,

Overview - Quote Record (continued)

	Name	Description
-	Data Blocks	Seller's Profile, Setup, and Minority.

Hea	ader										Total	
	Description:	Pipe Materials				1		Optional Code:			Extended Price:	\$250,744.0
	Contact:	Example Vendor 4	DBE Lester Slim 🛛 🚨	Phone:	111-122-1321			Date:			Item Taxes: Ouote Tax:	\$12,537.2
	Company Name:	Example Vendor 4	DBE	Mobile:				Source:			Bond:	
	First Name:	Lester		Fax:	222-132-1234			Currency: U.:	S. Dollar		 Item Conditions: 	\$0.0
	Last Name:	Slim		Email:				Status: Rev	ceived		Special Conditions:	
	External Ref.:							Ignore:			• Total:	\$263,281.2
le	sources Cost It	iems 3						Special Terms & Condi	itions 4			×
Iraç	columns here to g		[Search For] ···	Saved views:	Previous View		•	Buyer's Special Terms &				
	Code 🖭 🛛 🕻	Quote Group ៉	Description	No Split	Free	Awarded	Duration					0
4	MPP10 P	Pipe Materials	Pipe 10" PVC SDR21			~		Seller's Special Term	s & Conditions			
	MPP24 P	Pipe Materials	Pipe 24" PVC SDR35	1		✓						^
	MPR36 F	Pipe Materials	Pipe RCP 36 In	1		✓						~
*								Special Conditions Adju		\$0.00		
									itions: Evenly Usi			
								Include Special Cond	litions costs for unawarded o	uotes in Comparable	Totals	
									oup Find:	[Search For]	··· Saved views: Previous	View -
									Scope Item (% of Total Notes
									s Qualifications Package			

8.3.4 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** 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.

8.3.5 Price Block

The Price block includes the quotes extended price, along with any additional taxes, bonds, item conditions, and special conditions.

8.3.6 Quote Record Tabs

8.3.6.1 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

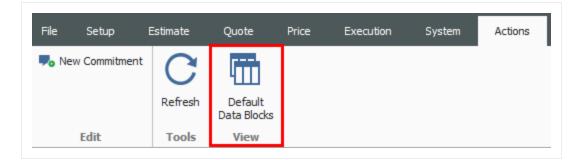
esources C	ost Items						
ag columns here	e to group						
Package	Code 📃	RFQ ID	Quote Group	Optional Code	Description	No Split	Free
	3.1	3.1		3.1	Excavation, scrapers	\checkmark	
P1	3.2	3.2		3.1	Excavation, trucks	\checkmark	
P1	3.3	3.3		3.2	Embankment	\checkmark	
P1	3.4	3.4			Rock Excavation	\checkmark	[

8.3.7 Data Blocks

The Quote Record utilizes data blocks that allows you to customize the layout and focus on data block tabs that matter most to you. You can select the default data block action in the ribbon to revert back to the default setting, which shows all six data blocks.

Data Block tabs include:

- Special Terms & Conditions
- Qualifications
- Packages
- Taxes
- Seller's Profile
- Setup
- Minority



The six data blocks appear at the bottom right of the screen.

Buy	er's Special Terms & Conditions						_
							^
_							~
<u> </u>	Seller's Special Terms & Conditions						
							\wedge
							\sim
De	sial Canaditiana Adiustration	1					
	cial Conditions Adjustments:	\$0.00					
	ecial Conditions Adjustments:						
		\$0.00 Using Weighted	Average				
)ist	tribute Special Conditions: Even 	Using Weighted	-				
)ist		Using Weighted	-				
)ist	tribute Special Conditions: Even! Include Special Conditions costs forum	Using Weighted	nparable Totals	Saved views	Depuisue View		
)ist	tribute Special Conditions: Even 	Using Weighted	-	 Saved views: 	Previous View	•	
)ist	tribute Special Conditions: Even! Include Special Conditions costs forum	Using Weighted	nparable Totals [Search For]	Saved views: Amount	Previous View	• Notes	
)ist] I)ra	tribute Special Conditions: Evenlinclude Special Conditions costs for una ag columns here to group Row = Scope Item	v O Using Weighted warded quotes in Con Find:	nparable Totals [Search For]				
)ist	tribute Special Conditions: Evential Conditions costs for una ag columns here to group Row Number Scope Item	v O Using Weighted warded quotes in Con Find:	[Search For] ···		% of Total	Notes	
Dist	tribute Special Conditions: Evential Exercises Evential Conditions costs for una ag columns here to group Row Number Scope Item Mobilization	v O Using Weighted warded quotes in Con Find: 2 Quote Group Sign Work Sign Work	[Search For] ···	Amount	% of Total	Notes	

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.

Special Terms & Conditions drag and move
Buyer's Special rums & Conditions
Seller's Special Terms & Conditions

Drop the data block on top of an arrow where you wish to land the data block.

C	ode 🖭	RFQ ID	Quote Group 🖮	Optional Code	Description	No	Split Free	Awarded	Duration	Quantity	Unit of Measure
20	0		Sign Work	1600 0230	Type 4 Signs		✓			1 1,000.00	Square Feet
Spe Dis		s Adjus Condit			-	Spea	al Terms & Conditi	115	<>		+ +
Dra	ag columns here	to grou	up	Find: [Sear	rch For] ··	 Saved views: 	Previous View		•		
	Row Number =	s	cope Item	Quote Group 🚊	Included	Amount	% of Total	Notes			
÷		1 M	lobilization	Sign Work	\checkmark						
			urvey/Layout	Sign Work		\$500.0	00	.55			
		3 T	emporary Traffic contr	Sign Work	\checkmark						

The data block will now reside on the left side of the screen.

Description:	Sign Items						Opt	ional Co	de:		
Contact:	Example Sub #3 Frank Matty	🕒 🔳 P	hone: 1	111-333-343	4			D	ate:		
Company Name:	Example Sub #3	М	obile:					Sou	rce:		
First Name:	Frank		Fax: 2	222-222-323	2			Currer	ncy: L	J.S. Dollar	
Last Name:	Matty		Email:					Stat	tus: R	eceived	
External Ref.:								Igne	ore:	Reason	:
oecial Terms & Co	onditions						>	< 1	Resourc	es Cos	st Items
uyer's Special Term	ns & Conditions							^ D	rag colu	umns here	to group
							$\langle \rangle$		Cod	le 📃	RFQ ID
Seller's Special Te	erms & Conditions								→ 20		
							<	•	ĸ		
pecial Conditions A	djustments: \$	0.00									
) istribute Special Co	onditions: Evenly Using	g Weighted Average									
] Include Special Co	onditions costs for unawarded qu	otes in Comparable To	tals								
Orag columns here to	group Find:	Search For] ····	Sav	ed views:	Previous V	ïew	•				
Row Number 들	Scope Item Qu	uote Group 🚊 🛛 1	Included	Amou	nt	% of Total	Notes				
	1 Mobilization Sid	an Work	\checkmark								

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.

Close	Special Terms & Co	Float Dock Close	tion
-------	--------------------	------------------------	------

8.3.8 Data Block Tabs

8.3.8.2 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.

Buye	er's Special Terms	& Conditions						
								\sim
7.0								\vee
⊿ s	Seller's Special Terr	ms & Conditions						_
								0
Dist	tribute Special Con	ditions: Evenly	Jsing Weighted Averag	e				
I	g columns here to g	ditions costs for unawarded		e Totals	Saved views:	Previous View	•	
l	include Special Con	ditions costs for unawarded	d quotes in Comparable	e Totals	Saved views:	Previous View % of Total	• Notes	
_ Ir Drag	g columns here to g	ditions costs forunawarded	d quotes in Comparable Find: [Search I	e Totals For] ···				
_ Ir Drag	g columns here to g	ditions costs for unawarded roup Scope Item Mobilization	d quotes in Comparabl Find: [Search I Quote Group 🛓	For] ···				
I	Row Number = 1	ditions costs for unawarded roup Scope Item Mobilization	d quotes in Comparabl Find: [Search I Quote Group 🚊 Sign Work	For] ···	Amount	% of Total		

8.3.8.3 Qualifications

This tab allows you to include bond. You can enter the bond rate and the system will calculate the total Bond Cost or vise 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		
Seller can provid	a BOND for all work quoted	
Bonding Company:		
Bonding Agent:	AMERICAN	
Bonding Phone:		
Add Bond Cost to	the Quote	
Cost of BOND to be	added to quoted price :	
Rate/\$1,000:	\$30.00	
Bond Cost:	\$330.00	
Insurance		
	as required by applicable law	
Insurance Co	mpany:	
Insurance	Agent: AMERICAN	
Insurance		
Insurance		
License		
Seller is LICENSE	D to perform all work quoted	
L	censor:	
	Class:	
	ID: EZ-License-A1	
Special Terms & Cond	tions Qualifications Packages Taxes Seller's Profile	Setup Minority

8.3.8.4 Packages

Using the Packages feature allows you a way to arrange quotes into a collection which makes sense for packaging your quotes. You can determine how to intake quotes from subcontractors and classify them into a package grouping.

By creating a Package code within the Packages block, and giving it a dollar value, you can then assign that package code to one or many quote records. In this case, the subcontractor provided quotes for both on site and off-site concrete work. You can then determine which individual quotes go with the on site or off-site package. The Package Amount field carries over to the Extended Price field under the Cost Items tab.

rag columns hei	e to group Find:	[Search For] Sa	ved views: Previou:	s View	•	Dra	g columns here	e to group		Find: [Search For]
Package	Code 🖦	RFQ ID	Unit Price	Extended Price	Currency	Default Tax Rate		Code 📃	Description	Amount	
P1	3.1		P1	P1 \$200,000.00	U.S. Dollar	0.00		P1	On Site	\$200,000.00	
P1	3.2			P1	U.S. Dollar	0.00		P2	Off Site	\$30,000.00	
P1	4.1		P1	P1	U.S. Dollar	0.00	→				
P1	4.2		P1	P1	U.S. Dollar	0.00					
P1	4.3		P1	P1	U.S. Dollar	0.00					
P2	5.1		P2	P2 \$30,000.00	U.S. Dollar	0.00	1				
P2	• 5.2		P2	P2	U.S. Dollar	0.00					
P2	20		P2	P2	U.S. Dollar	0.00					
									2		

You can also create a package by selecting multiple items and selecting Add to new Package.

8.3.8.5 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.

Item Tax	- to so the Theory	D				
	s to each Item's					
Quote Tax						
Add Taxes to t	he Quote					
Taxes to be adde	d to Awarded T	otal as a P	ercentage o	f Total:		
Tax Rate:	• 0.00					
Total Tax:	\$0.00					

8.3.8.6 Seller's Profile

The Seller's Profile tab populates with address book notes and alternate contact information.

Address Book Notes				
ExampleSave for trainin	ng AS NEEDED			^
Alternate Contact Inform	ation			
Name:				
Email:				
Phone:				
Fax:				
Mobile:				

8.3.8.7 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	Ŧ						
Tag 2:	Ŧ						
Tag 3:	~						
Notes							~
							V
Special Terms & Conditions	Qualifications	Packages	-	Seller's Profile	Setup	Minority	

8.3.8.8 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 B	usiness Enterprise	
Seller	qualifies as the following type of MINORITY BUSINESS ENTERPRISE on th	nis 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 Te	rms & Conditions Qualifications Packages Taxes Seller's Profile	Setup Minority

TIP If any of your Data Blocks become deleted on a Quote Record, simply click the **Default Data Block** icon.



8.3.9 Create a Quote from RFQ

Walk through the steps of creating a quote from an RFQ.

TIP To create a quote from scratch, click the **New** icon on the Quote Register and fill in the quote details and seller fields manually.

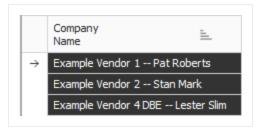
8.3 Step by Step 1 — Create a Quote from RFQ

1. Open the **Training job**.

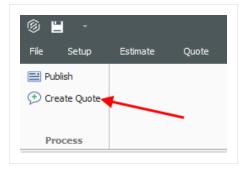
- 2. From the InEight Estimate landing page, select the **Quote** tab.
- 3. Select Request for Quote (RFQ).
- 4. Open the RFQ record for which you've received quotes. In this case, select the Aggregates RFQ.

Co	st Breakdown Stri	ucture (CBS)	Register	Req	uest for Quote (RFQ) Register	0	1
Dra	g columns here to gr	oup						
	Description 🛓	Status	Response Deadine Date		Response Deadline Time	Published Date	RF0 Ins	
\rightarrow	Aggregates	Published	1/31/2020		2:00 PM	11/14/2019		
	Guardrail Items	New	1/3/2020		11:00 AM			
*								

5. Select the **Seller Companies** tab and select the sellers for whom you need to create quotes. In this case, select all of the sellers.



- 6. From the Actions menu, select Create Quote.
 - InEight Estimate will create quotes for each of the sellers you selected



• A prompt indicates how many quotes were created (3), then click OK



- 7. Close the RFQ Record and the RFQ Register.
- 8. To open the Quote Register, select **Quote** from the InEight Estimate landing page.
- 9. Select **Quotes** from the Quote Management section.
 - The quotes that you created from RFQ are now listed on the Quote Register

Que	ote Register 🛛 🕲			
Drag	g columns here to group			
	Description 🚊	RFQ Description	Quote Status	Seller
\rightarrow	Aggregates	Aggregates	Accepted	Example Vendor 1 Pat Roberts
	Aggregates	Aggregates	Accepted	Example Vendor 4 DBE Lester Slim
	Aggregates	Aggregates	Accepted	Example Vendor 2 Stan Mark

8.3.10 Enter Quote Details

Now that you have quotes created, you can enter pricing.

8.3 Step by Step 2 — Enter Quote Details

1. Open the Aggregates Quote Record for seller Vendor 1 – Pat Roberts.

- 2. On the Resources tab, make sure No Split is <u>un</u>checked for all items.
- 3. Also on the Item Resources & Cost Items tab, now enter the following Unit prices for the resources:

Resource Code	Description	Unit Price
MBR	Aggregate Base Rock	\$8.00
MDIRTB	Dirt Class B	\$6.00

4. Click **OK** to close the Quote Record.

8.3 Step by Step 3 — Create a Multi-packages Quote

- 1. From the InEight Estimate landing page, select the **Quote** tab.
- 2. Click on the **Quotes** icon under Quote Management.
- 3. Double click into one of the **Pipe Materials**.

Cos	st Breakdown St	ructure (CBS) R	egister	Quote Register	0	Quot	e Record
Drag	g columns here to g	group					
	Description	≞ ▼	RFQ Description		Quot Stati		Seller
\rightarrow	Pipe Materials	_			Rece	ived	Example Vend
8	Pipe Materials				Rece	ived	Example Vend
	Pipe Materials				Rece	ived	Example Vend
8	Pipe Materials				Rece	ived	Example Vend
*							

- 4. In the Description field, type over the current description and type: **Pipe Materials for site improvements**.
- 5. In the Contact field, select **Example Vendor 1 Pat Roberts**.

Cost Breakdown Str	ucture (CBS) Register 🛛 🕲	Quote Register	Quote Record	0
Header				
Description:	Pipe Materials for site improve	ements.		
Contact:	Example Vendor 1 Pat Rober	rts		🕂 🗄
Company Name:	Example Vendor 1			

- 6. Click OK
- 7. Select the **Cost Items** tab on the left side of the screen.

Re	Resources Cost Items					
ra	g columns	here to	group			
	Code 🛓		Quote	Group ៉	Descriptio	n
<u>k</u>	MPP 10		Pipe Ma	aterials	Pipe 10" P	VC SDR21
	MPP24		Pipe Ma	aterials	Pipe 24" P	VC SDR35
	MPR36		Pipe Ma	aterials	Pipe RCP 3	36 In
*						

- 8. Add cost item 7 under Cost Items.
- 9. Add cost item 8 under Cost Items.
- 10. On the Packages tab, enter the following 2 new records:
 - 1. Code: **P1**
 - 2. Description: On Site
 - 3. Amount: **\$200,000**
 - 4. Code: P2
 - 5. Description: Off Site

6. Amount: **\$300,000**

Pa	Packages												
Dra	g columns here	to group											
	Code 📃	Description	Amount										
	P1	On Site	\$200,000.00										
\rightarrow	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.

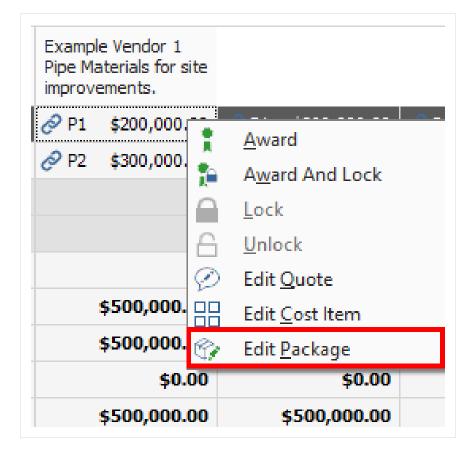
Re	sources	Cost	Items						Pa	ckages
Dra	g columns he	re to	groEjjnd: [Sea	rch For]	··· Saved view	vs: Previous	View 👻		Drag	g columns here to
	Package		Code	RFQ ID	Quote =	Optional Code	Description	No		Code 📃
	P1		7		Pipe Materials	800 0220	10 Inch PVC Force Main			P1
0	P2	÷	8		Pipe Materials	800 0330	24 Inch PVC Gravity Se			P2
*							,		→	
4										

- 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.

uote Con	parison & Award - (Cost items		Found	ation Setup Data	Register	Cost Breakdown Structur	e (CBS) Registe	er Q	Quote
Quote Gro	oup(s)	2	×	Dra	g columns here to g	roup				
	Description 🛓	Reviewed			CBS	Description	<u>.</u>	Forecast	Unit	Unit
	Electrical Work				Position Code	Description		(T/O) Quantity	Me	Cost
	Electrical work 2				7	10 Inch PVC	Force Main (SDR21)	12,000.00	Linear	. \$2
	Guardrail Work				8	24 Inch PVC	Gravity Sewer (SDR35)	3,000.00	Linear	. \$5
\checkmark	Pipe Materials			→		Scope Items				
	Sign Work					Summary				
						Minority Typ	e			
						Quoted Tota	al			
						Comparable	Total «	:		
						Awarded To	tal			
						Quoted Item	ns Total			
						Special Cond	litions			
						Last Update				

• 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.



8.3.11 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.

8.3 Step by Step 4 — 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.

	t Breakdown Struct	ure (CBS) Register	Quote Register	Quote Con	iparison & Award - F	Resources ©						
	columns here to group							F	ind: [Search For]	··· Saved views	: Standard View	
	Resource 📄	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	Example Vendor 4 DBE Pipe Materials	
	MAAM	Asphalt Mix (Finish)	36,750.00	Ton	\$31.50	\$34.13	\$34.13	🔋 🔗 🔺 \$31.50	835.70	\$34.13	\$34.13	
	MAFA	Fine Aggregate	1,860.00	Ton	\$7.25	\$8.19	\$8.19	\$7.25	87.35	\$8.19	\$8.19	
÷	MPP 10	Pipe 10" PVC SDR21	12,600.00	Linear Feet	\$13.65	\$3.28	\$3.28	\$3.28	\$3.28	812.60	🔋 🔗 🛛 \$13.65	
	MPP24	Pipe 24" PVC SDR35	3,000.00	Linear Feet	\$22.05	\$20.48	\$20.48	\$20.48	\$20.48	825.20	🕇 🔗 🛛 \$22.05	
	MPR36	Pipe RCP 36 In	1,024.00	Linear Feet	\$32.55	\$34.13	\$34.13	\$34.13	\$34.13	831.50	\$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	

- 4. Select the **Actions** tab.
- 5. Under the Quotes section, select the **Duplicate Quote** icon.

8	Print	🔉 By C	Quote Group	🖗 Set	All to Reviewed	2		🔊 Dup	olicate Quote 🔗 P	ackage Entire Quote	📍 Award	6	Lock	-	Quoted Ite	ms	💯 Zen) Items
ą	Preview	🔊 Al Ç	Quote Groups	📯 Set	All to Not Reviewed	_	2	💋 Ign	ore Quote 🛛 🔬 E	dit Package	🎦 Award And	Lock 6	Unlock	G	C2 Unit Price		📝 Sco	pe Items
ę	Export to Excel	🙊 All ç	Quote Items			Edit Resource	Edit Quote							Edit Prices	Substitute	Values	💬 Ign	ored Quo
	Print	Li	ayout	Quot	e Group Status	Resources				Quites							Viev	,
Cos	t Breakdown S	tructure	(CBS) Registe	er	Quote Register	Quote Con	nparison & A	ward - F	Resources ©									
Drag	; columns here to	group																
	Resource E	- D	escription		Utilization Count	Unit of Measure	Unit Cost (Scale 1)		Plug	Detail	Example Vo Asphalt Mate		Example Ver Asphalt Mat		Example Vendor Pipe Materials fo improvements	r site	Example V DBE Pipe Mater	
→	MAAM	A	sphalt Mix (Finis	sh)	36,750.0) Ton		\$31.50	\$34.1	3 \$34.12	3 🕴 🖉	\$31.50	Ì	\$35.70	¢	4.13		\$34.
	MAFA	F	ine Aggregate		1,860.0) Ton		\$7.25	\$8.1	\$8.1	?	\$7.25	d	\$7.35	ş	8.19		\$8.
	MPP 10	Pi	ipe 10" PVC SDF	R21	12,600.0	Uinear Feet		\$13.65	\$3.2	3 <i>\$3.2</i> 0	7	\$3.28		\$3.28	A \$1	2.60	:0	\$13.
	MPP24	Pi	ipe 24" PVC SDF	235	3,000.0) Linear Feet		\$22.05	\$20.4	3 <i>\$20.4</i> 6	8	\$20.48		\$20.48	A \$2	5.20	8	\$22 .
	MPR36	P	ipe RCP 36 In		1,024.0) Linear Feet		\$32.55	\$34.1	\$34.1	3	\$34.13		\$34.13	Ø \$3	1.50	10	\$32.
		s	cope Items															
		s	ummary															
			Minority Type														0	D
			Quoted Total						\$1,406,973.7	5 \$0.00	\$1,171	,100.70	\$1,32	5,646.00	\$266,61	6.00	\$2	71,471.
			Comparable To	otal	<				\$1,406,973.7	5 \$1,406,973.7	5 \$1.308	,747.30	\$1,46	3,292.60	\$1,535,94	3.15	\$1.5	40,798.

• The resources and prices from the quote you previously selected have been copied into a new Quote Record.

Cos	st Breakdown	Structure ((BS) Register	Quote	Compariso	n & Award - Cost item	S	Quot	e Record 🛛 🕲	
He	ader									
	Descripti	on: Concrete	, Sitework (Copy)						Optional Co	de:
	Cont	act: <ad-hoo< td=""><td>: Address></td><td>€ 🗄</td><td>Phone</td><td></td><td></td><td></td><td>Da</td><td>te:</td></ad-hoo<>	: Address>	€ 🗄	Phone				Da	te:
	Company Na	me:			Mobile				Sour	ce:
	First Na	me:			Fax				Curren	cy:
	Last Na	me:			Email				Stat	us:
	External R	ef ·							Igno	re.
									Igno	16.
Re	sources Co	st Items						Specia	al Terms & Cor	nditi
Dra	g columns lifiénel	tc [Search For] Save	ed views:	Previous \	/iew -		Buyer	's Special Terms	s & C
	Code 🛓	RFQ ID	Quote Group 🖮	Opti Cod	ional e	Description				
\rightarrow	3.1.1		Concrete, Sitewor	k		Sidewalks		Se Se	ller's Special Te	rms (
	3.1.2		Concrete, Sitewor	k		V curb				
	3.1.3		Concrete, Sitewor	'k		Curb and Gutter				
	3.1.4		Concrete, Sitewor	k		Valley gutter		-	al Conditions Ac	-
	3.1.5		Concrete, Sitewor	'k		Handicap ramps			bute Special Co	
	3.1.6		Concrete, Sitewor	'k		Truncated domes		√ Inc	lude Special Co	nditi
	3.1.7		Concrete, Sitewor	k		Flow thru planter slab				
	3.1.8		Concrete, Sitewor	'k		Flow thru planter walls	•			
•							•	Special	Terms & Conditi	ons

- 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.

ost Breakdown St	ructure (CBS) Register	Quote Register	Quot	e Comparison & Award - Resources	Quote Record	0			
Header								Total	
Description:	Asphalt Materials (Copy)				Optional Code:			Extended Price:	\$1,062,834.0
Contact	<ad-hoc address=""></ad-hoc>	۵ 🗈	Phone:		Date:		•	Item Taxes:	\$53,141.
Company Name:			Mobile:		Source:		•	Quote Tax: Bond:	
First Name:			Fax:		Currency:	U.S. Dollar	•	Item Conditions:	\$0.
Last Name:			Email:		Status:	Received		Special Conditions:	
External Ref.:	[L		Inneral	Reason:			
Ditemarker.					ignore.	Reason.		Total:	\$1,115,975.
Resources Cost I	tems				Minority				×
rag columns here to g	group Find: Seard	h For] ··· Se	aved views:	Previous View +	- Minority Business Ente				
		Optional					f MINORITY BUSINESS ENTERPRISE	on this job:	
Code 🛓 🕴	FQ ID Quote Group	Code	Description	No Split Free	O DBE DBE Certif	cation:			
÷				•	O MBE MBE Certif	cation:			
					WBE WBE Certif	ication:			
					OBE1 OBE1 Cert	fication:			
					O OBE2 OBE2 Cert	fication:			
					O OBE3 OBE3 Cert				
					OBE4 OBE4 Cert				
					OBE5 OBE5 Cert	fication:			
					OBE6 OBE6 Cert	fication:			
					Special Terms & Condi	ions Qualifications	Packages Taxes Seller's Pro	file Setup Minority	

8. Once done, click **OK**.

Exercise 8.1 — Quote Management

When you receive quotes from vendors, you will need to record their pricing and conditions in their InEight Estimate quote records. In this exercise, you will practice entering quote details. Enter the following Quote Record details, using the Training Job:

Quote Name: Aggregates	Seller Name: Example Vendor 2 - Stan Mark	
Resource Code	Description	Unit Price
MBR	Aggregate Base Rock	\$7.45
MDIRTB	Dirt Class B	Not Quoted (delete)
	Special Instructions Seller is NOT willing to split	items.
Quote	Seller Name: Example Vendor 4 - Lester Slim	
Name: Aggregates		
	Description	Unit Price
Aggregates Resource	Description Aggregate Base Rock	Unit Price \$8.15
Aggregates Resource Code		

Special Instructions Seller is NOT willing to split items.

Resource Code	Description	Unit Price
Quote Name: Aggregates	Seller Name: Example	Vendor 4 - Lester Slim
Resource Code	Description	Unit Price
MBR	Aggregate Base Rock	\$8.15
MDIRTB	Dirt Class B	FREE
Special Instructions	Seller is NOT willing to	split items.

You should end up with the following results

Description	RFQ Description	Seller	Contact Name	Quote Total
Aggregates	Aggregates	Example Vendor 4 DBE Lester Slim	Slim, Lester	\$408,834.56
Aggregates	Aggregates	Example Vendor 2 Stan Mark	Mark, Stan	\$373,719.94
Aggregates	Aggregates	Example Vendor 1 Pat Roberts	Roberts, Pat	\$402,192.00

Congratulations, you have completed this exercise!

8.4 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.

8.4.1 Quote Comparison & Award Overview

To open the Quote Comparison & Award form, select **Quote > Quote Comparison & Award**.

	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.

Overview – Quote Comparison and Award Form

Address Book	 Quote Group Tags Minority Setup Attachments Setup 	Request For Quote (RFQ) Quote Manage	Quotes	Resource Quote Com	es Cost Items	Reports Reports				
Quote Com	aparison & Award - C	ost items 🛛 🕲	Quote	Register						
Quote Gro	up(s) 2	×	Dra	g columns here to	group					
	Description 📃 Electrical Work	Reviewed		CBS Position Code	Description		Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
✓	Guardrail Work			18	Guardrail Type	2	1,000.00	Linear Feet	\$24.00	\$24,000
	Sign Work			19	Guardrail Type	3A	200.00	Linear Feet	\$31.00	\$6,200.0
					Scope Items					
			→		Summary					
					Minority Type					
					Quoted Total					
					Comparable To	tal <				

8.4.2 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.

uote Gr	oup(s) ×	Dra	g columns here to grou	p					-		Find:	Search For] …	Saved views: Sta	nderd View *
		e	CBS Position Code =	Description	Forecast (T/D) Duantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Plug	Detal	C&H Concrete Construction, Inc. Const de Placement	Knopp Construction Concrete Formwork	Morin Contrete Contractors Concrete Placement	Case Construction Concrete Formwork
	Concrete, Sitework		3.4.1	formwork		Lump Sum	\$2,317,240.00	\$2,317,240.00	\$3,281,200.00	\$2,525,200.00	\$7,525,400.00	A 2525100	\$2,525,200.00	\$2 ,317, 2 40.00
v	Concrete, Structural		3.4.2	place and finish	1.00	Lump Sum	\$285,000.00	\$285,000.00	\$375,500.00	\$285,000.00			\$294,000.00	\$548,567.00
	Doors & Windows			Scope Items										
	Electrical			Summary										
	Finishes (Div 9)			Minority Type										
	Fire Protection			Quoted Total					\$3,656,700.00	\$0.00	\$285,000.00	\$2,525,200.00	\$294,000.00	\$2,865,807.00
	Foundations			Comparable Total	<				\$3,656,700.00	\$2,810,200.00	\$2,810,200.00	\$2,810,200.00	\$2,819,200.00	\$2,865,807.00
	HVAC													
	Landscaping Work													
	Masonry													
	Plumbing													
	Rebar Install													
	Scaffolding													
	Sheet Metal													

8.4.3 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	9	\$24,000.00		\$
19	Guardrail Type 3A	200.00	Linear Feet	\$31.00	9	\$6,200.00		-
20	Type 4 Signs	1,000.00	Square F	\$15.00	Ψ.	\$15,000.00	1	\$1
27.1	Electrical Work	1.00	Each	\$5,000.00	÷.	\$5,000.00	1	\$

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.

Integrations	Actions							
(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	🖗 Duplicate Quote	🛞 Package Entire Quote	🗍 Award	Lock		Quoted Items	💯 Zero Items	📌 Configure Totals
2	🖉 Ignore Quote	💮 Edit Package	😭 Award And Lock	🔒 Unlock	C	200 Unit Price	Scope Items	🚹 Set Substitute Ranking
Edit Quote					Edit Prices	Substitute Values	💬 Ignored Quotes	The fault Data Blocks
		Quotes					View	

You can tell when it's a substitute value because the price displays in italics.

18	Guardrail Type 2	1.000.00	Linear Feet	\$24.00	0	\$24,000.00		Ś
19	Guardrail Type 3A		Linear Feet	\$31.00	-	\$6,200.00		
20	Type 4 Signs	1,000.00	Square F	\$15.00	-	\$15,000.00	:	\$1
27.1	Electrical Work	1.00	Each	\$5,000.00	#	\$5,000.00	1	\$

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.

Quoted Items	📨 Zero Items	🚰 Configure Totals
Unit Price	Scope Items	🚹 Set Substitute Ranking
Substitute Values	💬 Ignored Quotes	in Default Data Blocks
	Unit Price	Unit Price Scope Items

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.

6	Substitute Ranking	×
Lov	varded Splittable Quote west Splittable Quote tail 19	•
	OK	Cancel

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
\$4,200.00	
	D Engineering Group owest 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 Print	🔎 Quote Groups	😪 Set A	ll to Re	viewed		🖉 Edit	Quote	🔒 Lock		👳 Quot	ed Items	Scope	e Items
🗟 Preview	🔊 All Items	💫 Set A	ll to No	t Reviewed		🚆 Aw	ard	🔒 Unlock		C2 200 Unit F	Price	💬 Ignor	ed Quotes
🚰 Export to Excel	3 Export to Excel			E		👔 Award And Lock 🕜 Edit Pack		age	ge Substitute Values				
Print Layout Quote Q			Group	oup Status Cost Items Quo			tes				Viev		
Cost Breakdown S	Structure (CBS) Re	Req	Request for Quote (RFQ) Register Request for Quote (RFQ			Q) Rec) Record Quote Regist			Quote			
Quote Group(s)		×	Dra	ag columns he	ere to group								
	rription 🖮 Rev	iewed		CBS Position Co	ode Descri	ption		<u>=</u>	Forec (T/O) Quan		Unit of Me	Unit Cost	Total Co (Forecas
Elect	trical work 2			18	Guar	drail Type	2		1	,000.00	Linear	\$24.00	2
Elect	trical work 3			19	Guar	drail Type	3A			200.00	Linear	\$31.00	2
Guar	drail Work			17	Toll E	ooth				1.00	Each	\$40,00	2
Pipe	Materials				Scop	e Items							
Sign	Work				Sum	nary							
					Min	ority Type							
					Que	oted Total							
					Con	nparable To	tal	<					
					Awa	arded Total							
					Que	oted Items T	otal						
					Spe	cial Conditio	ns						
			→		Las	t Update							

8.4.4 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
\$1,311,975.0 \$13,671.0	Award Award And Lock Lock Unlock	1,990.00 6,150.00
5	 Edit Quote Duplicate Quote 	3,331.20
5	 <u>D</u>uplicate Quote <u>Ignore Quote</u> <u>P</u>ackage Entire Q 	uote
\$1,325,646.0 \$1,463,292.6	Edit Package Edit <u>R</u> esource	1,471.20 0,798.35

From the Quote Record screen, select the Ignore check box and also a Reason, then select OK.

(Currency	U.S. Dollar		•			
	Status	: Ignored					
	Ignore	: 🗹 Reason	:	*			
	Dacka			Description	H		
	Packages			o Not Use	Н		
	Drag columns here to gro			on Compliant	d:		
tend ce	Co	de 🛓 🛛	De				
	<i>→</i>				П		
					н		
			×	•	J		
					-		

NOTE 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.

Award	Cock		👳 Quoted I	tems 🛛 🗖 Zero Iter	ms 📌 Configure	Totals (Session Recap		
🖕 Award And L	.ock 🔓 Unio	un l	200 Unit Price	Scope It	ems 🔒 Set Subst	itute Ranking	📍 Auto Award 👻		
		Edit Prices	Substitut	e Values 😥 Ignored	Quotes 🛗 Default D	ata Blocks			
	-			View			Tools		
te Compariso	n & Award - C	ost items 🛛							•
					Find: [Search For]		ed views: Previo	ous View	-
Unit of Measure	Unit Cost	Total Cost (Forecast)		Detail	Example Sub #3 Sign Items	Example Sub #2 Guard Rail Items			Example Sub #1 Guard Rail Items
Linear Feet	\$24.00	\$24,000	\$25,000.00	\$25,000.00	\$25,000.00	🚦 🔗 🛛 \$24,00	0.00	\$25,000.00	\$25,000.0
Linear Feet	\$31.00	\$6,200.00	\$7,000.00	\$7,000.00	\$7,000.00	🚦 🔗 🛛 \$6,20	0.00	\$7,000.00	\$6,000.0
Square F	\$13.00	♀ \$13,000	\$15,000.00	\$13,000.00	\$11,000.00	\$13,00	0.00	13,000.00	\$13,000.0
					Ø		s	a	
					\$500.00			3	
					Ø		s	З	
							0	DBE	
					D	D		2	B
			\$47,000.00	\$0.00	\$11,000.00	\$30,20	0.00 \$	13,000.00	\$31,000.0
			\$47,000.00	\$45,000.00	\$43,000.00	\$43,20	0.00 \$4	45,000.00	\$44,000.00

8.4.5 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.

	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 PriceExtended Price

Overview - Additional Quote Comparison and Award Functions

Overview – Additional Quote Comparison and Award Functions (continued)

Name	Definition
	 Bond Taxes
	Special Conditionsan indicator for a delta quote item

ĥ.	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Plug	Detail	C&H Concrete Construction, Inc. Concrete Placement	Knopp Construction Concrete Formwork	Morin Concrete Contractors Concrete Placement	* Case Constructio Concrete Formwor	
	formwork.	1.00	Lump Sum	\$2,339,113	\$2,339,113.70	\$3,281,200.00	\$2,525,200.00	\$2,525,200.00	\$2,525,200.00		\$2,339,11	3.70
	place and finish	1.00	Lump Sum	\$0.00	2 \$0.00	\$375,500.00	\$0.00	\$285,000.00	\$285,000.00	\$ \$294,000.00	\$553,5	38.49 3
	Scope Items										Uni	t Price: \$2,317,240.00 ended Price: \$2,317,240.00
	Summary						(2)				Qu	ote Tax: \$18,537.92
	Minority Type						· ·					d: \$2,335.78 icial Conditions: \$1,000.00
	Notes								D	D	0	
	Quoted Total					\$3,656,700.00	\$0.00	\$285,000.00	\$2,525,200.00	\$294,000.00	\$2,892,62	2.19
	Comparable Total	<				\$3,656,700.00	\$2,525,200.00	\$2,810,200.00	\$2,810,200.00	\$2,819,200.00	\$2,892,62	2.19

8.4.6 Configure Totals

You can display and sort additional Summary Totals, Special Conditions, and Last Updated fields by selecting **Actions > Configure Tools**.

	Caption	Visible	Sort
÷	Seller	\checkmark	None
	Quote Description	\checkmark	None
	Minority Type	✓	None
	Notes	\checkmark	None
	Extended Price		None
	Item Taxes		None
	Quote Tax		None
	Bond		None
	Item Conditions		None
	Quoted Items Total		None
	Special Conditions		None
	Quoted Total	\checkmark	None
	Substitute Values		None
	Comparable Total	\checkmark	Ascending
	Awarded Total		None
	Last Update		None
	tions ocation: O Top	Bottom	
L	ocation: O Top	Bottom Bot	

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 de
	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

8.4.7 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.

8.4 Step by Step 1 — 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.

a,	Print Preview Export to Excel Print	୍ଲ କ ହରୁ ନ	y Quote Group Il Quote Groups Il Quote Items Lavout	Set All to R	iot Reviewed	dt Resource	(m)	Duplicate Quote Ignore Quote		dage Entire Quote It Package Quotes	? Awa 論 Awa		Lock	Edit Prices	Quoted Items Gild Unit Price Substitute Values		ope Items ored Quotes		stitute Ranking	Session Recap Auto Award - Tools	
Cost			re (CBS) Registe		e Register		parison & Awar	d - Resources	0	quotes											
Drag	columns here to	group														Find	[Search For] …	Saved views:	Previous View	-
	Resource h	-	Description		Utilization Count	Unit of Measure	Unit Cost (Scale 1)	Plug		Detail	Exam Asph	ple Vendor 1 alt Materials	Example Ver Asphalt Mat	nciale	Pipe Materials for site	Example 1 DBE Pipe Mate					
	маам		Asphalt Mix (Finis	h)	36,750.00	Ton	\$31	.50	\$34.13	\$34.	3 16	\$31.50	0	\$35.70	\$34.13		\$34.13				
→	MAFA		Fine Aggregate		1,860.00	Ton	\$7	.25	\$8.19	\$8.	19 ╏ 🤞	\$7.25	0	\$7.35	\$8.19		\$8.19				
	MPP 10		Pipe 10" PVC SDR	121	12,600.00	Linear Feet	\$13	.65	\$3.28	\$3.	18	\$3.28		\$3.28	8 \$12.60	10	\$13.65				
	MPP24		Pipe 24" PVC SDR	.35	3,000.00	Linear Feet	\$22	.05	\$20.48	\$20	18	\$20.48		\$20.48		10	\$22.05				
	MPR36		Pipe RCP 36 In		1,024.00	Linear Feet	\$32	.55	\$34.13	\$34.	13	\$34.13		\$34.13	8 \$31.50	18	\$32.55				
			Scope Items																		
			Summary																		
			Minority Type													0	DBE				
			Quoted Total					\$1,400	,973.75	\$0.0	10	\$1,171,100.70	\$1,32	5,646.00	\$266,616.00	\$	271,471.20				
			Comparable To	xal <				\$1,40	,973.75	\$1,406,973.	5	\$1,308,747.30	\$1,463	3,292.60	\$1,535,943.15	\$1,	540,798.35				

5. Select the check box in the Visible column for the Notes caption.

Ì		Configure Totals	- 0	>
	Caption	Visible	Sort	
	Seller	✓	None	4
	Quote Description	✓	None	
	Minority Type	\checkmark	None	
I	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	\checkmark	None	
	Substitute Values		None	
	Comparable Total	\checkmark	Ascending	
	Awarded Total		None	

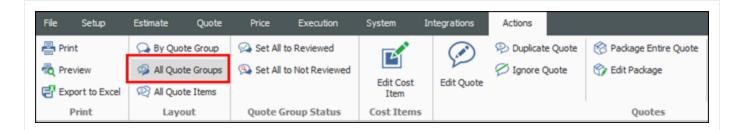
6. Select OK.

• The Notes section displays on the Quote Comparison & Award form.

Resource Code MAAM	is here to group	Description	Utilization	Unit of									Find	I: [Search Fo	- L.	Saved views	: Previous View	
			Count	Measure	Unit Cost (Scale 1)	Plug	Detail	Example Asphalt I	Vendor 1 Materials	Example Vendor Asphalt Material	<i>2</i>	Example Vendor 1 Pipe Materials for site improvements	Example	Vendor 4				
MAAM		Asphalt Mix (Finish)	36,750.00	Ton	\$31.50	\$34.13	\$34.13	10	\$31.50	<i>8</i> \$	35.70	\$34.13		\$34.13				
MAFA		Fine Aggregate	1,860.00	Ton	\$7.25	\$8.19	\$8.19	10	\$7.25	0	\$7.35	\$8.19		\$8.19				
MPP 10		Pipe 10" PVC SDR21	12,600.00	Linear Feet	\$13.65	\$3.28	\$3.28		\$3.28	4	\$3.28	8 \$12.60	:0	\$13.65				
MPP24		Pipe 24" PVC SDR35	3,000.00	Linear Feet	\$22.05	\$20.48	\$20.48		\$20.48	5.	20.48	825.20	:0	\$22.05				
MPR36		Pipe RCP 36 In	1,024.00	Linear Feet	\$32.55	\$34.13	\$34.13		\$34.13	\$.	34.13	831.50	:0	\$32.55				
		Scope Items																
		Summary																
		Minority Type											<≌	DBE				
		Notes							Δ	Ľ		D		D .				
		Quoted Total				\$1,406,973.75		Example	Note	<u>^</u>	5.00	\$266,616.00		271,471.20				
		Comparable Total	<			\$1,406,973.75	\$1,406,973.75				2.60	\$1,535,943.15	\$1	,540,798.35				

8.4.8 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	Visibility into the Total Awarded Amount per Quote Group

Overview – Quote Groups Layout (continued)

	Name	Definition
	Amount	
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	2	By Quote Group		۵.	(m)	💫 Duplic	ate Quote	😚 Pad	kage Entii	re Quote 🏌 Av	vard				Quoted It	ems	💯 Zero Items	;
ą	Preview	ø	All Quote Groups	94			🕖 Ignor	e Quote	🕎 Edit	Package	🏫 A1	vard A	and Lock	6 .	GI	🚰 Unit Price		Scope Iten	ns
X	Export to Excel	Ø	All Quote Items		Edit Resource	Edit Quote								Ed	it Price	es	Values	💬 Ignored Q	uotes
	Print		Layout		Resources				Qu	iotes								View	
09	st Breakdown Si	tructi	ure (CBS) Regist	ter	Quote Cor	nparison & Awa	rd - Rese	ources (3										
rag	g columns here to	group													Find	: [Search For]		Saved view	s:
	Quote Group		<u>-</u>	Plug		Detail		Quote		Quote (Group Total							_	
•	 Asphalt Mate 	rials			\$0.00	1	\$0.00	\$1,1	71,100.70		\$1,171,100.7)		-(1					
	Resource Code	1	Description			Utilization Count	Unit of Measure		Unit Cost (Scale 1)		Plug		Detail			ample Vendor 1 bhalt Materials		le Vendor 2 t Materials	
	MAAM		Asphalt Mix (Finis	h)		36,750.00	Ton			\$31.50	\$34	.13		\$34.13		\$31.50	0	\$35.70	
	MAFA		Fine Aggregate			1,860.00	Ton			\$7.25	\$4	. 19		\$8.19		87.25	Ø	\$7.35	
			Scope Items																
			Summary																
			Minority Type																
			Quoted Total	(2						\$1,269,327	.15		\$0.00		\$1,171,100.70	\$	1,325,646.00	
1	1		Comparable To								\$1,269,327	.15	\$1,26	59,327.15		\$1,171,100.70	ş	1,325,646.00	
-			Awarded Total	: \$1,17	1,100.70						\$0	.00		\$0.00		\$1,171,100.70		\$0.00	
I	 Pipe Materials 	s			\$0.00	1	\$0.00	\$2	71,471.20		\$271,471.2	0							
	Resource Code	1	Description			Utilization Count	Unit of Measure		Unit Cost (Scale 1)		Plug		Detail			ample Vendor 3 e Materials	DBE	le Vendor 4 aterials	
	MPP 10		Pipe 10" PVC SDR	21		12,600.00	Linear F	eet		\$13.65	\$.28		\$3.28	Ø	\$12.60	10	\$13.65	
	MPP24		Pipe 24" PVC SDR	35		3,000.00	Linear F	eet		\$22.05	\$20	.48		\$20.48	Ø	\$25.20	10	\$22.05	
	MPR36		Pipe RCP 36 In			1,024.00	Linear F	eet		\$ 32.55	\$34	.13		\$34.13	Ø	\$31.50	10	\$32.55	
			Scope Items																
			Summary																
			Minority Type				_ 3										•	DBE	
			Quoted Total								\$137,646	.60		\$0.00		\$266,616.00		\$271,471.20	
			Comparable To	otal	<						\$137,646	.60	\$13	87,646.60		\$266,616.00		\$271,471.20	
			Awarded Total:	: \$271,	471.20						\$0	.00		\$0.00		\$0.00		\$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.

8.4.9 Compare and Award Quotes

To award an item, right click on that item and select Award.

Example Sub #3 Sign Items			le Sub #2 Rail Items	Example Sub Sign Items	#4 DBE
\$25,000.00	1	Ø	\$24,000.00	\$25	5,000.00
\$7,000.00	1	Ø	\$6,200.00	\$7	7,000.00
\$11,000.00 2 \$500.00 2		А <u>Ц</u> Ц Е	ward ward And Lock ock nlock dit Quote		,000.00
D	9066	<u>lg</u> <u>P</u>	uplicate Quote Inore Quote ackage Entire (dit Package dit <u>C</u> ost Item	Duote	DBE ,000.00 \$0.00 \$0.00

The Award icon displays next to the awarded item(s).

ail 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	Examp Guard
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		0
19	Guardrail Type 3A	200.00	Linear	\$30.00	₽ \$6,00	\$7,000.00	\$7,000.00	Ø
20	Type 4 Signs	1,000.00	Square	\$15.00	\$15,0	\$15,000.00		
27.1	Electrical Work	1.00	Each	\$5,000.00	\$5,000	\$5,000.00		
	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

NOTE You can award multiple Quote items by selecting all the items and then using the right click context menu to award.

8.4.9.1 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.

CBS Position Code	Description	Forecas (T/O) Qu		Unit of Measure	Unit Cost	Total Cost (Forecast)	Plug
18	Guardrail Type 2		1,000.00	Linear Feet	\$24.00	\$24,000	\$2
19	Guardrail Type 3A		200.00	Linear Feet	\$31.00	\$6,200.00	ş
	Scope Items						
	Summary						
	Minority Type						
	Quoted Total						\$3
	Comparable Total	<					\$3

8.4.9.2 Award Status

The Award Status indicates whether or not all quotes are awarded within a quote group.

Quote Regi	ister	Quote	Compari	son	& Award - Cost ite	ems 🕲								
Quote Gro	up(s)		×	Dra	g columns here to gr	oup								
✓ ✓	Descri Electrical		Reviewe		CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total (Fore		gu	Detail	Example Sub #2 Guard Rail Items
\checkmark	Guardrai	Work	~		17	Toll Booth	1.00	Each	\$40,000.00	2	\$40,000.00	\$25,000.00	\$25,264.55	\$25,264
~	Sign Wor	k			18	Guardrail Type 2	1,000.00	Linear Feet	\$25.00	2	\$25,000.00	\$25,000.00		\$24,000
					19	Guardrail Type 3A	200.00	Linear Feet	\$30.00	2	\$6,000.00	\$7,000.00	\$7,000.00	\$6,200
					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		
				→		Summary								
						Minority Type								
						Quoted Total						\$77,000.00	\$25,264.55	\$30,200
						Comparable Total <						\$77,000.00	\$98,764.55	\$71,964

8.4.9.3 Review

You can keep track of what quote groups have been reviewed by checking the Reviewed check box.



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.

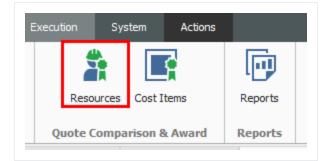
Quote Gro	oup(s)	×
\checkmark	Description 📃	Reviewed
\checkmark	Electrical Work	
\checkmark	Guardrail Work	\checkmark
<	Sign Work	✓

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.

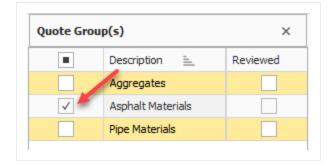
The following steps walk you through comparing and awarding the Aggregate quotes.

8.4 Step by Step 2 — Compare and Award Quotes

- Open the Training job, and from the main InEight Estimate landing page select Quote > Quote Comparison & Award.
- 2. Select Resources on the Quote Comparison & Award ribbon.



3. Under Description, select Asphalt Materials.



- 4. Review the quotes to determine the lowest bidder:
 - Select the Configure Total icon in the tool ribbon to view additional captions
 - Both vendors have no split items for both resources.

							_
Resource Code	Description	Utiliza Count	Unit of Me	Unit Cost (Scale 1)	Plug	Detail	
MAAM	Asphalt Mix (Finish)	36,750.00	Ton	\$35.70	\$34.13	\$34.13	<
MAFA	Fine Aggregate	1,860.00	Ton	\$7.35	\$8.19	\$8.19	(
	Scope Items						
	Summary						
	Minority Type						
	Quoted Total				\$1,269,327	\$0.00	
	Comparable Total <				\$1,269,327	\$1,269,327.15	
	Awarded Total				\$0.00	\$0.00	
	Quoted Items Total				\$1,269,327	\$0.00	
	Special Conditions				\$0.00	\$0.00	
	Last Update						

5. Example Vendor 1 has the lowest comparable amount, so award all to Vendor 1 by right clicking on the Example Vendor 1 Asphalt Materials and selecting **Award All**.

Example Sub #3 Sign Items	Example Sub #2 Guard Rail Items	Example Sub #4 DBE Sign Items
\$25,00	<u>A</u> ward All	\$25,000.00
\$7,00	Award And Lock All	\$7,000.00
\$11,00	Lock All	\$13,000.00
6	<u>U</u> nlock All	413,000.00
8	Edit <u>Q</u> uote	Ø
\$5(💫	<u>D</u> uplicate Quote	8
8 0	Ignore Quote	2
ß	<u>P</u> ackage Entire Quot	
		O DBE
D.	D	D

• By awarding Example Vendor 1 both resources, the award ribbon icon displays next to the unit price.

Detail			e Vendor 1 t Materials	Example Vendor 2 Asphalt Materials		
\$34.13	1	ą	\$31.50	Ø	\$35.70	
\$8.19	1	ą	\$7.25	Ø	\$7.35	

- You could also change your mind and award Example Vendor 2 one of the resources. In this case, award resource code MAFA to Example Vendor 2.
- 6. Right click on \$7.35 under Example Vendor 2, and select Award.
 - You now have awarded resource code MAFA to Example Vendor 2.

Detail	Example Vendor 1 Asphalt Materials	Example Vendor 2 Asphalt Materials
\$34.13	🚦 🔗 🛛 \$31.50	\$35.70
\$8.19	\$7.25	🌹 🔗 🛛 \$7.35

8.4.10 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.

Set All to Review Set All to Not Re Quote Group St	eviewed Edit Cost Item		Duplicate Quote		2 Quote 🕴 Awar	Award And Lock		Quoted Items Unit Price Substitute Value			: O Session Recap anking Auto Award - cks
Quote Cor	nparison & Award - Cost	items Ø									•
columns here to grou	p								Find: [Search For	.] Saved vi	ews: Previous View +
CBS Position Code 🗎	Description	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Plug	Detail	Harmon Construction Concrete, Sitework	Eagle Concrete Corp. Concrete, Sitework	Barton Concrete Services, Inc. Concrete, Sitework	C8H Concrete Construction, Inc. Construction, Elizabeth
3. 1. 1	Sidewalks	4,544.00	SQFT	\$9.89	\$44,939.07	\$44,939.07	\$44,939.07	♂ P1 \$206,000.00	₽1 \$242,500.00		Award All
3. 1. 2	V curb	50.00	LF	\$34.51	\$1,725.32	\$1,725.32	\$1,725.32	@ P1	@ P1	8 P1	Award And Lock All
3.1.3	Curb and Gutter	1,250.00	LF	\$34.51	\$43,133.12	\$43, 133. 12	\$43,133.12	& P1	@ P1	& P1	Cock All
3. 1. 4	Valley gutter	50.00	LF	\$34.51	\$1,725.32	\$1,725.32	\$1,725.32	@ P1	@ P1	8 P1	0
3.1.5	Handicap ramps	159.00	SQFT	\$9.89	\$1,572.47	\$1,572.47	\$1,572.47	@ P1	@ P1	& P1	B Edit Quote
3. 1.6	Truncated domes	1.00	Lump Sum	\$25,000.00	\$25,000.00	\$ \$25,000.00	\$25,000.00	@ P1	@ P1	@ P1	P Duplicate Quote
3. 1.7	Flow thru planter slab	125.00	LF	\$95.04	\$12,005.46	\$12,005.46	\$12,005.46	@ P1	@ P1	& P1	Package Entire Quote
3. 1.8	Flow thru planter walls	125.00	LF	\$95.04	\$12,005.46	\$12,005.46	\$12,005.46	@ P1	@ P1	& P1	C Package Entire Quote
3. 1.9	Median Infil	225.00	CY	\$41.02	\$9,230.60	\$9,230.60	\$9,230.60	@ P1	@ P1	\$9,230.60	\$9,230.60
3. 1. 10	Rolled curb adjacent to	50.00	LF	\$34.51	\$1,725.32	\$1,725.32	\$1,725.32	@ P1	@ P1	\$1,725.32	\$1,725.32
3.1.11	Reinforcing	2,612,40	b	\$4,59	\$12,000.00	\$ \$12,000.00	\$1,306.20	A P1	@ P1	\$1,305.20	\$1,306.20

8.4.11 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.

Edit Cost Item	Duplicate (Dignore Qu Edit Quote	ote 🎲 Edit Pad		2 Award	ock	Edit Prices	nit Price	Scope Items 🔒 Si Ignored Quotes 🛗 D	onfigure Totals et Substitute Ranking efault Data Blocks	 Session Recap Auto Award - 	
Cost Items			otes					View		Tools	
Quote Compa	rison & Award - Cost item	s Q									
columns here to grou	up						Find:	[Search For] ···	Saved views: Pre	vious View	
CBS Position Code	Description	Forecast (T/O) Quantity						Natomas Masonry, Inc. Masonry	Marquis Masonry Masonry	*H.P. Construction Inc. Masonry	
4.1.1	CMU Walls	1.00	Lump Sum	\$485,922.27	\$485,922.27	\$400,000.00	\$400,000.00	🔋 🔗 P1 \$512,648.00	\$526,724.53	♂ P1 \$766,352.00	
4.1.2	Precast Concrete Caps	1.00	Lump Sum	\$14,577.67	\$14,577.67	\$12,000.00	\$12,000.00	1 @ P1	\$12,375.47	@ P1	
4.1.3	Steel Embeds	1.00	Lump Sum	\$12,148.06	\$12,148.06	\$10,000.00	\$10,000.00	🕻 🖉 P1	\$0.00	& P1	
	Scope Items										
	Demolition										
	Caulking, Sealants &										
	Scafolding									ø	
	Shoring/Bracing							\$15,000.00	\$12,000.00		
	Testing/Inspection										
	Summary										
	Minority Type								🙆 мве		
	Notes							D	D	D	

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.

🕞 By Quote	Group	Set All to Re	viewe	ed 📗	A PAR	(, M ²)	🖗 Duplicate Quote	🔗 Package	Entire Quote	🗍 Award	🔒 Lock	() ()	Quoted Items	🖾 Zero Items 🛛 🗴	Configure Totals	Q Ses	sion Recap
🖗 All Quote	Groups	💊 Set All to Ni	ot Rev	Reviewed		🖓 🖓 Ignore Quote		💮 Edit Pad	kage	👫 Award And Lo		200-	Jnit Price	📝 Scope Items 🛛 🔨	Set Substitute Ranking	🛔 Aut	o Award +
2 All Quote	Items		Edit Cost Item		Edit Quote						Edit Prices	Substitute Values	🗩 Ignored Quotes 🖷 efault Data Block				
Layout Que		Quote Group Status Cost I		Items	s		Quotes						View		т	ools	
ost Break	down Struc	ture (CBS) R	eniste	er © Quot	e Compa	arison & Awa	ard - Cost items										
Quote Grou		×	-	columns here to										Find: [Search	For]	d utawa [Previous Vi
			Drag	countris ner e u	a group									Find: [Jeard		d views.	FIEW005 /
	Concrete,			CBS Position Code	<u> </u>	Description		Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Plug	Detail	Natomas Masonry, Inc Masonry	* H.P. Construction Inc. Masonry	Marquis M Masonry	
	Concrete,	Sitework		4.1.1		CMU Walls		1.00	Lump Sum	\$1,879,709.33	\$1,879,709.33	\$4,400,000.00	\$1,708,825.67	🕴 🔗 P1 \$512,648.0	10 🔗 P1 \$766,352.00	ð	\$0.0
	Concrete,	Structural		4.1.2		Precast Concr	ete Caps	1.00	Lump Sum	\$170,882.67	\$170,882.67	\$12,000.00	\$12,000.00	🌹 🔗 P1	& P1	2	\$0.0
	Doors & V	indows		4.1.3		Steel Embeds		1.00	Lump Sum	\$170,882.67	\$170,882.67	\$10,000.00	\$10,000.00	🕇 🔗 P1	& P1	Ð	\$0.0
	Electrical					Scope Item	\$										
	Finishes (E	liv 9)				Demolition											
	Fire Prote	tion				Caulking, Se	ealants & Backer Rod										
	Foundatio	ns				Scafelding									2		
	HVAC					Shoring/Bra	icing							\$15,000.	0 🗆		
	Landscapi	ng Work				Testing/Ins	pection								0		
✓	Masonry					Summary											
	Plumbing					Minority Typ	pe									0	MB
	Rebar Ins	all				Notes								D	D		D
	Scaffoldin	,				Quoted Tot	tal					\$4,422,000	\$1,708,826.67	\$512,648.0	\$574,764.00		\$0.0
	Sheet Met	ai	\rightarrow			Comparable	a Total 🛛 🤟					\$4,422,000	\$1,730,826.67	\$512,648.0	\$574,764.00	¢1.	730.826.6

8.5 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
	By default, all scope items are considered included in the quote, and the Special
Seller's	Conditions amount is \$0.00. On the quote record, by selecting the checkbox, you can
Special	indicate scope items and uncheck items that are not included. The amount associated
Terms &	with these items will then total up in the Special Conditions subtotal. The person
Conditions	responsible for awarding quotes needs to update the Inclusions field to correspond with
	what the subcontractor has agreed to include in the quote.

Quote Tax -			Item	Tax			
Add Taxes f	to the Ouo	te: 🔿 Yes 💿 No		d Item Taxes to eac	ch item's price		
		awarded TOTAL as a % of total :					
		Tax Rate: • 0.00					
		-					
		Total Tax: \$0.00					
luyer's Spe	cial Terms 8	& Conditions					
)istribute S	pecial Con	ed to Seller's awarded total (any con dition::	ed average		\$0.00	D	
)istribute S	pecial Con Special Con	dition: Evenly O Using weight ditions costs for unawarded quotes	ed average	s	\$0.00		Pro
)istribute S ☑ Include S	Special Con Special Con Ins here to g	dition: Evenly O Using weight ditions costs for unawarded quotes	ed average	s			
Distribute S Include S Drag column Row Numbe	Special Con Special Con Ins here to g	dition: Evenly O Using weight ditions costs for unawarded quotes roup Scope Item	ed average in Comparable Total	s Find: Se	arch For] ····	Saved views:	
)istribute S] Include S Drag column	special Con Special Con as here to g er $\stackrel{=}{=}$	dition: Evenly O Using weight ditions costs for unawarded quotes roup Scope Item Permits	ed average in Comparable Total Quote Group	s Find: Se Included	arch For] ····	Saved views:	
Distribute S Include S Drag column Row Numbe	pecial Con Special Con Inshere to g er = 1	dition: Evenly O Using weight ditions costs for unawarded quotes roup Scope Item Permits Surveying and Layout	ed average in Comparable Total Quote Group Electrical Work	s Find: Se Included	arch For] ····	Saved views: % of Total	Pro
Distribute S Include S Drag column Row Numbe	ipecial Con Special Con Is here to g er =	dition: Evenly Ousing weight ditions costs for unawarded quotes for	ed average in Comparable Total Quote Group Electrical Work Electrical Work Electrical Work	s Find: Se	arch For] ····	Saved views: % of Total	

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

Overview – Quote Comparison and Award – Scope Items (continued)

9	Section	Description
		quote and accounted for by the entity awarding the quote.
2	Scope Item Inclusions	Maintained in Quote Record form. These are the Seller's Special Terms & 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.

ost Brea	kdown Structure (CB	5) Register	Quo	te Register	Quote Comparison & Awa	rd - Cost items	0		
)uote Gr	oup(s)	×	Dra	g columns here to	group				
•	Description 🛓 Electrical Work	Reviewed		CBS Position Code	Description	<u>1</u>	Forecast (T/O) Quantity	Unit of Me	Unit Cost
	Electrical work 2			27.1	Electrical Work		1.00	Each	\$4,20
	Electrical work 3			6	Scope Items				
	Guardrail Work			U	Permits				
	Pipe Materials				Surveying and Layout				
	Sign Work				Temporary Traffic Control	Devices			
					Trench and Backfill for Ele	ctrical Work			
					Painting Electrical Equipme	ent			
					Temporary Power and Ligh	hting			
					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	0					
)rag columns here	e to group					
Description	<u>=</u>	RFQ Description	Quote Status	Seller	Company	Quote Total
Electrical Wo	vrk	Electrical Work	Accepted	Example Sub #5 MBE Chr	Example Sub #5 MBE	\$4,450.00
Electrical Wo	ork	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

included within each subcontractor's scope of work. It also displays how much each scope of work costs, so you have the option to find another subcontractor to perform this scope work.

e Register	Quote Comparison & Award - Co	ost items	0					
g columns here to	group							
CBS Position Code	Description	<u>=</u>	Forecast (T/O) Quantity	Unit of Me	Unit Cost	Total Cost (Forecast)		Plug
27.1	Electrical Work		1.00	Each	\$4,200	8	\$4,200.00	\$5,0
	Scope Items							
	Permits							
	Surveying and Layout							
	Temporary Traffic Control Device	es						
	Trench and Backfill for Electrical	Work						
	Painting Electrical Equipment							
	Temporary Power and Lighting							
	Summary							
	Minority Type							
	Quoted Total							\$5,00
	Comparable Total	<						\$5,00
	Awarded Total							1
	Quoted Items Total							\$5,00
	Special Conditions							:
	Last Update							

Utilizing Scope Items enables you to more effectively compare quotes from subcontractors and suppliers by providing a deeper comparison of quotes. Moreover, it provides clearer visibility of what a proposal may or may not be including at the time you are attempting to make an award.

You can make a more informed decision on whom to award the quote to, now that the vendor quotes and associated scope items are all visible on one screen.

8.5.1 Scope Item Setup

Scope items are stored within each quote group tag in the Foundation Setup Data form. On each Quote Group Tag Record, you can list out scope items that break down the work into smaller scopes of work, along with the estimated cost amount associated with each scope item.

un	dation Setup [)ata Register	Quote Group Tag Rec	ord ©		
	Descripti	on: * Electrical W	ork			
	Award Stat	us: Complete				
	Review	ed:				
	Last Review	ed:				
0.	uote Last Chang	ed.				
- QL	uote Last Chang	cu.				
QL	dote Last chang	cu.				
	g columns here to					
				Amount		% of Total
	g columns here to	o group Scope Item		Amount	\$0.00	% of Total
	g columns here to Row =	Scope Item Permits	ıt			% of Total
	g columns here to Nou =1	Scope Item Permits		•	\$0.00	% of Total
	g columns here to Nu = 1 2	Scope Item Permits Surveying and Layou Temporary Traffic Co	ontrol Devices	 • • • • 	\$0.00 \$500.00	% of Total
	g columns here to Nu = 1 2 3	Scope Item Permits Surveying and Layou Temporary Traffic Co	ontrol Devices or Electrical Work		\$0.00 \$500.00 \$0.00	% of Total
	g columns here to Nu = 1 2 3 4	Scope Item Permits Surveying and Layou Temporary Traffic Co Trench and Backfill for	ontrol Devices or Electrical Work uipment		\$0.00 \$500.00 \$0.00 \$0.00	% of Total

8.5.2 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.

8.5 Step by Step 1 — Create and Award Scope Items

- 1. Open the Training Job.
- 2. Select the **Setup** tab.
- 3. Click on Foundation Data Setup in the Initialize section.
- 4. Select the Quote Group Tags tab to setup Scope Items within a Quote Group.
- 5. Create a new Quote Group Tag called **Electrical Work** and click **OK**.

Accour	nt Codes	Tags	Work Break	down Structures	Quote Group Tags
)rag co	lumns here	to group			
De	escription		≞_	Award Status	Utilized In Quotes
+	Aggregat	es		Complete	✓
+	Asphalt M	laterials		Complete	✓
+	Bridge We	ork		Complete	
+	Commerci	ial Work		Complete	
+	Concrete	Beams		Complete	
+	Concrete	Materials		Complete	
→ +	Electrical	Work		Complete	

- 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 **300** for Temporary Power and Lighting.
 - If any of these default columns are missing, click on one of the headers, and right click. Select **Column Chooser** and drag the item(s)over tto the header bar, then click **OK**

Row 🛓	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	

- 8. Click **OK**.
- 9. Select the Estimate tab.
- 10. Click on Cost Breakdown Structure (CBS).
- 11. Change your Saved Views to **Quote Group Setup View**.
- 12. Create a cost item Entry Gate with a subordinate Electrical Work.
- 13. Assign Quote Group Electrical Work to the Electrical Work cost item.

CBS Position Code 🖭 🕇	Description	Forecast (T/O) Quantity	Unit of M	Unit Cost	Total Cost (Forecast)	Cur.
26	Entry Gate	1.00	Each	\$0.00	\$0.00	U.S.
+ 26.1	Electrical Work	1.00	Each	\$0.00	\$0.00	U.S.

- 14. Select the **Quote** tab.
- 15. Click Request For Quote (RFQ) to open the RFQ Register.
- 16. Create an RFQ for the Electrical Work cost item by selecting the New icon on the Actions tab.
- 17. Select Create RFQ from Quote Group Tag(s) and select Electrical Work.

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 ○ 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 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? 	Cost Item Identification Use the following field: CBS Position Code	•
	 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 	[Uncheck All] [Blanks] Aggregates Asphalt Materials Commercial Work Concrete Materials Guardrail Work Landscaping Work Manhole Materials None Painting Materials Pipe Materials Process Equipment Install Process Materials Sign Work Structural Painting

18. Click **OK**.

19. Click on the **Seller Companies** tab and select the following Company Names:

- Architectural Designs
- HD Engineering Group
- 20. Highlight both companies and select Publish.
 - Make sure the appropriate boxes are checked and fields filled out for publishing either by fax or by email prior to publishing

📰 Publish				
💬 Create Quo	te			
Process				
Foundation S	etup Data Register		Quote Grou	p Tag Record
- Description -				
Electrical Wo	ork			
ResponseD	eadline Date: 1/2/20	19	•	Response De
Line Items	Terms & Conditions	Sell	er Companies	Attachment
Drag columns	here to group			
Compan	у	<u>-</u>	First	Last
Name		_	Name	Name
	tural Designs, Inc Jo		. Jones	Hardy
→ HD Engir	neering Group Roger	C	Roger	Croon
*				

21. Assuming that 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**.

Publish ① Create Quote		
Process		
Foundation Setup Da	ta Register	Quote Group Tag
Description Electrical Work	RFQ 'Electric	cal Work' X
	Quote(s) cre	ated: 2
	- [ОК
Response Deadline D	ate: 1/2/2019	Respo

- 22. Click **OK** to close the RFQ record.
- 23. Select the **Quote > Quotes** tab to open the Quote Register.
 - Note the 2 quotes that were just created for Electric Work

Description 📃	RFQ Description	Quote Status	Seller
[Enter Description]		Invalid	<ad-hoc address=""></ad-hoc>
[Enter Description]		Invalid	<ad-hoc address=""></ad-hoc>
Aggregates	Aggregates	Received	Example Vendor 1 Pat Roberts
Aggregates	Aggregates	Received	Example Vendor 4 DBE Lester Slim
Aggregates	Aggregates	Received	Example Vendor 2 Stan Mark
Asphalt Materials		Received	Example Vendor 1 Pat Roberts
Asphalt Materials		Received	Example Vendor 2 Stan Mark
Concrete, Sitework		Ignored	HD Engineering Group Roger Croon
Electrical Work	Electrical Work	Received	Architectural Designs, Inc Jones Hardy
Electrical Work	Electrical Work	Received	HD Engineering Group Roger Croon

- 24. Open the Quote Record for HD Engineering Group and enter a Unit Price of **3,500**, which is based on the quote you received.
- 25. Select the **Special Terms & Conditions** tab and select the **Seller's Special Terms & Conditions** radio button.

Row Number 📒	Scope Item	Quote Group 🛓	Inclusions	Amount	% of Total
1	Permits	Electrical Work	\checkmark		
2	Surveying and Layout	Electrical Work	\checkmark		
3	Temporary Traffic Cont	Electrical Work	\checkmark		
4	Trench and Backfill for E	Electrical Work	\checkmark		
5	Painting Electrical Equip	Electrical Work	\checkmark		
6	Temporary Power and L	Electrical Work	 ✓ 		

• You now have visibility for all of scope items for this quote

- 26. Assuming 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

Dra	g columns here to g	jroup	Find: [Se	arch For]	··· Saved views: Previous View	-
	Row Number 🗎	Scope Item	Quote Group	Included	Notes	
	1	Permits	Electrical Work	\checkmark		
\rightarrow	2	Surveying and Layout	Electrical Work			
	3	Temporary Traffic Contr	Electrical Work	\checkmark		

- 27. Type 150 in the Amount field for Painting Electrical Equipment.
 - Notice how the 3 scope items you just excluded are now added to the Special Conditions total for the quote

				tended Price					
Cod	le:			tended Price em Taxes:					
Dat	te:		*	uote Tax:					
ourc	:e:		-	ond:					
renc	y: U.S. Dollar		- Ite	em Condition	is:				
Statu	is: Received		Sp	ecial Conditi	ons:				
	re: 🗌 Reason:		· .						
gnor			Te	otal:					
pec	cial Terms & Con	ditions							
Quo	ote Tax			Item Tax					
Add	d Taxes to the Quo	te: 🔿 Yes 💿 No		Add Ite	em Taxes to	each	item's prio	e	
ТАХ	ES to be added to	awarded TOTAL as a % of total :							
		Tax Rate: 🕨 0.00							
		Total Tax: \$0.00							
D	er's Special Terms (9. Conditions							
	Geller's Special Teri								
∑ s	Seller's Special Terr		mbination o	fitems):				\$0.00	
S FIXE	Seller's Special Terr ED COST to be add	ms & Conditions		fitems):		[\$0.00]
S FIXE Dist	Seller's Special Terr ED COST to be add tribute Special Con	ms & Conditions led to Seller's awarded total (any co	ted average	-		[\$0.00)
S S	Seller's Special Terr ED COST to be add tribute Special Con	ms & Conditions led to Seller's awarded total (any co ditions:	ted average in Comparab	-		[Save	ed views:		
S S	Seller's Special Terr ED COST to be add tribute Special Con nclude Special Con	ms & Conditions led to Seller's awarded total (any co ditions:	ted average in Comparab	earch For]	 Included	[Save	ed views:	Previou	us View
S S	Seller's Special Terr ED COST to be add tribute Special Con nclude Special Con g columns here to g Row	ms & Conditions led to Seller's awarded total (any co ditions:	ted average in Comparab Find: [S	earch For]		Save	Amount	Previou	us View
✓ S FIXE Dist Drag	Seller's Special Terr ED COST to be add tribute Special Con nclude Special Con g columns here to g Row Number	ms & Conditions led to Seller's awarded total (any co ditions: Evenly O Using weigh aditions costs forunawarded quotes group Scope Item	ted average in Comparab Find: [S Quote Gro	earch For] up Vork		Save	Amount i	Previou	
✓ S FIXE Dist Drag	Seller's Special Terr ED COST to be add tribute Special Con nclude Special Con g columns here to g Row Number 5	ms & Conditions led to Seller's awarded total (any co ditions:	ted average in Comparab Find: [S Quote Gro Electrical V	earch For] up Vork Vork			Amount \$	Previou 	us View
✓ S FIXE Dist Drag	Seller's Special Terr ED COST to be add tribute Special Con nclude Special Con g columns here to g Row Number 5 6	ms & Conditions led to Seller's awarded total (any co ditions:	ted average in Comparab Find: [S Quote Gro Electrical V Electrical V	earch For] up Vork Vork			Amount \$	Previou 150.00 300.00	us View
✓ S FIXE Dist Drag	Seller's Special Terr ED COST to be add tribute Special Con nclude Special Con g columns here to g Row Number 5 6	ms & Conditions led to Seller's awarded total (any co ditions:	ted average in Comparab Find: [S Quote Gro Electrical V Electrical V	earch For] up Vork Vork			Amount \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Previou 150.00 300.00	us View

- 28. Click **NEXT** to move to the other Quote Record for Architectural Designs.
- 29. Enter a Unit Price of **3,700**.
- Press Tab to move to the Special Terms & Conditions tab and select the Seller's Special terms & Conditions (at right) radio button.
- 31. Uncheck the Inclusions checkbox for Surveying and Layout
- 32. Add the amount 500.

		iroup	Find:	[Search For]		aved views:	Previou	10 MCM	
Ro Nu	umber 🗎	Scope Item	Quote	Group	Included	Amount		% of Total	
<i>→</i>	1	Permits		al Work	\checkmark				
	2	Surveying and Layout	Electric	al Work		► \$	500.00		14.
	3	Temporary Traffic Control Devices	Electric	al Work	\checkmark				
	4	Trench and Backfill for Electrical W	Electric	al Work	\checkmark				
						\$9	950.00		

- 33. Click OK.
- 34. Select the Quote tab.
- 35. Open the Quote Comparison and Award form, and select the Cost Items tab.
- 36. Under Quote Groups, select Electrical Work.

Quote Group(s) ×						
	Description 🛓	Reviewed				
✓	Electrical Work					
	Guardrail Work					
	Sign Work					

• You will notice that scope items with inclusions and exclusions on the quotes are now displayed in the Scope Items section. The Scope Items button needs to be pressed in the View section of the screen

• The total of all exclusions are now added to the Special Conditions section for each subcontractor

CBS Position Code	Description 📃	(T/	recast ′O) Iantity	Unit of Me	Unit Cost	Total Cost (Forec	Plug
27.1	Electrical Work		1.00	Each	\$5,000	\$5,000	🏌 \$
	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						\$5,
	Comparable Total	<					\$5,
	Awarded Total						\$5,
	Quoted Items Total						\$5,
	Special Conditions						
	Last Update						

TIP If your Special Conditions row is missing, click the Substitute Values icon on the Action tab. You can also rearrange the sequence as desired.

	🖁 Substitute Valu	ues 💆 Config	gure Tota	ls	6	C	onfigure Tota	ils	
		_	V	iew		Caption	Visible		Sort
					\rightarrow	Minority Type		v	None
						Quoted Total			None
						Comparable Total		\checkmark	Ascending
	Unit of Measure	Unit Cost	Total Co (Foreca			Awarded Total		 Image: A set of the set of the	None
.00	Each	\$0.00	•	\$0.0		Quoted Items Total		\checkmark	None
.00	Laci	\$0.00	 	30.0		Special Conditions		\checkmark	None
				_		Last Update		\checkmark	None
									ок

- Most importantly, this comparison including scope items makes it clear HD Engineering Group has provided a quote of \$4,450, while Architectural Design's quote is \$4,200
- 37. Right click on the quoted amount for Architectural Design and select **Award** to award the work to Architectural Design.

Architectural Designs, Inc. Electrical Work	HD Engineering Group Electrical Work	
\$3,70	Award	
년 \$50 년 (2) 년 (2) (2) (2) (2) (2) (2) (2) (2) (2) (2)	A <u>w</u> ard And Lock Lock Unlock Edit Quote Edit Cost Item Edit Package \$300.00	
\$4,200.00	\$4,450.00	
\$3,700.00	\$4,450.00	
\$0.00	\$0.00	
\$3,700.00	\$3,500.00	
\$500.00	\$950.00	

38. Click **Yes**, on the resulting prompt to mark the quote group as reviewed.

• The Architectural Design's quote is now awarded

CBS Position Code	Description 🚊	Forecast (T/O) Quantity	Unit of Me	Unit Cost	Total Cost (Forec	Plug
27.1	Electrical Work	1.00	Each	\$4,200		\$5
	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					\$5
	Comparable Total	<				\$5
	Awarded Total					
	Quoted Items Total					\$5
	Special Conditions					
	Last Update					

Lesson 8 Review

- 1. When you receive responses to your RFQ, the next step is to enter their pricing in the
 - a. CBS Register
 - b. PBS
 - c. Quote Register
 - d. RFQ Register
- 2. On a Quote Record, No Split means
 - a. The quote must be combined with other quotes from the same vendor
 - b. All items on the quote must be purchased from that seller
 - c. You can't split the quote into multiple quotes
- 3. When a quote group is highlighted in yellow on the Quote Comparison & Award form, it signifies that
 - a. The quote group has changed since it was last marked as Reviewed
 - b. No quotes have been awarded for that quote group
 - c. There are some quotes in the quote group that contain substitute values

Lesson 8 Summary

As a result of this lesson, you can:

- Create and publish RFQs
- Define quote pricing
- Compare and award quotes
- Create and analyze scope items

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LESSON 9 – REPORTING

Lesson Duration: 30 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Run reports from the Reports menu
- Create and run reports from register forms

Lesson Topics

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9.1 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.

9.1.1 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

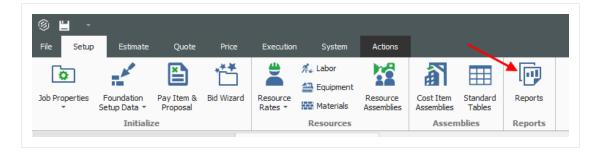
The following steps take you through a brief overview of the Reports menu and how you can access it.

9.1 Step by Step 1 — Get to Know the Reports Menu

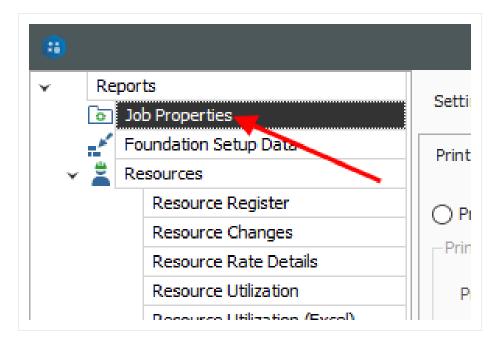
- 1. Open the Training Job, and select Setup tab.
 - You access the Reports menu by clicking on the Reports icon

TIP 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

		Reports - Job Pr				
R	Reports	Settings: Default -				
G	Job Properties	Settings: Default -				
	Foundation Setup Data	Print Details Layout Header/Footer				
✓ [#]	Resources					
	Resource Register	○ Print to Printer				
	Resource Changes	0				
	Resource Rate Details	Print Settings				
	Resource Utilization	Printer: Adobe PDF				
	Resource Utilization (Excel)					
	Resource Currency Comparison					
$> \frac{1}{2}$	Resource Assemblies					
> f	Cost Breakdown Structure					
> 🗐	Quotes					
$\rightarrow \Xi$	Price Breakdown Structure	O Export to File				
> ≧	Pay Item & Proposal	Export Settings				
> 🖪	Billing Rate Reports					
\rightarrow	Job Tracking	File:				

• 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

r	Reports	Settings: Default
	o Job Properties	Settings: Default -
	Foundation Setup Data	Print Details Layout Header/Footer
~	Resources	
	Resource Register	O Print to Printer
	Resource Changes	- C
	Resource Rate Details	Print Settings
	Resource Utilization	Printer: Adobe PDF Change
	Resource Utilization (Excel)	
	Resource Currency Comparison	
>	Resource Assemblies	
>	Cost Breakdown Structure	
>	🔍 Quotes	
>	Price Breakdown Structure	O Export to File
>	Pay Item & Proposal	Export Settings
>	Billing Rate Reports	
>	Job Tracking	File:
	Estimate Comparison Report	Format: PDF File V Options
	Audit	
	Job Register	

4. Each report has a Print tab, a Layout tab and a Header/ Footer tab specific to that report.

Setting	s: Defau	lt		•	
Print	Details	Layout	Header/Footer		
O Print to Printer					

• 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

	Estimate Comparison Report	Format: PDF File V Options
	Audit	
	Job Register	
>	💒 Library Module	
	Custom Reports	
	Saved Views	
>	Budget Exports	Preview
>	Schedule Exports	
>	Timesheet Exports	
>	Timesheet Imports	
	Master Layout Settings	
	Master Header/Footer Settings	

9.1.2 Output Settings

This section provides a more detailed explanation of the output setting tabs.

9.1.2.1 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.

9.1.2.2 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.

Orientation Orientation Orientation Orientation Orientation	t (Letter)	~	Margins Left: 0.50	Top: 0.50 🔹	Header: 0.25 ↓ Right: 0.50 ↓
Font			- Number Format -	Bottom: 0.50	Footer: 0.25
Header Level 1: Detail Level 1:	Arial Narrow, 8, Bold Arial Narrow, 8, Regular	•••	Cost summary:	Precision	Figures
Header Level 2: Detail Level 2:	Arial Narrow, 8, Bold Arial Narrow, 8, Regular	•••	Unit cost: Quantity: Percent:	2 2 2	
				ds separator	
			Use currency		

9.1.2.3 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.

Print Details Layout Header/Footer	
Settings: Default	. 9
🖅 🔂 😰 🛞 📧 🛛 Insert Field 🗸	
Page Header	
Report Header (first page only)	4
[Report Title] 3	Estimate Summary Report
[Company Name] Job Code: [Job Code] Description: [Job Description]	
Description. [Job Description]	

9.1.2.4 Report Detail Settings

Most reports have a Details tab with various options to configure what information is included on the report.

Overview	Minority Setup	Schedule
🗹 Job Code	Certification Authority	Schedule Setup
✓ Description	Participation Goals	Cash Flow
✓ Status	-Fuel Cost	Revenue Timing
✓ Notes	✓ Fuel Type	Cost Timing
Security	Unit of Measure	Cost of Money
Estimate Protection	Cost per Unit of Measure	Quantities
Authorized Users	Job Tracking	Reporting Periods
Cover Sheet	Tracking Setup	🗸 Dates
Identification Data	Percent Complete	-Equipment Maintenance
✓ Proposal Data	Forecast Methods	✓ Options
Cost Basis	☑ Time and Expense Items	Shift Arrangement
Default Currency	Job Folder Tags	Benchmarking
Standard Shift Arrangements	Job Folder Tags	Benchmarking
Standard Wage Rate Composite	Competitors	
✓ Rules	Competitors	
🗹 Standard Rates		
🗹 Bond Rate Table	Pricing Auto Price Options	
Resource Filter	Forecast Profit Calculation	

9.1.2.5 Save Output Settings

Once you've configured your settings for the report, you can save them as a custom version of that report.

Re	ports	^	Setting	e: Estima	ate Summary	- Foreman	-	Alternate Se	enario
0	Job Properties		occurry		ice baining j	- or critari		BASE	
	Foundation Setup Data		Print	Cost Iter	n Selection	Details	Layout	Header/Footer	
👻 🚆	Resources			00001100			Lu, out	nesser, ever	
	Resource Register		Pri	nt a contig	juous range	of cost iten	ns:		
	Resource Changes		F	rom:	5.1				-
	Resource Rate Details								
	Resource Utilization		Т	o:	6.2				-
	Resource Utilization (Excel)								
	Resource Currency Comparison	1		ect cost it	ems to print	from the re	aister bela		
-> 🐕	Resource Assemblies		0.00	cer cost n	ema co prine	from energ	igister bere		
× 🗖	Cost Breakdown Structure					Find:	[Search F	or] …	Save
	CBS Summary								
	CBS Details		Inc	lude	CBS Position Cod		Description	n	
	CBS Outline		<i>→</i>				Prime Bond	4	
~	Estimate Summary	an	_						
	Stimate Summary - Forema	an					Price % Ad		
							Job Financ	na	

The following steps walk you through configuring the settings and formatting for two different reports.

9.1 Step by Step 2 — Configure Report Output Settings (Report 1)

1. Open the **Training Job** and select **Setup > Report > Resources**.

Reports Reports	
✓ Report	rts
ja ja	b Properties
E Fo	oundation Setup Data
👻 🚊 R	esources 1
	Resource Register
	Resource Changes
	Resource Rate Details
	Resource Utilization
	Resource Utilization (Excel)
	Resource Currency Comparison

2. Under Resources on the left side bar, select Resource Utilization.

•						Reports - Res	ource Utilizat	tion
¥	Re	ports	Settings:	Defaul	lt		•	
	٥	Job Properties						
	1	Foundation Setup Data	Print	Details	Layout	Header/Footer]	
~	2	Resources			Layout			
		Resource Register	O Print t	o Printer	r			
		Resource Changes	ll Ŭ					
		Resource Rate Details	-Print Se	tungs —				
		Resource Utilization	Printe	er: \\HD	AZPrintServ	/.harddollar.local\M	ain Office	Change
		Resource Utilization (Excel)						
		Resource Currency Comparison						

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/Foo	oter			
O Print 1	to Printe	r					
-Print Se	ttings —						
Printe	er: \\HD	AZPrintSer	v.harddollar.lo	cal∦Main Of	fice	Char	ge
-							
	r t to File Settings						
-Export	Settings		~	Option	ns		
Export	Settings		~	Option	ns		
-Export	Settings		~	Option	ns		
-Export	Settings			Option	ns		
Export	Settings			Option	ns		

4. On the Layout tab you can make adjustments based on your preferences.

Settings: Defaul	Layout Header/Footer 4	Margins	Top: 0.50 🗣	Header: 0.25
 Portrait Landscape Paper Size: Le 	tter ~	Left: 0.50 🔶		Right:
		Number Format	Bottom: 0.50	Footer: 0.25
Font Header Level 1:	Arial Narrow, 8, Bold	Number Format	Decimal Precision	Significant Figures
Detail Level 1: Header Level 2: Detail Level 2:	Arial Narrow, 8, Regular ···· Arial Narrow, 8, Bold ···· Arial Narrow, 8, Regular ····	Cost summary: Unit cost: Quantity: Percent:	2 2 2 2	1 1 1 1 1
		Use currence	nds separator y symbol alues as blank Entered	

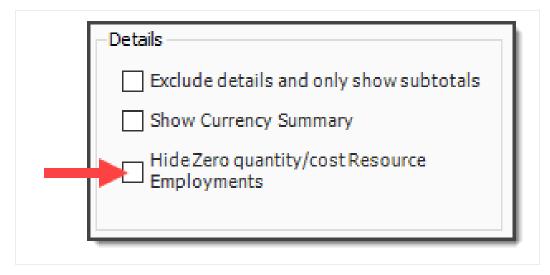
5. Move to the Header / Footer tab. Remove the default **Report Title** from the first page Header only and enter **Resource Utilization** in the center Report Header box as a title that will appear on the first page only.

Print Details Layout Header/Footer		
Settings: Default	•	
🗑 🔂 🔯 🛞 🔟 Insert Field 🗸		
Page Header		
Report Header (first page only)	5	
[Report Title] [Company Name] Job Code: [Job Code] Description: [Job Description]	Resource Utilization	
Report Footer (last page only)		
Page Footer		
[Date Printed] [Time Printed]	Copyright@1989-2017 In Eight Inc. All Rights Reserved.	Page

- 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**.

Settings	: Default 6	*
Print	Details Layout	Header/Footer
	by currency:	No Filter
	t Type	8
	Resource Utilization	
	Resource Utilization	Summary with Employed Cost Items

 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

TIP 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**.
- 10. Next, you can choose the resources you want to see. For this example, select the **Labor** and **Construction Equipment** Resource Types.

Group By		Resource Type
Insert page breaks between the outerm	s	🗹 Labor
Resource Organizational Category	\sim	Construction Equipment
< no field selected >	~	Rented Construction Equipment
< no neio selecteo >	·	Installed Material
< no field selected >	\sim	Installed Equipment
< no field selected >	\sim	Supplies
< no field selected >		Unique
< no nelo selecteo >	~	
< no field selected >	\sim	

• For this example, you will not make any selections under Columns or Details

Columns	Details
Show Currency column	Exclude details and only show subtotals
Show plug rate for non-hourly resources	Show Currency Summary
Show tax separately from plug rate for non-hourly resources	
Show hours for non-hourly duration driven resources	

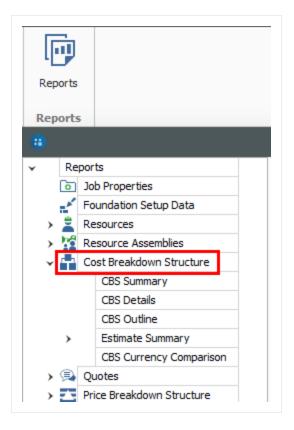
- This is just one of many ways to organize and adjust your report.
- 11. Click **Run** to run the report.
 - This report can be helpful for seeing your utilization hours, broken down by regular time and overtime hours

				R	esource Utilizatio	n	
Code	Description		Wage Scale 1 Rate/Hr	Hours	Wage Scale 2 Rate/Hr	Hours	Wage So Rate/Hr
Organizational Category:	Carpenter						
LC1	Carpenter Apprentice		27.48	594.37	41.22	0.00	54.96
LC2	Carpenter Journeyman		28.92	1,188.73	43.38	0.00	57.84
LC3	Carpenter Foreman		31.47	594.37	47.20	0.00	62.94
Organizational Category:	Carpenter	Subtotals)	2,377.46		0.00	
Organizational Category:	Finisher-Concrete Gr	ouped by Org	ganizatio	nal Cateo	gory		
LF2	Finisher		28.07	594.37	42.10	0.00	56.13

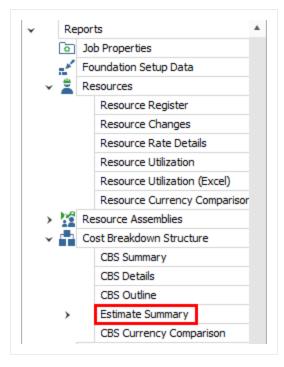
- 12. Click the red **X** to close this page and open the Construction Equipment page.
- 13. Click the red **X** to close the Construction Equipment report.

9.1 Step by Step 3 — Configure Report Output Settings (Report 2)

1. 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.

Setting	s: Default	Alternate Sce	enario		
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.

Print a cor	tiguous range of cost i	tems:		ß		
From:	4.1		•			
To:	4.3.2		-	Roll-up to CBS Level	1	
 Select cos 	t items to print from the	e register below:				
O Select cos			Search For]	··· Saved views:	Standard View	
			earch For]	··· Saved views: Optional Code	Standard View Unit of Measure	C
		Find:		Optional	Unit of	0
		Find:		Optional Code	Unit of Measure	
		Find:		Optional Code PRIME BOND	Unit of Measure Lump Sum	

- 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, Construction Equipment, and

Installed Material.

rint Cost Item Selection Details Layout Header/F	00161
Filter by currency: No Filter General Group by: No Group Show Suspended Items Notes Awardee	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
When filtering, only include terminal cost items in total	Resource Types Ad-hoc Employments Labor
Cost item production field 1: Days \checkmark Cost item production field 2: Man-Hours/UM \checkmark	Construction Equipment Rented Construction Equipment Installed Material
Cost item text field: Currency \checkmark	Installed Equipment
Employment text field: Currency \checkmark	 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
Settin	gs: Default		-	
i 🗭 🗄	🛛 🔯 🚱 🔽 🛛 Ins	ert Field 🛛	, L	3

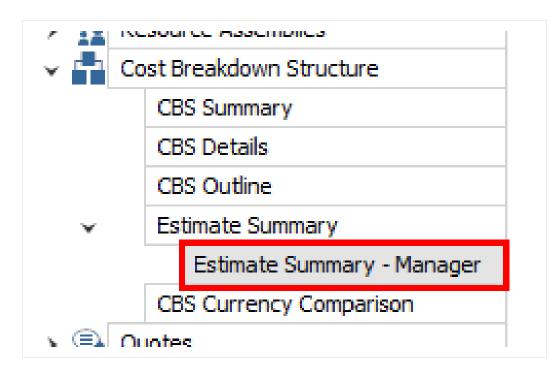
11. Select the **Save disk** icon to save the new settings.

Settings:	Default	- 1	
₩ 🛱 🛙	Custom	3	
	Default		
Page Heade	r		

- 12. Type Estimate Summary Manager.
- 13. Click **OK**.

Save New Setting	is –	- 🗆	×
Name:	Estimate Sum	mary - Mana	ager
	ОК	Ci	incel

• Notice that a custom version of the report now displays under Estimate Summary on the Reports tree on the left



9.1.3 Helpful Reports

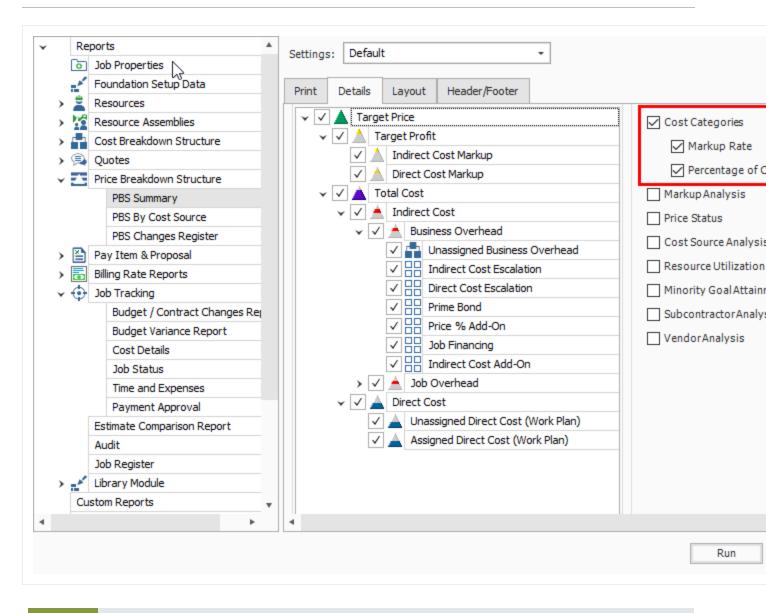
9.1.3.6 PBS Summary

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.



TIP You can also select to show markup rate and what percentage the markup is of your cost.

9.1.4 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>oposal</u> BCCont	Job Code:	Training Job Training Job - Maricopa County No. TM2924			
Line No.	Pay Item No.	Proposal Description	Quantity Unit of Measu	ure Unit Price	Total P
		Subtotal Description			
10	541 0100	Mobilization	1.00 Lump Sum	94,200	94,200
20	201 0102	Clearing & Grubbing	10.00 Acre	0.00	0.
30	202 0183	Unclassified Excavation	50,000.00 Cubic Yard	7.49	374,500
40	303 5912	Aggregate Base	40,000.00 Tan	27.92	1,116,800
50	303 4263	Asphalt Concrete Hot Mix Type A	38,000.00 Ton	42.62	1,619,560
60	413(B) 0464	36 Inch RCP Culvert Class III	1,000.00 Linear Feet	123.77	123,770
70	800 0220	10 Inch PVC Force Main (SDR21)	12,000.00 Linear Feet	29.64	355,680
80	800 0330	24 Inch PVC Gravity Sewer (SDR35)	3,000.00 Linear Feet	63.26	189,780
90	800 0400	4 Foot Diameter Manhole	16.00 Each	4,532.35	72,517
100	501(A) 1306	Structural Excavation & Backfil	800.00 Cubic Yard	27.69	22,152
110	506(A) 1322	Steel Reinforcement	30,000.00 Pound	1.79	53,700
120	503(A) 1313	Retaining Wal	850.00 Cubic Yard	532.05	452,242
130	600 0300	Paint Existing Steel Bridge Structure	1.00 Lump Sum	100,215.00	100,215
140	700	Process Equipment	1.00 Each	1,946,884.65	1,946,884
150	1000	Removal of Underground Storage Tarks	2.00 Each	13,220.83	26,441
160	1010	Disposal of Contaminated Sol	800.00 Cubic Yard	30.20	24,160
170	1200 0100	Toll Booth	1.00 Each	30,994.27	30,994
180	1500 0100	Guardrail Type 2	1,000.00 Linear Feet	28.96	28,960
190	1500 0200	Guardrail Type 3A	200.00 Linear Feet	37.40	7,480
200	1600 0230	Type 4 Sians	1,000.00 Square Feet	15.68	15,680
21	CO1	Realignment of Water Line	1.00 Each	0.00	0
				GRAND TOTAL:	6.655.717

9.1.5 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.

	stitem: 1			ToC	ost Item: 0.10								
11011100			Cost Item	100	our one of the						Uni	t and Total Costs by Cateo	arv.
BS Position ode	CI Description	Cost Source		Forecast (T/O) Quantity UM		Unit Cost 1	'otal Cost	Lab	or Owned Equipr	nent Rented Equipm			Subcontract
	Mobilization	Detail		1.00 Lump 8	Sum	11,909.51	11,909.51	2,449 2,449				0.00 0.00 0.00 0.00	0.00
Pay Item Assign Default Propertie	ment: 341 0100 (Mobilization) e: Account Code 1020 Optional Code 541 0100	Cost Curve Linea Phase Code		Tag 1 Estimator 1 Owner's Qty. 1.00	Tag 2 Roadway Quote Group	Tag 3 Quantity Driver Pav Item		Tag 4 Minority Allow 100.00%		Tag 5 verride			
Default Pay Rule	e: Wage Scale 1 100.00	Wage Scale 2 0.00		Wage Scale 3 0.00	Resource Work Hrs 8.00	Resource Pay Hrs 8.00		Default Shift Arrangements	Work H	ra/Shift 8.00	Shifta/Day 1.00	Daya/Week 5.00	
Productio Duratio		Shifta 10.00	Houra 80.00	Man-Houre 80.00		Cost / Duration		Cost/Day 1,190.95	Coat/Shift 1,190.95	Cost/Hour 148.87	Cost/Man-Hr. 148.87	Cost/Equip-Hr. 74.43	
UM / Duratio	n UMDay 0.10	UM/Shift 0.10	UMHour 0.01	UMMan-Hr 0.01		Duration / UM		Days/UM 10.00	Shifta/UM	Hours/UM 80.00	Man-Hre/UM 80.00	Equip-Hra/UM 160.00	

9.1.6 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

Exercise 9.1 — Run a System Report

You can adjust InEight Estimate system reports to report on the particular information you need. Complete the following steps to configure and run the Pay Item Summary report, using the Training Job:

- 1. From the Reports window, expand the Pay Item & Proposal report node.
- 2. On the Reports tree, select **Pay Item Summary**.
- 3. On the Details tab, select a Pay Item Range from 303 4263 800 0220.
- 4. Choose to Include Assigned Cost Items.
- 5. Show Costs As: Unit.
- 6. Include Profit Analysis columns and Include Pay Item Price columns
- 7. Run the report.

You should end up with the following results

ABC Contractors Job Code: Training Job Description: Training Job - Maricopa County No. TM2924 From Item: 303 4263 To Item: 800 0220 Pay/Cost Item Unit Cost by Category Assigned Owned Rented Code Description Quantity UM Direct Cost Labor Equipment Equipment Materials Supplies Subcontra 303 4263 Asphalt Concrete Hot Mix Type A 38,000.00 Ton 42.62 3.11 6.43 0.00 31.50 0.00 0. 5 Asphalt Concrete Hot Mix Type A 38,000.00 Ton 1,619,430.35 3.11 6.43 0.00 31.50 0.00 0. 5.1 Eurrish & Haul Hot Mix 38.000.00 Ton 1,492,382,18 1.43 477 31.50 0.00 0.00 0 5.2 Install Hot Mix Type A 38,000.00 Ton 127,048.17 1.68 1.66 0.00 0.00 0.00 0. 413(B) 0464 36 Inch RCP Culvert Class III 1,000.00 Linear Feet 66.42 19.60 13.48 0.93 30.82 0. 0.00 6 36 Inch RCP Culvert Class III 1.000.00 Linear Feet 66,416,79 19.60 13.48 0.93 30.82 0.00 0 6.1 Furnish RCP Materials 32,361.33 1,000.00 Linear Feet 0.00 0.00 0.00 30.82 0.00 0. 6.2 Excavate RCP Trench 1,815.00 Cubic Yard 8,183.20 4.85 3.34 0.00 0.00 0.00 0. 6.3 Install RCP Pipe 1,000.00 Linear Feet 11,735.94 6.45 5.29 0.00 0.00 0.00 0. 6.4 Backfill RCP Pipe 1,550.00 Cubic Yard 14,136.32 8.31 4.86 0.93 0.00 0.00 0. SUBTOTAL: SITEWORK & ROADWAY 1,685,847.14 137,894.00 257,768.56 926.90 1,227,820.31 0.00 0. 800 0220 10 Inch PVC Force Main (SDR21) 12,000.00 Linear Feet 22.51 4.56 472 0.00 12.60 0.00 0 7 10 Inch PVC Force Main (SDR21) 12,000.00 Linear Feet 270,163.37 4.56 4.72 0.00 12.60 0.00 0. 7.1 Furnish 10 Inch PVC Materials 12,000.00 Linear Feet 158,760.00 0.00 0.00 0.00 12.60 0.00 0 7.2 Excavate-Install-Backfill 10 Inch PVC 12,000.00 Linear Feet 111,403.37 4.56 4.72 0.00 0.00 0.00 0. Extended Totals By Category 1,956,010.51 192,599.77 314,466.16 926.90 1,379,020.31 0.00 0.

Congratulations, you have completed this exercise!

9.2 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.

File Setup	Estimate	Quote	Price	Execution	System	Actions
E Print	+ New	📲 Сору	🛒 Split		➡ Indent	📕 Link Field
🗟 Preview	🛞 Delete	Paste	🊉 Split	by Cost Type	Jutdent 🔶	🚚 Unlink Fie
🚰 Export to Excel	° Cut	+ Fill Down	🎝 Togg	le Suspended		
Print			Edit			Workbool
Cost Breakdown S	Structure (CB	5) Register	0			
CBS Tree (Filter I	(ode)	×	Dran co	olumns here to	aroup	

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.

9.2 Step by Step 1 – Create a Register Report

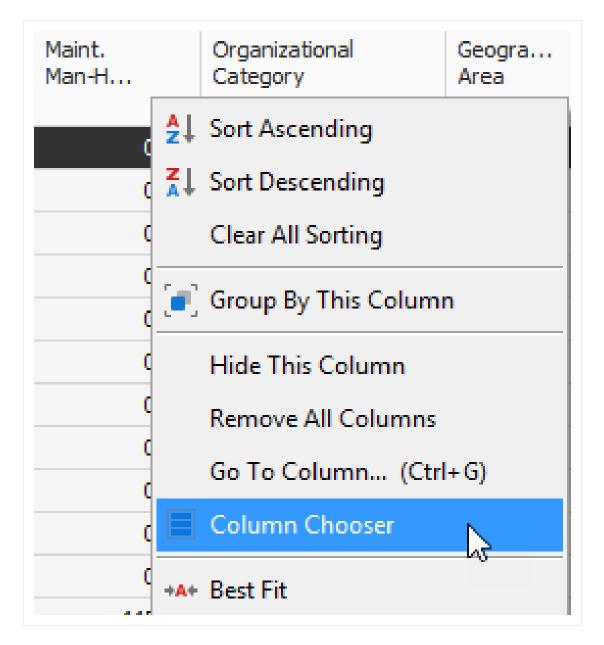
1. Open the Training Job and select Setup tab, then select the Resource Rates drop-down list.

File	Estimate	Quote	Price	Execution System	
Job Properties	Foundation Setup Data -	Pay Item & Proposal	Bid Wizard	Resource Rates Materials Resource Assemblies	Cost Ite Assembli
	Initiali	ze		 Labor Construction Equipment Rented Construction Equipment Installed Materials Installed Equipment Supplies Unique 	Ass

- 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.

Saved views	:	Previous View	Ш	+
		Previous View	•	
Acc Code	ļ	Print View for Breakdown		
CODE		Print View for Summary		
	q	Standard view	60	
	C	Utilized Resource 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.

} 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

• This sorts your items so the most utilized resources are at the top

- 9. Click on the **Saved Views** drop-down menu and select the **Save disc** 兰 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.

INEIGHT - P/ E101 - Traini	AUL TRIPPI ng Job KLSample Traini	ng Job		Lubbi	Register	
Resource Code	Description	Utilization Count	Unit of Measure	Unique Sales Tax	Minority Percent	Maint. Man-Hour Factor
L01	Operator Class 1	680.00	Hour	0.00	0.00	0.0
LL2	Laborer	590.00	Hour	0.00	0.00	0.0
LSSUPT	Project Superintendent	560.00	Hour	0.00	0.00	0.0
LSSEC	Secretary	560.00	Hour	0.00	0.00	0.0
L03	Operator Class 3	220.00	Hour	0.00	0.00	0.0
LL3	Labor Foreman	200.00	Hour	0.00	0.00	0.0
L04	Operator Foreman	110.00	Hour	0.00	0.00	0.0
LT1	Teamster	100.00	Hour	0.00	0.00	0.0

9.2.1 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.

9.2.1.1 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)

9.2.1.2 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.

Exercise 9.2 — Create a Custom Register Report

You can configure the columns in your registers for reporting and run your own custom reports. Complete the following steps to configure and run a report from the CBS Register, using the Training Job:

- 1. Select Estimate>Cost Breakdown Structure (CBS).
- 2. Under Saved Views, Select CBS Simple View.
- 3. Hide the **Optional Code column**.
- 4. Add back in the Man-Hours (Total) and Man-Hours / UM columns.
- 5. Now add back in the Labor Total Cost, Owned Equipment Total Cost, and Materials Total Cost categories for reviewing the estimate.
- 6. Save the View (create your own name for the view).
- 7. Select **Preview** to view the report.

You should end up with the following results

Cost Breakdown Structure (CBS) F

ABC Contracting Inc

Training Job--Training Job - Maricopa County No. TM2924

CBS Position Code	Description	Forecast (T/O) Quantity	Unit of Measure	Man-Hours (Total)	Unit Cost	Labor Total Cost	Total Co (Forecas
	JOB	20.00	Mile	27,993.15	\$306,883.14	\$907,442.76	\$6,137,66
	Prime Bond	1.00	Lump Sum		\$48,686.14	\$0.00	\$48,68
	Price % Add-On	1.00	Lump Sum		\$309,475.27	\$0.00	\$309,47
	Job Financing	1.00	Lump Sum		\$0.00	\$0.00	\$
	Indirect Cost Escalation	1.00	Lump Sum		\$0.00	\$0.00	\$
	Direct Cost Escalation	1.00	Lump Sum		\$11,026.79	\$12,026.79	\$11,02
	Indirect Cost Add-On	1.00	Lump Sum		\$0.00	\$0.00	\$
	Job Management & Equipment	1.00	Lump Sum	2,400.00	\$157,096.28	\$91,176.28	\$157,09
	GeneralExpense	1.00	Lump Sum	0.00	\$4,200.00	\$0.00	\$4,20
	Direct Cost Add-On	1.00	Lump Sum		\$109,544.08	\$15,676.56	\$109,54
1	Mobilization	1.00	Lump Sum	0.00	\$75,000.00	\$50,000.00	\$75,00
2	Clearing & Grubbing	10.00	Acre	0.00	\$0.00	\$0.00	\$
3	Unclassified Excavation	50,000.00	Cubic Yard	3,964.29	\$9.95	\$110,467.00	\$497,46
3.1	Excavation, scrapers	50,000.00	Cubic Yard	1,250.00	\$3.00	\$33,170.48	\$149,92

Congratulations, you have completed this exercise!

Lesson 9 Review

- 1. The ______ Report gives a good overview of how your price breakdowns by cost category.
 - a. Estimate Summary
 - b. PBS Summary
 - c. Audit
- 2. The ______ Report is a very important report to run during bid review to make sure you didn't leave anything out of the estimate.
 - a. CBS Details
 - b. Audit
 - c. Pay Item Summary
- 3. A best practice is to always set your Print output setting to **Preview** so you can review before printing.
 - a. True
 - b. False

Lesson 9 Summary

As a result of this lesson, you can:

- Run reports from the Report menu
- Create and run reports from register forms



LESSON 10 – DATA REPRODUCTION

Lesson Duration: 20 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Create a job from an existing job or template
- Create a template
- Reproduce estimate data using the Bid Wizard
- Reproduce estimate data using copy/paste
- Add cost items to a job using the CBS Bid Wizard
- Utilize the Snapshot function

Lesson Topics

10.1 Copy an Existing Job
10.2 Templates
10.2.1 Archive and Restore Templates
10.3 Bid Wizard
10.4 Copy Estimate Data Using Edit Commands
10.5 CBS Bid Wizard
10.6 Snapshots
10.6.1 Snapshot Register
10.6.2 Creating a New Job Snapshot
10.6.3 Editing a Job Snapshot
10.6.4 Deleting a Job Snapshot
10.6.5 Loading a Job Snapshot

Exercise 10.1 — Data Reproduction	387
Lesson 10 Review	391
Lesson 10 Summary	391

10.1 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.

10.1 Step by Step 1 - Copy an Existing Job

1. Click the File tab on the Estimate landing page.

🕲 💾 🕒													ibrary - Estimate
File Setu	p Estimate	Exec	ution	System	Integrations	Actions							
o			山		ŧ	🐔 Labor		2		4	†1+		
	- T		HH I	1000		🟭 Equipment	ĂĂ	33 L		G	1.11	· 🕞	
Job Properties	Foundation Setup Data 👻	Address Book	Trench Calculator	Shift Rate Calculator	Resource Rates *	Materials	Resource Assemblies	Cost Item Assemblies	Standard Tables	User Roles	Access Control	Reports	
	Master I	nitializati	on			laster Resourc	es	Master As	semblies	Roles and Pe	ermissions	Reports	

2. From the left side panel, select **New**, then select **Existing Job**.

©	Library - Estimate
Start	Create a new Job from
New	
Open	
Save	
Close Job	Scratch Template Existing Job Bid Wizard Archive Snapshot Primavera US Cost
Close All Jobs	
Jobs	
Library	
Templates	
Snapshots	
Archive / Restore	
Settings	
Exit	

3. The Job Register displays a list of your existing projects; select the Training Job and click OK.

- 4. On the New Job dialog, in the Code field, type Infra Job Copy with your initials.
- 5. 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.
- 6. Uncheck the check for copying the PBS Changes Log.
- 7. Click **OK** to create the new job.

9	New Job from 'Training Job'							
Code: *	Infra Job Copy							
	Copy Cost Details							
	Copy PBS Changes Log							
	Copy RFQ's, Quotes and Commitments							
	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.

10.2 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.

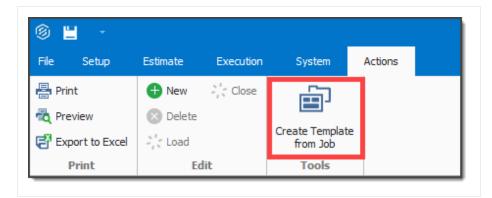
You can create templates from scratch or from existing job folders. The following steps walk you through how to create a new template from an existing job folder.

10.2 Step by Step 1 — 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.

©	
Start	Templates
New	
Open	
Save	
Close Job	Template Register
Close All Jobs	

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.

raq	g columns here to group			Find: [Search For]	Sa	ved views: Previo	us View	•
	Code	<u>k.</u>	In Use	Description	Status	Schedule	Location	City
÷	E101 - Training Job KL			Sample Training Job	Bidding		90th Street & Shea	Scotts
1	Training Job			Training Job - Maricopa County No. TM2			I-10 MP 100 to MP	Phoenix

NOTE

You cannot create templates from jobs that are published to Job Tracking.

• A prompt appears to give your new template a Job Code

Code: *	
	🗹 Copy Cost Details
	🗹 Copy PBS Changes Log
	Copy RFQ's, Quotes and Commitments
	OK Cancel
	OK Cancel

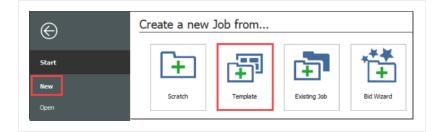
- 6. In the Code field, type **Small Project Template [your initials]**.
 - Leave Copy Cost Details and Copy PBS Changes Log checked
- 7. Click OK.
 - The new template is created and opens to the Job Properties form
 - You can add the description in addition to the code for any new job you are creating from a template. This description is later added to the Overview tab of the new job on the Job Properties form

b Properti	ies Ø								
verview	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking			
Code:	099KL								
cription:	Sample Training Job								

• Back in the Templates Register, you can see the new template created

ile Setup	Estimate	Execution	System	Actions		
🚽 Print 👌 Preview		ें Load र्दे Close	Ē			
🛃 Export to Excel	😣 Delete		Create Templ from Job	ate		
Print	Edit		Tools			
Template Registe						
Code	o group	<u>.</u>	In Use	Description	Status	Schedule
→ Smal Project Te	mplate KL		✓ s	Sample Training Job	Bidding	Microsoft Proj

• 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.



- 8. Select Add to existing job
- 9. From Select Source Job, click the **dropdown** arrow
- 10. Click Next
- 11. Select a job that is shown as having a Template
- 12. Click **OK**

Bid Wizz	ard	×®					Job Register			
Step 1: What would you like to do?		Dra	ag columns here to group				Find: [Search For] … Saved	views: Prev	rious View	-
O Create a new job:			Code	<u>1.</u>	Is Template	In Use	Description	Status	Schedule	Location
New Code:		->	099KL		✓		Sample Training Job	Bidding	Microsoft Proj	90th Stree
Description:			E101 - Training Job KL				Sample Training Job	Bidding	Microsoft Proj	90th Stree
dd to existing job: [Select Source Job]		_	Smal Project Template KL		 Image: A start of the start of		Sample Training Job	Bidding	Microsoft Proj	90th Stre
0 6	Nett> Cance	cel								
		4							ок 5	Cancel

10.2.1 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.

10.2 Step by Step 2 — 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

10.3 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.

10.3 Step by Step 1 - Use the Bid Wizard

1. To open the Bid Wizard, click the **File** tab on the Estimate landing page.

🛞 💾 🕒													ibrary - Estimate
File Setup	Estimate	Exec	ution	System	Integrations	Actions							
G	- **		由	1	۲	🐔 Labor		2		4	11+	P	
			881	1881		📇 Equipment	ĂĂ	# 1		G	1.11	- 'L	
Job Properties	Foundation Setup Data *	Address Book	Trench Calculator	Shift Rate Calculator	Resource Rates *	Materials	Resource Assemblies	Cost Item Assemblies	Standard Tables	User Roles	Access Control	Reports	
	Master I	nitializatio	on			laster Resourc	es	Master As	semblies	Roles and Pe	ermissions	Reports	

2. From the left side panel, select **New**, then select **Bid Wizard**.

e				Library - Estimate
Start	Create a new Job from			
New				
Open			FT FT	
Save				
Close Job	Scratch Template	Existing Job Bid Wizard	Archive Snapshot	Primavera US Cost
Close All Jobs				
Jobs				
Library				
Templates				
Snapshots				
Archive / Restore				
Settings				
Exit				

• The Bid Wizard – Step 1 dialog displays

9	Bid Wizard	×
Step 1: What would you	like to do?	
Oreate a new job:		
New Code:		
Description:		
○ Add to existing job:	[Select Source Job]	
		Next > Cancel



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.

8	Bid Wizard	I	×
Step 2 of 5: What	should fill the new Job?		
⊖ Select pay items	from a source Job folder (or impor copy their corresponding cost item	rt them from an electronic file), and opti- Is.	onally,
Select cost items	from a source Job folder.		
		< Back Next >	Cancel

- 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.

ob Properties	Job Properties contains the Overview, Security,
○ Copy from MasterJob Properties	Cover Sheet, Cost Basis, Minority Setup and Fuel Cost for the job.
Opy from source job	cost for the job.
oundation Setup Data	Foundation Setup Data contains the Account Codes
O Copy from Master Foundation Setup Data	Tags, Quote Group Tags, Units of Measure, Currencies, Resource / Assembly Files, Geographic
Copy from source job	Areas, Wage Zones, Organization Categories and Weather Tags.
esources and Resource Assemblies	Resources and Resource Assemblies that are
Copy utilized Resources and Resource Assemblies from source job	utilized by Cost Items in the source job(s) are copied by default. Optionally, all Resources and
Also copy all non-utilized resources	Resource Assemblies can be copied from the source job(s) into the new job.
Inassigned Cost Items and Markup	Unassigned Cost Items are those cost items in the
○ Copy from Master CBS	CBS that are not assigned to specific pay items, including Prime Bond, Job Financing, General
Opy from source job	Expense, and others.
🗹 Copy Markup	
Vorkbook	The workbook contains data that is used to link
○ Copy from Library	fields in Estimate to cells in Excel. The workbook containing the data that you want to
Copy from sourcejob	use for linking with Excel can be copied from
	the Library or the source job.

- 10. Click Next.
 - The Bid Wizard Step 4 of 4 dialog displays
- 11. Click the **Source Job** drop-down arrow.

9				Bid Wizard			o x
Step 4 of 4	4: Choose the so	ource Cos	t Items to	сору.			
Source Job	: [Select Source Job]	•					
Drag columns he	ere to group			Find: [Search For]	Saved views:	Standard View	-
Include	CBS Position Code	🚊 Des	cription			Optional Code	Forecast (T/O) Quant
(

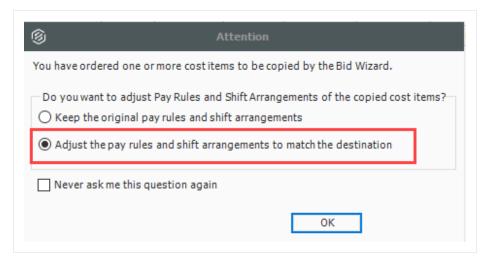
- The Job Register opens
- 12. Find and select Training Job.
- 13. Click OK.
 - This screen displays the cost items of the source job (Training Job). All items are automatically selected
- 14. Use the Toggle Include All button to exclude all selections.

S	tep 4	4 of 4:	Choose the	e source Cost	tems to cop	y .					
	Sourc	e Job:	Training Job	•							
)rag	g colun	nns here	to group		Find	: [Search For.]	Saved views:	Standard View	1	•
	Inclu	de	CBS P ≞ C	Descr	Optional Code	Forec (T/O) Quan	Unit of Meas	Unit Cost	Total Cost (Fore	Curre	Accoun Code
÷			1	Mobilization	641 0 100	1.00	Lump Sum	\$11,909.51	\$11,909.51	U.S. Dollar	1020
			2	Clearing &	201 0 102	10.00	Acre	\$3,793.70	\$37,936.97	U.S. Dollar	1110
			3	Unclassifie	202 0183	50,000.00	Cubic Yard	\$4.79	\$239,582.64	U.S. Dollar	1122
			3.1	Excavat	3.1	38,227.74	Cubic Meter	\$3.90	\$149,236.48	U.S. Dollar	1122.1
	•		3.2	Embank	3.2	42,432.79	Cubic Meter	\$2.13	\$90,346.16	U.S. Dollar	1122.2
			4	Aggregate	303 5912	45,000.00	Ton	\$15.15	\$681,696.99	U.S. Dollar	1120
			4.1	Furnish	4.1	45,000.00	Ton	\$11.54	\$519,513.30	U.S. Dollar	1120.1
	Ð		4.2	Finegra	4.2	400,000.00	Square Yard	\$0.18	\$73,352.36	U.S. Dollar	1180
			4.3	Install A	4.3	45,000.00	Ton	\$1.97	\$88,831.33	U.S. Dollar	1120
			4.3.1	Place	4.3.1	45,000.00	Ton	\$1.55	\$69,716.92	U.S. Dollar	1120.2
I.											•

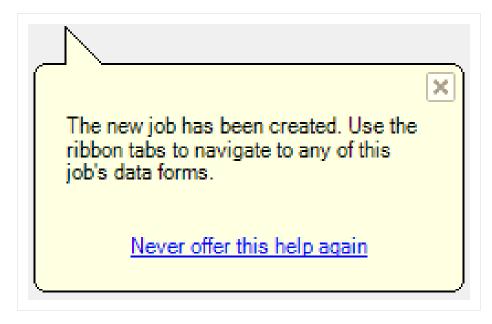
- 15. Select the checkboxes to include **Mobilization**, **Clearing & Grubbing**, and **Unclassified Excavation**.
- 16. Notice that when selecting Unclassified Excavation, that cost item's subordinates are automatically selected

	Sourc	e Job:	Training Job	•							
	colum		to group		Find	[Search For.	.1	Saved views:	Standard View		•
лад	colun	ins nere	to group		Find	: [Search For.		Saved views:	Stanuaru view		•
ſ	Indu	de	CBS P = C	Descr	Optional Code	Forec (T/O) Quan	Unit of Meas	Unit Cost	Total Cost (Fore	Curre	Account Code
		\checkmark	1	Mobilization	641 0 100	1.00	Lump Sum	\$11,909.51	\$11,909.51	U.S. Dollar	1020
		\checkmark	2	Clearing &	201 0 102	10.00	Acre	\$3,793.70	\$37,936.97	U.S. Dollar	1110
1		\checkmark	3	Unclassifie	202 0 183	50,000.00	Cubic Yard	\$4.79	\$239,582.64	U.S. Dollar	1122
		\checkmark	3.1	Excavat	3.1	38,227.74	Cubic Meter	\$3.90	\$149,236.48	U.S. Dollar	1122.1
		\checkmark	3.2	Embank	3.2	42,432.79	Cubic Meter	\$2.13	\$90,346.16	U.S. Dollar	1122.2
			4	Aggregate	303 5912	45,000.00	Ton	\$15.15	\$681,696.99	U.S. Dollar	1120
			4.1	Furnish	4.1	45,000.00	Ton	\$11.54	\$519,513.30	U.S. Dollar	1120.1
			4.2	Finegra	4.2	400,000.00	Square Yard	\$0.18	\$73,352.36	U.S. Dollar	1180
			4.3	Install A	4.3	45,000.00	Ton	\$1.97	\$88,831.33	U.S. Dollar	1120
			4.3.1	Place	4.3.1	45,000.00	Ton	\$1.55	\$69,716.92	U.S. Dollar	1120.2

- 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.

Los	st Breakdown Structi	ıre (CBS) Register 🛛 🛛			
orag	g columns here to group				
	CBS Position Code 🗎	Description	Really Optional Code	Forecast (T/O) Quantity	Unit of Measure
÷	=	ЈОВ		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 0 100	1.00	Lump Sum
	+ 2	Clearing & Grubbing	201 0 102	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

10.4 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.

10.4 Step by Step 1 — 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)**.

® 💾 -					
File Setup	Estimate	Quote	Price	Execution	Sy
Cost Breakdown Structure (CBS)	Account Co		ires	Resource Rates Resource Utilizat	ion
Brea	kdown Structu	ires		Resources	
Cost Breakdow	n Structure (C	BS) Registe	r O		

4. Since you have both jobs open and they are in their own application window, align them to be side by side by using the **minimize icons** of each job or utilizing Windows align functionality.

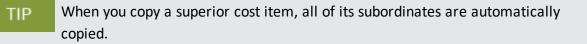
		-	ð		×
			盫		?
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1					*
	Standard View			-	
Saved views:	brandard field				

• Note that the window caption identifies the CBS Register for each job

) 💾 -							® 💾 -							
le Setup Estimat	e Quote Price Execution	System Integrations	Actions More Act	ons		盒 ☷ ?	File Setup	Estimate	e Quote Price Execution		Actions More Act	ions		盒Ⅲ
st Breakdown ructure (CBS)	Workbook Schedule	Indirect Cost Items 💽 Struc	BASE Breakdown ture (PBS)	Scenario: nates Alternates	Reports		Cost Breakdown Structure (CBS)		Workbook Schedule	w Indirect Cost Items 💌 Struc	Teakdown breakdown thread and Pr	nates	Reports	
ost Breakdown Structure	(CBS) Register Ø						Cost Breakdown	Structure	e (CBS) Register Ø					
ag columns here to group		Find:	[Search For]	Saved views: F	Previous View	•	Drag columns here t	n aroun		Find	[Search For] ···	Saved views: Standard	Vew	
CBS Position Code	Description	Really Optional	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost /	CBS Position Code	<u>.</u>	Description	Really Optional	Forecast (T/D) Quantity	Unit of Unit Measure Unit		Total Cost (Forecast)
		Code								Code	(i) of desired			(
•	308		20.00	Mie	\$3,633,147	\$72,662,954 *	→ ■		JOB		1.00	Lump Sum \$5,0	543,071	\$5,643,071.8
	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	\$5,492.1
	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	\$23,005.4
	Job Financing	FINANCE EXPENSE	1.00	Lump Sum	\$0.00	\$0.00	+		Job Financing	FINANCE EXPENSE	1.00	Lump Sum	\$0.00	\$0.0
	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	\$0.0
	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	\$0.0
	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		\$3,280.16	\$3,280.1
+	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 \$1	25,896.28	\$125,896.2
+	General Expense	GENERAL EXPENSE	1.00	Lump Sum	\$4,200.00	\$4,200.00	+		General Expense	GENERAL EXPENSE	1.00		\$4,200.00	\$4,200.0
+	Direct Cost Add-On	DIRECT COST ADD-ON		Lump Sum	\$104,203.16	\$104,203.16	+		Direct Cost Add-On	DIRECT COST ADD-ON	1.00	Lump Sum	\$5,788.58	\$5,788.5
+ 1	Mobilization	641 0 100		Lump Sum	\$11,909.51	\$23,819.02	+ 1		Mobilization	641 0 100			11,909.51	\$11,909.5
+ 2	Clearing & Grubbing	201 0102	10.00	Acre	\$3,793.70	\$37,936.97	+ 2		Clearing & Grubbing	201 0 102			\$3,793.70	\$37,936.9
3	Unclassified Excavation	202 0 183		Cubic Yard	\$4.94	\$246,901.12	3		Unclassified Excavation	202 0183		Cubic Yard	\$4.79	\$239,582.6
+ 3.1	Excavation	3.1		Cubic Meter	\$4.10	\$156,554.96	+ 3.1		Excavation	3.1		Cubic Meter	\$3.90	\$149,236.4
+ 3.2	Embankment	3.2	42,432.79	Cubic Meter	\$2.13	\$90,346.16	+ 3.2		Embankment	3.2	42,432.79	Cubic Meter	\$2.13	\$90,346.1

 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.

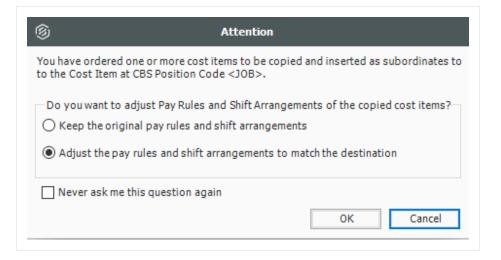
					<u> </u>
\rightarrow	⊒ 4	Aggregate Base	303 5912	45,000.00	To
	+ 4.1	Furnish & Haul Base Material	4.1	45,000.00	Tor
	+ 4.2	Finegrade Subgrade	4.2	400,000.00	Squ
	■ 4.3	Install Aggregate Base	4.3	45,000.00	Tor
	+ 4.3.1	Place Aggregate Base	4.3.1	45,000.00	Tor
	+ 4.3.2	Blue Top Aggregate Base	4.3.2	400,000.00	Squ



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 0 100	1.00	Lump Sum
+ 2	Clearing & Grubbing	201 0102	10.00	Acre
□ 3	Unclassified Excavation	202 0 183	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**.



• 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

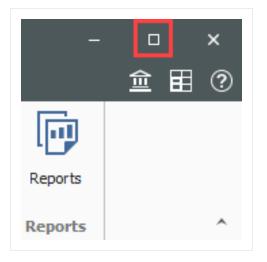
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Setup Est	inate Quote Price Execution		Actions More Act	ions		金田の		le Setup Estima	te Quote Price Execution		Actions More Ac	tions		盒⊞
Breakdown ture (CBS)	2 Vorkbook Res Workbook	v Indirect Cost Items 💽 Struct	Breakdown trure (PBS)	Scenario: nates Alternates	Reports		St	eakdown Struc Re	Workbook Schedule Cash Flow	Indirect Cost Items 💽 Strue	BASE	a Scenario: mates Alternates	Reports	
t Breakdown Struc	ture (CBS) Register 🛛 🛛					*	c	ost Breakdown Structur	re (CBS) Register Ø					
columns here to grou	p	Find:	[Search For] ···	Saved views:	Previous View		Dra	ag columns here to group		Find:	[Search For] ···	Saved views: S	itandard View	-
CBS Position Code	Description	Really Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	A	CBS Position Code	Description	Really Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
	зов		20.00	Mie	\$3,633,147	\$72,662,954 *			308		1.00	Lump Sum	\$14,870,33	\$14,870,330
	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
	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
	Job Financing	FINANCE EXPENSE	1.00	Lump Sum	\$0.00	\$0.00		+	Job Financing	FINANCE EXPENSE	1.00	Lump Sum	\$0.00	\$0
+	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
	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
+	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
+	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
+	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
	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
+ 1	Mobilization	641 0 100	2.00	Lump Sum	\$11,909.51	\$23,819.02		+ 1	Mobilization	641 0 100	1.00	Lump Sum	\$11,909.51	\$11,909
+ 2	Clearing & Grubbing	201 0102	10.00	Acre	\$3,793.70	\$37,936.97		+ 2	Clearing & Grubbing	201 0 102	10.00	Acre	\$3,793.70	\$37,936
3	Unclassified Excavation	202 0183	50,000.00	Cubic Yard	\$4.94	\$246,901.12		B 3	Unclassified Excavation	202 0183	50,000.00	Cubic Yard	\$4.79	\$239,582
+ 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
+ 3.2	Embankment	3.2	42,432.79	Cubic Meter	\$2.13	\$90,346.16		+ 3.2	Embankment	3.2	42,432.79	Cubic Meter	\$2.13	\$90,346
□ 4	Aggregate Base	303 5912	45,000.00	Ton	\$15.15	\$681,696.99	⇒	a 4	Aggregate Base	303 5912	45,000.00	Ton	\$15.15	\$681,696
+ 4.1	Furnish & Haul Base Material	4.1	45,000.00	Ton	\$11.54	\$519,513.30		+ 4.1	Furnish & Haul Base Material	4.1	45,000.00	Ton	\$11.54	\$519,513
+ 4.2	Finegrade Subgrade	4.2	400,000.00	Square Yard	\$0.18	\$73,352.36		+ 4.2	Finegrade Subgrade	4.2	400,000.00	Square Yard	\$0.18	\$73,352
■ 4.3	Install Aggregate Base	4.3	45,000.00	Ton	\$1.97	\$88,831.33		□ 4.3	Install Aggregate Base	4.3	45,000.00	Ton	\$1.97	\$88,831
+ 4.3.1	Place Aggregate Base	4.3.1	45,000.00	Ton	\$1.55	\$69,716.92		+ 4.3.1	Place Aggregate Base	4.3.1	45,000.00	Ton	\$1.55	\$69,716.
+ 4.3.2	Blue Top Aggregate Base	4.3.2	400,000.00	Square Yard	\$0.05	\$19,114.42		+ 4.3.2	Blue Top Aggregate Base	4.3.2	400,000.00	Square Yard	\$0.05	\$19,114.
□ 5	Asphalt Concrete Hot Mix Type A	303 4263	35.000.00	Ton	\$42.62	\$1,491,580,59								

TIP

You can also drag and drop cost items from one CBS to another instead of copying and pasting.

TIP 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.



10.5 CBS BID WIZARD

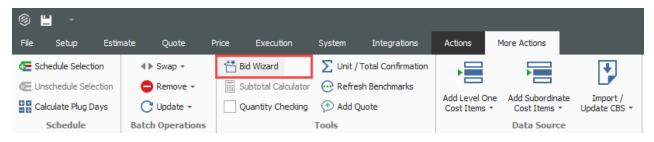
You can also use the Bid Wizard to add cost items while you are in the CBS Register. The following steps walk through using the CBS Bid Wizard.

10.5 Step by Step 1 — 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.

+ 5	New		1.00	Each
+ 4.3.2	Blue Top Aggregate Base	4.3.2		Square Yard
+ 4.3.1	Place Aggregate Base	4.3.1	45,000.00	Ton
4.3	Install Aggregate Base	4.3	45,000.00	Ton
+ 4.2	Finegrade Subgrade	4.2	400,000.00	Square Yard
+ 4.1	Furnish & Haul Base Material	4.1	45,000.00	Ton
□ 4	Aggregate Base	303 5912	45,000.00	Ton

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.

Drag	g columns here to grou	p Find: [Sear	rch For]	··· Saved view	vs: Previous View	
	CBS Position Code 🗎	Description		Forecast (T/O) Quantity	Unit of Measure	Source
	II 1	Mobilization		1.00	Lump Sum	[Sele
	2	Clearing & Grubbing		10.00	Acre	[Sele
	3	Unclassified Excavation		50,000.00	Cubic Yard	[Sele
	3.1	Excavation		38,227.74	Cubic Meter	[Sele
	3.2	Embankment		42,432.79	Cubic Meter	[Sele
	4	Aggregate Base		45,000.00	Ton	[Sele
	4.1	Furnish & Haul Base Material		45,000.00	Ton	[Sele
	4.2	Finegrade Subgrade		400,000.00	Square Yard	[Sele
	□ 4.3	Install Aggregate Base		45,000.00	Ton	[Sele
	4.3.1	Place Aggregate Base		45,000.00	Ton	[Sele
	4.3.2	Blue Top Aggregate Base		400,000.00	Square Yard	[Sele
1	5	New		1.00	Each	[Sele

- 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.

	CE Po	3S osition Code ៉	Description		Really Optional Code	Unit of Measure	Forecast (T/O) Quanti
	÷	4.2	Finegrade Subgrade		4.2	Square Yard	
		4.3	Install Aggregate Base		4.3	Ton	
	•	4.3.1	Place Aggregate Bas	e	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 C	lass 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	
							Þ

- 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
ou have ordered Azard.	d one or more cost items, or just their details, to be copied by the Bid
Do you want to quantures : O Do not make	adjust cost items and cost details based on the destination adjustments
Make adjusti	ments according to their quantity drivers and cost drivers
⊖ Keep the ori	adjust Pay Rules and Shift Arrangements of the copied cost items? jinal pay rules and shift arrangements ay rules and shift arrangements to match the destination
Never ask m	e 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	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
/	∃ 5	Asphalt Concrete Hot Mix Type A		1.00	Each
1	∃ 5 + 5.1	Asphalt Concrete Hot Mix Type A Furnish & Haul Hot Mix	5.1	1.00 1.00	
			5.1 5.2		

10.6 SNAPSHOTS

A job snapshot is a copy of an estimate 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.

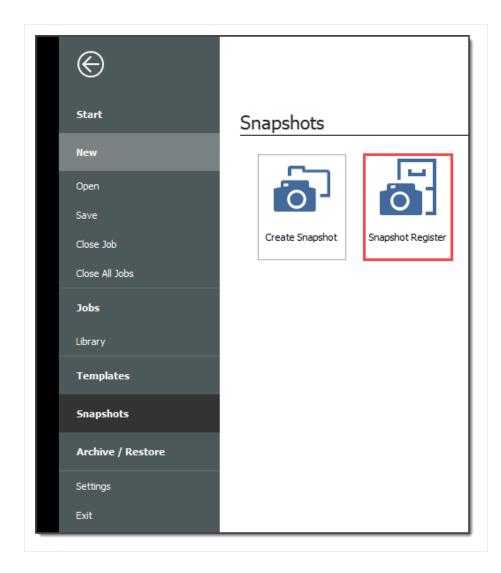
The Snapshot register has some additional columns as well. In addition to the Code, Description, Last Saved, and Version column, the Snapshot register contains all fields that are present on the Jobs register that provides you with an easier way to group, sort, filter, and find the jobs you need.

10.6.1 Snapshot Register

The Snapshot Register is where you will view individual snapshots for specific jobs.

10.6 Step by Step 1 — 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 is icon next to the desired job to display the list of snapshots.

	Co	de	<u>-</u>	Description
\rightarrow	+	E101 - Training J	Job KL	Sample Training Job
	+	Training Job		Training Job - Maricopa County No. TM2924

10.6.2 Creating a New Job Snapshot

10.6 Step by Step 2 — 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.

📮 Print	ें: Load	🐻 Create Job Snapshot	14	Y Y	C Refresh		
neview	🖓 Edit	Delete All Job Snapshots	× .		🖆 Create N	lew Job from S	napshot
	💣 Delete			er to Jobs Clear Snapshots Filter			
Print		Edit	V	liew		Tools	
Snapshot R							
Code	1	Description		Last Saved	Version	In Use	Status
Code				11/12/2019 2:23:1	19.2.0.27	✓	Bidding
	- Training Job	KL Sample Training Job		11/12/2010 212011.			

2. If an existing job is open select **Save**, if you haven't already done so.

9	Attention						
	Unsaved data will not be stored in the snapshot. Save the job before taking a snapshot?						
E101 -	Training Job KL						
	OK Cancel Unselect All						

- 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.

9	New Job Snapshot [E101 - Training Job KL] — 🗆 🗙
Job:	E101 - Training J Job Description: Sample Training Job
Snapshot Comment:	<add comment="" here=""></add>
	Include all Attachments that have been stored in the Job Folder with this Snapshot
	User Access Ouse 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 - karen.loftus@ineight.com User - paul.trippi@ineight.com Remove
	OK Cancel

(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.

Suco	cess!
Suc	ccessfully created Job Snapshot for Job: 'E101 - Training Job KL'.
_ ı	Never offer this help again
	ОК

10.6.3 Editing a Job Snapshot

10.6 Step by Step 3 — 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.

Snapshot Comment Date → Load + Training Edit Image: Delete <	÷	-	E101	Tr	raining	g Job KL	Sample Training Job	
+ Training <u>E</u> dit				Sn	apsho	ot Comment		Date
Edit Delete		+	→ Train	<	11	Load		11/13
			Train	ing		<u>E</u> dit		
Create New Job from Snapshot					8	<u>D</u> elete		
					Ċ	<u>C</u> reate Ne	ew Job from Snapshot	

- 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.

10.6.4 Deleting a Job Snapshot

10.6 Step by Step 4 — 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**.

	Co	de		1	Description
\rightarrow	-	E101	- Trainir	ng Job KL	Sample Training Job
	+	→ Train		not Comment updated com Load Edit Melet	201 TN
	_				

3. Click OK

8	Delete Job Snapshot
Are you s	sure you want to delete this Job Snapshot?
<add< td=""><td>updated comment [E101 - Training Job KL_201911</td></add<>	updated comment [E101 - Training Job KL_201911
	OK Cancel Unselect All

Alternatively, you can delete all Job Snapshots by clicking **Delete All Job Snapshots** from the Actions tab.

0		,					_	
File	Setu	ıp Estin	nate	Execution	Syste	m	Action	ns
🖶 Prir	nt	🔆 Load	õ	Create Job Snap	oshot		12	
🖏 Pre	view	े/ूर Edit	-27	Delete All Job Sr	napshots		*	
		鹶 Delete					pand / lapse 🔻	Filter to with Sna
Prir	ıt			Edit				View
Snaps	hot Re	egister O						

10.6.5 Loading a Job Snapshot

When you load an existing Snapshot, it loads into Estimate as any other job.

10.6 Step by Step 5 — 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.

	Co	de	<u>=</u>	Description		Las Sa	st ved		Version	In Use
÷	-	E101	- Training Job KL	Sample Training Job	ng Job			19 8:25:3	19.2.0.27	~
			Snapshot Comment	<u> </u>	Date Created			Version		
			<add com<="" td="" updated=""><td>ment here></td><td>11/13/2019 3:3:</td><td>1:541</td><td>PM</td><td>19.2.0.27</td><td></td><td></td></add>	ment here>	11/13/2019 3:3:	1:541	PM	19.2.0.27		
		\rightarrow	Comment #2		11/13/2019 3:50	Load				
	+	Traini	ing Job	Training Job - Maricopa Co	unty No. TM292		_			
							<u>E</u> dit			
						÷	<u>D</u> elet	e		
					(÷,	<u>C</u> reat	e New Job f	rom Snapsho	ot

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

NOTE A snapshot can be modified, but it cannot be saved as it is read-only.

ile Setup	Estimate Quote			System	Actions Mor	e Actions									<u>í</u>	
Print	🚯 New 🛛 🖶 Copy	K	Split	⇒ Indent	Link Field	📲 Cost Item	5	Assemb	v	2. Re	source	11	VV	CBS Tre	e Filter	
Preview	🖸 Delete 📄 Paste	2	Split by Cost Type	- Outdent	川, Unlink Field	🔚 Subordinate (lost Item	Subordi	ate Assembly	No Re	source Assembly	1.2		Expand	CBS Tree	
Export to E	-	_	Toggle Suspended		05	Dependent Co						Expand / Collapse *	Filter Clear			
Print			Edit		Workbook		ASC LIGHT	Ins				Conapse *	 Fiter View 			
	character (CDC) Deviate		Luit		WORKDOOK			11154	ar.				view			
	own Structure (CBS) Register	0														
CBS Tree (Fil	lter Mode)	< 1	Drag columns here to g	roup							Find: Seard	n For]	Saved vie	vs: Previous	View	-
ode	Description		CBS Position Code	. Descrij	ption		Forecast (T/O) Quantity	Unit o Measu		Cost	Total Cost (Forecast)	Allocated	Allocation Source	Currency	Cost Adjustment	Optic Code
· 🛍 📖	JOB Prime Bond	•	→ □	JOB			Quantity 20.0	0 Mile	620	2.094.58	\$5,841,891,55			U.S. Dollar		
88	Prime Bond Price % Add-On		+		Bond		20.0			6,950.91	\$46,950.91	-		U.S. Dollar		PRIM
	Job Financing		+		% Add-On		1.0			3.858.20	\$293,858.20			U.S. Dollar	-	PRIC
88	Indirect Cost Escalation				inancing		1.0			\$0.00	\$2,000.20			U.S. Dollar	-	FINA
88	Direct Cost Escalation				ntancing ect Cost Escalatio		1.0			\$0.00	\$0.00			U.S. Dollar		INDI
88	Indirect Cost Add-On				t Cost Escalation	'n				\$0.00	\$0.00			U.S. Dollar		
	Job Management & Equipment		+				1.0							U.S. Dollar		DIRE
	General Expense		+		ect Cost Add-On		1.0			\$0.00	\$0.00					INDI
88	Direct Cost Add-On		+		lanagement & Eq	uipment	1.0			7,096.28	\$157,096.28			U.S. Dollar		308
I	Mobilization		+		ral Expense		1.0			4,200.00	\$4,200.00			U.S. Dollar		GENE
2	Clearing & Grubbing		+		t Cost Add-On		1.0			4,301.10	\$104,301.10			U.S. Dollar		DIRE
> 📑 3	Undassified Excavation		+ 1		lization		1.0			1,909.51	\$11,909.51			U.S. Dollar	V	641
> 🚔 4	Aggregate Base		+ 2		ing & Grubbing		10.0		\$	3,918.50	\$39,184.97			U.S. Dollar		201
> 🛖 5	Asphalt Concrete Hot Mix Ty		□ 3		ssified Excavatio	n	50,000.0			\$4.68	\$233,915.81			U.S. Dollar		202
>	36 Inch RCP Culvert Class III		+ 3.1		avation		50,000.0			\$3.00	\$149,922.88			U.S. Dollar		3.1
→ 📫 7 → 🚔 8	10 Inch PVC Force Main (SD 24 Inch PVC Gravity Sewer (+ 3.2	Emb	pankment		50,000.0	0 Cubic	Yard	\$1.68	\$83,992.94			U.S. Dollar		3.2
> = 0	4 Foot Diameter Manhole		4	Aggre	egate Base		45,000.0	0 Ton		\$15.40	\$692,928.99			U.S. Dollar		303 5
>	Structural Excavation & Backfil		+ 4.1		nish & Haul Base Ma	terial	45,000.0	0 Ton		\$11.54	\$519,513.30			U.S. Dollar		4.1
> 11	Steel Reinforcement		+ 4.2	Fine	egrade Subgrade		400,000.0	0 Squar	e Yard	\$0.19	\$75,848.36			U.S. Dollar		4.2
> 📥 12	Retaining Wall		-	106							\$5.841.891					

Exercise 10.1 — Data Reproduction

Now that you have learned how to utilize the Bid Wizard, complete the following steps using the Bid Wizard and Copy & Paste features.

- 1. Open the Bid Wizard by clicking the Bid Wizard icon from the More Actions tab.
- 2. Choose the **Create a new job** radio button.
- 3. Type **BW Exercise** (with your initials) in the **New Code** field and type **Exercise** in the Description field.
- 4. Choose Select cost items.
- 5. For all selections, choose **Copy from source job**.
- 6. Select the Also copy all non-utilized resources checkbox.
- 7. Select **Copy from source job** under Unassigned Cost Items and Markup, and the Copy Markup box is automatically selected.
- 8. Find and select **Training Job** and click **OK**.
- 9. Use the Toggle Include All button to exclude all selections.
- 10. Select the checkboxes to include Cost Items 4-7.
- 11. Click **Finish** to add the new job.
- 12. Select Adjust the pay rules and shift arrangements to match the destination.
- 13. Open the **CBS** to see the cost items that were brought in.

- 14. Open the **Infra Job Copy** with your initials that you created earlier in this lesson.
- 15. Copy **Cost items 8 and 9** and paste them into the BW Exercise job.

You should end up with the following results

	1		
CBS Position Code	Description	Optional Code	Forecast (T/O) Qu
+	Indirect Cost Escalation	INDIRECT COST ESCAL	
+	Direct Cost Escalation	DIRECT COST ESCALAT	
+	Indirect Cost Add-On	INDIRECT COST ADD-ON	
+	Job Management & Equipment	JOB MANAGEMENT & E	
+	General Expense	GENERAL EXPENSE	
+	Direct Cost Add-On	DIRECT COST ADD-ON	
1	Aggregate Base	303 5912	
+ 1.1	Furnish & Haul Base Material	4.1	
+ 1.2	Finegrade Subgrade	4.2	
■ 1.3	Install Aggregate Base	4.3	
+ 1.3.1	Place Aggregate Base	4.3.1	
+ 1.3.2	Blue Top Aggregate Base	4.3.2	
2	Asphalt Concrete Hot Mix Type A	303 4263	
+ 2.1	Furnish & Haul Hot Mix	5.1	
+ 2.2	Install Hot Mix Type A	5.2	
□ 3	36 Inch RCP Culvert Class III	413(B) 0464	
+ 3.1	Furnish RCP Materials	6.1	
+ 3.2	Excavate RCP Trench	6.2	
+ 3.3	Install RCP Pipe	6.3	
+ 3.4	Backfill RCP Pipe	6.4	
□ 4	10 Inch PVC Force Main (SDR21)	800 0220	
+ 4.1	Furnish 10 Inch PVC Materials	7.1	
+ 4.2	Excavate-Install-Backfill 10 Inch PVC	7.2	
5	24 Inch PVC Gravity Sewer (SDR35)	800 0330	
■ 5.1	Excavate 24 Inch PVC	8.1	
+ 5.1.1	Excavate 24 Inch PVC 0-6 ft Depth	8.1.1	
+ 5.1.2	Excavate 24 Inch PVC 6-10 ft Depth	8.1.2	
+ 5.2	Furnish & Install 24 Inch PVC	8.2	
n Ei gh 5.i ðc. Release 20.1	Backfill 24 Inch PVC	8.3 Page 389 of 565	
6	4 Foot Diameter Manhole	800 0400	
+ 61	Eurnish 4 ft Manhole Materials	9.1	

Congratulations, you have completed this exercise!

Lesson 10 Review

- 1. From the New option on the Backstage View, which of the following options are available for creating a new job? (Select all that apply)
 - a. Scratch
 - b. Template
 - c. Import
 - d. Existing Job
 - e. Historic
 - f. Bid Wizard
- 2. Which of the following job reproduction options lets you pick and choose which cost items you want to import into your new job?
 - a. Template
 - b. Bid Wizard
 - c. Existing Job
 - d. Archive
- 3. Which of the following options allows you to add cost items from another project when working in the CBS Register?
 - a. Bid Wizard
 - b. CBS Bid Wizard
 - c. Template
 - d. Existing Job

Lesson 10 Summary

As a result of this lesson, you can:

- Create a job from an existing job or template
- Create a template
- Reproduce estimate data using the Bid Wizard

- Reproduce estimate data using copy/paste
- Add cost items to a job using the CBS Bid Wizard
- Utilize the Snapshot function



LESSON 11 – EXCEL INTEGRATION

Lesson Duration: 20 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Export data from InEight Estimate to Excel
- Link a field in InEight Estimate to Excel
- Update a linked InEight Estimate field with Excel data

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11.1 OVERVIEW

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.

The following sections cover exporting from InEight Estimate to Excel, linking with Excel data, and updating links.

11.2 EXPORT TO EXCEL

InEight Estimate includes a worksheet 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.

11.2 Step by Step 1 — 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**.

File Setup	Estimate	Quote	Price	Execution	System	Integrations	Actions
🖶 Print	🕂 New	📲 Сору	🛒 Split		🖛 Outdent	🚇 Link Field	→ 🗮 Cost
🗟 Preview	🛞 Delete	🖹 Paste	🔁 Togg	le Suspended		📇 Unlink Field	🔚 Subo
🚰 Export to Excel	}< Cut	+ Fill Down	🗰 Inder	nt			🕂 Depe
Print			Edit			Workbook	

- 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

File <u>Home</u> Inse	rt Page Layout Formulas	Data Review	View Help A	crobat 🔎	Search 🖻 Share	Comments
aste Calibri B I L - 3 I L - 3 I L - 3 I L - 4 I L - 5 I L - 6 I L - 7 I L -		\$ - % 9 ₩ Fo	onditional Formatting * rrmat as Table * all Styles * Styles	Cells Edit		-
A .	B	l c	D	E	F	G
CBS Position Code	Description	Forecast (T/O) (*	Unit of Measure	Unit Cost 👻	Total Cost (Forecast) 🔽	Currency - Qu
	JOB	20.00	· · · · · · · · · · · · · · · · · · ·	\$292,316.18	\$5,846,323.66	· ·
	Prime Bond		Lump Sum	\$46,974.12	\$46,974.12	
	Price % Add-On	1.00	Lump Sum	\$294,067.09	\$294,067.09	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
	General Expense	1.00	Lump Sum	\$4,200.00	\$4,200.00	U.S. Dollar
	Direct Cost Add-On	1.00	Lump Sum	\$104,301.10	\$104,301.10	U.S. Dollar
1	Mobilization	1.00	Lump Sum	\$11,909.51	\$11,909.51	U.S. Dollar
2	Clearing & Grubbing	10.00	Acre	\$3,918.50	\$39,184.97	U.S. Dollar
3	Unclassified Excavation	50,000.00	Cubic Yard	\$4.68	\$233,915.81	U.S. Dollar
4	Aggregate Base	45,000.00	Ton	\$15.40	\$692,928.99	U.S. Dollar
5	Asphalt Concrete Hot Mix Type	A 35,000.00	Ton	\$42.62	\$1,491,580.59	U.S. Dollar
5.1	Furnish & Haul Hot Mix	35,000.00	Ton	\$39.27	\$1,374,562.54	U.S. Dollar
5.2	Install Hot Mix Type A	35,000.00	Ton	\$3.34	\$117,018.05	
6	36 Inch RCP Culvert Class III	1,024.00	Linear Feet	\$67.54	\$69,159.49	U.S. Dollar
6.1	Furnish RCP Materials	1,024.00	Linear Feet	\$33.48	\$34,286.70	
6.2	Excavate RCP Trench	1,858.56	Cubic Yard	\$4.51		U.S. Dollar
6.3	Install RCP Pipe	1.024.00	Linear Feet	\$11.74	\$12.017.60	U.S. Dollar

11.2.1 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.

11.2 Step by Step 2 — 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.

Ī	columns he			Rented Construction Equipment			Installed Material Ins		nstalled Equipment	Supplies	Unique
	columns ne	ere to gr	oup								
	Resource E Description		Description	Ŧ	Utilization Unit Count Mea		t of asure				
Т	+ LC1 Carpenter Appro		itice	594.37	Hou	ır					
	+ LC2 C		Carpenter Journe	Carpenter Journeyman		88.73 Hour					
	+ LC3		Carpenter Foreman		594.37	594.37 Hour					
	+ LF1 Fi		Finisher Apprentice		0.00	0.00 Hour					
	+ LF2	- LF2 Finisher			594.37	Hour					
	+ LF3		Finisher Foreman		0.00	0.00 Hour					
	+ LIW1		Iron Worker		594.37	Hou	ır				
	+ LIW2 I		Iron Worker Foreman		0.00	Hou	ır				
	+ LL1		Labor Apprentice		0.00	Hou	ır				
	+ LL2		Laborer		8,963.73	Hou	ır				
	+ LL3		Labor Foreman		721.33	Hou	ır				
	+ LMECH	ł	Mechanic		418.44	Hou	ır				
	+ LO1		Operator Class 1		1,800.00	Hou	ır				
	+ LO2		Operator Class 2		4,019.73	Hou	ır				
	+ LO3		Operator Class 3		889.33	Hou	ır				
	+ LO4		Operator Forema	n	1,421.77	Hou	ır				
	+ LREM 0	01	Principal Eng/Scier	ntist	0.00	Hou	ır				
	+ LREM 0	05	Field Technican		0.00	Hou	ır				
	+ LSPE		Project Engineer		800.00	Hou	r				
	+ LSSEC		Secretary		800.00	Hou	ır				
	+ LSSUPT	г	Project Superinter	ndent	800.00	Hou	ır				
	+ LT1		Teamster		3,056.77	Hou	r				
	+ LT2		Teamster Forema	n	0.00	Hou	r				
	+ LWD		Welder		0.00	Hou	ır				
	LWDA		Welder Apprentice	e	0.00	Hou	r				

- 6. Right click on the selection and select **Copy**.
- 7. Open an Excel spreadsheet, right click in the **A1** field and select **Paste Special**, choosing **CSV** as the Source.

8. Click **OK**.

• The fields you copied from InEight Estimate paste into the spreadsheet

1	А	В	С			
1	Carpenter Apprentice	594.3650794	Hour			
2	Carpenter Journeyman	1188.730159	Hour			
3	Carpenter Foreman	594.3650794	Hour			
4	Finisher Apprentice	0	Hour			
5	Finisher	594.3650794	Hour			
6	Finisher Foreman	0 Hot				
7	Iron Worker	594.3650794 Hou				
8	Iron Worker Foreman	0	Hour			
9	Labor Apprentice	0	Hour			
10	Laborer	8963.733879	Hour			
11	Labor Foreman	721.3333333	Hour			
12	Mechanic	418.4398946	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 Technican	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						
	< → Sheet1	(+)				

• To turn off the Cell Select, simply click the Cell Select Icon again and it deselects

11.3 LINKING TO EXCEL

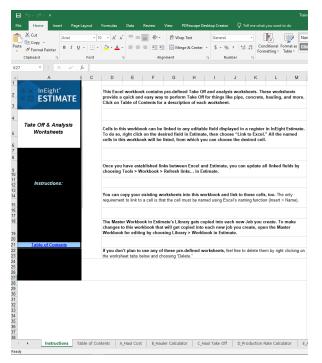
11.3.1 InEight Estimate Workbook

Every job has its own Excel 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 Excel workbook for the job.

The workbook comes with some pre-defined take-off and analysis worksheets, or you can create your own. Simply open the appropriate worksheet, plug in your values, and Excel will calculate your results. To open your job's workbook, select the Estimate tab, then click on the Workbook icon under the Workbook section.

© L	-										
File	Setup	Estimate	Quote	Pric	e Execution	Sys	stem A	ctions	More	Actions	
		Account Co			 Resource Rates Resource Utilizati Resource Cost De 	on	Workbook	k Sche	edule	Cash Flow	Indirec Cost Ite
	Break	down Structu	res		Resources	<u> </u>	Workboo	k	Sche	edule	
Cost B	reakdown	Structure (C	BS) Register	۵							

• The embedded Excel workbook for the job opens.



11.3.2 Linking to and from Excel

InEight Estimate's linking capabilities with Excel can be done in one of two ways. A field in InEight Estimate can be populated with a value from Excel, or a cell in Excel can be populated with the data from an InEight Estimate field. This two-way linking functionality allows you to make quick work of complex chores to perform spreadsheet-based take-off or formula-driven analysis.

6	36 Inch RCP Culvert Class III	413(B) 0464	<u>1,024.00</u>	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 Excel. It is a take-off to determine the size of a concrete foundation.

11.3 Step by Step 1 — Link Estimate to Excel

- 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 Excel workbook from the Estimate tab, by selecting the Workbook icon.
- 4. In the workbook, create a new worksheet named **Concrete Take-off** and enter the following fields:

1	Α	В	С	D	E	F	G
1	Concrete 7	ake-off					
2							
3	Length	10	yards				
4	Width	10	yards				
5	Height	0.5	yards				
6							
7							
8							
9							
10							
11							
12							
	<	Instruc	tions 👘	Table of Co	ntents	Concrete T	ake-Off

5. Create a new row to calculate the total cubic yards by factoring the length, width, and height quantities.

1	Α	В	С
1	Concrete T	ake-off	
2			
3	Length	10	yards
4	Width	10	yards
5	Height		yards
6	Volume	=sum(B3*E	34*B5)
7			

• Your Volume Total should be 50 cubic yards

	Α	В	С
1	Concrete T	ake-off	
2			
3	Length	10	yards
4	Width	10	yards
5	Height	0.5	yards
6	Volume	50	CY
7			

6. InEight Estimate will only link to named fields in Excel. Click in the field you want to name (B6), then click in the Field Name window and type **Volume**.

Vo	olume		× ✓
	А	в	С
1	Concrete T	ake-off	
2			
3	Length	10	yards
4	Width		yards
5	Height	0.5	yards
6	Volume	50	CY
7			

- 7. Go back to the CBS Register and right click on the Concrete Foundation cost item **Forecast (T/O) Quantity** field.
- 8. From the resulting right click menu, select Link this field to Excel.
 - You can also link the field by selecting the field and then selecting Link Field from the Actions tab

					Training	Jop	- Estimate			
Execution		System	Integrations	Actions	More Act	ions				
n	→ 1	Indent	👗 Link Field	📲 Cost Item			🔁 Assembly		2	Resource
	-	Outdent	📇 Unlink Field	🔚 Subordina	te Cost Iter	n	🔁 Subordinate	Assembly	4ô	Resource Asse
Suspended				🕂 Depender	t Cost Item					
			Workbook			1	Insert			
										Fir
		Optional Code		Forecast (T/O) Quantity			t of asure	Unit Cost		Total Cost (Forecast)
		06420			1.00	Lun	np Sum	\$2,100	.00	\$2,100.0
		08210			1.00	Lun	np Sum	\$1,000	.00	\$1,000.0
		09640			1.00		no Sum	\$1,800	.00	\$1.800.0
		12510			1.00	کا	<u>O</u> pen			
		15300			1.00	Ð	<u>N</u> ew			
		16510			1.00	\otimes	<u>D</u> elete			
		1500 0100)		1,000.00	\approx	Cu <u>t</u>			
		1500 0200)		200.00	٦	Cop <u>v</u>			
		1600 0230)		1,000.00	e	<u>P</u> aste			
•	(CO1			1.00		<u>F</u> ill Down			
	1	UNASSIGN	ED DIRECT C		1.00	ä	Link this field to	o Excel		
osts		UNASSIGN			1.00	붪	UnLink from Ex	cel		
		UNASSIGN			1.00	-	Indent			
		UNASSIGN			1.00	-	Outdent			
		UNASSIGN	IED		1.00 1.00	,=	Insert			
					1.00 1.00		Insert Subordin	ate		
the Water	-				1.00	ų,	Insert Depende		,	
	_						Insert Cost Iten			
					1.00 1.00	-	Insert Cost Iten		as Si	ubordinate
					1.00				_	

- 9. On the Link to Excel dialog, select the Update InEight Estimate field from Excel radio button.
- 10. In the Field to link window, select Volume (you may need to click the Refresh 🖸 button for the

field name to display).

X Link to Exe	cel –		×
When linking to Excel yo Excel update an Estimate Estimate update a name	e field or have the		ita in
) Update Estimate Fie	ld from Excel	æ	
O Update Excel Cell fro	om Estimate	63	
Field to Link: Forecas	t (T/O) Quantity		
O_Item1VolCY_Structur	alConcTakeOff		^
O_Item2AreaSF_Struct	uralConcTakeOff		
O_Item2VolCY_Structur			
O_Item3AreaSF_Struct			
O_Item3VolCY_Structur			
O_Item4AreaSF_Struct			
O_Item4VolCY_Structur			
O_Item5AreaSF_Struct			
O_Item5VolCY_Structur			
O_TotAreaSF_Structura			
O_TotVolCY_Structural	ConcTakeOff		
Volume			\checkmark
Prorate to Superior I	tem Quantity		
Group Cell Names by	y Worksheet		
C Auto-Refresh Cell Names	Pick fr	om Excel	
	OK	Cano	el

- 11. Click OK.
 - The Forecast Quantity field for Concrete now is linked to the Volume field in Excel and populates with the take-off quantity (50)

CBS	Description	Forecast	Unit of
Position Code 🗎		(T/O) Quantity	Measure
+ 26	Concrete Foundation	<u>50.00</u>	СҮ

11.3.3 Update Links

When data in InEight Estimate or Excel 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.

Estim	nate Quote Pr	ice Execution	Syste	m	Action	ns Mor	e Actions		
+ Wor	ount Code Utilization k Breakdown Structures itructures	Resource Rates	1	Work	book Open	Schedule Job Workbo	Cash Flow	Indirect Cost Items	2 2 1 1
n Struct	ure (CBS) Register 🛛 🕲			67 10 10 10 10 10 10 10 10 10 10 10 10 10	Updat	e Current Jo	ob From Work		
de E Description			Option Code Update Workbook From Current Job			t (as			
	Prime Bond Price % Add-On		PRIME	•		Broken Lin	ks in All Ope		ump

Lesson 11 Review

- 1. 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.
 - a. True
 - b. False
- 2. You can use the ______ tool to easily select a group of items to copy.
 - a. Customize
 - b. Workbook
 - c. Cell Select
 - d. Excel Select
- 3. In order to link an Excel field to InEight Estimate, the Excel field must be:
 - a. Named
 - b. Highlighted
 - c. Tagged
 - d. Selected

Lesson 11 Summary

As a result of this lesson, you can:

- Export data from InEight Estimate to Excel
- Link a field in InEight Estimate to Excel
- Update a linked InEight Estimate field with Excel data



LESSON 12 – SCHEDULE INTEGRATION

Lesson Duration: 45 minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Set up scheduling options
- Update schedule from InEight Estimate
- Update InEight Estimate from schedule
- Manage changes between estimate and schedule

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12.1 PRIMAVERA

12.1.1 Scheduling Options

Prior to sending information from InEight Estimate to Primavera, you need to make sure the proper settings are in place.

12.1.1.1 Job Properties Schedule Tab

Primavera scheduling options are configured on the **Setup > Job Properties > Schedule** tab.

	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Fold	der Tags	Competitors	Pricing	Schedule	Cash Flow
Integrated :	Schedule:		Primavera	•	📄 Alwa	ays use Plug Day	rs when up	dating Es	timate from the	schedule		
Schedule Cu	irrency:		U.S. Dollar	•								
Cost Item I	Roll Up	Login Options	Mapping Option	s Resources	Expense Co	osts Actuals	Tags	Activity	Calendars			
Note: will b To for	When rol e recalcula rce immed n or the 'C	ling up cost iten ated when a chan iate recalculatio	ige is made to th n of Plug Days fo	purposes, the Pl e scheduled days r superior cost it n the 'Tools' men	of a subordi	nate. Recalculate Plug						

- At the top of the Schedule tab, the Integrated Schedule must be set to Primavera
- As a default, the Always use Plug Days when updating InEight Estimate from the schedule checkbox is not selected (on a job by job basis, this box can be checked later for jobs in which an estimator does not want updates from Primavera to change the duration and therefore the cost of your cost items in InEight Estimate)
- On the Schedule tab, there are several sub-tabs that need to be set up correctly to produce

correct data behavior and ensure the correct passing of data to Primavera

Job Proper	ties 🛛			
Overview	Security	Cover Sheet	Cost Basis	Minority Setup
Integrated	Schedule:	[Primavera	-
Schedule C	urrency:		U.S. Dollar	-
Cost Item	Roll Up	Login Options	Mapping Option	s Resources

12.1 Step by Step 1 — Login Options Tab

- On the Schedule > Login Options tab of Job Properties, select the Use these login settings radio button.
 - If pre-defined login settings were required, the Use pre-defined login settings radio button would be selected instead
 - The Instance will remain set to -Default-
 - Database selection will be **pmdb** during training.
- 2. Type your user name in the User Name field.
- 3. Type your password into the Password field.
 - You will have your own login settings specific to your company

verview	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Fold	ler Tags	Competitors	Pricing	Schedule
integrated	Schedule:	[Primavera	•	📄 Alwa	ays use Plug Da	ys when up	dating Es	timate from the	e schedule	
Schedule C	urrency:	[U.S. Dollar	•							
Cost Item	Roll Up	Login Options	Mapping Optic	ons Resources	Expense Co	osts Actuals	Tags	Activity	Calendars		
O Uset	hese login s	ettings:	Instance:	-Default-		-					
			Database:	pmdb		•					
			User Name:	admin							
			Password:	*************	**********						
O Usep	re-defined l	oginsettings:									

12.1.1.2 Mapping Options Tab

The Mapping Options tab contains options critical to downstream applications. It will have the following settings selected by default:

- 1. The **CBS Position Code** is selected as the field to populate the Primavera WBS Code and Activity ID fields.
- 2. The **Manage the Primavera WBS structure in InEight Estimate...** radio button is selected for the initial push from InEight Estimate to P6.
 - This means the WBS structure in Primavera will be controlled by the structure of superior and terminal cost items in InEight Estimate.
 - Selecting the other option would cause the WBS structure to be controlled in Primavera. Only terminal cost items would be sent from InEight Estimate to Primavera and all hierarchal structure (WBS Elements) would be created in Primavera manually
 - This option can be changed later, on a job-by-job basis.
- 3. The **Update the Project's Planned Start Date in Primavera from the Forecast Start Date** option is checked.
 - This will automatically pull the Forecast Start Date from the Job Properties > Cover Sheet tab to become the Planned Start Date in Primavera.

NOTE You should double-check to make sure the right Start Date is defined on the Job Properties > Cover Sheet tab.



12.1.1.3 Resources Tab

The Resources tab dictates how resources are mapped between InEight Estimate and P6.

	Section	Name
1	Update Primavera Resources from Estimate	 Provides options for sending InEight Estimate resources to Primavera. Typically, you would select the Update scheduled resources only option to send only resources that are employed on cost items The Update all of this job's resources option updates Primavera with all of the resources in your project's Resource Rate Register
2	Map Resource Types to Primavera	Specify whether your resources will import into Primavera as Resources or Roles.
3	Update Primavera Budgeted Units when using Plug Days	Allows you to specify how to handle Budgeted Units for items that use Plug Days.
4	Update Primavera Cost Accounts from Estimate Account Codes	Checking this box causes assigned account codes to import into Primavera as Cost Accounts.
5	Update Price/Unit on Primavera Resource Assignments	Checking the boxes in this section will cause the Charge Rate costs of your resources to import into Primavera along with your resources.

12.1.1.4 Overview – Resources Tab

Cost Item Roll Up Login Opti	Mapping Options	Resources	Expense Costs	Actuals	Tags	Activity Calendars	
Update Primavera Resources f Update all of this job's re Update scheduled resour Do not update Primavera	sources 1		 Adjust B Maintain Update Prima 	udgeted Ur Budgeted I avera Cost A	iits to ma Units to n Accounts f	when using Plug Days: tch Plug Duration natch (non-plug) Work H rom Estimate Account Co ints on Resource Assign	odes:
Map Resource Types to Prima	era: Resource			/ Unit on Pr	imavera R	esource Assignments: —	
Labor: Construction Equipment:	Resource	•	United Construction	tion Equipr	nent		
Rented Contruction Equipme	t: Resource	•	Rented C		Equipme	nt	
Installed Material: Installed Equipment:	Resource	•	✓ Installed✓ Installed		:		5
Supplies:	Resource	•	Supplies				
Unique:	Resource	•	🔽 Unique				

12.1.1.5 Expense Costs Tab

The Expense Costs tab is useful for bringing costs in from InEight Estimate that are not connected to resources, for example, your plugged and/or quoted cost items. This tab is optional, and it is not required to make selections here.

Overview	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tra	cking	Job Fold	ler Tags	Competitors	Pricing	Schedule	Cash Flow
Integrated	Schedule:		Primavera	-	Alwa	ays use Pl	ug Days	s when up	dating Es	timate from the	schedule		
Schedule C	Currency:		U.S. Dollar	•									
Cost Item	Roll Up	Login Options	Mapping Option	ns Resources	Expense Co	osts Ad	tuals	Tags	Activity	Calendars			
				🔽 Update Prima	vera Expense	Costs fro	m Estim	ate					
		Co	st Category	Primavera Expe	nse Categor	У							
			Labor:	HD01 Labor				•					
		Owner	d Equipment:	HD02 Owned Equipment				-					
			d Equipment:	HD03 Rented Equipment				•					
		Kente		HD04 Supplies				*					
			Supplies:	HD05 Materials				•					
			Materials:	HD06 Subcontrac	:t			-					
			Subcontract:	HD07 Fees				•					
			Fees:	HD08 Allowance				-					
			Allowance:	HD09 Custom Ca	tegorv1			•					
		Custo	m Category 1:	HD10 Undefined				-					
			Undefined:										

12.1.2 Schedule Cost Items

Before you can integrate with Primavera, your cost items need to be marked as Scheduled in InEight Estimate. This is done on the Cost Breakdown Structure (CBS) Register. From your Saved Views dropdown list in the CBS, the Schedule Setup View displays all of your schedule-related columns. There are a couple to keep in mind when you schedule your items:

- **Scheduled**: This column tells you which of your items are selected to be included in your Primavera schedule
- **Roll Up Schedule**: This column lets you check a box to roll up your estimate to the selected level when it imports into Primavera

In the below example, notice that all of the cost items are scheduled, but the subordinates for Unclassified Excavation will be rolled up to the superior level.

CB Po:	S sition Code 🗎	Description	Scheduled	Roll Up Schedule
+	1	Mobilization	\checkmark	
+	2	Clearing & Grubbing	\checkmark	
	3	Unclassified Excavation	\checkmark	\checkmark
+	3.1	Excavation		
+	3.2	Embankment		
	4	Aggregate Base	\checkmark	
+	4.1	Furnish & Haul Base Material	\checkmark	
+	4.2	Finegrade Subgrade	\checkmark	
	4.3	Install Aggregate Base	✓	

The following steps walk you through scheduling your cost items.

12.1 Step by Step 2 — Schedule a Cost Item in InEight Estimate

- 1. In the **Training Job**, from the Estimate tab, select **Cost Breakdown Structure**.
- 2. In the Saved Views drop-down list, select Schedule Setup View.

Saved views:	Schedule Setup View	-

- In the Scheduled column, you can select the checkbox for each cost item that you want to schedule
- If a cost item has subordinate cost items below it, you will only be able to check the superior cost item, which will automatically schedule the subordinate cost items along with it
- 3. Select the **Mobilization**, **Clearing & Grubbing**, and **Unclassified Excavation** cost items, then press **Tab**.

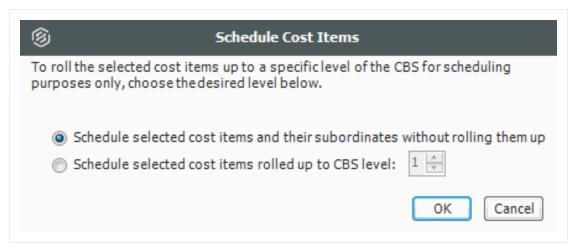
CBS Position Code 🗎	Description	Scheduled	Roll Up Schedule
	JOB	✓	
+	Prime Bond		
+	Price % Add-On		
+	Job Financing		
+	Indirect Cost Escalation		
+	Direct Cost Escalation		
+	Indirect Cost Add-On		
+	Job Management & Equipment		
+	General Expense		
+	Direct Cost Add-On		
+ 1	Mobilization	✓	
+ 2	Clearing & Grubbing	✓	
□ 3	Unclassified Excavation	\checkmark	
+ 3.1	Excavation	✓	
+ 3.2	Embankment	✓	
□ 4	Aggregate Base		
+ 4.1	Furnish & Haul Base Material		
+ 4.2	Finegrade Subgrade		

12.1 Step by Step 3 — Schedule a Group of Cost Items in InEight Estimate

- 1. In the Training Job, from the Estimate tab, select Cost Breakdown Structure.
- 2. From the Saved Views drop-down list, select Schedule Setup View.
 - To schedule multiple cost items, you can highlight the row for each cost item that you want to schedule, using the Shift and Ctrl keys to select multiple rows.
- 3. Select additional cost items 4-Aggregate base, 5- Asphalt Concrete Hot Mix, and 6- 36-inch RCP Culvert Class.
 - TIP To schedule all cost items, highlight the JOB row.
- 4. Right click on the selected rows and select Schedule Selection.

Co	st Breakdown Struct	ure (CBS) Register 🛛	Ľ	Open	
Dra	g columns here to group		•	New	pr]
010			8	<u>D</u> elete	
	CBS Position Code	Description	8	Cu <u>t</u>	thedule ID
\rightarrow	+ 1	Mobilization	-6	Cop <u>v</u>	0.0000011
	+ 2	Clearing & Grubbing	P	<u>P</u> aste	0.0000012
	E 3	Unclassified Excavation	+	<u>Fill Down</u>	D.0000013
	+ 3.1	Excavation	8	Link these fields to Excel	D.0000014
	+ 3.2	Embankment	恩	UnLink from Excel	0.0000015
	∃ 4	Aggregate Base	→	Indent	0.0000016
	+ 4.1	Furnish & Haul Base Material	-	Outdent	D.0000017
	+ 4.2	Finegrade Subgrade	· 号	Insert	D.0000018
	■ 4.3	Install Aggregate Base		Insert Subordinate	0.0000019
	+ 4.3.1	Place Aggregate Base	-	Insert Dependent Cost Item	0.0000020
	+ 4.3.2	Blue Top Aggregate Base		Insert Cost Item Assembly	0.0000021
	5	Asphalt Concrete Hot Mix Type A	듣	Insert Cost Item Assembly as Subordinate	D.0000022
	+ 5.1	Furnish & Haul Hot Mix	- M	Solit	D.0000023
<u> </u>	+ 5.2	Install Hot Mix Type A	_		D.0000024
	E 6	36 Inch RCP Culvert Class III	2	Insert <u>R</u> esource	D.0000025
	+ 6.1	Furnish RCP Materials	2	Ins <u>e</u> rt Resource Assembly	D.0000026
	+ 6.2	Excavate RCP Trench	2	Toggle Suspended	D.0000027
	+ 6.3	Install RCP Pipe		Go To Cost Allocation Item	0.0000028
	+ 6.4	Backfill RCP Pipe		Schedule Selection	D.0000029
	□ 7	10 Inch PVC Force Main (SDR21)	6		D.0000030
				Calculate Plug Days	2.0000004
	10	0		Subtotal Calculator	
•				Add Quote	

- On the Schedule Cost Items dialog, you can select whether or not you want to roll up the selected cost items to a specific level of the CBS for scheduling purposes
- 5. Select Schedule selected cost items and their subordinates without rolling them up, then click OK.



• Your scheduled cost items will import into Primavera the next time you update Primavera from InEight Estimate.

12.1.2.6 Roll Up Schedule

For cost item 3 – Unclassified Excavation, your scheduler does not need all of your estimate details and wants to roll up your cost items to a higher level when they import into the Primavera schedule.

Follow the steps below to learn how to roll up your cost items for the schedule.

12.1 Step by Step 4 — Roll Up Schedule

- 1. In the **Training Job**, from the Estimate tab select **Cost Breakdown Structure**.
- 2. From the Saved Views drop-down list, select Schedule Setup View.
 - Review your cost items to decide which cost items need to be rolled up
- 3. Select the Roll Up Schedule checkbox on the Unclassified Excavation cost item.

CBS Position Code 🗎	Description	Scheduled	Roll Up Schedule
+ 1	Mobilization	\checkmark	
+ 2	Clearing & Grubbing	\checkmark	
3	Unclassified Excavation	\checkmark	\checkmark
+ 3.1	Excavation		
+ 3.2	Embankment		
4	Aggregate Base	\checkmark	
+ 4.1	Furnish & Haul Base Material	\checkmark	
+ 4.2	Finegrade Subgrade	\checkmark	
4 .3	Install Aggregate Base	✓	
+ 4.3.1	Place Aggregate Base	\checkmark	
+ 4.3.2	Blue Top Aggregate Base	\checkmark	

12.1.3 Update Primavera from InEight Estimate

Now that you have set up your Primavera options in Job Properties and scheduled your cost items in the CBS, you are ready to send your project information to Primavera.

When you first update Primavera from InEight Estimate, Primavera will create a new project automatically and load it with the following information from InEight Estimate:

	Data Sent from InEight Estin	nate to Primavera
Data Type	InEight Estimate	Primavera
Project Data	Job Code	Project ID
	Job Description	Project Name
Activity Data	CBS Position Code//Schedule ID	WBS Code / Activity ID
	Description	WBS Element / Activity Name
	Hours	Planned Duration (Hours)
	Shift and Rate Rules	Activity Calendar
	Cost Item Tags and UDFs	Activity Codes or UDFs
	Cost Category Total Cost	Cost Category (custom text columns)
Resource Data	Resource Code	Resource ID
	Resource Description	Resource Name
Cost Data	Resource Cost / Unit	Resource Price / Unit
	Cost Category Total Cost	Expense Category Budgeted Cost
Tee		

NOTE Tags, resource data, and cost data only update in Primavera if selected in the Job Properties > Schedule settings.

The following steps walk you through updating Primavera from InEight Estimate to create a new schedule.

12.1 Step by Step 5 — Update Primavera from InEight Estimate

1. From the Estimate tab, select **Schedule > Update Primavera from InEight Estimate**.

® 💾 🕞				Tra	aining Job - Esti	mate
File Setup Estima	te Quote	Price	Execution	System	Integrations	Actions
Cost Breakdown Structure (CBS)	Workbook	Schedule	Cash Flow	Indirect Cost Items	Construction of the second structure of the second str	
Breakdown Struc Re Cost Breakdown Structur			odate Primaver odate Estimate		ate	ad and Pr
Drag columns here to group						Find: [Sea
CBS Position Code 🗎	Description			Scheduled	Roll Up Schedule	WBS Element
+ 1	Mobilization			\checkmark		
+ 2	Clearing & Grub	bing		\checkmark		
3	Unclassified Exca	avation		\checkmark	\checkmark	
+ 3.1	Excavation					
+ 3.2	Embankment					
□ 4	Aggregate Base			\checkmark		✓
+ 4.1	Furnish & Haul B	ase Material		\checkmark		
+ 4.2	Finegrade Subgr	ade		\checkmark		
□ 4.3	Install Aggregate	e Base		\checkmark		\checkmark

- The Update Primavera From Estimate dialog prompts you to indicate what data to update to Primavera
- 2. Make sure **Resources** and **Expenses** are checked. Deselect **Actuals** (For Job Tracking purposes) if auto selected, then click **OK**.

9	Update Primavera From Estimate
	o update in the linked Primavera schedule. Data will be updated chedule options specified in Job Properties.
WBS / Activit	ies (always updated)
Resources	
Expenses	
Ctuals	
Tags	
Schedule Rela	ationships
Please commit any	y changes in Primavera before clicking OK.
	OK Cancel

- An Attention prompt appears, letting you know that the job has not been saved.
- 3. Click Yes to save the job before updating Primavera.

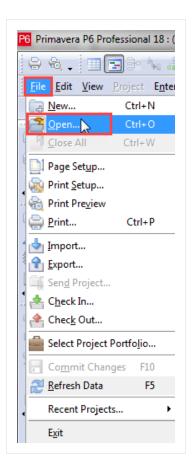
Attention	
	iges that have not been saved. Only to Primavera. Would you like to save the era?
Never ask me this quest	tion again
	Yes No

• A window appears that shows the progress of the data sync between InEight Estimate and Primavera. Depending on the size of the job, this can take several minutes

Waiting for Primavera	Integration Server	
	•••	i
Status 😼	Job Code	Description
Loading Job	Training Job	Updating Pri
٠ III		۲.

- When the window disappears, the update is complete
- 4. Open Primavera P6 (Project Management) client.
- 5. Log in to Primavera, using the same Username and Password that was entered on the Schedule > Login Options tab in InEight Estimate Job Properties.

6. In Primavera, open the project.



7. In the Open Project dialog, expand the **BID*BUILD** folder.

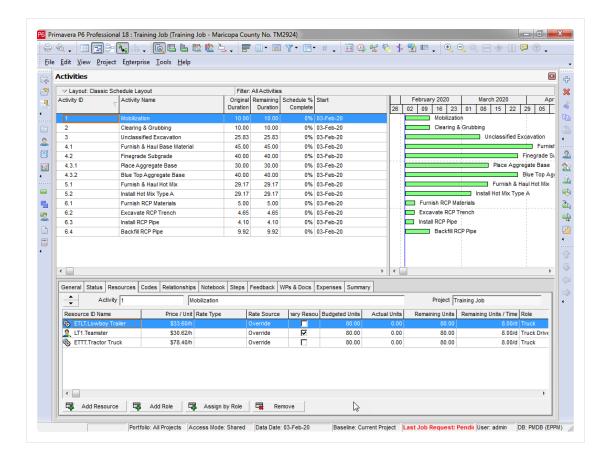
✓ Layout: Projects			
Project ID	Is BID*BUILD Job	Project Name	Total Activities
🖬 🐟 EPS		Enterprise	0
🛨 🔈 BID*BUILD		BID*BUILD	0

NOTE All projects created from InEight Estimate are created in the BID*BUILD folder by default.

- Your available projects are sorted by their job names.
- 8. Select the **Training Job** (with your initials) so that it is highlighted, and then select **Open**.

Select Project Portfolio	All Project	s	L.	<u>O</u> pen
✓ Display				Cancel
Project ID	Is BID*BUILD Job	Project Name	Proje	
🔹 🐟 EPS		Enterprise	Ac 👳	Users
💼 Training Job - B	Yes	Training Job - Maricopa C	ount Activ 🗌	
🐟 BID*BUILD		BID*BUILD	Ac 🤅	Help
🛅 R19	Yes	<unspecified></unspecified>	Activ	
🛅 S1	Yes	Training Job - Maricopa C	ount Activ	
🛅 Training Job21	Yes	Training Job - Maricopa C	ount Activ	
📄 AJL Sched Test	Yes	Training Job - Maricopa C	ount Activ	
📄 Test job3	Yes	Training Job - Maricopa C	ount Activ	
📄 Training Job	Yes	Training Job - Maricopa C	ount Activ	
<			,	
			•	
< □ Access Mode			•	

- The WBS Layout displays for the project. You can see the breakdown structure imported from InEight Estimate with durations, rolled up as specified by the Roll Up Schedule option in InEight Estimate
- Initially, the start date for your activities is the start date defined on the Job Properties > Cover Sheet tab (these will change as activity relationships are defined)
- 9. Select the **Resources** tab to see the resources that imported for each activity, with their associated costs.



12.1.4 Update InEight Estimate from Primavera

You can also bring information back from Primavera into InEight Estimate. When you update InEight Estimate from Primavera, the following information updates:

Update InEight Estimate from Primavera					
Data Type	Primavera	InEight Estimate			
Activity Data	Start Dates	Start Dates			
	Finish Dates	Finish Dates			
	Relationships	Schedule Relationships			
	Hours	Plugged Days			

Complete the following steps to practice updating InEight Estimate from Primavera. You will create a scheduling relationship in Primavera, and then import the updated dates and relationships into InEight Estimate.

12.1 Step by Step 6 — Update InEight Estimate from Primavera

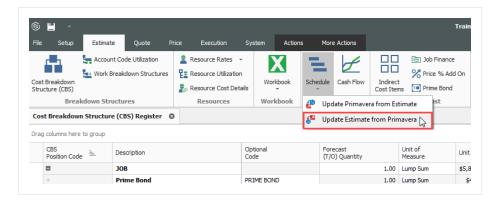
- 1. Open your version of the **Training Job** project in Primavera.
 - In the real world, it is likely that you would have overlapping activities, or your activities would occur out of order, however for this example you will link all activities from finish to start
- 2. Highlight all of your activities from **1-Mobilization** through **6.4-Backfill RCP Pipe**.

<u>E</u> dit <u>V</u> iew <u>P</u>	roject E <u>n</u> terprise <u>T</u> ools <u>H</u> elp										
Activities											(
✓ Layout: Clas	sic Schedule Layout	Filter:	AllActivities	\$							
Activity ID	C Activity Name	Original Duration	Remaining Duration	Schedule % Complete		26	Febru 02 09	ary 2020 16 23		arch 2020 8 15 22	Ap 29 05
1	Mobilization	10.00	10.00	0%	03-Feb-20			Mobilizati	oņ		
2	Clearing & Grubbing	10.00	10.00	0%	03-Feb-20			Clearing	& Grubbin	9	
3	Unclassified Excavation	25.83	25.83		03-Feb-20					Unclassified	Excavation
4.1	Furnish & Haul Base Material	45.00	45.00		03-Feb-20				-		Furni
4.2	Finegrade Subgrade	40.00	40.00		03-Feb-20				-		Finegrade
4.3.1	Place Aggregate Base	30.00	30.00		03-Feb-20					Place Ag	gregate Base
4.3.2	Blue Top Aggregate Base	40.00	40.00		03-Feb-20				-		Blue Top A
5.1	Furnish & Haul Hot Mix	29.17	29.17		03-Feb-20				-	Furnish 8	& Haul Hot Mix
5.2	Install Hot Mix Type A	29.17	29.17		03-Feb-20				ins	tall Hot Mix T	ype A
6.1	Furnish RCP Materials	5.00	5.00		03-Feb-20		🔲 Fu	rnish RCP M	aterials		
6.2	Excavate RCP Trench	4.65	4.65	0%	03-Feb-20		Exc	cavate RCP	Trench		
6.3	Install RCP Pipe	4.10	4.10	0%	03-Feb-20		🔲 Inst	all RCP Pipe			
6.4	Backfill RCP Pipe	9.92	9.92		03-Feb-20			Backfill R	CP Pipe		

- 3. Right click on one of the selected rows and select **Link Selected Activities** to create the Finish to Start relationship.
 - You may have to select the Relationship Lines button to show the linked activities in the graph on the right side of the screen.
- 4. To schedule this new relationship, select the Schedule button (or press the F9 key).
- 5. On the Schedule Project window, keep the default settings and select the Schedule button.

Project(s) to schedule	1	0	Cancel
Current Data Date	03-Feb-20		Schedule
	,		View Log
Project Forecast Start Date		?	Help
🔲 Set Data Date and Planned Start to P	roject Forecast Start during scheduling	▶	Options
Log to file			
C:\Users\anthony.lamantia\Documen	ts\SchedLog.txt		

- 6. To update InEight Estimate with this change, go back to InEight Estimate and select Estimate tab.
- 7. Select Schedule > Update Estimate from Primavera.



8. On the Update InEight Estimate from Primavera prompt, keep the default **Update the estimate to stay in synch with the schedule** selected, then click **OK**.

9. On the Schedule Setup View, you can see the Start and Finish dates updated from Primavera.

CBS Position Code 🗎	Description	Start	Finish	Early Start	Early Finish	Late Start	Late Finish
	JOB	2/3/2020	2/23/2021	2/3/2020	2/23/2021	2/3/2020	2/23/2021
+	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	2/3/2020	2/14/2020	2/3/2020	2/14/2020	2/3/2020	2/14/2020
+ 2	Clearing & Grubbing	2/17/2020	2/28/2020	2/17/2020	2/28/2020	2/17/2020	2/28/2020
3	Unclassified Excavation	3/2/2020	4/6/2020	3/2/2020	4/6/2020	3/2/2020	4/6/2020
+ 3.1	Excavation	3/2/2020	4/6/2020	3/2/2020	4/6/2020	3/2/2020	4/6/2020
+ 3.2	Embankment	3/2/2020	4/6/2020	3/2/2020	4/6/2020	3/2/2020	4/6/2020
□ 4	Aggregate Base	4/6/2020	11/9/2020	4/6/2020	11/9/2020	4/6/2020	11/9/2020
+ 4.1	Furnish & Haul Base Material	4/6/2020	6/8/2020	4/6/2020	6/8/2020	4/6/2020	6/8/2020
+ 4.2	Finegrade Subgrade	6/8/2020	8/3/2020	6/8/2020	8/3/2020	6/8/2020	8/3/2020
□ 4.3	Install Aggregate Base	8/3/2020	11/9/2020	8/3/2020	11/9/2020	8/3/2020	11/9/2020
+ 4.3.1	Place Aggregate Base	8/3/2020	9/14/2020	8/3/2020	9/14/2020	8/3/2020	9/14/2020

12.1.5 Manage Changes Between Estimate and Schedule

As changes to scope, resources, and costs come up in your estimate, and changes to relationships and dates occur in the schedule, you can continue updating your estimate and schedule as needed.

12.1.5.7 Plug Days

The Schedule Plug Days option allows you to define the duration in the schedule separate from the duration defined for your cost items on the Production tab.

For example, your 10" PVC Pipe activity may have extra days in the schedule due to the delivery date of the pipe material, but you don't want those extra days to drive the costs in your estimate, since your crews won't be working on the activity on those extra days.

NOTE All superior cost items are hard-coded to use Schedule Plug Days.

12.1 Step by Step 7 – Schedule Plug Days

- Look at the Days (Duration driven) column in the CBS where it shows 4.65 days for Excavate-Install-Backfill Pipe.
- 2. Make sure the **Schedule Plug Days** checkbox is selected on the **Excavate-Install-Backfill Pipe** cost item, then enter a Plug Days duration for the number of days the item will be scheduled in Primavera (**7** days).

CBS Position Code 🗎	Description	Days (Duration driven)	Schedule Plug Days	Plug Days
6	36 Inch RCP Culvert Class III	18.66	\checkmark	26.01
+ 6.1	Furnish RCP Materials	0.00	\checkmark	5.00
+ 6.2	Excavate RCP Trench	4.65	\checkmark	7.00
+ 6.3	Install RCP Pipe	4.10		4.00
+ 6.4	Backfill RCP Pipe	9.92		9.92

• This allows you to maintain your duration of 4.65 days in the estimate and 7 days in the schedule.

12.1.5.8 Update Primavera with InEight Estimate Changes

The following steps will walk you through updating the schedule with a scope change in your estimate.

12.1 Step by Step 8 — Update Primavera with InEight Estimate Changes

- 1. In the Training Job from the Estimate tab, select Cost Breakdown Structure.
 - In this scenario, there is a scope change for your Excavation requiring you to change all of your quantities
- 2. Change the quantity in the Forecast (T/O) Quantity field in the CBS as specified below:

Quantity Change for Cost Item									
CBS Code	Description	Old Quantity	New Quantity						
5	Asphalt Concrete Hot Mix Type A	35,000	25,000						

- As you make your changes, take note of how your duration changes in the Days (Duration driven) column for these items
- If prompted about changing Total or Unit Cost, select **Change TOTAL cost**, so that your unit costs stay intact, then click **OK**.

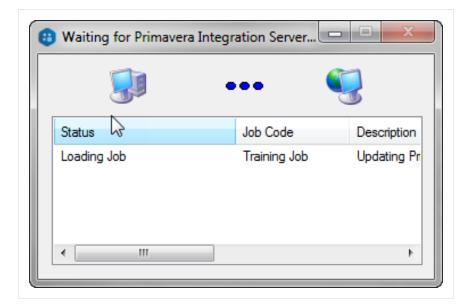
۲	Attention
	uantity for a cost item that already contains costs. AL cost to change or the UNIT cost?
Ohange TOTAL cost	
Change UNIT cost	•
Deactivate this confi and ALWAYS change	rmation for quantity changes FOR ALL JOBS the TOTAL cost
To re-activate this confi Confirmation for Quanti	rmation, choose Tools > Activate Unit/Total ty Changes.
	ОК

From the Estimate tab, select Schedule > Update Primavera from InEight Estimate to send the changed hours to Primavera.

- The Update Primavera From InEight Estimate dialog prompts you to indicate what data to update to Primavera
- 4. Make sure Resources and Expenses are checked, then select OK.

9	Update Primavera From Estimate
	o update in the linked Primavera schedule. Data will be updated chedule options specified in Job Properties.
WBS / Activit	ies (always updated)
Resources	
Expenses	
C Actuals	
Tags	
Schedule Rela	ationships
Please commit any	y changes in Primavera before clicking OK.
	OK Cancel

• A window appears that shows the progress of the data sync between InEight Estimate and Primavera. Depending on the size of the job, this can take a few minutes



- When the window disappears, the update is complete
- 5. Open Primavera (P6 Web Client).
- 6. Open the **Training Job** project.
- 7. On the Activities screen, compare the Planned Duration to the Days (Duration driven) in InEight Estimate for Excavate-Install-Backfill Pipe.
 - The Primavera scheduled duration should have changed from 4.65 days to 7 days to match the updated duration in InEight Estimate for Excavate-Install-Backfill Pipe
 - You will also notice a change in days for Excavation after changing the T/O Quantity in InEight Estimate

ctivities																			E
Projects	Activitie	25																	
✓ Layout:	Classic Sch	edule Layout	Filter:	AllActivitie	s														
Activity ID	7	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Start	prus 09	ary 2	_	23	01	Mar 08	_	2020	22	29	A	oril 20 12	20
1		Mobilization	10.00	10.00	0%	03-Feb-20		Me	obiliz	ation					_	1			
2		Clearing & Grubbing	10.00	10.00	0%	17-Feb-20					Clea	ring 8	k Gr	ubbir	ng				
3.1		Excavation	15.63	15.63	0%	02-Mar-20				Ľ,					Exc	avati	ion		
3.2		Embankment	20.83	20.83	0%	23-Mar-20								╘╾(-			
4.1		Furnish & Haul Base Material	45.00	45.00	0%	21-Apr-20												L	-
4.2		Finegrade Subgrade	40.00	40.00	0%	23-Jun-20													
4.3.1		Place Aggregate Base	30.00	30.00	0%	18-Aug-20													
4.3.2		Blue Top Aggregate Base	40.00	40.00	0%	29-Sep-20													
5.1		Furnish & Haul Hot Mix	20.83	20.83	0%	24-Nov-20													
5.2		Install Hot Mix Type A	20.83	20.83	0%	23-Dec-20													
6.1		Furnish RCP Materials	5.00	5.00	0%	15-Jan-21													
6.2		Excavate RCP Trench	7.00	7.00	0%	22-Jan-21													
6.3		Install RCP Pipe	4.10	4.10	0%	02-Feb-21													
6.4		Backfill RCP Pipe	9.92	9.92	0%	08-Feb-21													
6.4		Backfill RCP Pipe	9.92	9.92	0%	08-Feb-21													

- 8. To schedule this change in Primavera, select the **Schedule** button (or press the **F9** key) and select the **Schedule** button on the Schedule Project window.
- Your start and finish dates are different now. In InEight Estimate, from the Estimate tab, select Schedule > Update InEight Estimate from Primavera to update InEight Estimate with the new dates.

CBS Position Code 🗎	Description	Start	Finish	Early Start	Early Finish	Late Start	Late Finish
+ 1	Mobilization	2/3/2020	2/14/2020	2/3/2020	2/14/2020	2/3/2020	2/17/2020
+ 2	Clearing & Grubbing	2/17/2020	2/28/2020	2/17/2020	2/28/2020	2/17/2020	3/2/2020
□ 3	Unclassified Excavation	3/2/2020	4/21/2020	3/2/2020	4/21/2020	3/2/2020	4/21/2020
+ 3.1	Excavation	3/2/2020	3/23/2020	3/2/2020	3/23/2020	3/2/2020	3/23/2020
+ 3.2	Embankment	3/23/2020	4/21/2020	3/23/2020	4/21/2020	3/23/2020	4/21/2020
□ 4	Aggregate Base	4/21/2020	11/24/2020	4/21/2020	11/24/2020	4/21/2020	11/24/2020
+ 4.1	Furnish & Haul Base Material	4/21/2020	6/23/2020	4/21/2020	6/23/2020	4/21/2020	6/23/2020
+ 4.2	Finegrade Subgrade	6/23/2020	8/18/2020	6/23/2020	8/18/2020	6/23/2020	8/18/2020
■ 4.3	Install Aggregate Base	8/18/2020	11/24/2020	8/18/2020	11/24/2020	8/18/2020	11/24/2020
+ 4.3.1	Place Aggregate Base	8/18/2020	9/29/2020	8/18/2020	9/29/2020	8/18/2020	9/29/2020
+ 4.3.2	Blue Top Aggregate Base	9/29/2020	11/24/2020	9/29/2020	11/24/2020	9/29/2020	11/24/2020
□ 5	Asphalt Concrete Hot Mix Type A	11/24/2020	1/14/2021	11/24/2020	1/14/2021	11/24/2020	1/15/2021
+ 5.1	Furnish & Haul Hot Mix	11/24/2020	12/23/2020	11/24/2020	12/23/2020	11/24/2020	12/23/2020
+ 5.2	Install Hot Mix Type A	12/23/2020	1/14/2021	12/23/2020	1/14/2021	12/23/2020	1/15/2021
6	36 Inch RCP Culvert Class III	1/15/2021	2/22/2021	1/15/2021	2/22/2021	1/15/2021	2/22/2021
+ 6.1	Furnish RCP Materials	1/15/2021	1/21/2021	1/15/2021	1/21/2021	1/15/2021	1/21/2021
+ 6.2	Excavate RCP Trench	1/22/2021	2/1/2021	1/22/2021	2/1/2021	1/22/2021	2/1/2021
+ 6.3	Install RCP Pipe	2/2/2021	2/8/2021	2/2/2021	2/8/2021	2/2/2021	2/8/2021
+ 6.4	Backfill RCP Pipe	2/8/2021	2/22/2021	2/8/2021	2/22/2021	2/8/2021	2/22/2021

Exercise 12.1 — Manage Changes Between Estimate and Primavera

As changes occur during the estimating process, you can keep the estimate and schedule in sync through schedule integration. In this exercise, you will practice making changes between the estimate and schedule. Complete the following steps:

- 1. Open the Training Job and open the CBS Register.
- 2. Check the box in the Schedule Plug Days column for the Install RCP Pipe.
- 3. Change the Plug Days for Install RCP Pipe to 8 days.
- 4. Update Primavera from InEight Estimate.
- 5. Open the Training Job project in Primavera and confirm the Planned Duration (you may need to change your view to see this column) changed to 8 days.
- 6. In Primavera, change the Planned Duration for Backfill RCP Pipe to **12 days**.
- 7. Schedule the changes in Primavera (Schedule button or F9).
- 8. Update InEight Estimate from Primavera.

You should end up with the following results

Cost item 6.3 Install RCP Pipe is now showing 8 Plug days in Primavera.

ctivity ID	√ Activity Name	Original Duration	Remaining Duration	Schedule % Complete		Finish
1	Mobilization	10.00	10.00	0%	03-Feb-20	14-Feb-20
2	Clearing & Grubbing	10.00	10.00	0%	17-Feb-20	28-Feb-20
3.1	Excavation	15.63	15.63	0%	02-Mar-20	23-Mar-20
3.2	Embankment	20.83	20.83	0%	23-Mar-20	21-Apr-20
4.1	Furnish & Haul Base Material	45.00	45.00	0%	21-Apr-20	23-Jun-20
4.2	Finegrade Subgrade	40.00	40.00	0%	23-Jun-20	18-Aug-20
4.3.1	Place Aggregate Base	30.00	30.00	0%	18-Aug-20	29-Sep-20
4.3.2	Blue Top Aggregate Base	40.00	40.00	0%	29-Sep-20	24-Nov-20
5.1	Furnish & Haul Hot Mix	20.83	20.83	0%	24-Nov-20	23-Dec-20
5.2	Install Hot Mix Type A	20.83	20.83	0%	23-Dec-20	14-Jan-21
6.1	Furnish RCP Materials	5.00	5.00	0%	15-Jan-21	21-Jan-21
6.2	Excavate RCP Trench	7.00	7.00	0%	22-Jan-21	01-Feb-21
6.3	Install RCP Pipe	8.00	8.00	0%	02-Feb-21	11-Feb-21
6.4	Backfill RCP Pipe	9.92	9.92	0%	08-Feb-21	22-Feb-21

Cost item 6.4 Backfill RCP Pipe should have 12 plug days in InEight Estimate.

CBS Position Code 🗎	Description	Days (Duration driven)	Schedule Plug Days	Plug Days	Start	Finish
6	36 Inch RCP Culvert Class III	18.66	\checkmark	46.00	1/15/2021	3/1/2021
+ 6.1	Furnish RCP Materials	0.00	✓	5.00	1/15/2021	1/21/2021
+ 6.2	Excavate RCP Trench	4.65	✓	7.00	1/22/2021	2/1/2021
+ 6.3	Install RCP Pipe	4.10	✓	8.00	2/2/2021	2/11/2021
+ 6.4	Backfill RCP Pipe	9.92	✓	12.00	2/12/2021	3/1/2021

Congratulations, you have completed this exercise!

12.2 MICROSOFT PROJECT

12.2.1 Set Up Scheduling Options

Prior to sending information from InEight Estimate to Microsoft Project, you need to make sure the proper settings are in place.

12.2.1.1 Job Properties Schedule Tab

Microsoft Project scheduling options are configured on the Schedule tab of the Job Properties form.

- At the top of the Schedule tab, the Integrated Schedule must be set to Microsoft Project
- As a default, the Always use Plug Days when updating InEight Estimate from the schedule checkbox is not selected (on a job by job basis, this box can be checked later for jobs in which an estimator does not want updates from Microsoft Project to change the duration and therefore the cost of your cost items in InEight Estimate)

	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Folder Tags	Competitors	Pricing	Schedule	Cash Flow	Equipme
integrated	Schedule:	[Microsoft Projec	:t •	Alwa	ays use Plug Day	s when updating Es	stimate from the	schedule			
Schedule C	Currency:		U.S. Dollar	•						•		
Cost Item	Roll Up											
Auto	matically cal	sulate Dive Davi	when colling w	p cost items for s	hadulian nun							
			-		cheduling pur	poses						
() L	ongest sche	duled days amo	ng all rolled up	costitems								
T	otal schedul	ed days for all r	olled up cost it	ems								
	: When rolli	na up cost item:	s for scheduling	purposes, the Pl	ug Days of th	e superior cost it	em					
Note				e scheduled days								
		te recalculation	of Plug Days fo	or superior cost it	ems, use the	'Recalculate Plug	Davs'					
will b	orce immedia						/-					
will b		Iculate Plug Day	s' command	on the Tools mer		-						
will b To fo butto		Iculate Plug Day	s' command (on the loois mer		-						

12.2.2 Schedule Cost Items

Before you can integrate with Primavera, your cost items need to be marked as Scheduled in InEight Estimate. This is done on the Cost Breakdown Structure (CBS) Register. From your Saved Views dropdown list in the CBS, the Schedule Setup View displays all of your schedule-related columns. There are a couple to keep in mind when you schedule your items:

- **Scheduled**: This column tells you which of your items are selected to be included in your Primavera schedule
- **Roll Up Schedule**: This column lets you check a box to roll up your estimate to the selected level when it imports into Primavera

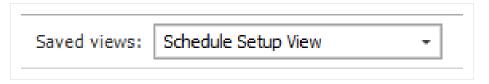
In the below example, notice that all of the cost items are scheduled, but the subordinates for Unclassified Excavation will be rolled up to the superior level.

CBS Position Code 📒	Description	Scheduled	Roll Up Schedule
+ 1	Mobilization	\checkmark	
+ 2	Clearing & Grubbing	\checkmark	
□ 3	Unclassified Excavation	\checkmark	\checkmark
+ 3.1	Excavation		
+ 3.2	Embankment		
□ 4	Aggregate Base	\checkmark	
+ 4.1	Furnish & Haul Base Material	✓	
+ 4.2	Finegrade Subgrade	✓	
4.3	Install Aggregate Base		

The following steps walk you through scheduling your cost items.

12.2 Step by Step 1 — Schedule a Cost Item in InEight Estimate

- 1. In the **Training Job**, from the Estimate tab, select **Cost Breakdown Structure**.
- 2. In the Saved Views drop-down list, select **Schedule Setup View**.



- In the Scheduled column, you can select the checkbox for each cost item that you want to schedule
- If a cost item has subordinate cost items below it, you will only be able to check the superior cost item, which will automatically schedule the subordinate cost items along with it
- 3. Select the Mobilization, Clearing & Grubbing, and Unclassified Excavation cost items, then

press Tab.

CBS Position Code 🗎	Description	Scheduled	Roll Up Schedule
	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	\checkmark	
+ 2	Clearing & Grubbing	✓	
■ 3	Unclassified Excavation	\checkmark	
+ 3.1	Excavation	✓	
+ 3.2	Embankment	\checkmark	
□ 4	Aggregate Base		
+ 4.1	Furnish & Haul Base Material		
+ 4.2	Finegrade Subgrade		

12.2 Step by Step 2 — Schedule a Group of Cost Items in InEight Estimate

- 1. In the Training Job, from the Estimate tab, select Cost Breakdown Structure.
- 2. From the Saved Views drop-down list, select Schedule Setup View.
 - To schedule multiple cost items, you can highlight the row for each cost item that you want to schedule, using the Shift and Ctrl keys to select multiple rows.
- 3. Select additional cost items 4-Aggregate base, 5- Asphalt Concrete Hot Mix, and 6- 36-inch RCP Culvert Class.

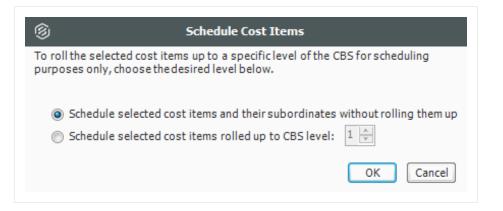
TIP

To schedule all cost items, highlight the JOB row

4. Right click on the selected rows and select Schedule Selection.

	St Dicukuowii Struct	ure (CBS) Register 🛛 🕲	•	 New	
Dra	g columns here to group)	0	Delete	or]
	CBS Position Code	Description	*	Cut	thedule ID
\rightarrow	+ 1	Mobilization	-	Copy	D.0000011
	+ 2	Clearing & Grubbing		Paste	0.0000012
	E 3	Unclassified Excavation	+	<u>Fill Down</u>	0.0000013
	+ 3.1	Excavation	8	Link these fields to Excel	D.0000014
	+ 3.2	Embankment	8	UnLink from Excel	0.0000015
	∃ 4	Aggregate Base	→	Indent	0.0000016
	+ 4.1	Furnish & Haul Base Material	+	Outdent	0.0000017
	+ 4.2	Finegrade Subgrade	۱ <u>-</u>	Insert	0.0000018
	■ 4.3	Install Aggregate Base		- Insert Subordinate	0.0000019
	+ 4.3.1	Place Aggregate Base		Insert Dependent <u>C</u> ost Item	0.0000020
	+ 4.3.2	Blue Top Aggregate Base	귿	Insert Cost Item Assembly	0.0000021
	5	Asphalt Concrete Hot Mix Type A	귿	Insert Cost Item Assembly as Subordinate	D.0000022
	+ 5.1	Furnish & Haul Hot Mix	网	Solit	0.0000023
∕∆	+ 5.2	Install Hot Mix Type A	_		0.0000024
	E 6	36 Inch RCP Culvert Class III	2	Insert Resource	0.0000025
	+ 6.1	Furnish RCP Materials	10	Ins <u>e</u> rt Resource Assembly	0.0000026
	+ 6.2	Excavate RCP Trench	2	Toggle Suspended	0.0000027
	+ 6.3	Install RCP Pipe		Go To Cost Allocation Item	0.0000028
	+ 6.4	Backfill RCP Pipe	5	Schedule Selection	D.0000029
	□ 7	10 Inch PVC Force Main (SDR21)	6-	Unschedule Selection	D.0000030
	10			Calculate Plug Days	2 0000004
	IC			Subtotal Calculator	
4			-	Add Quote	-

- On the Schedule Cost Items dialog, you can select whether or not you want to roll up the selected cost items to a specific level of the CBS for scheduling purposes
- 5. Select Schedule selected cost items and their subordinates without rolling them up, then click OK.



• Your scheduled cost items will import into Primavera the next time you update Primavera from InEight Estimate.

12.2.2.2 Roll Up Schedule

For cost item 3 – Unclassified Excavation, your scheduler does not need all of your estimate details and wants to roll up your cost items to a higher level when they import into the Primavera schedule.

Follow the steps below to learn how to roll up your cost items for the schedule.

12.2 Step by Step 3 — Roll Up Schedule

- 1. In the Training Job, from the Estimate tab select Cost Breakdown Structure.
- 2. From the Saved Views drop-down list, select Schedule Setup View.
 - Review your cost items to decide which cost items need to be rolled up
- 3. Select the Roll Up Schedule checkbox on the Unclassified Excavation cost item.

CBS Position Code 🗎	Description	Scheduled	Roll Up Schedule
+ 1	Mobilization	\checkmark	
+ 2	Clearing & Grubbing	\checkmark	
□ 3	Unclassified Excavation	\checkmark	\checkmark
+ 3.1	Excavation		
+ 3.2	Embankment		
4	Aggregate Base	\checkmark	
+ 4.1	Furnish & Haul Base Material	\checkmark	
+ 4.2	Finegrade Subgrade	\checkmark	
□ 4.3	Install Aggregate Base	✓	
+ 4.3.1	Place Aggregate Base	✓	
+ 4.3.2	Blue Top Aggregate Base	✓	

12.2.3 Update Microsoft Project from InEight Estimate

Now that you have set up your schedule to integrate with Microsoft Project in Job Properties and scheduled your cost items in the CBS, you are ready to send your project information to Microsoft Project.

When you first update Microsoft Project from InEight Estimate, Microsoft Project will create a new project automatically and load it with the following information from InEight Estimate:

Data	a Sent from InEight Estima	ate to Microsoft Project
Data Type	InEight Estimate	Microsoft Project
Project Data	Job Code	Project Name
	CBS Position Code	01 – CBS Position Code
Activity Data	Description	Description
	Days (Duration Driven)	Duration
Cost Data	Cost Category Total Cost	Cost Category (custom text columns)

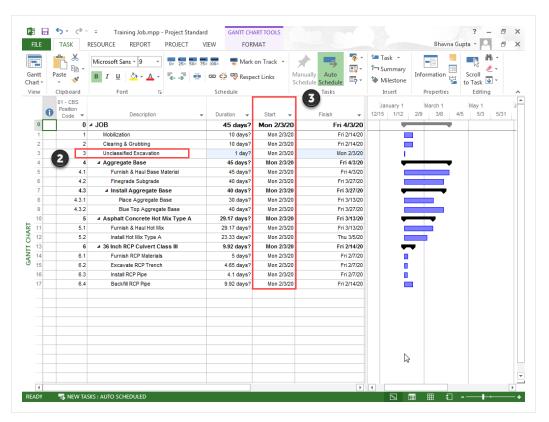
The following steps walk you through updating Microsoft Project from InEight Estimate to create a new schedule.

12.2 Step by Step 4 — Update MS Project from InEight Estimate

1. From the Estimate tab, select **Schedule > Update Project from InEight Estimate**.

® ≝ -				т	rainir	ıg Job - Est	imate
File Setup Estima	ate Quote	Price	Execution	System	Inte	grations	Actions
Cost Breakdown Structure (CBS)	workbook es Workbook		Open MS Project		© %	Price Brea Structure Overhe	
) rag columns here to group		 #	Update Estimate Update Project f				Find: [Sea
CBS Position Code =	Description	1	opulie Project	Scheduled	. 63	Roll Up Schedule	WBS Element
	ЈОВ			\checkmark			\checkmark
+	Prime Bond						
+	Price % Add-On	ı					
+	Job Financing						
+	Indirect Cost Es	calation					
+	Direct Cost Esca	alation					
+	Indirect Cost Ad	dd-On					
+	Job Manageme	nt & Equ	ipment				
+	General Expens	e					
+	Direct Cost Add	-On					
+ 1	Mobilization			\checkmark			
+ 2	Clearing & Grub	hina		✓			

- Your job automatically opens in Microsoft Project
- The Work Breakdown Structure Layout displays for the project
- You can see the breakdown structure imported from InEight Estimate with durations, rolled up as specified by the Roll Up Schedule option in InEight Estimate
- Initially, the start date for your activities is the start date defined on the Job Properties >



Cover Sheet tab (these will change as activity relationships are defined)

12.2.4 Update InEight Estimate from Microsoft Project

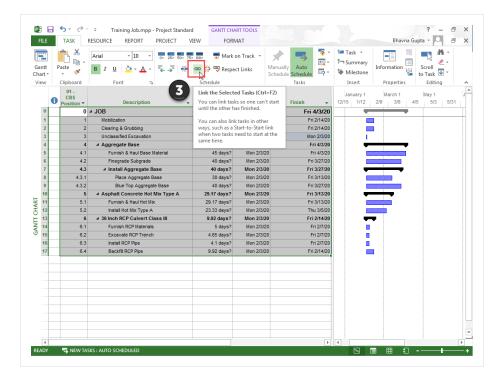
You can also bring information back from Microsoft Project into InEight Estimate. When you update InEight Estimate from Microsoft Project, the following information updates:

Update InEigh	t Estimate from M	icrosoft Project		
Data Type	Microsoft Project	InEight Estimate		
Activity Data	Start Dates	Start Dates		
	Finish Dates	Finish Dates		
	Hours	Hours		

Walk through the following steps to practice updating InEight Estimate from Microsoft Project. You will create a scheduling relationship in Microsoft Project and then import the updated dates and relationships into InEight Estimate.

12.2 Step by Step 5 – Update InEight Estimate from MS Project

- 1. Open your version of the **Training Job** project in Microsoft Project.
 - In the real world, it is likely that you would have overlapping activities or your activities would be out of order, however for this example you will link all activities from finish to start
- 2. Click on the Link Tasks icon to link all activities.



- Ensure the Auto Schedule button is selected
- 3. To update InEight Estimate with this change, go back to InEight Estimate and from the Estimate tab, select **Schedule > Update InEight Estimate from Project**.

3	<u> </u>						Training Job - Estimate							σ×
File	Setup E	stimate	Quote	Price E	xecution	System	Integ	rations	Actions	More Actions				金田(
		2 · 12	X	Ξ	Ľ		`≡ %							
	Breakdown ture (CBS)	20	Workbook	Schedule	Cash Flow	Indirect Cost Items			eakdown ire (PBS) 💧 📥	🞝 Alternat	es	Reports		
Brea	akdown Struc Res Workbook 😰 Open MS Proje				en MS Projec	t	Overhead and Pr Alternat					Reports		
Cos	t Breakdown Stru	icture (Cl	35) Register	C 🚰 Upd	late Estimate	from Proje	ct 💦 🗧							
Drag	columns here to gro	pup		🧬 Upo	late Project f	rom Estima	<u> </u>		Find:	Search For]	··· Save	d views: Schee	dule Setup View	•
	CBS Position Code	Des	cription			Cost	Total Co (Forecas		Currency	Scheduled	Roll Up Schedule	WBS Element	Schedule ID	Schedule Plug Days
	+ 1	Mo	bilization			1,909.51	\$11,	909.51	U.S. Dollar	\checkmark			HD.0000011	
	+ 2	Cle	aring & Grubb	ing		3,918.50	\$39,	184.97	U.S. Dollar	\checkmark			HD.0000012	
→ İ	3	Un	classified Exca	vation		\$4.82	\$240.	756.89	U.S. Dollar	\checkmark	J		HD.0000013	\checkmark

 On the Schedule Setup View, you can see the Start and Finish dates updated from MS Project.

CBS Position Code 📒	Description	Start	Finish	Early Start	Early Finish	Late Start	Late Finish
+ 1	Mobilization	2/3/2020	2/14/2020	2/3/2020	2/14/2020	2/3/2020	2/14/2020
+ 2	Clearing & Grubbing	2/17/2020	2/28/2020	2/17/2020	2/28/2020	2/17/2020	2/28/2020
B 3	Unclassified Excavation	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020
+ 3.1	Excavation	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020
+ 3.2	Embankment	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020
□ 4	Aggregate Base	3/3/2020	10/5/2020	3/3/2020	10/5/2020	3/3/2020	10/5/2020
+ 4.1	Furnish & Haul Base Material	3/3/2020	5/4/2020	3/3/2020	5/4/2020	3/3/2020	5/4/2020
+ 4.2	Finegrade Subgrade	5/5/2020	6/29/2020	5/5/2020	6/29/2020	5/5/2020	6/29/2020
□ 4.3	Install Aggregate Base	6/30/2020	10/5/2020	6/30/2020	10/5/2020	6/30/2020	10/5/2020
+ 4.3.1	Place Aggregate Base	6/30/2020	8/10/2020	6/30/2020	8/10/2020	6/30/2020	8/10/2020
+ 4.3.2	Blue Top Aggregate Base	8/11/2020	10/5/2020	8/11/2020	10/5/2020	8/11/2020	10/5/2020
□ 5	Asphalt Concrete Hot Mix Type A	10/6/2020	12/17/2020	10/6/2020	12/17/2020	10/6/2020	12/17/202
+ 5.1	Furnish & Haul Hot Mix	10/6/2020	11/16/2020	10/6/2020	11/16/2020	10/6/2020	11/16/202
+ 5.2	Install Hot Mix Type A	11/16/2020	12/17/2020	11/16/2020	12/17/2020	11/16/2020	12/17/202
6	36 Inch RCP Culvert Class III	12/17/2020	1/20/2021	12/17/2020	1/20/2021	12/17/2020	1/20/2021
+ 6.1	Furnish RCP Materials	12/17/2020	12/24/2020	12/17/2020	12/24/2020	12/17/2020	12/24/202
+ 6.2	Excavate RCP Trench	12/24/2020	12/31/2020	12/24/2020	12/31/2020	12/24/2020	12/31/202
+ 6.3	Install RCP Pipe	12/31/2020	1/6/2021	12/31/2020	1/6/2021	12/31/2020	1/6/2021
+ 6.4	Backfill RCP Pipe	1/6/2021	1/20/2021	1/6/2021	1/20/2021	1/6/2021	1/20/2021

12.2.5 Manage Changes Between Estimate and Schedule

As changes to scope, resources, and costs come up in your estimate, and changes to relationships and dates occur in the schedule, you can continue updating your estimate and schedule as needed.

12.2.5.3 Plug Days

The Schedule Plug Days option allows you to define the duration in the schedule separate from the duration defined for your cost items on the Production tab. For example, your 10" PVC Pipe activity may have extra days in the schedule due to the delivery date of the pipe material, but you don't want

those extra days to drive the costs in your estimate, since your crews won't be working on the activity on those extra days.

TIP

All superior cost items are hard-coded to use Schedule Plug Days.

12.2 Step by Step 6 — Schedule Plug Days

- 1. Look at the Days (Duration driven) column in the CBS where it shows 4.65 days for Excavate RCP Trench.
- Make sure the Schedule Plug Days checkbox is selected on the Excavate RCP Trench cost item, and then enter a Plug Days duration for the number of days the item will be scheduled in Primavera (7 days).

CBS Position Code 🗎	Description	Days (Duration driven)	Schedule Plug Days	Plug Days
6	36 Inch RCP Culvert Class III	18.66	\checkmark	26.01
+ 6.1	Furnish RCP Materials	0.00	\checkmark	5.00
+ 6.2	Excavate RCP Trench	4.65	\checkmark	7.00
+ 6.3	Install RCP Pipe	4.10		445
+ 6.4	Backfill RCP Pipe	9.92		9.92

• This allows you to maintain your duration of 4.65 days in the estimate and 7 days in the schedule.

Any duration changes made in Project will import into InEight Estimate as Plug Days automatically so that they can be reviewed by the estimator before making any changes to production in InEight Estimate.

12.2.5.4 Update Microsoft Project with InEight Estimate Changes

The following steps will walk you through updating the schedule with a scope change in your estimate.

12.2 Step by Step 7 — Update MS Project with InEight Estimate Changes

1. In the InEight Estimate Training Job, from the Estimate tab, select Cost Breakdown Structure.

- In this scenario, there is a scope change for your Excavation requiring you to change all of your quantities
- 2. Change the quantity in the Forecast (T/O) Quantity field in the CBS as specified below.

Quantity Change for Cost Item							
CBS Code	Description	Old Quantity	New Quantity				
5	Asphalt Concrete Hot Mix Type A	35,000	25,000				

- As you make your changes, take note of how your duration changes in the **Days (Duration driven)** column for these items.
- If prompted about changing Total or Unit Cost, select Change TOTAL cost, so that your unit costs stay intact

3 Attention
You have changed the quantity for a cost item that already contains costs. Would you like the TOTAL cost to change or the UNIT cost?
 Change TOTAL cost Change UNIT cost
Deactivate this confirmation for quantity changes FOR ALL JOBS and ALWAYS change the TOTAL cost
To re-activate this confirmation, choose Tools > Activate Unit/Total Confirmation for Quantity Changes.
ОК

- From the Estimate tab, select Schedule > Update Project from InEight Estimate to send the changed hours to Microsoft Project.
- 4. Go back to the Training Job in Microsoft Project.
 - The Microsoft Project scheduled duration should have changed from 4.65 days to 7 days to match the updated duration in InEight Estimate for Excavate RCP Trench
 - You can also see that the days for Asphalt Concrete Hot Mix Type A and its subordinates

0	01 - CBS Position Code	Description -	Duration 👻	Start 👻	Finish 🗸
0	0	⊿ JOB	239.51 days?	Mon 2/3/20	Fri 1/1/21
1	1	Mobilization	10 days?	Mon 2/3/20	Fri 2/14/20
2	2	Clearing & Grubbing	10 days?	Mon 2/17/20	Fri 2/28/20
3	3	Unclassified Excavation	1 day?	Mon 3/2/20	Mon 3/2/20
4	4	⊿ Aggregate Base	155 days?	Tue 3/3/20	Mon 10/5/20
5	4.1	Furnish & Haul Base Material	45 days?	Tue 3/3/20	Mon 5/4/20
6	4.2	Finegrade Subgrade	40 days?	Tue 5/5/20	Mon 6/29/20
7	4.3	Install Aggregate Base	70 days?	Tue 6/30/20	Mon 10/5/20
8	4.3.1	Place Aggregate Base	30 days?	Tue 6/30/20	Mon 8/10/20
9	4.3.2	Blue Top Aggregate Base	40 days?	Tue 8/11/20	Mon 10/5/20
10	5	A Asphalt Concrete Hot Mix Type A	37.5 days?	Tue 10/6/20	Thu 11/26/20
11	5.1	Furnish & Haul Hot Mix	20.83 days?	Tue 10/6/20	Tue 11/3/20
12	5.2	Install Hot Mix Type A	16.67 days?	Tue 11/3/20	Thu 11/26/20
13	6	▲ 36 Inch RCP Culvert Class III	26.01 days?	Thu 11/26/20	Fri 1/1/21
14	6.1	Furnish RCP Materials	5 days?	Thu 11/26/20	Thu 12/3/20
15	6.2	Excavate RCP Trench	7 days?	Thu 12/3/20	Mon 12/14/20
16	6.3	Install RCP Pipe	4.1 days?	Mon 12/14/20	Fri 12/18/20
17	6.4	Backfill RCP Pipe	9.92 days?	Fri 12/18/20	Fri 1/1/21

adjusted because you adjusted the Forecast T/O Quantity in InEight Estimate

 Your Start and Finish dates are different now. In InEight Estimate, from the Estimate tab, select Schedule > Update InEight Estimate from Project to update InEight Estimate with the new dates.

CBS Position Code 🗎	Description	Start	Finish	Early Start	Early Finish	Late Start	Late Finish
+ 2	Clearing & Grubbing	2/17/2020	2/28/2020	2/17/2020	2/28/2020	2/17/2020	2/28/2020
□ 3	Unclassified Excavation	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020
+ 3.1	Excavation	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020
+ 3.2	Embankment	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020	3/2/2020
□ 4	Aggregate Base	3/3/2020	10/5/2020	3/3/2020	10/5/2020	3/3/2020	10/5/2020
+ 4.1	Furnish & Haul Base Material	3/3/2020	5/4/2020	3/3/2020	5/4/2020	3/3/2020	5/4/2020
+ 4.2	Finegrade Subgrade	5/5/2020	6/29/2020	5/5/2020	6/29/2020	5/5/2020	6/29/2020
■ 4.3	Install Aggregate Base	6/30/2020	10/5/2020	6/30/2020	10/5/2020	6/30/2020	10/5/2020
+ 4.3.1	Place Aggregate Base	6/30/2020	8/10/2020	6/30/2020	8/10/2020	6/30/2020	8/10/2020
+ 4.3.2	Blue Top Aggregate Base	8/11/2020	10/5/2020	8/11/2020	10/5/2020	8/11/2020	10/5/2020
5	Asphalt Concrete Hot Mix Type A	10/6/2020	11/26/2020	10/6/2020	11/26/2020	10/6/2020	11/26/2020
+ 5.1	Furnish & Haul Hot Mix	10/6/2020	11/3/2020	10/6/2020	11/3/2020	10/6/2020	11/3/2020
+ 5.2	Install Hot Mix Type A	11/3/2020	11/26/2020	11/3/2020	11/26/2020	11/3/2020	11/26/2020
6	36 Inch RCP Culvert Class III	11/26/2020	1/1/2021	11/26/2020	1/1/2021	11/26/2020	1/1/2021
+ 6.1	Furnish RCP Materials	11/26/2020	12/3/2020	11/26/2020	12/3/2020	11/26/2020	12/3/2020
+ 6.2	Excavate RCP Trench	12/3/2020	12/14/2020	12/3/2020	12/14/2020	12/3/2020	12/14/2020
+ 6.3	Install RCP Pipe	12/14/2020	12/18/2020	12/14/2020	12/18/2020	12/14/2020	12/18/2020
+ 6.4	Backfill RCP Pipe	12/18/2020	1/1/2021	12/18/2020	1/1/2021	12/18/2020	1/1/2021

Lesson 12 Review

- 1. Under the Job Properties > Schedule tab, which setting can be enabled to account for plugged costs (e.g., for subcontractors)?
 - a. Resource price/unit
 - b. Expense Costs
 - c. Schedule ID
 - d. Actuals
- 2. For InEight Estimate schedule integration with Primavera, which of the following can be sent from your estimate to the schedule? (Select all that apply)
 - a. Activity data
 - b. Cash Flow graphs
 - c. Resource data
 - d. Cost data
 - e. Price data
- 3. The Schedule Plug Days option allows you to define the duration in the schedule separate from the duration defined for your cost items on the Production tab.
 - a. True
 - b. False

Lesson 12 Summary

As a result of this lesson, you can:

- Set up scheduling options
- Update Schedule from InEight Estimate
- Update InEight Estimate from Schedule
- Manage changes between estimate and schedule

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LESSON 13 – CASH FLOW

Lesson Duration: 25 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Interpret cash flow and resource utilization on the Cash Flow graph
- Select Cash Flow Options
- Change Cash Flow Display Settings

Lesson Topics

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13.1 CASH FLOW

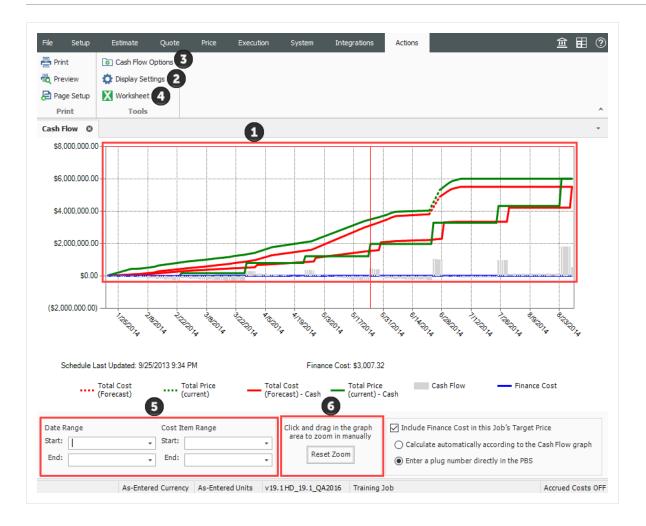
The Cash Flow form provides a graphical representation of the cash flow and resource utilization of your project, so you can quickly assess financing and resource needs.

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.



13.2 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/subcontractors. 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** $_{\infty}$ icon in the Tools section of the Actions tab.

TIP

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.

NOTE 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 timing on Start/Finish dates or Late Start/Finish dates.

File Setup	e Estimate	Quote	Price	Execution	System	Integration	ns				<u> </u>		(
bb Properties	Foundation Setup Data - Initializ	Pay Item & Proposal	Bid Wizard	Resource	Labor	Resource Assemblies	Cost Item Assemblies	Standard Tables	Reports				
ash Flow	Job Prope												
Overview	Security Cov	er Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Folde	r Tags C	ompetitors	Pricing	Schedule	-	•
 At the Every r Every 	bmitted to the o end of the job month on this da		Amou Retair	ge calendar day nt of each billin nage is released read revenue us	g that is withh	eld by owner a At the end of ti On a specific d	is retainage: hejob ate:	3(5.00 %	5			
At the of the formation of the office of the	end of the job month on this da		Amou Retair subco	ge calendar day nt of each invoi nage is released intractors and v ply cash timing	ce received th to At endors: 0	at is withheld b the end of the n a specific dat	y you as reta	ainage:	days				
Cost of money Average an	days days nual interest rational nual interest rational		rrow money (1	when cost excee	ource is not s	et to "Quote"?	Quan	tities 4 Pay Quantity					
Reporting Peri Period setti	iods ing for cash flow	: Day	•				Dates	rly Start / Fir	nish -				

13.2.0.1 Cash Flow Options Set Up

The following steps walk you defining settings on the Cash Flow Options form.

13.2 Step by Step 1 — 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

Overview Security Cover Sheet Cos	t Basis	Minority Setup	Fuel Cost	Job Tracking	Job Folder Tags	Competitor	rs Pricing	Schedule	Cash Flo
Revenue timing	_								
Bills are submitted to the owner:	Aver	age calendar days	elapsed fror	n billing to collec	tion:	25	days		
○ At the end of the job	Amo	unt of each billing	that is withh	eld by owner as i	retainage:	5.00	%		
• Every month on this day 10	Reta	inage is released:	٥	At the end of the	job				
O Every 1 weeks			0	On a specific dat	e:	•			
O Every 1 days	S	pread revenue usir	ng the same (Cost Curves as th	e contributing Cos	t Items			

- 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

Bills are received from subcontractors	Average calendar days elapsed from receipt of invoice to payment: 30 days
At the end of the job Every month on this day 25 Every 1	Amount of each invoice received that is withheld by you as retainage: 5.00 % Retainage is released to subcontractors and vendors: On a specific date:
O Every 1 days	Apply cash timing rules for all procurable cost categories (non labor and equipment) even if their cost source is not set to "Quote"?

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	10.00 %
Average annual interest rate earned (when revenue exceeds cost):	2.00 %

5. Leave all remaining options as originally defaulted.

13.3 CASH FLOW DISPLAY SETTINGS

13.3.1 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

ettings: Default	Cost Categories				Resources				
] Display this text ustom report ti	itle:	Estimated	As-Built	Planned To Date	Resource Utilization				
	A Labor				Summarize resources by:	Resource	е Туре		\sim
2	V Owned Equipment						utilized re y resource		
eriod Day ~	Rented Equipment				Value	Qty	Cost	AB Qty	AB Cost
Cost Items	Supplies				Labor				
✓ Total Cost (Forecast)	Materials				Construction Equipment Rented Construction Eq Installed Material				
✓ Total Price	Subcontract				Installed Equipment				
✓ Total Cost (Forecast) - Cash	Fees				Unique				
✓ Total Price (current) - Cash	Allowance								
Cash Flow	Custom Category1								
Finance Cost	Undefined				Quantity:	Cos	t		
As-Built		4			None ~	Nor		\sim	
CE-Total Cost					As-Built Quantity: None \lor	As-	Built Cost: ne	\sim	

13.3.1.1 Cash Flow Display Set Up

The following steps walk you through setting up your Cash Flow Display Settings.

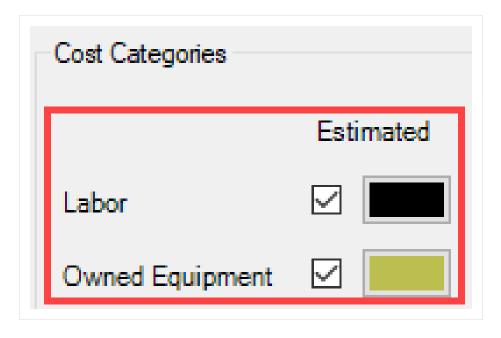
13.3 Step by Step 1 — Cash Flow Display Settings Set Up

- 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

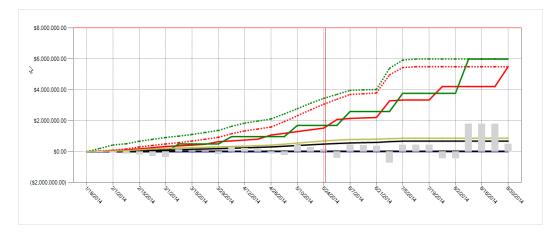
• Finance Cost

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)	

5. Under the **Cost Categories** section, check the **Estimated** checkbox for the Labor and Owned Equipment categories.



- 6. 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

7. To filter your graph by date range, click on the **Start** drop-down arrow - and select a start date of your date range filter.

				1.		<u>е. </u>		·	5%
		Thurs	day, D	ecemb	oer 27,	, 2018			41100 A
	•		Febr	ruary 2	2014			►	
	SU	MO	TU	WE	ΤН	FR	SA		
	26	27	28	29	30	31	1		
	2	3	4	5	6	7	8		
	9	10	11	12	13	14	15		otal Cost
	16	17	18	19	20	21	22		Forecast) - C
	23	24	25	26	27	28	1		
	2	3	4	5	6	7	8		
Date Ra				Clear					
Start:	2/3/2014	ł		*	Start:				•
End:				-	End:				-
						-			

8. 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
- 9. To remove the filter, click in the **Start** field and press the **Backspace** key.
- 10. Do the same for the End field.

13.3.2 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.

ettings: Previous	Cost Cate	gories			Res	ources				
Display this text as a custor	m report title:	Estimated	As-Built	Planned To Date		Resource Utilization				
-	∧ Labor				Su	mmarize resources by	Descript	ion		\sim
	✓ Owned E	Equipment 🗹			Ge		● This job' ○ All Libra			
eriod Week	✓ Rented E	Equipment			Va	lue	Qty	Cost	AB Qty	AB Co
Cost Items	Supplies					Dozer D8				
✓ Total Cost (Forecast)	Materials	s 🗌 🔜				Dump Fees Dump Truck				
Total Price (current)	Subconte	ract				Excavator 225 Excavator 245				
✓ Total Cost (Forecast) - Cash	Fees					Feeder Controls Fine Aggregate				
⊡ Total Price (current) - Cash	Allowand	ce 🗌 💻				Finisher Flatbed Truck				-
Cash Flow	Custom	Category1				Form Materials				<u> </u>
Finance Cost	Undefine	ed 🗌 📃				uantity:	Co			
☑ As-Built I Total Cost						one v s-Built Quantity:	No	ne Built Cost:	\sim	
CE-Total Cost Earned (to-date)						one V	No		\sim	

13.3.2.2 Resource Utilization Display Set Up

The following steps walk you through setting up your Cash Flow graph to report on Resource Utilization.

13.3 Step by Step 2 — Resource Utilization Display Setup

- 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. 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**.

Resources	
Summarize resources by:	Description ~
	This job's utilized resources All Library resources

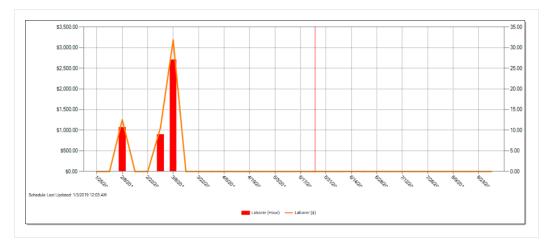
- 6. From the resulting list of Values, select Laborer.
- 7. Click in the **Qty** field for the selected value and select a color of your choice.
 - In this case the Qty represents the work hours for your Laborer resource
- 8. Click in the **Cost** field for the selected value and select a different color of your choice.

Get data from: This job's utilized resources All Library resources 						
Value		Qty	Cost	AB Qty	AB Co	
Laborer						
Lowboy Trailer						

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 Lowboy Trailer Manhole Precast 4 Pt				F.
<	L	1		>
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).

Lesson 13 Review

- 1. Under what cash flow form can you set up your revenue and cost timing?
 - a. Cash Flow Options
 - b. Display Settings
 - c. Worksheet
 - d. Page Setup
- 2. By default, the red dashed line on the Cash Flow graph represents the:
 - a. Total Cost (Forecast)
 - b. Total Price (current)
 - c. Total Cost (Forecast) Cash
 - d. Total Price (current) Cash
- 3. In the Cash Flow Display Settings, Resource Utilization allows you to view a graphical summarization of your resources by which of the following? (Select all that apply)
 - a. Resource File Description
 - b. Resource Type
 - c. Resource Code
 - d. Description
 - e. Wage Zone
 - f. Organizational Category

Lesson 13 Summary

As a result of this lesson, you can:

- Interpret cash flow and resource utilization on the Cash Flow graph
- Select Cash Flow Options
- Change Cash Flow Display Settings



LESSON 14 – INEIGHT ESTIMATE CALCULATORS

Lesson Duration: 20 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Use the Haul Calculator
- Use the Trench Calculator
- Use the In-Field Calculator

Lesson Topics

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14.2.1 Trench Calculator – Trench Tab	471
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14.1 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

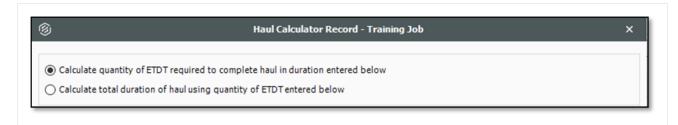
The following activity walks step by step through using the Haul Calculator to calculate the number of trucks needed for a cost item.

14.1 Step by Step 1 — 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.

C <u>o</u> st	Item Summary	🍃 <u>D</u> etail	\$11.54	₽ Plu <u>g</u> : \$0	.00	🖵 <u>Q</u> uote : \$0.0		
)rag (columns here to g	roup						
	Row Number 🗎	E Code Resource As		e Assembly	De	escription		
-	+ 1	LT1			Те	amster		
→ [·	+ 2	ETDT			Du	mp Truck		
Ľ	<u>O</u> pen				Ag	gregate Base Rock		
⊗	<u>D</u> elete							
8<	Cu <u>t</u>							
٦	Cop <u>v</u>							
Ē	<u>P</u> aste							
+	Fill Down		_					
A	Link this field to	Excel						
A	UnLink from Ex	cel						
2.	Insert Resource	e						
12	Insert Resource							
	Open <u>H</u> aul Cale	culator						
# 15	Edit Resource	Periods						

5. 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.)



- 6. For the Haul Distance, type 5.
- 7. Enter an Average Payload (Ton) of 30.
- 8. For Load Time (Minutes), type 3.
- 9. Enter a Travel Speed Full of 35 Mile/Hour.

- 10. For **Dump Time (Minutes)**, type **2**.
- 11. Enter a Travel Speed Empty of 45 Mile/Hour. Notice this calculates a cycle time of 20.24.
- 12. 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

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

- 13. Click OK.
- 14. 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	MBR		Aggregate Base Rock	45,500.00	5.00	47,775.00	Ton

14.1 Step by Step 2 — Haul Calculator – Calculate Total Duration

- 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. 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

 Calculate quantity of ETDT required to 	complete haul in du	ration entered below	N		
Calculate total duration of haul using q	uantity of ETDT ente	ered 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

7. Click **OK**.

- The Hours field on the Production tab updated to 281.08
- Your ETDT Dump Truck quantity remains at 2

14.2 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
- TIP You can access the Trench Calculator from the Actions tab of a Cost Item Record
- NOTE 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.

14.2.1 Trench Calculator – Trench Tab

The following steps walk through using the Trench Calculator to take-off excavation volume.

14.2 Step by Step 1 — 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**.

Cos	t Item Summary	🧟 <u>D</u> etail	: \$1.74 🙀 Plu <u>a</u> : \$0.	.00 Quote : \$0.00	Allocation	Production		:	×
Drag	columnsFirede	[Search For]	··· Saved view	ws: Previous View	-	Days:	0.00	0.00	•
	Row Number 🖹 👅	Code	Resource Assembly	Description	Quantity	Shifts:	0.00	0.00	
	Number - ·	4 11 5			(Less Waste)	Hours:	0.01	0.00	
	+	1 LL2 2 LO2		Laborer Operator Class 2		Man-Hours:	0.02	0.00	
	+	3 EX245		Excavator 245		Equip-Hours:	0.01	0.00	
<i>→</i>		1				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	. 1
					•	🏂 🗦 💽 🎰	8. 2		₽.

6. On the Cost Item Record's Actions tab, select Trench Calculator.

® 🛯	-					Tra	aining Jo	b - Estima	te		
File	Setup	Estimate	Quote	Price	E	xecution S	System	Integrat	ions	Actions	
M		😑 Displa	y Parent Ir	formation	🏂 Hi	ghlight Unique (I	Delta) Res	ource Fields	🚉 E	Edit Resource Periods	
	1111	🤠 Displa	y Billing Ra	te	- 記 Hi	ghlight Unique (I	Delta) Cos	t Item Fields	; 🔚 I	Insert Subordinate	ŧ
Split	Default Data Bloc								<i>8</i> E	Break Cost Allocation Lin	k
Edit				Vie	w					Тс	ools
Cost B	reakdown	Structure (Cl	BS) Regist	ter	Cost It	tem Record	0				Т
CBS Co	de:	Optional Code	e: Desc	ription:		Forecast (T/	0) Qty:	Unit of Me	asure:	Unit Cost:	Tota
										7	
25			24" F	ipe			1.00	Each		\$1.74	
25.	.1		Exca	vate Trench			1.00	CY		* \$1.74	
PI Assi	gnment:	PI Line Numbe	er: PI De	scription:				Cost Segm	ient:	Pay Quantity:	Cos
	~							Job Overh	iead	- 1.00	Det
C <u>o</u> st If	tem Summary	/ 🕏 Detail	: \$1.74	₽ Plu <u>g</u> :	\$0.00	Quote : \$	\$0.00	<u>A</u> llocation	P	Production	
Drag co	olumns Firede ([Search For] …	Saved v	views:	Previous View		•		D	ays:
	ow umber 📒	Code	Resourc	e Assembly	[Description	-	uantity .ess Waste)			nifts:[
+		1 LL2			L	aborer				Man-Ho	
+		2 LO2			C	Operator Class 2	2				
+		3 EX245			E	Excavator 245				Equip-He	ours:
· ·			~								_

- 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.

) Trend	ch Calculato	r			
	Trench	Pipe	Beddings		
	-Variables				
		Trer	ch length:	1000.00	feet
	Trench	width (at bottom): [4.00	feet
		Tre	nch depth:	10.00	feet
		Hinge	elevation:	5.00	feet
			Backslope:	45.00	degrees
	Materi	al swell/	shrinkage factor:	0.10	(decimal)
$\langle $	-Results - Tota	l excava	tion volume (neat-line):	2,407.41	q
			olume as the his cost item		
			ated volume /shrinkage):	2,648.15	CY
			olume as the iis cost item		
Save Configuration to 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.

14.2.2 Trench Calculator – Pipe Tab

You can also use the Trench Calculator to take off how much piping and bedding you need for the trench.

14.2 Step by Step 2 — 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).

6									
A	ctions								
Dra	g columns here to group			Find: [Searc	h For]	··· Sa	ved views:	Standard View	•
	Name	Comments	Pipe Diameter	UM	Pipe Type	Pipe Class	Agency	Last Changed	Last Cha
\rightarrow	New Trench Configuration (bla		0.00	inches					
	24" PVC Sewer at 10' Deep (1)		26.00	inches				7/29/2009 2:13:19 PM	wmfarr
	Trench Example PB		0.00	inches				2/15/2019 11:59:52 AM	Paul.Ben

- 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:

© Trenc	ch Calculator
	Trench Pipe Beddings
	Variables Pipe exterior diameter: 26.00 Pipe center elevation (from bottom): 19.00 Waste factor: 10.00
	Results Total pipeto purchase: 1,100.00 LF
	Use Total Pipe To Purchase as the quantity on this resource (on this cost item):
Save Configuration to Library Load Configuration from Library	Toggle English / Metric OK Cancel

- 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.

14.2.3 Trench Calculator – Beddings Tab

The following steps walk you using the Trench Calculator to calculate bedding take-offs.

14.2 Step by Step 3 — 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

Trend	n Calculator
	Trench Pipe Beddings
	Bedding Lift1 O Bedding Lift2 O Bedding Lift3 O Bedding Lift4
	Variables
	Elevation (from trench floor): 6.00 inches
	Additional material needed to 5.00 %
	Conversion factor (TON per CY): 1.60
	Results
	Lift Volume: 77.78 CY
「中国時代中国の一下の	Use Lift Volume as the quantity on this resource (on this cost item):
Call of Mary and a Mary and	Lift Weight: 124.44 Tons
the second to the second to the	Use Lift Weight as the quantity on MASAND
and the summer	this resource (on this cost item):
Save Configuration to 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 🗎	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	MACA1		Coarse Aggregate	3,327.59	0.00	3,327.59	Ton

Exercise 14.1 — Trench Calculator

In this exercise, you will practice using the Trench Calculator to take-off piping and bedding materials. Complete the following steps:

- 1. In the Training Job, create a new cost item called Underground Pipe.
- 2. Give the cost item a quantity and unit of measure of 1640 Linear Feet.
- 3. Open the new cost item and open the **Trench Calculator**.
- 4. On the **Trench tab**, enter the variables for the trench:

Trench length	1000 feet
Trench width (at bottom)	4 feet
Trench depth	10 feet
Hinge elevation	5 feet
Backslope	45 degrees
Material swell/shrinkage factor	0.10 (decimal)

- Do NOT check the box to bring in volume shrinkage.
- 5. Select the MPR36 material resource from the drop-down Results list.
- 6. On the **Beddings** tab, enter bedding variables.

Bedding lift 1	
Elevation (from trench floor)	6 inches
Additional material needed to compensate for compaction	5.00%
Conversions factor (Ton per CY)	1.3
Bedding material resource (Tons)	MASAND

Bedding lift 2	
Elevation (from trench floor)	38 inches
Additional material needed to compensate for compaction	5.00%
Conversions factor (Ton per CY)	1.1
Bedding material resource (Tons)	MAFA

Bedding lift 3	
Elevation (from trench floor)	76 inches
Additional material needed to compensate for compaction	5.00%
Conversions factor (Ton per CY)	1.1
Bedding material resource (Tons)	MACA1-1/2

7. Select **OK** and confirm that the pipe material and bedding materials populated the cost item.

You should end up with the following results

Cos	t Breakdown	Str	ucture (CBS	5) Regis	ter	Cost	Item	Record ©												*
CBS	Code:	Opt	tional Code:	Des	cription:						Fo	recast (T/0) Qty:	Unit of Measur	e:	Unit Cost:	Total	Cost:	Currency:	
	26			Und	ergroun	d Pipe							1,640.00	LF	-	\$34.59		\$56,734.45	U.S. Dollar	
Z6 Underground Pipe 1,640.00 LF \$34.59 \$55,734.45 U.S. D. PI Assignment: PI Line Number: Pi Description: Cost Segment: Pay Quantity: Cost Source: Alternit Cgst Item Summary Detail \$34.59 Underground Pipe Alocation Production Production Drag columns here to group Find: [Search For] Saved views: Previous View Undergroup			Alternate:																	
	÷													Job Overhead	•	1,640.00	Deta	il 👻	BASE	
Co	st Item Summar	y	<mark>⊉</mark> _Detail :	\$34.59	₩ P	ug : \$0.0	0 0	Quote : \$0.00	Allocat	ion					Pr	oduction				×
Drag	g columns here t	to gr	oup				Find:	[Search For]		Saved	views: Prev	/ious Vie	w	•	1				Qty Driven Hourly	
	Row Number 🗎		Code	Resour	ce Assem	bly	Descri	ption		ste)		Qu	uantity			Durati			Resources	
	+	1	MPR36				Find: [Search For] Description Q (I) Pipe RCP 36 In Sand Fine Aggregate		1,000.00					Linear Feet	, r				0.00	
		-									-					Sh	ifts:	0.00	0.00	
÷		-														Ho	ours: 0.00	0.00	• 0.00	J
*		4	MACAI				Coars	e Aggregate		2,155.15	U	.00	2,155.15	TON		Man-Ho	urs:	0.00	0.00	
																Equip-Ho	ours:	0.00	0.00	
																LF/I	Dav:	0.00	0.00	
																				۲
4														Þ	2	🖗 🖉 🛔	ъ.	😫 😫	₩	\approx
_																OK Ca	ncel	< Prev	Next :	_

Congratulations, you have completed this exercise!

14.3 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.

NOTE The resulting field value is stored without the arithmetic expression used to calculate the value.

14.3 Step by Step 1 — 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.

12,1,0,0	Sub Mail	21,000,00	aquarereet
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	2500	Square Feet
13.4	Apply Primer	25,000.00	Square Feet
13.5	Paint Top Coat	25,000.00	Square Feet
	13.1 13.2 13.3 13.4	13Paint Existing Steel Bridge Structure13.1Setup Equipment13.2Wash-Remove-Dispose of Water13.3Sandblast13.4Apply Primer	13Paint Existing Steel Bridge Structure1.0013.1Setup Equipment1.0013.2Wash-Remove-Dispose of Water25,000,0013.3Sandblast250013.4Apply Primer25,000,00

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		Square Feet
+	13.4	Apply Primer	25,000.00	Square Feet

5. Press the **Tab** key and it calculates the result.

Lesson 14 Review

- 1. The Haul calculator allows you to:
 - a. Calculate the number of trucks required to complete the haul in a set amount of time
 - b. Calculate how long it will take to complete the haul with a set number of trucks
 - c. Neither
 - d. Both

2. The Trench Calculator allows you to quickly calculate ______ values.

- a. Trench
- b. Pipe
- c. Bedding
- d. All of the above
- 3. For the in-field calculator, what symbol needs to be at the beginning of the math equation for it to calculate?
 - a. +
 - b. –
 - c. =
 - d. (

Lesson 14 Summary

As a result of this lesson, you can:

- Use the Haul Calculator
- Use the Trench Calculator
- Use the In-Field Calculator



LESSON 15 – COST ITEM ASSEMBLIES

Lesson Duration: 40 Minutes

Lesson Objectives

After completing this lesson, you will be able to:

- Explain what a cost item assembly is and why it is used
- Create and edit a cost item assembly
- Employ a cost item assembly

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15.1 COST ITEM ASSEMBLY OVERVIEW

15.1.1 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

15.1.2 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.

15.1.3 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:

De	efault Blocks iew Batch Opera	• •							
os	t Item Assembly Regi	ister Cost Item Assembly Record	0						
Co	de: * RW01	Description: Standard Retaining Wa	all Assembly						
Cos	t Items								
)rai	g columns here to group	Find: [Se	arch For 1 ····	Saved views: Previous Vie	PW	•	Not	tes	×
2 ug	CBS		Optional	Forecast	Unit of			Idard Retaining Wall Assembly	
	Position Code	Description	Code	(T/O) Quantity	Measure	Unit	Cot		
÷	1	Standard Retaining Wall Assembly		20.00	Cubic Yard		^		
	+ 1.1	Furnish Retaining Wall Materials		20.00	Cubic Yard			Linen,	
	□ 1.2	Retaining Wall Footings		<u>10.00</u>	Cubic Yard			-507#	
	+ 1.2.1	Form Footing		200.00	Square Feet				
	+ 1.2.2	Pour Footing		<u>10.00</u>	Cubic Yard		-		
	10	Chile Postere		200.00	C				
•							•		
Ca	lculations					×			
Dra	g columns here to group	Find: [Se	arch For] ···	Saved views: Previous Vie	ew	•			
	Variable 📃	Description	Formula		Default Result	Tag 1		WALL_WIDTH	
÷	FTG_AREA	Form/Strip Area of Footing (sqft)	[LENGTH] * [FTG_T	HICK_FT] * 2	161.17	Footing	•	†	
	FTG_THICK_FT	Footing Thickness (ft)	[FTG_THICK] / 12		0.81	Footing	•		
	1	13						WALL_HEIGHT	

15.1.4 Move Data Blocks

To move **Calculations** onto the screen, simply click on the name and drag it until the following options appear:

ode: • RW01		Description: Standard Retaining	WallAssem	bly															
ost Items																			
rag columns her	to crown										Find 🗔	ren For1	Saved	views: Previ	inus View		•	Notes	×
log coloring filo	ic to group										WBS: CEAS	1						Standard Retaining Wall Assembly	
CBS Position Cod	de ⊨	Description		ptional ode	Forecast (T/O) Quantity		Unit of Measure	Unit	Cost	Total Cost (Forecast)	(Civil Engineering Account Code System)	(C A	/BS: CEAS Divil Engineering ccount Code ystem) Description	Pay Ite Descrip	m Sion	Is Linked To Excel	Currency		
1		Standard Retaining Wall Assemb	Y			20.00	Cubic Yard		\$424.67	\$8,493.38							U.S. Dolla	4	
+ 1.1		Furnish Retaining Wall Materials				20.00	Cubic Yard		\$150.65	\$3,013.08							U.S. Dolla	4	
II 1.2		Retaining Wall Footings				10.02	Cubic Yord	-	\$194.66								U.S. Dolla		
+ 1.2.1		Form Footing					Square		\$6.29								U.S. Dola		
+ 1.2.2		Pour Footing				10.0	Cubic Y		\$26.95								U.S. Dolla		
+ 1.2.3		Strip Footing				200.0	S ()		\$2.10								U.S. Dolla		
□ 1.3		Retaining Wall Wall					Cubic		\$353.37								U.S. Dolla		
+ 1.3.1 + 1.3.2		Form Wall Pour Wall				500.00	Square Cubic Yard	-	\$4.19								U.S. Dolla U.S. Dolla		
+ 1.3.2		Strip Wall				20.0	Square Feet	-	\$1.80								U.S. Dole		
+ 1.5.5		Strip viai							_	\$090.71							0.5.00%		
E I						G	alculations		×										2
•						evic	ous Wew		•										
							Variable		_										
						- 1	Name	h.,	Desc									WALL_HEIGHT	
	10					→	FTG_AREA		F.A.	\$8,493.38									
							FTG_THICK_FT		ΕY								-		
inputs								1	13								×	· · · · ·	
rag columns her	the second					•					Find: (Sea	eth Ease 1	Saved	views: Previ	inur View		•	FTG_THEX	
Variable	Display		Input		Default	Data	Value /			Visibility	Default				User	User			
Name	Order	E Description	Type	Table	Value	Validation	Minimum	Max	ómum	Condition	Visibility	Tag 1	Tag 2	Tag 3	Defined	d 1 Defi	ned 2	4 PTG_WIDTH	
LENGTH		1 Wall Length (ft)	Value			None					1						*	k	
FTG_WIDTH		2 Footing Width (ft)	Value			None					1								
FTG_THECK		3 Footing Thickness (in)	Value			None					1								
WALL_HEL.		4 Wall Height, Avg (ft)	Value			None					¥								
WALL WI	6	5 Wall Width (in)	Value		12.00	None					Í								
	0																	Notes Setup Tables Sub Assemblies	
																	,	 Notes Setup Tables Sub Assemblies 	
																		OK Cancel New < Prev	Next >

Next, choose where to place it on your screen:

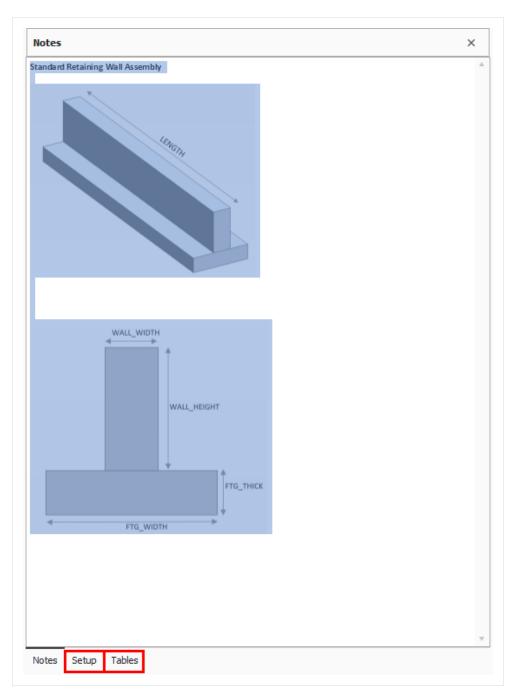
Inp	outs																×
raç	g columns here	o group									Find: [Se	arch For]	Sav	ed views: Pr	evious View	-	
	Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation	Value / M n	Maximum	Visibility Condition	Default Visibility	Tag 1	Tag 2	Tag 3	User Defined 1	User Defined 2	
÷	LENGTH	1	Wall Length (ft)	Value		100.00	None				✓						
	FTG_WIDTH	2	Footing Width (ft)	Value		3.33	None	ے ہے ک			v						
	FTG_THICK	3	Footing Thickness (in)	Value		9.67	Calculations	~	×		✓						
	WALL_HEI	4	Wall Height, Avg (ft)	Value		2.40			_		✓						
	WALL WI	5	Wall Width (in)	Value		12.00	revious View		*								
	6						Variable Name	<u>=</u>	Desc		×]					
							→ FTG ARE		E A								

The calculations data block now appears on the screen.

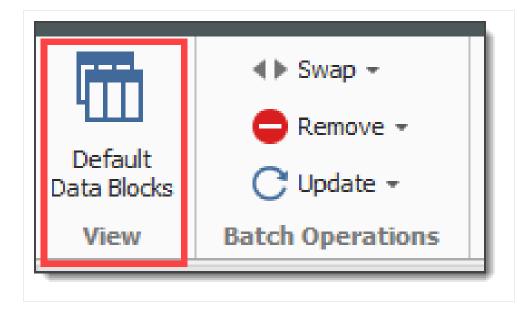
ode	:* RW01		Description: Standard Retaining Wal	Assembly													
ist.	Items																Notes
ag	columns here t	o group								Find	[Search For]	Saves	d views:	Previous View		-	Standard Retaining Wall Assembly
	CBS Position Code	<u>1.</u>	Description	Optiona Code	al Forecast (T/O) Quantity		Unit of Measure	Unit Cost	Total Cost (Forecast)	WBS: (Civil Engine Accou System	sering (CA	VBS: CEAS Civil Engineering iccount Code system) Description		Pay Item Description	Is Linked To Excel	Currency	1
	1		Standard Retaining Wall Assembly			20.00	Cubic Yard	\$424.67	\$8,493.3	8						U.S. [*	
l	+ 1.1		Furnish Retaining Wall Materials			20.00	Cubic Yard	\$150.65	\$3,013.08	8						U.S. C	
	1.2		Retaining Wall Footings				Cubic Yard	\$194.66								U.S. C	
	+ 1.2.1		Form Footing				Square Feet	\$6.29								U.S. [
	+ 1.2.2		Pour Footing			10.00	Cubic Yard	\$26.95	\$269.53	2						U.S. [+	
		10							\$8,493.3	3							
p	ıts															×	
											[Search For]	Saver		Previous View		-	
	columns here t											Save	u views:			•	WALL_WIDTH
	Variable Name	Display Order		ype Ta	able Default Value	Data Validatio	Value / Minimum	Maximum	Visibility Condition	Defaul Visibilit	y log i	Tag 2	Tag 3	User Define	d 1 User	red 2 [
	LENGTH			alue	100.0	0 None				v						*	
	FTG_WIDTH			alue		3 None				2 2 2							WALL HEIGHT
	FTG_THICK			alue		7 None				v							
	WALL_HEI			alue		0 None											
	WALL WI		5 Wall Width (in)	alue	12.0	0 None				v						•	
	6																FTG_THECK
																•	
ılc	ulations															×	< FTG. WOTH
99	columns here t	o group								Find	[Search For]	··· Save	d views:	Previous View		-	
	Variable Name	5	Description	Formula			Default Result	Tag 1 Tag	2 Tag 3	3	User Defined 1	User Defined 2	User				
12	FTG_AREA		Form/Strip Area of Footing (sqft)	ILENGTH	I] * [FTG_THICK_FT] * 2		161.17	Footing			Denney 1	Demind 2	Jen				
	FTG_THICK_FT	т	Footing Thickness (ft)		ICK] / 12		0.81	Footing									
	FTG_VOL		Volume of Footing Concrete (CY)) * (FTG_WIDTH) * (FTG_T	HICK_FT] /.		Footing								*	
		13															Notes Setup Tables
																	OK Cancel New < Prev Next

15.1.5 Add and Remove Data Blocks

To look at **Setup** and **Tables**, click on the tabs to view them.



To get rid of the Notes screen, simply press the X, and to bring it back, click on **Default Data Blocks** in the ribbon.



15.2 COST ITEM ASSEMBLY CREATION

15.2.1 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.

15.2 Step by Step 1 — Create a Cost Item Assembly Record

1. From the Setup tab, click on Cost Item Assemblies.

© 💾 -									
File Setup	Estimate	Quote	Price	Execution	system	Actions	More Actio	ons	
Ô		Ě	***	-	🐔 Labor 🏭 Equipment				Þ
Job Properties	Foundation Setup Data 👻	Pay Item & Proposal	Bid Wizard	Resource Rates *	Materials	Resource Assemblies	Cost Item Assemblies	Standard Tables	Reports
	Initializ	ze			Resources		Assen	nblies	Reports

2. From the Actions tab, click on New.

File Setup	Estimate	Quote	Price	Execution	System	Actions
📑 Print	C Open	}≺ Cut	+ Fill Dowr	i 📙 Link F	Field	
🖏 Preview	🕂 New	🖥 Сору		恩 Unlin	k Field	
🛃 Export To Excel	😣 Delete	📄 Paste				
Print		Edit		Workb	ook	

- 3. In the Code field, type **TEST Your Initials**.
- 4. In the Description field, type **Test Cost Item Assembly Ductbank**.

05	t Breakdown Structure	e (CBS) Register	Cost Item Assembl	y Register	Cost Item Assembly Rec	ord ©		
200	ie: * TEST DS	Description: Tes	t Cost Item Assembly -	Ductbank				
ost	Items							
rag	columns here to group							
	CBS Position Code 🗎	Description		Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
÷	+ 1	Test Cost Item Ass	embly - Ductbank		1.00	Each	\$0.00	\$0
*								

5. In the bottom right corner, click **OK**.

	ОК	Cancel	New	< Prev	Next >
--	----	--------	-----	--------	--------

• Notice that your Cost Item Assembly now shows up in the Cost Item Assembly Register

Cos	st Breakdown St	ructure (CBS) Register	Cost Iter	n Assembly Registe	er Ø				
Drag	g columns here to g	roup							
	Code 🚊	Description		Assembly File Description	Default Quantity	Default Unit of Measure	Default Unit Cost	Default Total Cost	Default Currency
	RW01	Standard Retaining Wall Asse	embly	Standard Cost It	20.00	Cubic Yard	\$424.67	\$8,493.38	U.S. Dollar
÷	TEST DS	Test Cost Item Assembly - Du	uctbank		1.00	Each	\$0.00	\$0.00	U.S. Dollar
*									

15.2.2 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.

15.2.3 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:

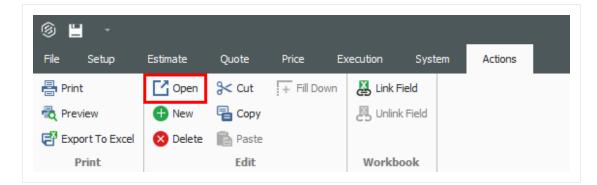
- Assembly file
- Geographic Areas
- Wage Zone
- Org. Category

- 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.

15.2 Step by Step 2 — 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.

Setup		×
Assembly File:		
Geographic Area:		
Wage Zone:		
Org. Category:	▼ Tag 4:	
Last Changed By: Karen.Loftus	Tag 5:	
ast Changed On: 11/15/2019 9:00:37 AM	Tag 6:	
	Tag 7:	
	Tag 8:	
	Tag 9:	
	Tag 10:	,
•		
Notes Setup Tables Sub Assemblies		

3. In the Assembly File drop-down, select Standard Cost Item Assembly File.

etup			2
Assembly File:	• •	Tag 1:	
eographic Area:	# Description	^	
Wage Zone:	Komatsu Equipment Rate File Standard Assembly File	:	
Org. Category:	Standard Cost Item Assembly File		
st Changed By:	Standard Equipment Rate File		
st Changed On:	Standard Installed Equipment Rate File Standard Labor Rate File	:	
	Standard Material Rate File	• [
	×		
		Tag 9:	
	т	Tag 10:	

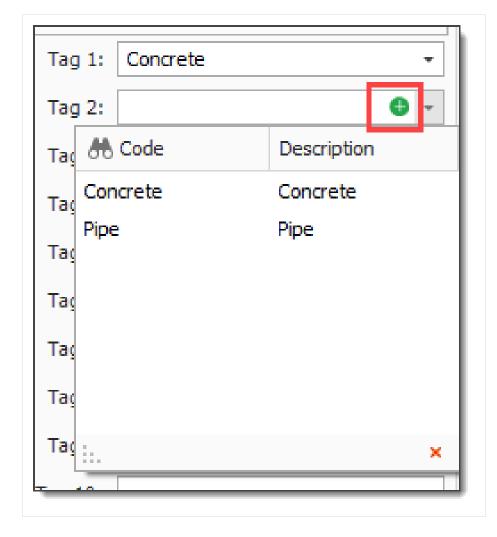
4. Select a Geographic Area and Org. Category.

Setup			×
Assembly File:	Standard Cost Item Assembly 👻	Tag 1:	
Geographic Area:	Southwest -	Tag 2:	
Wage Zone:	-	Tag 3:	
Org. Category:	Excavator -	Tag 4:	
Last Changed By:	Karen.Loftus	Tag 5:	
Last Changed On:	11/15/2019 9:03:24 AM	Tag 6:	
		Tag 7:	
		Tag 8:	
		Tag 9:	
		Tag 10:	

5. In the Tag 1 drop-down, select **Concrete**.

Setup		•		×
Assembly File:	Standard Cost Item Assembly	•	Tag 1:	• -
Geographic Area:	Southwest	•	Tag 👫 Code	Description
Wage Zone:		•	Tag Concrete	Concrete
Org. Category:	Excavator	-	Pipe Tag	Pipe
Last Changed By:	Karen.Loftus		Taç	
Last Changed On:	11/15/2019 9:03:24 AM		Tag	
			Tag	
			Та <u>с</u> :	×
			Tag 0.	

6. In the Tag 2 drop-down, click the **Add** icon.



7. Enter the following, then click **OK**.

🛞 User Tag	Record - Training Job — 🗆 🗙
Code:*	Ductbank
Description:	Ductbank
Register:	Cost Item Assemblies 🔹
Field:	Tag 2 🔹
	OK Cancel New

15.2.4 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.

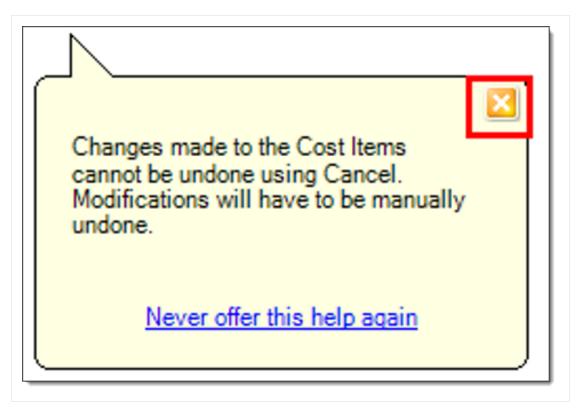
- Default Description is equal to the Assembly Description
- Default Forecast (T/O) Qty = 1
- This is the top-level cost item in the assembly. Any additional cost items will need to be created as subordinates to this cost item

NOTE 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.

TIP 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.

15.2 Step by Step 3 — 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.

Cost	t Items				
Drag	g columns here to group				
	CBS Position Code	Description		Optional Code	Forecast (T/O) Quantity
÷	+ 1	Test Cost Item Assembly - Ductbank			
*			Ľ	<u>O</u> pen	
			Ð	<u>N</u> ew	
			\otimes	<u>D</u> elete	
			\gtrsim	Cu <u>t</u>	
			٦	Cop <u>y</u>	
			Ē	<u>P</u> aste	
			+	<u>F</u> ill Down	
			B	Link this field to E	xcel
			R	UnLink from Exce	I
			Æ	Link this field to C	alculation Result
			fx c 5	Unlink from Calcu	
			-	Indent	
	1		-	Outdent	
4	1			<u>I</u> nsert	
1				Insert Su <u>b</u> ordinate	•
Inp	outs		ß	<u>S</u> plit	
4	1		2-	Ins <u>e</u> rt Resource	
			12	Insert Resource A	ssembly
Cal	culations		9	Toggle Suspende	đ
_	g columns here to group			Subtotal Calculate	

3. Insert 4 subordinates.

CBS Position Code 🗎
□ 1
+ 1.1
+ 1.2
+ 1.3
+ 1.4

4. Enter the descriptions and units of measure as follows:

Code:	* TEST - KL	Description: Test Cost Item Assemb	ly - Ductbank		
Cost Item	ns				
Drag colu	imns here to group				
CBS Posi	ition Code 📒	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure
₽	1	Test Cost Item Assembly - Ductbank		1.00	Each
+ ;	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

15.2.5 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-type or table-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 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.

15.2 Step by Step 4 — Create Input Values

1. Navigate to the Inputs data block. In the first empty field under Variable Name, type **Length**, then press **Tab**.

Inp	outs							
rag	g columns here	e to group						
	Variable Name	Display =	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum
I	LENGTH	1		Value		0.00	None	
*								

TIP The Variable Name is how the calculations will reference 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**.

	g columns here	e 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						
	1							

3. In the Input Type field, select Value from the drop-down list. In the Default Value field, type 100.

	Variable Name	Display Order		Description	Input Type	Table	Default Value	Data Validation	Value / Minimum
→ *	LENGTH		1	Ductbank Length (ft)	Value		100.00	None	
~ L									

4. Fill out additional fields as shown below:

In	puts								
Dra	g columns here	to group							
	Variable Name	D ≞ 0		Description	Input Type	Table	Default Value	Data Validation	Valu Minir
	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	

15.2.5.1 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 Than or Equal	Permits the entry of a value that is equal to or greater than the value entered in the 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.

15.2 Step by Step 5 — 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.

rag colu	mns Fierd	et [Search For] …	Sav	ved views:	Previous View	-
Tabl Cod		Table Description			Assembly File Description	Organizationa Category
>	Đ	New		-		
	\otimes	<u>D</u> elete		1		
	8	Cu <u>t</u>				
	9	Сору				
	E.	<u>P</u> aste				
	+	<u>F</u> ill Down				
	₿	Link this field to Excel		1		
	M	UnLink from Excel				

3. In the Code field, type CONC – Your Initials, and in the Description field, type Concrete Types.

Cost Item Assembly	y Register Cost	Item Assembly Record	Table Record
Code * CONC-I	KL Description:	Concrete Types	
Table			
Drag columns here to	group		Find:
Code (CODE)			
→			

4. In the Columns section, enter in the following column names and descriptions, choosing the **Text** Type.

Drag	g columns here to	group	1	Find: [Search For]	:	Saved views:	Previous Viev	v -
	Display Order	Column Name	Description		Туре	Unique Key	Order By	Default Visibility
	1	CODE	Code		Text	✓	✓	\checkmark
\rightarrow	2	DESC	Description		Text +			\checkmark
*								

5. Click **OK** in the bottom right corner.

ОК	Cancel	New	< Prev	Next >

6. In the Tables section, enter in the following data for the Concrete resource codes and types:

Tal	bles		
Drag	g columns here to gr	oup	Find
	Table 😑	Table Description	
	CONC - KL	Concrete Types	
	MC3500	3500 PSI	
<i>→</i>			

7. Click **OK** in the bottom right corner.

T	ОК	Cancel	New	< Prev	Next >
L					

8. Add the following input, selecting **Table** for the Input Value from the drop-down.

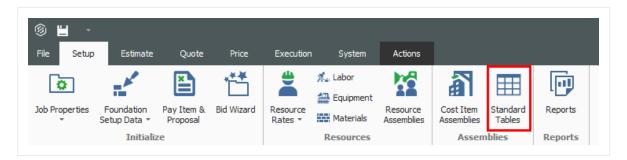
)ra	g columns here	to group							
	Variable Name	D 0 ≞		Description	Input Type	Table	Default Value	Data Validation	Value / Minimum
	LENGTH		1	Ductbank Length (ft)	Value		100.00	None	
	WIDTH		2	Ductbank Width (ft)	Value		10.00	None	
	DEPTH		3	Ductbank Depth (ft)	Value		6.00	None	
	RADIUS		4	Conduit Radius (ft)	Value		0.33	None	
o	CONC TYPE		5	Concrete Type	Value 👻		0.00	None	
*					Value				
				\rightarrow	Table				

9. From the Table drop-down list, select your **CONC** table.

Dra	g columns here	to group						
	Variable Name	D 0 ≞		Description	Input Type	Table	Default Value	Dat Vali
	LENGTH		1	Ductbank Length (ft)	Value		100.00	Nor
	WIDTH		2	Ductbank Width (ft)	Value		10.00	Nor
	DEPTH		3	Ductbank Depth (ft)	Value		6.00	Nor
	RADIUS		4	Conduit Radius (ft)	Value		0.33	Nor
ø	CONC TYPE		5	Concrete Type	Table	-		Nor
*					1	CONC - KL		

15.2.5.2 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.



15.2.6 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

Dra	g columns here to	group		Find: [Search For]		Saved views:	Previous Viev	v -
	Display Order	Column Name	Description	Ŧ	Туре	Unique Key	Order By	Default Visibility
÷	1	CODE	Code		Text	~	~	Image: A state of the state
*								

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.

15.2 Step by Step 6 — Set Conditional Inputs

1. Create a new input as follows, choosing **Table** as the Input Type, and selecting **Standard Table** from the drop-down.

inj	puts								
)ra	g 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	
\rightarrow	CONC		6	Is Concrete required?	Table	STANDA		None	
*									

2. Set the Default Value of the CONC variable as **No**, then click **OK**.

			le Rows - Training J	OD		
columns here to g	Iroup		Find: Search For]		
Code (CODE)						
NO						
YES						
2						
					ОК	Cancel
	Code (CODE) =	Code = (CODE) = NO YES	Code = NO YES	Code (CODE) = NO YES	Code (CODE) = NO YES	Code (CODE) = NO YES 2

3. In the Visibility Condition field for the CONC TYPE variable, click the **fx** button.

	Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum	Maximum	Visibility Condition	Default Visibility
	ENGTH	1	Ductbank Length (ft)	Value		100.00	None				✓
	WIDTH	2	Ductbank Width (ft)	Value		10.00	None				\checkmark
1	DEPTH	3	Ductbank Depth (ft)	Value		6.00	None				\checkmark
1	RADIUS	4	Conduit radius (ft)	Value		0.33	None				\checkmark
÷	CONC TYPE	5	Concrete Type	Table	CONC - DS		None			f	x 🗸
	CONC	6	Is Concrete required?	Table	STANDARD	NO	None			-	\checkmark
ŧ											

4. In the Formula Editor, and from the Fields section, double click [CONC.CODE].

[CONC.CODE]					
[controot]					
Fields	Enter text to search	٩	Field Informatio		
Constants	ab CONC TYPE.CODE	٩	Field Informatio Caption: CONC The type of this	CODE	
Constants Operators	D CONC TYPE.CODE	٩	Caption: CONC	CODE field is: Syste	
Constants Operators V Functions	ab CONC TYPE.CODE ab CONC TYPE.DESC ab CONC.CODE	٩	Caption: CONC The type of this	CODE field is: Syste	
Constants Operators	ab CONC TYPE.CODE ab CONC TYPE.DESC ab CONC.CODE	٩	Caption: CONC The type of this	CODE field is: Syste	
Constants Operators Functions Logical Math	ab CONC TYPE.CODE ab CONC TYPE.DESC ab CONC.CODE ab CONC.DESC 12 DEPTH	٩	Caption: CONC The type of this	CODE field is: Syste	
Constants Operators Functions Logical	ab CONC TYPE.CODE ab CONC TYPE.DESC ab CONC.CODE ab CONC.DESC ab CONC.DESC ab CONC.DESC ab LENGTH ab LENGTH	٩	Caption: CONC The type of this	CODE field is: Syste	
Constants Operators Functions Logical Math	ab CONC TYPE.CODE ab CONC TYPE.DESC ab CONC.CODE ab CONC.DESC 12 DEPTH	٩	Caption: CONC The type of this	CODE field is: Syste	

5. In the Operators field, double click on the '=='

[CONC.CODE]			
[CONC.CODE]			
Fields	Enter text to search	م	Returns true if both operands have the same
Constants	&		value; otherwise, it returns false.
Operators	~		
 Functions 	== _lu,		
Logical	!=		
Math	<		
String	<=		
	>=		
	>	•	٠
and Characters 12	Length: 12, Space Available: 1988		OK Cancel

- 6. In the Formula Editor, type **'Yes'**.
- 7. Click OK.

[0	ONC.CODE] ==	'Yes'		
	Fields	Enter text to search	م	Returns true if both operands have the same value; otherwise, it returns false.
	Constants Operators	&	*	
¥	Functions	==		
	Logical	!=		
	Math	<		
	String	<=		
		>=		
			•	٩
ine:	1, Character: 21, Le	ngth: 21, Space Available: 1979		OK Cancel

- 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

ag	columns here	to group					Find: [Sea	arch For]	··· Saved	views: Previous	View
	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				\checkmark
	WIDTH	2	Ductbank Width (ft)	Value		10.00	None				\checkmark
	DEPTH	3	Ductbank Depth (ft)	Value		6.00	None				\checkmark
	RADIUS	4	Conduit radius (ft)	Value		0.33	None				\checkmark
	CONC TYPE	5	Concrete Type	Table	CONC - DS		None			[CONC.CO	
	CONC	6	Is Concrete required?	Table	STANDARD	NO	None				
	6										

8. In the Tag 1 fields for CONC TYPE and CONC, select **Concrete**.

	Variable Name	Display 🚋	Description	Input Type	Table	Default Value	Data Validation	Value / Minimum	Maximum	Visibility Condition	Default Visibility	Tag 1
	LENGTH	1	1 Ductbank Length (ft)	Value		100.00	None				✓	
	WIDTH	3	2 Ductbank Width (ft)	Value		10.00	None				~	
	DEPTH	3	3 Ductbank Depth (ft)	Value		6.00	None				\checkmark	
	RADIUS	4	4 Conduit radius (ft)	Value		0.33	None				✓	
÷	CONC TYPE		5 Concrete Type	Table	CONC - DS		None			[CONC.CO		Concrete
	CONC	6	5 Is Concrete required?	Table	STANDARD	NO	None				✓	Concrete
ŧ												
	6											

9. In the Find field under Inputs, select Tag 1.

								_					
ag	columns here	to group					Find:	~	Find using 'begins with'	d view	s: Previous	View	•
	Variable Name	Display Order	Description	Input Type	Table	Default Value	Data Validatio		Find using 'contains' *Variable Name		Visibility Condition	Default Visibility	Tag 1
	LENGTH	1	Ductbank Length (ft)	Value		100.00	None		Data Validation			\checkmark	
	WIDTH	2	Ductbank Width (ft)	Value		10.00	None		Description			\checkmark	
	DEPTH	3	Ductbank Depth (ft)	Value		6.00	None		Display Order			\checkmark	
	RADIUS	4	Conduit radius (ft)	Value		0.33	None		Input Type			\checkmark	
	CONC TYPE	5	Concrete Type	Table	CONC - DS		None		Table		[CONC.CO		Concrete
	CONC	6	Is Concrete required?	Table	STANDARD	NO	None	~	Tag 1			\checkmark	Concrete
									Tag 2				
									Tag 3	I			
									User Defined 1	-			
	6								User Defined 2	I			
									User Defined 3				
	uts Calculati	ons							Visibility Condition				

10. Begin typing in Concrete and notice that the CONC TYPE row becomes highlighted.

columns nere	to group					Find: cond	-	↔ Saved v	iews: Previous	View	-
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				1	
CONC TYPE	5	Concrete Type	Table	CONC - DS		None			[CONC.CO		Concrete
CONC	e	Is Concrete required?	l able	STANDARD	NO	None				~	Concrete

15.2.7 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)

15.2.7.3 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

15.2.7.4 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 🚊	Description	Formula	Default Result
VOL_CUFT	Volume of Concrete (cubic foot)	[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.

15.2.7.5 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	<u>=</u>	Description	Formula	Default Result
VOL_CUFT		Volume of Concrete (cubic foot)	[WIDTH] * [LENGTH] * ([THICK] / 12)	75.00
VOL_CY		Volume of Concrete (CY)	[VOL_CUFT] / 27	2.78
VOL_MBUY		Concrete Material Buy (CY)	Ceiling([VOL_CY])	3.00

15.2.7.6 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 🚊	Description	Formula	Default Result
CALC1	Formula Error Example	1/0	?

15.2.7.7 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

[C (DNC.CODE] == 'YES'			
				6
	Fields	Enter text to search	Q	Field Information
	Constants	ab CONC TYPE.CODE		Caption: CONC.CODE The type of this field is: System.String
	Operators	ab CONC.CODE		Is Concrete required? (Code)
1	Functions	1.2 DEPTH		is concrete required: (code)
	Logical	1.2 LENGTH		
	Math	1.2 RADIUS		
	String	1.2 WIDTH	3	4
e:	1, Character: 20, Length:	20, Space Available: 1980		OK Cancel

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.

Dra	g columns here to	o group
	Code (CODE) 🗎	Description (DESC)
÷	MC2000	4000 PSI
	MC3500	3500 PSI
*		

15.2 Step by Step 7 — Create Calculations

1. Drag the Calculations data block into view.

	le: * TEST - KL	Description: Test Cost Item Assem	his Duathards								
		Description: Test Cost Item Assem	Diy - Ductbalik								
ost	: Items										
rag	columns here to group				Find	: [Search For] … Sa	ved views:	Previous View		-
	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. Dolla	r		
•	+ 1.1	Excavate Ductbank		1.00	Each	\$0.00	\$0.00	U.S. Dolla	r		
	+ 1.2	Install Ductbank Conduit		1.00	Each	\$0.00	\$0.00	U.S. Dolla	r		
	+ 1.3	Pour Concrete		1.00	Each	\$0.00	\$0.00	U.S. Dolla	r		
	+ 1.4	Backfill		1.00	Each	\$0.00	\$0.00	U.S. Dolla	r		
~											_
C	alculations										×
	alculations	up			Find	: [Search For]] Sav	ved views:	Previous View		×
			Formula		D. C. Jt] ··· Sav	2	Previous View User Defined 1	User Defined 2	× •
	ag columns here to gro Variable Name		Formula		Default			2	User		•

2. In the Variable name field, type **Volume**, then press **Tab**.

)rag (columns here to	o group						
	Variable Name	<u>.</u>	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3
/	VOLUME							

NOTE 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.

rag	g columns here	to group						l.
	Variable Name	≞_	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3
ı	VOLUME		Ductbank Volume					
*								

4. In the Formula field, select the **fx** formula editor button.

rag	g columns here t	to group							
	Variable Name	<u>=</u>	Description	Formula		Default Result	Tag 1	Tag 2	Tag 3
1	VOLUME		Ductbank Volume		fx				
*									

5. Select the Field values and Operators as indicated below to create the displayed formula, then click **OK**.

L	ENGTH] * [WIDT	H] * [DEPTH] / 27		
	Fields	Enter text to search	م	Divides the first operand by the second.
	Constants	+		
	Operators	-		
¥	Functions	*		
	Logical	1		
	Math	%		
	String	1		
		&		
		^	•	

 Notice that the Default Result auto calculates using the calculation and input values provided

Ca	lculations					
Drag	g columns here to group				F	ind: [
	Variable 🚊	Description	Formula		Default Result	Tag
ı	VOLUME	Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	fx	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.

	culations								
rag	g columns here to	o group							F
	Variable Name	≞_	Description	Formula		Default Result	Tag 1	Tag 2	Tag 3
ı	CONDUIT		Conduit Length		fx				
	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**.

[L	ENGTH] * 2			·
	Fields	Enter text to search	م	Multiplies the value of two expressions.
	Constants	+		
	Operators	-		
¥	Functions	*		
	Logical	1		
	Math	%		
	String	1		
		&		
		^	•	
	1. Characteri 12. Le	ength: 12, Space Available: 1988		OK Cancel

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.

g columns here to grou	q					
Variable Name	Description	Formula	Default Result	Tag 1	Tag 2	Tag 3
CONDUIT	Conduit Length	[LENGTH] * 2	200.00			
VOLUME	Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22			
VOLUME2	Conduit Volume	[]	fx			

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**.

'I() * [RADIUS]	* [RADIUS] * [LENGTH] / 27		A
Fields	Enter text to search	م	Divides the first operand by the second.
Constants	+		
Operators	-		
Functions	*		
Logical	1		
Math	%		
String			
	&		
	^	•	

10. In the blank row under the Variable Name field, type **Volume3** and enter the Description Backfill/Concrete volume, then click on the **fx** button to open the formula editor.

Ca	lculations							
Dra	g columns here to group							Fi
	Variable 📃	Description	Formula	Т	Default Result	Tag 1	Tag 2	Tag 3
	VOLUME	Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH]	/ 27	222.22			
	VOLUME2	Conduit Volume	Pi() * [RADIUS] * [RADIUS] * [L	ENGTH] / 27	1.267109			
ı	VOLUME3	Backfill/Concrete Volume	I	fx				
*								

11. Enter the following formula, selecting the already created calculations from the Fields section. Click **OK**.

VOLUME] - [VOL	JME2]		
Fields	Enter text to search	Q	Field Information
Constants	ab CONC TYPE.CODE		Caption: VOLUME2 The type of this field is: System.Object
Operators	ab CONC.CODE		
Functions			Conduit Volume
Logical	1.2 DEPTH		
Math	I.Z LENGTH		
String	1.2 RADIUS		
	VOLUME2	•	

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.

alculations							
ag columns here to grou)						
Variable 🚊	Description	Formula	Defa Resu		Tag 1	Tag 2	Tag 3
CONCRETE	Concrete Type		fx				
CONDUIT	Conduit Length	[LENGTH] * 2	200.	00			
VOLUME	Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.	22			
VOLUME2	Conduit Volume	Pi() * [RADIUS] * [RADIUS] * [LENGTH] / 27	1.26	7109			
VOLUMES	Backfill/Concrete Volume	NOLIMEL - NOLIME2	220	0551			

13. Enter the following formula, selecting the table value from the Fields tab, then click **OK**.

CONC TYPE.COD	E]		
Fields	Enter text to search	م	Field Information
Constants Operators Functions Logical Math String	CONC TYPE.CODE CONC.CODE CONDUIT DEPTH LENGTH RADIUS VOLUME	•	Caption: CONC TYPE.CODE The type of this field is: System.String Concrete Type (Code)
e: 1, Character: 16	Length: 16, Space Available: 1984	•	OK Cancel

• A default result will not appear because a value from the table has not yet been chosen.

ulations								
columns here to	group							I
Variable Name	<u>=</u>	Description	Formula			Tag 1	Tag 2	Tag 3
CONCRETE		Concrete Type	[CONC TYPE.CODE] f	fx				
CONDUIT		Conduit Length	[LENGTH] * 2	20	00.00			
VOLUME		Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	2	22.22			
VOLUME2		Conduit Volume	Pi() * [RADIUS] * [RADIUS] * [LENGTH] / 27	1.	.267109			
VOLUME3		Backfill/Concrete Volume	[VOLUME] - [VOLUME2]	23	20.9551			
	Variable Name CONCRETE CONDUIT VOLUME VOLUME2	Name E. CONCRETE CONDUIT VOLUME VOLUME2	Variable E Description CONCRETE Concrete Type CONDUIT Conduit Length VOLUME Ductbank Volume VOLUME2 Conduit Volume	Variable Name Description Formula CONCRETE Concrete Type [CONC TYPE.CODE] 2 CONDUIT Conduit Length [LENGTH] * 2 VOLUME Ductbank Volume [LENGTH] * [WIDTH] * [DEPTH] / 27 VOLUME2 Conduit Volume Pi() * [RADIUS] * [LENGTH] * [Z	Variable Name Description Formula D CONCRETE Concrete Type [CONC TYPE.CODE] fx CONDUIT Conduit Length [LENGTH] * 2 2 VOLUME Ductbank Volume [LENGTH] * [WIDTH] * [DEPTH] / 27 2 VOLUME2 Conduit Volume PI() * [RADIUS] * [LENGTH] / 27 1	Variable Name Description Formula Default Result CONCRETE Concrete Type [CONC TYPE.CODE] fx CONDUIT Conduit Length [LENGTH] * 2 200.00 VOLUME Ductbank Volume [LENGTH] * [WIDTH] * [DEPTH] / 27 222.22 VOLUME2 Conduit Volume P() * [RADIUS] * [RADIUS] * [LENGTH] / 27 1.267109	Variable Name Description Formula Default Result Tag 1 CONCRETE Concrete Type [CONC TYPE.CODE] fx 1 CONDUIT Conduit Length [LENGTH] * 2 200.00 1 VOLUME Ductbank Volume [LENGTH] * [WIDTH] * [DEPTH] / 27 222.22 1 VOLUME2 Conduit Volume PI() * [RADIUS] * [LENOTH] / 27 1.26719 1	Variable Name Description Formula Default Result Tag 1 Tag 2 CONCRETE Concrete Type [CONC TYPE.CODE] fx

15.2.8 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.

15.2 Step by Step 8 — Add to the Note Section

1. Click on the **Notes** tab in the bottom right corner.

Notes	Setup	Tables	Sub Assemblies	

2. In the Notes text box, type **Ductbank Notes**.

Notes	×
Ductbank Notes	

3. Right click within the notes section and select Hyperlink.

Notes		
Ductbank Notes		
	∦ Cut	
	🗅 Сору	
	📋 Paste	
	Increase Indent	
	Decrease Indent	
	A Font	
	🖷 Paragraph	
	 ≣ Bullets and Numbering	
	Bookmark	
	🖉 Hyperlink	
	📕 New Comment	

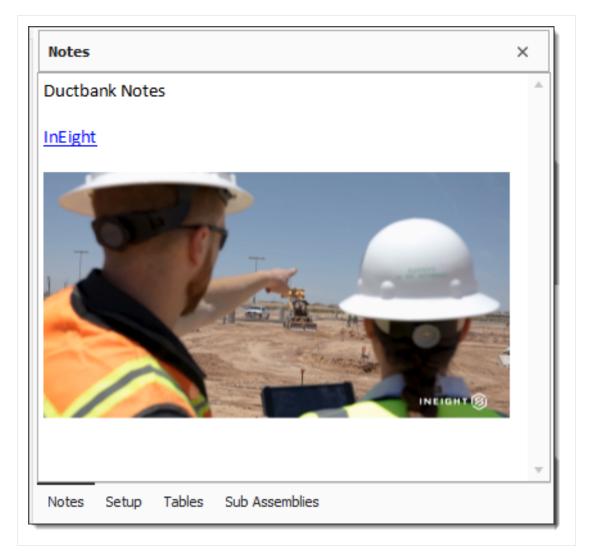
4. Type in a link to your SharePoint or document sharing site, then click **OK**.

Insert Hyperlink	×
Text to display:	InEight
ScreenTip:	
Target frame:	New window -
Link to:	Existing file or web page Place in this document
Address:	https://ineight.com/
	OK Cancel

• Note how the hyperlink appears in the notes section.

uctbank Notes	
	*
nEight	

5. Still in Notes, copy a picture or drawing from your computer, then Paste it into the notes section.



15.2.9 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.

Print	C Open	}< Cut	+ Fill Down	🔀 Split	🚨 Link Field	🔚 Cost Item	🗞 Resource	10	Ē	Link to Calculation Result	∢⊧ Swap -	
🎝 Preview	🕀 New	🖶 Сору	📫 Indent	🏠 Toggle Suspended	📇 UnLink Field	🔚 Subordinate Cost Item	Resource Assembly			🖧 Unlink from Calculation Result	😑 Remove 👻	
Export to Excel	😣 Delete	🖹 Paste	- Outdent					Expand / Collapse *	Default Data Blocks		C Update +	Subtotal Calculator
Print			Edit		Workbook	Inse	rt	Vi	ew	Cost Item Assemblies	Batch Operations	Tools

15.2 Step by Step 9 — Link Calculations to Cost Items

1. Expand your **Cost Items** window so that you can see all the cost items.

raç	columns here to group							Find: [Search F	or] … Saved view	s: Previous Vie	w	-
	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) Description	Pay Item Description	Is Linked To Excel	Currer
•	□ 1	Test Cost Item Assembly - Ductbank		1.00	Each	\$0.00	\$0.00					U.S. 0
	+ 1.1	Excavate Ductbank		1.00	CY	\$0.00	\$0.00					U.S. D
	+ 1.2	Install Ductbank Conduit		1.00	LF	\$0.00	\$0.00					U.S. D
	+ 1.3	Pour Concrete		1.00	CY	\$0.00	\$0.00					U.S. D
	+ 1.4	Backfil		1.00	CY	\$0.00	\$0.00					U.S. D
ĸ												

2. Right click on the Excavate Ductbank Forecast (T/O) Quantity field and select Link this field to Calculation Result.

Cost	Items												
Drag	columns here to	o group											
	CBS Position Code	<u>=</u>	Descript	tion		Optic Code		Forecast (T/O) Quantity			Unit of Measure	Unit Cost	T (
	1		Test C	ost Item Assembly - Du	uctbank					1.00	Each	\$0.00	
1	+ 1.1		Exca	vate Ductbank						1.00	CY	\$0.00	
	+ 1.2		Insta	ll Ductbank Conduit						2	<u>O</u> pen		
	+ 1.3		Pour	Concrete						0	<u>N</u> ew		
	+ 1.4		Backf	fil .						8	<u>D</u> elete		
*										-	Cu <u>t</u>		
		_								٦	Copy		
		5								Ē	Paste		
•										+	<u>Fill Down</u>		
Inp	uts									8	Link this field to Exc	el	
2020	columns here to	a aroup								E)	UnLink from Excel		_
Jiag		-							_	趨	Link this field to $\underline{C}al$	culation Result	
	Variable Name	Display Order	-	Description	Inpu Type		Table	Default Value	Da Val	ćŞ	Unlink from Calcula	tion <u>R</u> esult	
<i>→</i>	I FNGTH		1	Ductbank Length (ft)	Valu	P		100.00	Nor	+	Indent		
	6									-	Outdent		
•										١Ħ	Insert		
C -1	culations									1	Insert Su <u>b</u> ordinate		
Cal	culations									ß	Split		
Drag	columns here t	o group								20	Insert Resource		
	Variable		Deer	ription		Formu	1-			12	Insert Resource As	sembly	
		<u> </u>	Desc	npuon						2	Toggle Suspended		
	Name		-										
	CONCRETE CONDUIT		_	rrete Type duit Length		-	CTYPE.CODE	5]			Subtotal Calculator		

TIP 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**.

6		Link	to Calculation Result - Training Job			
Dra	columns here to group		Find: [Search For] ··· Saved views	Previous Vie	ew	•
	Variable 🚊	Description	Formula	Default Result	Tag 1	Tag 2
	CONCRETE	Concrete Type	[CONC TYPE.CODE]			
	CONDUIT	Conduit Length	[LENGTH] * 2	200.00		
\rightarrow	VOLUME	Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22		
	VOLUME2	Conduit Volume	PI() * [RADIUS] * [RADIUS] * [LENGTH] / 27	1.2671090		
	VOLUME3	Backfill/Concrete Volume	[VOLUME] - [VOLUME2]	220.95511		
	5					
4						
				0	K	Cancel

• Note how the Forecast (T/O) Quantity field is now populated with a linked quantity

ag	columns here to group						
	CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
٦	□ 1	Test Cost Item Assembly - Ductbank		1.00	Each	\$0.00	\$0.0
٠I	+ 1.1	Excavate Ductbank		222.22	CY	\$0.00	\$0.0
	+ 1.2	Install Ductbank Conduit		1.00	LF	\$0.00	\$0.0
	+ 1.3	Pour Concrete		1.00	CY	\$0.00	\$0.0
	+ 1.4	Backfill		1.00	CY	\$0.00	\$0.0

- 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**.

Tag 2

6. Select the Forecast (T/O) Quantity field for **Pour Concrete**, hold down CTRL, and select the Forecast (T/O) Quantity field for **Backfill**.

rag	columns here to group						
	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	\$0.0
	+ 1.1	Excavate Ductbank		222.22	CY	\$0.00	\$0.0
	+ 1.2	Install Ductbank Conduit		200.00	LF	\$0.00	\$0.0
	+ 1.3	Pour Concrete		1.00	сү	\$0.00	\$0.
÷ İ	+ 1.4	Backfill		1.00	СҮ	\$0.00	\$0.

- 7. Right click and select Link this field to Calculation Result.
- 8. Select **VOLUME3**, then click **OK**.

rag o	columns here to group		Find: [Search For] ···· Saved views	: Previous Vie	ew	•
	/ariable 🚊	Description	Formula	Default Result	Tag 1	Tag 2
C	CONCRETE	Concrete Type	[CONC TYPE.CODE]			
c	CONDUIT	Conduit Length	[LENGTH] * 2	200.00		
N	/OLUME	Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22		
N	/OLUME2	Conduit Volume	PI() * [RADIUS] * [RADIUS] * [LENGTH] / 27	1.2671090		
> 🚺	/OLUME3	Backfill/Concrete Volume	[VOLUME] - [VOLUME2]	220.95511		

- 9. In the Inputs data block, select the **Default Value** field for the CONC TYPE input.
- 10. Select MC2000, then click OK.

6			Table Rows - Training Job	
Drag	g columns here to g	group	Find: [Search For] …	
	Code (CODE) 🖿	Description (DESC)		
	MC2000	4000 PSI		
	MC3500	3500 PSI		
	2			
	2			
			ок	Cancel
_				

• Notice that this value is now populated in the Default Value field.

_							
Dra	g 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 - KL	MC2000	None
	CONC	6	Is Concrete required?	Table	CONC - KL		None
*							

- 11. Navigate to the Calculations data block.
 - Note that the Default Result field is now populated

<u>1</u>	Description	Formula	Default					
			Result	Tag 1	Tag 2	Tag 3	User Defined 1	User Defined 2
	Concrete Type	[CONC TYPE.CODE]	MC2000		1			
	Conduit Length	[LENGTH] * 2	200.00					
	Ductbank Volume	[LENGTH] * [WIDTH] * [DEPTH] / 27	222.22					
	Conduit Volume	PI() * [RADIUS] * [RADIUS] * [LENGTH] / 27	1.2671090					
	Backfill/Concrete Volume	[VOLUME] - [VOLUME2]	220.95511					
	5	Conduit Length Ductbank Volume Conduit Volume Backfil/Concrete Volume	Conduit Length [LENGTH] * 2 Ductbank Volume [LENGTH] * [WIDTH] * [DEPTH] / 27 Conduit Volume PE() * [RADIUS] * [RADIUS] * [LENGTH] / 27 Baddfil/Concrete Volume [VOLUME] / [VOLUME2]	Conduit Length [LENGTH] * 2 200.00 Ductbank Volume [LENGTH] * [VIIDTH] * [DEPTH] / 27 222.22 Conduit Volume P1() * [RADIUS] * [RADIUS] * [LENGTH] / 27 1.2671090 Baddfil/Concrete Volume [VOLUME] - [VOLUME2] 220.95511	Conduit Length [LEWGTH] * 2 200.00 Ductbank Volume [LEWGTH] * [VIIDTH] * [DEPTH] / 27 222.22 Conduit Volume PI0 * [RADIUS] * [LENGTH] / 27 1.2671090 Baddfil/Concrete Volume [VOLUME] - [VOLUME2] 220.95511	Conduit Length [LENGTH] * 2 200.00 Ductbank Volume [LENGTH] * [VUIDTH] * [DEPTH] / 27 222.22 Conduit Volume PI() * [RADIUS] * [LENGTH] / 27 1.2671090 Baddfil/Concrete Volume [VOLUME] - [VOLUME2] 220.95511	Conduit Length ILENGTH] * 2 200.00 Ductbank Volume [LENGTH] * [VIDITH] * [DEPTH] / 27 222.22 Conduit Volume PE() * [RADIUS] * [RADIUS] * [LENGTH] / 27 1.2671090 Baddfil/Concrete Volume [VOLUME] - [VOLUME2] 220.95511	Conduit Length [LENGTH] * 2 200.00 Ductbark Volume [LENGTH] * [WIDTH] * [DEPTH] / 27 222.22 Conduit Volume P10 * [RADIUS] * [LENGTH] / 27 1.2671090 Baddfil/Concrete Volume [VOLUME] - [VOLUME2] 220.95511

- 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**.

ag columns he	re to group		Find: [Search For] ···· Saved vie	ews: Previous Vi	revious View -			
Variable Name	≞ ▼	Description	Formula	Default Result	Tag 1	Tag 2		
CONCRET		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	1.2671090				
VOLUME3		Backfill/Concrete Volume	[VOLUME] - [VOLUME2]	220.95511				
	5							

• Note how the optional code for Pour Concrete is now populated

ag	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	MC2000	220.96	СҮ	\$0.00	\$0.00	U.S. Dollar
.	+ 1.4	Backfill		<u>220.96</u>	CY -	\$0.00	\$0.00	U.S. Dollar

15.3 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.

٥	-	` E	***		💪 Labor 🚆 Equipment		a 🗉								
b Propertie	s Foundat Setup Da			1 Resource	Materials	Resource Assemblies	Cost Item Standa Assemblies Table								
	In	itialize			Resources		Assemblies	Reports							
ost Break	down Struc	ture (CBS) Re	gister	Cost Item Asser	mbly Registe	er Stan	dard Table Regist	er Cost	ltem Asse	mbly Recor	do L p.	Properties O			
Overview	Security	Cover Sheet	Cost Basis	Minority Setup	Fuel Cost	Job Tracking	Job Folder Tags	Competitors	Pricing	Schedule	Cash Flow	Equipment Maintenance	Benchmarking	Alternates	
Standard S	hift Arranger	ients	Standard W	age Rate Composit	e Rule	s									
						Lock Cost Item				Preserve Data So	e Original Cos	t Item			
Work Hou	rs per Shift	8.00	Scale 1	: 100.00 %		Pay Item Unit P		2		Data So	urce				
Pay Hou	rs per Shift:	8.00	Scale 2	: 0.00 %		Activate PBS Ch Activate Quanti									
Shif	ts per Day:	1.00	Scale 3	. 0.00 %	-		ty Checking tructure at Level:	0							
Days	per Week:	5.00	Shift	/ Rate Calculator	_	When man-cour		Change UM / M	an-Hour						
					_	when man-cou		Change Days							
Currency					Star	ndard Rates									
Default (Currency:	U.S. Dollar			•	Sales Tax Rate:		5.00 %							
Resource /	Assembly Fil	er													
	/ Assembly T	/pe		source / Assembly	File		Geographic Area			Wage Zone	•		Organizational Categ	pory	Import Filtered
Rented Co Installed N	e ion Equipmen instruction Ei faterial Rate iquipment Ra	ļui		[Al] [None]			☑ [Alī] □ [None]			[Al]			☑ [Al] □ [None]		Resources
Supply Ra Unique Ra Resource Cost Item Standard	ite Assembly Assembly														

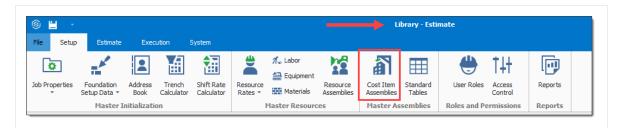
15.3.1 Employment

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.

15.3.2 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.



15.3.3 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.

15.3 Step by Step 1 — Insert Cost Item Assemblies

1. Navigate to the **CBS Register**.

Cost Breakdow	-	-	gister 🛛		n Assembly Register Co	ost Item Asse	linning Record	Jo
		Dia	CBS	-	-		Forecast	
Code	Descriptio		Position Co	ode 🗎	Description		(T/O) Quantity	
× 🛍 💷	JOB	\rightarrow			JOB			20.
	Prime Bor		+		Prime Bond			1.
	Price % /		+		Price % Add-On			1.
	Job Finar		+		Job Financing			1.
	Indirect (+		Indirect Cost Escalation			1
	Direct Co		+		Direct Cost Escalation			1
	Indirect (+		Indirect Cost Add-On			1
	Job Mana		+		Job Management & Equipme	ent		1
	General E		+		General Expense			1
	Direct Co		+		Direct Cost Add-On			1
1	Mobilizati		+ 1		Mobilization			1
2	Clearing		+ 2		Clearing & Grubbing			10
> 📫 3	Unclassifi		3		Unclassified Excavation		5	0,000
> 📫 4	Aggregat		+ 3.1		Excavation		5	0,000
> 📫 5	Asphalt C		+ 3.2		Embankment		5	0,000
> 📫 6	36 Inch R		□ 4		Aggregate Base		4	5,000
> 📫 7	10 Inch P		+ 4.1		Furnish & Haul Base Material		4	5,000
> 📫 8	24 Inch P		+ 4.2		Finegrade Subgrade		40	0,000
> 📫 9	4 Foot Di		4.3		Install Aggregate Base		4	5,000
> 📫 10	Structura		+ 4.3.1		Place Aggregate Base		4	5,000
> 📫 11	Steel Rei		+ 4.3.2		Blue Top Aggregate Base		40	0,000
> 📪 12	Retaining		5		Asphalt Concrete Hot Mix Ty	/pe A	3	5,000
> 📫 13	Paint Exis		+ 5.1		Furnish & Haul Hot Mix		3	5,000
> 📫 14	Process E	<u>A</u>	+ 5.2		Install Hot Mix Type A		3	5,000
> 📫 15	Removal		6		36 Inch RCP Culvert Class II	I		1,024
> 📫 16	Disposal (+ 6.1		Furnish RCP Materials			1,024
> 📫 17	Toll Boot		+ 6.2		Excavate RCP Trench			1,858
18	Guardrail		+ 6.3		Install RCP Pipe			1,024
19	Guardrail		+ 6.4		Backfill RCP Pipe			1,587
20	Type 4 Si		□ 7		10 Inch PVC Force Main (SDI	R21)	1	2,000
21	Realignm		+ 7.1		Furnish 10 Inch PVC Materials		1	2,000
22	Special R		+ 7.2		Excavate-Install-Backfill 10 Inc	th PVC	1	2,000
> 📫 23	Job Over		8		24 Inch PVC Gravity Sewer (SDR35)	:	3,000
> 📫 24	Change (_					
				106				

2. Right click on the first cost item in the hierarchy and select **Insert Cost Item Assembly as Subordinate**.

		n Code 🗎	Description			Forecast (T/O) Quantity		Unit of Measur
			JOB	•	N		20.00	Mile
	+		Prime Bon		<u>N</u> ew		1.00	Lump S
	+		Price % Ac	Ø	<u>D</u> elete		1.00	Lump S
	+		Job Financ	*	Cu <u>t</u>		1.00	Lump S
	+		Indirect Ce		Сор <u>у</u>		1.00	Lump S
	+		Direct Cos	e	<u>P</u> aste		1.00	Lump S
	+		Indirect Co	+	<u>F</u> ill Down		1.00	Lump S
	+		Job Mana <u>c</u>	3	Link this field to Excel		1.00	Lump S
	+		General Ex		UnLink from Excel		1.00	Lump S
	+		Direct Cos	+	Indent		1.00	Lump 9
	+ 1		Mobilizatic	-	Outdent		1.00	Lump S
	+ 2		Clearing &		Insert		10.00	Acre
	■ 3		Unclassifie		Insert Subordinate		,000.00	Cubic '
	+ 3.1	L	Excavatio		Insert Dependent Cost Item		,000.00	Cubic 1
	+ 3.2	2	Embankm		Insert Cost Item Assembly		,000.00	Cubic '
	■ 4		Aggregate		Insert Cost Item Assembly as	Subordinate	,000.00	Ton
	+ 4.1	Furnish &	-74		<u>o</u> ubordinate	,000.00	Ton	
	+ 4.2	2	Finegrade 🔛		Split		,000.00	Square
	■ 4.3	;	Place A 🔛	Insert <u>R</u> esource		,000.00	Ton	
	+ 4.3	8.1		Ins <u>e</u> rt Resource Assembly		,000.00	Ton	
	+ 4.3	3.2	Blue To 🎨 🛛		Toggle Suspended		,000.00	Square
	5		Asphalt Co		Go To Cost Allocation Item		,000.00	Ton
	+ 5.1	L	Furnish &	_			,000.00	Ton
" ▲	+ 5.2	2	Install Ho		Schedule Selection		,000.00	Ton
	6		36 Inch RC	t x	Unschedule Selecti <u>o</u> n		<u>,024.00</u>	Linear
	+ 6.1	L	Furnish Ro		Calculate Plug Days		,024.00	Linear
	+ 6.2	2	Excavate		Subtotal Calculator		,858.56	Cubic 1
	+ 6.3	}	Install RC	÷	Add <u>Q</u> uote		,024.00	Linear
	+ 6.4	ł	Backfill RCP	Pip	e		1,587.20	Cubic '
	□ 7		10 Inch PVC	Fo	rce Main (SDR21)		12,000.00	Linear
	+ 7.1	L	Furnish 10	Inch	PVC Materials		12,000.00	Linear
	+ 7.2	2	Excavate-I	nsta	all-Backfill 10 Inch PVC		12,000.00	Linear
	8		24 Inch PVC	Gra	avity Sewer (SDR35)		3,000.00	Linear

3. Select your Cost Item Assembly, then click **OK**.

ag colu	mns here to g	irodp	Find:	[Search For]				•
Cod	e 🚊	Description	Assembly File Description	Default Quantity	Default Unit of Measure	Default Unit Cost	Default Total Cost	Default Currency
RW	01	Standard Retaining Wall Assembly	Standard Cost Ite	20.00	Cubic Yard	\$424.67	\$8,493.38	U.S. Dollar
TES	T-KL	Test Cost Item Assembly - Ductbank	Standard Cost Ite	1.00	Each	\$0.00	\$0.00	U.S. Dollar
		2						

4. Click **OK** again.

÷	uts	for such	For]	Saved views: Previou	- 16		Notes					×
rag	g columnsfilede				sview	•	Ductbank Note	5				
	Name	Descript	ion V	alue			InEight					
÷	LENGTH		k Length (ft)	100.00		A						
	WIDTH		k Width (ft)	10.00								
	DEPTH		k Depth (ft)	6.00			-					
	RADIUS	Conduit	Radius (ft)	0.33								
	5							4.97				
re	eview											×
rag	g columns here	to group					Fir	nd: [Search For]	Sav	ed views: Previ	ous View	•
	CBS Position Code	<u>=</u>	Description		Optional Code	Foreca (T/O)	ist Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)	Currency	
>	+ 1		Test Cost Ite	m Assembly - Ductban	۲		1.00	Each	\$0.00	\$0.00	U.S. Dollar	
	+ 1.1		Excavate Duct	bank			222.22	CY	\$0.00	\$0.00	U.S. Dollar	
	+ 1.2		Install Ductban	k Conduit			200.00	LF	\$0.00	\$0.00	U.S. Dollar	
	+ 1.3		Pour Concrete		<u>MC2000</u>		220.96	CY	\$0.00	\$0.00	U.S. Dollar	
	+ 1.4		Backfill				<u>220.96</u>	CY	\$0.00	\$0.00	U.S. Dollar	
		5								\$0.00		

• Your Cost Item Assembly is added to the bottom of the CBS

15.3.4 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

15.3.5 From the CBS Register

You can edit the entire Cost Item Assembly from within the CBS Register.

15.3 Step by Step 2 — 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.

i.	17	Toll Booth			1.00	Each	\$25,264.55
-	+ 17.1	Site Preparation		<u>O</u> pen			\$3,664.55
-	+ 17.2	Concrete Reinforcement	Đ	<u>N</u> ew			\$1,500.00
-	+ 17.3	Cast in Place Concrete	8	<u>D</u> elete			\$3,500.00
-	+ 17.4	Concrete Masonry Units	8	Cut			\$2,900.00
-	+ 17.5	Paneling	, e	Сору			\$2,100.00
-	+ 17.6	Wood Doors					\$1,000.00
	+ 17.7	Wood Flooring	+	Fill Dowr	1		\$1,800.00
-	+ 17.8	Office Furniture	1.1				\$2,100.00
	+ 17.9	Fire Protection Piping	e e e e e e e e e e e e e e e e e e e	-	field to Excel		\$3,300.00
-	+ 17.10	Interior Luminaires	CD	UnLink fr	om Excel		\$3,400.00
-	+ 18	Guardrail Type 2	-	Indent			\$24.00
	+ 19	Guardrail Type 3A	+	Outdent			\$31.00
	+ 20	Type 4 Signs	, =	Insert			\$13.00
	+ 21	Realignment of Water Line	· 18	Insert Su	<u>b</u> ordinate		\$0.00
	+ 22	Special Risk Allowance		Insert De	pendent <u>C</u> ost Item		\$1,000.00
E	23	Job Overhead - Indirect C	osts 금	Insert Co	st Item <u>A</u> ssembly		\$14,000.00
-	+ 23.1	Setup Yard	귿	Insert Co	st Item Assembly as <u>S</u> ubo	rdinate	\$4,000.00
-	+ 23.2	Trailer Rent	K	Split			\$2,000.00
	+ 23.3	Utilities	4				\$8,000.00
ł	24	Change Orders					\$6,430.12
i.	24.1	Change Order One- Realigh	the 1	ins <u>e</u> rt Re	source Assembly		\$6,430.12
-	+ 24.1.1	Day One	Z		Ite <u>m</u> Assembly Inputs		\$2,785.08
-	+ 24.1.2	Day Two	CD	Brea <u>k</u> Co	st Item Assembly Link		\$3,645.03
5	25	Test Cost Item Assembly	- Du 😳	Toggle S	uspended		\$0.00
-	+ 25.1	Excavate Ductbank		Go To Co	ost Allocation Item		\$0.00
•	+ 25.2	Install Ductbank Conduit		Cabadula	Calastian		\$0.00
-	+ 25.3	Pour Concrete		_	Selection		\$0.00
			+ ×				
		112		Calculate	Plug Days		
				Subtotal	Calculator		

- 2. Maximize your screen.
- 3. Change the Length input value to **120**.

Drag	g columns here t	o 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)	0.33
	CONC		6	Is Concrete required?	NO

4. Click **OK**.

ОК	Cancel
----	--------

• Notice how all the quantities for the cost items using the input Length change

2 5	Test Cost Item Assembly - Ductbank	1.00
+ 25.1	Excavate Ductbank	266.67
+ 25.2	Install Ductbank Conduit	240.00
+ 25.3	Pour Concrete	265.15
+ 25.4	Backfill	265.15

15.3.6 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.

15.3.7 Advanced Options

The following step by step demonstrates some advanced options within Cost Item Assemblies, such as conditional inputs and functions.

15.3 Step by Step 3 — 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.

ag	columns here to group							F
	Variable 📃	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	[LENGTH] * [WIDTH] * [DEPTH] / 27	fx	222.22			
	VOLUME2	Conduit Volume	Pi() * [RADIUS] * [RADIUS] * [LENGTH] / 27		1.267109			
	VOLUME3	Backfill/Concrete Volume	[VOLUME] - [VOLUME2]		220.9551			
e								

3. Using the Functions tab, select the Round function and put your existing formula within its parenthesis, then click **OK**.

[WIDTH] * [DEPTH] / 27)		
Enter text to search	م	Divides the first operand by the second.
+		
-		
*		
1		
%		
1		
&		
~		
	Enter text to search + - * / % 	Enter text to search

• You now see a rounded number in the Default Result field

ag	g columns here to group						
	Variable 🚊	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) fx	222.00			
	VOLUME2	Conduit Volume	Pi() * [RADIUS] * [RADIUS] * [LENGTH] / 27	1.267109			
	VOLUME3	Backfill/Concrete Volume	[VOLUME] - [VOLUME2]	220.7328			
e							

- 4. You now see a rounded number in the Default Result field
- 5. Do the same for the Volume2 and Volume3 calculations.

ag	columns here to group						
	Variable 🚊	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]	1			
	VOLUME3	Backfill/Concrete Volume	Round([VOLUME] - [VOLUME2]) fx	221			

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.

rag	g columns here to group							F
	Variable 🚊	Description	Formula	Def Res		Tag 1	Tag 2	Tag 3
	CONCRETE	Concrete Type	[CONC TYPE.CODE]					
	CONDUIT	Conduit Length	[LENGTH] * 2	200	.00			
1	INCLUDE_CONC	Include Concrete?	fx					
1	VOLUME	Ductbank Volume	Round([LENGTH] * [WIDTH] * [DEPTH] / 27)	222	.00			
	VOLUME2	Conduit Volume	Round(Pi() * [RADIUS] * [RADIUS] * [LENGTH]	1				
	VOLUME3	Backfill/Concrete Volume	Round([VOLUME] - [VOLUME2])	221				

7. Using the **lif(, ,)** function from the Functions tab, and the existing Volume3 calculations from the Fields tab, enter in the following formula, then click **OK**.

IIF([CONC.CODE]=	'Yes',[VOLUME3],null)		
Fields	Enter text to search	م	Field Information
Constants		-	Caption: VOLUME3
Operators	+	-	The type of this field is: System.Object
 Functions 	*		Backfill/Concrete Volume
Logical	1		
Math	%		
String			
	&		

- 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	\$25,264.5
	+ 17.1	Site Preparation		Open			\$3,664.
	+ 17.2	Concrete Reinforcement	Ð	<u>N</u> ew			\$1,500.0
	+ 17.3	Cast in Place Concrete	8	<u>D</u> elete			\$3,500.0
	+ 17.4	Concrete Masonry Units	~	Cut			\$2,900.0
	+ 17.5	Paneling	Ē	Сору			\$2,100.0
	+ 17.6	Wood Doors	B	Paste			\$1,000.0
	+ 17.7	Wood Flooring		Fill Down			\$1,800.0
	+ 17.8	Office Furniture					\$2,100.
	+ 17.9	Fire Protection Piping		-	ield to Excel		\$3,300.
	+ 17.10	Interior Luminaires	ED ED	UnLink fro	om Excel		\$3,400.
	+ 18	Guardrail Type 2	→	Indent			\$24.
	+ 19	Guardrail Type 3A	+	Outdent			\$31.
	+ 20	Type 4 Signs	,=	Insert			\$13.
	+ 21	Realignment of Water Line		Insert Sub	ordinate		\$0.
	+ 22	Special Risk Allowance	-	Insert Dep	pendent <u>C</u> ost Item		\$1,000.
	23	Job Overhead - Indirect Co	osts 🛨	Insert Cos	st Item <u>A</u> ssembly		\$14,000.
	+ 23.1	Setup Yard	E	Insert Cos	st Item Assembly as <u>S</u> ubor	dinate	\$4,000.
	+ 23.2	Trailer Rent	N	Split			\$2,000.
	+ 23.3	Utilities		·			\$8,000.
	□ 24	Change Orders	2	Insert Res			\$6,430.
		Change Order One- Realigh	the 🕍	Ins <u>e</u> rt Res	source Assembly		\$6,430.
	+ 24.1.1	Day One	7	Edit Cost	Ite <u>m</u> Assembly Inputs		\$2,785.
	+ 24.1.2	Day Two	CD	Brea <u>k</u> Cos	st Item Assembly Link		\$3,645.
< C	25	Test Cost Item Assembly	Du 😳	Toggle Su	ispended		\$0.
÷	+ 25.1	Excavate Ductbank		Go To Co	st Allocation Item		\$0.
	+ 25.2	Install Ductbank Conduit	_				\$0.
	+ 25.3	Pour Concrete		_			\$0.0
					Ile Selection		-
		112			Plug Days		
				Subtotal C	Calculator		

10. On the CONC input, select the ellipses next to the Default Value.

Drag	g columns here	e 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)	0.33
\rightarrow	CONC		6	Is Concrete required?	NO

11. Select Yes.

6	Table Rows - Training Job
Drag columns here to group	Find: [Search For] …
Code =	
NO → YES	
	OK Cancel

12. Click **OK**.

• Note how the conditional input CONC TYPE is now displayed

Dra	g columns here t	o 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)	0.33
ſ	CONC TYPE		5	Concrete Type	MC2
÷	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.

ag	columns here to group				Find: [Sea	rch For]	··· Saved vie
	CBS Position Code 🗎	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure	Unit Cost	Total Cost (Forecast)
٦	□ 1	Test Cost Item Assembly - Ductbank		1.00	Each	\$0.00	\$0.00
ĺ	+ 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	221.00	CY	\$0.00	\$0.00
ĺ	+ 1.4	Backfill		221.00	CY	\$0.00	\$0.00

16. From the ribbon, click the **Unlink from Calculation Result** option.

	Setup	Estimate	Quote		Execution	System	Actions							
📑 Print		C Open	}< Cut	+ Fill Down	🔀 Split		Link Field	E Cost Item	a Resource	10		Dink to Calculation Result	∢⊧ Swap +	
Q Prev	iew	🕀 New	🖶 Сору	📫 Indent	🎝 Toggle S	Suspended	🖧 UnLink Field	🔚 Subordinate Cost Item	Resource Assembly	- ×	4000	$\stackrel{f_{\mathcal{K}}}{c \mathcal{D}}$ Unlink from Calculation Result	😑 Remove 👻	
🚰 Expo	ort to Excel	😣 Delete	🖹 Paste	- Outdent						Expand / Collapse *	Default Data Blocks		C Update +	Subtotal Calculato
P	rint			Edit			Workbook	Inse	rt	v	iew	Cost Item Assemblies	Batch Operations	Tools

17. Now click Link to Calculation result.

	Setup	Estimate	Quote		Execution	System	Actions							
📑 Pri	nt	C Open	}< Cut	+ Fill Down	🔣 Split		🐰 Link Field	📲 Cost Item	🏂 Resource	10		Link to Calculation Result	∢⊧ Swap +	
🖏 Pre	view	🕀 New	🖶 Сору	➡ Indent	🎝 Toggle S	Suspended	🖉 UnLink Field	🔚 Subordinate Cost Item	Resource Assembly	1	Ē	🖧 Unlink from Calculation Result	😑 Remove 👻	
🛃 Exp	ort to Excel	😣 Delete	🖹 Paste	- Outdent						Expand / Collapse *	Default Data Blocks		C Update -	Subto Calcul
	Print			Edit			Workbook	Inse	ert	v	iew	Cost Item Assemblies	Batch Operations	Too

18. Select the INCLUDE_CONC calculation, then click OK.

columns here to group		Find: [Search For] … Saved vie	ws: Previo	us View	-
Variable 🚊	Description	Formula	Default Result	Tag 1	Tag 2
CONCRETE	Concrete Type	[CONC TYPE.CODE]			
CONDUIT	Conduit Length	[LENGTH] * 2	200.00		
INCLUDE_CONC	Include Concrete?	Iif([CONC.CODE] = 'Yes', [VOLUME3], null)			
VOLUME	Ductbank Volume	Round([LENGTH] * [WIDTH] * [DEPTH] / 27)	222.00		
VOLUME2	Conduit Volume	Round(Pi() * [RADIUS] * [RADIUS] * [LENGTH]	1		
VOLUME3	Backfill/Concrete Volume	Round([VOLUME] - [VOLUME2])	221		

19. Right click on the Pour Concrete **Optional Code** field.

g columns here to group				Find: [Sea	rch For]	Saved vie
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	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	\$0.0

20. From the ribbon, click the Unlink from Calculation Result option.

File Setup	Estimate	Quote		Execution	System	Actions							
Print	C Open	⊁ Cut	+ Fill Down	Split		Link Field	层 Cost Item	😓 Resource	11	ETH-	Dink to Calculation Result	∢⊧ Swap +	
Q Preview	🕀 New	🖶 Сору	📫 Indent	🏹 Toggle S	uspended	📇 UnLink Field	🔚 Subordinate Cost Item	Resource Assembly	*	1111	$d_D^{j_N}$ Unlink from Calculation Result	😑 Remove 👻	
Export to Excel	😣 Delete	🖹 Paste	- Outdent						Expand / Collapse *	Default Data Blocks		C Update +	Subtota Calculat
Print			Edit			Workbook	Inse	rt	Vi	ew	Cost Item Assemblies	Batch Operations	Tools

- 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.

9	Table Rows - Training Job	
Drag columns here to group	Find: [Search For] …	
(CODE) =		
→ NO		
YES		
	OK Cance	

- 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	<u>267.00</u>	CY	\$0.00
+ 25.2	Install Ductbank Conduit	<u>240.00</u>	LF	\$0.00
+ 25.3	Backfill	<u>265.00</u>	CY	\$0.00

15.3.8 Breaking the Link to a Cost Item Assembly

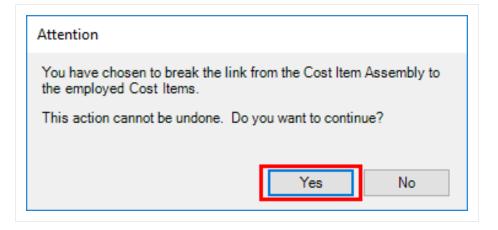
To ensure that the logic used in the calculation of a Cost Item Assembly is retained, employed Cost Item Assemblies are not directly editable in the CBS Register. To customize the results of an employed Cost Item Assembly, you can disassociate it from the originating Cost Item Assembly logic as per the following steps.

15.3 Step by Step 4 — Break the Link to a Cost Item Assembly

1. Right click your Excavate Ductbank cost item and select Break Cost Item Assembly Link.

	17	Toll Booth		1.00	Each	:
+	17.1	Site Preparation		1.00	Lump Sum	
+	17.2	Concrete Reinforcem	ent.	1.00	Lump Sum	
+	17.3	Cast in Place Concret	ت <u>ا</u>	<u>O</u> pen	ump Sum	
+	17.4	Concrete Masonry Ur	Ð	New	ump Sum	
+	17.5	Paneling	\otimes	Delete	ump Sum	
+	17.6	Wood Doors	∻	Cu <u>t</u>	ump Sum	
+	17.7	Wood Flooring	٦	Cop <u>v</u>	ump Sum	
+	17.8	Office Furniture	Ē.	<u>P</u> aste	ump Sum	
+	17.9	Fire Protection Piping	+	<u>F</u> ill Down	ump Sum	
+	17.10	Interior Luminaires	B	Link this field to Excel	ump Sum	
+	18	Guardrail Type 2	A	UnLink from Excel	inear Feet	
+	19	Guardrail Type 3A	-	Indent	inear Feet	
+	20	Type 4 Signs	-	Outdent	quare Feet	
+	21	Realignment of Wat			ach	
+	22	Special Risk Allowan		Insert	ach	
	23	Job Overhead - Indi		Insert Subordinate	ach	
+	23.1	Setup Yard	-	Insert Dependent <u>C</u> ost Item	ump Sum	
+	23.2	Trailer Rent		Insert Cost Item Assembly	Ionth	
+	23.3	Utilities	÷	Insert Cost Item Assembly as Subordinate	Ionth	
	24	Change Orders	図	Split	ach	
	24.1	Change Order One- F	2	Insert <u>R</u> esource	ach	
+	24.1.1	Day One	20	Ins <u>e</u> rt Resource Assembly	ach	
+	24.1.2	Day Two		Edit Cost Item Assembly Inputs	ach	
	25	Test Cost Item Asse	65	Brea <u>k</u> Cost Item Assembly Link	ach	
+	25.1	Excavate Ductbank	5	Toggle Suspended	Y	
+	25.2	Install Ductbank Cond	Ξú		F	
+	25.3	Backfill		Go To Cost Allocation Item	Y	
			œ	Schedule Selection		
			Ø.	Unschedule Selection		
	110		+ ×	Calculate Plug Days	1	
				Subtotal Calculator		

2. On the resulting Attention prompt, click Yes.



3. When prompted about changing the Quantity Driver to Superior CI, click Yes.

The Quantity Driver for the Cost Item(s) is set to 'Fixed'. Do you want to change it to 'Superior CI'? This will allow the Cost Item(s) quantities to be proportionately modified when the quantity of the Superior Cost Item is modified.	Attention
modified when the quantity of the Superior Cost Item is modified.	
Yes No Cancel	
	Yes No Cancel

• Note that the hyperlinks disappear, and the link has been broken

25	Test Cost Item Assembly - Ductbank	1.00	Each
+ 25.1	Excavate Ductbank	267.00	CY
+ 25.2	Install Ductbank Conduit	240.00	LF
+ 25.3	Backfill	265.00	СҮ

Exercise 15.1 — Creating and Employing a Cost Item Assembly

Now that you have covered the key tasks related to cost item assemblies, you can practice creating one on your own. You can use your own project (if available) or the training project used in this lesson.

- 1. Create a cost item assembly with two cost items.
- 2. Create inputs and calculations and link them to the cost items in your assembly.
- 3. Employ the assembly in the CBS Register.
- 4. Break the cost item's link to the assembly.

Congratulations, you have completed this exercise!

15.4 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. Subassemblies 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.

15.4.1 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.

	<u> </u>	-								ly subassemb							
ile	Setup	Estimate	Quote		Execution	n System	Actions									童日	8 (?
[ò		Ľ	***		🐔 Labor 🚔 Equipment			▦								
b P	roperties	Foundation Setup Data 👻	Pay Item & Proposal	Bid Wizard	Resource Rates *	Materials		Cost Item Assemblies	Standard Tables	Reports							
		Initia	ize			Resources		Assem	blies	Reports							
os	t Item Ass	embly Regis	ter O														•
rag	columns her	e to group										Find:	Search For]	 Saved views: 	Previous View		•
	Code 🔋	E Desc	ription			embly Description	Default Quantity	Default Unit of Mea		Default Unit Cost	Default Total Cost	Default Currency	Organizational Category	Geographic Area	Wage Zone	Data Source	Not
÷	C1010	Dryv	all Partition Co	nstruction Syst	em		100.00	SF		\$5.51	\$551.28	U.S. Dollar					
	DRWL	Dryv	all Finishes, Pla	aster and Gypsu	um		100.00	SF		\$1.10	\$110.28	U.S. Dollar					
	INSL	Ther	mal Insullation				100.00	SF		\$1.03	\$103.36	U.S. Dollar					
	SFS	Stud	Framing Syster	m			10.00	LF		\$16.79	\$167.92	U.S. Dollar					

Select the cost item you want to open by double clicking or right click and select **Open**.

-1													
ile	Setup	Estimate	Quote	Price	Execu	tion System	Actions						
R	5			***	#	🕵 Labor				I			
	<u>.</u>					🛗 Equipmer	nt 🎽	::					
ob Pro	perties *	Foundation Setup Data 🔻	Pay Item & Proposal	Bid Wizard	Resource Rates		Resource Assemblies	Cost Item Assemblies	Standard Tables	Reports			
		Initiali	ze			Resource	5	Assen	nblies	Reports			
ost I	item Ass	embly Regist	ter Ø										
rag co	olumns her	re to group										Find:	[S
Co	ode	E Descr	ription			Assembly File Description	Default Quantity	Default Unit of Mea	isure	Default Unit Cost	Default Total Cost	Default Currency	
12	<u>O</u> pen			onstruction Sys	tem		100.00	SF		\$5.51	\$551.28	U.S. Dollar	
6	New		P	laster and Gyps	sum		100.00	SF		\$1.10	\$110.28	U.S. Dollar	
8	Delete		n				100.00	SF		\$1.03	\$103.36	U.S. Dollar	
-	_		te	em			10.00	LF		\$16.79	\$167.92	U.S. Dollar	
*	Cu <u>t</u>												
	Сору												
Ē.	<u>P</u> aste		I										
+	<u>F</u> ill Dov	vn											
A	Link th	is field to Exce	el 👘										
R		from Excel											

	de: * C1010	Description: Drywall Partition Constru	action system			_					
	t Items				_	Su	b Assemblies				×
Drag	g columns here to group	Find: [Search For] ···	Saved views: Pre	evious View	•	Dra	g columns here to group	Find: [Search]	For1	Saved views: Pr	revious View 👻
	CBS Position Code 🗎	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measu		CBS	Display after	Display	Code	Description
→	□ 1	Drywall Partition Construction System		100.00	SF		Position Code	Input	Order		Drywall Finishes, Plaster and Gyps
	+ 1.1	Wood Stud Framing, 2 x 4, @ 16" O.C.		<u>10.00</u>	<u>LE</u>	>	+	BASE		DRWL	
	+ 1.2	Face Layer, 5/8" Standard		100.00	SF		+			DRWL	Drywall Finishes, Plaster and Gyps
	+ 1.3	Taping and finishing joints		<u>100.00</u>	SF			FRAMETYPE		INSL	Thermal Insullation
	+ 1.4	Insulation, 1-1/2" fiberglass		200.00	SF		+ <u>1.1</u>	FRAMETYPE		SFS	Stud Framing System
*							+ 1.2	INSL	1	DRWL	Drywall Finishes, Plaster and Gyps
4	5		1		•		+ <u>1.4</u>		1	INSL	Thermal Insultation
•	5 Iculations				* ×				1	INSL	Thermal Insulation
∢ Cak			Saved views: Pro	evious View	• ×				1	INSL	Thermal Insulation
∢ Cak	culations		Saved views: Prr	evious View	_				1	INSL	Thermal Insulation
∢ Cak	culations g columns here to group Variable	Find: [Search For] …	Formula	evious View E] = Wall dimensions', [WAL	• Defau				1	INSL	Thermal Insulation
∢ Cak Drag	culations g columns here to group Variable Name	Find: [Search For]]	Formula Iif([QTYTYPE.COD		▼ Defau Result				1	INSL	Thermal Insulation
∢ Cak	culations g columns here to group Variable Name È AREA	Find: [Search For] Description Wall Area (sqft)	Formula Iif([QTYTYPE.COD Iif([QTYTYPE.COD	E] = 'Wall dimensions', [WAL					1	INSL	Thermal Insulation
 Calc Drag → 	culations g columns here to group Variable Name E. AREA AREA_WALL_HGT	Find: [Search For] ···· Description Wall Area (sqft) Wall Height (ft)	Formula Iif([QTYTYPE.COD Iif([QTYTYPE.COD Iif([QTYTYPE.COD	DE] = 'Wall dimensions', [WAL DE] = 'Wall dimensions', [WAL	 ✓ Defau Result 10 ▲ 10 10 				1	INSL	Thermal Insulation
∢ Cak	Culations a columns here to group Variable AREA AREA AREA_WALL_HGT AREA_WALL_LEN TAP_FAC	Find: [Search For] ····] Description Wal Area (sqft) Wal Heght (ft) Wal Length (ft)	Formula Iif([QTYTYPE.COD Iif([QTYTYPE.COD Iif([QTYTYPE.COD	XE] = 'Wall dimensions', [WAL XE] = 'Wall dimensions', [WAL XE] = 'Wall dimensions', [WAL	 ✓ Defau Result 10 ▲ 10 10 				1	INSL	Thermal Insulation
 Calc Drag → 	Culations a columns here to group Variable AREA AREA AREA_WALL_HGT AREA_WALL_LEN TAP_FAC	Find: Eearch For] ··· Description Wal Area (sqft) Wal Height (ft) Wal Length (ft) Taping Factor	Formula Iif([QTYTYPE.COD Iif([QTYTYPE.COD Iif([QTYTYPE.COD	XE] = 'Wall dimensions', [WAL XE] = 'Wall dimensions', [WAL XE] = 'Wall dimensions', [WAL	 ✓ Defau Result 10 ▲ 10 10 				1	INSL	Thermal Insulation

15.4.2 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.

Cod	de: * C1010	Description: Drywall Partition Constru	uction System								
Cost	st Items					Su	b Assemblies				×
Drag	ag columns here to group	Find: [Search For] …	Saved views: Pr	revious View	•		g columns here to group	Finds [Search	For 1	Saved views: P	revious View -
	CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measu	1	CBS	Display after	Display		
_	□ 1	Drywall Partition Construction System			Q SF		Position Code	Input	Order	Code	Description
1	+ 1.1	Wood Stud Framing, 2 x 4, @ 16" O.C.			0 LE	→	+	BASE		1 DRWL	Drywall Finishes, Plaster and Gyp
1	+ 1.2	Face Layer, 5/8" Standard		100.0	Q SF		+	OPF		1 DRWL	Drywall Finishes, Plaster and Gyp
	+ 1.3	Taping and finishing joints		100.0	0 SF		+	FRAMETYPE		2 INSL	Thermal Insullation
	+ 1.4	Insulation, 1-1/2" fiberglass		200.0	0 SF		+ <u>1.1</u>	FRAMETYPE		1 SFS	Stud Framing System
*						1	+ 1.2	INSL		1 DRWL	Drywall Finishes, Plaster and Gyp
							+ 1.4			1 INSL	Thermal Insulation
•	5				•		+ <u>1.4</u>			1 INSL	Thermal Insuliation
-	5 Iculations				* ×		+ <u>14</u>			1 INSL	Thermal Insulation
Cal		Find: [Search For] ···	Saved views: P	revious View	* *		+ 14			1 INSL	I hermal Insulation
Cal	lculations	Find: [Search For]	Saved views: P	revious View	_		+ 14			1 INSL	Inema Insulation
Cal Drag	Iculations ag columns here to group Variable		Formula	revious View DE] = 'Wall dimensions', (WAL	• Defau Resul		+ 14			1 INSL	Inema Insulation
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When you expand the sub assemblies on the right, it lists all the elements which make up that sub assembly.

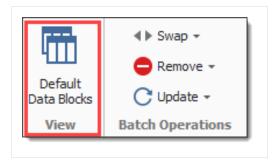
Su	b As	sem	blies							×
	g col	umns	here to group	Find:	[Search For]	:	Saved views:	Previous View	•
	CB Po		Code ៉	Displa Input	y after	Display Order		Code	Description	
	+			BASE			1	DRWL	Drywall Finishes	, Plaster and Gyps
	+			OPF			1	DRWL	Drywall Finishes	, Plaster and Gyps
1	+			FRAM	ETYPE		2	INSL	Thermal Insullat	ion
→	-	<u>1.1</u>		FRAM	ETYPE		1	SFS	Stud Framing Sy	stem
	L		Variable Name	-	Sub Assemb Code	ly Display Order =		Description		Value
	L	\rightarrow	QTYTYPE		SFS	5.1.1	1	Enter total quar	ntity or calculate usin	Total quanti
	L		QUANTITY		SFS	5.1.2		Wall Area (sqft))	100.00
	L		WALL_LEN		SFS	5.1.3		Wall Length (ft))	10.00
	L		WALL_HGT		SFS	5.1.4		Wall Height (ft)		10.00
11	L		FRAMETYPE		SFS	5.1.5		Framing Type		Wood Stud
			FRAME		SFS	5.1.6		Framing		2 x 4, @ 16
		4	,				_		1	
	+	<u>1.2</u>		INSL			1	DRWL	Drywall Finishes	, Plaster and Gyps
		<u>1.4</u>					1	INSL	Thermal Insullat	

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. Calcutions: 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

Cod			Cost Item Assembly Reco	ord O				
	le: * C1010	5	Description: Drywall Partition Co	onstruction	System	1		3
Cost	Items				_			Notes
Drag	columns here	to group	Find: [Search For.] ···	· Saved views:	: Previous View	-	C1010 124 Drywall Partitions/Wood Stud Framing
	CBS Position Code	≞. De	scription	Opt		orecast T/O) Quantity	Unit of Measure	C1010 126 Drywall Partitions/Metal Stud Framing
•	□ 1	Dr	ywall Partition Construction Syste		(10	.00 SF	Drywall Partitions/Stud Framing Systems are defined by type of Drywall and number of layers, type and spacing of stud framing, and treatment on the opposite face. Components include taping and finishing.
J	+ 1.1		Wood Stud Framing, 2 x 4, @ 16" O.C.			1	0.00 LE	
	+ 1.2		Face Layer, 5/8" Standard			10	0.00 SF	Cost differences between regular and fire resistant drywall are negligible, and terminology is
	+ 1.3		Taping and finishing joints			10	0.00 SF	interchangable. In some cases fiberglass insulation is included for additional sound deadening.
	+ 1.4		Insulation, 1-1/2" fiberglass			201	0.00 SF	
		-						
Inp	uts	5						
	uts 1 columns here		Find: Search For.	.]	Saved views:	: Previous View	-	
rag			Find: Search For.] ···· Input Type	· Saved views: Table	: Previous View Default Value	- Data Validation	Wood Stud Framing
rag	columns here	to group Disolay -		Input	_	Default	Data Validation	Wood Stud Framing
rag	Columns here Variable Name QTYTYPE QUANTITY	to group Disolay -	Description	Input Type	Table	Default Value	Data Validation	Wood Stud Framing
rag	Columns here Variable Name QTYTYPE QUANTITY WALL_LEN	to group Disolay -	Description I Enter total quantity or calculat Wall Area (sqft) Wall Length (ft)	Input Type Table Value Value	Table	Default Value Total quantity (sqft 100	Data Validation) None 00 None 00 None	Wood Stud Framing
rag	columns here Variable Name QTYTYPE QUANTITY WALL_LEN WALL_HGT	to group Disolay -	Description Enter total quantity or calculat Wall Area (sqft) Wall Length (ft) Wall Height (ft)	Input Type Table Value Value Value	Table TBL_TAKEOF	Default Value Total quantity (sqft 100. 10.	Data Validation) None 00 None 00 None 00 None	Wood Stud Framing
rag	columns here Variable Name QTYTYPE QUANTITY WALL_LEN WALL_LEN WALL_HGT FRAMETYPE	to group Disolay -	Description 1 Enter total quantity or calculat 2 Wal Area (sqft) 3 Wal Length (ft) 4 Wal Height (ft) 5 Framing System	Input Type Table Value Value Value Table	Table TBL_TAKEOF TBL_FRAME	Default Value Total quantity (sqft 100. 10. Wood Stud	Data Validation None 00 None 00 None 00 None None	Wood Stud Framing
rag	columns here Variable Name QTYTYPE QUANTITY WALL_LEN WALL_HGT	to group Disolay -	Description Enter total quantity or calculat Wall Area (sqft) Wall Length (ft) Wall Height (ft)	Input Type Table Value Value Value	Table TBL_TAKEOF	Default Value Total quantity (sqft 100. 10.	Data Validation) None 00 None 00 None 00 None	Wood Stud Framing

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:

Cos Inpi	st Item Assembly: uts	RW01	â			
Dra	g columns here to	groupFind: [Search For] Saved	views: Prev	vious View	•
	Variable Name	Description	Value	Visible	Visibility Condition	
ø	LENGTH	Wall Length (ft)	100	✓		
	FTG_WIDTH	Footing Width (ft)	3.33	✓		
	FTG_THICK	Footing Thickness (in)	9.67	 Image: A set of the		
	WALL_HEIGHT	Wall Height, Avg (ft)	2,40	\checkmark		
	WALL_WIDTH	Wall Width (in)	12.00	\checkmark		
	CSTR	Concrete Strength	4000 PSI	✓		

Changing these values will...

adjust these totals.

g columns here to group			Find: [Sea	arch For] ···
CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity	Unit of Measure
+ 1	Standard Retaining Wall Assembly		<u>20.00</u>	Cubic Yard
+ 1.1	Furnish Retaining Wall Materials		20.00	Cubic Yard
+ 1.2	Retaining Wall Footings		<u>10.00</u>	Cubic Yard
+ 1.2.1	Form Footing		200.00	Square Feet
+ 1.2.2	Pour Footing		<u>10.00</u>	Cubic Yard
+ 1.2.3	Strip Footing		200.00	Square Feet
+ 1.3	Retaining Wall Wall		10.00	Cubic Yard

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.

g columns here to group			Find: [Se	arch 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		<u>20.00</u>	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	
+ 1.2	Retaining Wall Footings		<u>10.</u> Q	TY_CONC= [TY_FTG_VOL] + [QT]		\$1,946.56	U.S. Dollar	
+ 1.2.1	Form Footing			oquare reet	30.29	\$1,257.77	U.S. Dollar	
+ 1.2.2	Pour Footing		<u>10.00</u>	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	
1	0					\$8,493.38		

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.

ag	columns here to	groupFind: [Search For] Saved v	views: Pre	vious View	Dra	g columns here to group	Find: [Searc	h For]
	Variable Name	Description	Value	Visible	Visibility Condition		Concrete Strength	Resource Code (RESOURCE)	
	LENGTH	Wall Length (ft)	100.00	\checkmark			3500 PSI	MC3500	
	FTG_WIDTH	Footing Width (ft)	3.33	\checkmark			4000 PSI	MC2000	
	FTG_THICK	Footing Thickness (in)	9.67	\checkmark					
	WALL_HEIGHT	Wall Height, Avg (ft)	2.40	✓					
	WALL_WIDTH	Wall Width (in)	12.00	 Image: A set of the					
•	CSTR	Concrete Strength	4000 PSI	\checkmark					
							2	2	

15.4 Step by Step 1 — Creating a Cost Item Assembly Sub Assembly

- 1. Navigate to Setup > Cost Item Assemblies.
- 2. Select a cost item assembly.

		***		🕵 Labor 🏭 Equipment		â		P			
		Bid Wizard			Resource Assemblies	Cost Item Assemblies	Standard Tables	Reports			
Initia	lize			Resources		Assem	blies	Reports			
	cription				Default Quantity	Default Unit of Meas	sure	Default Unit Cost	Default Total Cost	Default Currency	
Dry	wall Partition Co	nstruction Sys	tem		100.00			\$5.51	\$551.28	U.S. Dollar	
Dry	wall Finishes, Pla	aster and Gyps	sum		100.00			\$1.10	\$110.28	U.S. Dollar	
The	rmal Insullation				100.00	SF		\$1.03	\$103.36	U.S. Dollar	
Shi	Stud Framing System				10.00	LF		\$16.79	\$167.92	U.S. Dollar	
	Initia sembly Regi ere to group	Foundation Pay Item & Setup Data Proposal Initialize sembly Register O E Description Drywall Partition Co Drywall Finishes, Pia Thermal Insulation	Foundation Pay Item & Bid Wizard Setup Data Proposal Initialize sembly Register O ere to group Description Drywall Partition Construction Sys Drywall Finishes, Plaster and Gyps Thermal Insullation	Foundation Pay Item & Bid Wizard Resource Rates and Initialize and Proposal In	Foundation Pay Item & Bid Wizard Resource Setup Data Pay Item & Bid Wizard Resource Initialize Bid Wizard Resource sembly Register	Poundation Pay Item & Bid Wizard Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Bid Wizard Pay Item & Resource Resource Initialize Initialize Initialize Initialize Initialize Resource Resource sembly Register Initialize Initialize Initialize Initialize Initialize Provall Partition Construction System Initial Description Initialize Initialize Initialize Initialize Prywall Partition Construction System Initial Description Initialize Initialize Initialize Initialize Initialize Initialize Initialize Initialize	Poundation Pay Item & Bid Wizard Assembly Equipment Resource Resource Assemblies Initialize Proposal Bid Wizard Assembly Resources Assembly sembly Register Image: Construction System Assembly Default Quantity Default Unit of Meas Drywall Partition Construction System Drywall Partition Construction System 100.00 SF Drywall Inishes, Plaster and Gypsum 100.00 SF Thermal Insullation 100.00 SF	Pay Item & Setup Data Bid Wizard Proposal Image: Bid Wizard Bid Wizard Image: Bid Wizard Resource Image: Bid Wizard Resource <th< td=""><td>Foundation Pay Item & Bid Wizard Resource Rates Resource Materials Resource Rates Reports Report</td><td>Poundation Pay Item & Bid Wizard Step Data Bid Wizard Proposal Bid Wizard Bid Wizard Percent Resource Resource Percent Resource Resource Cost Item Assemblies Standard Tables Reports Initialize Bid Wizard Assemblies Assemblies Standard Tables Reports Reports Setup Data Proposal Bid Wizard Assemblies Resource Standard Tables Reports Setup Data Proposal Bid Wizard Assemblies Resource Assemblies Standard Tables Reports Setup Data Oscillation Oscillation Default Standard Standard Standard Standard</td><td>Poundation Setup Data Pay Item & Proposal Initialize Bid Wizard Bid Wizard Naterials Resources Proposal Resources Propo</td></th<>	Foundation Pay Item & Bid Wizard Resource Rates Resource Materials Resource Rates Reports Report	Poundation Pay Item & Bid Wizard Step Data Bid Wizard Proposal Bid Wizard Bid Wizard Percent Resource Resource Percent Resource Resource Cost Item Assemblies Standard Tables Reports Initialize Bid Wizard Assemblies Assemblies Standard Tables Reports Reports Setup Data Proposal Bid Wizard Assemblies Resource Standard Tables Reports Setup Data Proposal Bid Wizard Assemblies Resource Assemblies Standard Tables Reports Setup Data Oscillation Oscillation Default Standard Standard Standard Standard	Poundation Setup Data Pay Item & Proposal Initialize Bid Wizard Bid Wizard Naterials Resources Proposal Resources Propo

• The cost item assembly record will open

Image: set of the set		Item Assembly Regi	ister Cost Item Assembly Record	0										
Concernment Product Processor Product Processor <th< th=""><th>Code</th><th>e: * C1010</th><th>Description: Drywall Partition Constr</th><th>uction System</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>	Code	e: * C1010	Description: Drywall Partition Constr	uction System										
Clip Clip Control (Control (Control (Contro) (Control (Contro) (Cont	Cost	Items						Sub Are	mbliar					~
Clinic Decision Description Optional Code Feedback Code Description Optional Code Description Description Optional Code Description Descriptio	Drag	columns here to group	Find: [Se	arch For] ····	Saved views: Previous	View	-	340 433	citiones				r	
1 Description Construction System System System<		CBS Position Code	Description	Optional Code	Forecast (T/O) Quantity		Unit Cost							_
+ 1.1 Wodi Stud Famma, 2x4, 210°, 0x 1000 102 104 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 100000 100000 10000 1000		1	Drywall Partition Construction System			SF	\$	Posit	ion Code 🗎		Order	Code	Description	Co
+ 1.2 Topograf finder jouristic 0.0001 9* 0		+ 1.1	Wood Stud Framing, 2 x 4, @ 16" O.C.		10.00	UE .	\$1	+		BASE	1	DRWL	Drywall Finishes, Plaster and Gypsum Board	[8/
* 1.3 Torage and finding profis 1.00.000 9° 0.0000 * 1.4 Torage and finding profis 0.0000 9° 0 * 1.5 Wals 0.0000 9° 0 * 1.5 0.0000 1 100.000 1 * 1.6 0.0000 * 1.0000 1 * 1.6 0.0000 * * 1.0000 * 1.6 0.0000 * * * * 1.6 0.0000 * * * * 1.6 0.0000 * * * 1.6 0.0000 * * * 1.6 0.0000 * * * AeEA Wal reget (fty) 1000000	- 1	+ 1.2	Face Layer, 5/8" Standard		100.00	SF	s	+		OPF	1	DRWL	Drywall Finishes, Plaster and Gypsum Board	(OF
* 1.3 Unitadim () 5/2/2/2/2/2 Unitadim () 5/2/2/2/2 Unitadim () 5/2/2/2/2 Unitadim () 5/2/2/2 Unitadim () 5/2/2/2 Unitadim () 5/2/2	- 1	+ 1.3	Taping and finishing joints		100.00	SF	şı	→ +		FRAMETYPE	2	2 INSL	Thermal Insuliation	[IN
Is Name Description Freeduct Nerver + 1.4 1 DBC. Thermal Insulation Visition Freeduct Nerver -	- 1	+ 1.4	Insulation, 1-1/2" fiberglass		200.00	SF	\$			FRAMETYPE	1	SFS		
6 × Columbtance × Drag outures here to group: Find: Saved views: × Visualization × × Visualization Previous Views: × Visualization Previous Views: × Visualization Previous Views: × Visualization Previous Views: × Ass.A. Wail regist (n) #fil(g1717785.COE) = Visial dimensioner, (Visu	->	+ 1.5	Wals		100.00	SF	şı			INSL	1	DRWL	Drywall Finishes, Plaster and Gypsum Board	
Columbtes Finds: Streed Horsson, > Vanide Description Finds: Freedoca Verson - Vanide Description Pormula Result. Tog 1 AREA_NULL_INGT Walk-leight (fty) St((2)TITTRE-COCE) = Valid Amesson/, (VML 00.00 - AREA_NULL_INGT Walk-leight (fty) St((2)TITTRE-COCE) = Valid Amesson/, (VML 0.00 -	ъľ							+ 1	e.		1	INSL	Thermal Insullation	
Variable Description Formula Default Result Top 1 + AREA Wall Areas (ord?) 35f(2)TTYPE_COCE] = Vial dimension/, (VMAL. 100.000 A AREA_VIALL_HOT Wall length (ft) 14f(2)TTYPE_COCE] = Vial dimension/, (VMAL. 100.000 A AREA_VIALL_LEN Wall Length (ft) 12f(2)TTYPE_COCE] = Vial dimension/, (VMAL. 100.000 A														
Name Construction remain Result Fag. → AREA Walk Area (arth) DEf[QTTTPECCOE] = Walk dimensions', [VML 00.000 Area AREA_WALL_HET Walkerpit (ft) DEf[QTTTPECCOE] = Walk dimensions', [VML 10 Area AREA_WALL_HET Walkerpit (ft) DEf[QTTTPECCOE] = Walk dimensions', [VML 10.000 Area	Carc	Cald Cons					×							
AREA_WALLING Wall Height (H) If ([0]TTTPE-CODE] = 'Wall dimensions', [IVAL ID AREA_WALLIEN Wall Length (H) If ([0]TTTPE-CODE] = 'Wall dimensions', [IVAL ID.00			Find: [Se	arch For] ····	Saved views: Previous	View								
AREA_WALLEN Wallength (ft) 2f([gr/T/TPE-COCE] = Wall dimensions', [NAL 10.00	Drag	columns here to group Variable	Description	Formula		Default Result	•							
	Drag →	columns here to group Variable Name E. AREA	Description Wall Area (sqft)	Formula IIf([QTYTYPE.CODE] = 'Wall dimensions', [WAL	Default Result 100.00	•							
TAP_FAC Taping Factor 1 + Elf([BASE.CODE] = Yes', 1, 0) + Elf([OFF.C 1	Drag →	columns here to group Variable Name E. AREA	Description Wall Area (sqft) Wall Height (ft)	Formula Bif([QTYTYPE.CODE Bif([QTYTYPE.CODE	[] = 'Wall dimensions', [WAL [] = 'Wall dimensions', [WAL	Default Result 100.00 10	•							
	Drag →	columns here to group Variable Name AREA AREA_WALL_HGT AREA_WALL_LEN	Description Wall Area (sqft) Wall Height (ft) Wall Length (ft)	Formula Bif([QTYTYPE.CODE Bif([QTYTYPE.CODE Bif([QTYTYPE.CODE	[] = 'Wall dimensions', [WAL [] = 'Wall dimensions', [WAL [] = 'Wall dimensions', [WAL	Default Result 100.00 10 10.00	•							
	Drag	Columns here to group Variable Name AREA AREA_WALL_HGT AREA_WALL_LEN TAP_FAC	Description Wall Area (sqft) Wall Height (ft) Wall Length (ft)	Formula Bif([QTYTYPE.CODE Bif([QTYTYPE.CODE Bif([QTYTYPE.CODE	[] = 'Wall dimensions', [WAL [] = 'Wall dimensions', [WAL [] = 'Wall dimensions', [WAL	Default Result 100.00 10 10.00	•							
۲ ۲ = ۲ = ۲ = ۲ = ۲ = ۲ = ۲ = ۲ =	Drag	Columns here to group Variable Name AREA AREA_WALL_HGT AREA_WALL_LEN TAP_FAC	Description Wall Area (coft) Wall Height (ft) Wall Length (ft) Taping Factor	Formula Bif([QTYTYPE.CODE Bif([QTYTYPE.CODE Bif([QTYTYPE.CODE	[] = 'Wall dimensions', [WAL [] = 'Wall dimensions', [WAL [] = 'Wall dimensions', [WAL	Default Result 100.00 10 10.00	Tag 1							
Irguts Calculators Notes Setup Tables Sub Assembles	Drag →	columns here to group Variable Le AREA AREA_WALL_HGT AREA_WALL_INT TAP_FAC	Description Wall Area (coft) Wall Height (ft) Wall Length (ft) Taping Factor	Formula Bif([QTYTYPE.CODE Bif([QTYTYPE.CODE Bif([QTYTYPE.CODE	[] = 'Wall dimensions', [WAL [] = 'Wall dimensions', [WAL [] = 'Wall dimensions', [WAL	Default Result 100.00 10 10.00	Tag 1		Setup Tables	Sub Assembles				
	Drag →	columns here to group Variable Le AREA AREA_WALL_HGT AREA_WALL_INT TAP_FAC	Description Wall Area (coft) Wall Height (ft) Wall Length (ft) Taping Factor	Formula Bif([QTYTYPE.CODE Bif([QTYTYPE.CODE Bif([QTYTYPE.CODE	[] = 'Wall dimensions', [WAL [] = 'Wall dimensions', [WAL [] = 'Wall dimensions', [WAL	Default Result 100.00 10 10.00	Tag 1		Setup Tables	Sub Assembles				

- 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.

Cos	t Breakdown	Structure	(CBS) Re	gister	Cost Item Asse	mbly Register	Co	st Item Asse	mbly Rec	ord O	
Cod	de: \star C101	0	Des	cription:	Drywall Partition Con	struction System					
Cos	t Items										
Drag	g columns here	to group			Find	: [Search For]		Saved view	ws: Previ	ous View	-
	CBS Position Code	<u> </u>	Description	ı		Optional Code		orecast /O) Quantity		Unit of Measure	Unit Cost
	+ 1.3		Taping a	and finishir	ng joints				100.00	SF	\$
→ *	+ 1.4	5	W=llc C C C C C C C C C C C C C	Open <u>N</u> ew Delete					100.00	SF	
	Inputs Drag columns here to group			Cop <u>y</u> <u>P</u> aste <u>F</u> ill Dow	'n] Saved view	ws: Previ	ous View	,
	Variable Name QTYTYPE	Display Order ≣	. 8	-	s field to Excel from Excel		:OF	Default Value Total qua	Data Validation None	Value / Minimum	Maximum
	QUANTITY WALL_LEN		Å ₫5		s field to <u>Calculation</u> l rom Calculation <u>R</u> esu			100.00	None None		
÷	WALL_HGT		+	Indent Outden	t			10.00	None		
•			•=	Insert							
Inp	uts Calculat	ions	41 mi	Insert C	u <u>b</u> ordinate ost Item <u>A</u> ssembly ost Item Assembly as	<u>S</u> ubordinate					

- The Cost Item Assembly Register sub assembly opens
- 5. From this screen, select a sub assembly to add and click **OK**.

rad	g columns h	ere to gra	pup	Find:	[Search For]	··· Saved vie	ws: Previous V	liew	•
	Code	1	Description	Assembly File Description	Default Quantity	Default Unit of Measure	Default Unit Cost	Default Total Cost	Default Currency
	DRWL		Drywall Finishes, Plaster and Gypsum		100.00	SF	\$1.10	\$110.28	U.S. Dollar
	INSL		Thermal Insullation		100.00	SF	\$1.03	\$103.36	U.S. Dollar
÷	SFS		Stud Framing System		10.00	LF	\$16.79	\$167.92	U.S. Dollar
		3							

- 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:

st	Item	\$														S	b Assemblies					
ود	colur	nns	here	to grou	p			Find:	[Search For]	Sav	ed views:	Previou	us View		-							
	CBS							La	Optional	Forecast			Jnit of			Dra	g columns here to	group	Fin	d: [Seard	h For] ··· Saved views: Previous	√iew +
	Posit	tion (Code	h.,	D	escript	tion		Code	(T/O) Quar	ntity		deasure		Unit Cost		CBS	Display	-			
1	+ 1	1.2				Face	Laver, 5/8" Standa	rd			10	0.00 S	F		\$1 4		Position 🖮 Code	after Input	Di Or	C	Description	Employment Condition
1	+ 1	1.3				Tapin	ig and finishing joint	ts .			<u>10</u>	0.00 S	F		\$0	-	+	BASE		DRWL	Drywall Finishes, Plaster and Gypsum Board	[BASE.CODE]='Yes'
ĺ	= 1	.4				Walls					10	0.00 S	F		\$1		+	OPE	1	DRWL	Drywall Finishes, Plaster and Gypsum Board	[OPF.CODE]='Yes'
	- 1	1.4.1	1			We	ood Stud Framing, 2	2 x 4, @ 16" O.C.			1	0.00 L	£		\$16		+	FRAMETYPE	2	INSL	Thermal Insulation	[INSL.CODE]='Yes'
			Row		Code	R	esource Assembly	Description	Quantity (Less Waste)	Waste % Add-on	Quantity	Unit of		Pay	Unit Cost		+ 1.1	FRAMETYPE	1	SFS	Stud Framing System	
I			NUM	Der	CARP			Carpenters	(Less Waste)	Add-on		Measu Each	1.60		_		+ 1.2	INSL	1	DRWL	Drywall Finishes, Plaster and Gypsum Board	
		7		-	M-FR			Wood framing for p	ar 10.00	0.00			1.00	1.00	\$75.45		+ 1.4.1		1	SFS	Stud Framing System	

Lesson 15 Review

- 1. Where do you create new cost items for the cost item assembly?
 - a. CBS Register
 - b. Cost Item Assembly Record
 - c. Job Properties
 - d. Cost Item Assembly Register
- 2. From where can you edit an employed cost item assembly?
 - a. CBS Register
 - b. Cost Item Assembly Record
 - c. Resource Rate Register
 - d. Both a & b
- 3. Match each function to its correct definition:

Term	Definition
lif	Rounds the given value to the nearest integer
Round	Returns the maximum value for the specified values
Pi	Returns the value of Pi
Max	Returns either TruePart or FalsePart depending on the Boolean expression

Lesson 15 Summary

As a result of this lesson, you can:

- Explain what a cost item assembly is and why it is used
- Create and edit a cost item assembly
- Employ a cost item assembly