

INDOT CES Designer Instructions

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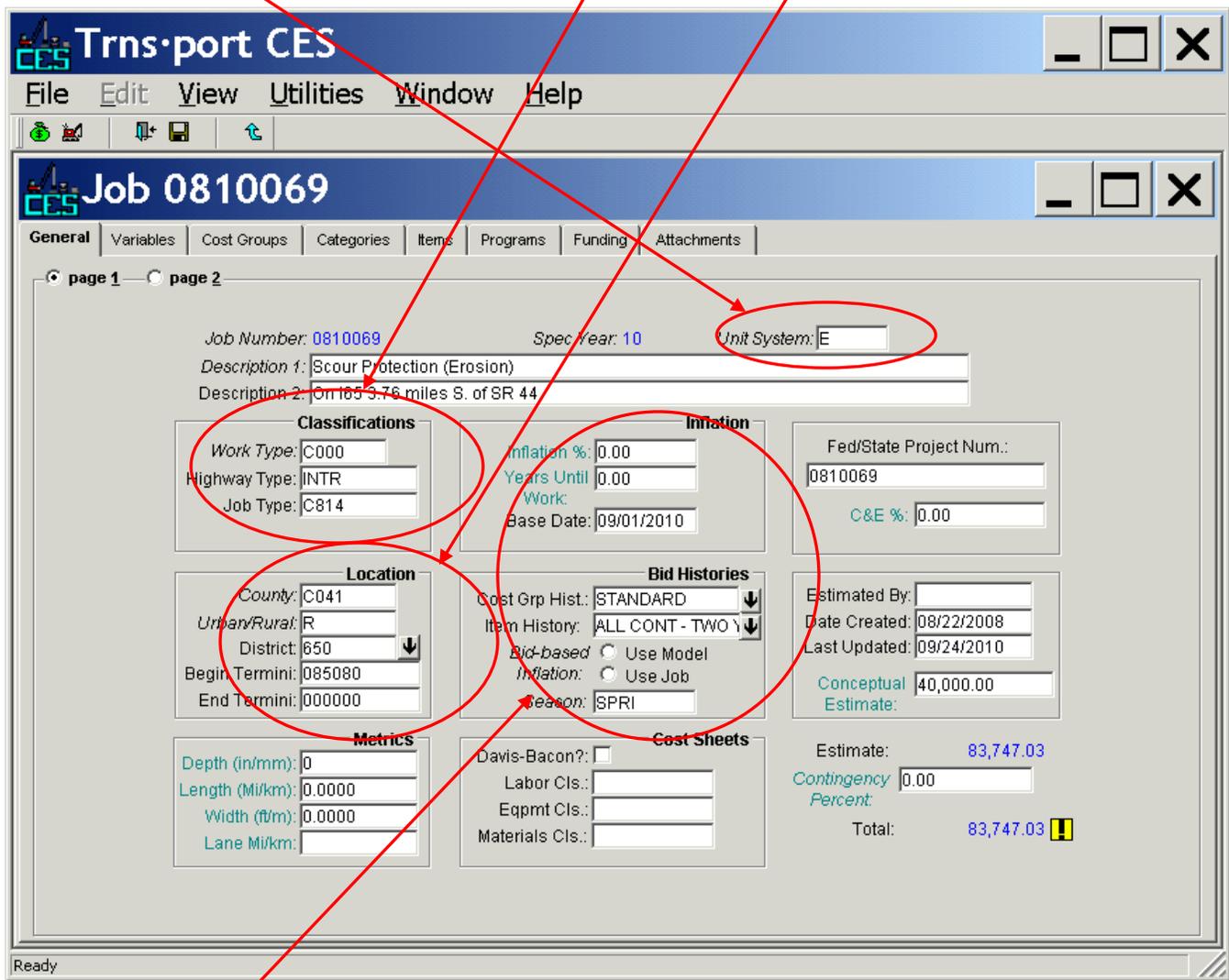
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CES Project Setup Checklist:

- 1) Ensure the ***Spec Year*** is set to the current specification year.
- 2) Set the ***Unit System*** to ENGLISH or METRIC as appropriate.
- 3) Set the ***Base Date*** to the LETTING FINISH DATE from SPMS.
- 4) Set the ***Work Type*** to the SECOND HIGHEST level of summarization (“#00” level) for the project type. (e.g. “A200” for a bridge project, “P300” for an intersection improvement, etc.)
- 5) Set the ***Bid-Based Inflation*** Radio Button to “USE MODEL” if the project is to be constructed within the current year or to USE JOB if the project is to be constructed in a future year.
- 6) Ensure that the ***Inflation Percent*** and the ***Years Until Work*** entries are correct. These values were imported from SPMS when the CES job record was created and may be obsolete.
- 7) Set the ***Season*** to the time of year when the job is to be CONSTRUCTED (Winter, Spring, Summer, or Fall).
- 8) Set the ***Locations*** to the COUNTY and DISTRICT where the job is located.
- 9) Choose the default ***Item Bid History Library*** that is appropriate for the Contract Type (B, M, R, RS, T).
- 10) Make sure you enter the ***Latitude*** and ***Longitude*** of the project midpoint on page 2 of the General tab.
- 11) If you have any problems or issues using CES, send an email to cessupport@indot.in.gov.

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Once the **Spec Year** is correct, double click on the Job Number to open the job file. Make sure the correct **Unit System** is selected and check the **Classification** and **Location** fields on **page 1** for accuracy.



Set the **Inflation %** to the annual percentage inflation rate desired, and the **Years Until Work** to the number of years between the current date and the beginning of construction. The **Base Date** should be set to the date for which you want CES to produce pricing, which should be the *Letting Date* under normal circumstances.

Under **Bid Histories**, first click on the Arrow to the right of the **Cost Grp Hist** (Cost Group History) field and select the **STANDARD** cost group bid History from in the popup window and click **OK**

Note: This step is only necessary if you plan on using the Parametric Estimating Features



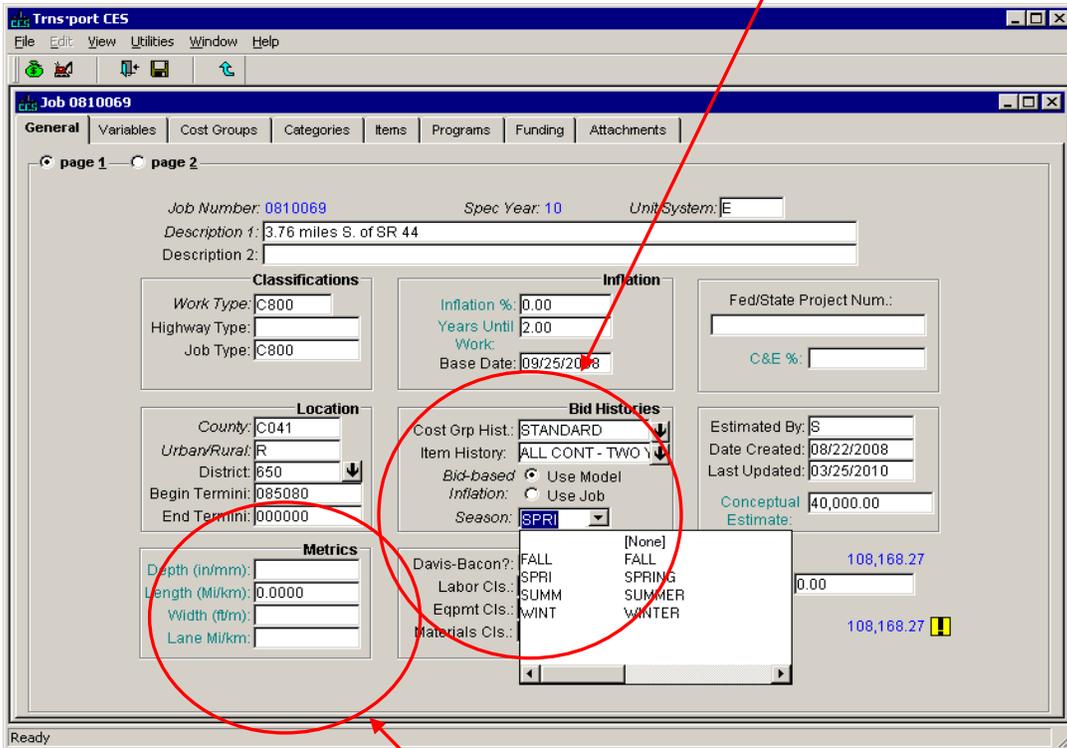
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Next click on the arrow to the right of the **Item History** field.

Select the appropriate **Item Bid History Library** and click **OK**. Use ALL CONTRACTS – 3 YEARS bid history library unless you have reason to believe that there are special conditions which warrant the use of the one year, two year, or contract type-specific Bid History Libraries



Set the Bid-based **Inflation** radio buttons to either **Use Model** or **Use Job**. If you choose **Use Model** inflation will be calculated and applied to bid-based prices only based on the **Base Date** for the job. If you choose **Use Job** an inflation adjustment will be applied to the entire Job by inflating the total cost by the inflation rate specified by the Inflation % for the number of year specified in the Years Until Work.



The last things you need to do on page 1 are to set the anticipated construction season from the pull down menu next to **Season** and enter the project metrics: **Pavement Depth, Length, Width, and Lane Miles/Kilometers**.

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This information should be entered on page one of the **General** tab in the block at the bottom left titled **Metrics**. English units should be used for english projects, metric units should be used for metric projects. All entries should be rounded to two decimal places as appropriate.

- a. The **Project Length** is the overall length of pavement, entered in miles (kilometers).
- b. The **Pavement Width** is the total width of new mainline pavement, excluding paved shoulders, entered in feet (meters)
- c. The **Pavement Depth** is the average depth of new mainline pavement, excluding paved shoulders, entered in inches (millimeters).
- d. **Lane Miles** (kilometers) is the project centerline length times the number of through travel lanes entered in miles (kilometers).

Next select the radio button for **page 2**. On page 2 enter the **Latitude** and **Longitude** in degrees, minutes, seconds without symbols or other punctuation. The **String 2** field is for the person checking the estimate and the **Date 2** field is for the date the estimate was checked. **Date 1** is reserved for the letting date and **Date 3** is reserved for the RFC date. Page 2 is also where you can set or reset the **Control Group**.

The screenshot shows the 'Transport CES' application window. The title bar indicates 'Job 0810069'. The 'General' tab is active, and the 'page 2' radio button is selected. The 'Metrics' section contains the following fields:

Scheduling ID:	5127	Doc. Mgt. ID:	
Planning ID:		Bridge Mgt. ID:	35740
FMIS Code:	NJAR	Pavement Mgt. ID:	0810069
Design ID:		GIS ID:	
Latitude:	392606	Project:	
Longitude:	855854	Proposal:	
Control Group:	95	Funding Category:	

Below the metrics are five string and five date fields:

String 1:		Date 1:	00/00/0000
String 2:		Date 2:	00/00/0000
String 3:		Date 3:	00/00/0000
String 4:		Date 4:	00/00/0000
String 5:		Date 5:	00/00/0000

At the bottom, there are three number fields, three code fields, and two quantity fields.

Deactivating Cost Groups

Next, click the **Cost Groups** tab. Cost Groups are only used for Parametric Estimating. Make sure all the boxes under **Active?**, are unchecked. If the box is checked, simply click on the check to remove it. The total amount of any item checked on this tab will be added to your estimate.

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Line Number	Cost Group ID	Description	Unit	Calculation Rule	Quantity	Price	Extended Amount	Bid-based Comment	Active?
00000001	PE1	Preliminary Engineering 1	LS	NORM	1.000	0.00000	0.00		<input type="checkbox"/>
00000002	PE2	Preliminary Engineering 2	LS	NORM	1.000	0.00000	0.00		<input type="checkbox"/>
00000003	RW1	Right of Way Purchase	LS	NORM	1.000	0.00000	0.00		<input type="checkbox"/>
00000004	RW2	Right of Way Services	LS	NORM	1.000	0.00000	0.00		<input type="checkbox"/>
00000005	UT1	Utilities PE	LS	NORM	1.000	0.00000	0.00		<input type="checkbox"/>
00000006	UT2	Utilities CN	LS	NORM	1.000	0.00000	0.00		<input type="checkbox"/>
00000007	RR1	Railroad PE	LS	NORM	1.000	0.00000	0.00		<input type="checkbox"/>
00000008	RR2	Railroad CN	LS	NORM	1.000	0.00000	0.00		<input type="checkbox"/>
00000009	CN	Construction	LS	NORM	1.000	40,000.00000	40,000.00		<input type="checkbox"/>
00000010	CE	Construction Engineering	LS	NORM	1.000	0.00000	0.00		<input type="checkbox"/>
00000011	RQP	Relinquishment Payment	LS	NORM	1.000	0.00000	0.00		<input type="checkbox"/>

Click Here

Entering & Updating Project Categories

Next, click the **Categories** tab. The category **Description** should match the project work category in SPMS. Each job should have one category unless you are specifically instructed otherwise. The category tab is where you enter Bridge Information. You must enter the **Bridge ID**, **Bridge Length**, **Bridge Width**, **Number of Spans**, and **Bridge Type** for each Bridge in the project.

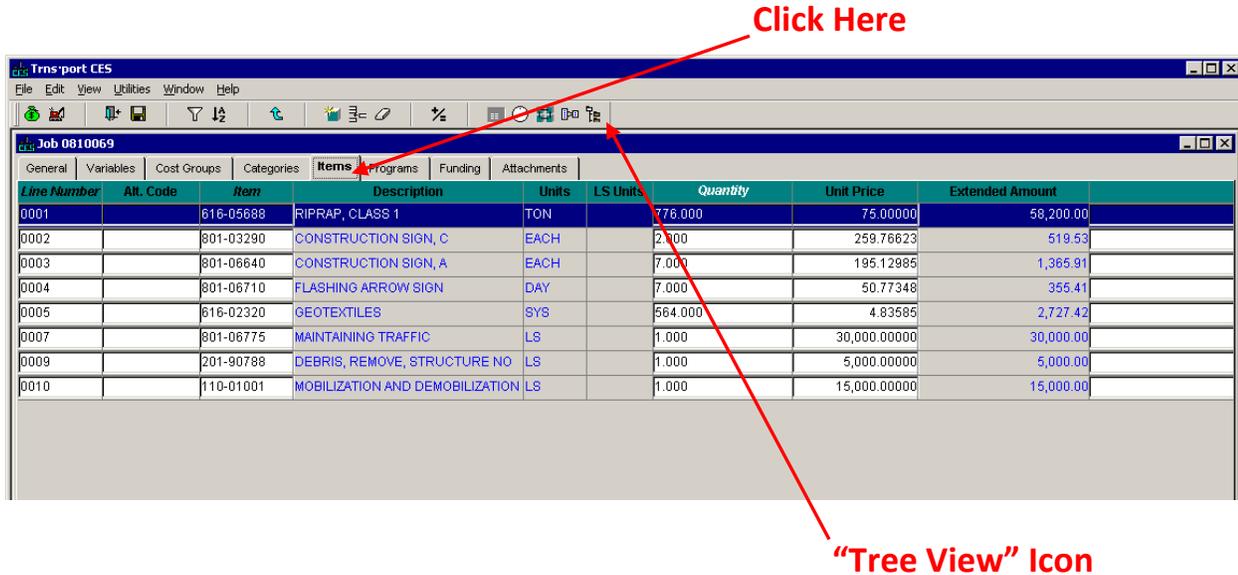
Category Number	Description	Bridge ID	Bridge Length (Ft.M)	Bridge Width (Ft.M)	Num. of Spans	Bridge Type	Alternate Code
0001	Clinton Street Bridge over St Mary River (US-27,SB Lane), 2.	27-02-9539	277.0000	71.5000	3	PCTB	

Note: You will be required to enter additional categories if your estimate includes alternate bridge or pavement designs. See the Alternate Bidding Section for details.

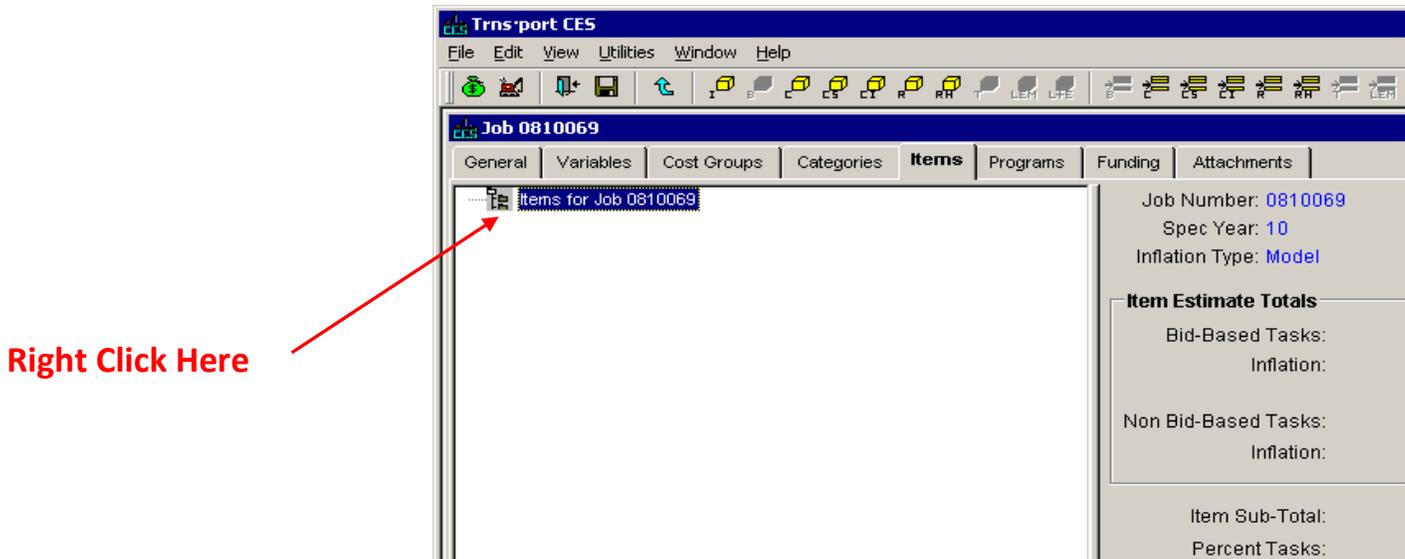
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Entering Estimate Items

Next, click on the **Items** tab and then click on the folder tree icon for the “tree view” interface.



To begin adding items to the estimate, right click on **Items for Job** and select **Add Item**.

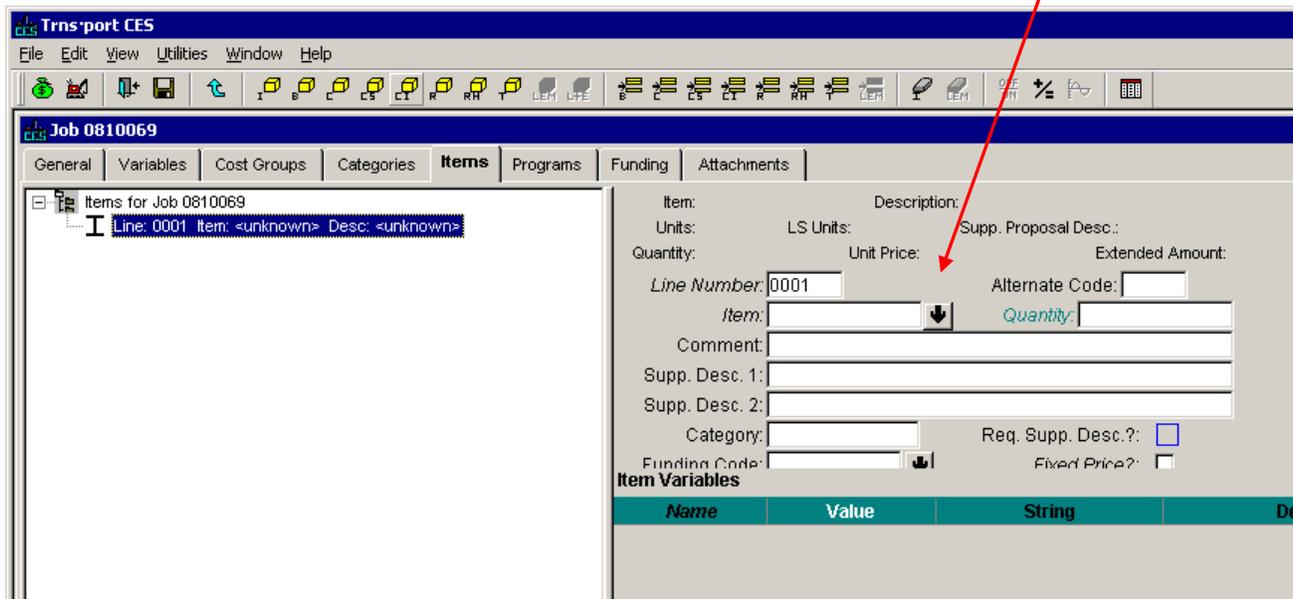


*Note: The **Items for Job** (root) level of the tree summarizes all of the item level price and inflation calculations*

INDOT CES Designer Instructions

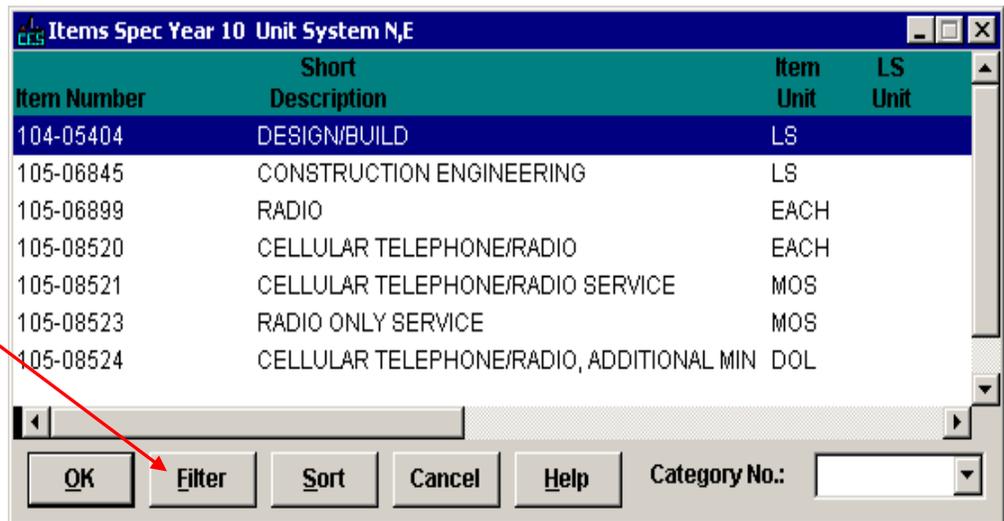
To select an item, click on the arrow next to the **Item** field.

Click Here



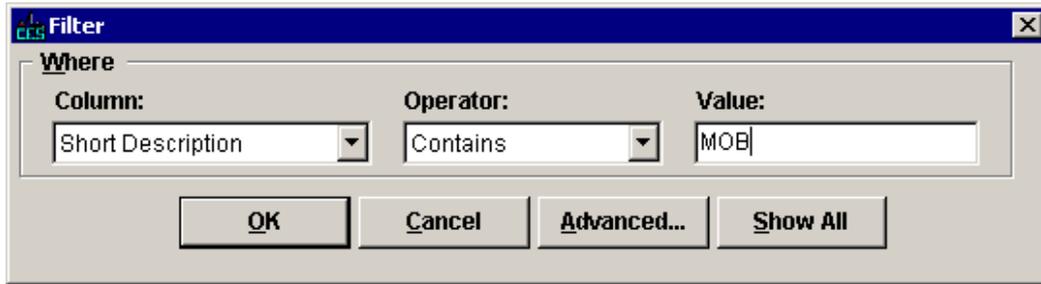
The item list window will pop up with all the pay items. Click the **Filter** button to search for a specific item.

Click Here

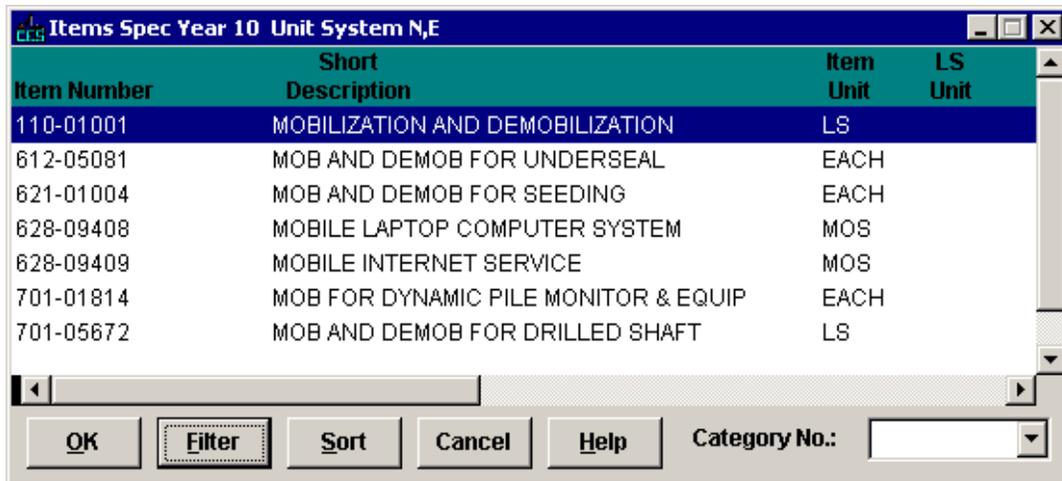


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To search for an item by description select **Short Description** in the **Column** pull down menu, **Contains** in the **Operator** pull down menu and type part of the item name in the **Value** box in **ALL CAPS**. Then click OK. This will narrow the selection within the item list window



. To select an item, double click on the item or single click and select OK. The items details will now show up in the **Item**, **Description**, and **Units** fields.



Next enter the **Quantity** in the given box. Once you enter a quantity CES will automatically generate a price based on the default Task for that item and the Item History Library selected on the General Tab.

Entering Estimate Item Prices

Prices in CES are entered using *Tasks*. There are three basic types of tasks: Bid-based tasks, Cost Based tasks, and Reference price tasks.

Bid-based tasks use pricing models generated from historical bid data and stored in the Item History Library.. Bid-based pricing models may be based on a regression model or an average.

Cost-based tasks build prices from cost sheets containing the material, equipment, and labor costs associated with constructing that item.

Reference price tasks allow you to enter an ad-hoc price for each item. There are three types of reference prices:

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- *Historical* Reference prices use the price from the historical price field of the Item List
- *New Normal (Ad Hoc)* reference prices allow you to enter a dollar price for the item.
- *New Percent On Top* reference prices add the specified percentage of the item estimate to the total estimate.

Enter Item Quantity Here

Trnsport CES
File Edit View Utilities Window Help

Job 0810069
General Variables Cost Groups Categories **Items** Programs Funding Attachments

Items for Job 0810069
Line: 0001 Item: 110-01001 Desc: MOBILIZATION AND DEMOBILIZATION

Item: 110-01001 Description: MOBILIZATION AND DEMOBILIZATION
Units: LS LS Units: Supp. Proposal Desc.:
Quantity: 1.000 Unit Price: Extended Amount:
Line Number: 0001 Alternate Code:
Item: 110-01001 Quantity: 1.000
Comment:
Supp. Desc. 1:
Supp. Desc. 2:
Category: Req. Supp. Desc.?:
Funding Code: Fixed Price?:
Code 1: State Furnished?:

Item Variables

Name	Value	String
------	-------	--------

Right Click Here to Enter Tasks

To enter a *Reference Price* task right click on the item in the box on the left, select **Add**, select **Reference Price** and then select **New Price**. Enter the estimated cost in the **Price** field and hit Enter

Enter Estimated Cost Here

Trnsport CES
File Edit View Utilities Window Help

Job 0810069
General Variables Cost Groups Categories **Items** Programs Funding Attachments

Items for Job 0810069
Line: 0001 Item: 110-01001 Desc: MOBILIZATION AND DEMOBILIZATION
Task ID: REF 001 Comment:

Item: 110-01001 Description: MOBILIZATION AND DEMOBILIZATION
Units: LS LS Units: Supp. Proposal Desc.:
Quantity: 1.000 Unit Price: Extended Amount:
Task ID: REF 001
Comment:
Calculation Rule
 Normal
 Percent on Top
Price:
Percent:

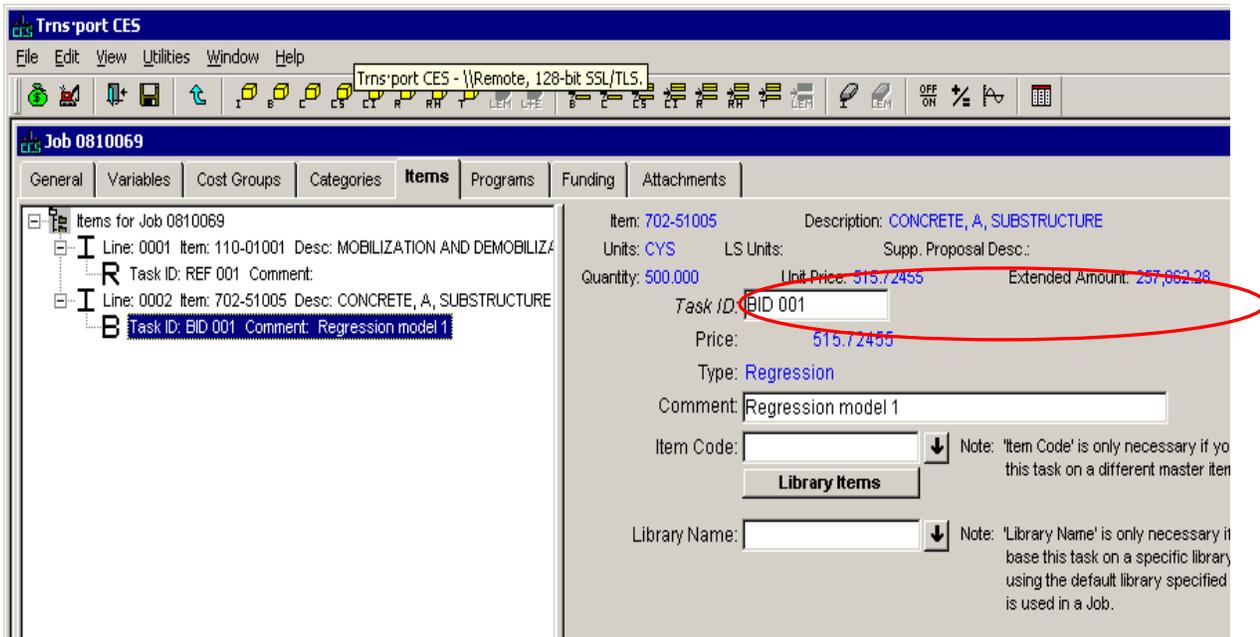
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If you choose to enter a historical price CES will automatically enter the weighted average unit price from the pay item list. You may also choose to have CES calculate the price as a “Percent On Top” of the overall estimated cost. If you select “Percent on Top” CES will automatically set the price of the item to the designated percentage of the overall estimated cost.

The cost information will now show up in the **Unit Price** and **Extended Amount** fields.

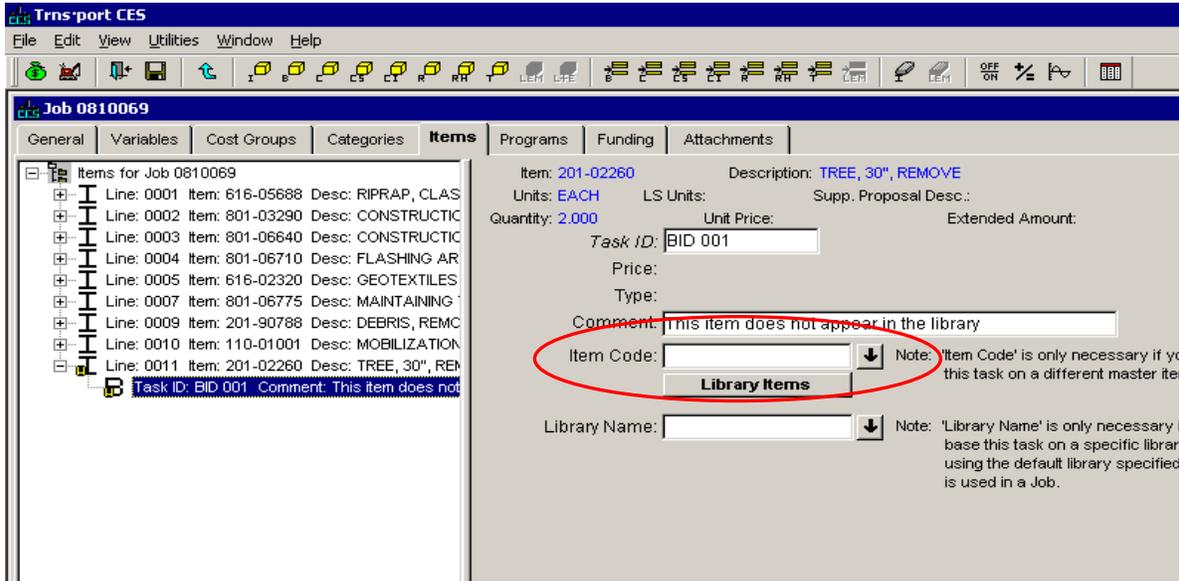
If you wish to enter a *Bid-based* price generated by one of the CES pricing model right click on the item, select **Add** and then select **Bid-based Price**. CES will automatically select the model that most closely matches the project header information you entered on the **General** tab.

In most cases the **Unit Price** and **Extended Amount** will automatically propagate based on the values from the selected Price Histories and Libraries on the General tab. (Make sure a **Quantity** has been entered before adding a Bid-based Price.)

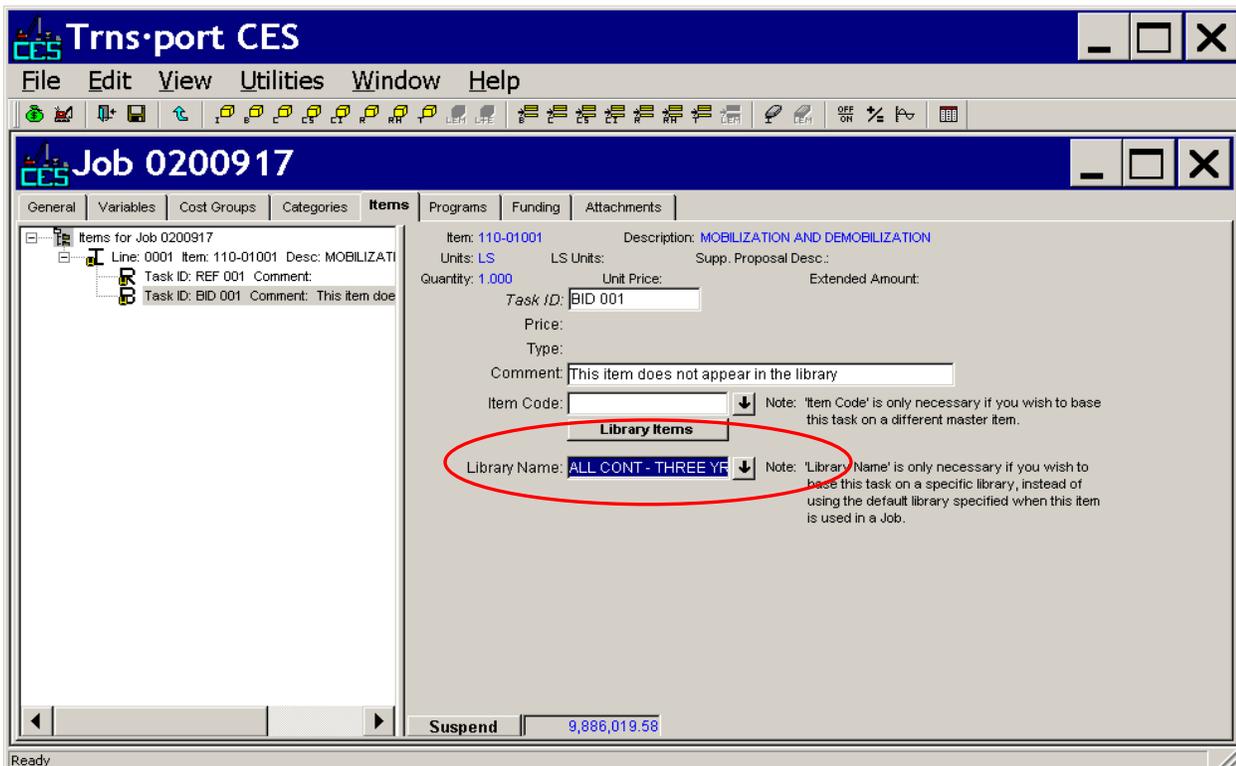


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If the **Unit Price** does not automatically populate the current library does not contain a pricing model for your item. In those cases you can either use a price from a similar item in the current library or look for a price for that item in another library. To look for a price in the current library use the **Library Items** button to select a similar item from the currently selected Bid History Library. The **Unit Price** for the selected item will then be used for your item.



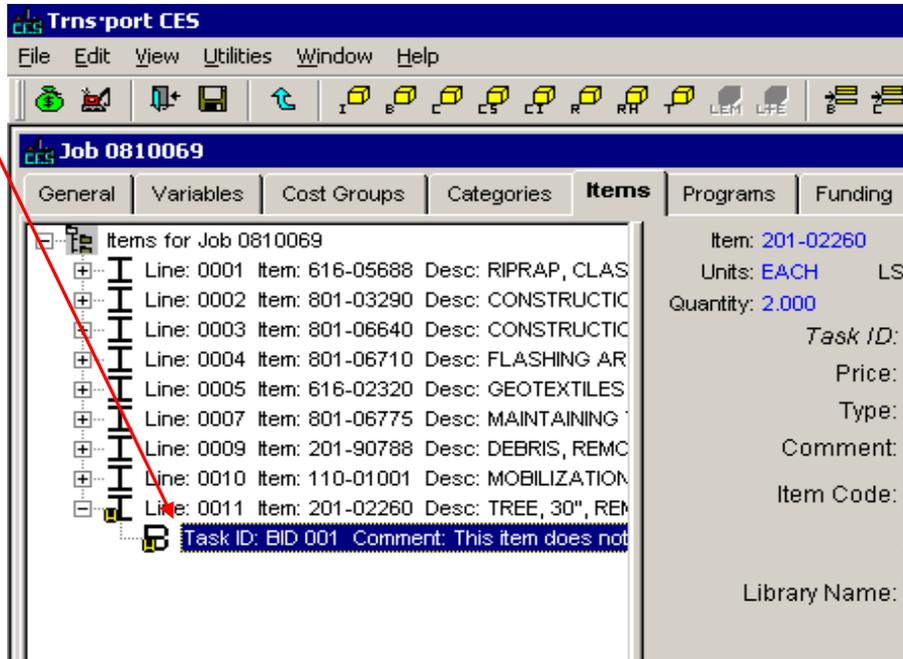
You can also use the **Library Name** field to look up prices in a different Library other than the default library selected on the General Tab



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If a similar item cannot be found, or the item cannot be found in another Library, right click on the **Task ID** for the bid based price and delete the entry. Then follow the steps for creating a **Reference Price** for the item and enter a price estimated from other resources.

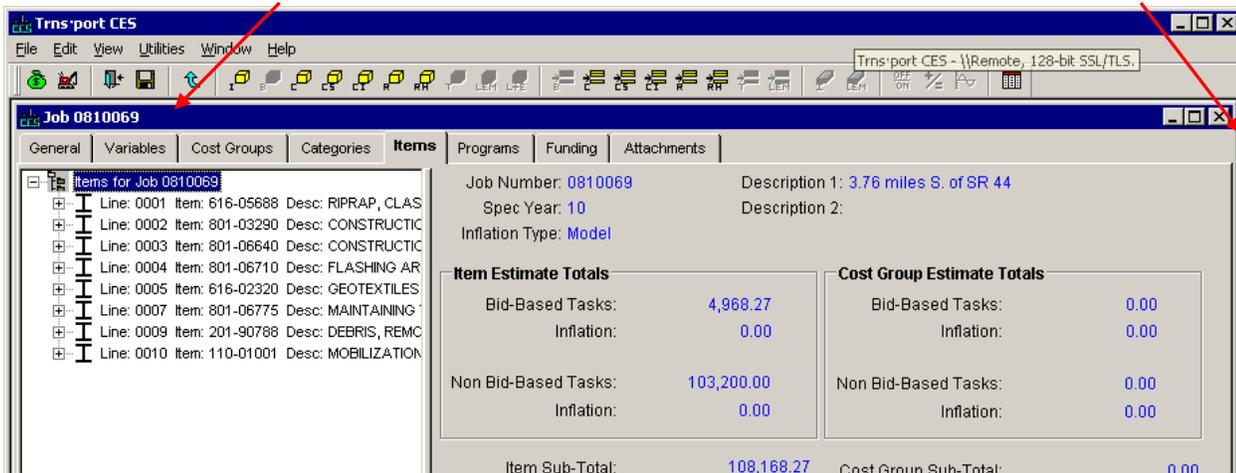
Right Click Here



Continue entering Items and Prices until the estimate is complete. Next, click the **Save** disk and then **Close** the job by clicking the "X" in the upper right hand corner of the Job specific window.

Click Here to SAVE

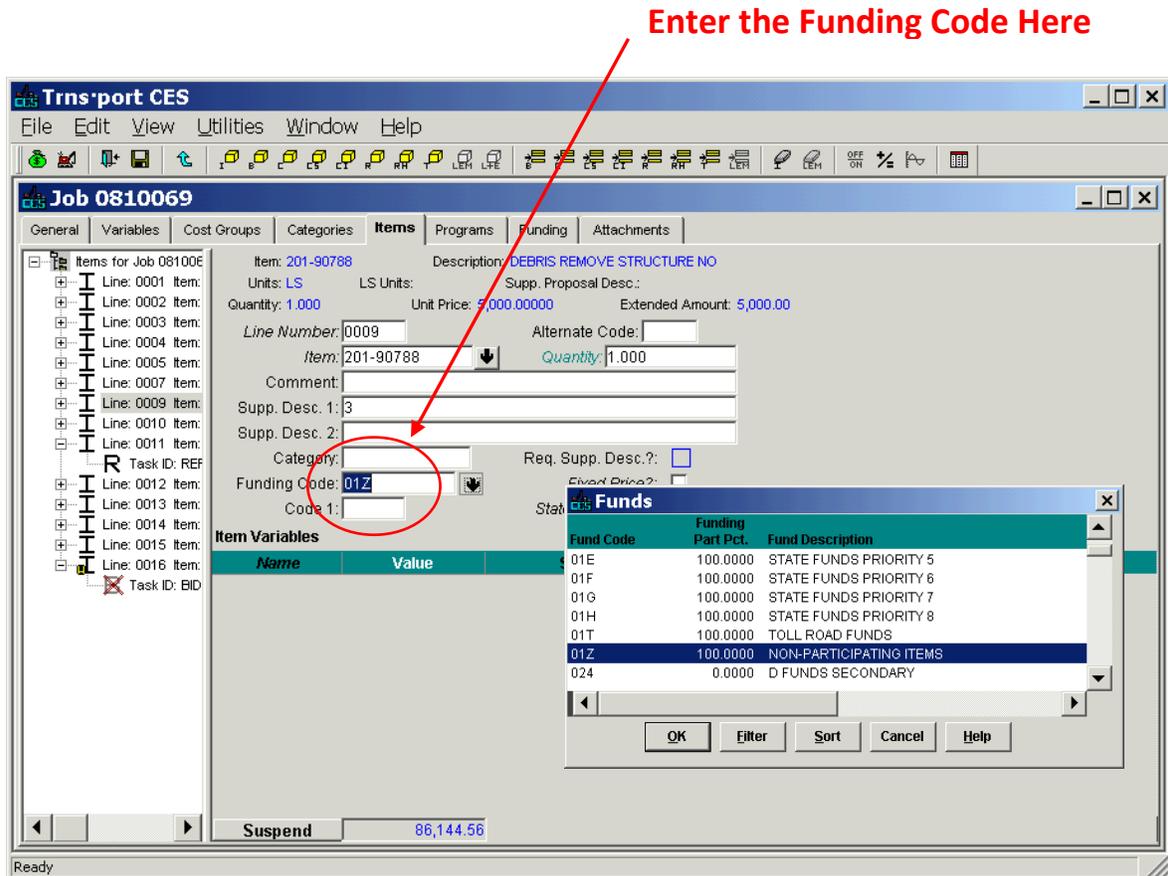
Click Here to Close Job



INDOT CES Designer Instructions

Marking Non-participating items

It is not normally necessary to mark the funding source for each item on your estimate. However, there may be circumstances where specific items on your estimate will not be eligible to participate in federal funding. You must enter a funding code for these items. The funding code used to mark “non-participating” items is “01Z”, which is why these are commonly referred to as “Z items”.



Enter funding code 01Z in the “Funding Code” field for each non-participating item. Clicking the arrow button next to the field will produce a list of available funding sources. However, it is not normally necessary to enter specific funding codes unless specifically instructed to do so by the project manager.

Note: Funding codes may be entered in either the tree view or the grid view.

INDOT CES Designer Instructions

Recalculating Item prices

CES does not automatically recalculate all of the costs associated with all items on a job each time a change is made. Changing an item price or quantity will only cause CES to recalculate the costs associated with that specific item as well as the associated totals and subtotals.. However, there may be instances when you may wish to recalculate your estimate in order to ensure that all of the items on your estimate have the most current pricing.

To recalculate item prices, select the item(s) you wish to recalculate and select **Recalculate Values** from the edit menu or click the recalculate button on the tool bar. To select multiple adjacent items select the first item and then hold down the SHIFT key as you select the last item. You may also select multiple items by holding down the CTRL key while selecting the rows or use the standard Windows CTRL-A shortcut to select all items. All of the selected rows will be highlighted.

Recalculate Button

The screenshot shows the 'Transport CES' application window for 'Job 0810069'. The 'Items' tab is active, displaying a table with columns: Line Number, Alt. Code, Item, Description, Units, LS Units, Quantity, and Unit Price. The table contains 16 rows of item data. A red circle highlights the 'Recalculate' button (represented by a percentage sign icon) in the toolbar. Below the table, there are buttons for 'Recalculate Labordailycost Formula' and 'Suspend'.

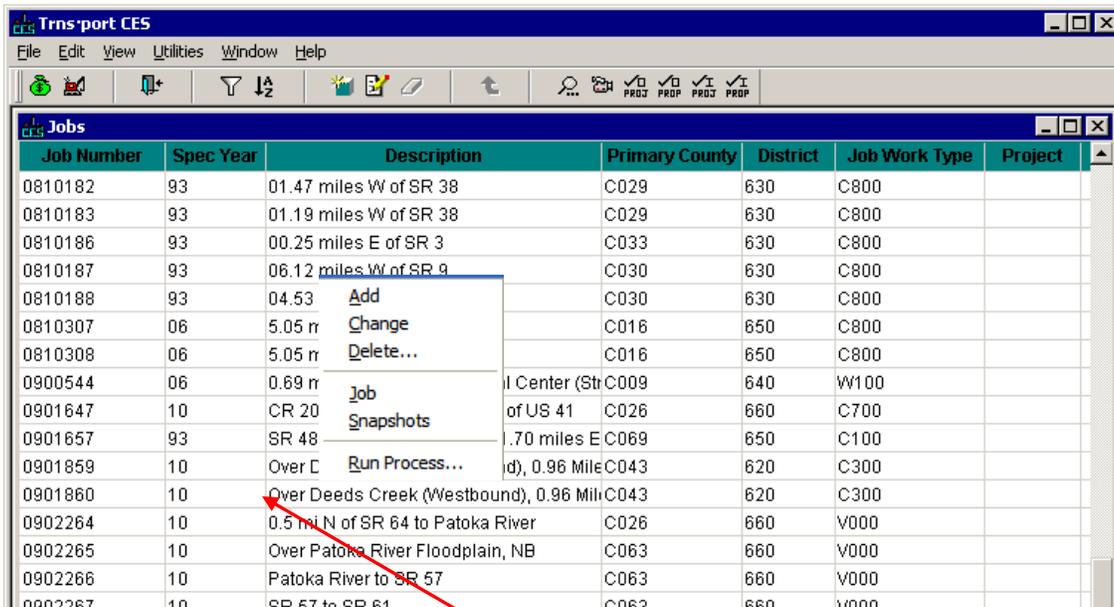
Line Number	Alt. Code	Item	Description	Units	LS Units	Quantity	Unit Price
0001		616-05688	RIPRAP, CLASS 1	TON		776.000	75.00000
0002		801-03290	CONSTRUCTION SIGN C	EACH		2.000	174.53681
0003		801-06640	CONSTRUCTION SIGN A	EACH		7.000	138.66188
0004		801-06710	FLASHING ARROW SIGN	DAY		7.000	31.28436
0005		616-02320	GEOTEXTILES	SYS		564.000	2.51267
0007		801-06775	MAINTAINING TRAFFIC	LS		1.000	3,750.00000
0009		201-90788	DEBRIS REMOVE STRUCTURE NO	LS		1.000	5,000.00000
0010		110-01001	MOBILIZATION AND DEMOBILIZATION	LS		1.000	1,875.00000
0011		105-06845	CONSTRUCTION ENGINEERING	LS		1.000	1,000.00000
0012		201-52370	CLEARING RIGHT OF WAY	LS		1.000	500.00000
0013		628-09401	FIELD OFFICE A	MOS		6.000	1,973.73907
0014		105-08520	CELLULAR TELEPHONE/RADIO	EACH		2.000	181.26158
0015		105-08521	CELLULAR TELEPHONE/RADIO SERV	MOS		6.000	109.79536
0016		105-08524	CELLULAR TELEPHONE/RADIO, ADDI	DOL		1.000	1.00000

Note: You can only recalculate one item at a time in the tree view.

INDOT CES Designer Instructions

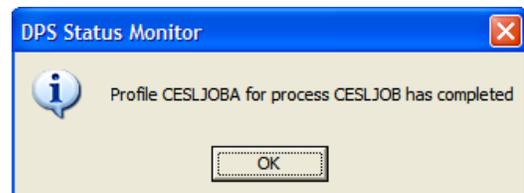
Generating Reports

To run a report, right click on the des number in the main Jobs window, select **Run Process**, select the report you wish to run and then select **OK**. Next select **Submit** on the **Confirm Process Submission** dialog. CES will return **DPS Status Monitor** dialog confirming the process **Profile** under which the process has been submitted.



Right Click on Job to Run Process

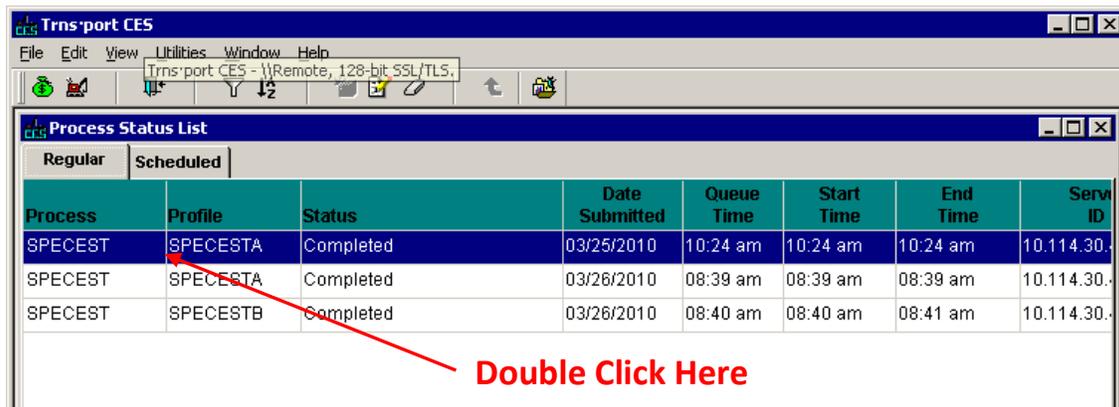
After a few seconds, a **DPS Status Monitor** window will pop up indicating the report is complete. Select **OK**. Take note of the process **Profile**, you can use this to identify this report process in the **Process Status List** later.



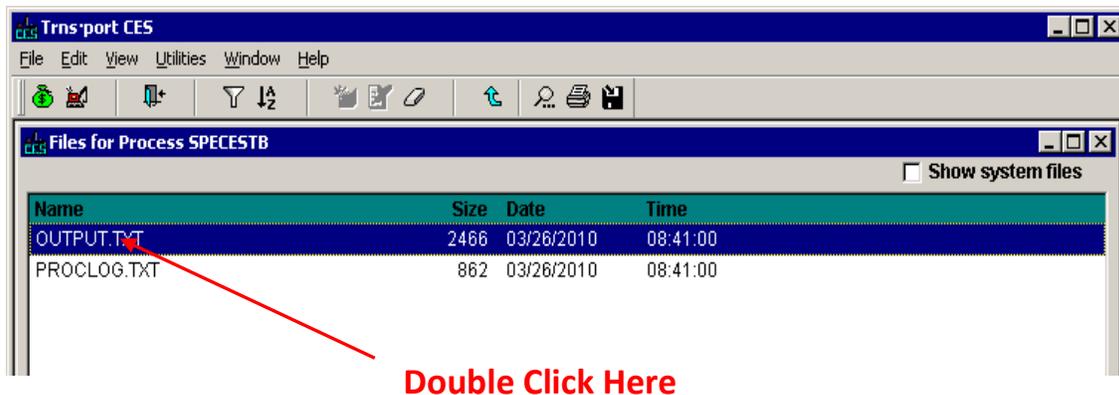
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Viewing, Printing, and Saving your Reports

To **view** a report select **Process Status** from the **File** menu at the top left of the CES window. Locate the process profile you want and double click on it to view the process files. If you have only run one report it should be the most recent process based on Date Submitted.



Double Click on the report file to open it in the file viewer windows. The report file should be the first text file on the list and should have a name similar to the **Output.txt** file in the example below.

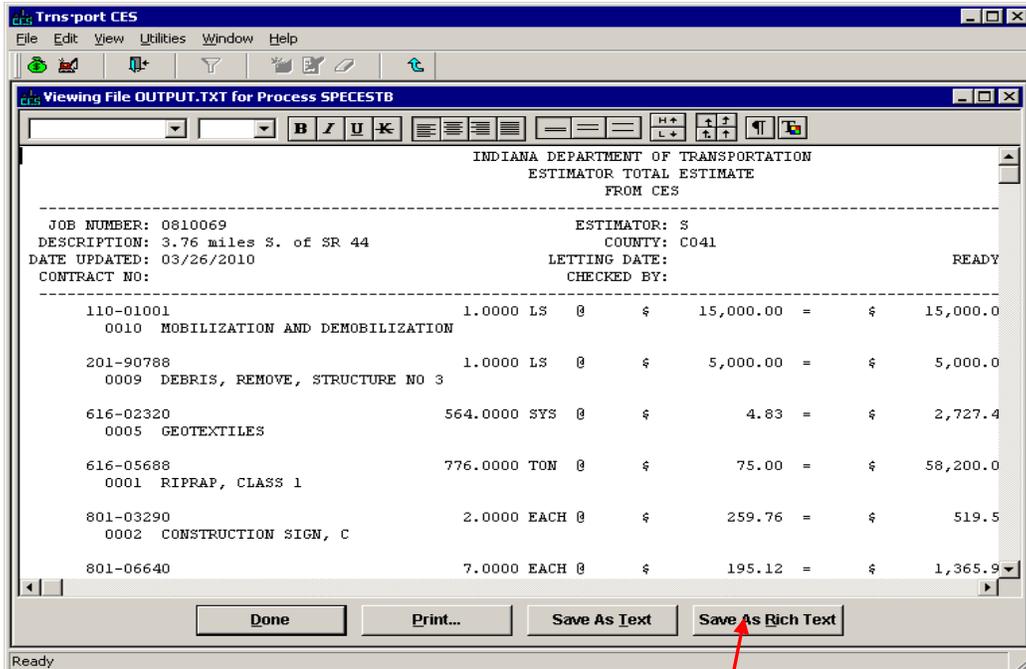


To **print** a report open it in the file viewer window and click the **Print Report** button on the bottom of the screen. You can also print the report by right-clicking on the file name in the **Process Status List** window and choosing **Print** from the popup menu.

*NOTE: All CES reports are formatted to print in an 8-1/2 by 11 **landscape** orientation**

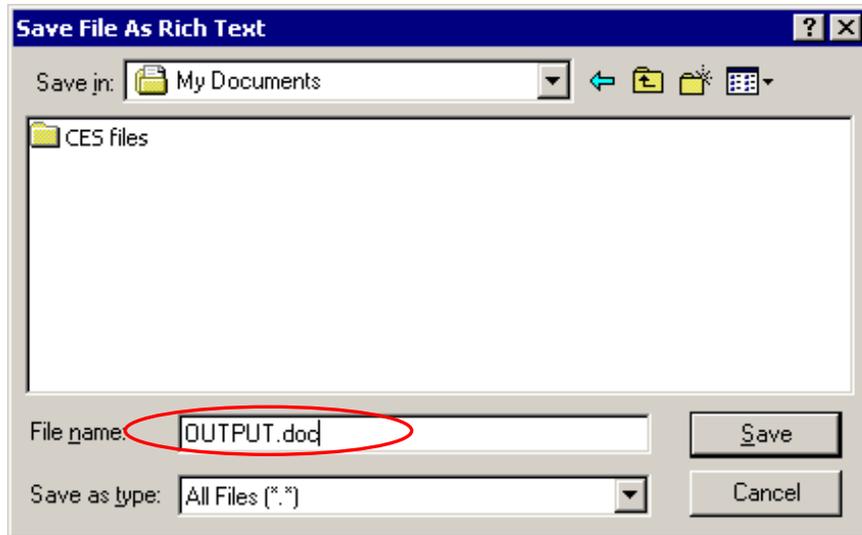
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To **save** a report open the report file in the file viewer window and click the **Save As Rich Text** button.



Click Here

Save the report as an *.rtf or a *.doc file.



*NOTE: All of the CES reports are formatted to print in an 8-1/2 by 11 **landscape** orientation with half inch margins. You may need to adjust the page setup in your word processor program to display the report files properly.*

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Submitting Your Estimate with Final Tracings

1. Set the *Contingency Percent* and *Years Until Work* to Zero. (This will zero out all of the inflation calculations)
2. Create a snapshot of your estimate
3. Generate the Job Summary Estimate Report.
4. Upload the Job Summary Estimate to ERMS as an Adobe Acrobat (.pdf) file
5. Change the CES job control Group to "12".
6. Save and close the CES Job (Note: once the job is closed you will no longer have access to this estimate,)

WARNING

Once the control group is changed and saved, you will no longer have access to this CES Job!

The screenshot shows the 'General' tab of the software interface for Job 00000000DUMMY. The 'Control Group' field is circled in red and contains the value '00'. Other fields include Scheduling ID, Planning ID, FMIS Code, Design ID, Latitude (123456), Longitude (9876543), Doc. Mgt. ID, Bridge Mgt. ID, Pavement Mgt. ID, GIS ID, Project (00000000DUMMY), Proposal, Funding Category, String 1-5, Date 1-5, Number 1-3, Code 1-3, Flag 1-5, and Quantity 1-2.

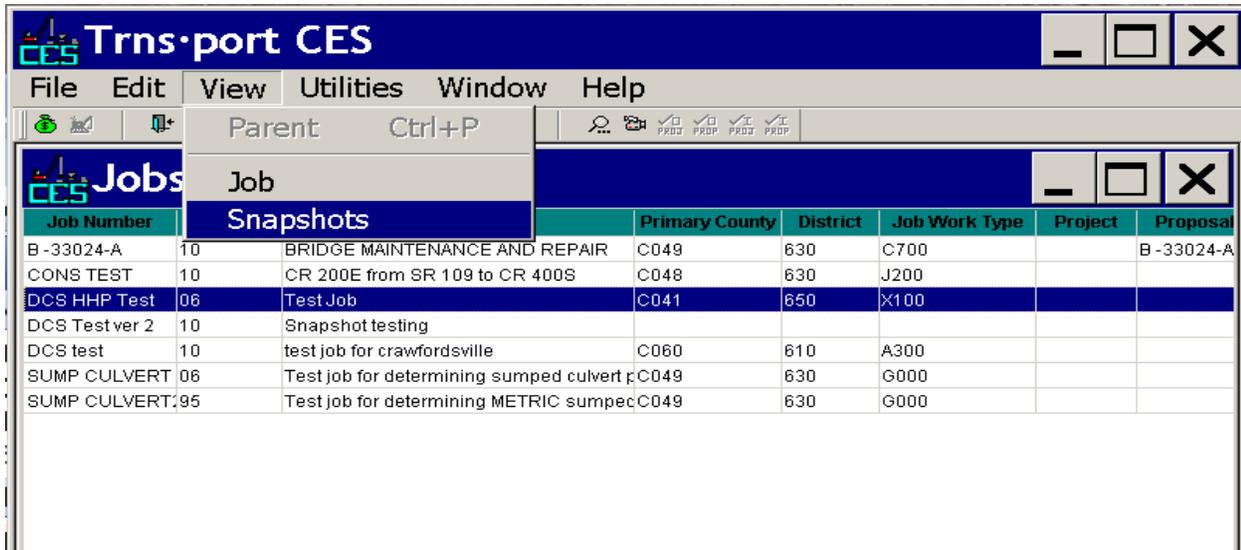
*HINT: You can save yourself a step by "printing" the Job Summary Estimate Report directly to a .pdf file using Adobe Acrobat or a free pdf file creation utility such as CutePDF.**

INDOT CES Designer Instructions

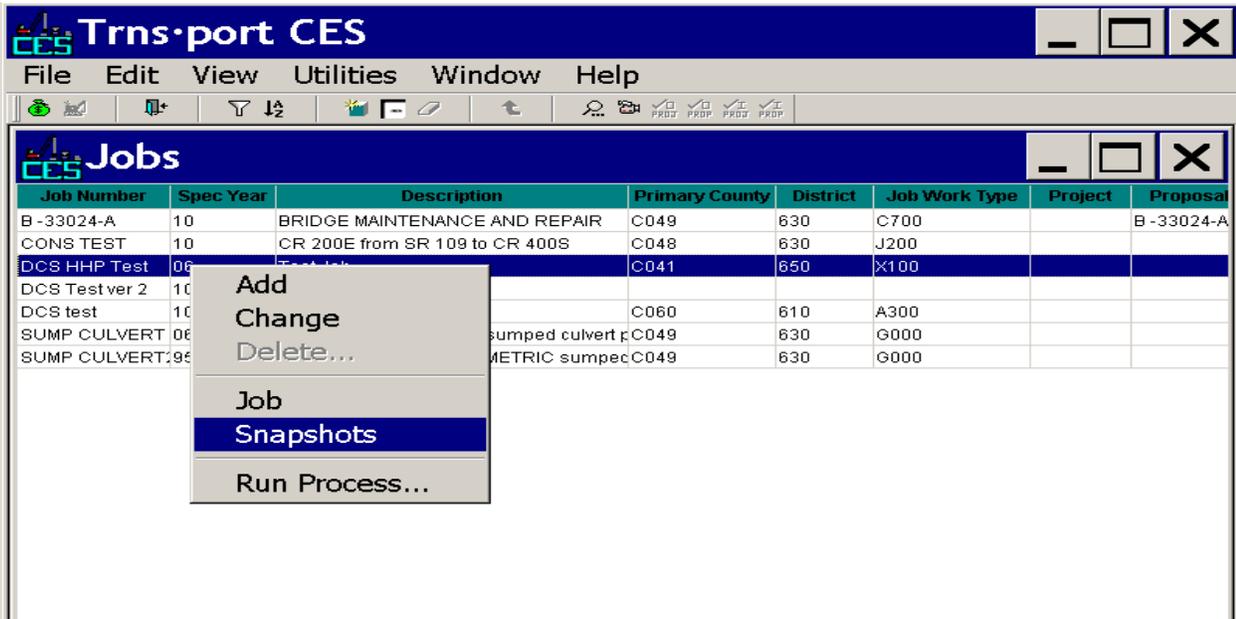
CREATING A SNAPSHOT

A **Snapshot** is a complete picture of a job at a given time. Snapshots can be used to trace the evolution of an estimate from conception to completion and can also as a backup. The user can create a snapshot at any time; snapshots will also be taken automatically when certain actions (such as splitting a job) are taken.

Select the job you wish to take a snapshot of, and select **Snapshots** from the **View** menu.

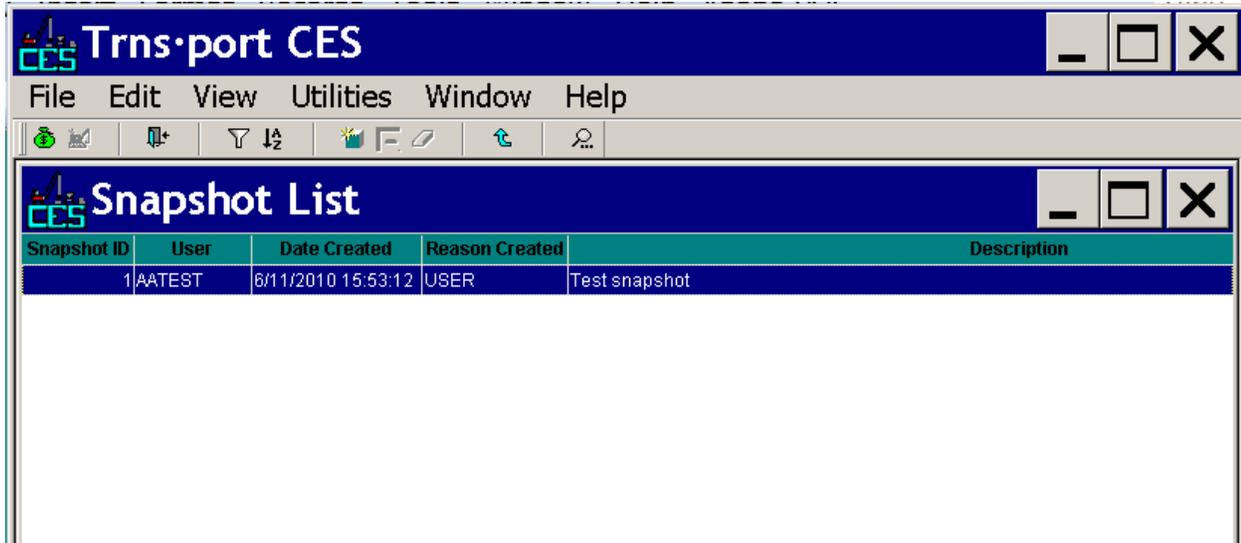


Or **right-click** on the Job and select Snapshots from the shortcut menu.



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The Snapshot window will open and display any snapshots that have been taken of your CES job.



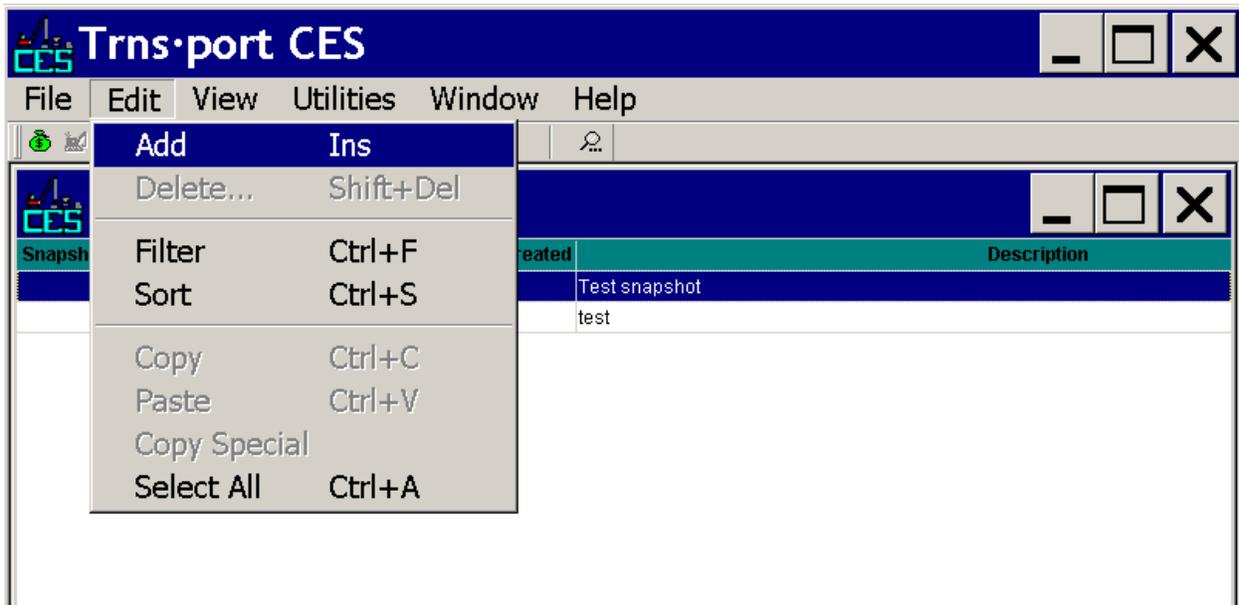
To open an existing snapshot, **double-click** on the **Snapshot** title or **right-click** on it and choose **Snapshot** from the shortcut menu.

The Snapshot window looks like the regular job window but you cannot edit any of the data.

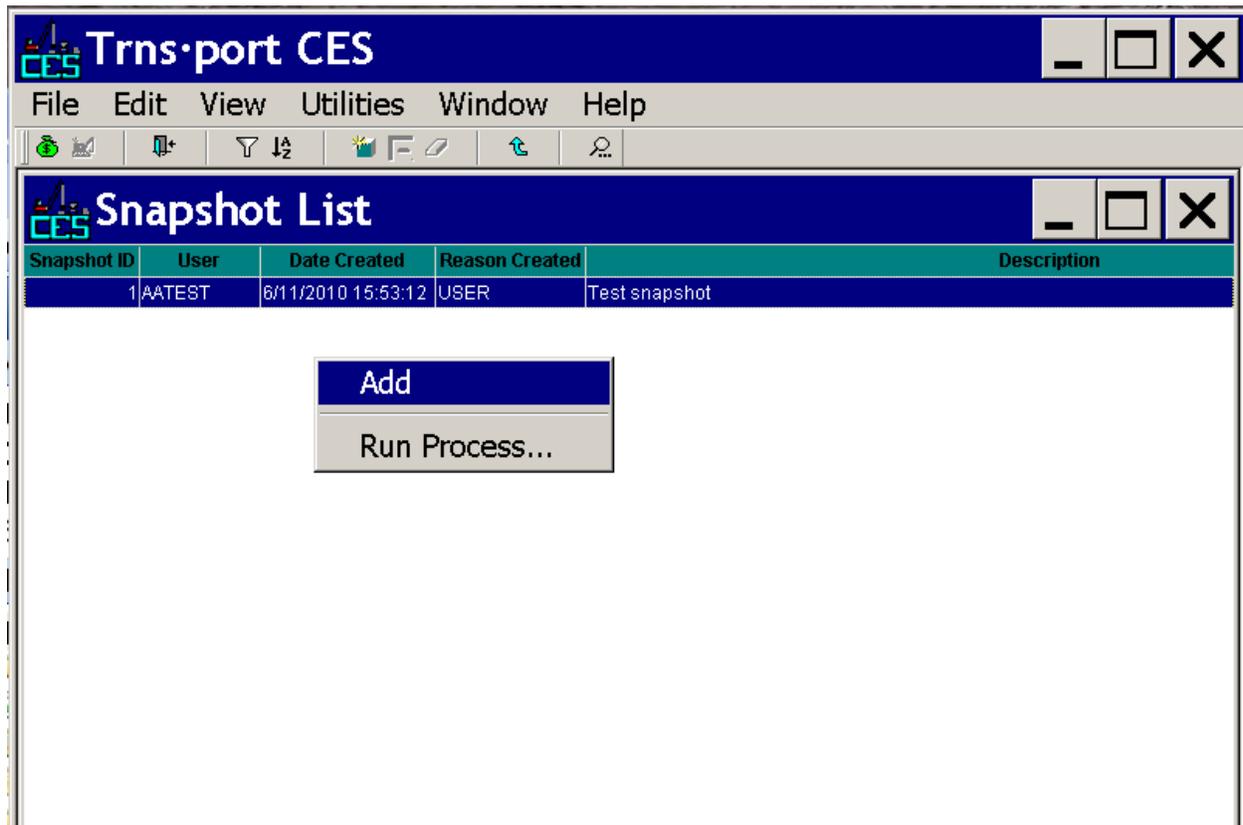


INDOT CES Designer Instructions

To add a snapshot, open the snapshot window for that contract and either choose **Add** from the Edit menu...

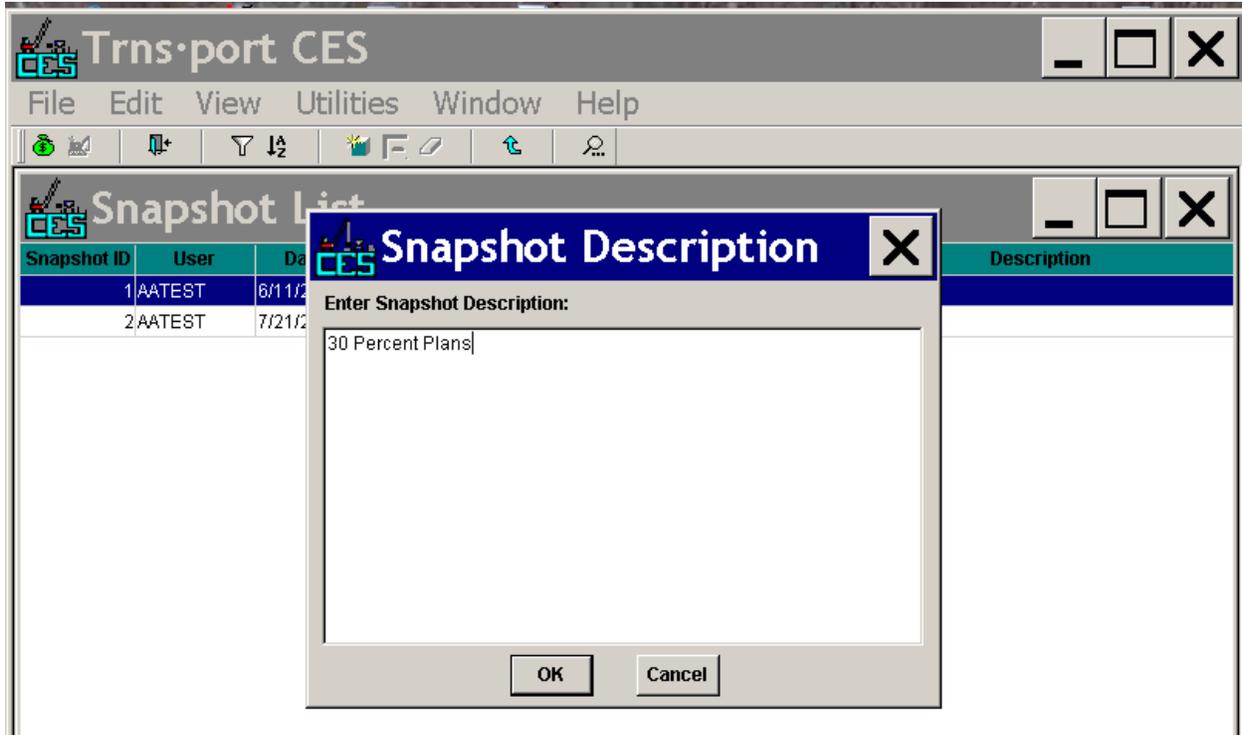


...or you can right-click on the snapshot window itself and choose **Add**.

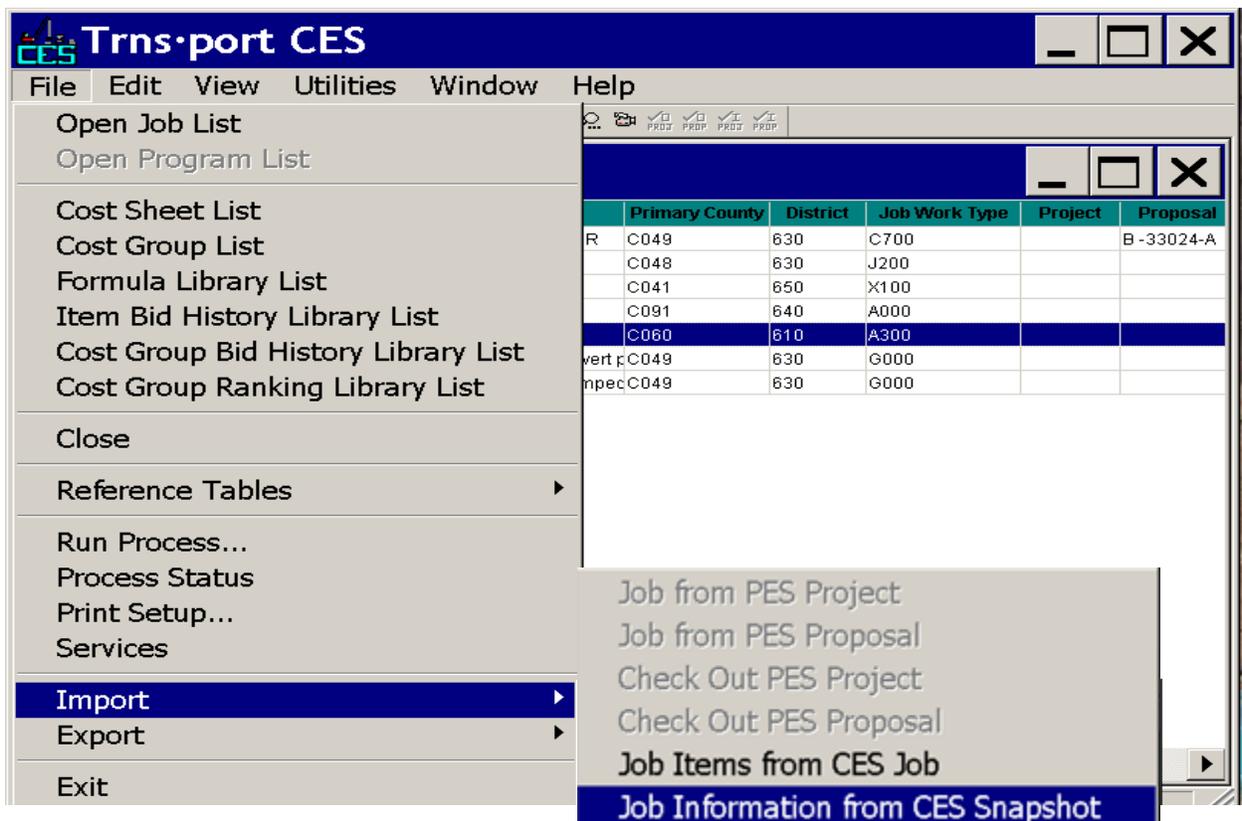


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Enter a description for the Snapshot in the popup window and click **OK**.

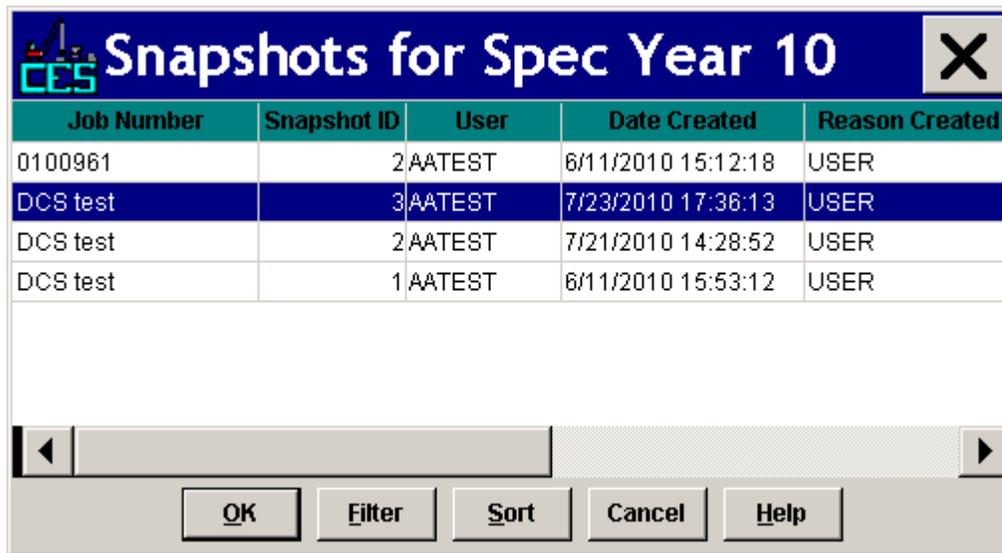


To restore project data from a snapshot, choose **Import** from the File menu and select **Job Information from CES Snapshot**.



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Then select the snapshot you wish to import from the popup window.

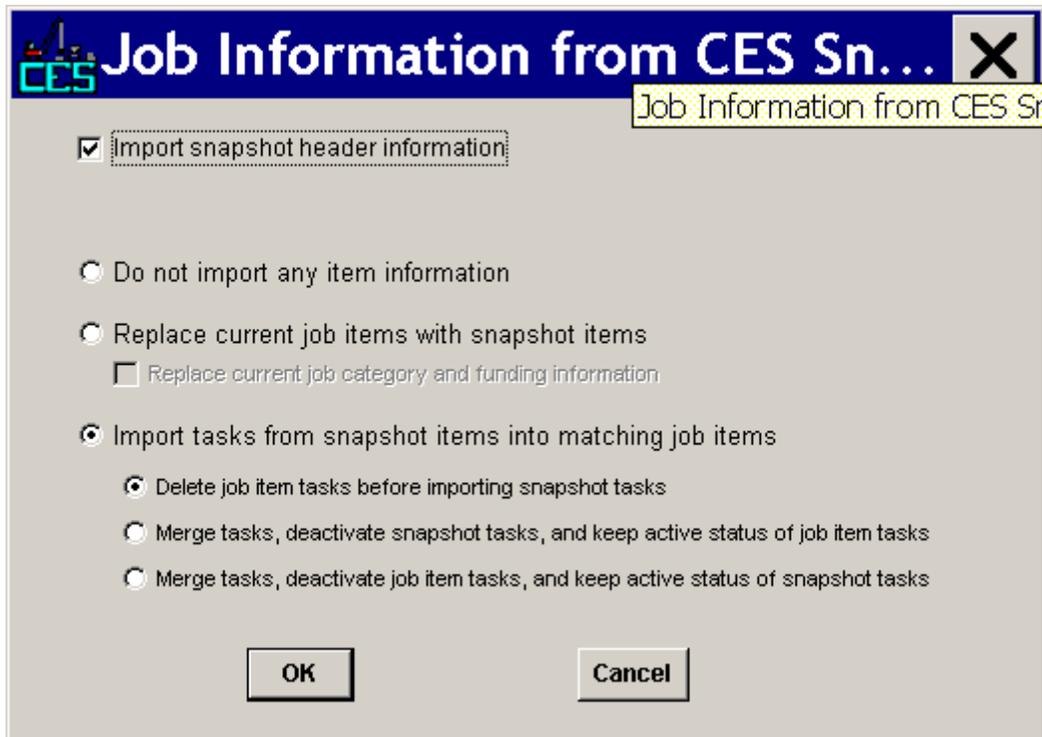


The screenshot shows a dialog box titled "Snapshots for Spec Year 10" with a close button (X) in the top right corner. The dialog contains a table with the following data:

Job Number	Snapshot ID	User	Date Created	Reason Created
0100961		2\AATEST	6/11/2010 15:12:18	USER
DCS test	3	AATEST	7/23/2010 17:36:13	USER
DCS test	2	AATEST	7/21/2010 14:28:52	USER
DCS test	1	AATEST	6/11/2010 15:53:12	USER

Below the table is a horizontal scrollbar. At the bottom of the dialog are five buttons: "OK", "Filter", "Sort", "Cancel", and "Help".

CES will give you the option of importing some or all of the snapshot data into your job.



The screenshot shows a dialog box titled "Job Information from CES Sn..." with a close button (X) in the top right corner. The dialog contains the following options:

- Import snapshot header information
- Do not import any item information
- Replace current job items with snapshot items
 - Replace current job category and funding information
- Import tasks from snapshot items into matching job items
 - Delete job item tasks before importing snapshot tasks
 - Merge tasks, deactivate snapshot tasks, and keep active status of job item tasks
 - Merge tasks, deactivate job item tasks, and keep active status of snapshot tasks

At the bottom of the dialog are two buttons: "OK" and "Cancel".

INDOT CES Designer Instructions

IMPORTING AN ESTIMATE INTO A CES JOB USING AN XML FILE

Creating an XML file using Estimator®

- 1) Open the Estimator file and make sure all the information is in the required fields.
 - a) **Estimate ID:** DES #
 - b) **Spec Year:** 10 for English, 05 for Metric
 - c) **Base Date:** Letting Date
 - d) **Unit System:** E for English, M for Metric
 - e) **Description:** The project description. should match the description in SPMS.
- 2) Make sure there is also a **Group Description** for each group in the estimate
- 3) Select **Export** from the **File** menu. Estimator it will prompt you to select a file location.
- 4) The File name should be the **Estimate ID/DES** number.
- 5) The “Save as type” should be **XML estimate file**.

Creating an XML file using Oman BidTabs ®

- 1) Open the Estimate file and make sure the Bid Price Column is populated for all items
- 2) Open the Project Settings and set the pay Item Sort to “Pay Item”
- 3) Click on the Export to XML button on the taskbar and then choose the directory where you want to save the file. Two files will be created. For example, if the project was: 8915400. The two files will be 8915400.PLUS and 8915400.XML.

Preparing CES to receive the Estimate

- 1) Open CES
- 2) Open the Jobs window
- 3) Scroll or filter the job window to locate the CES Job with the same DES number as the Estimate you are importing. If you cannot see the DES number, Contact CES Support to get the Estimate added to your Control Group. Do NOT upload an estimate if you do not have access to the DES number.
- 4) Set the **Spec Year** to the appropriate Specification Year for your Estimate if necessary.
- 5) Open The CES Job and check the **Items** tab to see if an estimate has been uploaded already.

Uploading the XML file into the database

- 1) Select **Upload File>Process I/O File** from the Utilities menu
- 2) Select the XML export file that you created in step one and click Open.
- 3) Select the **qpjportdir** directory in the **Save Process I/O file** As dialog and make sure that the file name in the left column is the DES# followed by .XML (Hint: You can use the “Ctrl C” shortcut keys to copy this file name for use in the next step)
- 4) Click **Okay**.

Importing the XML file into the CES job

- 1) Select **Run Process** from the **File** menu
- 2) Select the **Import New Projects** process.
- 3) Select the **Estimator (Trns*Port Format)**

INDOT CES Designer Instructions

EXPORTING A CES JOB TO AN XML FILE

- 1) Select the **Job Number** you wish to export and select **Run Process** from the **File** menu (**or** right click on the **Job Number** and select **Run Process**)
- 2) Select “Export Copy of Job” and click OK (A pop-up will confirm the start of the process; click OK to close)
- 3) A second pop-up will show the process has completed, go to File; Process Status; double click most recent Completed process; right click on OUTPUT.txt, Save As “Project number”.xml
- 4) Open Estimator and choose Import from the File menu. Select the saved .xml file, Click Open.

RENUMBERING ESTIMATE ITEMS IN CES

While CES does not have a command to automatically renumber Estimate item lines, it does have the ability to renumber all of the following lines when you insert a new line in the middle of an estimate. This process takes advantage of that feature to “fool CES into renumbering your whole estimate by inserting a new line one.

- 1) Go to the CES job window **Items** Tab. You must be in Grid View for this process to work.
- 2) Go to the existing line #0001 and renumber it manually to 9999 (CES will automatically fix this later.) This is required because CES will not accept two lines numbered 0001
- 3) Sort the item list by pay item number so the lowest pay item number is on the first line, the next highest pay item number is on the second line, etc, etc. Don't worry about the line numbers, they will be fixed later as well.
- 4) Renumber the line the *Second* Item 0001.
- 5) Delete the first line. (It's probably going to be 105-06845, Construction Engineering, which is a lump sum, so it's no big hardship to delete it and recreate it, but make sure you keep careful notes because you're going to have to reenter this item later) Your second item (the one you just renumbered as line 0001) should now become the first.
- 6) Highlight that first line (The new Line 0001 you created in step 3) and click the **INSERT** button or select **Insert** from one of the menus. CES will ask you if you want to renumber all lines starting with this one or add the new item to the bottom of the list. Choose the renumber line option. CES will insert a new, blank line 0001 and renumber everything else sequentially (including the line 9999 you created in step 1)
- 7) Re-enter your first pay item on the new line #0001.

INDOT CES Designer Instructions

Setting Up a CES Estimate for Alternate Bidding

Category Level Alternates

Category Level alternates are used when entire groups of items are alternates to other groups of items, or when the two groups of items represent alternative categories of work, such as alternate pavement sections (asphalt vs. concrete) or alternate bridge designs (concrete vs. steel).

Basic principles:

- All Common Items will be in Category 0001
- All items related to the first alternate will be in Category 0002
- All items related to the second alternate will be in Category 0003
- Alternate sets are distinguished by three character code. The first two characters are letters defining the set (AP, AB, etc) and the third character is a number designating the set member (1, 2, etc), so AA1 is an alternate to AA2 and AB1 is an Alternate to AB2, but AA1 is not an alternate to AB2
- CES will use the lower cost option for each alternate set when totaling the estimate. The final estimate will be the cost of common items + the lower cost alternate of the first alternate set + the lower cost alternate of the second alternate set and so on.
- The CES Estimate Item Total (as shown on reports and the item tab) will always be the total of all items regardless of alternate status. The Inflated Estimate Total & Total Estimate are adjusted to account for alternatives as well as inflation and contingency.

Steps:

Create a Separate Category for Each Alternate

Make a backup snapshot of your Job

Open the Job and go to the “Categories” tab

- 1) Select Category 0001 and choose “Hide/Show Details” to expand the detail section.
 - a) Edit the **Category Description** to specify Common Items (e.g. “Road Construction – Common Items” or “Bridge Construction – Common Items”). (*Note: the description for Category 0001 is linked to SPMS. Prior to RFC the edited description may be overwritten by the default category description in SPMS*)
 - b) Leave the **Alternate Code** field blank to indicate that these are common items.
- 2) Select **Add** from the **Edit** menu to create Category 0002.
 - a) Edit the **Category Description** to specify the first alternate (e.g. “Road Construction – HMA” or “Bridge Construction – Concrete”).
 - b) Set the Alternate Code to “AP1” for an alternate pavement or “AB1” for an alternate bridge.
- 3) Select **Add** from the **Edit** menu and create Category 0003.
 - a) Edit the Category Description to specify the first alternate (e.g. “Road Construction – PCCP” or “Bridge Construction – Steel”)
 - b) Set the Alternate Code to “AP2” for an alternate pavement or “AB2” for an alternate bridge.

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- 4) Select **Save** from the **File** menu or click the save button to save your estimate before you add any items to the categories you hve just created.

Go to the “Items” tab and assign each item to a Category (Alternate) as necessary

Tips for using Category-level alternates

- All items must be assigned to a Category – either one of the alternates or to the common items.
- Leave the item-level Alternate Code blank unless you are also using alternate items within a category.
- You can have as many as nine alternate categories within each set of alternatest.
- Assign all items common to both alternates to the common items category.
- Do not split items or quantities between categories. Each category must contain the full quantities of all items specific to that alternate .
- Do not include Mobilization and Demobilization in the Common items for alternate pavement contracts. Alternate pavement contracts must have a separate Mobilization and Demobilization item for each pavement alternate.

Item Level Alternates

Item level alternates are used when specific items on the project are considered alternates to other specific items, such as lamp poles.

Basic principles:

- Item level alternates will only be used when specific items are alternates to other specific items.
- All alternate items must have a counterpart item or item(s). You cannot make nothing an alternative to something.
- The alternate items that receive the lowest bid prices will always be considered part of the awarded bid. We cannot cherry pick alternates when awarding a contract.
- CES will use the lower cost option when totaling the estimate.
- Alternate sets are distinguished by three character code where he first two characters are letters defining the set (AP, AB, etc) and the third character is a number designating the set member (1, 2, etc). So AA1 is an alternative to AA2 and AB1 is an Alternative to AB2, but AA1 is not an alternative to AB2

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Steps:

Create a snapshot to back up your Job

Open the Job and go to the “Items” tab

- 1) Select or enter the first item(s) in the Alternate set.
 - a) Set the Item **Alternate Code** to indicate the alternate set (e.g. “AA1”)
- 2) Select or enter the second item(s) in the Alternate set
 - a) Set the Item **Alternate Code** to indicate that this is the alternative item within the alternate set (e.g. “AA2”)
- 3) Continue until you have designated all alternate items

Tips for using Item-level alternates

- Plan your alternate sets in advance to avoid surprises
- Item level alternates must be within the same category if categories are used.
- Leave the Category-level **Alternate Code** blank unless you are also using alternate categories
- Common Items do not receive alternate codes.
- You can make one item alternate to two (or more) items and vice-versa