Tabulation of Removals

Several of the standard CDOT tab sheets have recently been updated to automate various data entry and calculation aspects of the spreadsheet. The following instructions illustrate how to use the ***Tabulation of Removals*** tab sheet located in the ***C:\Projects\JPC#\Design\Drawings\Tabs*** folder of the project. Once the tab sheet is completed according to the following instructions, refer to ***A Practical Guide for Using InRoads***, Chapter 15 - Tabs Sheets for instructions on how to link the tab sheet to a MicroStation drawing for inclusion in a plan set.

Getting Started

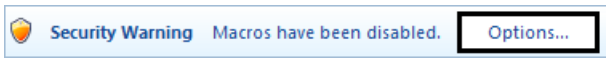
The two files you will need to complete these instructions are: 1) ***JPC#DES_Tabulation of Removals.xls***, and 2) ***Trnsport_Itemlist.csv***. Following is a description of these two files.

- ***Trnsport_Itemlist.csv*** –This file contains the list of Pay Item codes from the most recent CDOT Pay Item listing. This file is included in the standard CDOT workspace and is located in the ***C:\Workspace\Workspace-CDOT_V8i\Standards-Global*** folder. When changes are made to the CDOT Pay Item listing, this file is automatically updated on each machine by ServerCop.
- ***JPC#DES_Tabulation of Removals.xls*** – This is the file where the quantity data is entered. For new projects, this file is copied to the ***C:\Projects\JPC#\Design\Drawings\Tabs*** folder of the project and renamed by replacing JPC# with the project code number specified during the project setup.

  If you would like to use this file in an existing project, manually copy the file ***JPC#DES_Tabulation of Removals.xls*** from ***C:\Workspace\Workspace-CDOT_V8i\Project Template\Design\Drawings\Tabs*** folder to the ***C:\Projects\JPC#\Design\Drawings\Tabs*** folder and rename the file by changing JPC# to the project code number.

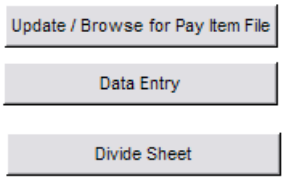
1. Open the ***JPC#DES_Tabulation of Removals.xls*** file.

   Note: Some computers may generate a ***Security Warning*** that ***Macros have been disabled*** followed by an ***Options*** button.



If this happens, click the **Options** button and toggle on **Enable this content** as shown below. Click **OK** to continue using the spreadsheet with the macros enabled.

One of the main updates to the tab sheets is the addition of uniform buttons to manage the Pay Item file being used, access to a data entry sheet, and splitting up a large spreadsheet into sheets that can be links to the MicroStation border file. You will notice the following buttons in the upper left hand corner of each tab sheet:



The following instructions will illustrate the functionality of each of these buttons.

Update/Browse for Pay Item File

The first step in using the ***JPC#DES_Tabulation of Removals.xls*** file is to make sure it is using the correct Pay Item file. The current Pay Item file used by the tab sheet is listed at the top of the worksheet as shown below.

Pay Item File: *C:\Workspace\Workspace-CDOT_V8i\Standards-Global\Trnsport_Itemlist.csv*

1. Verify the correct ***Pay Item File:*** is being used.

   The tab sheet should default to the last Pay Item file attached to the spreadsheet. For a new file, the spreadsheet should use the ***Trnsport_Itemlist.xls*** file located in the ***C:\Workspace\Workspace-CDOT_V8i\Standards-Global*** folder.

Note: The text for the Pay Item file should be black. Red text indicates that the Pay Item file is not found in the specified location. The Data Entry button will not work without a valid Pay Item file.

The ***Update/Browse for Pay Item File*** button is used to:

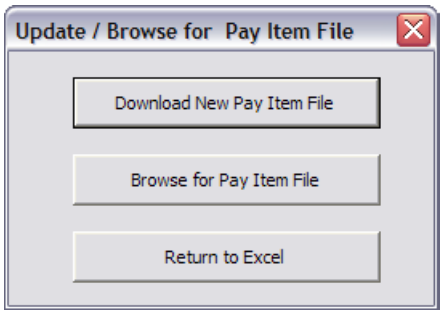
- Correct the path of the Pay Item file location when it is listed in red text
- Choose a new Pay Item file due to a new Pay Item request

As the project progresses, there may be a need to request an additional Pay Item. Once the request has been granted, be sure to request a new Pay Item file and place it in the project folder structure.

Important! If you place the new file in the standard ***C:\Workspace\Workspace-CDOT_V8i\Standards-Global*** folder it will be overwritten the next time ServerCop runs.

2. To choose a different Pay Item file, **<D>** the **Update/Browse for Pay Item File** button.

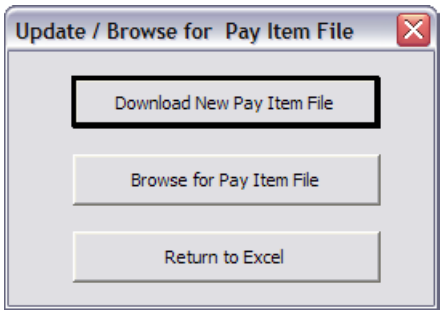
   This displays the ***Update/Browse for Pay Item File*** dialog box.



Download New Pay Item File

The standard ***Trnsport_Itemlist.xls*** file is also posted on the internet. When a new Pay Item list file is generated, there is a delay between the time it is posted to the internet and when it is included in the CDOT configuration.

1. **<D>** the **Download New Pay Item File** button to access the most current Pay Item file.



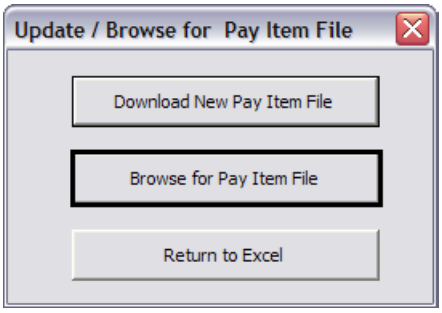
   This will bring up a spreadsheet in Excel.

2. **Save** the file to a known location, preferably ***\Specification*** folder in the project directory.

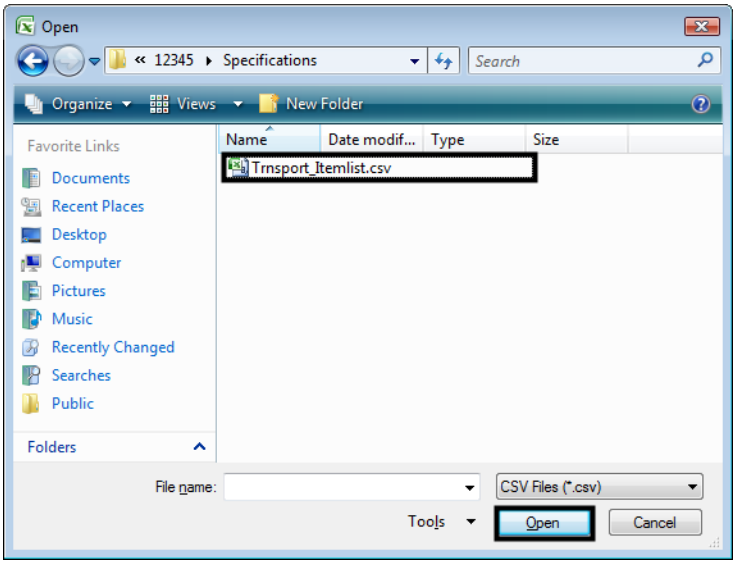
Browse for Pay Item File

Next, load the new/updated Pay Item file.

1. Back in the ***Update/Browse for Pay Item File*** dialog box, **<D>** the **Browse for Pay Item File** button. This displays the ***Open*** dialog box.

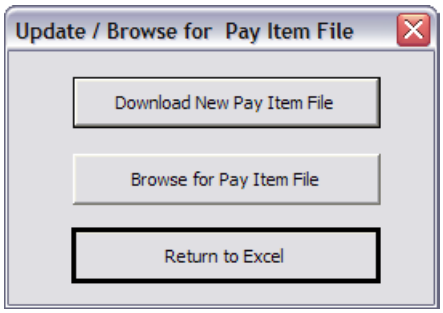


2. In the ***Open*** dialog box, navigate to the location of the Pay Item list file, highlight it, and **<D> Open**.

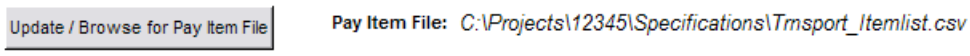


After choosing Open, the ***Update/Browse for Pay Item File*** dialog box should display again.

3. In the ***Update/Browse for Pay Item File*** dialog box, **<D>** the **Return to Excel** button to dismiss the Update/Browse for Pay Item File dialog box and return to the spreadsheet.



4. Verify that the new Pay Item list is attached to the spreadsheet by once again looking at the filename and path of the Pay Item list next to the ***Update/Browse for Pay Item File*** button.



5. Save the ***JPC#DES_Tabulation of Removals.xls*** file so that the Pay Item file remains attached to the spreadsheet.

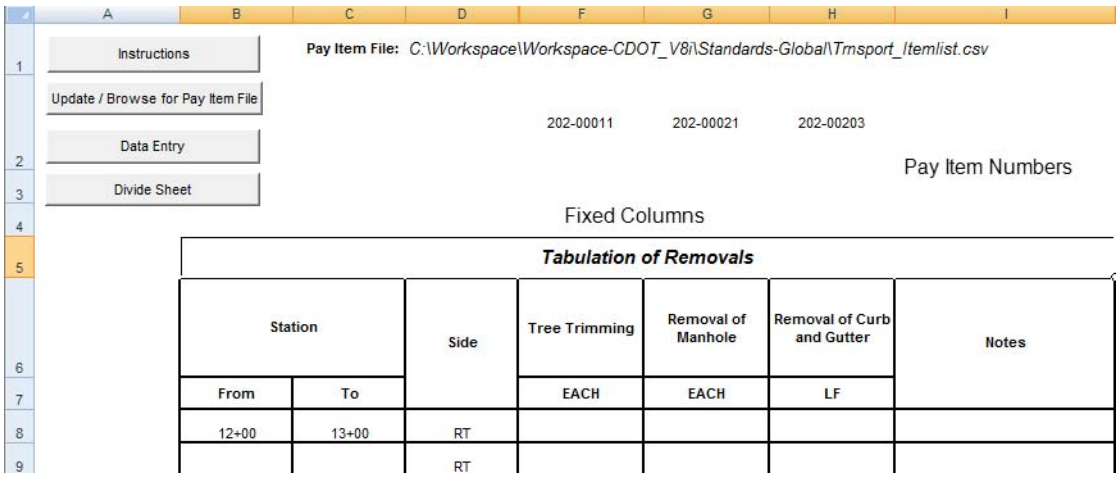
Data Entry

Once the design is completed, pay quantities are calculated and entered into pre-defined tab sheets. Information entered into the tab sheets are then used for developing the engineer's estimate and linked to a MicroStation sheet border file for printing. This section describes the process of entering calculated quantities into the ***Tabulation of Removals*** tab sheet.

Layout of Tab Sheet

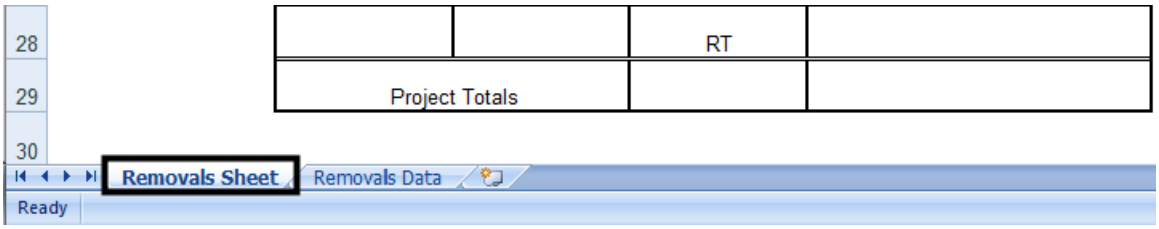
The following items are included in the tab sheet as noted in graphic below:

- Pay Items are shown across the top and are sorted by ascending Pay Item number
- The station, side, and notes columns are fixed; all others can be deleted using the Data Entry button
- Stationing can be entered without using the "+" symbol; 100 vs. 1+00
- Project totals are calculated for each Pay Item and shown at the bottom of the tab sheet



Entering Data into the Spreadsheet

1. Verify that the **JPC#DES_Tabulation of Removals.xls** file is open.
2. **<D>** the **Removals Sheet** tab at the bottom of the Excel window. This is where all the work in this file is performed.



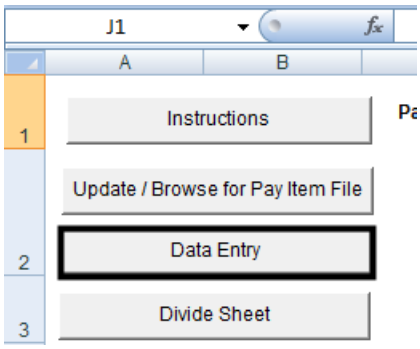
Note: The ***Removals Data tab*** is used in the programing to manage the contents of the Removal Sheet. **Do not modify** the data on this tab.

The next steps illustrate how to modify the Pay Items shown on the tab sheet to fit the conditions of the project. The overall steps for modifying the tab sheet are:

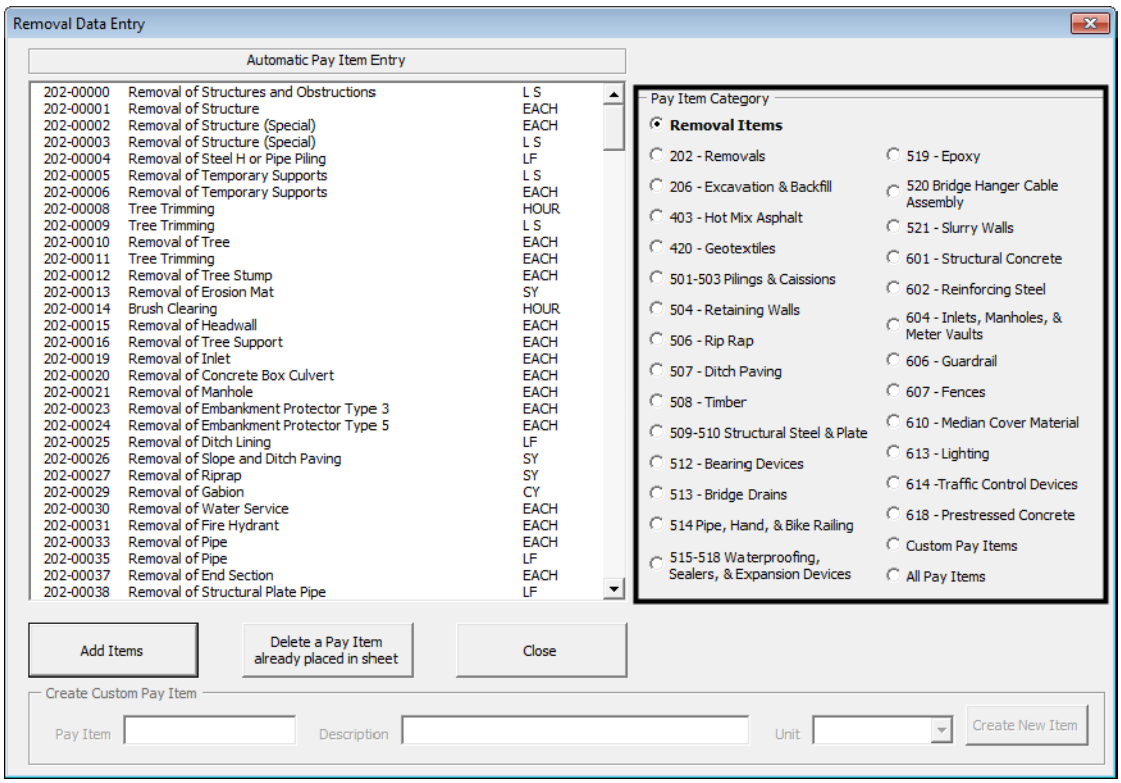
- Add a Pay Item
- Remove a Pay Item
- Enter Quantity Data
- Add/delete rows

Add a Pay Item

3. **<D>** the **Data Entry** button. This displays the ***Removals Data Entry*** dialog box.



4. Select the desired category from the ***Pay Item Category*** area. This will filter the list of items to show only those Pay Items from the selected category.

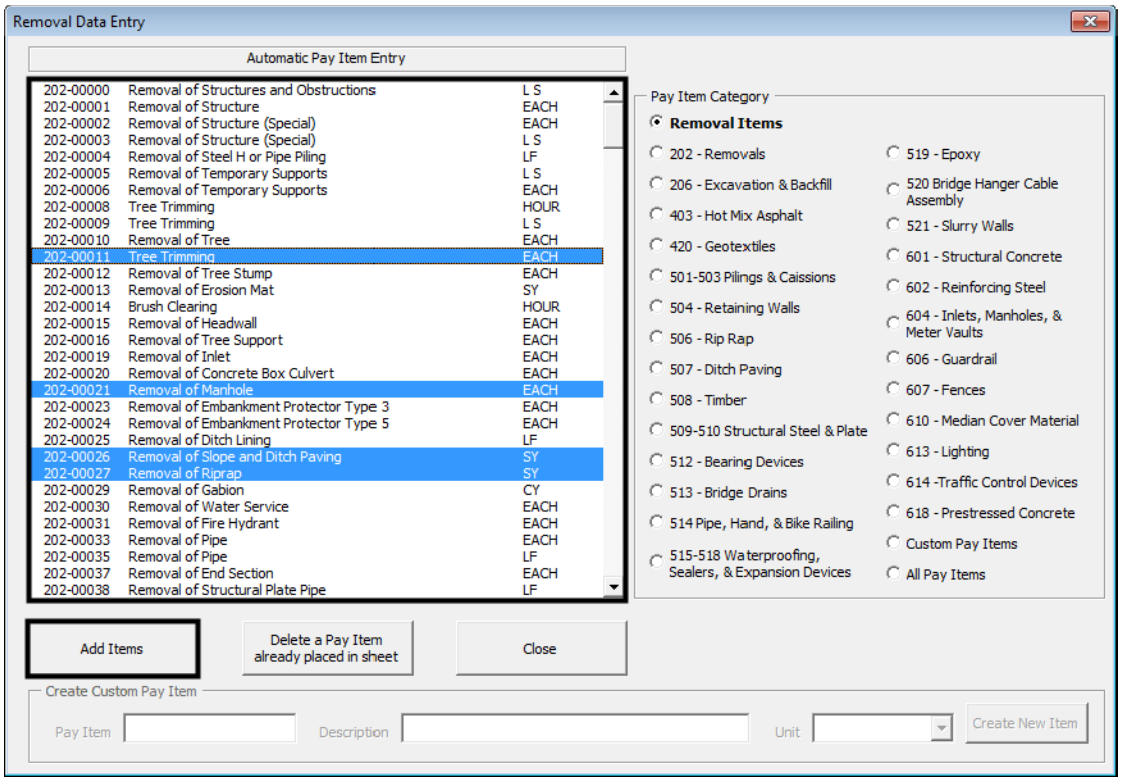


Note: Clicking on the ***All Pay Items*** category will show a listing of Pay Items across all Pay Item categories.

5. Select the desired Pay Items from the list. Multiple Pay Items can be highlighted by holding the ***Ctrl*** key then selecting the Pay Items.

   Note: Holding the ***Ctrl*** key and dragging through several items will deselect previously selected items.

6. **<D>** the **Add Items** button to update the spreadsheet with the selected Pay Items.



   The following things happen when a Pay Item is added to the spreadsheet:

   - The Pay Items are automatically added to the Removal Sheet and sorted by Pay Item number in ascending order
   - The Pay Item is removed from the list of available Pay Items to add to the sheet

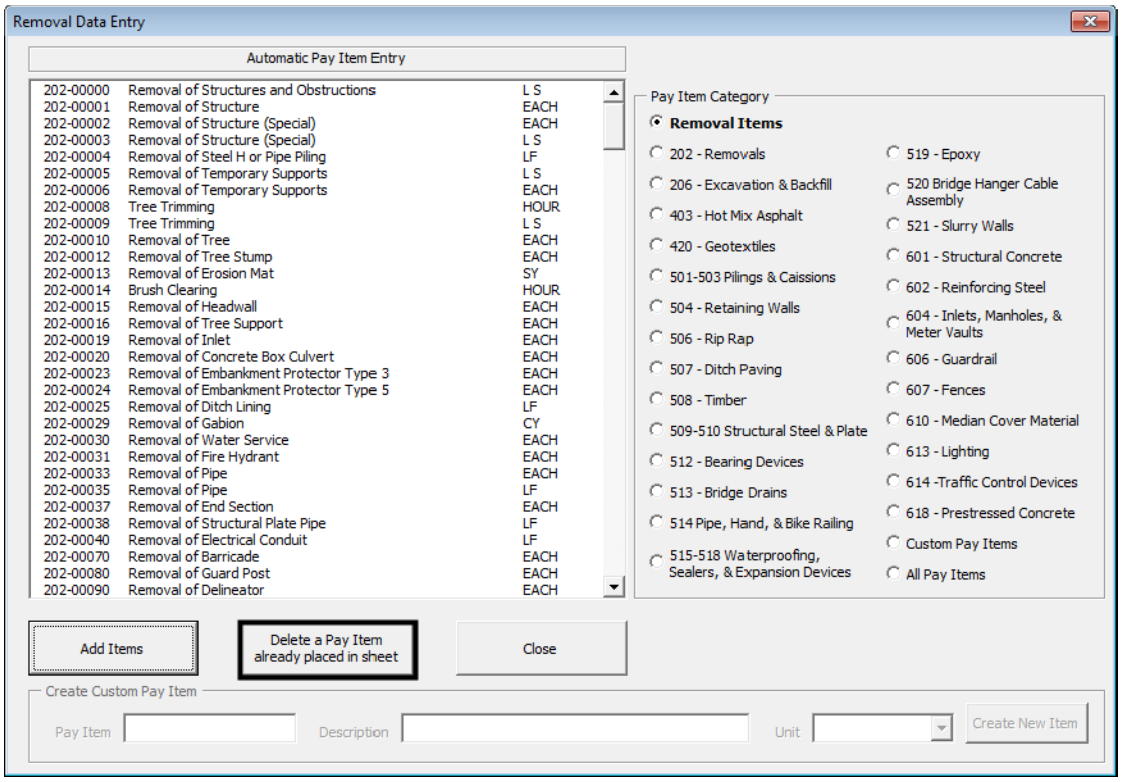
7. **<D> Close** to dismiss the ***Removals Data Entry*** dialog box.

Remove a Pay Item

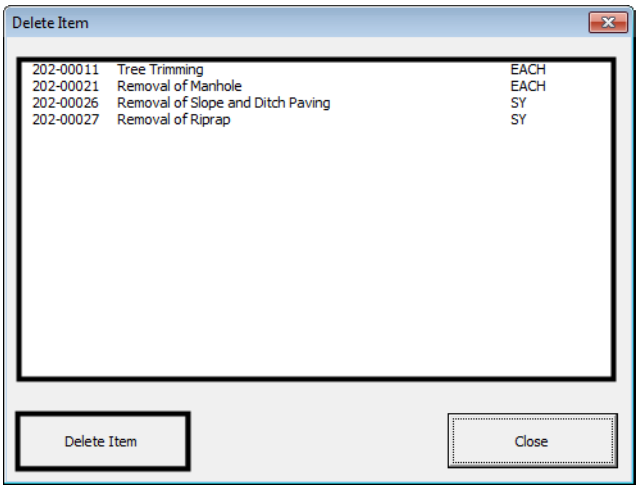
Important! ***Do not delete the Pay Item columns manually***. This will corrupt the file and you will have to start over with data entry. Use the following steps to remove a Pay Item from the Removal Sheet.

8. To remove a Pay Item, **<D>** the **Data Entry** button.

9. **<D>** the **Delete a Pay Item already placed in sheet** button. This displays the ***Delete Item*** dialog box.



10. Select the item to be removed from the Removal Sheet and **<D>** the **Delete Item** button.



11. The item will be removed from the Removal Sheet and the remaining Pay Items will be resorted.

Note: Only one item can be deleted at a time. Repeat the above steps for each item that need to be removed from the Removal Sheet.

Entering Quantity Data

12. **<D>** in the desired cell.

13. Key in the quantity for the specific station and Pay Item.

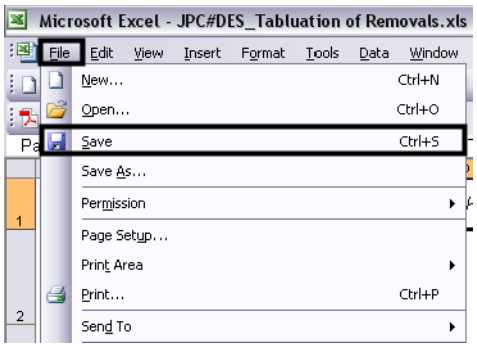
    Note: When entering a station values you do not need to type in the "+" sign. For example, enter 6000 and it will automatically be reformatted to 60+00.

Tabulation of Removals						
Station		Side	Tree Trimming	Removal of Manhole	Removal of Curb and Gutter	Notes
From	To		HOUR	EACH	LF	
1+00	2+00	RT				
4+50	5+25	RT				
		RT				
		RT				
		RT				
		LT				
Project Totals			0	0	0	

Totals are automatically calculated in the last row of the table.

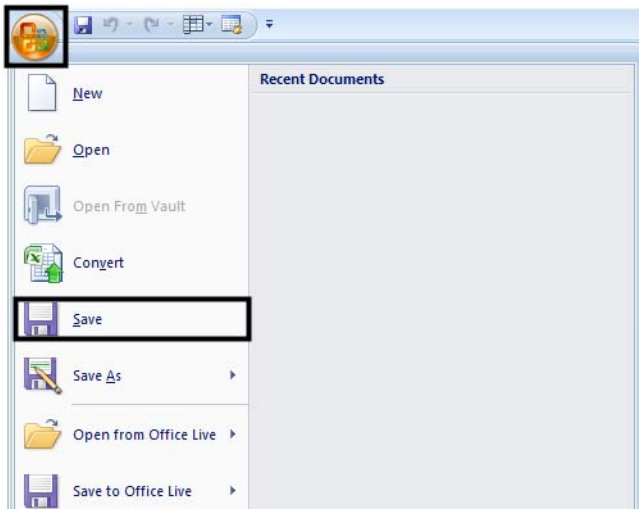
To avoid the unintentional loss of data, periodically save the file. To save the file using Excel 2003:

14. Select **File > Save** from the menu bar.



To save the file using Excel 2007:

15. Select the Windows Icon, then select **Save** from the drop down menu.



Add/Delete Rows

The tab sheet comes with a pre-defined number of rows to be used for data entry. Rows will need to be added or deleted depending on the size of the project.

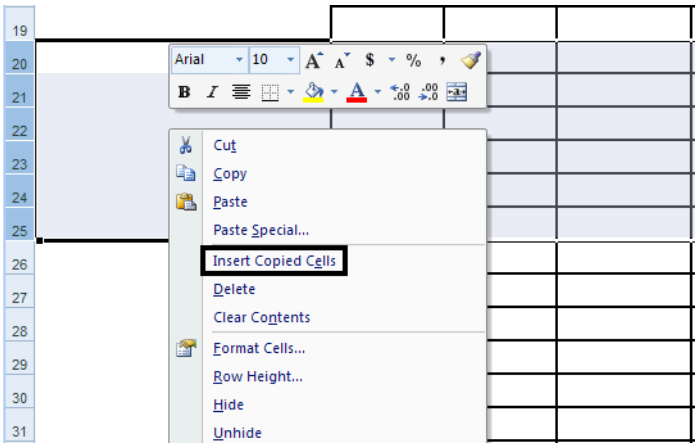
To add additional lines:

16. **<R>** on a row number that is within the table (below the headings) and select **Insert** from the menu. A new row is added above the row that is selected.

To add multiple rows:

17. Highlight the number of blank rows to be added.

18. **<R>** and select **Insert** from the menu. The additional rows are added above the highlighted rows.



To delete lines:

19. Use the same steps as for adding lines except choose **Delete** from the selection menu.

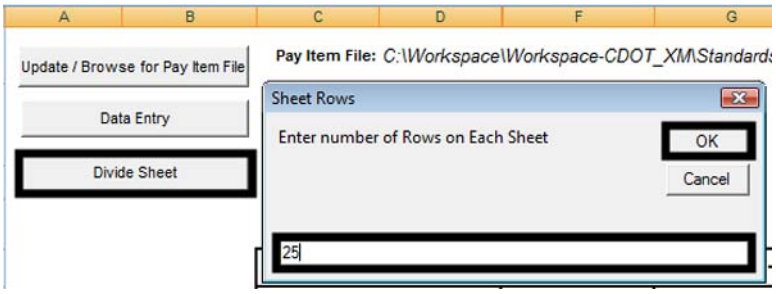
Divide Sheet

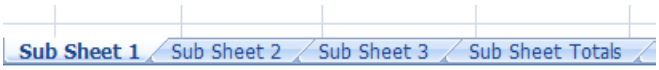
Once the data is entered into the Removals Sheet, it can be prepared for linking to the MicroStation sheet border file. If the table is small enough to fit within the sheet border, then no further processing is required. However, if the table is too long and/or too wide, additional actions are required to make tables that fit the sheet borders.

Dividing Long Sheets

Sheets with too many rows are divided to create sub-tables of data and an additional sheet totals table. To create the sub-tables:

1. **<D>** the **Divide Sheet** button. This displays the ***Sheet Rows*** dialog box.
2. Key in the desired number of rows of data to be included on each sub sheet.
3. **<D>** the **OK** button.





- The number of data lines in the master sheet is divided by the number of lines specified in the ***Sheet Rows*** dialog box and new worksheets are created and populated from the original data on the Removals Sheet.

  Note: The number of rows specified in the ***Sheet Rows*** dialog box includes any blank lines that will be created to separate Pay Items on the Sub Sheets.

- The new worksheets are named ***Sub Sheet 1***, S***ub Sheet 2***, etc. Additionally, the ***Sub Sheet Totals*** worksheet is created which contains a table with the sub sheets' total lines and a grand total.
- The tables on the sub sheets are the tables that get linked to the MicroStation sheet border files.

Important! If the table needs to be re-divided, delete the Sub Sheet and Sub Sheet Totals worksheets prior to executing the command. Failure to do so could result in erroneous Sub Sheets and Sub Sheet Totals.

Dividing Wide Sheets

There is no command to automatically divide sheets by the number of columns. Ideally, the number of columns that can fit in a border should be determined before data entry. That number is then divided into the total number of Pay Items to determine how many xls files will be needed. The xls file that contains all Pay Items should then be used as the template to create the required number of divided sheets.

However, if the table is deemed to be too wide after data is entered, use the following procedure:

1. Determine the number of columns that will fit on the sheet.
2. **Save** the original file.
3. Select **File > Save As** from the menu bar. Name the new file the same as the original, changing the end number to make it unique.
4. Reopen the original file.
5. On the ***Removals Sheet*** worksheet, **<D>** the **Data Entry** button.
6. In the ***Data Entry*** dialog box, **<D>** the **Delete a Pay Item already placed in sheet** button. This displays the **Delete Item** dialog box.
7. From the **Delete Item** dialog box, highlight the first Pay Item to be removed from the first sheet.
8. **<D>** the **Delete Item** button. This removes the Pay Item column and any data in that column from the ***Removals Sheet*** worksheet.
9. Repeat steps 7 and 8 until only the Pay Items for the first sheet are left.
10. Save and close the original file.
11. Open the copied file.
12. Repeat steps 5 through 9, deleting the Pay Items that appear on the original sheet.
13. Repeat steps 1 through 12 if a third or subsequent sheets are required.

If sheets need to be divided by both length and width, divide them by width first. This is because the Sub Sheets are not automatically updated by the addition or deletion of Pay Items.