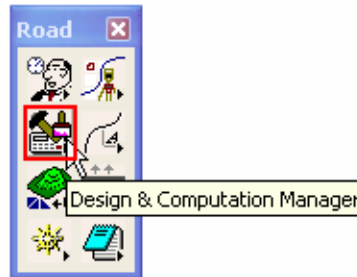


**Topic: Computing Quantities Using D&C Manager**

Plan drawing quantities can be computed using D&C Manger if the plans view elements are drawn or set with D&C Manager symbology. Three different types of quantities can be computed from the plan drawing using the D&C Manager: each, linear, and area. Multiple quantities can be calculated for each, linear and area, also the three types can be computed at one time.

The D&C manager can be selected by picking Plan View Quantities in the Project Manager Workflow Dialog Box, or by selecting Design and Computation Manager from the GEOPAK Road Tools Dialog Box.

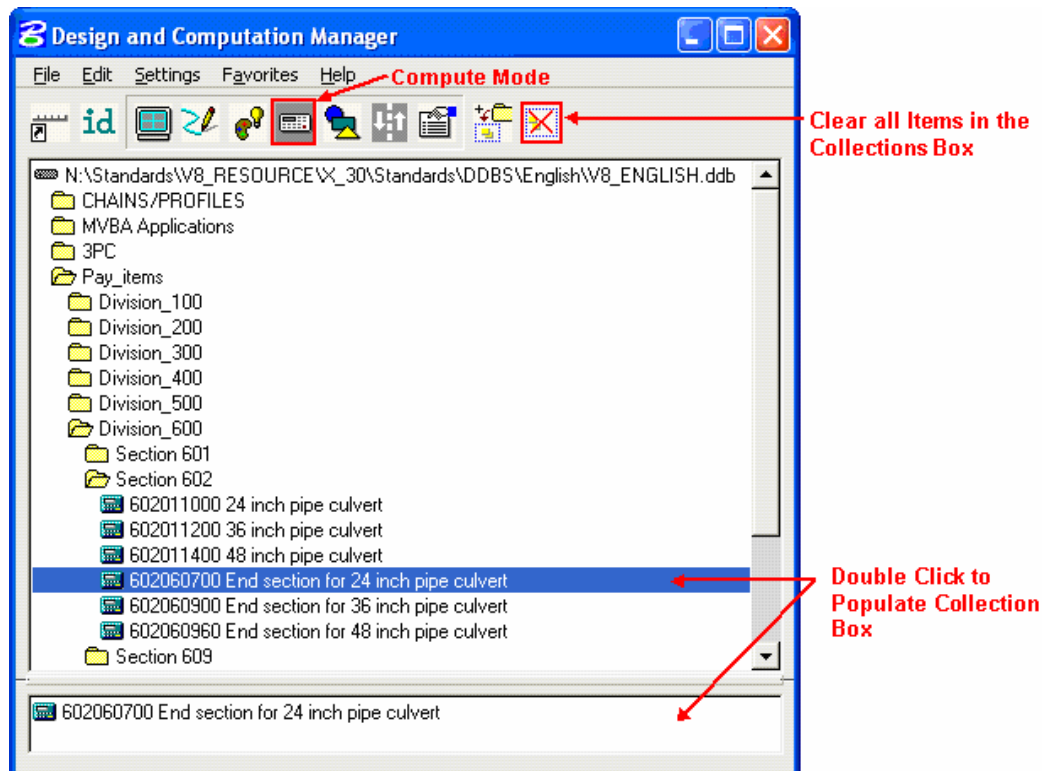


**Note:** The Item numbers in the D&C manager may not Synch with the Engineers Estimate Item numbers.

**Calculating “By Each” Quantities**

Examples of quantities to be calculated in units of “each” are end sections, terminal sections, lights, survey monuments, etc.

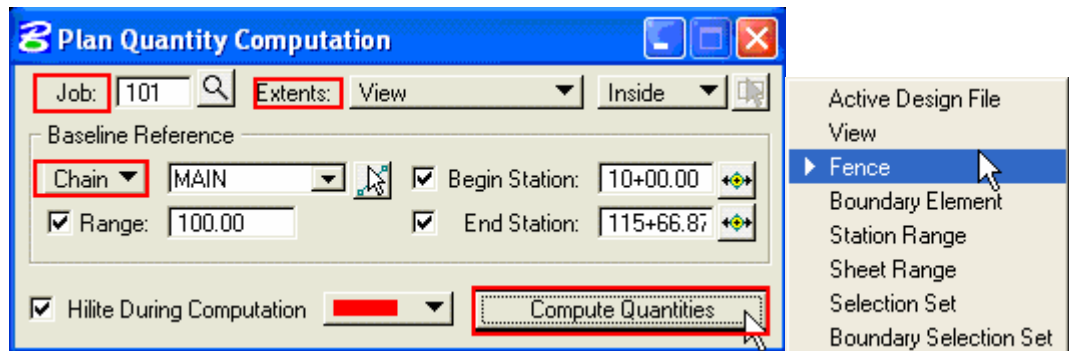
1. Select the item or items that you want calculated using the D&C Manager item list. Double click on the Item to populate the collection box. If you want to remove an item from the collection box, simply double click on the item in the collection box. Use **clear all items** icon to clear the collection box.



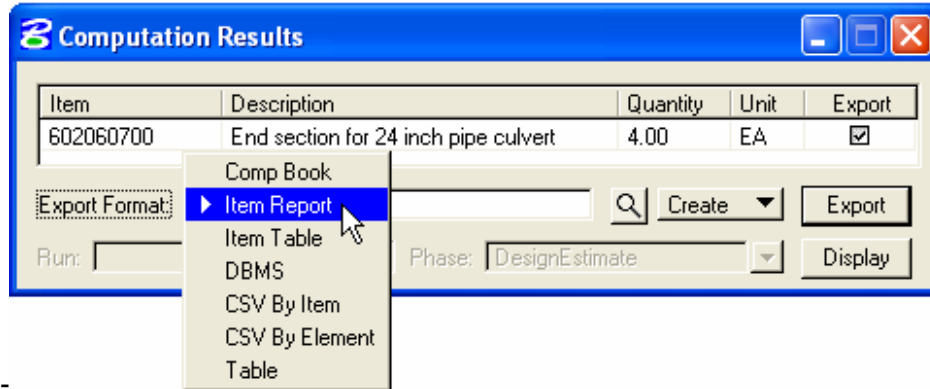
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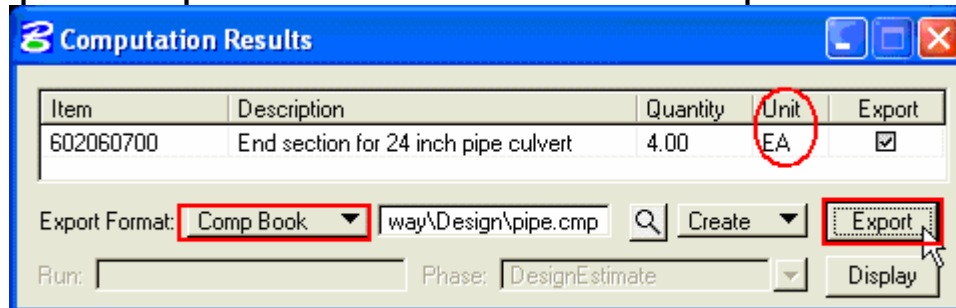
2. Make sure the Job Number and Chain Name are correct. Set the Extents to View, Fence, Active Design File or as desired. Select Compute Quantities.



3. Selecting Compute Quantities will bring up the dialog box below:



4. To get an itemized calculation (Station and Offset to each item), change the Export Format from **Item Report** to **Comp Book**. Provide a file name and select **Export**.



**Item Report** and **Comp Book** are the commonly used report format at CFL.

5. Quantity Report for “each” will look as shown below:

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Pay Item No. 602060700 Unit:EA File Name: c:\Your\_Project\Roadway\Design\pipe.cmp

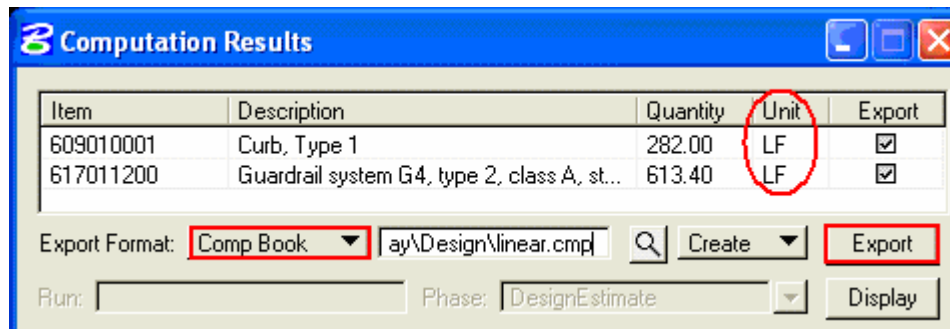
Pay Item Name: End section for 24 inch pipe culvert

Baseline	Station	Offset	Northing	Easting	Quantity
MAIN	20+01.42	-23.97	523103.2502	1832584.5340	1.00
MAIN	19+98.80	12.83	523124.3845	1832573.1610	1.00
MAIN	17+17.89	25.53	523283.6007	1832794.6399	1.00
MAIN	17+12.85	-23.11	523250.4473	1832831.9375	1.00
Totals	Unit:EA				4.00

### Calculating “Linear” Quantities

Examples of linear quantity calculations are fence, curb, guardrail, etc.

1. Select item or items that you want calculated using the D & C Manager item list. Multiple quantities can be calculated at once. Follow steps 1-3 to populate computation collection box and to compute quantities.
2. Computation results for “Linear” Quantities will be as shown below:



3. To get an itemized calculation (Station and Offset to each item), change the Export Format from **Item Report** to **Comp Book**. Provide a file name and select **Export**.

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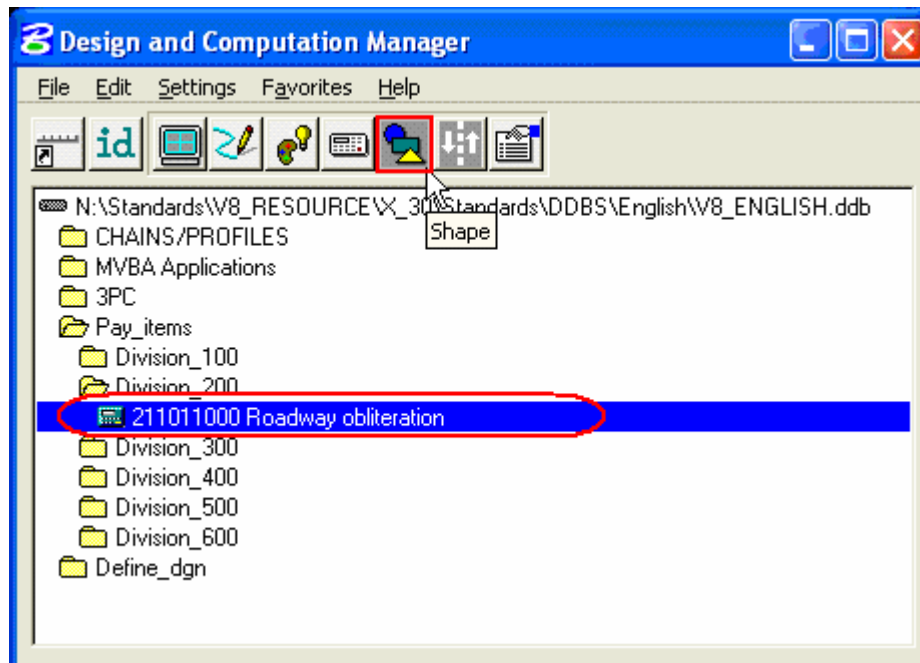
Date: 4/25/2006 10:55:22 AM											Page No. 1	
LINEAR MEASUREMENT COMPUTATION												
Pay Item No. 609010001 Unit:LF File Name: c:\Your_Project\Roadway\Design\linear.cmp												
Pay Item Name: Curb, Type 1												
Baseline	Station	Offset	Station	Offset	Gross Length	Deduct	Net Length	Gross Length	Deduct	Net Length	Over/Under Run	Remarks
[B E G I N]			[E N D]									
MAIN	12+37.72	12.00	13+72.65	16.11	136.00	0.00	136.00					
MAIN	12+64.32	-27.27	14+12.16	-20.89	146.00	0.00	146.00					
Totals Unit:LF					282.00	0.00	282.00					

Date: 4/25/2006 10:55:22 AM											Page No. 2	
LINEAR MEASUREMENT COMPUTATION												
Pay Item No. 617011200 Unit:LF File Name: c:\Your_Project\Roadway\Design\linear.cmp												
Pay Item Name: Guardrail system G4, type 2, class A, steel posts (with block)												
Baseline	Station	Offset	Station	Offset	Gross Length	Deduct	Net Length	Gross Length	Deduct	Net Length	Over/Under Run	Remarks
[B E G I N]			[E N D]									
MAIN	17+83.87	-21.33	20+74.13	-8.37	301.15	0.00	301.15					
MAIN	18+83.63	18.96	22+09.21	27.46	312.25	0.00	312.25					
Page Totals Unit:LF					613.40	0.00	613.40					
Totals Unit:LF					613.40	0.00	613.40					

### Calculating “Area” Quantities

Examples of “area” quantities that are calculated in the plan view are roadway obliteration, sidewalk and concrete pavement.

1. Highlight the item you want to calculate in the D&C Manager, and then select the **Shape** icon from the D&C Manager Dialog box.



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- The shape icon will invoke the following dialog box.



Three methods for shapes are available:

Semi-auto: Pick the items you want to create the shape with

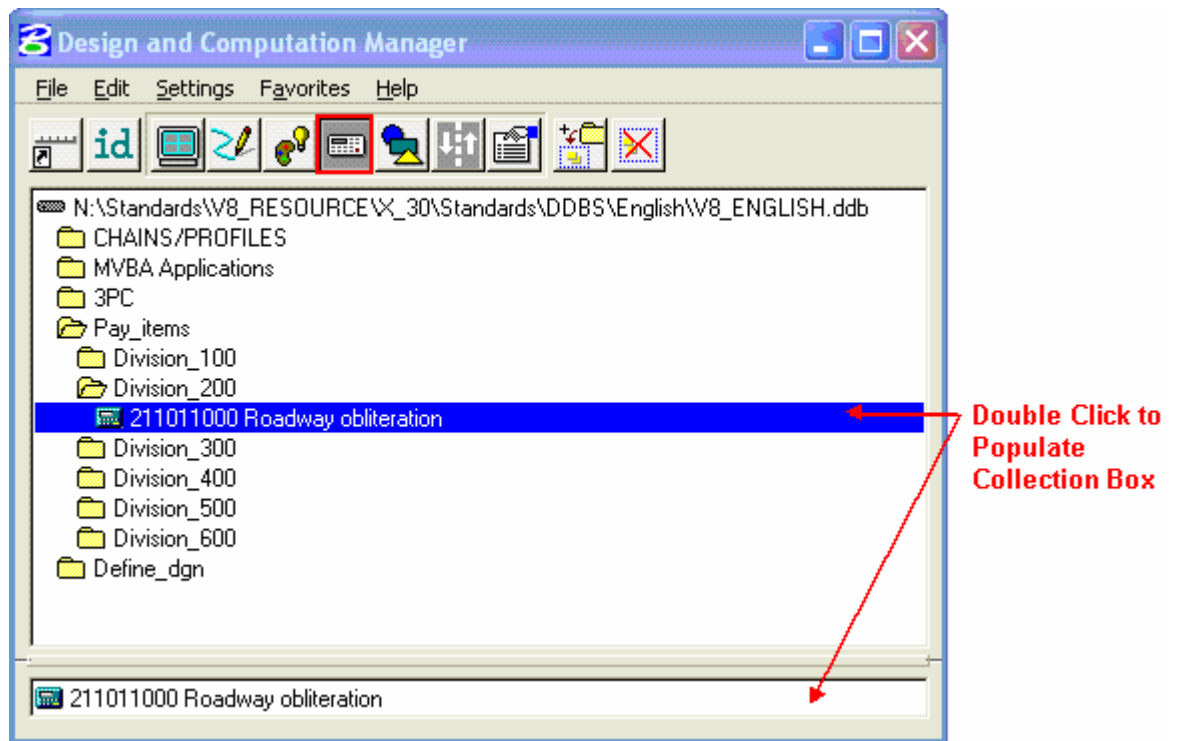
Automatic: Creates a shape around a point that you pick inside your area

Exclusive. Creates a shape where you want to exclude an area (a planter in the sidewalk, etc.)

- Select **Automatic**, Select **Draw** and pick a data point in the middle of the area that you want the shape in. GEOPAK will draw the shape.

If selected **Exclusive**, GEOPAK will prompt you to pick a data point inside the outside shape. Once you pick that data point, GEOPAK will highlight the outer shape and then prompt you to pick inside the inner shape to deduct. Once that data point is selected, GEOPAK will draw the shape with the hole in it.

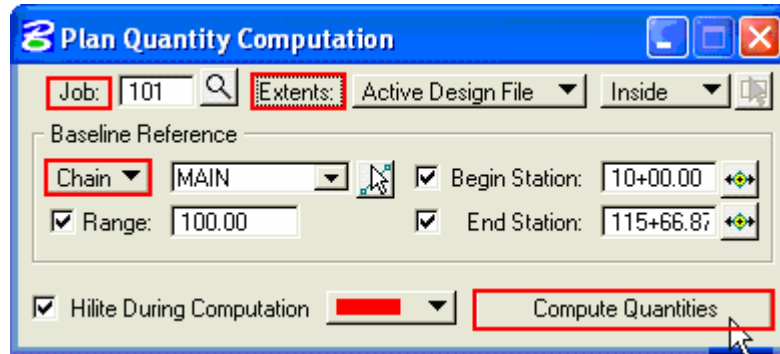
- Once the shape has been created, Select **Compute** icon. Double click to select the item you want calculated, this will add items to the collections dialog box.



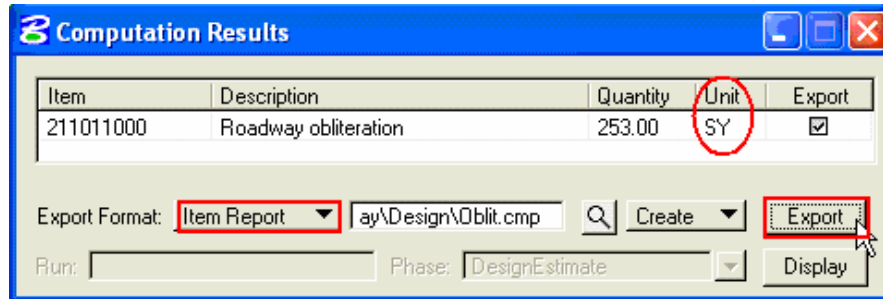
- Make sure the Job Number and Chain Name are correct. Set the Extents to View, Fence, Active Design File or as desired. Select Compute Quantities.

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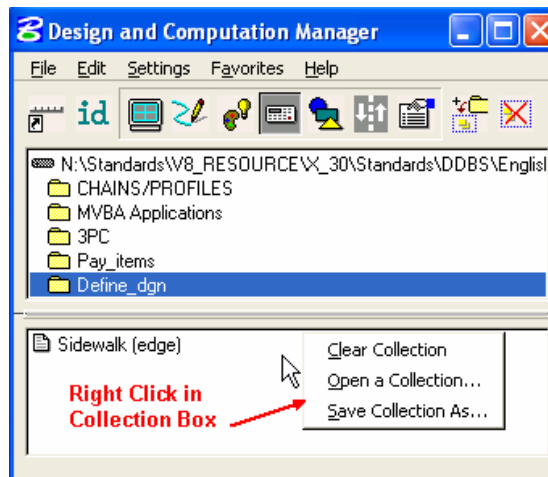
6. Selecting Compute Quantities will bring up the dialog box below:



7. Change the Output to **Item Report** (pay item summary) and select **Export**. The following report will be produced.

Pay Items List			
Date: 4/25/2006 11:30:6 AM		File Name: c:\Your_Project\Roadway\Design\Oblit.cmp	
Item No.	Description	Unit	Quantity
211011000	Roadway obliteration	SY	253.000

A small pop-menu is supported when right mouse click is used in the Collection Box. This menu allows one to save your collection list for future use.



*This handout is a condensed version of CFLHD CADD Standards Manual –Chapter 20.*