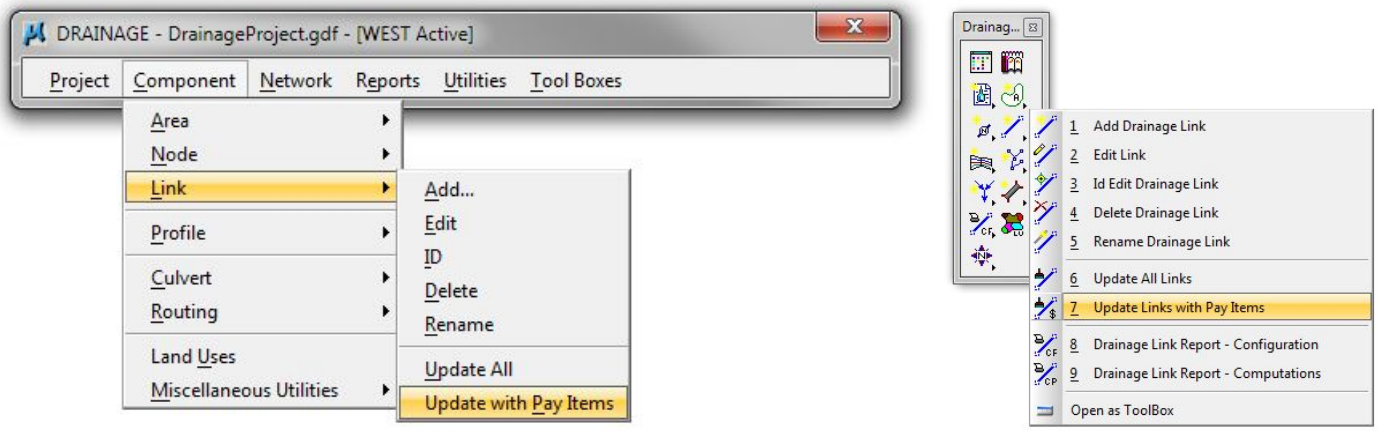
14. Design & Computation Manager with Drainage Links

This exercise shows the user how to use the D&C Manager to control symbology, compute quantities, which can be used in preliminary estimates, and set pay items for drainage links by setting the symbology of all pipes and generating pipe quantities for this project.

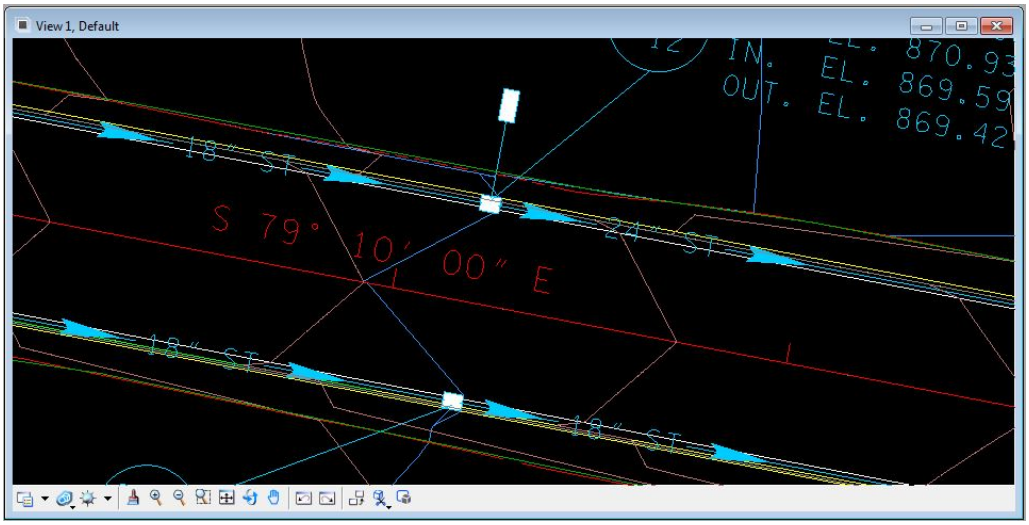
14.1 Set Link Symbology

a) Select **Components > Links > Update With Pay Items** from the main menu bar or **Update Links with Pay Items** from the Drainage Toolbox.



b) Utilize the MicroStation command **Fit View** to view the entire Drainage Network.

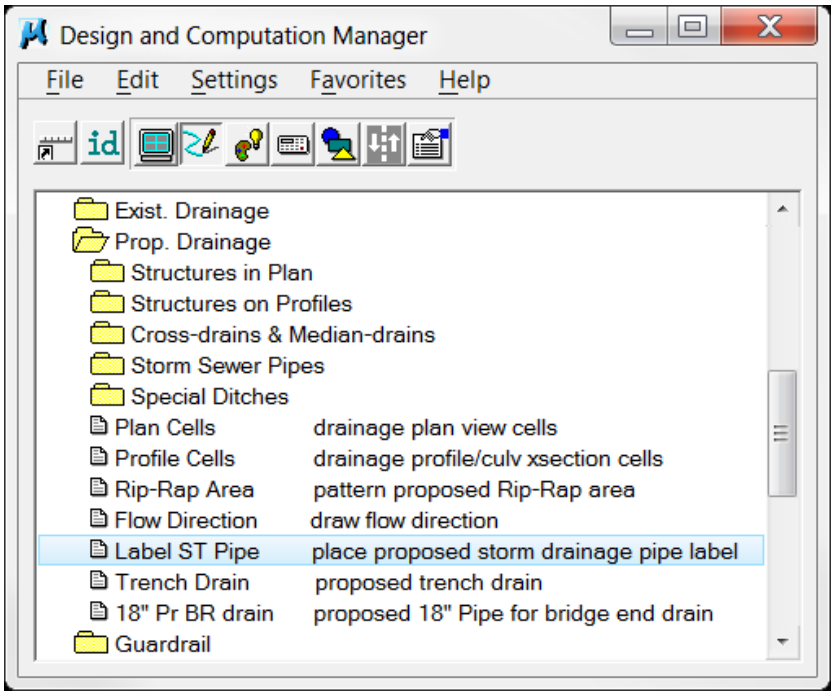
c) Note that the Link symbology has changed to reflect that of the D&C Manager. All links use appropriate custom line styles and are labeled with ST's and pipe size.



14.2 Label Short Pipe Links

Often we have cases where the pipes are too short for their symbology to show as is the case with the pipes from various drop inlets just off the roadway in this project. We have a tool available to handle these with a separate label which is available through D&C Manager.

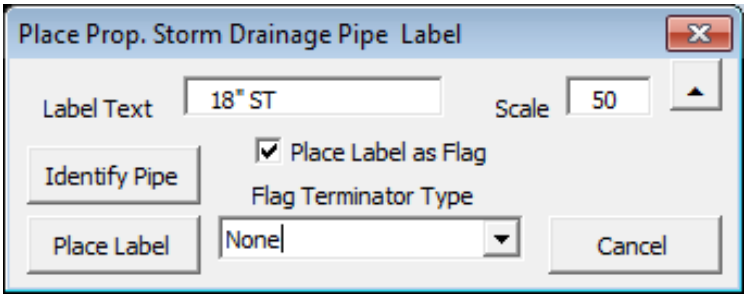
a) Open the Design and Computation Manager and select item **Drafting Standards> Prop. Drainage> Label ST Pipe**.



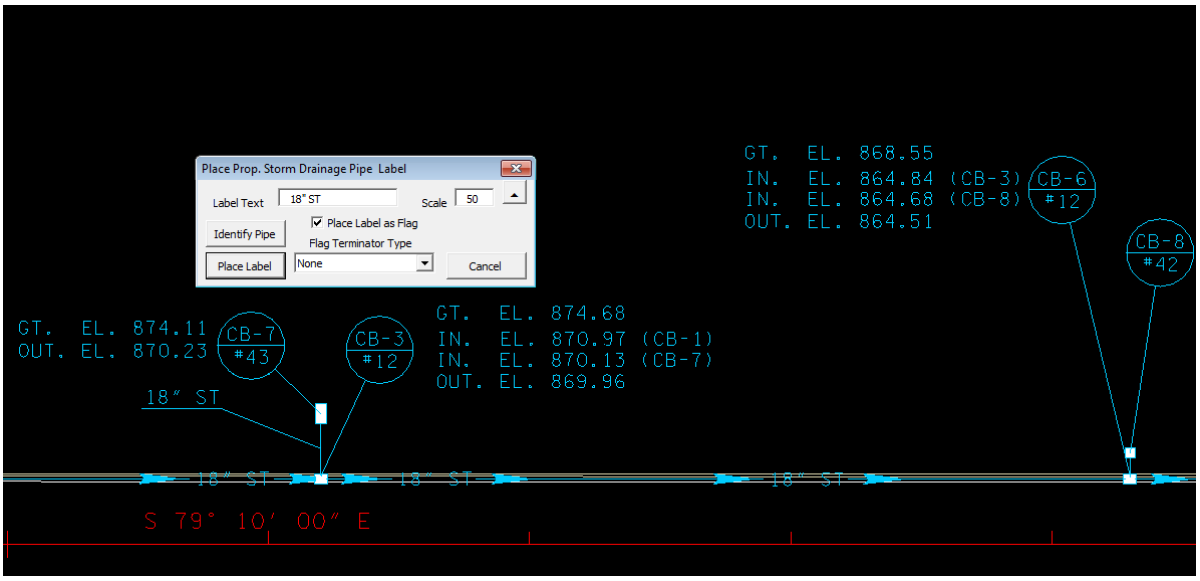
b) The **Place Prop. Storm Drainage Pipe Label** dialog opens and you are prompted to identify the pipe. Data point on link SS-7, the pipe between CB-7 and CB-3, and the appropriate text is filled in on the dialog.

By default the label will come up as text only at the angle of the pipe. If there is room, you can place the label as such along the pipe.

For pipes too short for that, click on the option to **Place Label as Flag** and click the **Place Label** button.

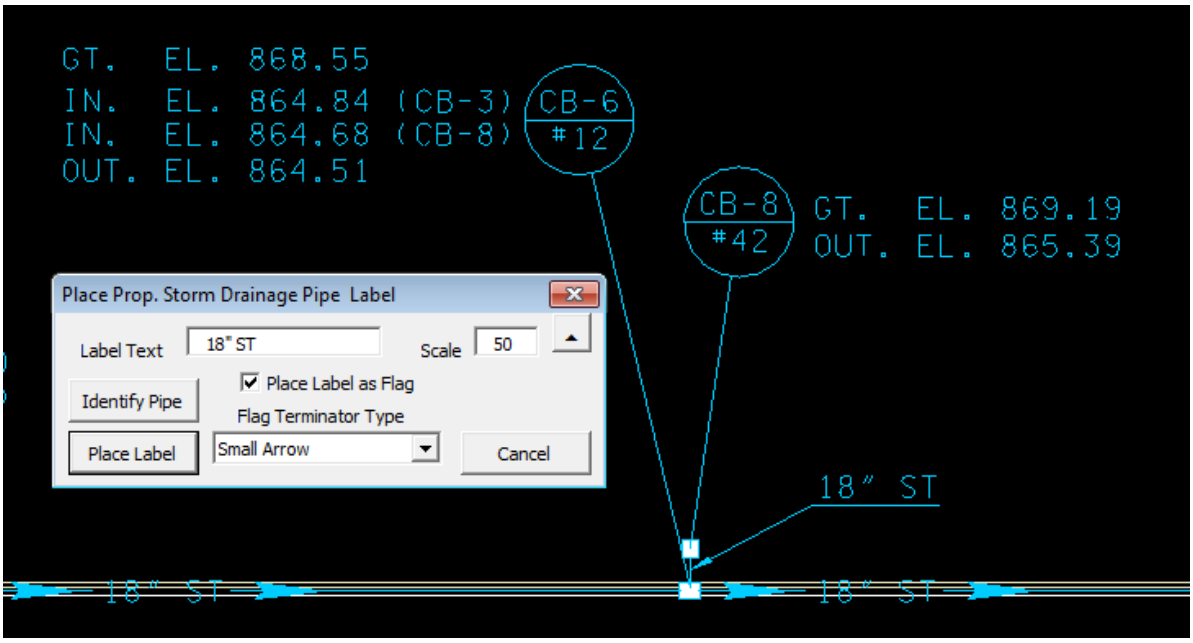


c) Data point on or near the pipe for the beginning of the leader and once again to position the label which is shown dynamically.



d) Use the **Identify Pipe** button to read and **label** the other short pipe links on the project.

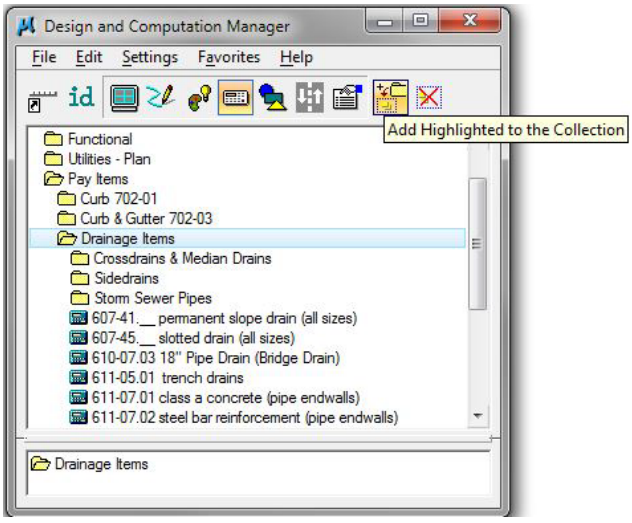
You may wish to use one of the terminator options for pipes in tight places with other text and line work.



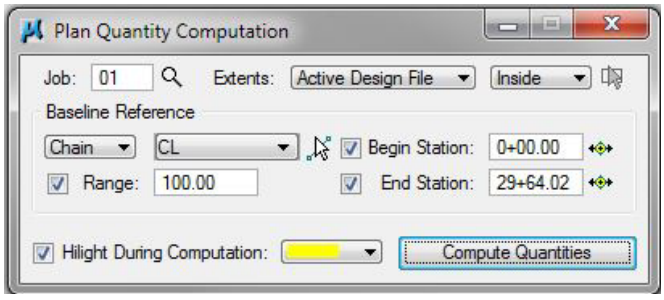
14.3 Compute Link Quantities

a) Open the Design and Computation Manager and set the Mode to Compute by clicking the **'calculator'** icon button.

b) Under **Pay Items**, highlight the **Prop. Drainage** category, then click the **Add to Collection** button on the Design & Computation Manager toolbar.

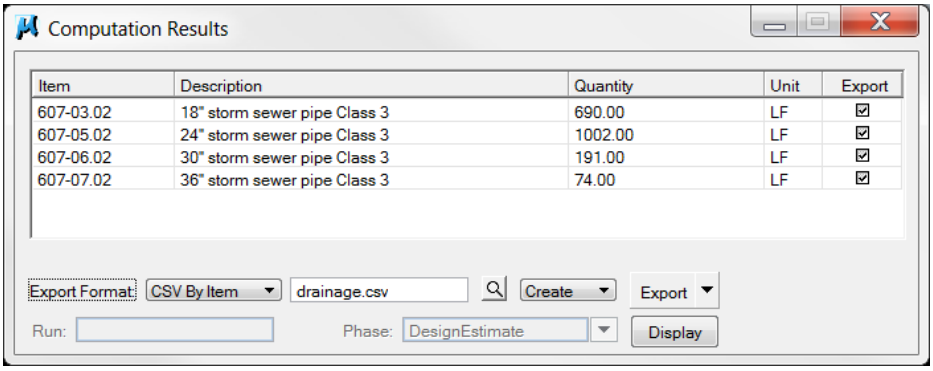


c) Within the Plan Quantity Computation box ensure Extents: is set to **Active Design File**. Click the Compute Quantities button for initiation of the report. Your results may vary.



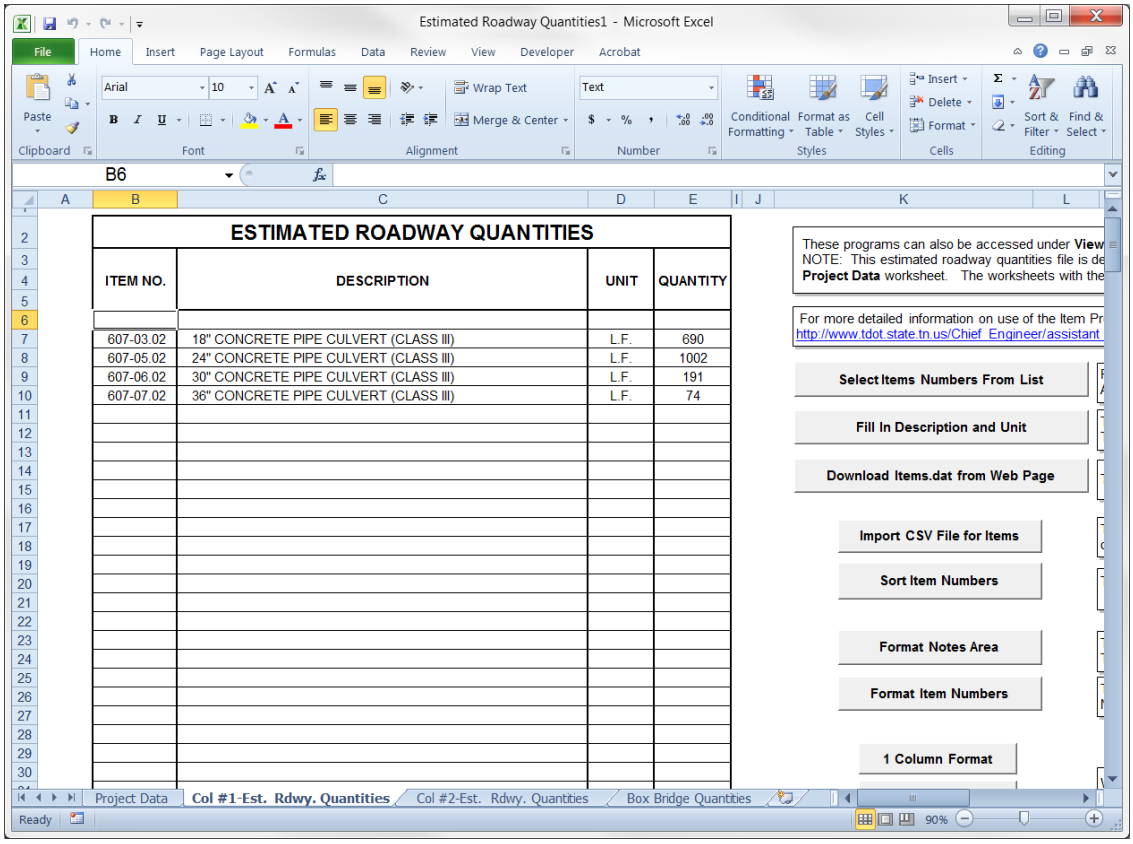
NOTE: To limit the extent of calculation set Extents: to Station Range, and set the limits desired in the *Baseline Reference* portion of the dialog.

d) Select your Export Format. Select **CSV By Item** for use with standard estimate files. Type in drainage.csv for the filename and click on **Export**.



In the Estimated Roadway Quantities Excel file use the **Import CSV File for Items** command button to import the data compiled with D&C Manager.

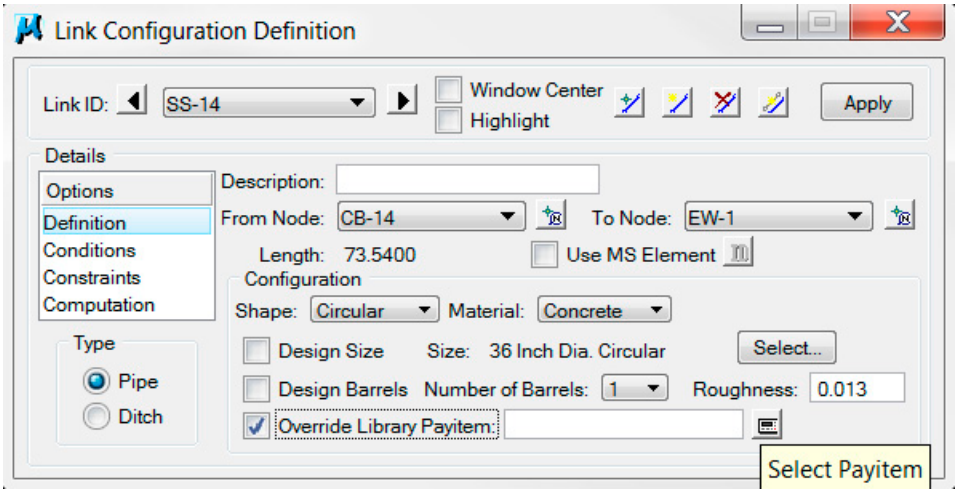
NOTE: This function reads only the item number and quantity from the csv file. Item description and unit are pulled from the official item number listing.



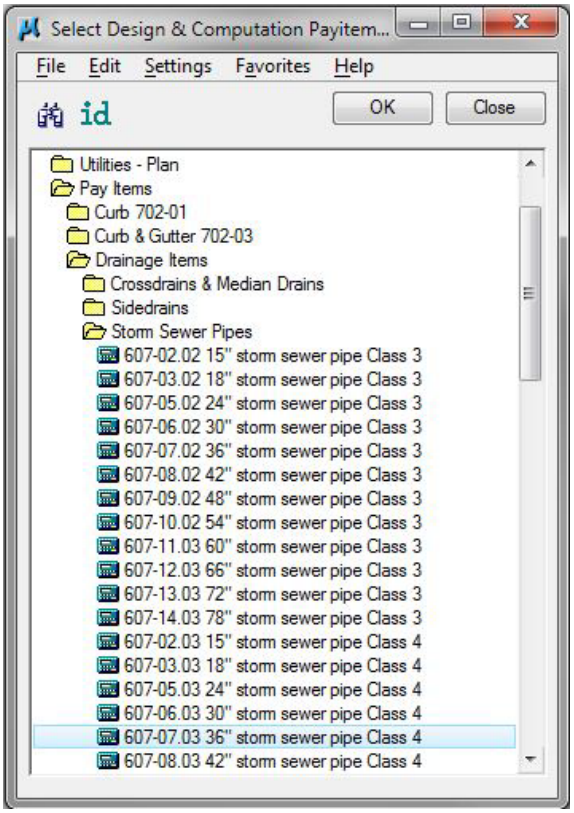
14.4 Alternate Pay Items for Links

a) Open Edit Link and select **Link SS-14**.

b) In **Definition**, under the *Configuration* portion, toggle ON **Override Library Payitem**.



c) Click on the calculator button to select an alternate pay item. Go to **Pay Items > Storm Sewer Pipes > 607-07.03 36” storm sewer pipe Class 4**.
Double click on the 36” Class 4 Concrete pipe item to switch it from the defaulted Class 3 item number.

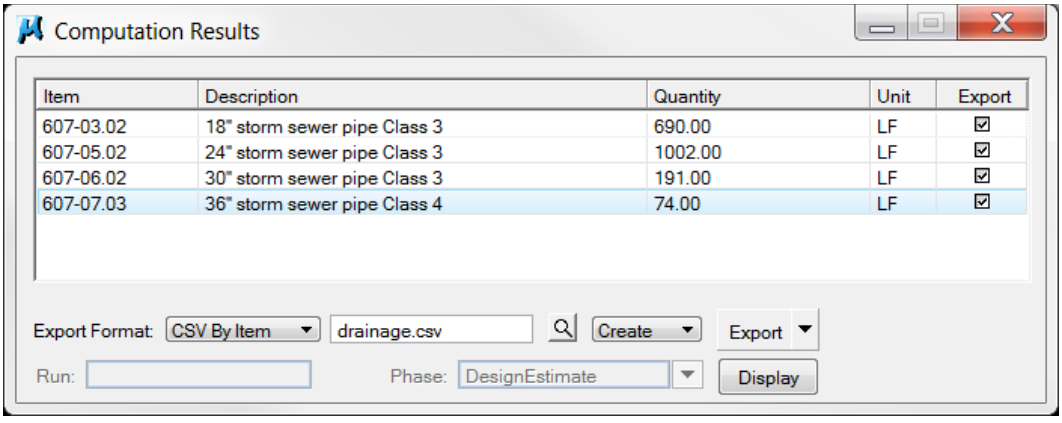


NOTE: All circular concrete pipes are set up with Class 3 concrete pipe item numbers. When setting up a system of median drains for depressed grass medians then all pipes will need to be set to use alternate pipe item numbers as listed under D & C manager category **Pay Items > Drainage Items > Crossdrains & Median Drains**.

d) Click **Apply** in the Link Configuration Definition dialog to accept the change.

Follow Exercise 14.1 to update the link graphics.

Follow Exercise 14.3 to re-compute the quantities and see the difference.



NOTE: See Appendix G for Pipe Selection Criteria based on system and fill height.