

11. Proposed Profile Re-Design

After the review of our design using Port Viewer in the last exercise, we know we have a problem with our slopes encroaching on a cemetery near station 336+50. To solve that problem in this exercise, we will adjust our proposed vertical alignment profile.

NOTE:

If you run into similar situations on your project, any number of changes may be necessary to solve the problem, adjustment of horizontal or vertical design, side slopes or even typical section widths in some cases.

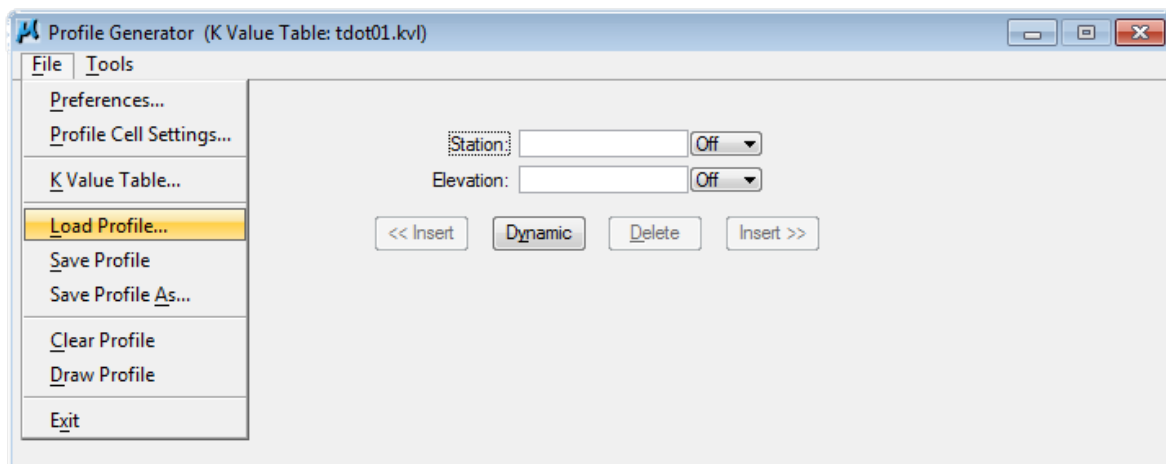
I.) Profile Adjustment

- 1) Open the MicroStation file

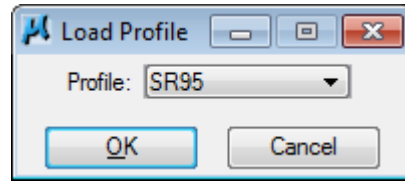
C:\Projects\Roane\SR95PoplarCr\ROSR95Alignments.dgn

Access Project Manager.

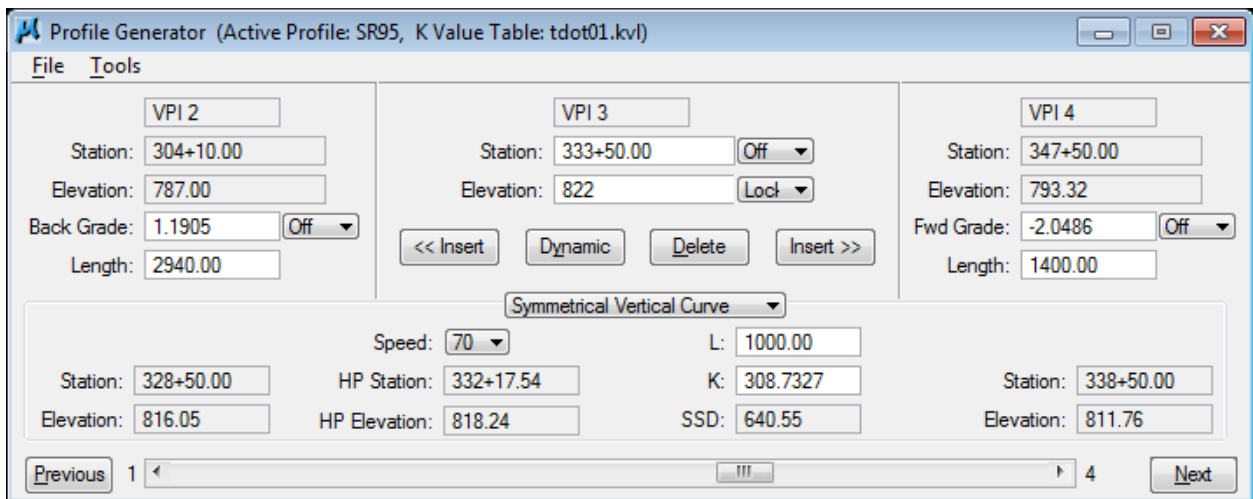
- 2) Select the Vertical Alignment button from the Project Manager workflow dialog.
- 3) All of the information in the invoked Settings dialog should be automatically populated based upon the information we defined in the working alignment. Click the OK button to accept those settings.
- 4) From the Profile Generator dialog, select File → Load Profile.



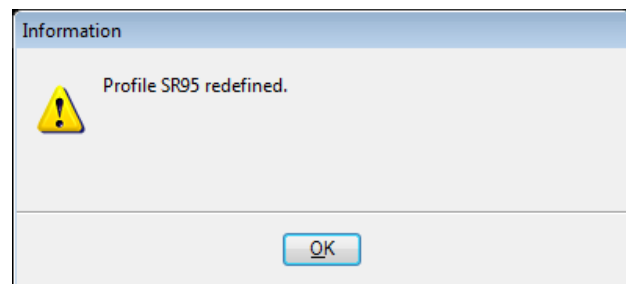
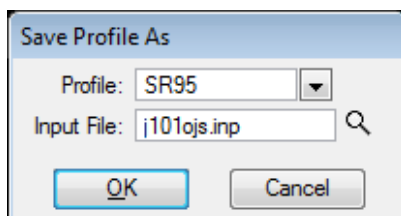
Load the proposed profile SR95.



- 5) Traverse to the VPI Station 333+50. (Utilize the Next button)
- 6) Modify the current elevation from 816.50 to 822.00. Change the vertical curve length to 1000.



- 7) Go to File → Save Profile and save this updated profile as SR95. You should get a message box stating that SR95 has been redefined.

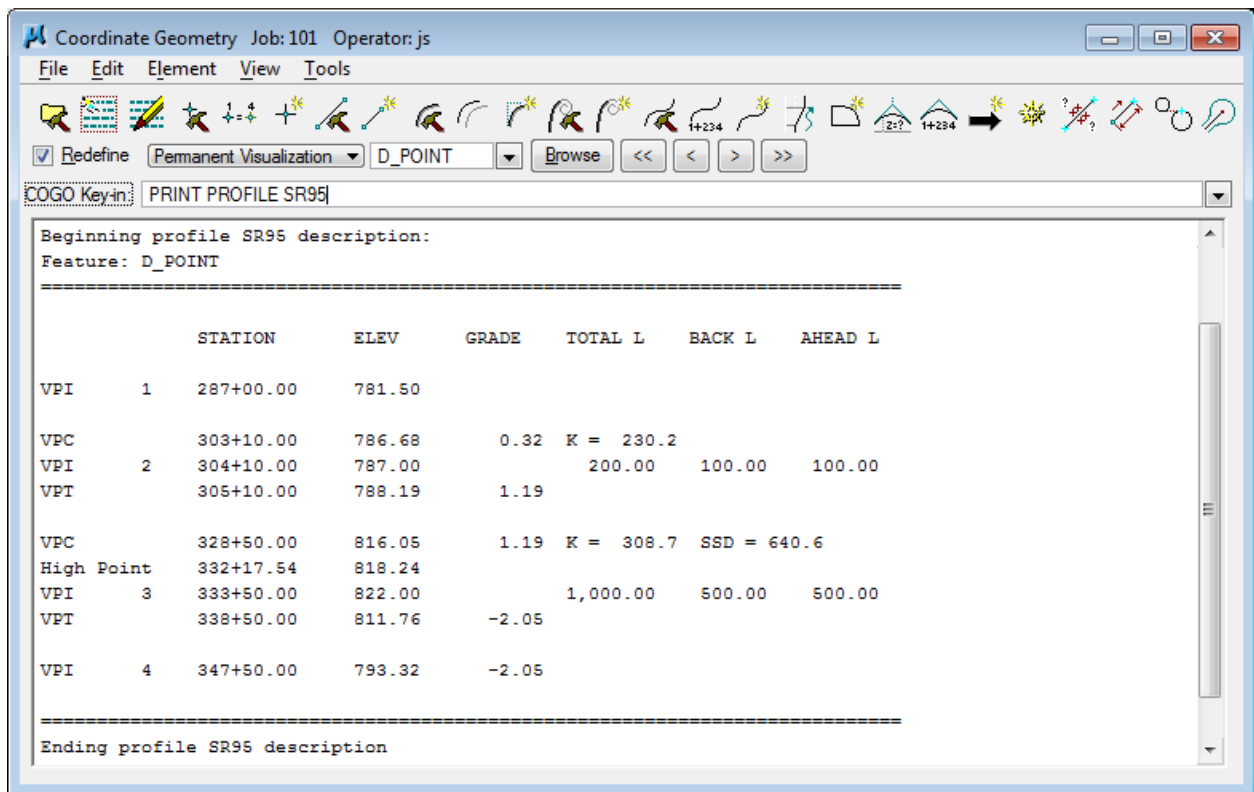


NOTE:

The Redefine option in COGO must be turned on to make changes to a profile since it is stored in the GPK file. If you receive an error saying that Redefine is off, simply open COGO, turn it on and go back to Profile Generator to save your update. **It is recommended that you normally keep Redefine turned off to avoid accidental over writing of valid data.**

Exercise 11

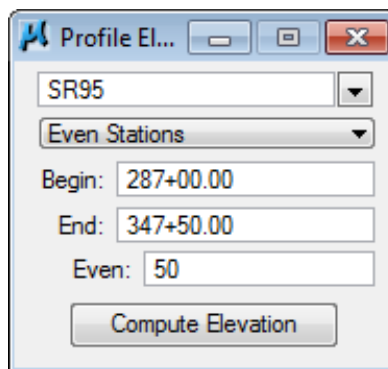
- 8) Close the Profile Generator dialog. When prompted to save your profile, you can answer No since we did it in Step 7. When prompted to save your Vertical Alignment Settings, answer Yes.
- 9) Now that we have a finalized proposed vertical alignment profile, open COGO to review it.
- 10) Go to COGO Navigator → Profiles. Highlight SR95 and click on the describe icon. Profile data is displayed including curve lengths, K values and any high or low points.



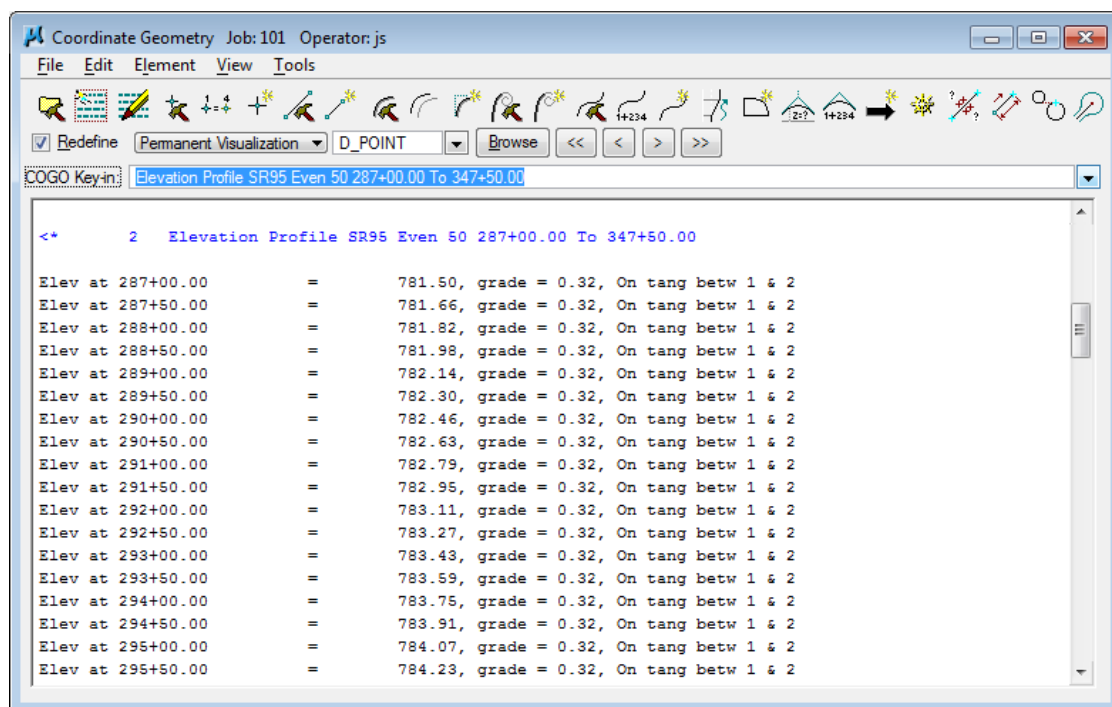
- 11) To find specific elevations along the proposed profile for side road connections, etc. or perhaps a listing of elevations at 50' intervals click on the Profile Elevation icon.



- 12) The following dialog is opened. Set profile SR95, Even Stations and 50 for the Even interval. Begin and end stations default to the profile limits but can be adjusted to limit the area to report on. Click on Compute Elevation.



The elevations are computed and displayed in the COGO output area.



- 13) Close COGO.

II.) Re-drawing the Proposed Profile

On longer profiles in normal workflows, you would delete the area which was changed and in the Profile display controls specify the station limits of revised profile for re-display. In this exercise, we will just delete the entire profile and re-display.

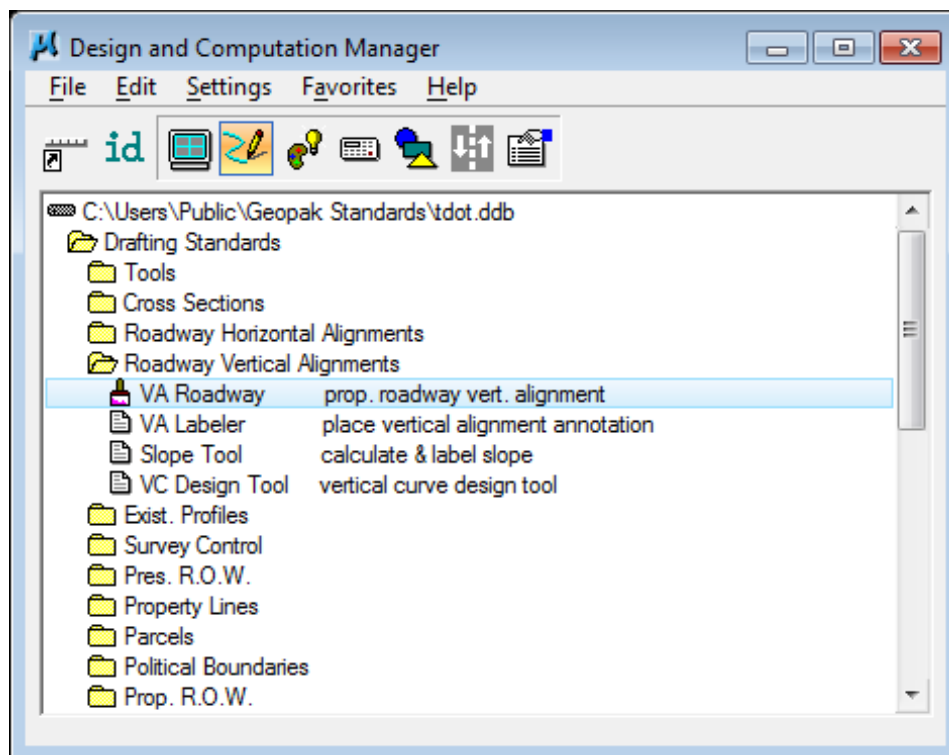
- 1) Delete the proposed profile graphics for SR95 which we displayed previously.

The proposed profile line work and text are in 2 separate graphic groups. Turn on the graphic group lock to easily clean off the graphics. They are plotted on the following levels.

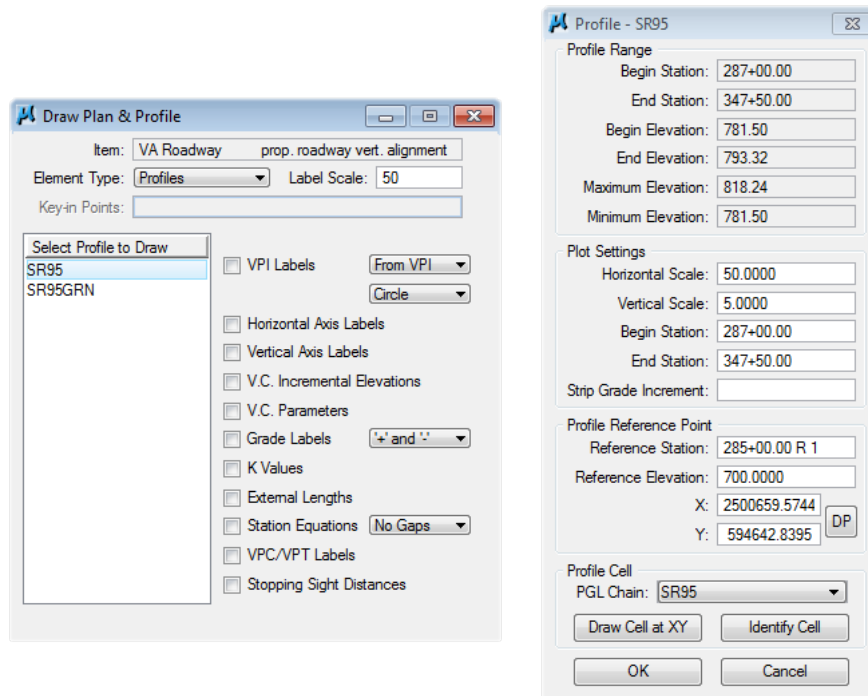
DESIGN - PROFILE - Proposed
 DESIGN - PROFILE - Proposed Curve Text
 DESIGN - PROFILE - Proposed Text

DO NOT delete the existing ground, profile grid or the horizontal and vertical axis labels.

- 2) Access the D&C Manager.
- 3) Select the item
 Drafting Standards → Roadway Vertical Alignments → VA Roadway.



- 4) Press the Draw Plan & Profile button.
- 5) Click on SR95 to plot the proposed profile line work using the parameters as shown in the following dialogs. All items should be set automatically.



Click OK to place the graphics.

- 6) Exit the Draw Plan and Profile dialog.
- 7) We also need to run VA Labeler again to place annotation. Double-click on the Item Drafting Standards → Roadway Vertical Alignments → VA Labeler

Click on the Identify Profile Cell command button and data point on the Geopak profile cell for the profile.

Set the Profile option to SR95.

Click on the Place Labels command button to place the vertical alignment annotation.

- 8) Review the new proposed vertical alignment graphics.
- 9) Close the VA Labeler dialog and exit D&C Manager.