

## InRoads – Creating a Roadway Profile

Commands:

*Evaluation > Profile > Create Profile*

*Geometry > View Geometry > Vertical Annotation*

*Evaluation > Profile > Annotate Profile*

### Overview

Roadway profiles are a standard part of contract plans which depict not only the vertical alignment geometry and associated annotation - they also show roadway cross slope information as detailed in the super elevation diagram, 10-station quantities, and vertical datum and benchmark information.

### Workflow

#### In MicroStation

Create a 2D MicroStation file using the **PSE\_Base.dgn** seed file.

Although multiple profiles can be placed in a single file, it may be beneficial to have a single profile per file to eliminate the possibility of having the incorrect set selected when placing and annotating profiles in InRoads.

#### In InRoads

1. Select the *File > Project Options...* command.
2. On the *Factors* tab, set the *Text*, *Cell* and *Line Style* scales to 200.

Displaying profile data at this scale ensures that when you reference to a profile sheet using the same 200 scale, your text is the correct size and the grid spacing from InRoads matches the MicroStation profile grid.

3. Select *Evaluation > Profile > Create Profile* and define the settings:
  - Load the **WSDOT** preference.
  - From the *General* category, set the vertical exaggeration to 10:1 and then select the existing surface.
  - For the existing surface to be displayed with the correct symbology set the *Profiles Symbology* for the existing surface to **SH\_RP\_OriginalGroundProfile**.
  - From the *Source* category, select the desired source alignment.
  - From the *Controls > Limits* folder, set the station and elevation limits - this may require some trial and error to get the best grid size.

The station limits can be extended beyond the actual alignment stationing to provide extra grid space for ascetic reasons and the elevation limits may need to be adjusted to best fit the entire alignment within the window grid.

4. Click **Apply** and then left-click the location of the bottom left corner of the profile in the MicroStation file.

Instead of selecting a random location consider a precision placement using the MicroStation key-in XY= 1000,1000 (or another easily remembered coordinate pair, but do not use 0,0). Later, if a complete update of the profile is required, it can be placed in the same location and the reference file attachments will not be affected.

5. Select the *Geometry > View Geometry > Vertical Annotation* command and define the settings:
  - Load the **WSDOT** preference.
  - From the *Main* tab, select the desired geometry and profile set.
6. Click **Apply** to display the vertical alignment in the window grid.
7. Select the *Evaluation > Profile > Annotate Profile* command.

This dialog controls the display of information in the profile window with the super elevation diagram, with proposed and existing elevations being the most commonly used.

8. Load the **WSDOT** preference.

This preference defines the settings for superelevation and proposed alignment elevations.
9. From the *General* folder, set the vertical alignment, surface, and corridor.

Set the surface to the **Design Surface** for proposed elevations,
10. Highlight the desired superelevation control lines.
11. Click **Apply** to annotate the profile set.
12. Deliver the file to the project's *\CAD\\_FromDesign* folder.

For questions or comments on this tech note, contact your regional CAE Support Coordinator or the WSDOT CAE Help Desk at (360) 709-**8013**.