InRoads – Creating Vertical Alignments from Cogo Points

Overview

This document describes a process for creating a horizontal and vertical alignment from a series of Cogo points. This process is NOT advised for typical roadway design. Please refer to the **InRoads 201 Production Level Design** course for details about creating a vertical alignment using the *Geometry* > *Vertical Curve Set* tools.

In this process, a horizontal alignment is first created from the Cogo points. The horizontal alignment and Cogo points are then annotated and imported into a horizontal and vertical alignment using the **Import Geometry from Graphics** tool in InRoads. Finally, the vertical alignment is verified in a profile sheet.

Workflow

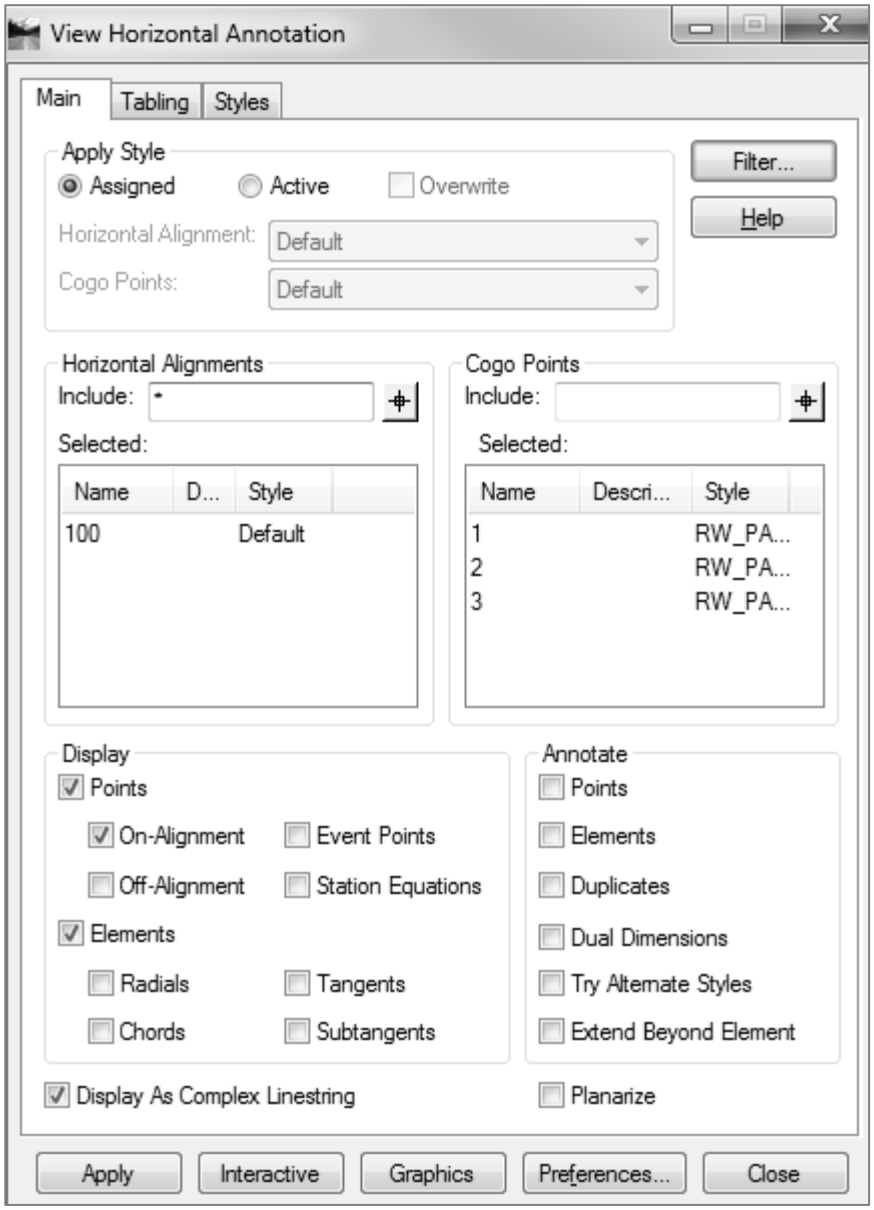
Create Alignment from Cogo Points

Start with an empty DGN file that was created with the InRoads 3D seed file, and attach the **wsdot_standards.xin** preference.

Create a horizontal alignment from the Cogo points with the *Geometry* > *Utilities* > *Create/Edit Alignment by Cogo Points* command.

NOTE: An existing horizontal alignment may also be used. In this case it will be necessary to annotate both the Cogo points and horizontal alignment.

Use the settings shown in the *Geometry* > *View Geometry* > *View Horizontal Annotation* command below.

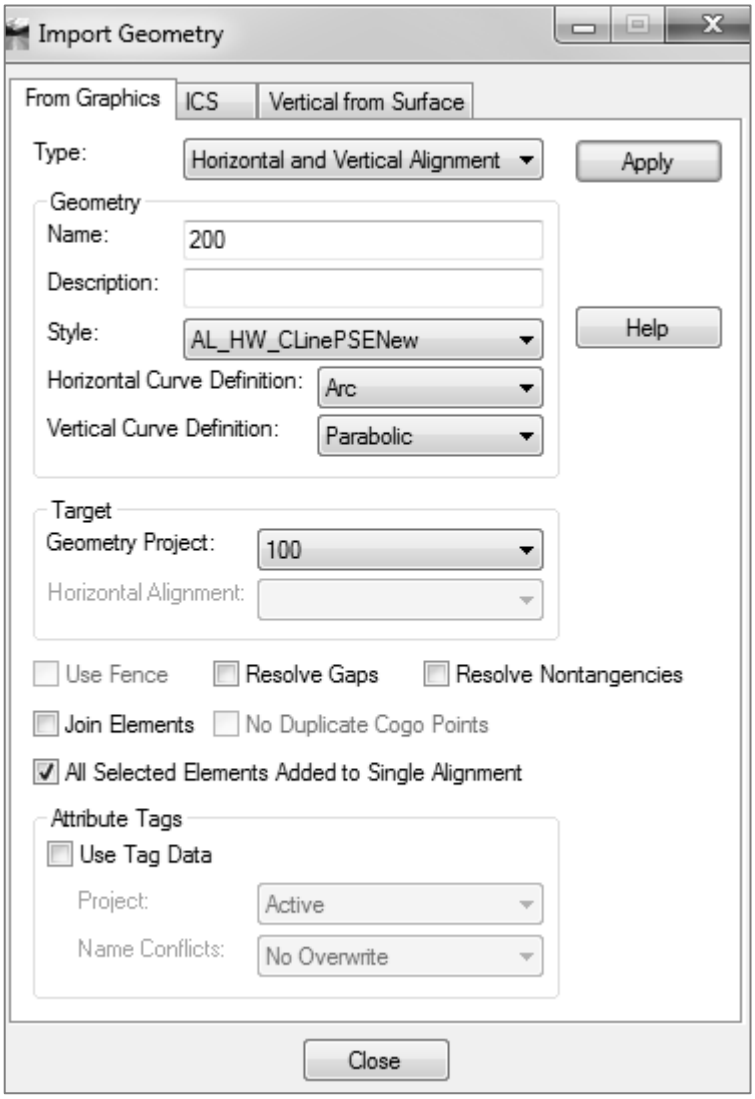


Select all the graphics that were drawn earlier when the horizontal alignment was created, or annotated later, with the MicroStation **Element Selection** tool.

Import Geometry from Graphics

1. Open the *File* > *Import Geometry* command. Select the **From Graphics** tab.
2. Choose **Horizontal and Vertical Alignment** for *Type*.
3. Set the geometry project where the alignments will be created.
4. Assign a name and style for the alignments.
5. Check only the **All Selected Element Added to Single Alignment** option.

6. Click **Apply**.



Horizontal and Vertical alignments are created in the active geometry project. Set the new alignment active.

Verify the Vertical Alignment

7. Create a profile with the Source set to **Window Only**.
8. View the vertical alignment on the profile sheet to confirm that the alignment and points imported correctly. The *Evaluation > Profile > Points to Profile* tool can be used to verify the Cogo points in the profile.

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