InRoads – Alignments By Cogo Points
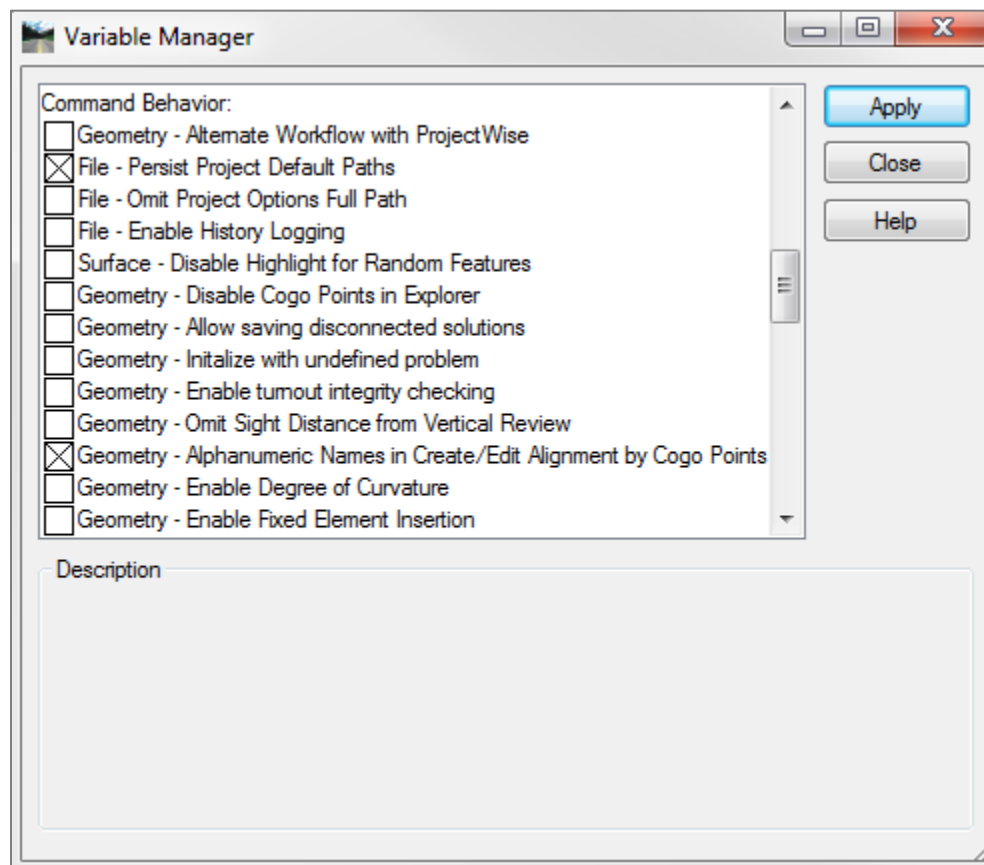
Geometry > Utilities > Create/Edit Alignment by Cogo Points command
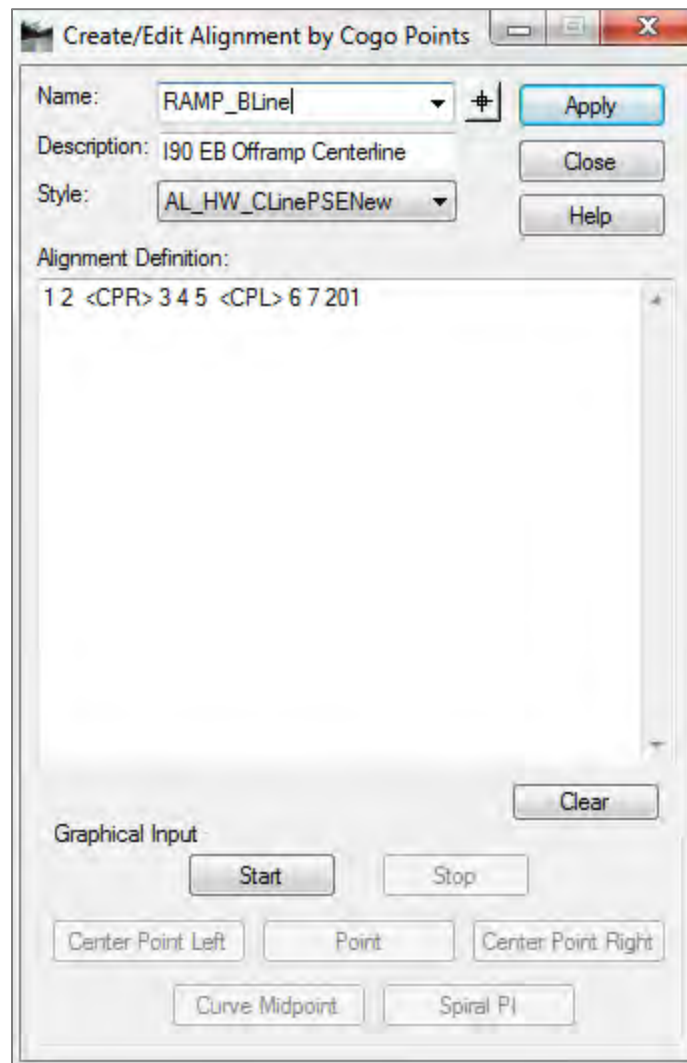
Overview

The *Geometry > Utilities > Create/Edit Alignment by Cogo Points* command allows users to create and edit horizontal alignments. In InRoads versions prior to XM, this command would only allow numeric Cogo point names, but in recent versions the command has been expanded to allow alphanumeric names. This is made possible using a setting in the **Variable Manager** to enable the **Geometry – Alphanumeric Names in Create/Edit Alignment by Cogo Points** option in InRoads.

The **Variable Manager** is an add-in tool that allows for customization of InRoads, including enabling commands and options that can replace legacy work flows. This tool is activated using the *Tools > Application Add-Ins* command.

These settings in the **Variable Manager** affect the **Create/Edit Alignment with Cogo Points** command. This Tech Note explains the work flow and syntax required for correctly using the command.

Workflow

The *Alignment Definition* syntax for this command is different, depending on whether the alphanumeric Cogo point name variable is enabled. When this option is **disabled**, the syntax for an example alignment with a curve is:

    1 2 C3R 4 5 C6L 7 201

This indicates that the alignment begins at point **1**, moves through point **2**, then a right hand center of curve point **3**, through points **4** and **5**, left hand center of curve point **6**, point **7** and ends at point **201**.

With the alphanumeric Cogo point name **enabled**, the syntax for this example alignment is:

    1 2 <CPR> 3 4 5 <CPL> 6 7 201

The following control codes are used for the alphanumeric command. These codes cannot be used in the actual point names:

<CPL> is used to indicate a circular curve's center point for a left hand curve.

<CPR> is used to indicate a circular curve's center point for a right hand curve.

<POC> is used to indicate a circular curve's mid-point (this is a point that is anywhere on the circular arc and not the start or end points).

<SPI> is used to indicate a clothoid spiral's point of intersection.

Which Mode Are You In?

When you attempt to use alphabetic Cogo point names without having the *Variable Manager > Geometry – Alphanumeric Names in Create/Edit Alignment by Cogo Points* option toggled on, you will receive the error message "*Alignment * contains illegal point names. Do you want to assign names?*" or a message in the InRoads status bar when you attempt to store the new alignment.

There are two ways to resolve the errors in this situation:

- Rename the Cogo points to a numeric name

- Enable the **Alphanumeric Names** option in the **Variable Manager**

Another opportunity to receive the "*Alignment * contains illegal point names. Do you want to assign names?*" error is when an alignment contains unnamed points. Some alignments contain unnamed points, because InRoads does not require that Cogo points are used for creating alignments. For example, the begin point, curve points and end points can be digitized, keyed in or derived from other sources beyond established Cogo points.

If you choose **Yes**, the alignment points whose names are blank are renamed with numeric characters. If you click **No**, the command is launched in 'Create' mode.

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