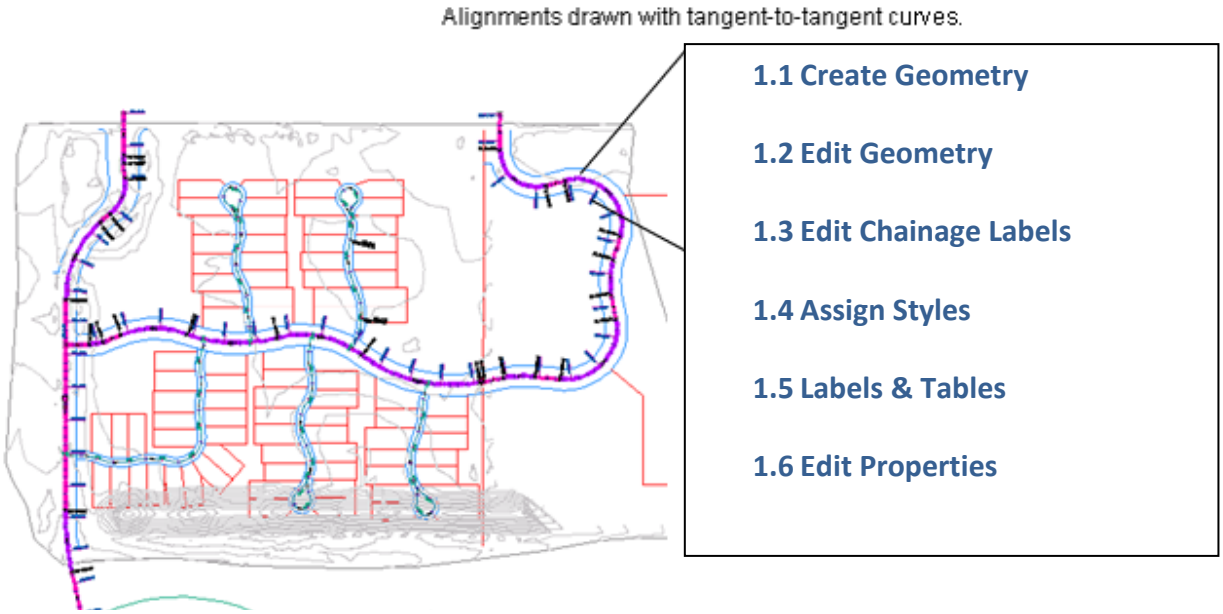
HORIZONTAL ALIGNMENTS CHEAT SHEET:
(using the ANZ CK to get started easily)



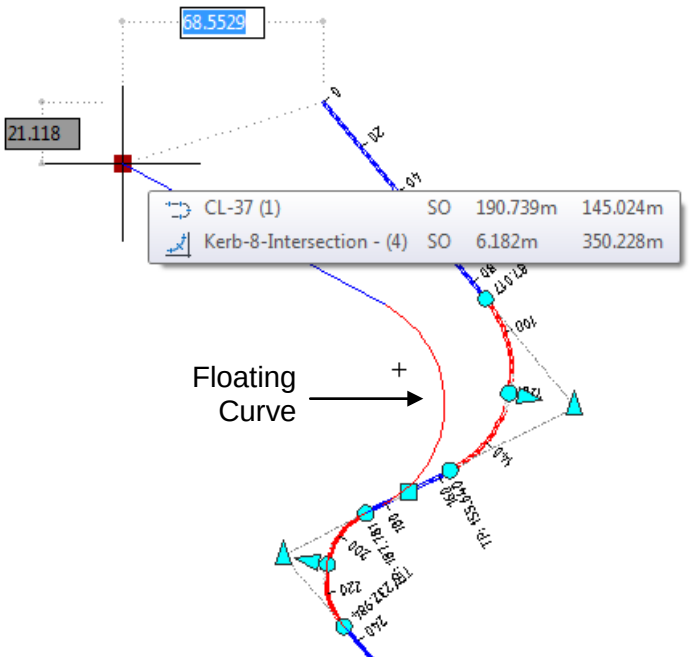
This doc is a brief summary of how to create simple Horizontal Geometry using Polylines and how to use the inbuilt functionality of the ANZ Country Kit to harness the functionality.

Entity Based Design:

In this example, the curve is maintaining tangency with the lines as it is a Floating Element

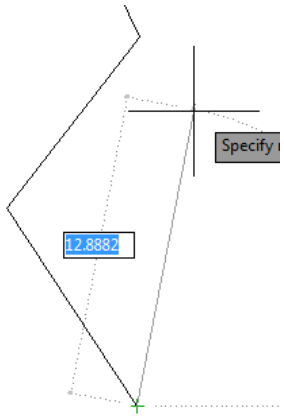
The goal of this brief doc is to show how to convert Polylines into intelligent objects.

NOTE:
This is the simplified method for getting started - please see the help file and tutorials for a more complete tutorial on using more powerful tools for creating Horizontal Geometry.

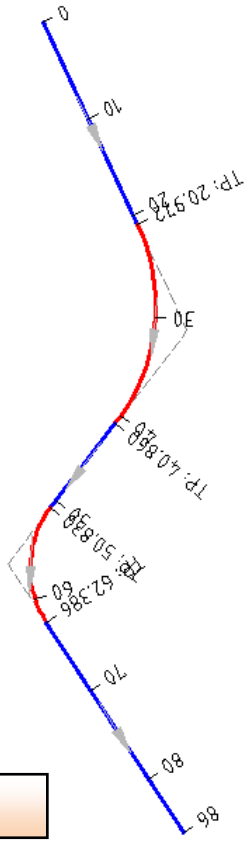


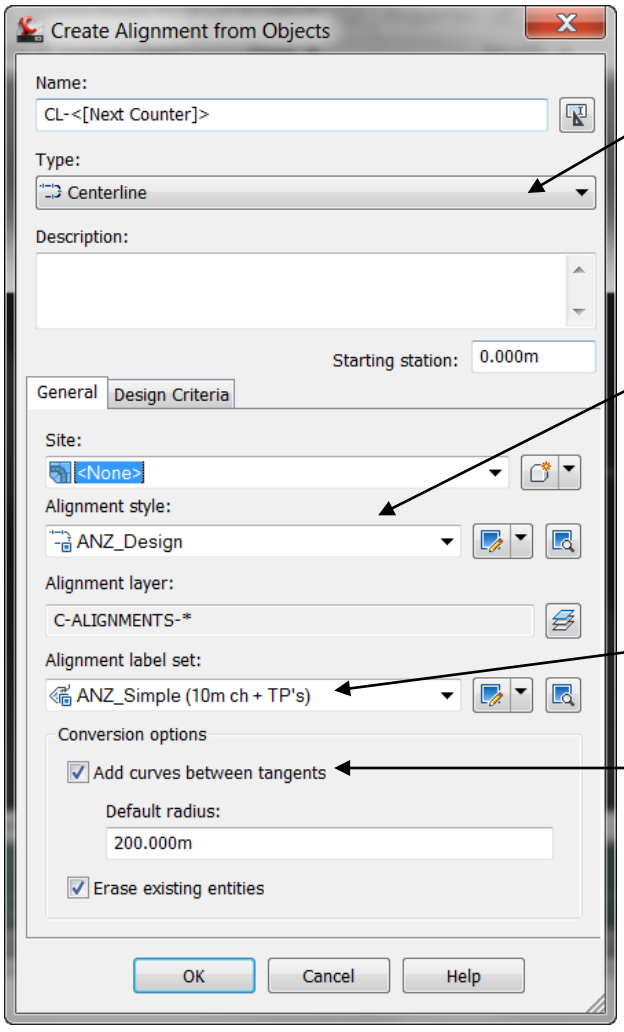
1. 1 Create the Geometry from Polylines:

2D Polyline
No Curves



- **Draw a 2D Polyline, without the curves.**
- **On the Ribbon Click Alignments ... Create from Objects.**
- **Select the Polyline**
- **Fill in the relevant details as per the screen shot below**
- **FLOATING Curves are automatically created...**





Leave this on Centreline

The Alignment style controls the visual appearance of the alignment components - Line type, colour etc.

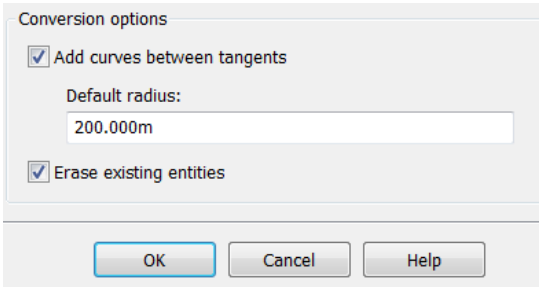
Select the relevant label set for chainages, geometry points etc *("ANZ_no labels" is a blank label set)*

Leave this clicked to get the horizontal curves added automatically.

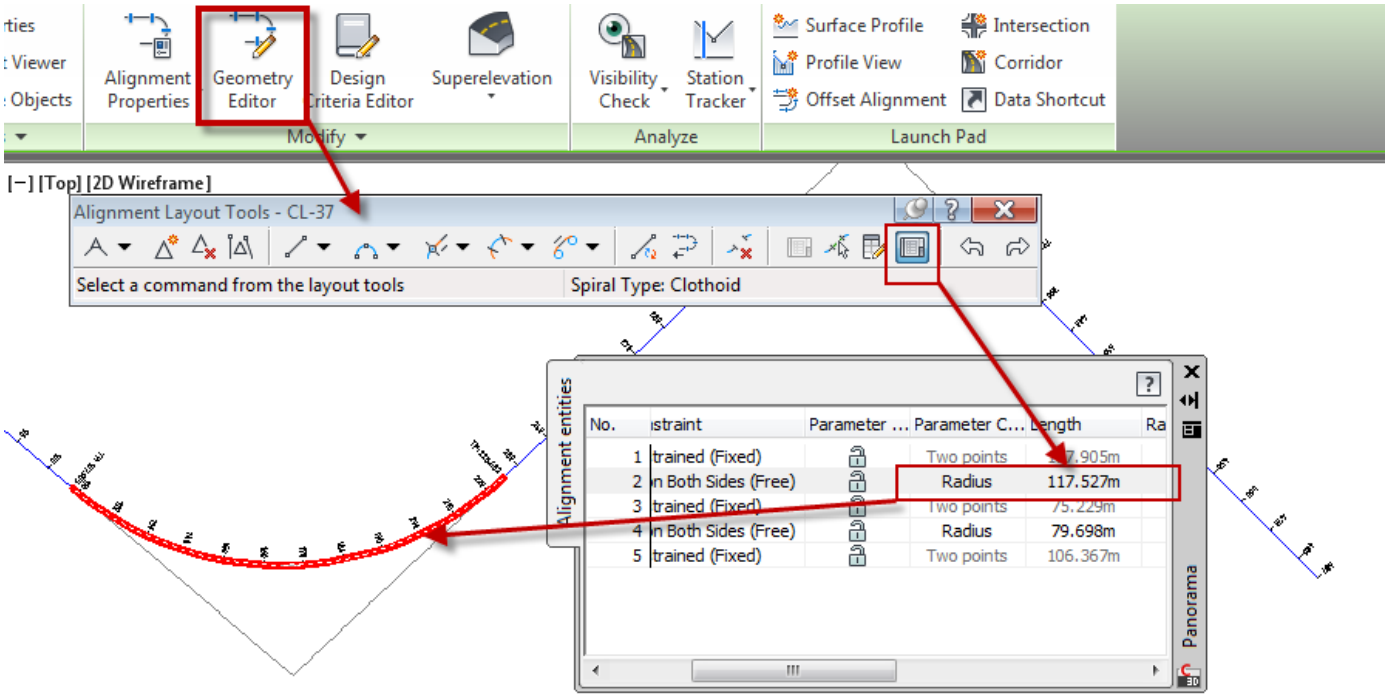
Default Radius of the curves can be specified.

1.2 Edit Geometry

Curves default to a specific radius (200m) when created from alignments - they can be changed easily.



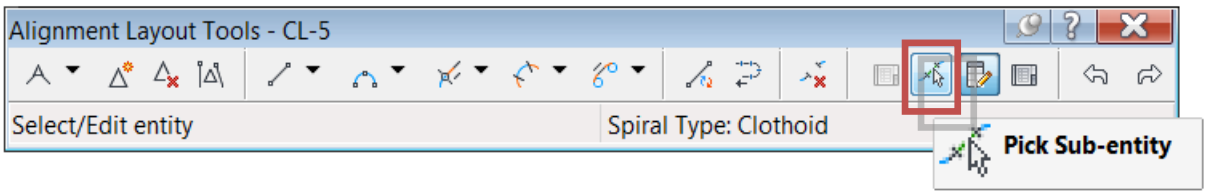
- **Select the Alignment**
- **Click "Geometry Editor" on the Ribbon**
- **Select "Alignment Grid View"**
- **Type in values for the Curve Radius or Length**



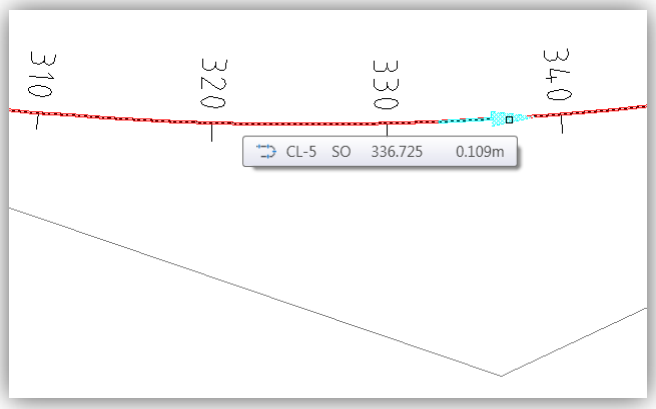
Editing Individual Entities on alignments

The previous method brought up a spreadsheet like view for all the entities in the alignment - this method allows you to pick data for single entities - in this case a curve.

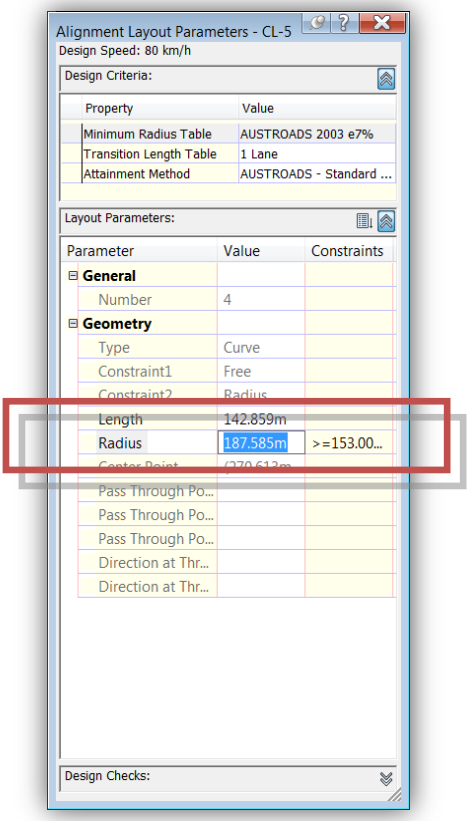
- **<Click> " Pick Sub-Entity" in the Alignment Layout tools**



- **Select the horizontal curve on the alignment.**



- **Change values for radius or curve length as required.**

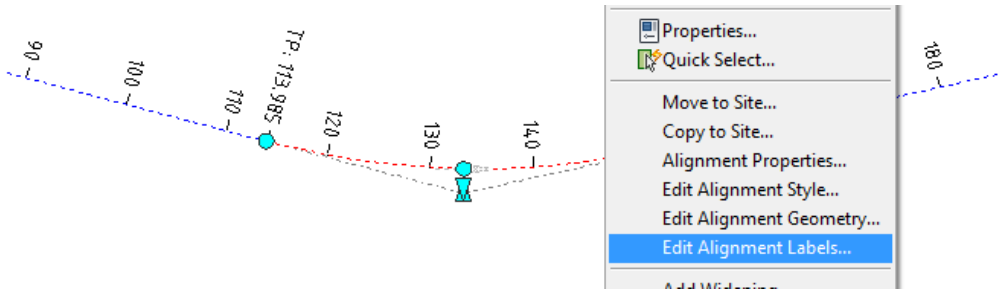


Note:- Values which cannot be edited are shown in grey.

E.g. Start Direction
This (Start Direction) can be edited by selecting the incoming tangent line to the curve from the previous dialogue box.

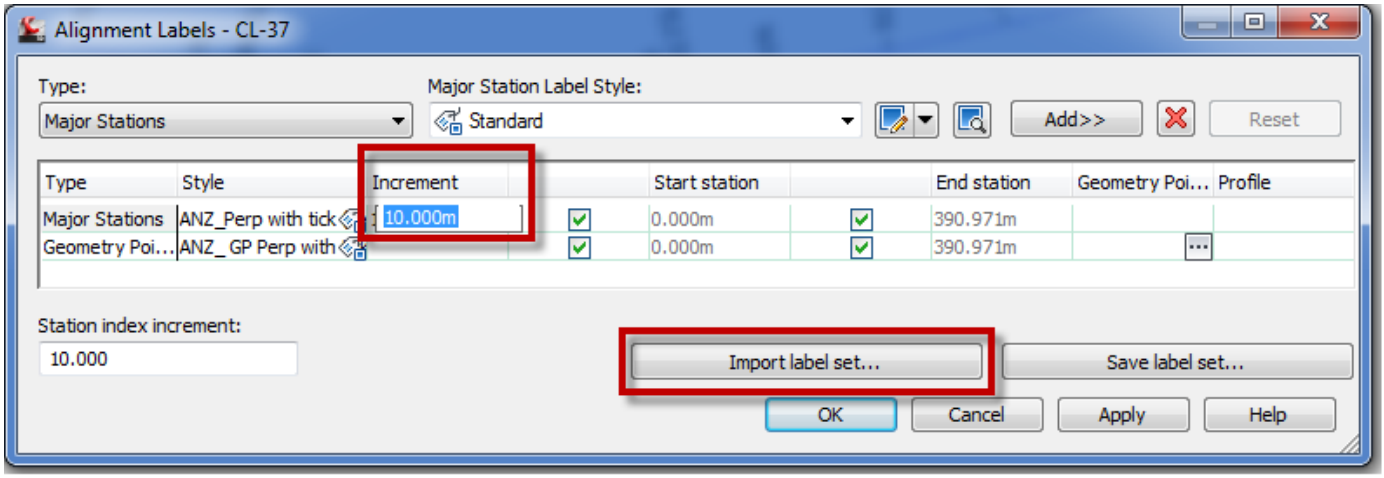
The help file and tutorials contain a lot more information on the more complex edits that can be done with alignments - this is only an intro.

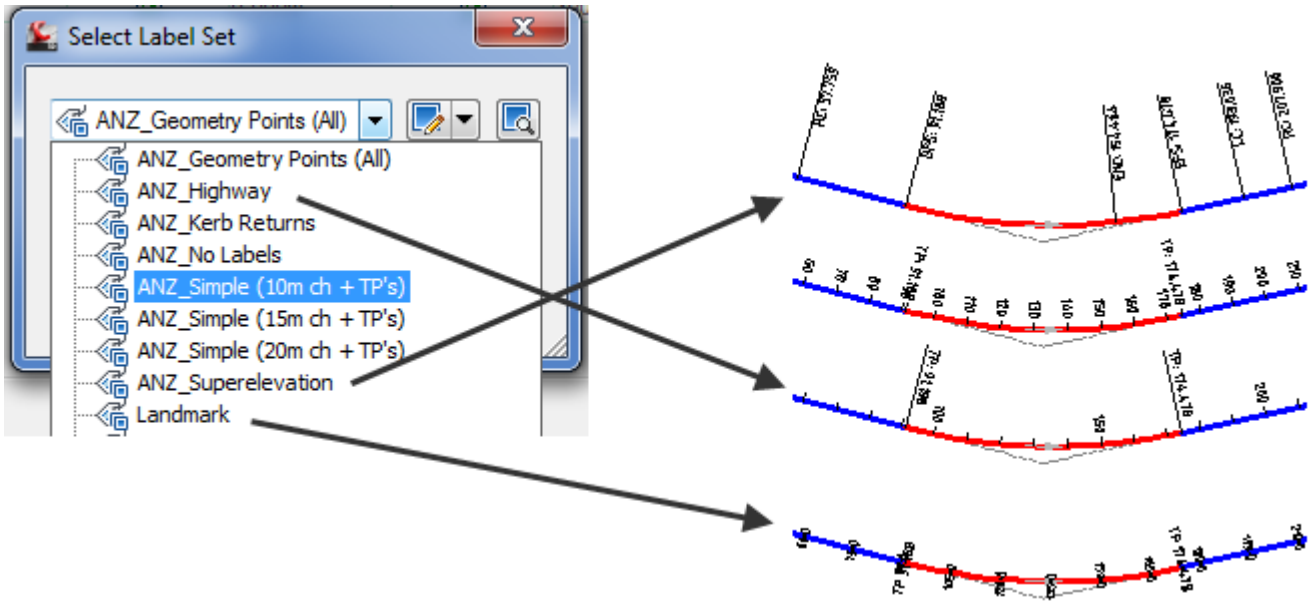
1.3 Edit Chainage Labels



- **Select Alignment, Right Click, Select "Edit Alignment Labels"**

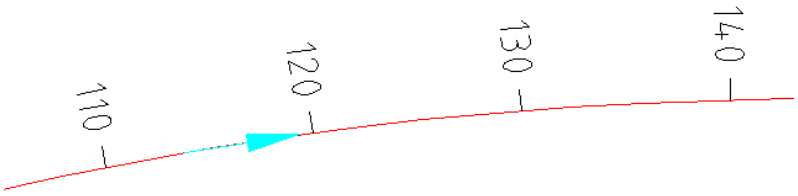
- **Edit Increment Spacing Or Select "Import Label Set"**



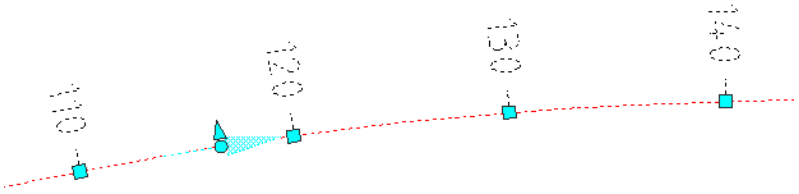


Dragging Alignment Labels on alignments

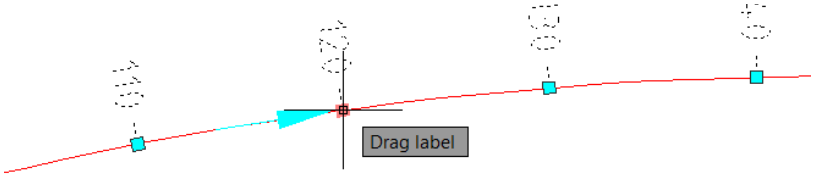
- **Zoom into the alignment where labels needs to be re arranged.**



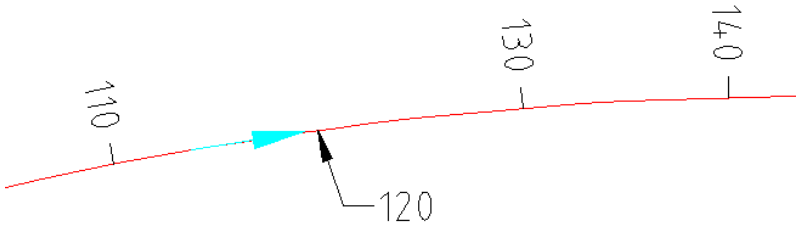
- **<Click> to Select the Alignment labels**



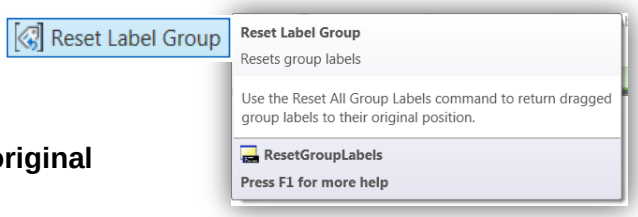
- **Move your mouse over the Grip and <Click> on the grip**



- **Drag the label to the desired location on screen.**



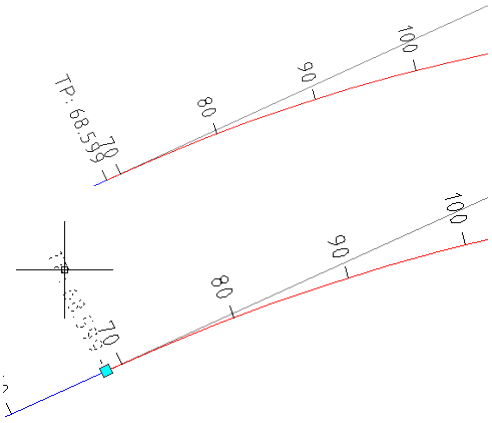
- **Displaced Labels can be moved back to the original location using the command "Reset Label Group".**



- **<Click> to select the label to be moved to the original location, then <Click> on "Reset Label Group"**

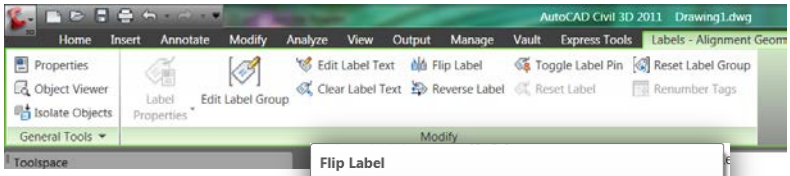
Flip Alignment Label Side On Alignments

- **Zoom into the alignment where labels needs to be Flipped.**

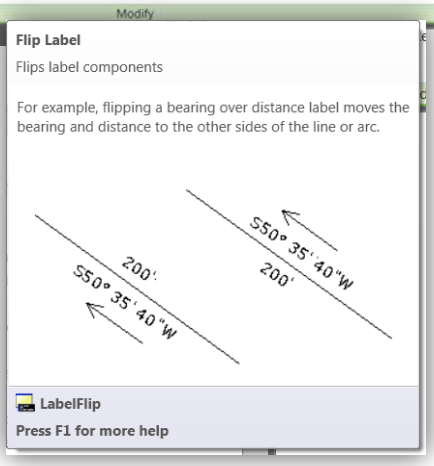


- **Move your mouse over and <Click> on the Target Label to select.**

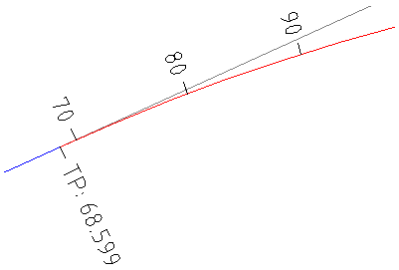
- **Once the Label is selected the Label Alignment Ribbon Appears.**



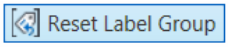
- **<Click> on "Flip Labels" and the Label is moved to the other side of the line or arc.**



- **Label is Flipped**



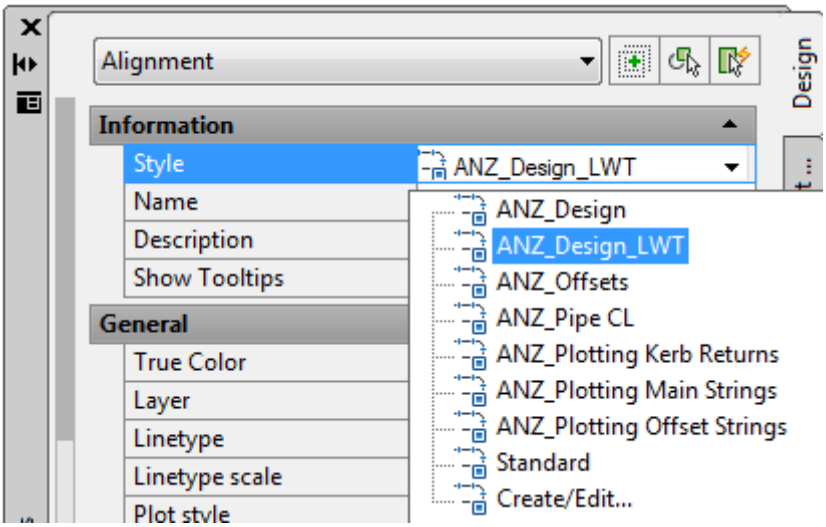
Note : Displaced Labels can be moved back to the original location using the command "Reset Label Group".

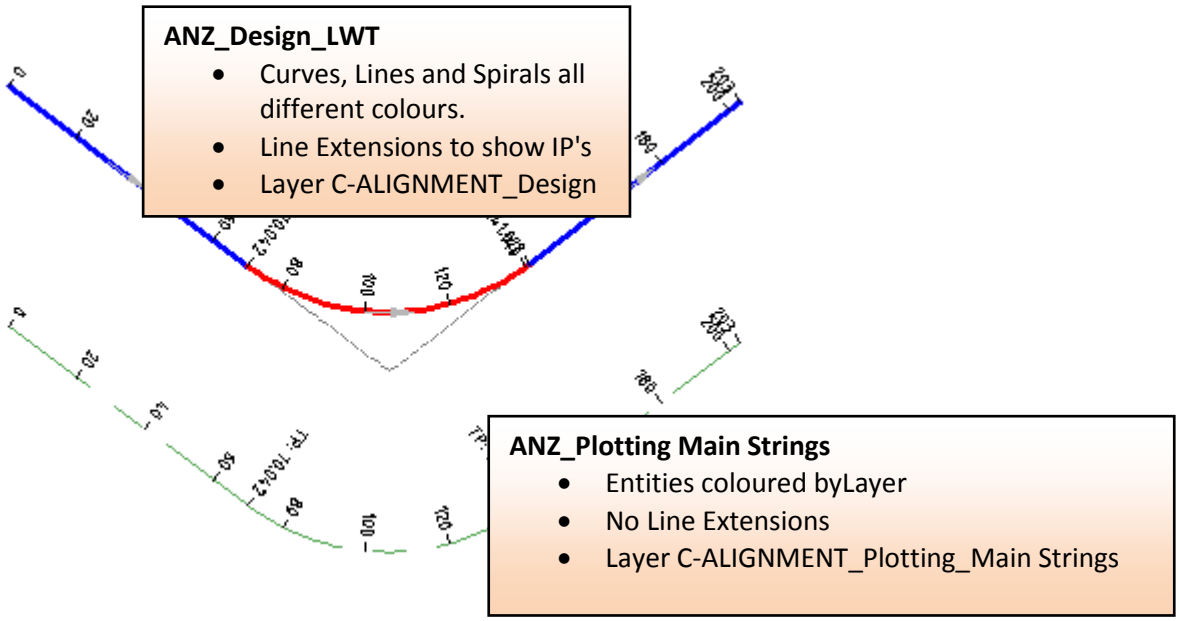


1.4 Assign Styles

The Alignment Style controls the Colour, Layer, Linetype and general aesthetics of the Geometry. The ANZ CK contains a few options to get you started.

- **Select the Alignment**
- **Use the AutoCAD Properties (<Ctrl>&1) to change the style**





1.5 Labels & Tables

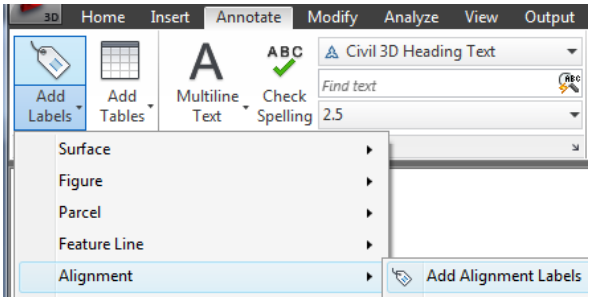
Offset Labels:

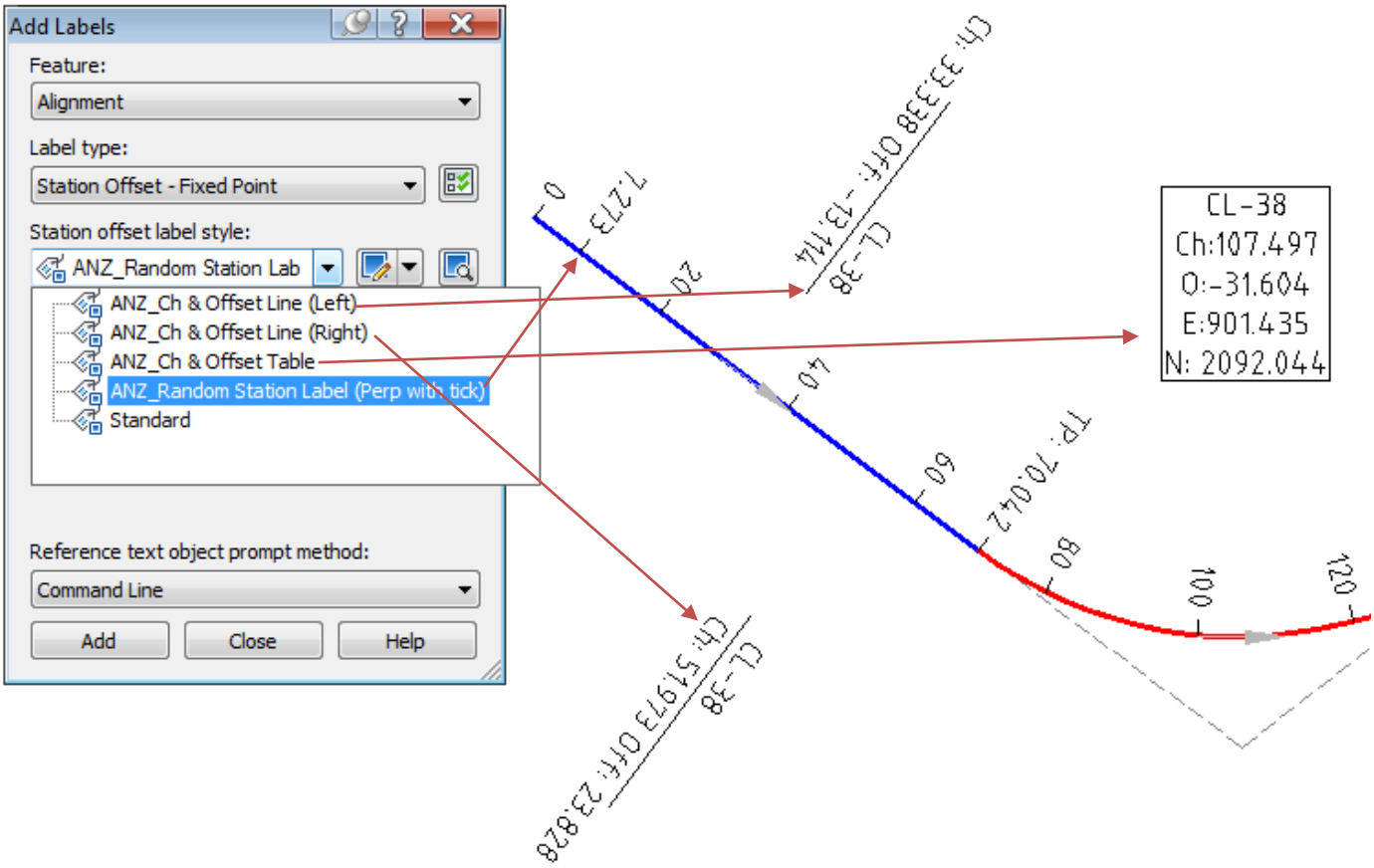
Segment Labels

Tables

1.51 Offset Labels:

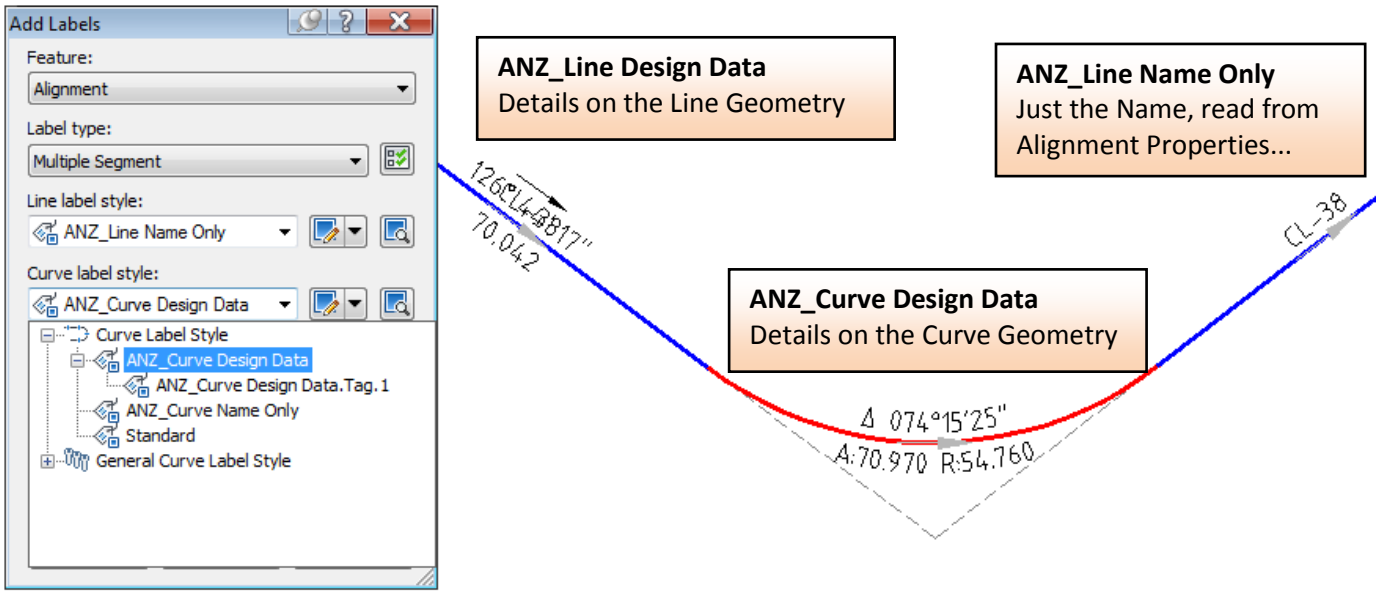
- **Go to the Annotate Tab**
- **Select "Add Labels",**
  Alignment, Add Alignment Labels
- **Select options as per screen shot below...**





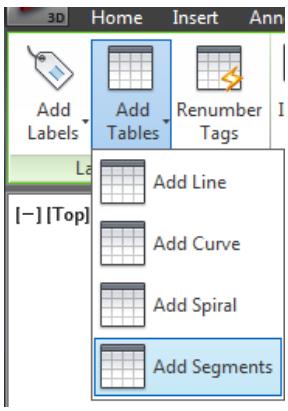
1.52 Segment Labels:

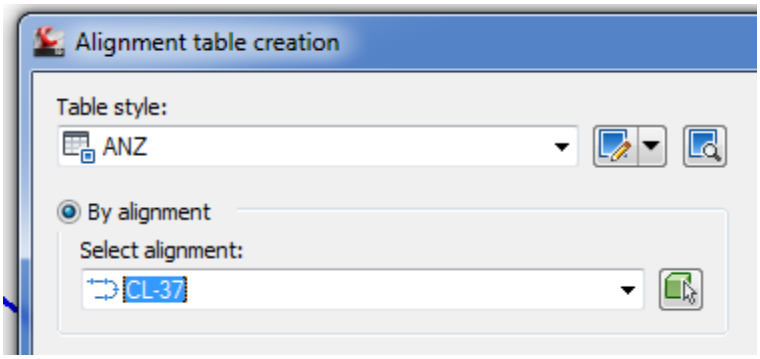
- **Go to the Annotate Tab**
- **Select "Add Labels",**
  Alignment, Add Alignment Labels
- **Select options as per screen shot below...**



1.53 Tables:

- **Select the Alignment**
- **Select "Add Tables", Add Segments**
- **Pick Table Style "ANZ"**
- **Select the Alignment**





Set Out Table for CL-38							
TAG		CHAINAGE	EASTING	NORTHING	LENGTH	RADIUS	BEARING
L1	BP EP	0.000 70.042	811.559 867.690	2113.192 2071.295	70.042		126° 44' 17"
L2	BP EP	0.000 70.042	811.559 867.690	2113.192 2071.295	70.042		126° 44' 17"
C1	TP IP TP	70.042 111.499 141.012	867.690 900.913 933.795	2071.295 2046.497 2071.746	70.970	54.8	089° 36' 34.39"
C2	TP IP TP	70.042 111.499 141.012	867.690 900.913 933.795	2071.295 2046.497 2071.746	70.970	54.8	089° 36' 34.39"
L3	BP EP	141.012 203.199	933.795 983.118	2071.746 2109.619	62.186		052° 28' 52"

Set out Table inserted.

NOTE:

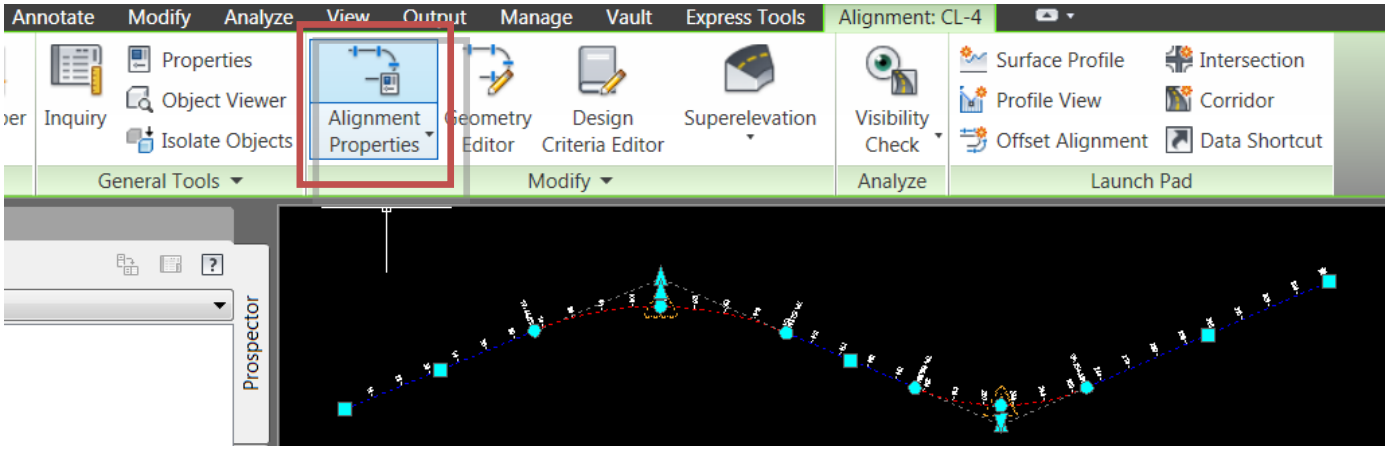
You need to have segment labels to use the Tables. The table refers to L1, L2 etc - these labels need to exist in the DWG. As long as you have some segment labels on the geometry, Civil 3D will offer to convert these to "Tag Labels" - say yes to this and the table will appear.

(Make sure to select the correct alignment from the dialogue box - it does not default to the one you used to trigger the command on the ribbon)

1.6 Edit Alignment Properties

With Alignment Properties you can the edit the information about the alignment, station control, masking region, design criteria such as design speed, design checks.

- **Select the desired alignment to change its properties**
- **In the Ribbon <click> on "Alignment Properties"**

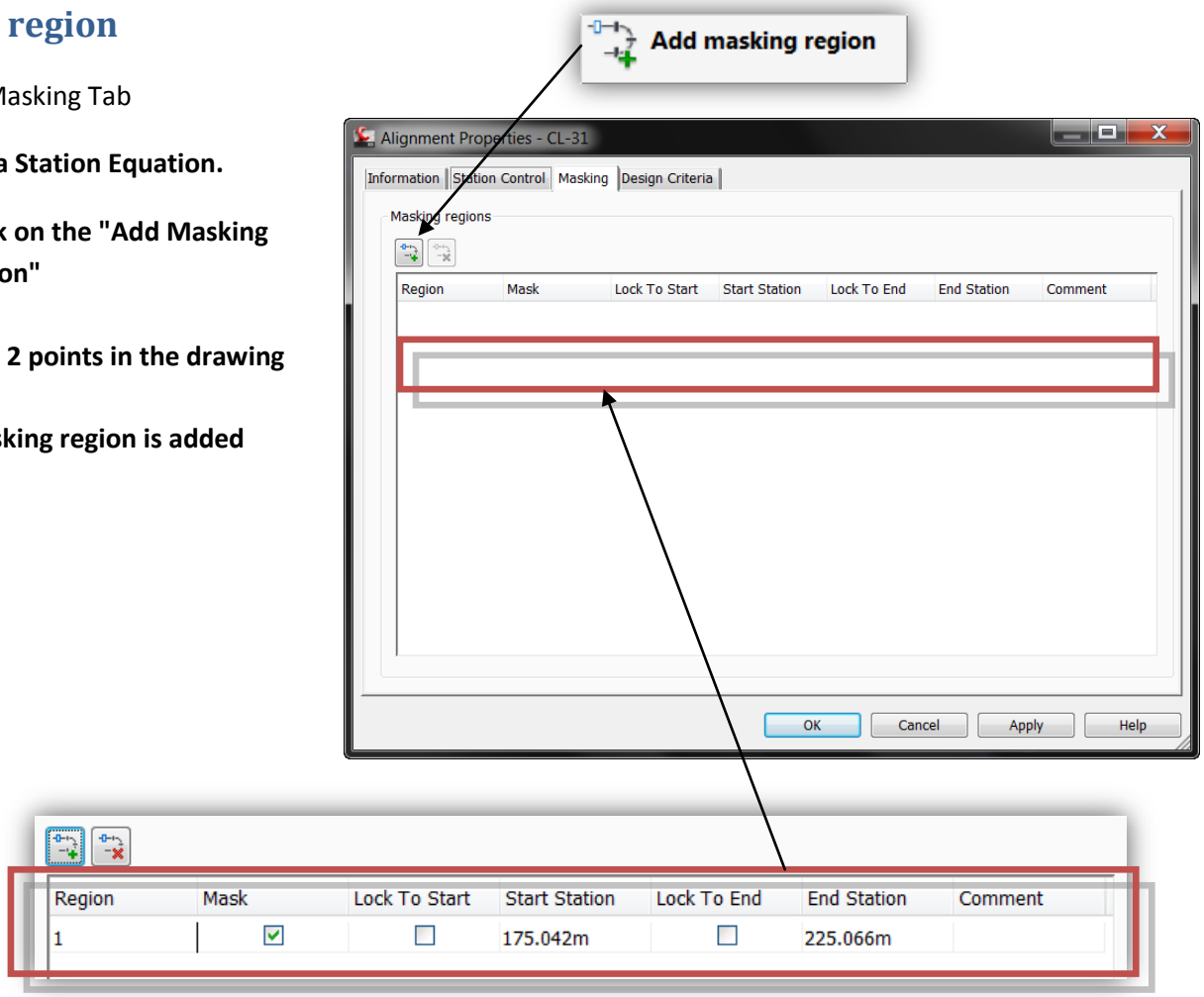


Masking region

Under the Masking Tab

For Adding a Station Equation.

- **Click on the "Add Masking region"**
- **Pick 2 points in the drawing**
- **Masking region is added**



Specify Design Speed and Criteria

For Superelevation and Criteria based Widening, you need to specify the Design Speed and the Criteria File.

- **Add Design Speeds as shown in the Screen Capture below.**
- **Specify a Design Criteria File as shows in the same Screen Capture.**