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Workshop - X9
Roadway Designer: Using Point Controls, Aliasing and Superelevation

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Lesson Name: Getting Started

LESSON OBJECTIVE:
In this lesson we will start InRoads and open the appropriate DGN file.

EXERCISE: GETTING STARTED

This exercise will guide you through the steps to get started

1. From the computer desktop double click on the InRoads Suite icon.
2. When the **MicroStation Open** dialog appears navigate to the following directory.
   C:\2009RBC\EW-10\DATA
3. Highlight the file ***working.dgn*** and select the **Open** button.

Lesson Name: Opening a Project

LESSON OBJECTIVE:
In this lesson we will open the project data.

EXERCISE: OPENING THE PROJECT DATA

This exercise will guide you through the steps.

1. From the **InRoads** menu go to **File > Open**.
2. Navigate to the ***C:\2009RBC\EW-10\DATA*** and highlight the file ***EW-10.rwk***.
3. Select the **Open** button and then select **Cancel**.

   The following data was loaded from the RWK file.

Preference file:	*civilV8i.xin*
Existing Ground:	*OG.dtm*
Controls Surface:	*control.dtm*
Geometry Project:	*EW-10.alg*
Template Library:	*templates.itl*

Lesson Name: Creating Corridors

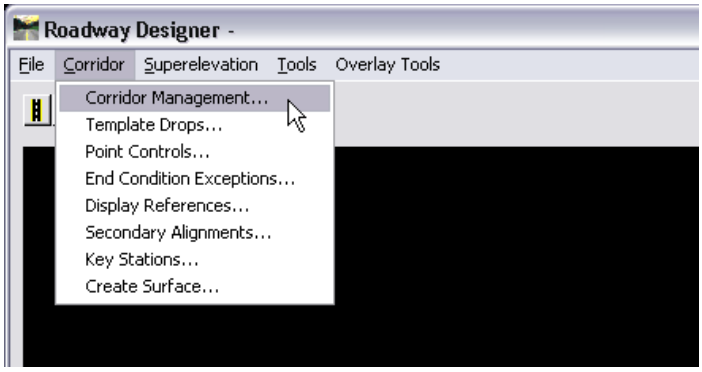
LESSON OBJECTIVE:
In this lesson we will create two road corridors using the horizontal and vertical alignments in the geometry project that you loaded.

EXERCISE: CREATING CORRIDORS

This exercise will guide you through the steps.

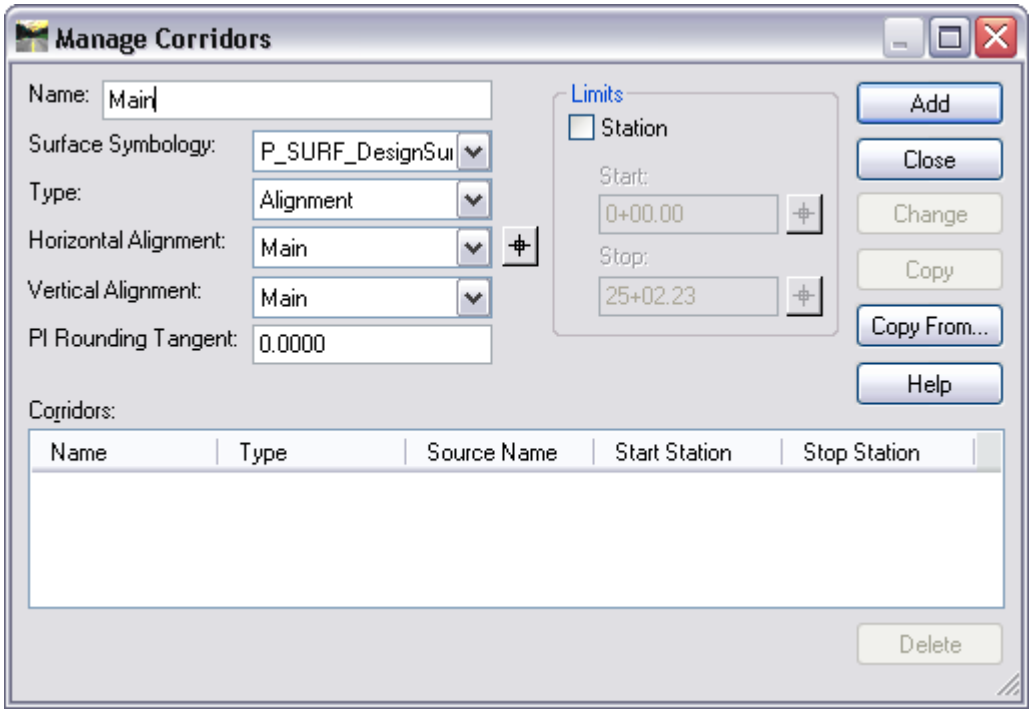
1. From the **InRoads** menu go to **Modeler > Roadway Designer**.

2. Maximize Roadway Designer
3. From **Roadway Designer** go to **Corridor > Corridor Management.**



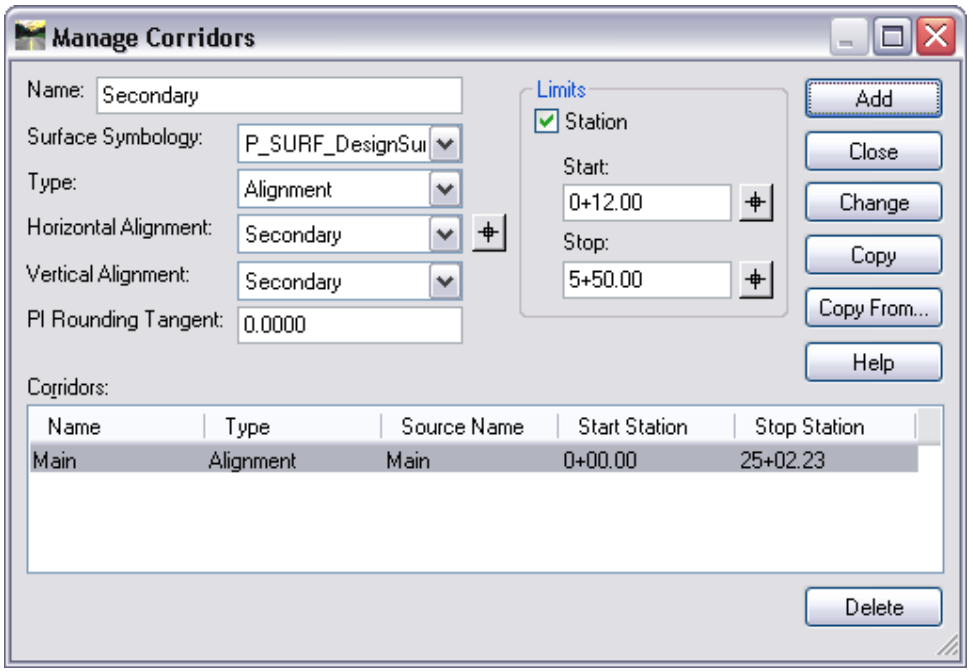
4. When the Manage Corridors dialog appears create a corridor by entering the following data:

Name: ***Main***
Surface Symbology: ***P_ROAD_EdgeOfPavement***
Type: ***Alignment***
Horizontal Alignment: ***Main***
Vertical Alignment: ***Main***
Station Limits: ***Off***



5. Select the **Add** button.
6. Create another corridor using the following settings:

   Name: ***Secondary***
   Surface Symbology: ***P_ROAD_EdgeOfPavement***
   Type: ***Alignment***
   Horizontal Alignment: ***Secondary***
   Vertical Alignment: ***Secondary***
   Station Limits: ***On***
   Start: ***00+12.01***
   End: ***05+50.00***



7. Select the **Add** button.
8. **Close** the **Manage Corridors** dialog.

Lesson Name: Assigning Templates

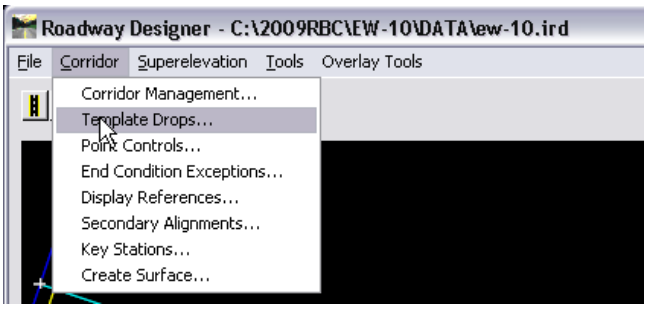
LESSON OBJECTIVE:

In this lesson we will assign the templates to the two corridors that were previously created.

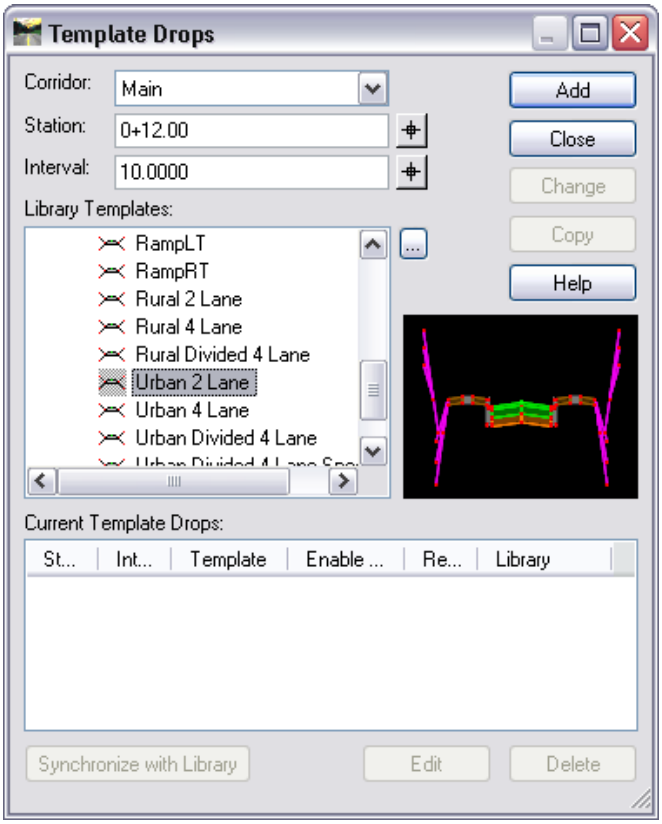
EXERCISE: ASSIGNING TEMPLATES

This exercise will guide you through the steps.

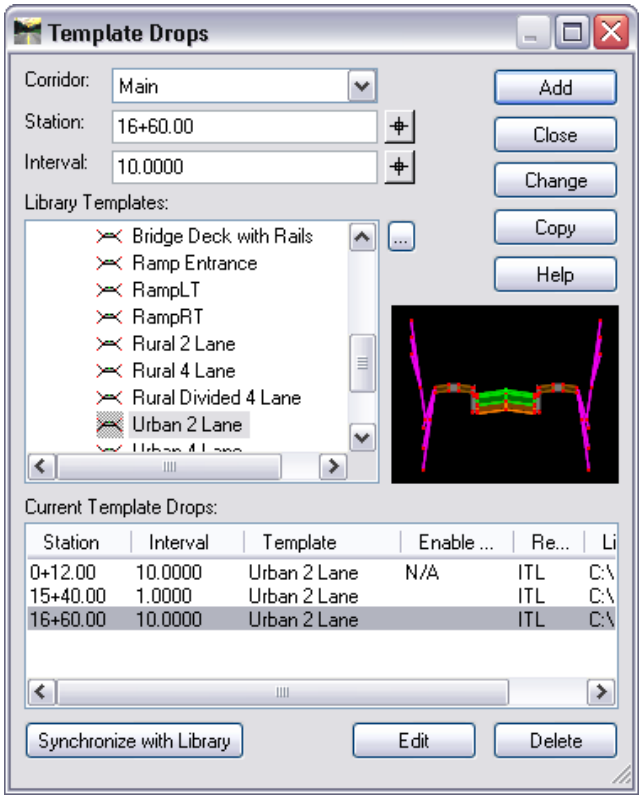
1. From the **Roadway Designer** menu go to **File** > **New**. Enter the name ***EW-10*** and select the **Save** button.
2. From the **Roadway Designer** menu go to **Corridor** > **Template Drops**.



3. When the **Template Drops** dialog appears set the **Corridor** to ***Main***.
4. Set the **Interval** to ***10.00.***
5. Navigate to the ***Urban 2 Lane*** template in the **Templates** folder and highlight it.



6. Select **Add**.
7. Change the **Station** to ***15+40*** and the **Interval** to ***1.00*** and then select **Add**.
8. Change the **Station** to ***16+60*** and the **Interval** to ***10.00*** and then select **Add**. At this point you should have three entries in your **Template Drops** dialog.



9. Change the **Corridor** to ***Secondary***.
10. Add the following template drops:

Station	Template	Interval
00+12	***Urban 2 Lane***	***1.00***
00+80	***Urban 2 Lane***	***10.00***

11. **Close** the **Template Drops** dialog.

Lesson Name: Creating Superelevation

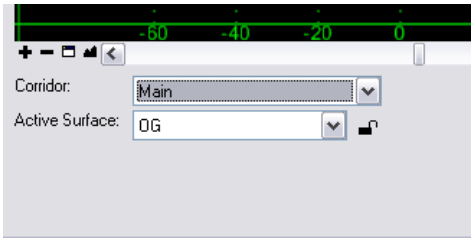
LESSON OBJECTIVE:

In this lesson we will create the superelevation for the Main corridor.

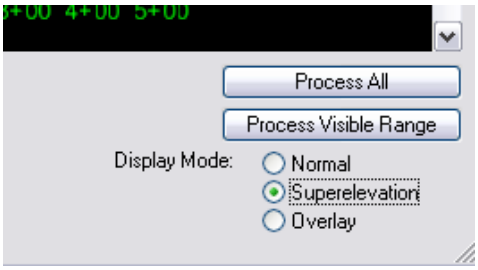
EXERCISE: CREATING SUPERELEVATION

This exercise will guide you through the steps.

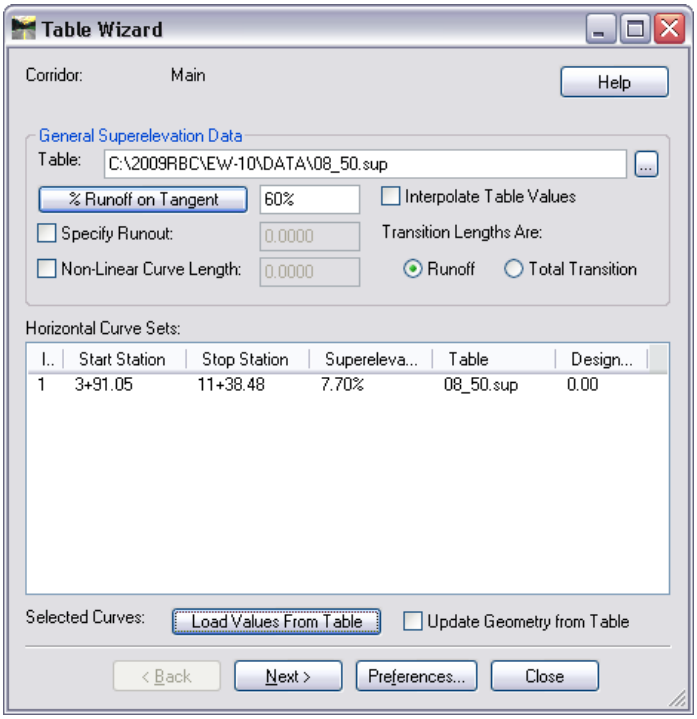
1. From the **Roadway Designer** menu set the active corridor to ***Main*** in the lower left corner of the dialog.



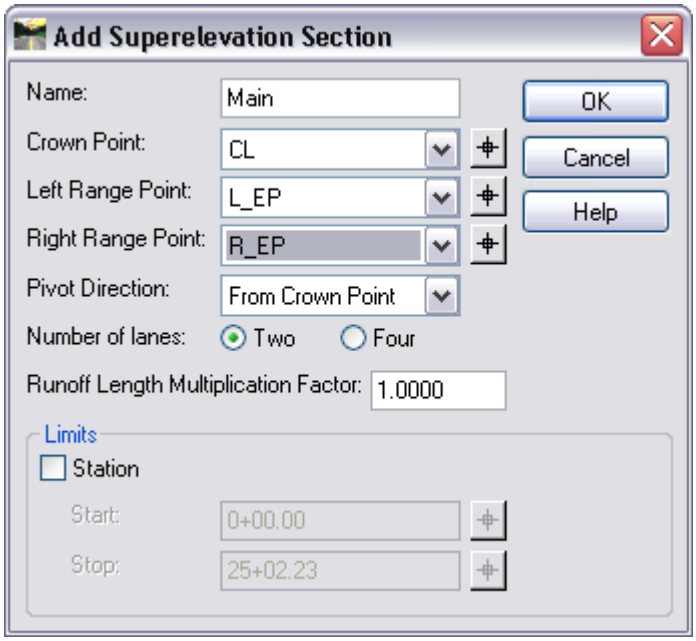
2. Select the **Superelevation** choice in the lower right corner of the dialog.



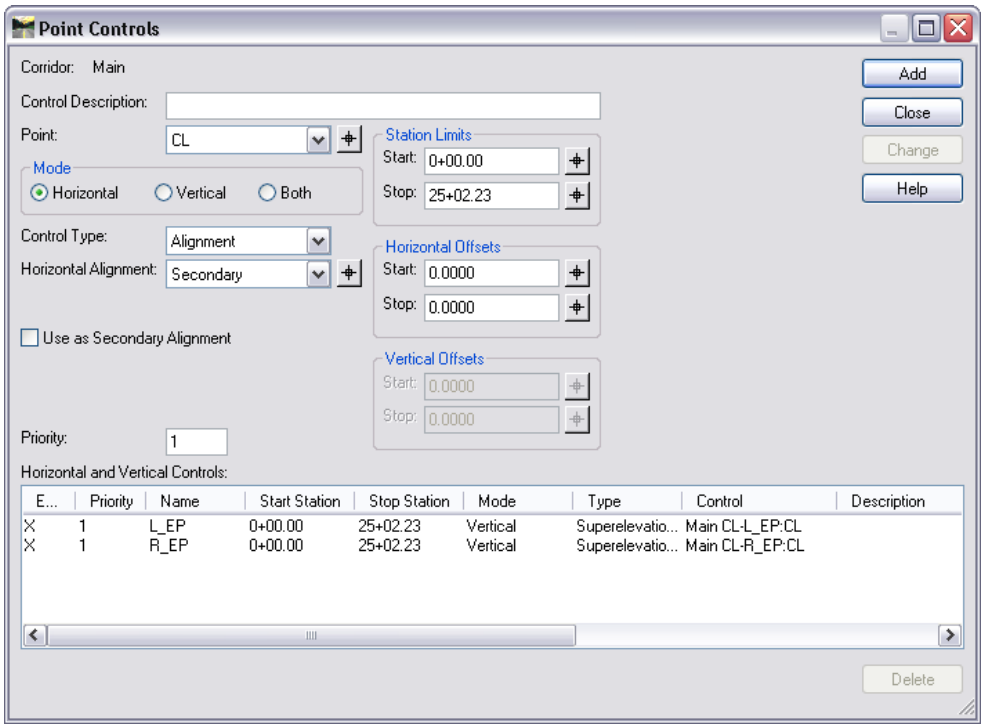
3. Right click in the lower right window (Superelevation Diagram window) and select **Create Superelevation Wizard > Table.**
4. When the **Table Wizard** appears select the superelevation table called ***08_50.sup*** using the  button to the right of the **Table** field.
5. Select the **Load Values From Table** button at the bottom of the dialog.



6. Select **Next.**
7. Select the **Add** button in the center of the dialog.
8. Setup the dialog as shown below.



9. Select **OK**.
10. Select **Next**.
11. Select **Finish.**
12. From the **Roadway Designer** menu go to **Corridor > Point Controls**. Notice there are two point controls that control the L_EP and R_EP points of the template.



13. **Close** the **Point Controls** dialog.

Lesson Name: Adding Point Controls

LESSON OBJECTIVE:

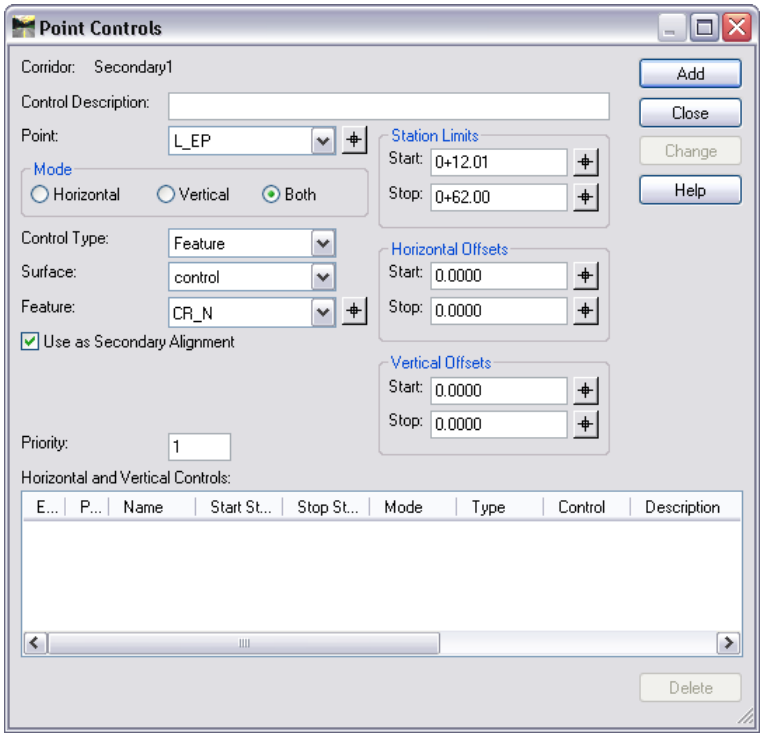
In this lesson we will learn how to add point controls for the intersection at the two roads.

EXERCISE: ADDING POINT CONTROLS

This exercise will guide you through the steps.

1. From the **Roadway Designer** menu set the active corridor to ***Secondary*** in the lower left corner of the dialog.
2. From the **Roadway Designer** go to **Corridor > Point Controls**.
3. Set the following values for the following fields:

Point:	***L_EP***
Mode:	***Both***
Control Type:	***Feature***
Surface:	***control***
Feature:	***CR_N***
Use as Secondary Alignment:	***On***

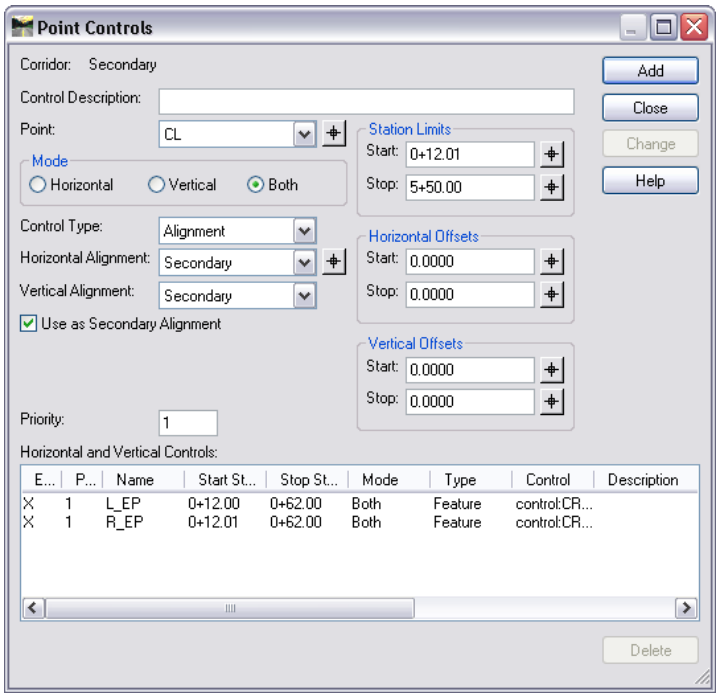


4. Select **Add.**

5. Set the following values for the following fields:

Point:	***R_EP***
Mode:	***Both***
Control Type:	***Feature***
Surface:	***control***
Feature:	***CR_S***
Use as Secondary Alignment:	***On***

6. Select **Add**.



7. **Close** the **Point Controls** dialog.

Lesson Name: Adding Additional Point Controls

LESSON OBJECTIVE:

In this lesson we will learn how to add point controls to create a by-pass lane on the southbound lane of the Main corridor.

EXERCISE: ADDING ADDITIONAL POINT CONTROLS

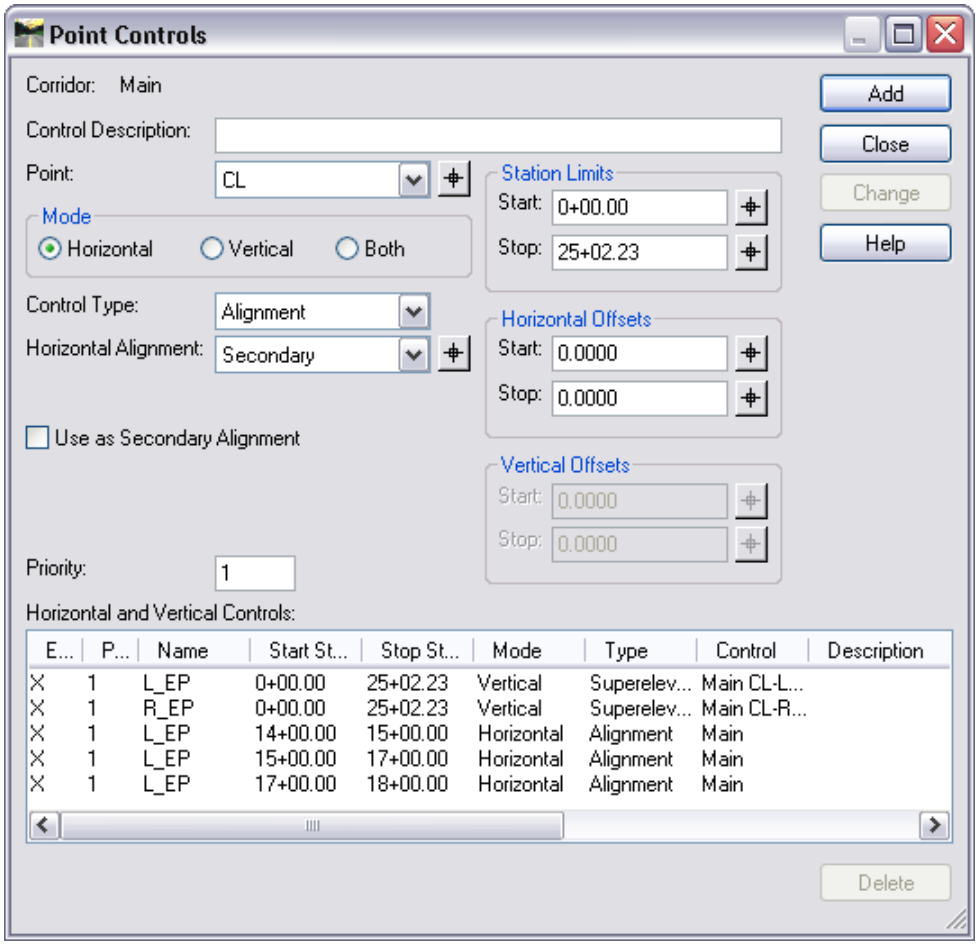
This exercise will guide you through the steps.

1. From the **Roadway Designer** menu set the active corridor to ***Main*** in the lower left corner of the dialog.
2. From the **Roadway Designer** go to **Corridor** > **Point Controls**.

3. Set the following values for the following fields:
   - **Point:** ***L_EP***
   - **Mode:** ***Horizontal***
   - **Control Type:** ***Alignment***
   - **Alignment:** ***Main***
   - **Station Limit:**
     - **Start:** ***14+00***
     - **Stop:** ***15+00***
   - **Horizontal Offset:**
     - **Start:** ***-12***
     - **End:** ***-24***
   - **Use as Secondary Alignment:** ***Off***
4. Select **Add.**
5. Set the following values for the following fields:
   - **Point:** ***L_EP***
   - **Mode:** ***Horizontal***
   - **Control Type:** ***Alignment***
   - **Alignment:** ***Main***
   - **Station Limit:**
     - **Start:** ***15+00***
     - **Stop:** ***17+00***
   - **Horizontal Offset:**
     - **Start:** ***-24***
     - **End:** ***-24***
   - **Use as Secondary Alignment:** ***Off***
6. Select **Add.**
7. Set the following values for the following fields:
   - **Point:** ***L_EP***
   - **Mode:** ***Horizontal***
   - **Control Type:** ***Alignment***
   - **Alignment:** ***Main***
   - **Station Limit:**
     - **Start:** ***17+00***
     - **Stop:** ***18+00***
   - **Horizontal Offset:**
     - **Start:** ***-24***
     - **End:** ***-12***

Use as Secondary Alignment: ***Off***

8. Select **Add.**



Lesson Name: Target Aliasing

LESSON OBJECTIVE:
In this lesson we will learn how to add target aliasing so the connecting road sees the main road.

EXERCISE: TARGET ALIASING

This exercise will guide you through the steps.

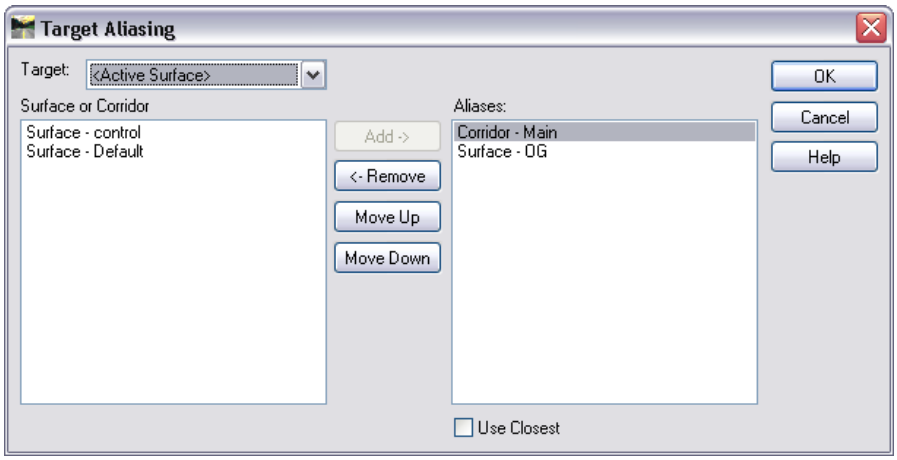
1. From the **Roadway Designer** menu set the active corridor to ***Secondary*** in the lower left corner of the dialog.
2. From the **Roadway Designer** menu go to **Tools > Target Aliasing**.

3. When the **Target Aliasing** dialog appears highlight the following surfaces in the left pain.

   Corridor – Main

   Surface - OG

4. Select **Add**.



5. Select **OK** on the **Target Aliasing** dialog.

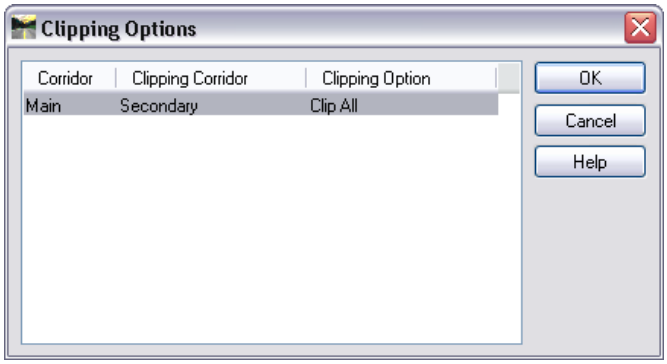
Lesson Name: Modeling the Corridor

LESSON OBJECTIVE:
In this lesson we will learn how to model the corridors using the settings we have created.

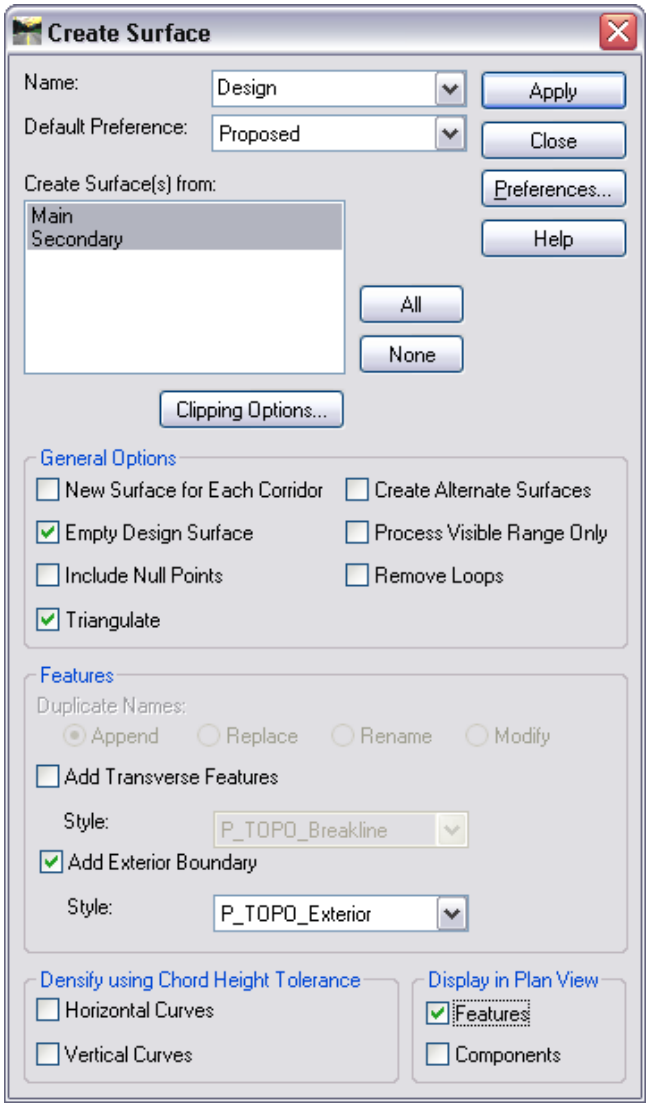
EXERCISE: MODELING THE CORRIDOR

This exercise will guide you through the steps.

1. From the **Roadway Designer** go to **Corridor** > **Create Surface**.
2. When the **Create Surface** dialog box appears enter the surface name ***Design*** in the **Name** field.
3. Make sure both corridors are highlighted in the **Create Surface(s) from** list.
4. Select the **Clipping Option** button.
5. When the Clipping Options dialog appears there should only be one entry. Make sure it is set to **Clip All**. If it is not click on the right most column and it will change.



6. Select **OK**.
7. Make sure all the other settings on the dialog are as follows:



8. Select **Apply**.
9. **Close** the **Create Surface** dialog and collapse the **Roadway Designer** dialog.