



# OpenRoads Design: Superelevation Exercises

## Exercise 1: S.R. 185 Superelevation

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In this exercise we will define the superelevation sections for the State Route 185 Corridor.

- ✓ Open **ProjectWise Explorer**



- ✓ Browse to the folder containing the training data. The folder location will be provided by the instructor for each class.
- ✓ Browse to the **400-Engineering\Roadway\Basemaps\** folder.

Create new design files for the project using the **OHDOT Create Design Files** application. To create these files, one of the existing BK files may be opened.

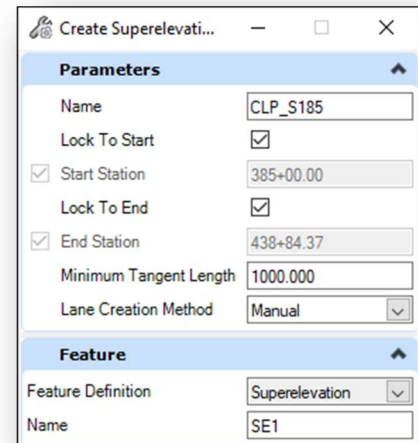
- ✓ Select the **OHDOT Create Design Files** application to create the superelevation basemap design files for the project.
  - Create the file listed below

Design File name	Comments
123456_KS001.dgn	S.R. 185 Superelevation

- ✓ Open the file **123456\_KS001.dgn**, checking the current file back in to ProjectWise
- ✓ Attach the following reference files:
  - 300-Survey\Basemaps\123456\_FB001.dgn
  - 400-Engineering\Roadway\Basemaps\123456\_BK001.dgn
  - 400-Engineering\Roadway\Basemaps\123456\_KM001.dgn

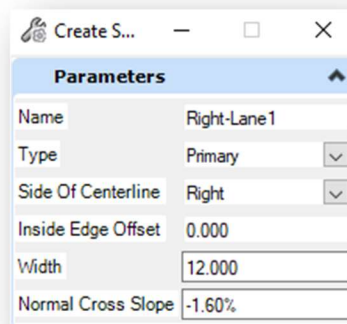
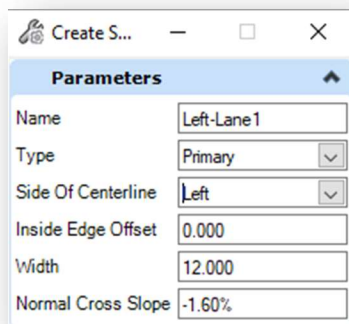


- ✓ From the **Corridors** tab, select **Create Superelevation Sections**
- ✓ You are prompted to define the **Name** for the superelevation section. Use the same name as the horizontal alignment, CLP\_S185.
- ✓ Next you are prompted to select the alignment. Select the CLP\_S185 alignment
- ✓ Use the entire length of the chain for the start and ending stations by toggling on the **Lock to Start** and **Lock to End** options
- ✓ Before accepting the creation of the superelevation dialog select the feature definition and Name. (Shown to the right)



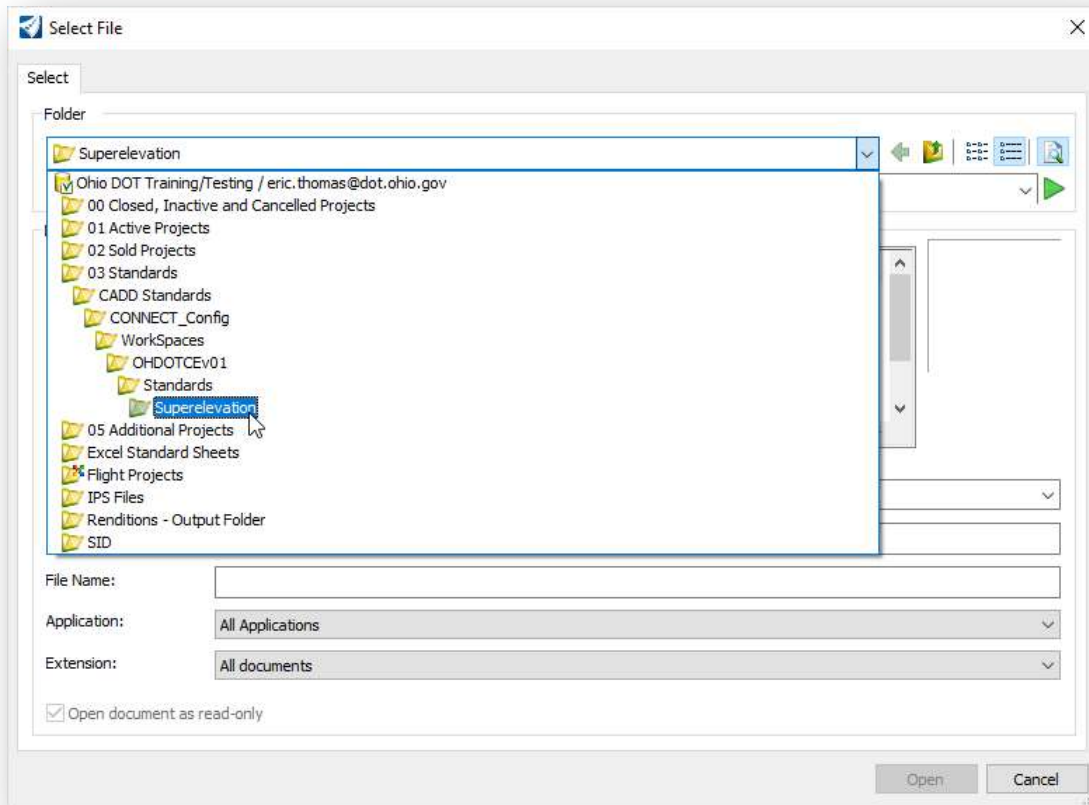
Next, the software will step you through the process to define the pavement lanes.

- ✓ Define two lanes for the superelevation as shown below

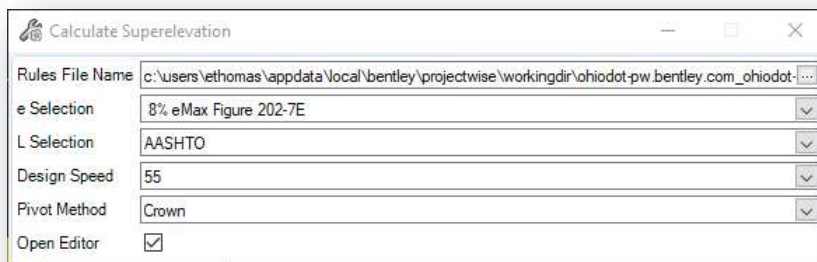


- ✓ After defining both lanes, right click to terminate the lane creation process. The *Calculate Superelevation* dialog is opened. Choose the **ODOT\_Undivided.xml** file by navigating to the following location in the OHDOT standards

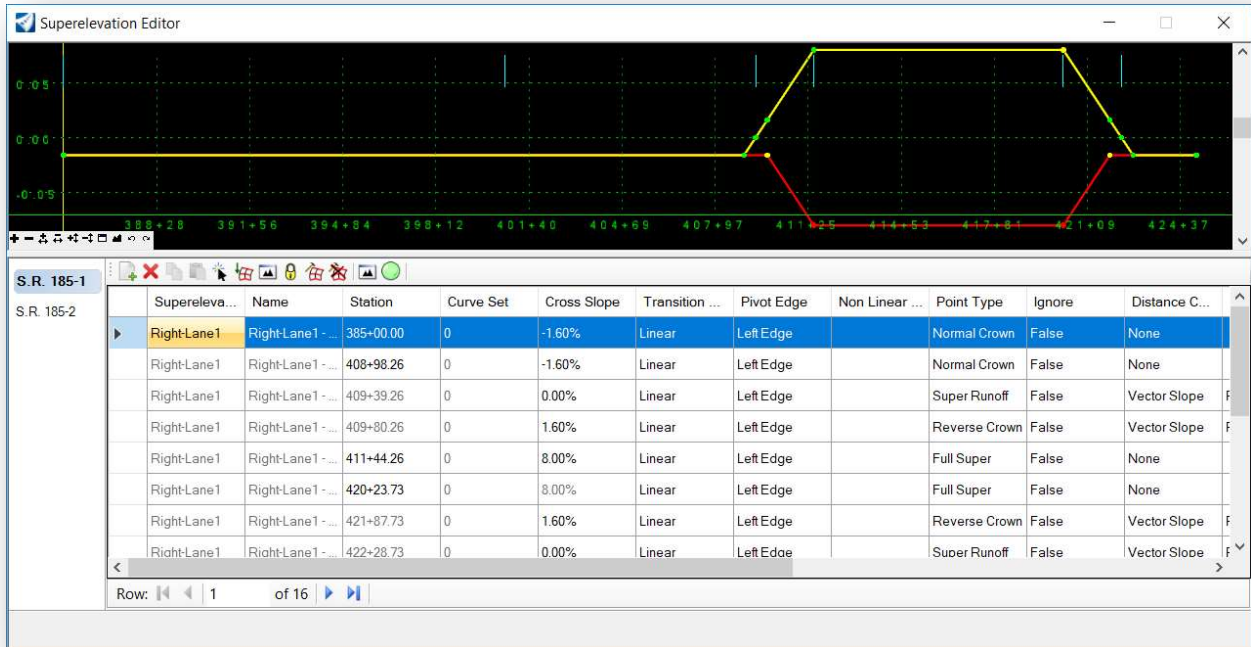
..\OHDOT\Standards\Superelevation\



Use the settings shown below.



- ✓ After accepting the dialog settings, the *Superelevation Editor* dialog is opened.



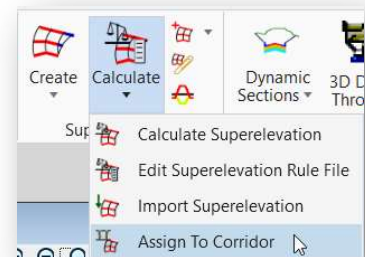
Review the superlevation parameters and close the dialog when completed. The maximum superlevation rate should be 8.0% for this alignment.

- ✓ Save settings in the superlevation design file

The **Assign Superlevation to Corridor** command is used to associate the superlevation settings with the corridor model and the template points. This assignment is made in the corridor design file.

- ✓ Browse to open the **12345\_KM001.dgn** file containing the corridor for S.R. 185. Be sure to check the superlevation design file back into ProjectWise.
- ✓ Attach the superlevation definition design file, **12345\_KS001.dgn**, to the corridor design file, **12345\_KM001.dgn**.

- ✓ From the Corridors tab, select the **Assign to Corridor** command to associate the superlevation settings with the corridor model. (Shown to the right)

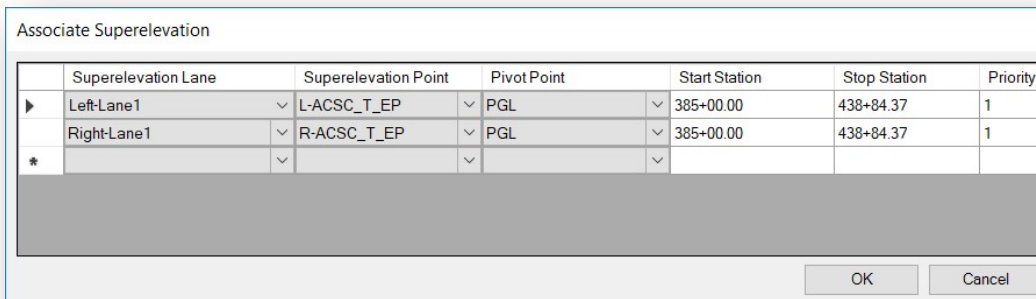


- ✓ Choose the graphics that were drawn for the boundary of both superlevation sections, and then right-click (reset) to accept the sections

- ✓ When prompted to **Locate Corridor**, select one of the handles for the S.R. 185 corridor boundary.

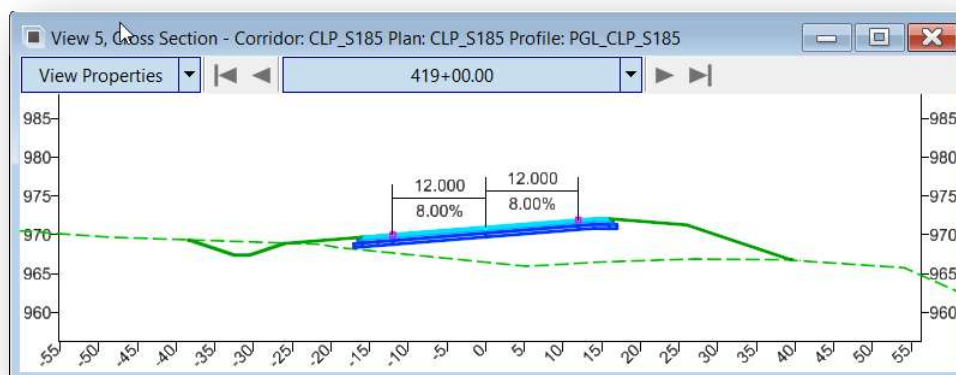


- ✓ The *Associate Superelevation* dialog is opened. The dialog should default to the correct settings, but it is good practice to review the settings before accepting them.



After associating the superelevation sections with the corridor, use the **Open Cross Section View** command to review the corridor.

- ✓ From the **Corridors** tab, select the **Dynamic Sections > Open Cross Section View** command.  
*Advanced tip:*  
*If a **multi-model view** isn't already open, you can use the **View Control** command by holding the right-mouse button within the design model view. Select **3 views Plan/XS/3D**. Then follow software prompts to view cross sections.*
- ✓ When prompted, select the corridor, and select a new view window to display the corridor.
- ✓ Add some temporary dimension lines to the cross-section view to facilitate reviewing the pavement width and cross slopes
  - Hold down the right-mouse button in the cross-section view.
  - Choose the **Place Horizontal Temporary Dimension** command
  - Identify the starting and ending points to add temporary dimension lines for each lane of pavement like the example below
  - Once you've placed Temporary dimensions you can also remove them by holding down the right-mouse button and select **Remove All Temporary Dimensions** command.



After reviewing the corridor cross sections, close the cross-section view window. Click Save settings to save view layout.

This completes the work on S.R. 185. Exit OpenRoads Designer and check the file back into ProjectWise.



## OpenRoads Software Version

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This document was prepared using the following software version:

OpenRoads Designer CONNECT Edition – 2021 Release 1 Update 10 – Version 10.10.01.03

This document was updated using the following software version:

OpenRoads Designer CONNECT Edition – 2022 Release 3 Update 12 – Version 10.12.02.04

## Contacts

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For any questions, suggestions, or problems with this document please contact the ODOT Office of CADD and Mapping Services by use of the following form on the ODOT website:

[https://odot.formstack.com/forms/cadd\\_servicerequest](https://odot.formstack.com/forms/cadd_servicerequest)

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