Moving to OpenRoads Designer - Making the Model More Visual

Presented by:
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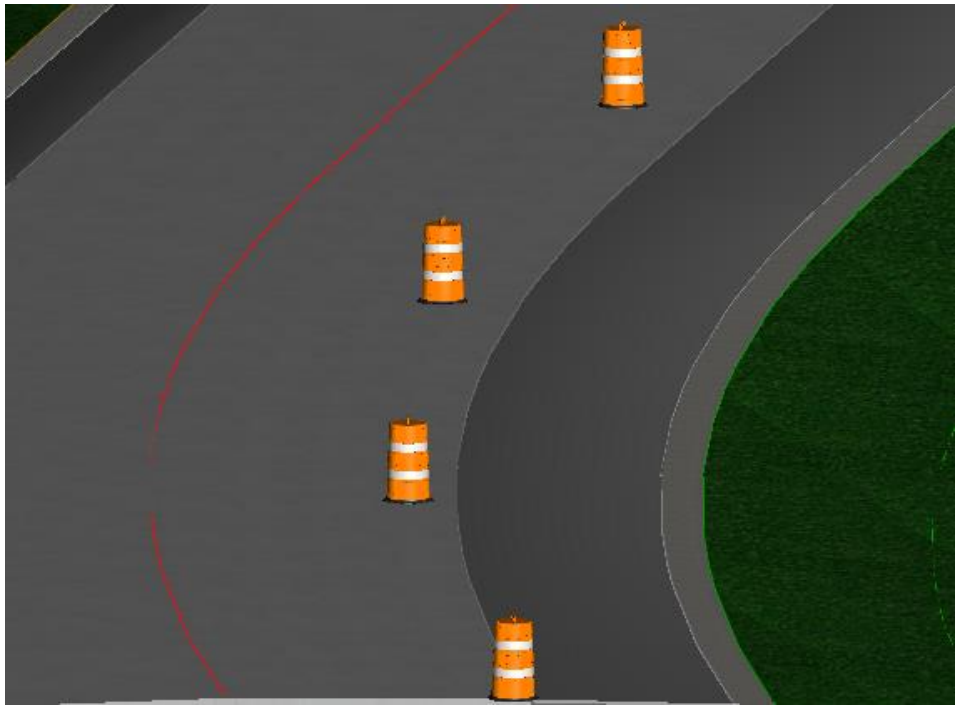
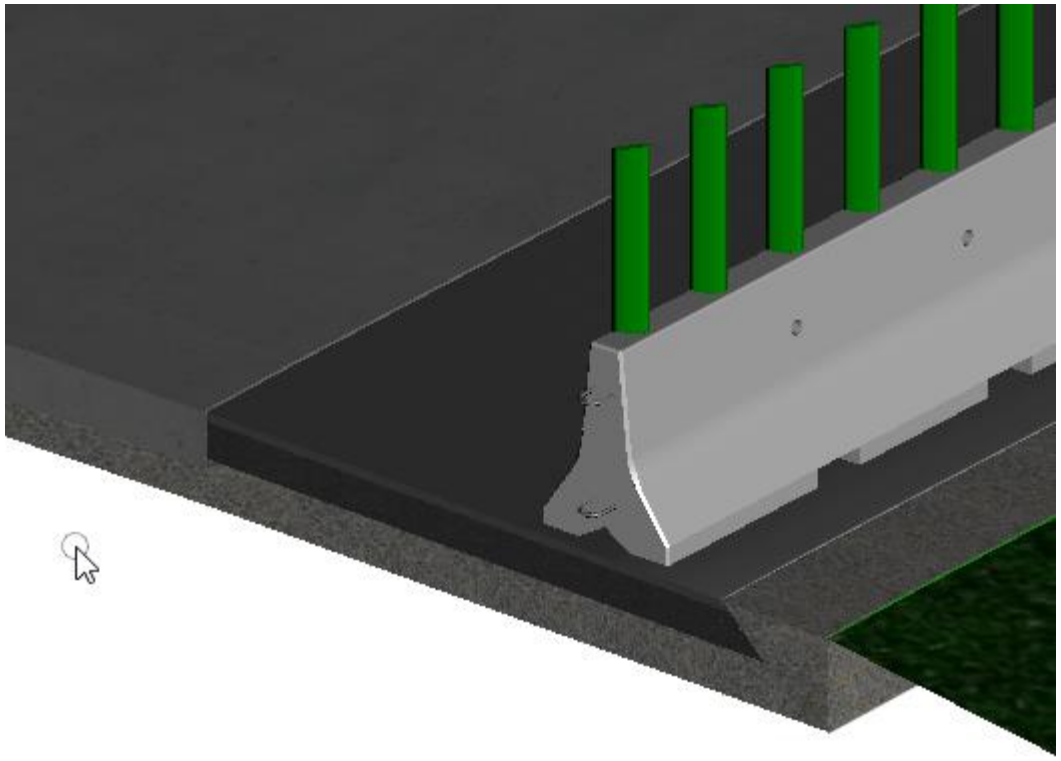
Introduction

Modeling 3D features like guardrails, jersey barriers, pavement markings, etc. provide a realistic model visualization. MicroStation 3D custom linestyles open the door to endless possibilities…





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Objectives

- Opening appropriate views
- Assigning materials to the 3D mesh components
- Pavement Markings
- Configuring 3D features for modeling and plans production
- Guardrails
- Jersey Barriers
- Cable Barriers
- Traffic Control
- Fences

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Right-Click View Control

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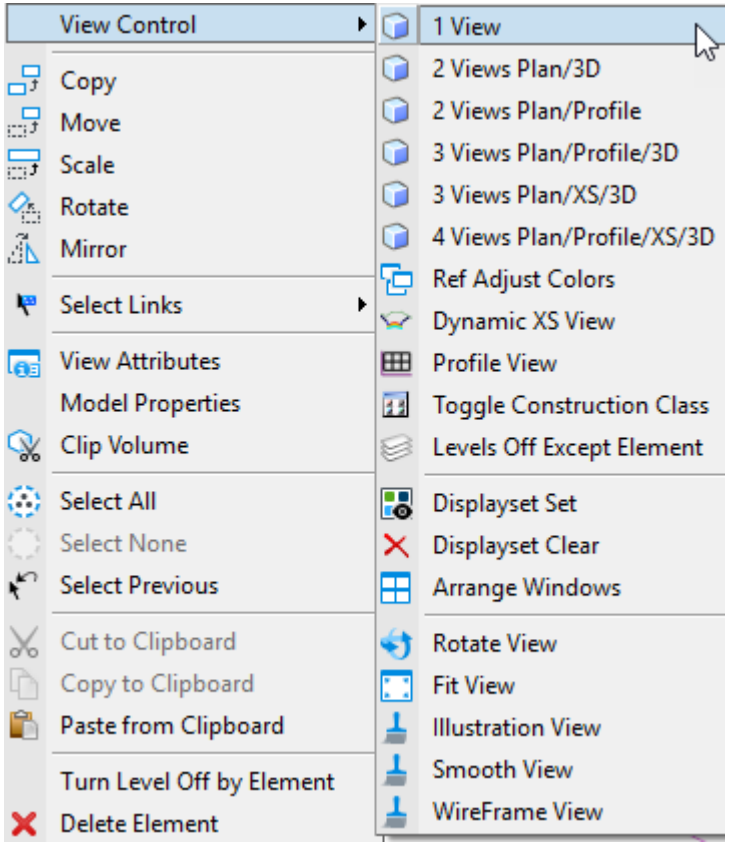
Opening Specific Views

- In OpenRoads Designer CONNECT Edition, an enhanced right-click view control option has been added.
- Uses an updated Viewset.mvba application delivered with the imperial and metric workspace.
- Uses new seed files where the view windows are pre-arranged to work with the updated viewset.mvba macro.



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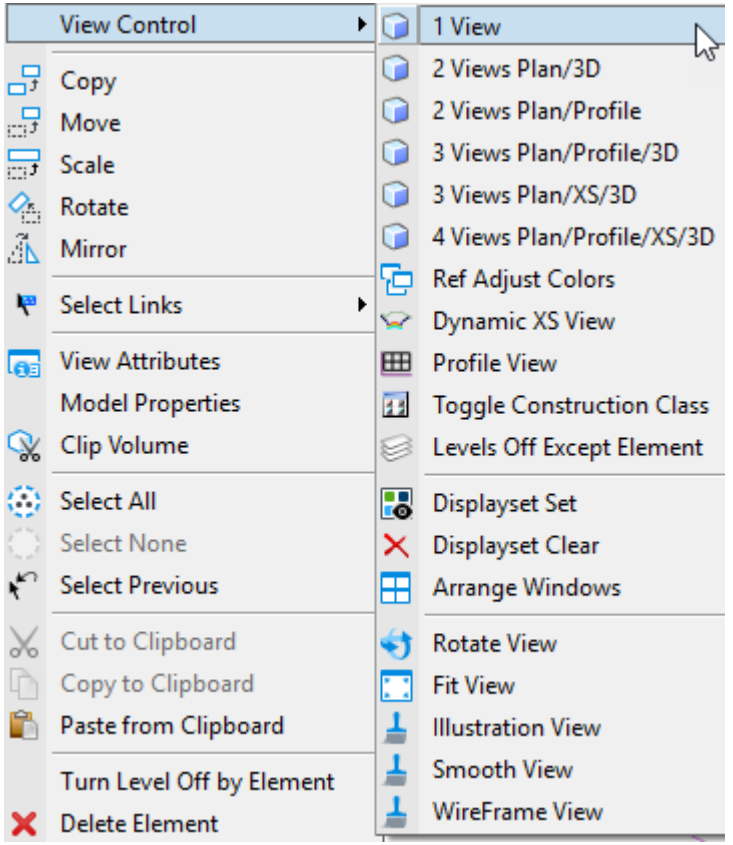
Opening Specific Views

- The “1 View” option will reset a view back to *default* if accidently set to a dynamic cross section or profile view.
- The viewset.mvba macro uses MicroStation arrange views command so if you move views and then save settings, this will effect the view placement.



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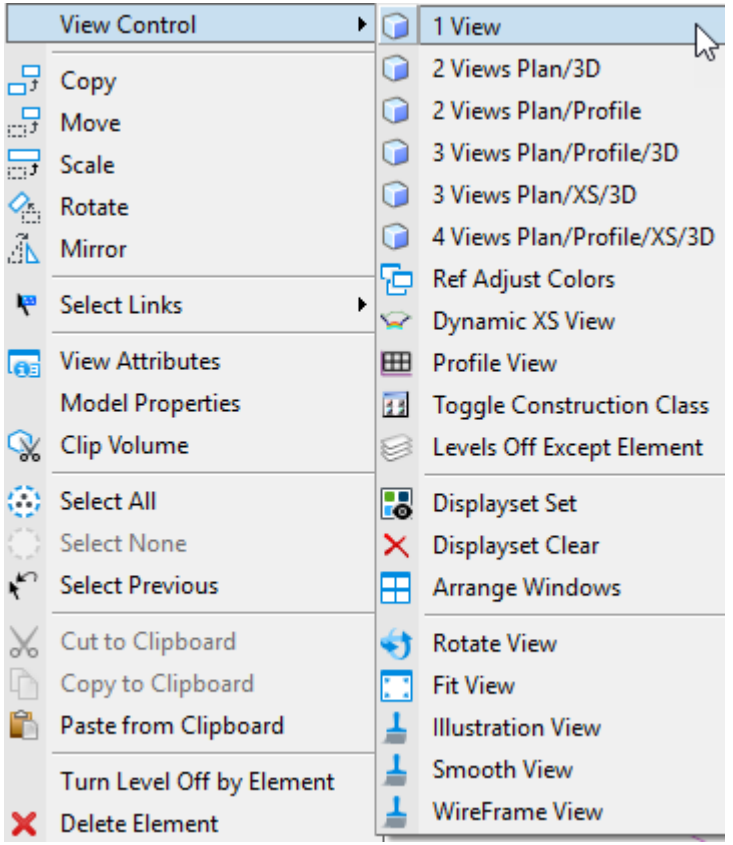
Opening Specific Views

- The views in the 2D and 3D seed files are set to a strategic location for this to work. Use these new seed files then adjust them for your environment.
- When selecting a dynamic profile or cross section view, the grid will be turned on for the view.
- There is a timer set on the open profile view to make it work. If too slow, then may have to restart command.



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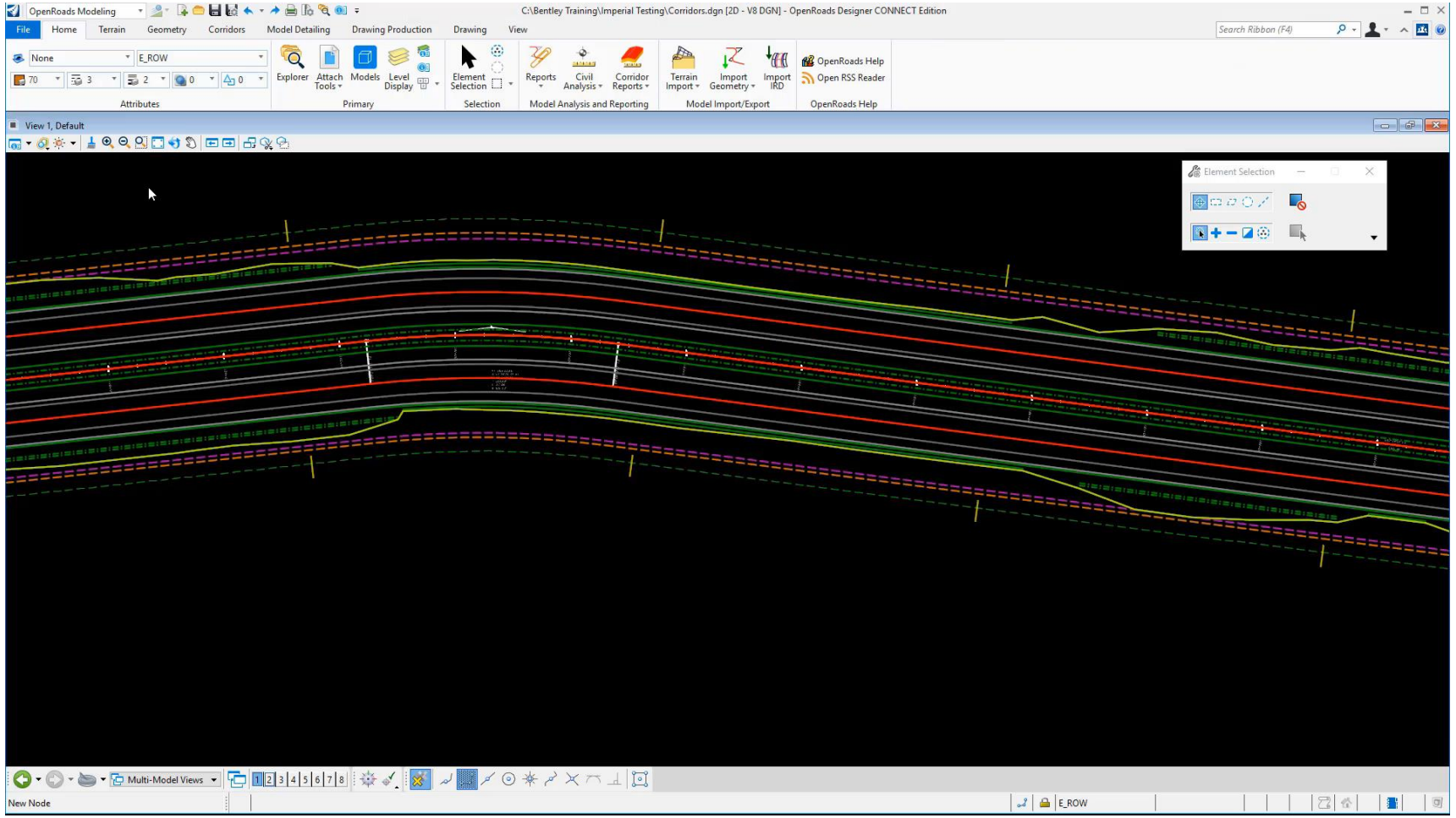
Opening Specific Views



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Assigning Materials

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Assigning Materials

- Materials can be assigned to the MicroStation level or the MicroStation Element Template
- The delivered workspace assigns the materials on the Element Template
- The delivered workspace provides a robust material library for civil related surfaces

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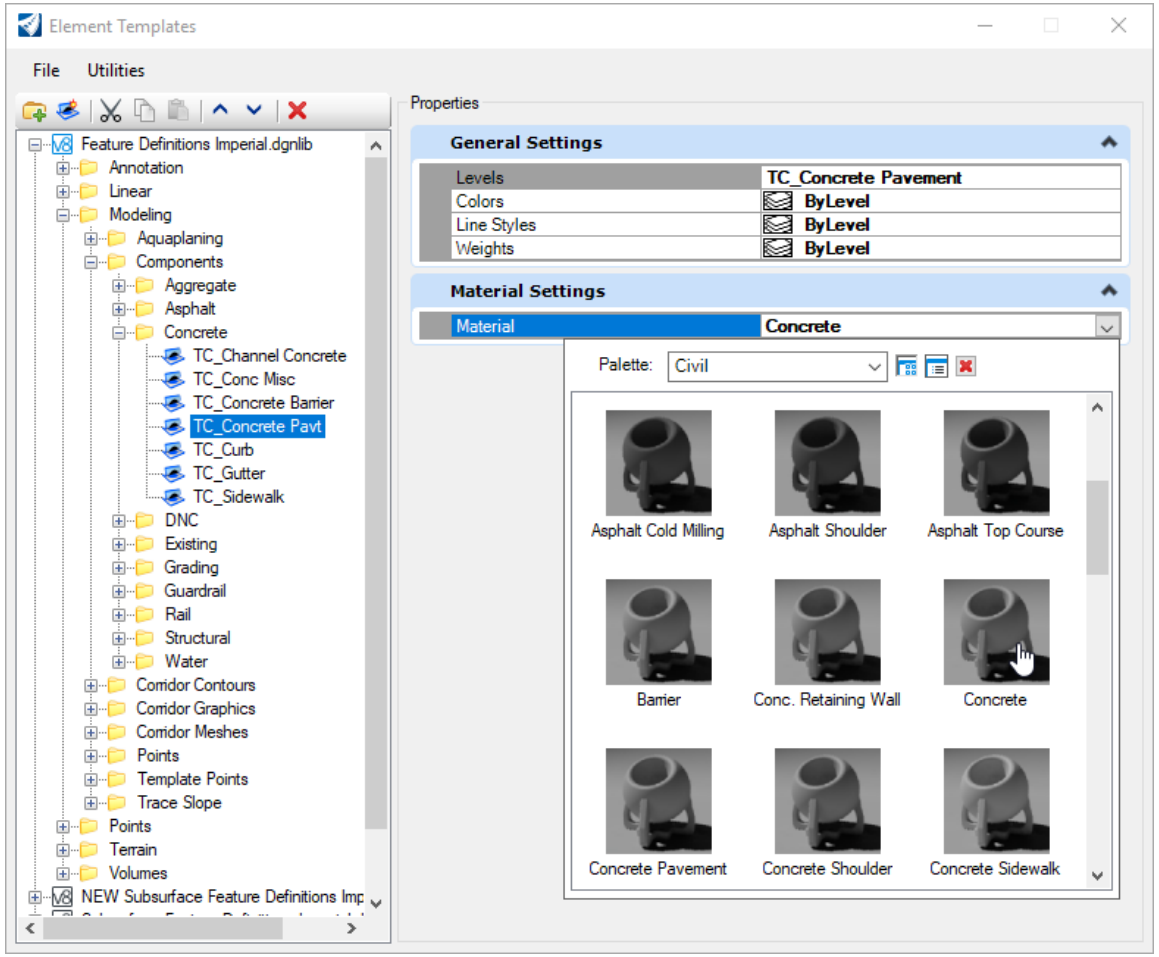
Assigning Materials

- Use a 3D file for the features dgnlib which should host the following:
  - Levels
  - Element Templates
  - Annotation Groups
  - Feature Symbologies
  - Feature Definitions



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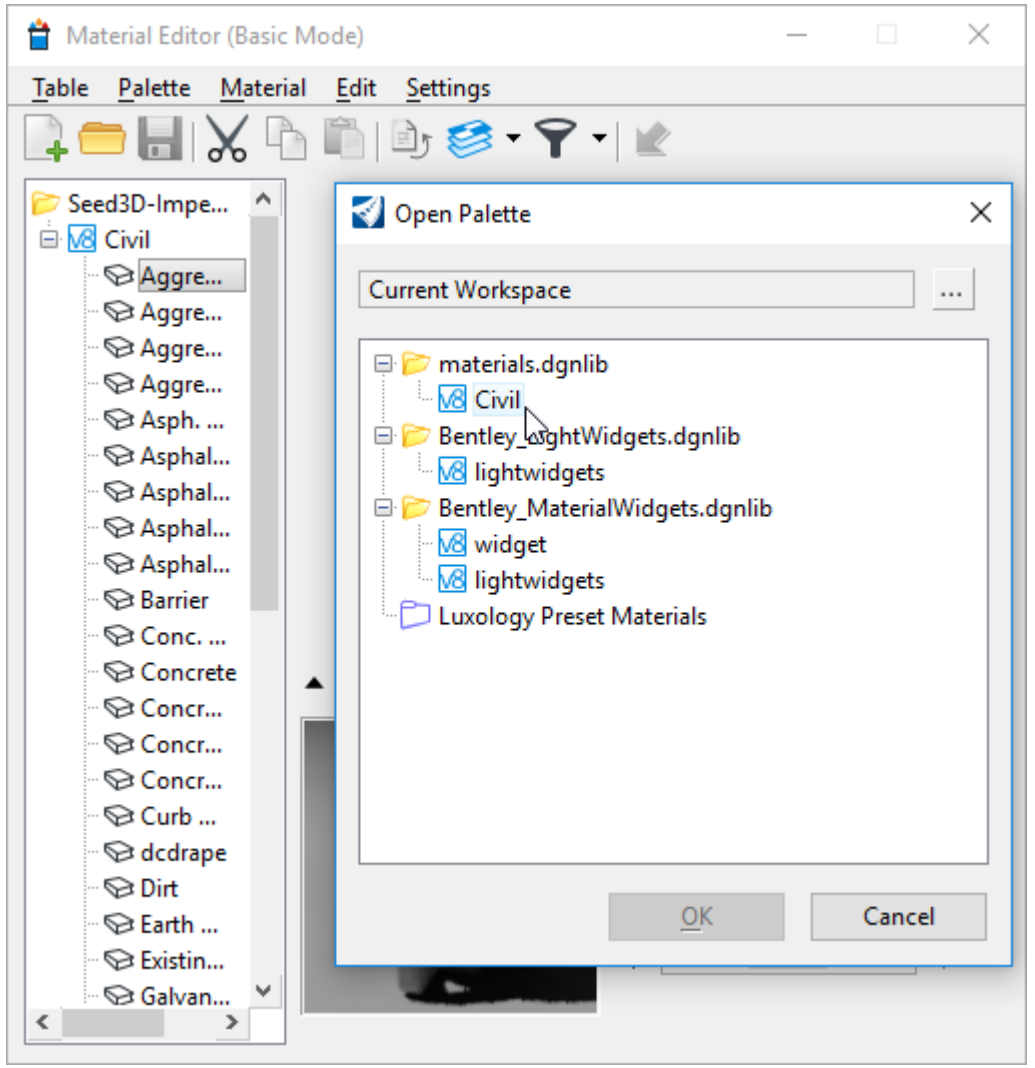
Assigning Materials

- Using a 3D dgnlib file allows for selecting the materials palette
- Once the materials palette is selected, save your settings
- This makes picking the materials in the element template manager much easier.



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Assigning Materials

- Setting the MicroStation config variables correctly is key to making sure access to your materials is working properly.

```
# Material pallets, pattern maps and bump maps for rendering
MS_MATERIAL                                 < $(CIVIL_ORGANIZATION_STANDARDS)materials/
MS_PATTERN                                  < $(CIVIL_ORGANIZATION_STANDARDS)materials/pattern/
MS_BUMP                                     < $(CIVIL_ORGANIZATION_STANDARDS)materials/bump/
```

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Pavement Markings

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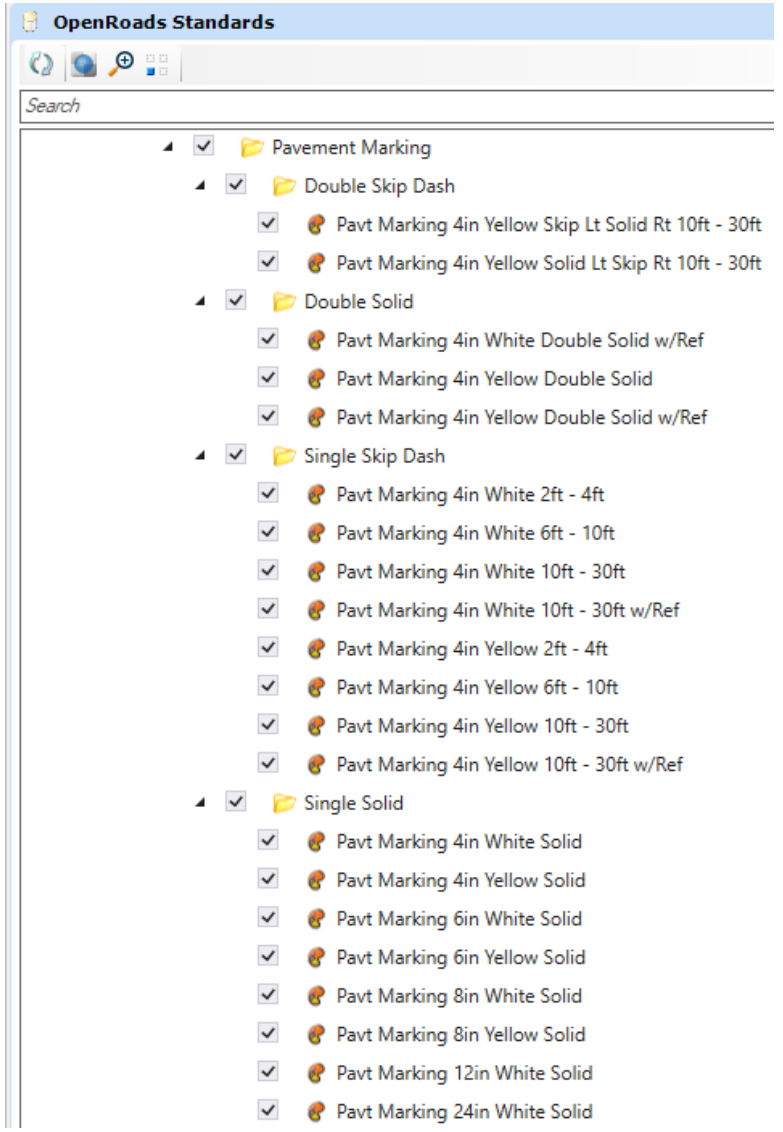
Pavement Markings

- Pavement markings have been completely redesigned to “float” above the pavement by 0.15” to avoid “bleeding” through the pavement mesh material.
- Can be added as a point to the template
- Can be placed as geometry then assigned a profile from the design corridor.
- The element templates point to the custom linestyles used for the pavement markings.



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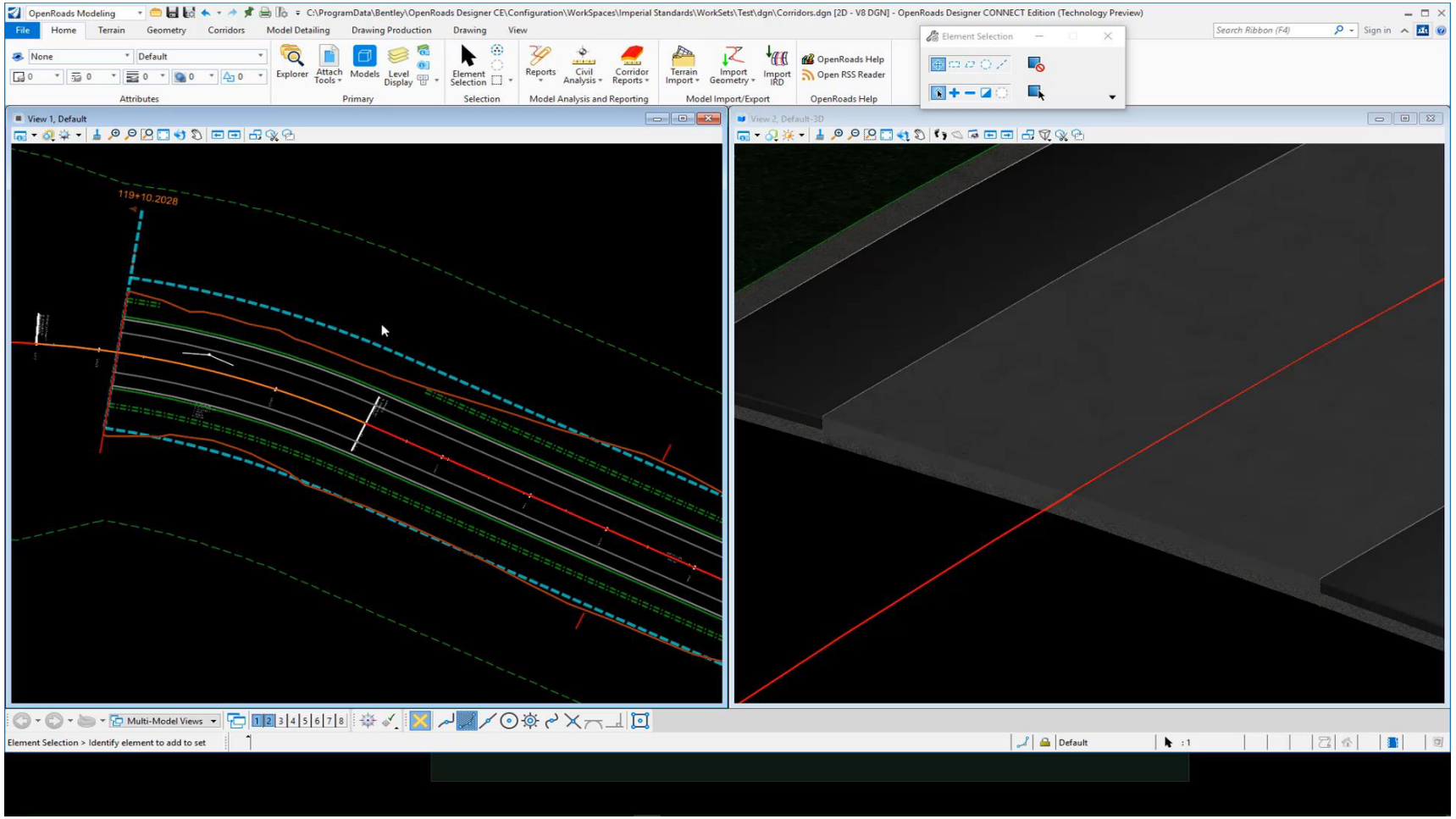
Pavement Markings via Template Points



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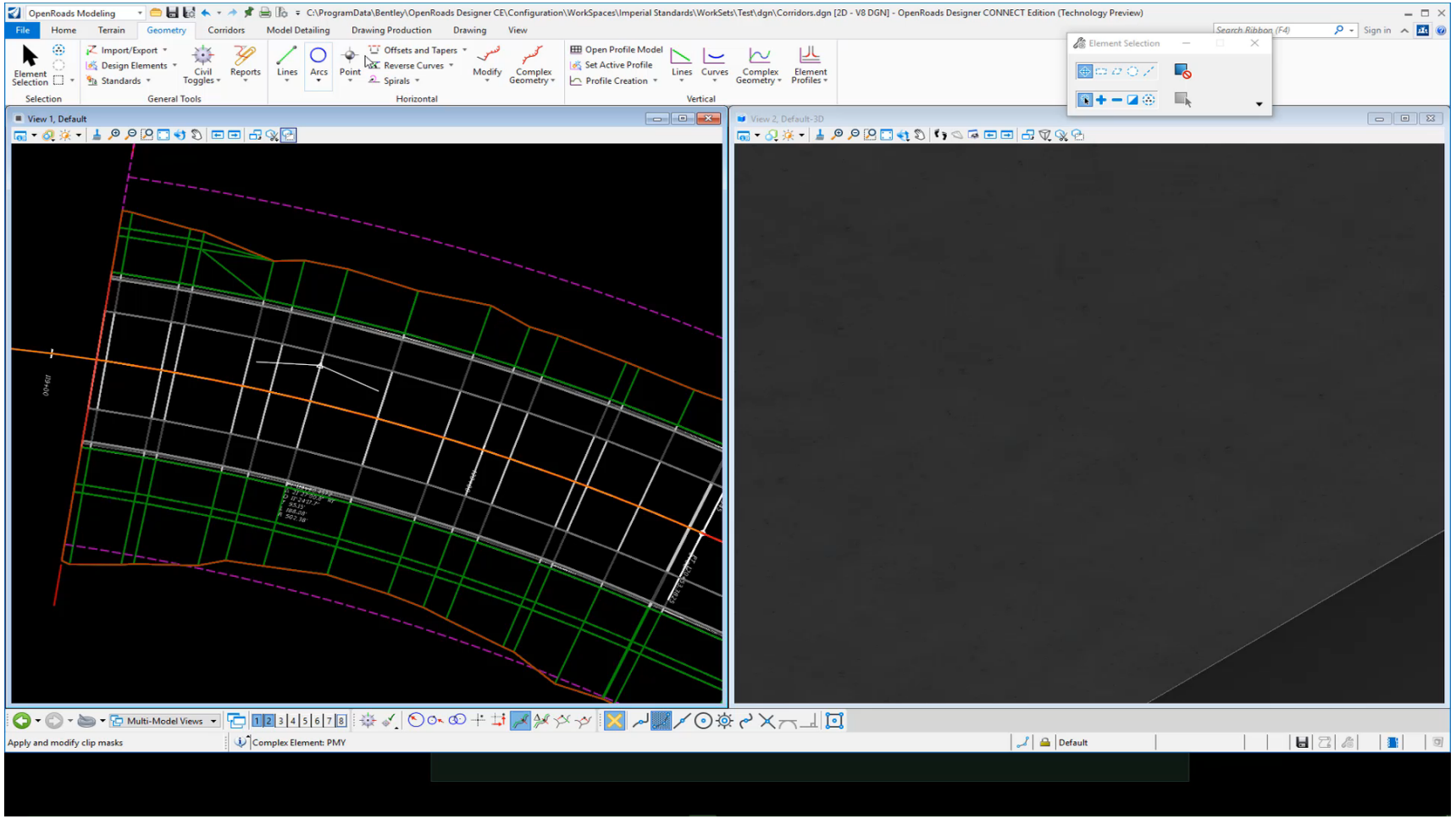
Pavement Markings via Geometry



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Configuring 3D Features

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Configuring 3D Features – Custom Linestyles

- Must create a 3D linestyle
- The 3D linestyle can be anything
- The delivered workspace delivers several of these 3D Linestyles
- The 3D linestyles are sensitive to the attached color tables
- Be careful with Chain Link Fence…it requires a lot of processing horsepower

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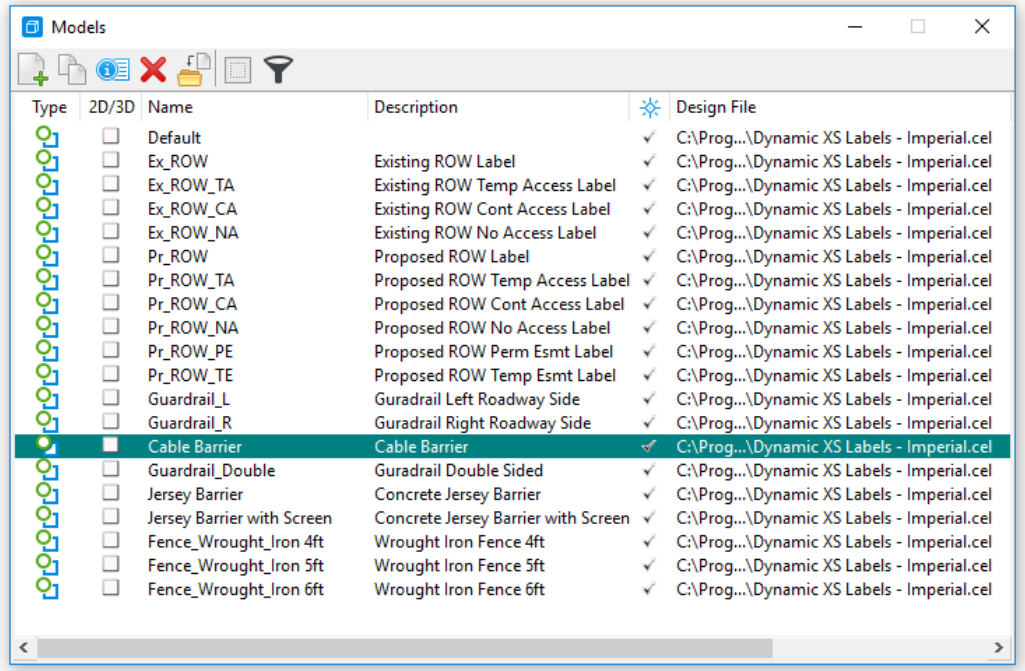
Configuring 3D Features – 3D Cells

- Each 3D Linestyle must have a corresponding 3D cell to show in the dynamic cross section view and for cross section sheeting.
- The cells shown here are part of the delivered workspace for imperial and metric.



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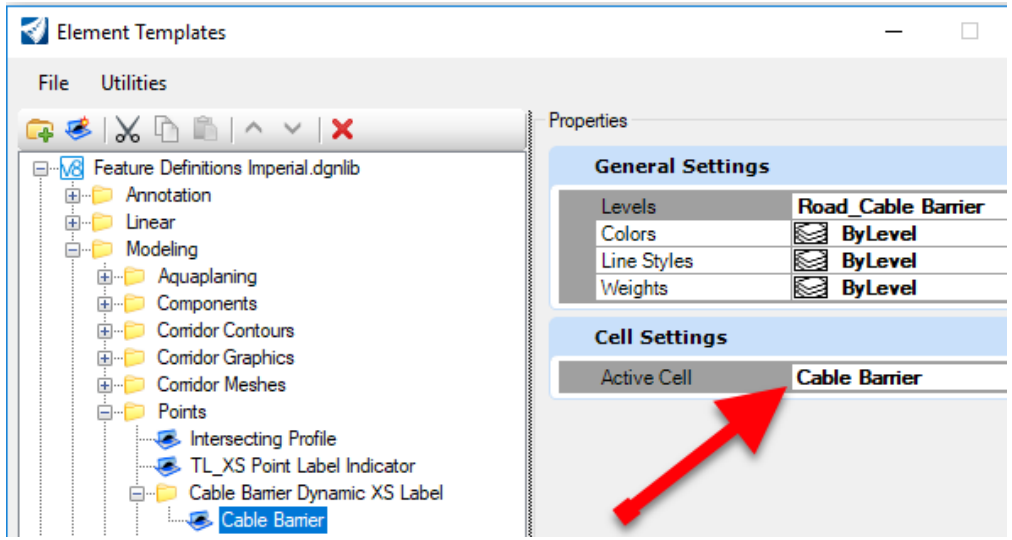
Configuring 3D Features – Element Templates for XS

- To see the cut of the 3D custom linestyle in the dynamic XS view or sheeted cross sections, an element template must be created to point to the cell.



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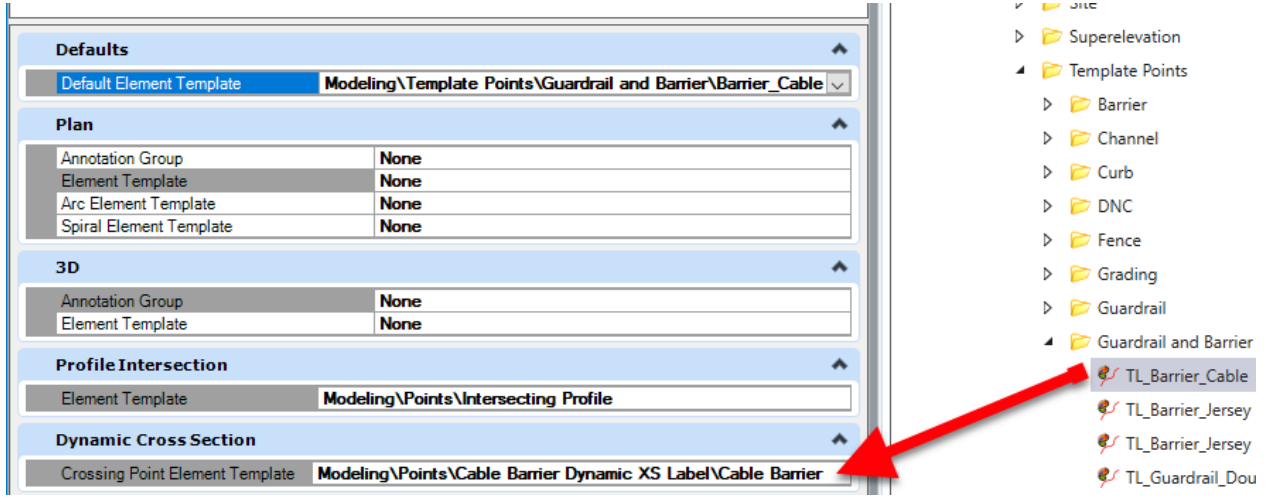
Configuring 3D Features – Feature Symbologies for XS

- The properties of the Feature Symbology must point to the element template containing the cell assignment.



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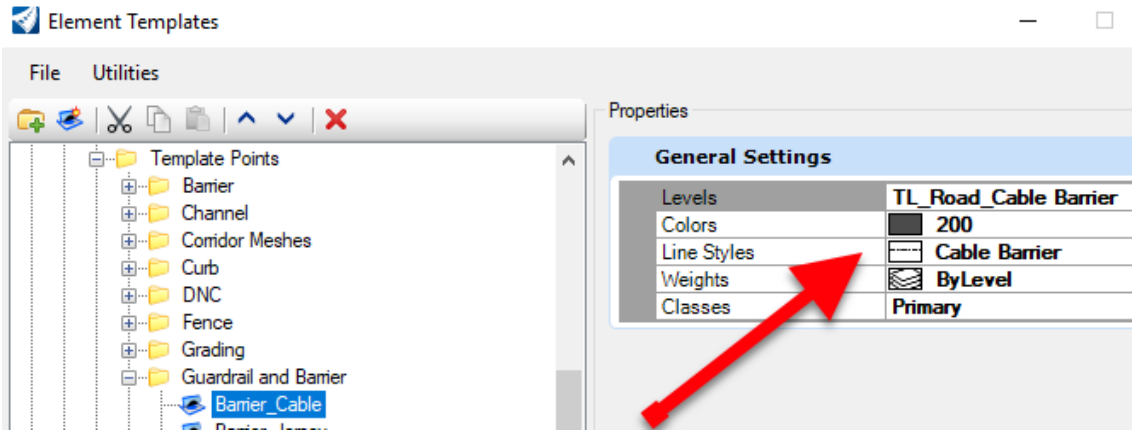
Configuring 3D Features – Element Templates for Linear

- To see the 3D custom linestyle in the 3D model and optional 2D model, an element template must be setup pointing to the 3D custom linestyle.



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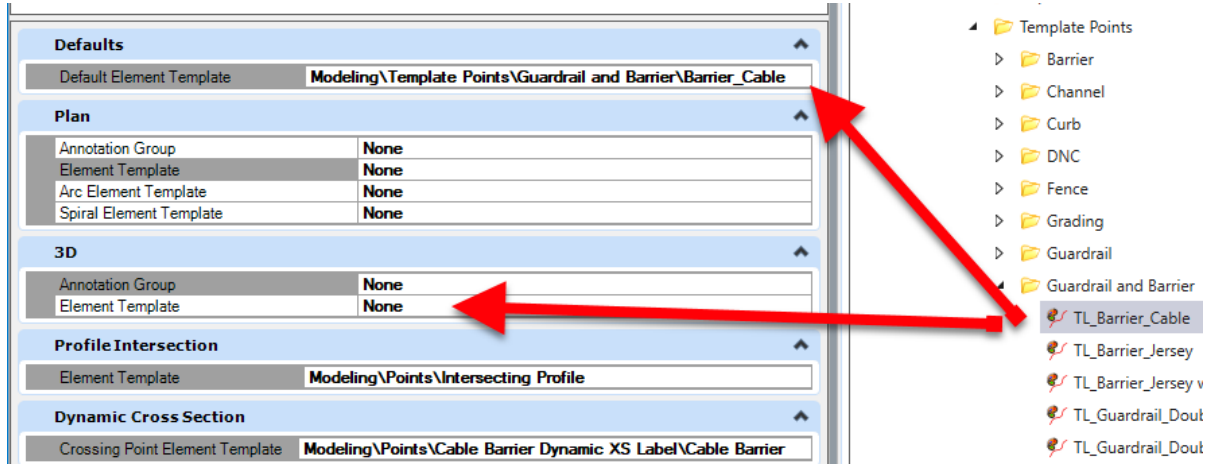
Configuring 3D Features – Feature Symbologies for Linear

- The Feature Symbology for the 3D linear must point to the element template with the assigned 3D custom linestyle.
- Setting either a default element template or the 3D element template is fine.
- Setting the default element template takes precedence when no individual template is set.



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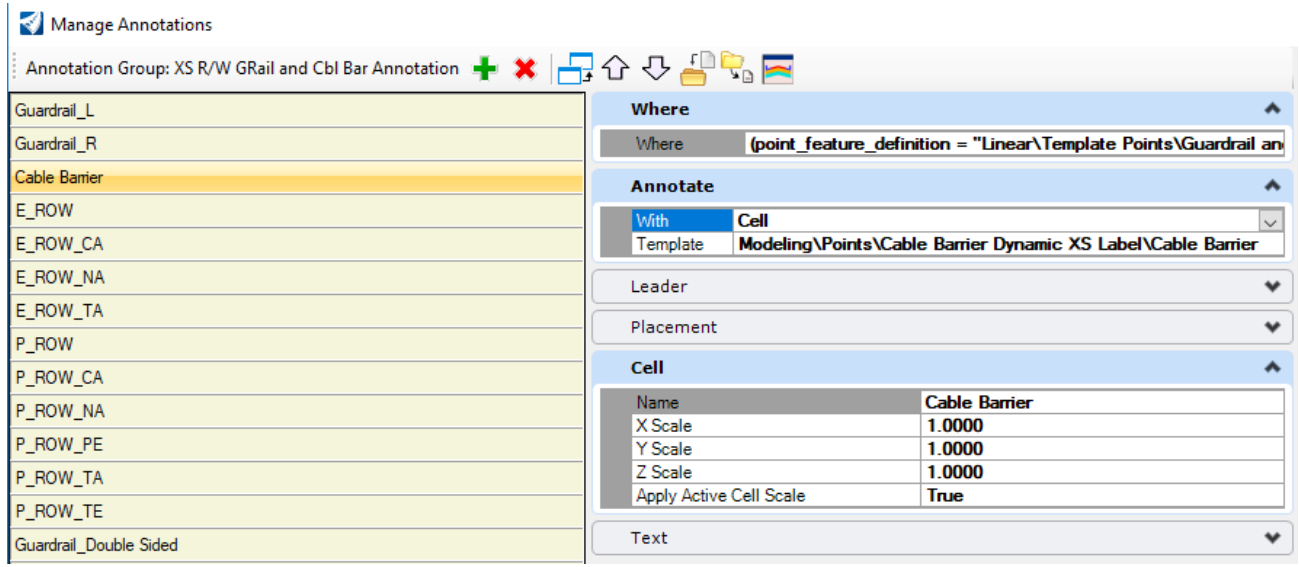
Configuring 3D Features – XS Annotations

- To see the cell in the sheeted cross section sheets, the annotation group should include the element template or the cell individually selected as shown.



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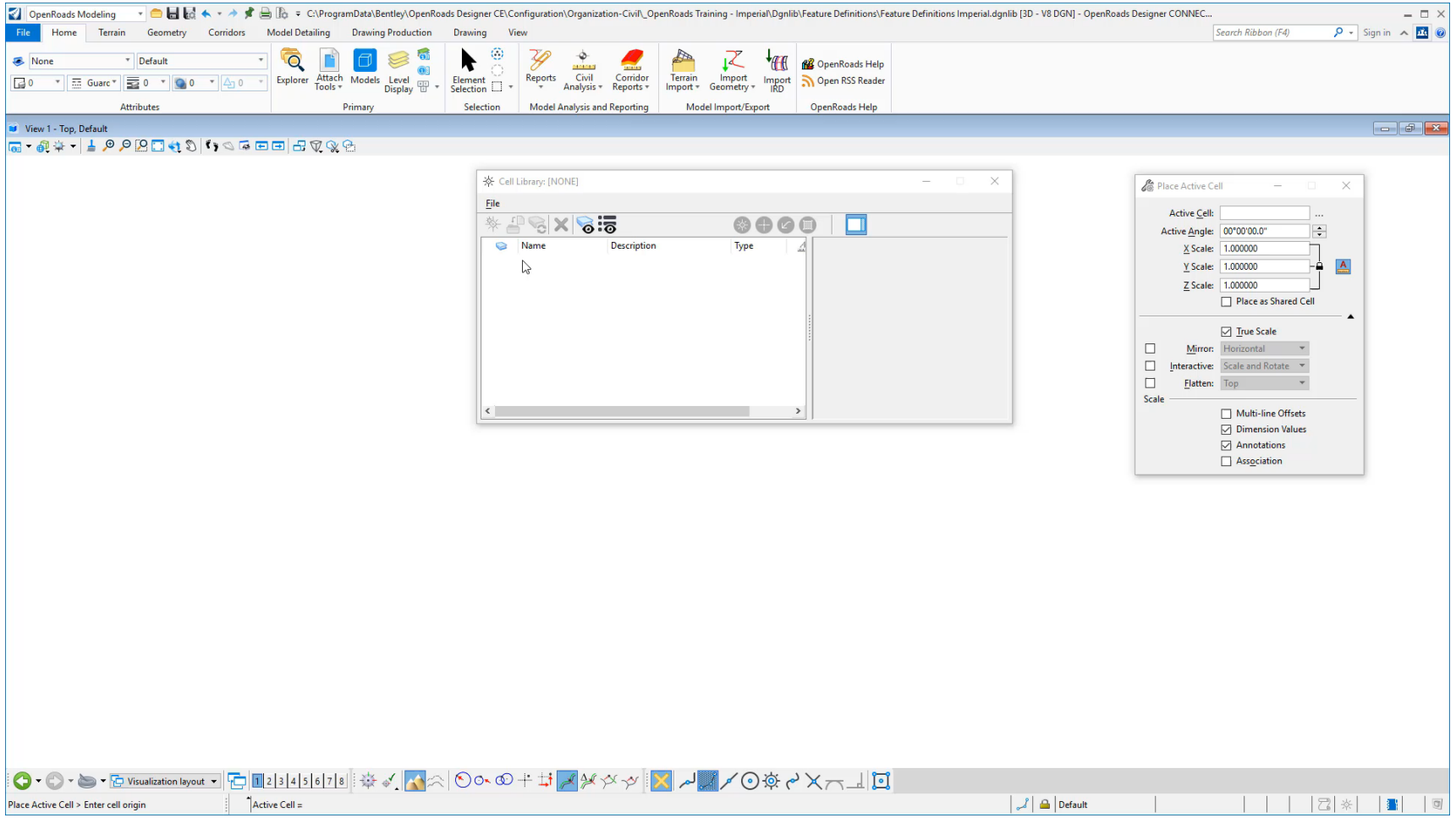
Configuring 3D Features – Bringing it all Together



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Modeling Jersey Barriers

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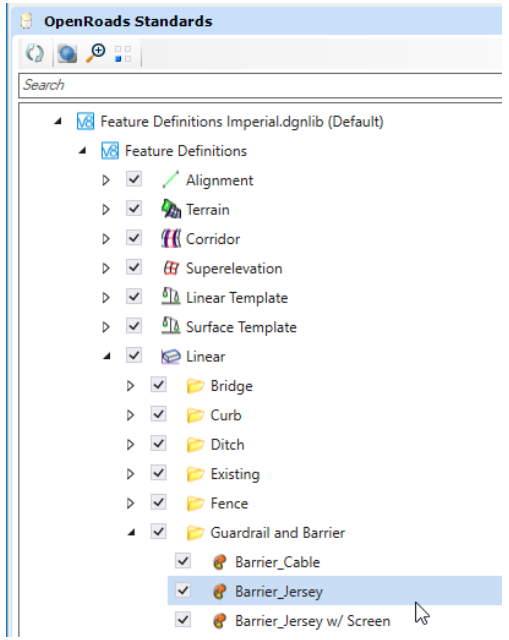
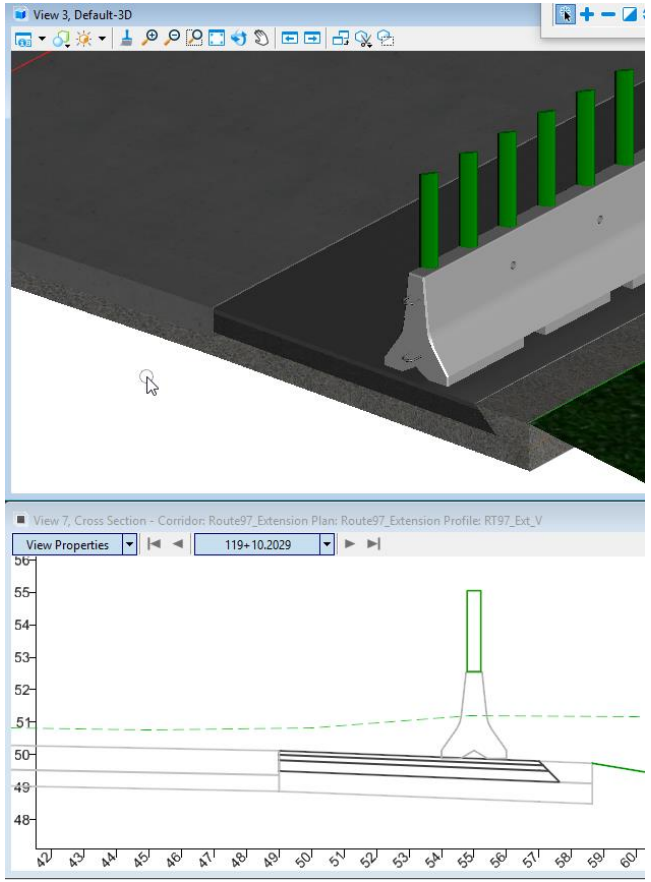
Modeling Jersey Barriers

- Two types of Jersey barriers are included in the delivered workspace.
  - With Headlight Screen
  - Without Headlight Screen
- Can be added as a point to the template.
- Can be placed as geometry then assigned a profile from the design corridor.
- The element templates point to the custom linestyles used for the Jersey Barriers.





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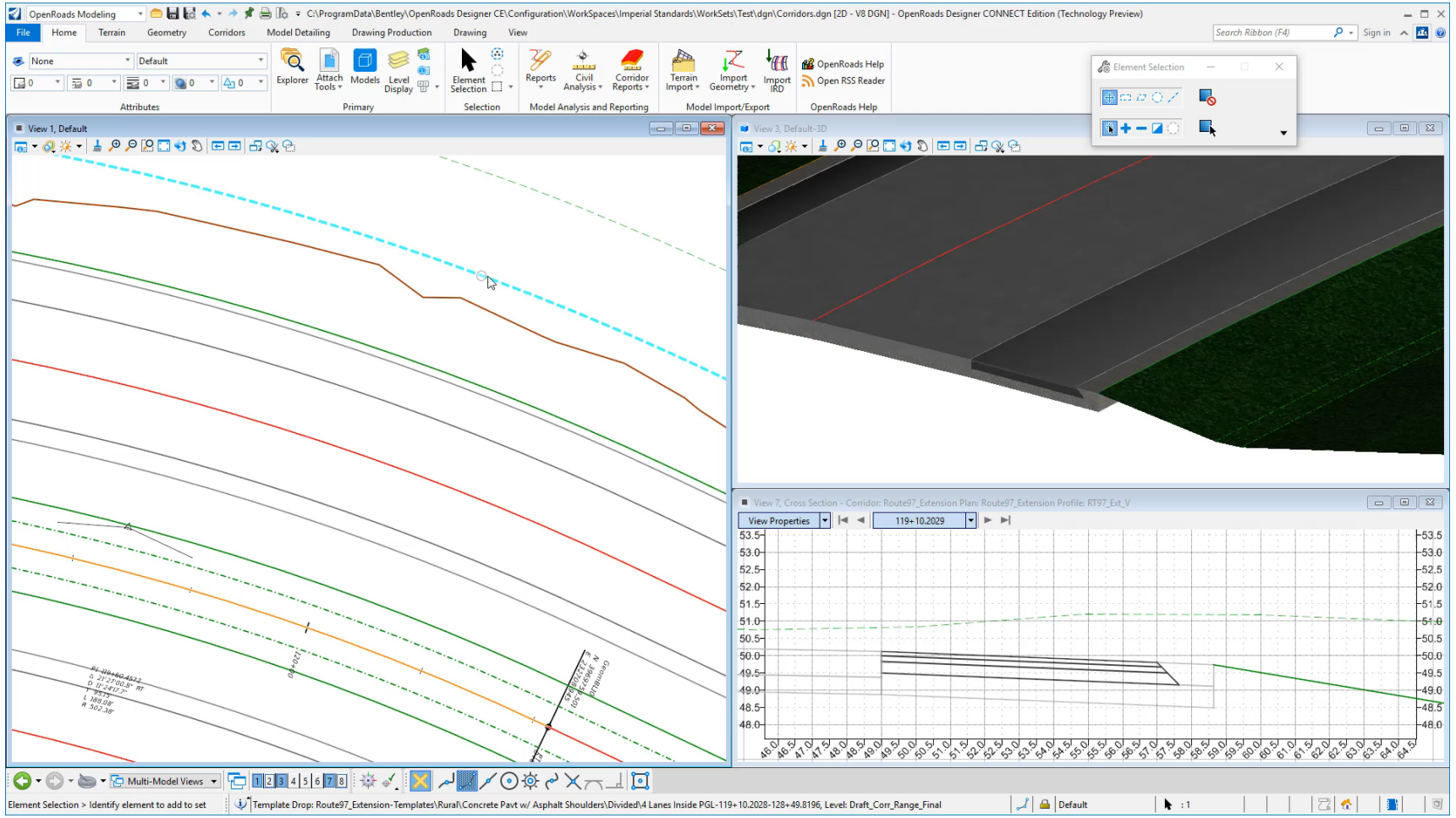
Modeling Jersey Barriers



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Modeling Cable Barriers

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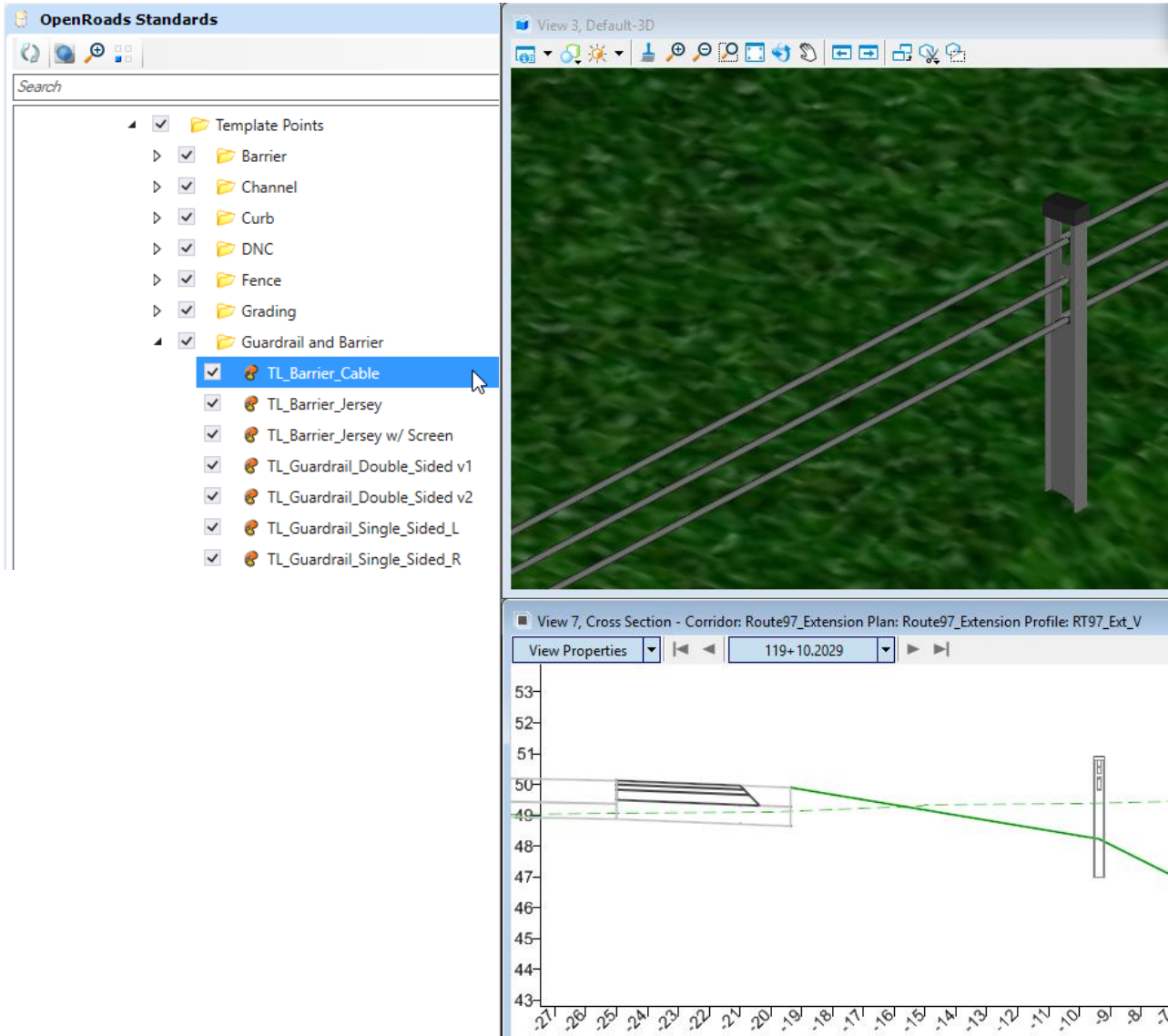
Modeling Cable Barriers

- Cable barriers are included in the delivered workspace.
- Can be added as a point to the template.
- Can be placed as geometry then assigned a profile from the design corridor.
- The element templates point to the custom linestyles used for the Cable Barriers.



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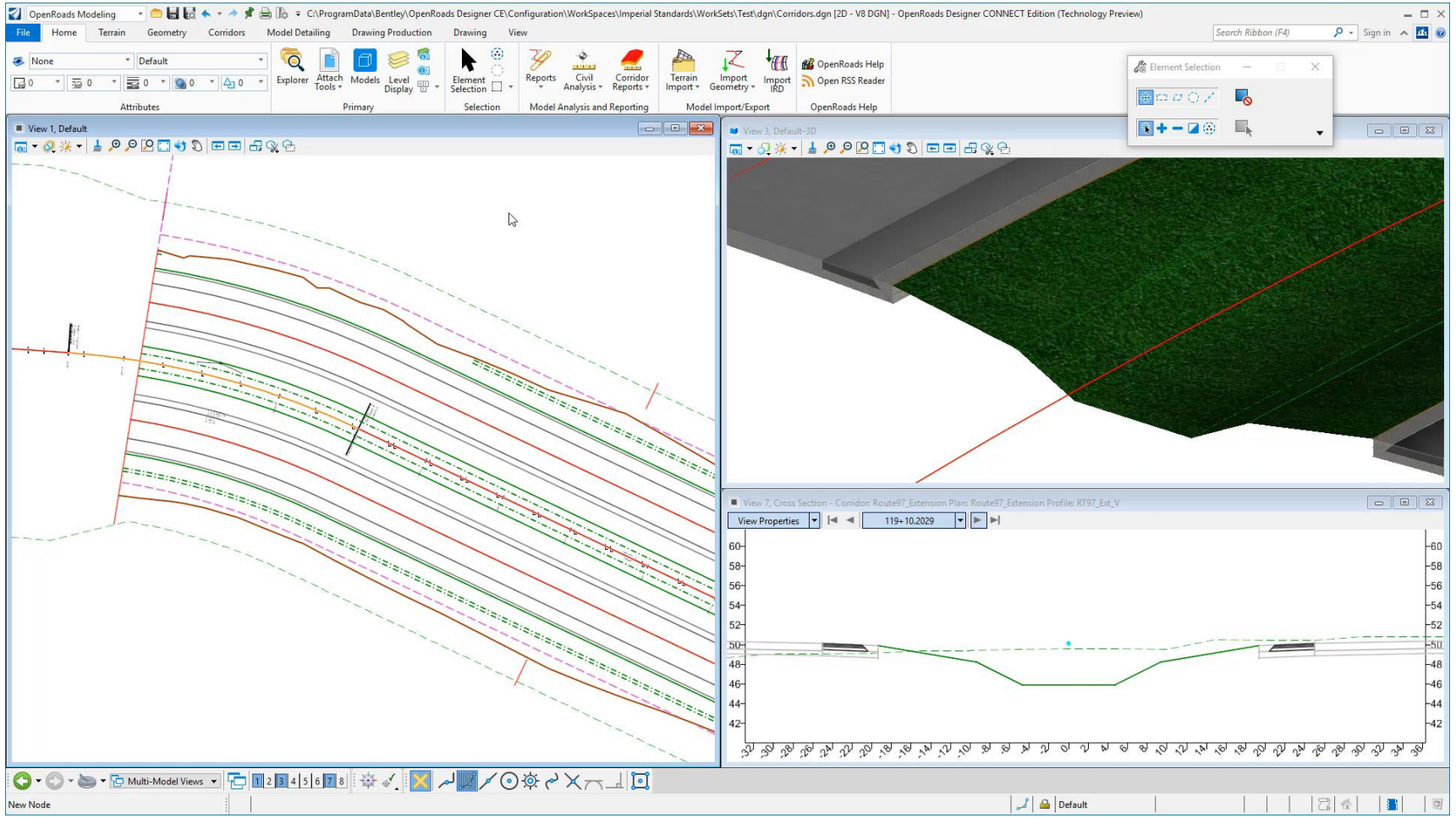
Modeling Cable Barriers



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Modeling Traffic Control

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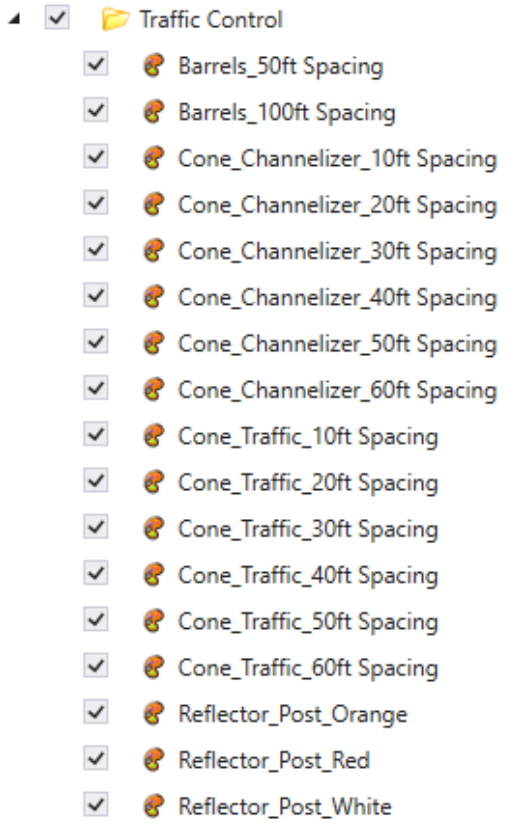
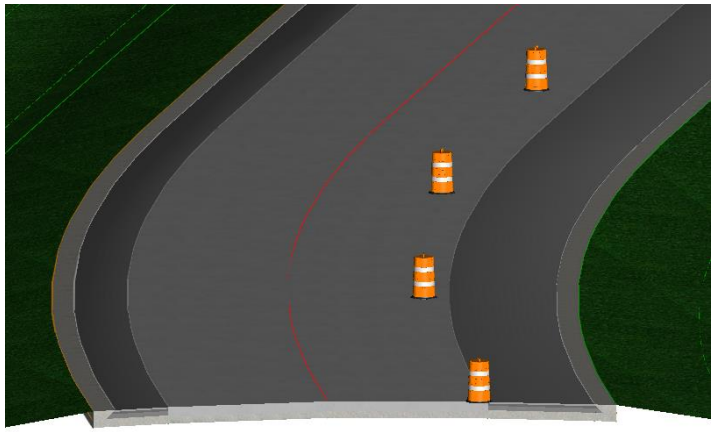
Modeling Traffic Control

- Traffic Control items are included in the delivered workspace.
- Can be added as a point to the template.
- Can be placed as geometry then assigned a profile from the design corridor.
- The element templates point to the custom linestyles used for the Traffic Control items.
- Not included for cross sections.





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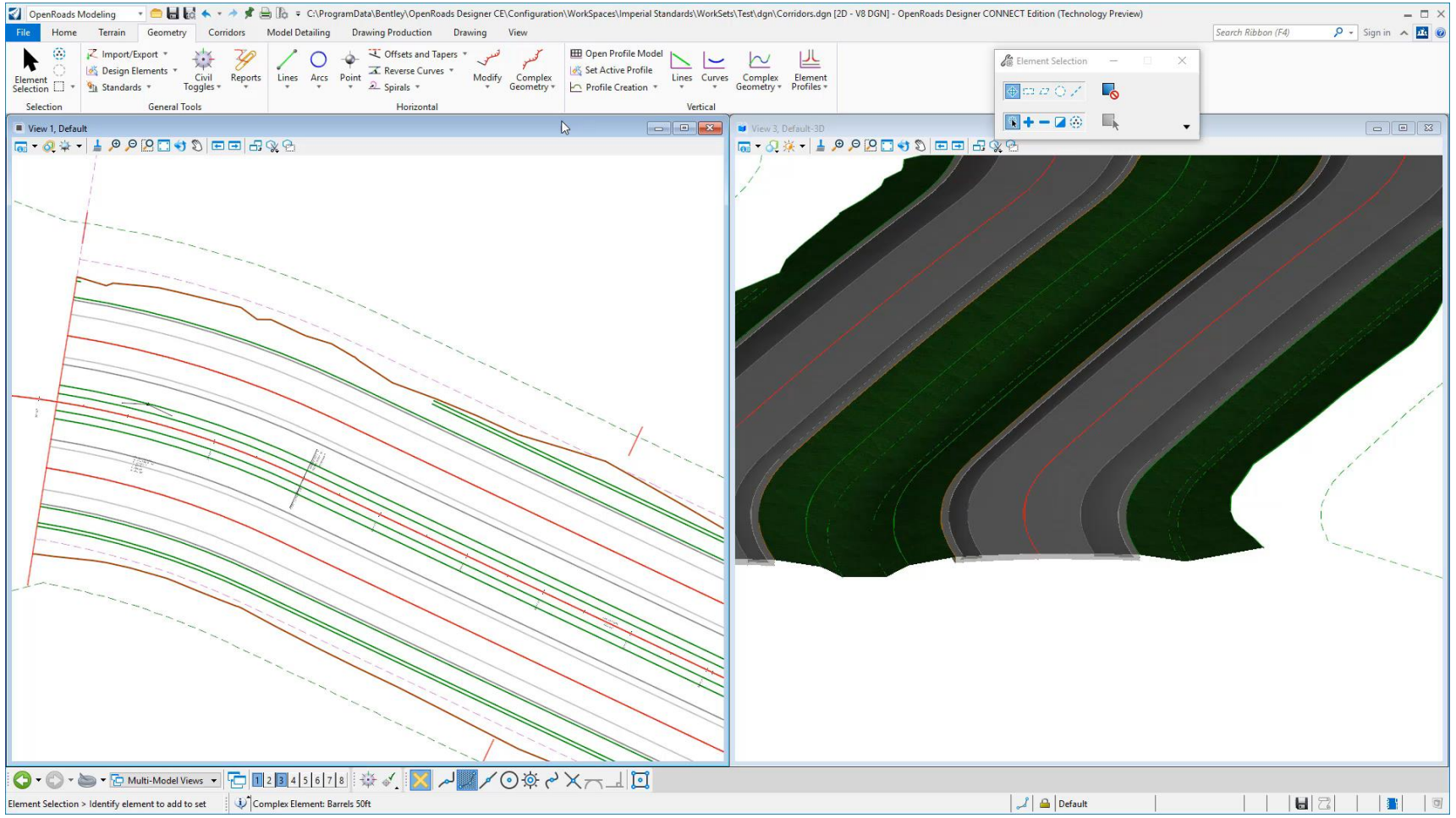
Modeling Traffic Control



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Modeling Fences

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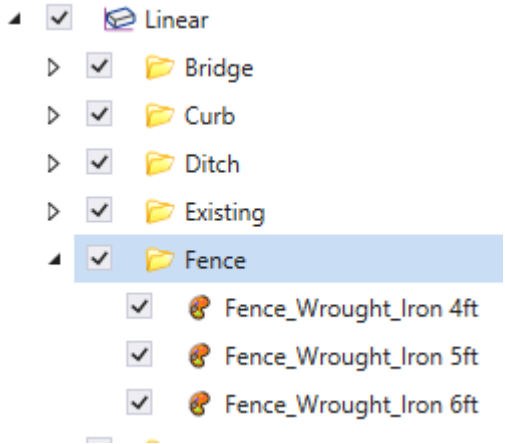
Modeling Fences

- Wrought iron fences are included in the delivered workspace.
- Can be added as a point to the template.
- Can be placed as geometry the assigned a profile from the design corridor.
- The element templates point to the custom linestyles used for the fences.



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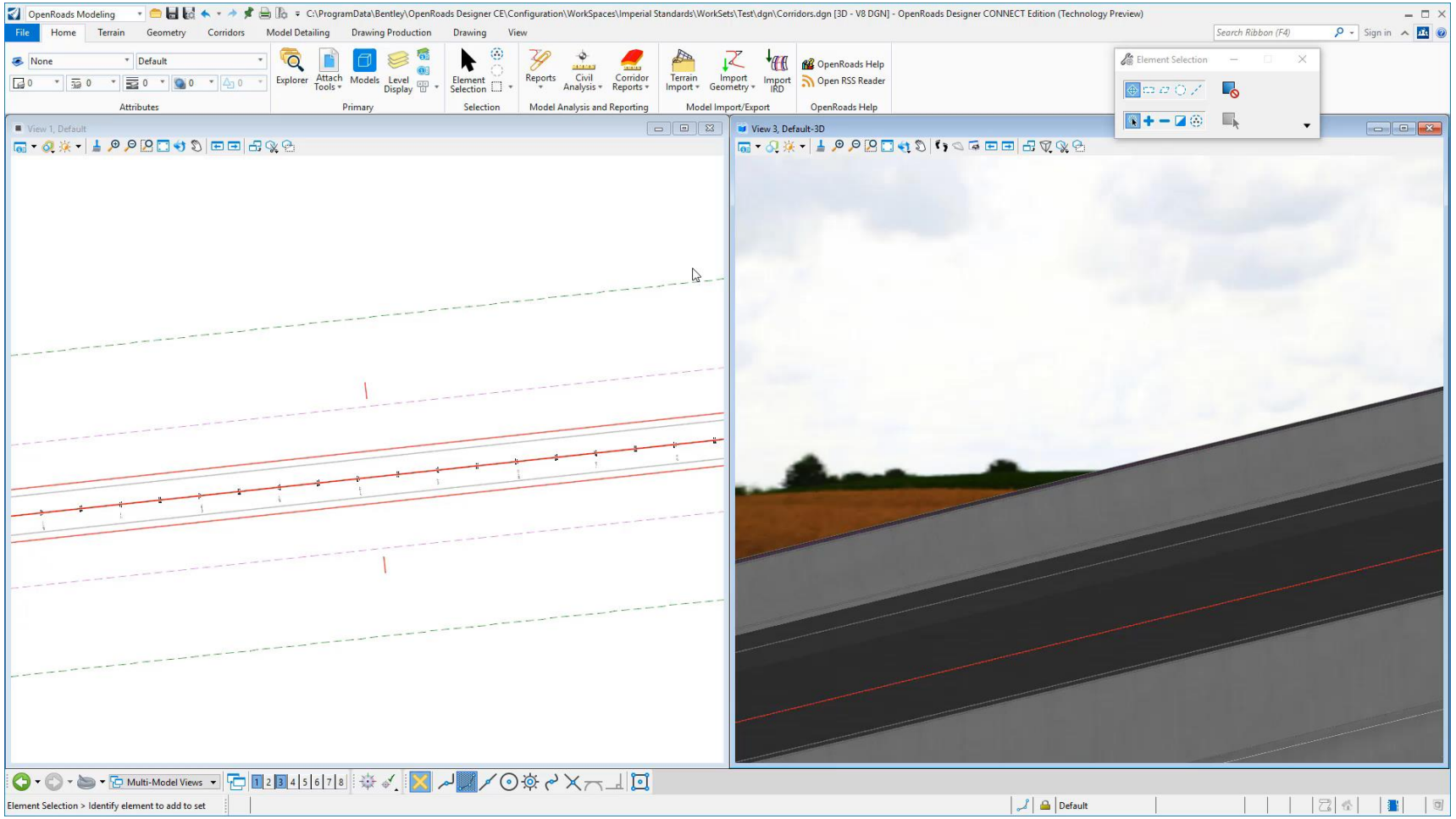
Modeling Fences



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Conclusion

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Available Training

OpenRoads Designer Workspace Setup: Step 1 - Understanding Feature Definitions

Discover the new types of Feature Definitions in OpenRoads Designer CONNECT Edition.

▼ Find Training (1)

On-Demand

Title	Language	Generation	Release Detail	Type	Duration	Status	Launch	
OpenRoads Designer Workspace Setup - Understanding Feature Definitions	English	CONNECT Edition	Base Release					
Exploring Feature Definitions and Symbologies				Lecture	4m	●	Review	+
Point Feature Definition and Symbology Properties				Lecture	4m	◒	Resume	+
Linear Feature Definition and Symbology Properties				Lecture	9m		Launch	+
Alignment Feature Definition and Symbology Properties				Lecture	1m		Launch	+
Mesh Feature Definition and Symbology Properties				Lecture	2m		Launch	+
Terrain Feature Definition and Symbology Properties				Lecture	1m		Launch	+
Superelevation Feature Definition and Symbology Properties				Lecture	1m		Launch	+
Surface Template Feature Definition and Symbology Properties				Lecture	57s		Launch	+
Corridor Feature Definition and Symbology Properties				Lecture	5m		Launch	+
Linear Template Feature Definition and Symbology Properties				Lecture	1m		Launch	+

OpenRoads Designer Workspace Setup Learning Path

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Thank You

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