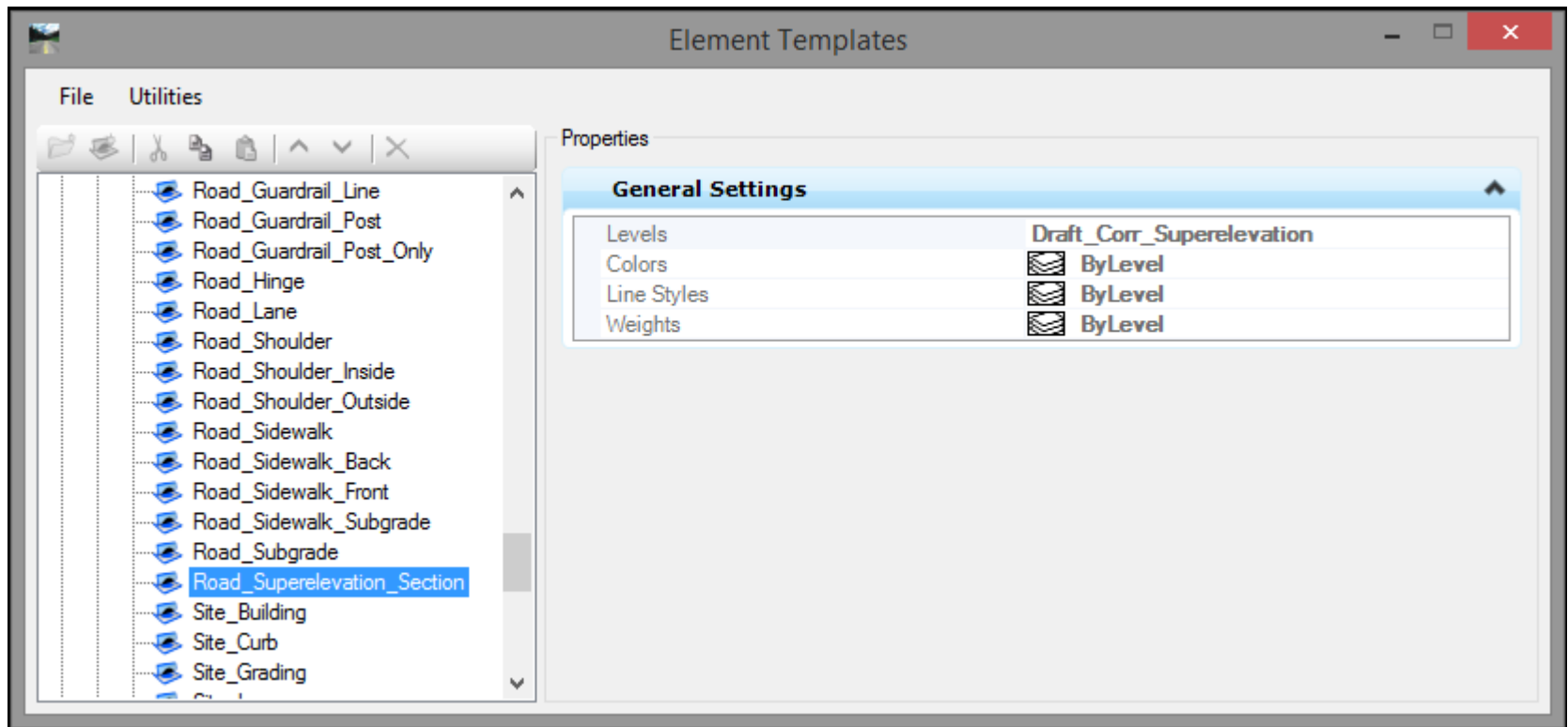




Chuck Lawson, Bentley Systems Incorporated

Completed Items

- Added Superelevation Element Template and also set it to a construction class



Completed Items

- Corridor Graphics Line Weights Increased

Level Manager

Levels Filter Edit

Symbology: ByLevel (none)

test.dgn

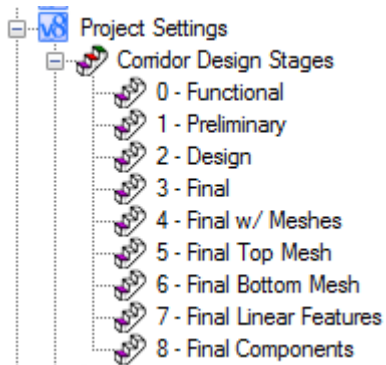
All Levels

Filters

Name			
Draft_Corr_Design	52	0	1
Draft_Corr_Final	3	0	1
Draft_Corr_Functional	7	0	1
Draft_Corr_Prelim	2	0	1
Draft_Corr_Range_Design	69	3	2
Draft_Corr_Range_Final	69	3	2
Draft_Corr_Range_Functional	69	3	2
Draft_Corr_Range_Prelim	69	3	2
Draft_Corr_Superelevation	66	0	2
Draft_Corr_TemplateDrop_Design	0	0	3
Draft_Corr_TemplateDrop_Final	0	0	3
Draft_Corr_TemplateDrop_Functional	0	0	3
Draft_Corr_TemplateDrop_Prelim	0	0	3
Draft_Corr_Transition_Design	100	0	2
Draft_Corr_Transition_Final	100	0	2
Draft_Corr_Transition_Functional	100	0	2
Draft_Corr_Transition_Prelim	100	0	2



Completed Items

- Corridor Design Stage Enhancements



Completed Items

Element Information

 Selection
 0 - Functional

General

DescriptionApplication Data

Extended

Template Management

Template Drop Interval M10

Include Critical Sections

Horizontal Cardinal PointsFalse

Vertical Cardinal PointsFalse

External Control PointsFalse

Densify Horizontal CurveFalse

Densify Vertical CurvesFalse

Display Settings

Output Settings

Create Top MeshFalse

Top Mesh Feature DefinitNo Feature Definition

Create Bottom MeshFalse

Bottom Mesh Feature DefNo Feature Definition

Create Linear FeaturesTrue

Create Component MesheTrue

Include Null Point Linear lFalse

Project Explorer

LinksFileSurveyCivil ModelCivil Standards

Civil Standards

Project_Settings_Imperial.dgnlib

Civil Cells

Design Standards

☒ Feature Definitions

Filters

Project Settings

Comidor Design Stages

0 - Functional

1 - Preliminary

2 - Design

3 - Final

4 - Final w/ Meshes

5 - Final Top Mesh

6 - Final Bottom Mesh

7 - Final Linear Features

8 - Final Components

Linear Template Design Stages

Survey

Utility Filters

Libraries

Completed Items

Element Information

Selection

1 - Preliminary

General

Description

Application Data

Extended

Template Management

Template Drop Interval M

5

Include Critical Sections

Horizontal Cardinal Point:

True

Vertical Cardinal Points

True

External Control Points

True

Densify Horizontal Curve

True

Densify Vertical Curves

False

Display Settings

Output Settings

Create Top Mesh

False

Top Mesh Feature Definit

No Feature Definition

Create Bottom Mesh

False

Bottom Mesh Feature Def

No Feature Definition

Create Linear Features

True

Create Component Meshe

True

Include Null Point Linear I

False

Project Explorer

Links File Survey Civil Model Civil Standards

Civil Standards

Project_Settings_Imperial.dgnlib

Civil Cells

Design Standards

Feature Definitions

Filters

Project Settings

Corridor Design Stages

0 - Functional

1 - Preliminary

2 - Design

3 - Final

4 - Final w/ Meshes

5 - Final Top Mesh

6 - Final Bottom Mesh

7 - Final Linear Features

8 - Final Components

Linear Template Design Stages

Survey

Utility Filters

Libraries

Completed Items

Element Information

Selection

2 - Design

General

DescriptionApplication Data

Extended

Template Management

Template Drop Interval M: 2

Include Critical Sections

Horizontal Cardinal Point: True

Vertical Cardinal Points: True

External Control Points: True

Densify Horizontal Curve: True

Densify Vertical Curves: False

Display Settings

Output Settings

Create Top Mesh: False

Top Mesh Feature Definit: No Feature Definition

Create Bottom Mesh: False

Bottom Mesh Feature Def: No Feature Definition

Create Linear Features: True

Create Component Meshe: True

Include Null Point Linear: False

Project Explorer

LinksFileSurveyCivil ModelCivil Standards

Civil Standards

Project_Settings_Imperial.dgnlib

Civil Cells

Design Standards

Feature Definitions

Filters

Project Settings

Comidor Design Stages

0 - Functional

1 - Preliminary

2 - Design

3 - Final

4 - Final w/ Meshes

5 - Final Top Mesh

6 - Final Bottom Mesh

7 - Final Linear Features

8 - Final Components


Linear Template Design Stages

Survey

Utility Filters

Libraries

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 **Bentley**
Sustaining Infrastructure

Completed Items

The screenshot displays the Bentley software interface with two main panels: Element Information on the left and Project Explorer on the right.

Element Information Panel:

- Selection:** 3 - Final
- General:**
 - Description: Application Data
- Template Management:**
 - Template Drop Interval M: 1
- Include Critical Sections:**
 - Horizontal Cardinal Point: True
 - Vertical Cardinal Points: True
 - External Control Points: True
 - Densify Horizontal Curve: True
 - Densify Vertical Curves: True
- Display Settings:**
- Output Settings:**
 - Create Top Mesh: False
 - Top Mesh Feature Definit: No Feature Definition
 - Create Bottom Mesh: False
 - Bottom Mesh Feature Def: No Feature Definition
 - Create Linear Features: True
 - Create Component Meshe: True
 - Include Null Point Linear: False

Project Explorer Panel:

- Links
- File
- Survey
- Civil Model
- Civil Standards
 - Project_Settings_Imperial.dgnlib
 - Civil Cells
 - Design Standards
 - Feature Definitions (checked)
 - Filters
 - Project Settings
 - Coridor Design Stages
 - 0 - Functional
 - 1 - Preliminary
 - 2 - Design
 - 3 - Final (highlighted)
 - 4 - Final w/ Meshes
 - 5 - Final Top Mesh
 - 6 - Final Bottom Mesh
 - 7 - Final Linear Features
 - 8 - Final Components
 - Linear Template Design Stages
 - Survey
 - Utility Filters
 - Libraries

Completed Items

Element Information

Selection

4 - Final w/ Meshes

General

DescriptionApplication Data

Extended

Template Management

Template Drop Interval M1

Include Critical Sections

Horizontal Cardinal PointsTrue

Vertical Cardinal PointsTrue

External Control PointsTrue

Densify Horizontal CurveTrue

Densify Vertical CurvesTrue

Display Settings

Output Settings

Create Top MeshTrue

Top Mesh Feature DefinitTop Mesh

Create Bottom MeshTrue

Bottom Mesh Feature DefBottom Mesh

Create Linear FeaturesTrue

Create Component MesheTrue

Include Null Point Linear IFalse

Project Explorer

LinksFileSurveyCivil ModelCivil Standards

Civil Standards

Project_Settings_Imperial.dgnlib

Civil Cells

Design Standards

Feature Definitions

Filters

Project Settings

Corridor Design Stages

0 - Functional

1 - Preliminary

2 - Design

3 - Final

4 - Final w/ Meshes

5 - Final Top Mesh

6 - Final Bottom Mesh

7 - Final Linear Features

8 - Final Components

Linear Template Design Stages

Survey

Utility Filters

Libraries

Completed Items

Element Information

Selection

5 - Final Top Mesh

General

Description

Application Data

Extended

Template Management

Template Drop Interval M

1

Include Critical Sections

Horizontal Cardinal Point

True

Vertical Cardinal Points

True

External Control Points

True

Densify Horizontal Curve

True

Densify Vertical Curves

True

Display Settings

Output Settings

Create Top Mesh

True

Top Mesh Feature Definit

Top Mesh

Create Bottom Mesh

False

Bottom Mesh Feature Def

No Feature Definition

Create Linear Features

False

Create Component Meshe

False

Include Null Point Linear

False

Project Explorer

Links

File

Survey

Civil Model

Civil Standards

Civil Standards

Project_Settings_Imperial.dgnlib

Civil Cells

Design Standards

Feature Definitions

Filters

Project Settings

Comidor Design Stages

0 - Functional

1 - Preliminary

2 - Design

3 - Final

4 - Final w/ Meshes

5 - Final Top Mesh

6 - Final Bottom Mesh

7 - Final Linear Features

8 - Final Components

Linear Template Design Stages

Survey

Utility Filters

Libraries

Completed Items

Element Information

Selection

6 - Final Bottom Mesh

General

DescriptionApplication Data

Extended

Template Management

Template Drop Interval M1

Include Critical Sections

Horizontal Cardinal PointsTrue

Vertical Cardinal PointsTrue

External Control PointsTrue

Densify Horizontal CurveTrue

Densify Vertical CurvesTrue

Display Settings

Output Settings

Create Top MeshFalse

Top Mesh Feature DefinitNo Feature Definition

Create Bottom MeshTrue

Bottom Mesh Feature DefBottom Mesh

Create Linear FeaturesFalse

Create Component MesheFalse

Include Null Point Linear IFalse

Project Explorer

LinksFileSurveyCivil ModelCivil Standards

Civil Standards

Project_Settings_Imperial.dgnlib

Civil Cells

Design Standards

Feature Definitions

Filters

Project Settings

Coridor Design Stages

0 - Functional

1 - Preliminary

2 - Design

3 - Final

4 - Final w/ Meshes

5 - Final Top Mesh

6 - Final Bottom Mesh

7 - Final Linear Features

8 - Final Components

Linear Template Design Stages

Survey

Utility Filters

Libraries

Completed Items

Element Information

Selection

7 - Final Linear Features

General

DescriptionApplication Data

Extended

Template Management

Template Drop Interval M1

Include Critical Sections

Horizontal Cardinal Point: True

Vertical Cardinal Points True

External Control Points True

Densify Horizontal Curve True

Densify Vertical Curves True

Display Settings

Output Settings

Create Top Mesh False

Top Mesh Feature Definit No Feature Definition

Create Bottom Mesh False

Bottom Mesh Feature Def No Feature Definition

Create Linear Features True

Create Component Meshe False

Include Null Point Linear I False

Project Explorer

LinksFileSurveyCivil ModelCivil Standards

Civil Standards

Project_Settings_Imperial.dgnlib

Civil Cells

Design Standards

Feature Definitions

Filters

Project Settings

Corridor Design Stages

0 - Functional

1 - Preliminary

2 - Design

3 - Final

4 - Final w/ Meshes

5 - Final Top Mesh

6 - Final Bottom Mesh

7 - Final Linear Features

8 - Final Components


Linear Template Design Stages

Survey

Utility Filters

Libraries

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 **Bentley**
Sustaining Infrastructure

Completed Items

The screenshot displays the Bentley software interface with two main panels: Element Information on the left and Project Explorer on the right.

Element Information Panel:

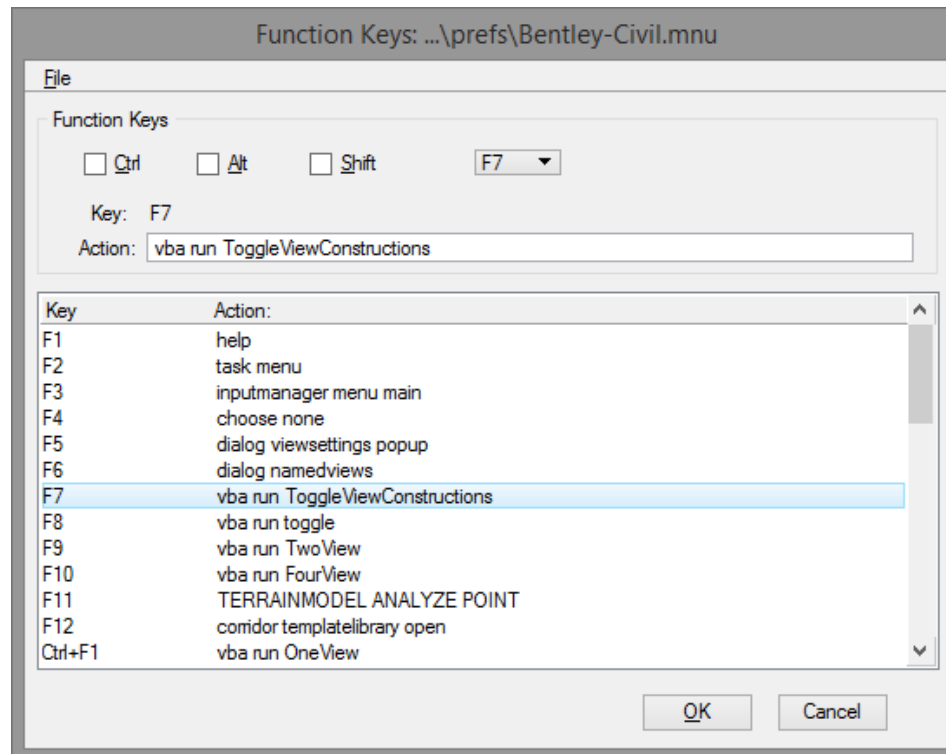
- Selection:** 8 - Final Components
- General:** Description: Application Data
- Extended:** (Collapsed)
- Template Management:** Template Drop Interval M: 1
- Include Critical Sections:**
 - Horizontal Cardinal Point: True
 - Vertical Cardinal Points: True
 - External Control Points: True
 - Densify Horizontal Curve: True
 - Densify Vertical Curves: True
- Display Settings:** (Collapsed)
- Output Settings:**
 - Create Top Mesh: False
 - Top Mesh Feature Definit: No Feature Definition
 - Create Bottom Mesh: False
 - Bottom Mesh Feature Def: No Feature Definition
 - Create Linear Features: False
 - Create Component Meshe: True
 - Include Null Point Linear I: False

Project Explorer Panel:

- Links
- File
- Survey
- Civil Model
- Civil Standards
 - Project_Settings_Imperial.dgnlib
 - Civil Cells
 - Design Standards
 - Feature Definitions
 - Filters
 - Project Settings
 - Comidor Design Stages
 - 0 - Functional
 - 1 - Preliminary
 - 2 - Design
 - 3 - Final
 - 4 - Final w/ Meshes
 - 5 - Final Top Mesh
 - 6 - Final Bottom Mesh
 - 7 - Final Linear Features
 - 8 - Final Components
 - Linear Template Design Stages
 - Survey
 - Utility Filters
 - Libraries

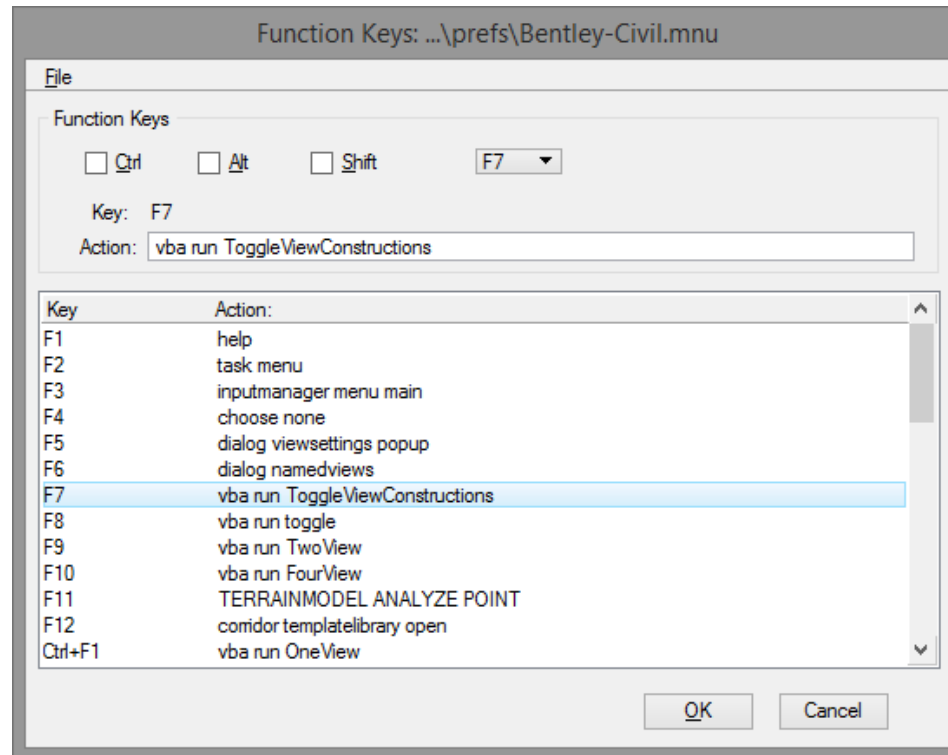
Completed Items

- F7 Function Key Reassignment
 - Enhanced MVBA to toggle construction class in active view



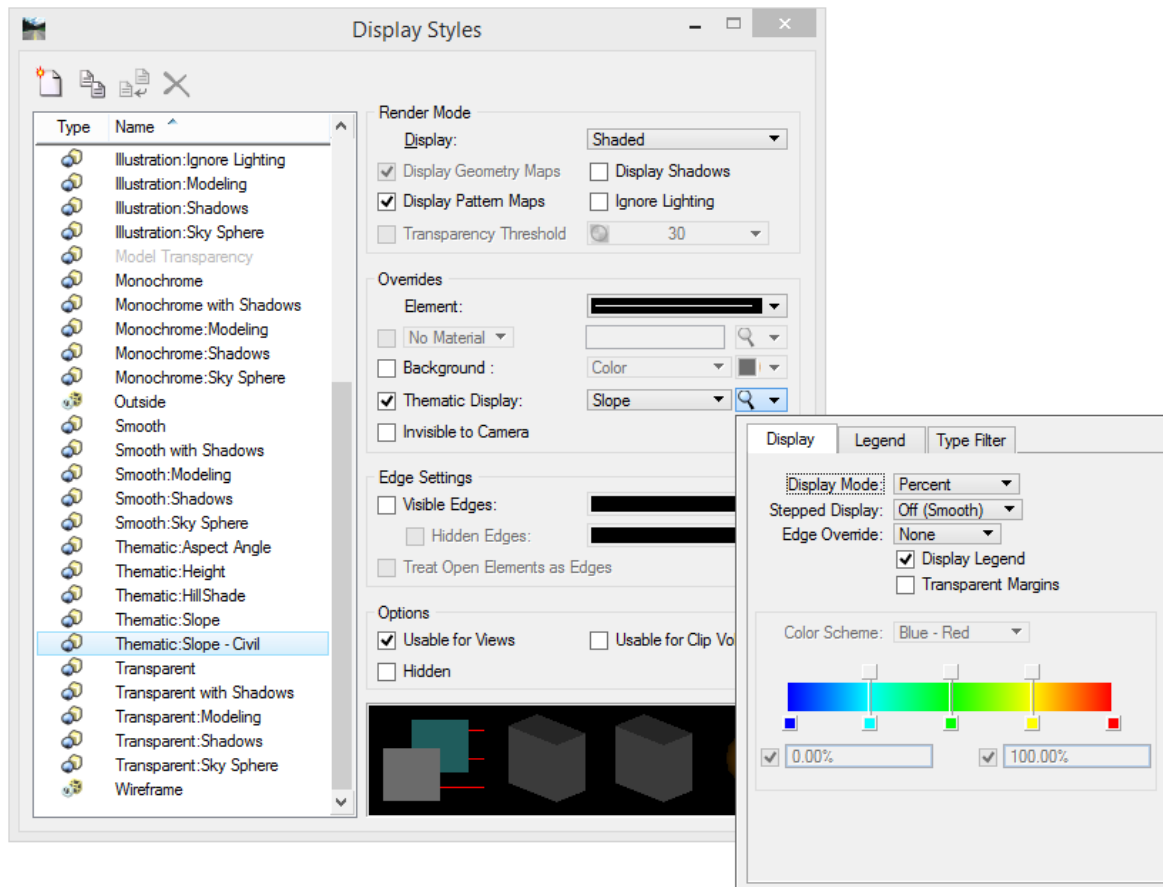
Completed Items

- F9 and F10 Function Key Enhancements
 - Enhanced MVBA to now auto open the 3D model from the 2D design view. F10 opens two additional views for use with profiles and dynamic sections.



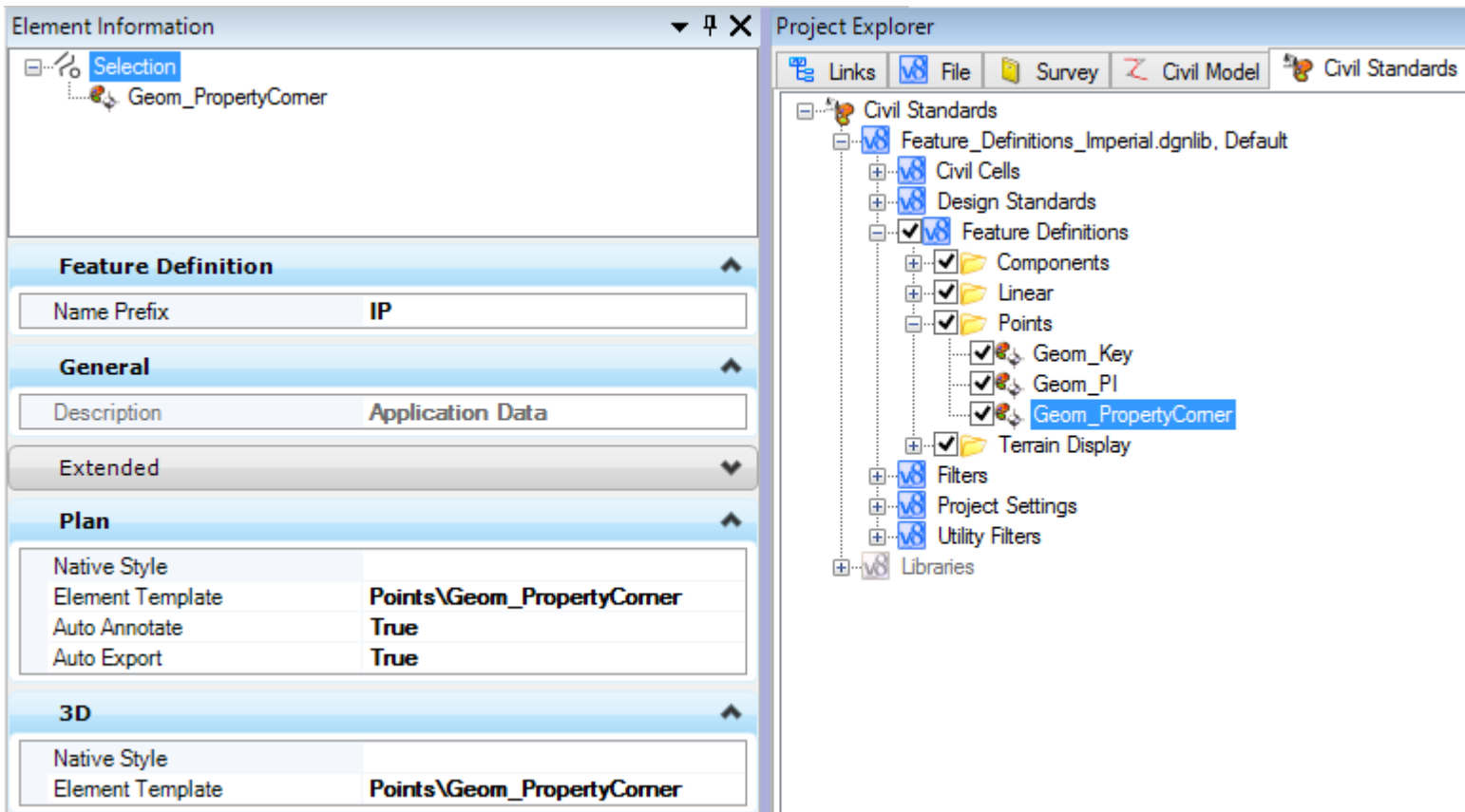
Completed Items

- Display Styles Changes to Better Visualize Thematic Views



Completed Items

- Fixed issue with Point Features not plotting properly



Completed Items

- Added Surface Feature for Existing Rock

The screenshot displays two panels from a Bentley software interface. The left panel, titled 'Element Information', shows the configuration for a feature named 'E_Terrain_Rock'. The right panel, titled 'Project Explorer', shows a hierarchical tree of project components, with 'E_Terrain_Rock' highlighted under the 'Existing' folder.

Element Information Panel:

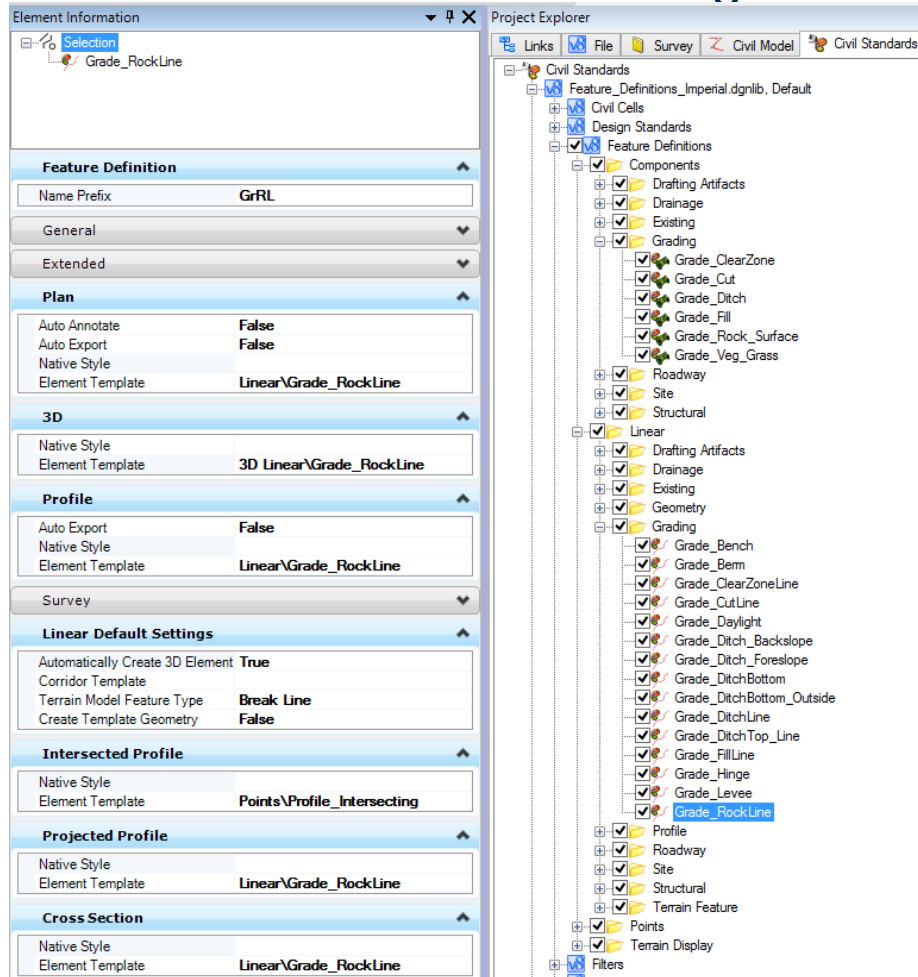
- Selection:** E_Terrain_Rock
- Feature Definition:**
 - Name Prefix: E_Terrain_Rock
- General:**
 - Description: Application Data
- Extended:**
- 3D:**
 - Element Template: Components\E_Terrain_Rock
- Surface Defaults:**
 - Volume Option: Substrata
- Profile:**
 - Native Style:
 - Element Template: Components\E_Terrain_Rock

Project Explorer Panel:

- Civil Standards
 - Feature_Definitions_Imperial.dgnlib, Default
 - Civil Cells
 - Design Standards
 - Feature Definitions
 - Components
 - Drafting Artifacts
 - Drainage
 - Existing
 - E_Road_Median
 - E_Road_Pavement
 - E_Road_Topsoil
 - E_Struc_PavedArea
 - E_Terrain_Rock
 - E_Unsuitable_Material
 - Grading
 - Roadway
 - Site
 - Structural
 - Linear
 - Points
 - Terrain Display
 - Filters
 - Project Settings
 - Utility Filters
 - Libraries

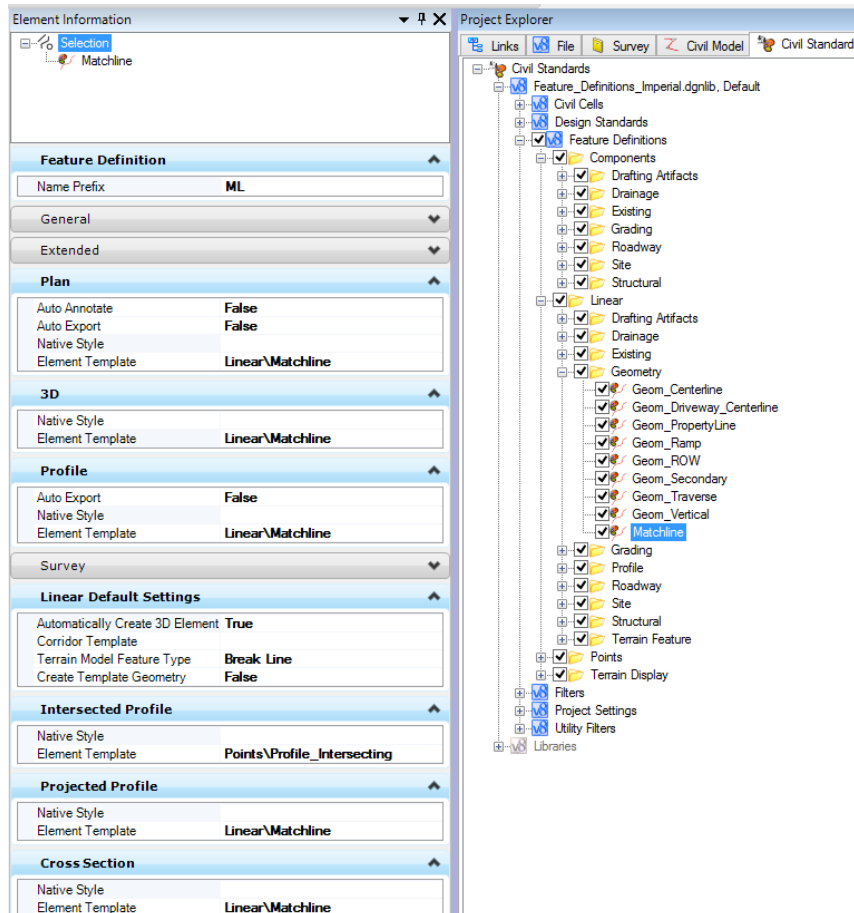
Completed Items

- Added Linear Feature for Existing Rock Breaklines



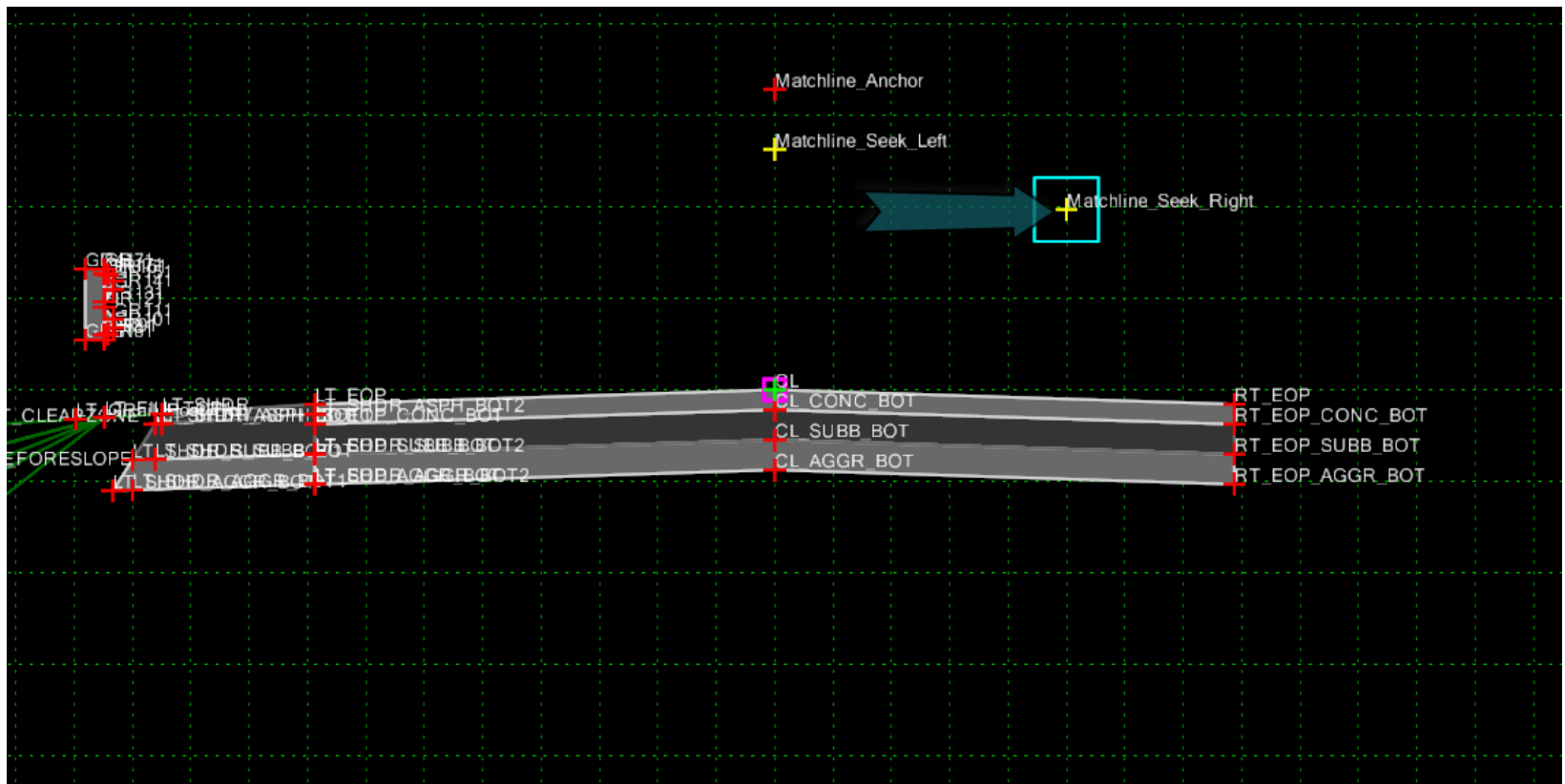
Completed Items

- Added Linear Feature for Roadway Matchline



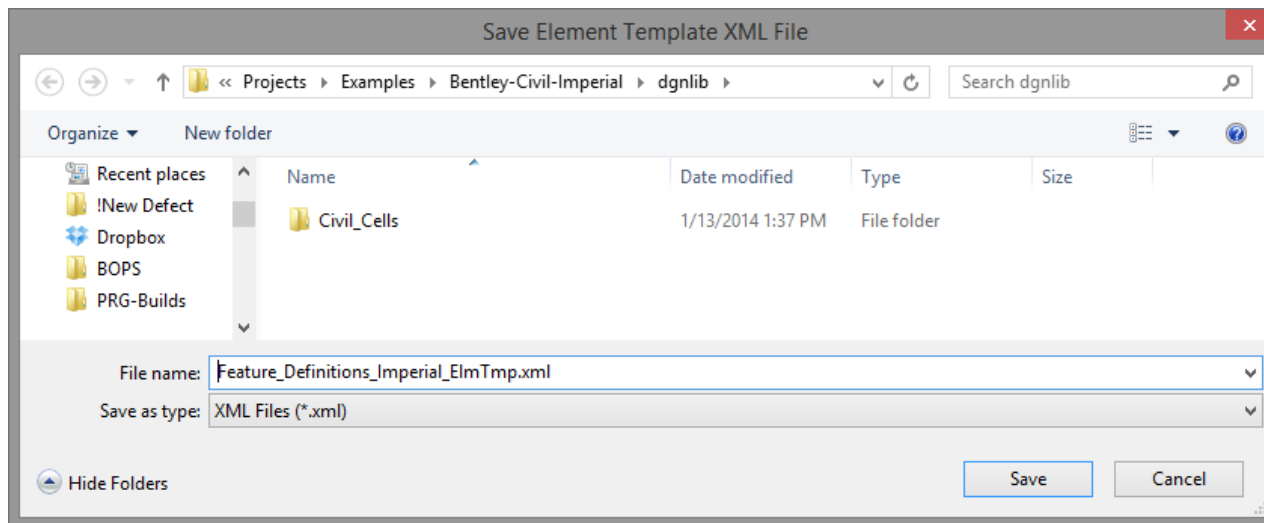
Completed Items

- Modified Rural Undivided Template to Use Matchline as a “Kill Line” – Auto Backbone Only Exception



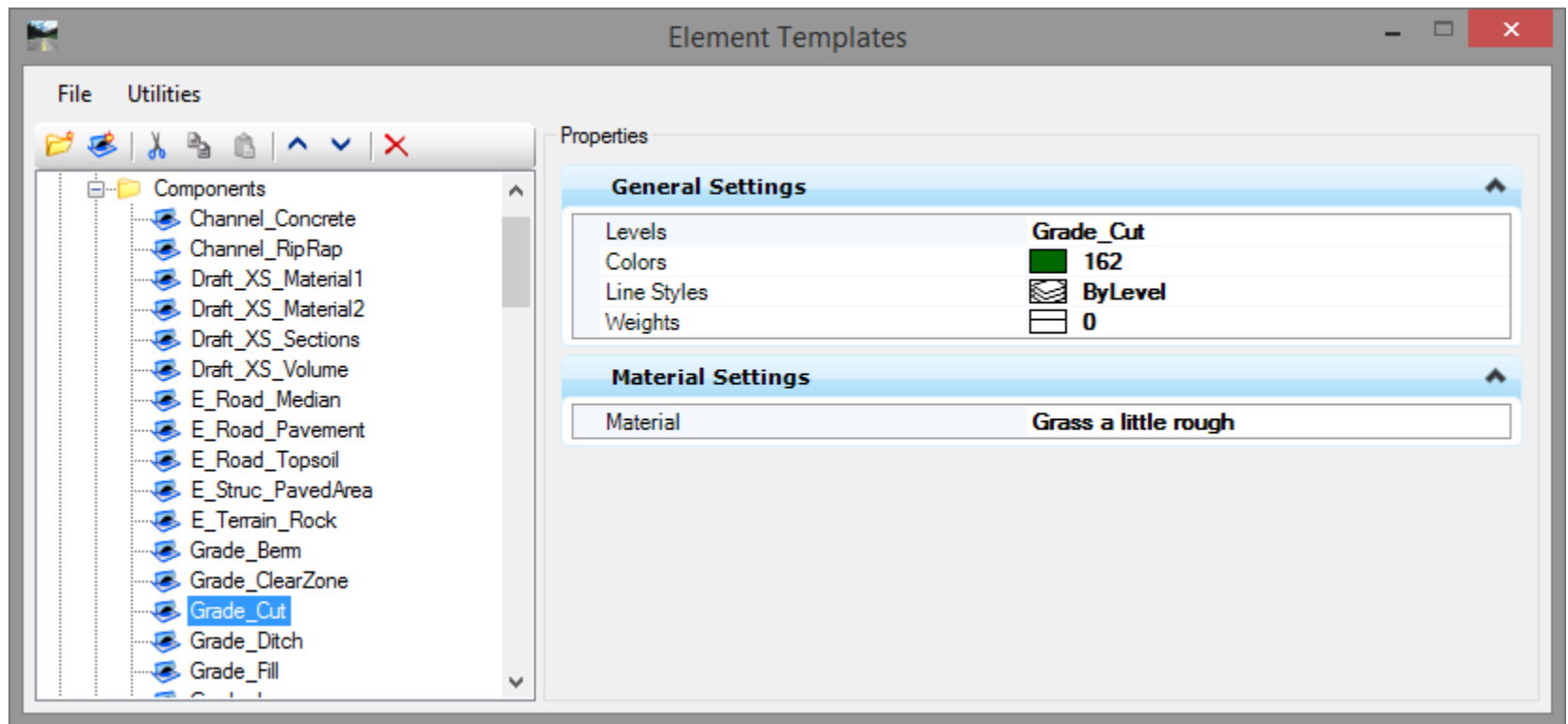
Completed Items

- Added MVBA to convert levels to Element Templates by creating a XML file.
 - Manual Key-in Only
 - Makes Proper Format XML file to import to Element Templates
 - Level Name becomes Element Template Name
 - All other settings are set to bylevel



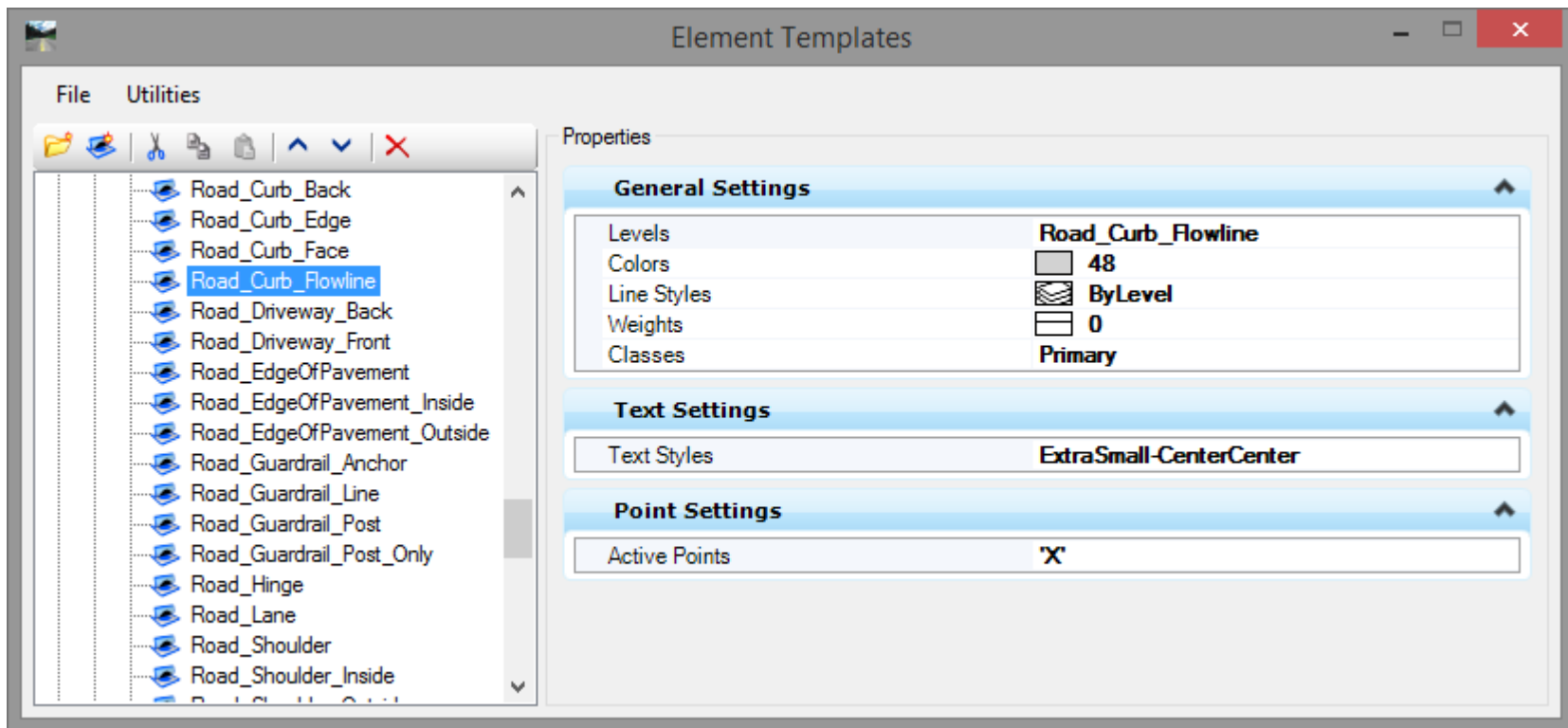
Completed Items

- Material Assignments Now Set at Element Template Level



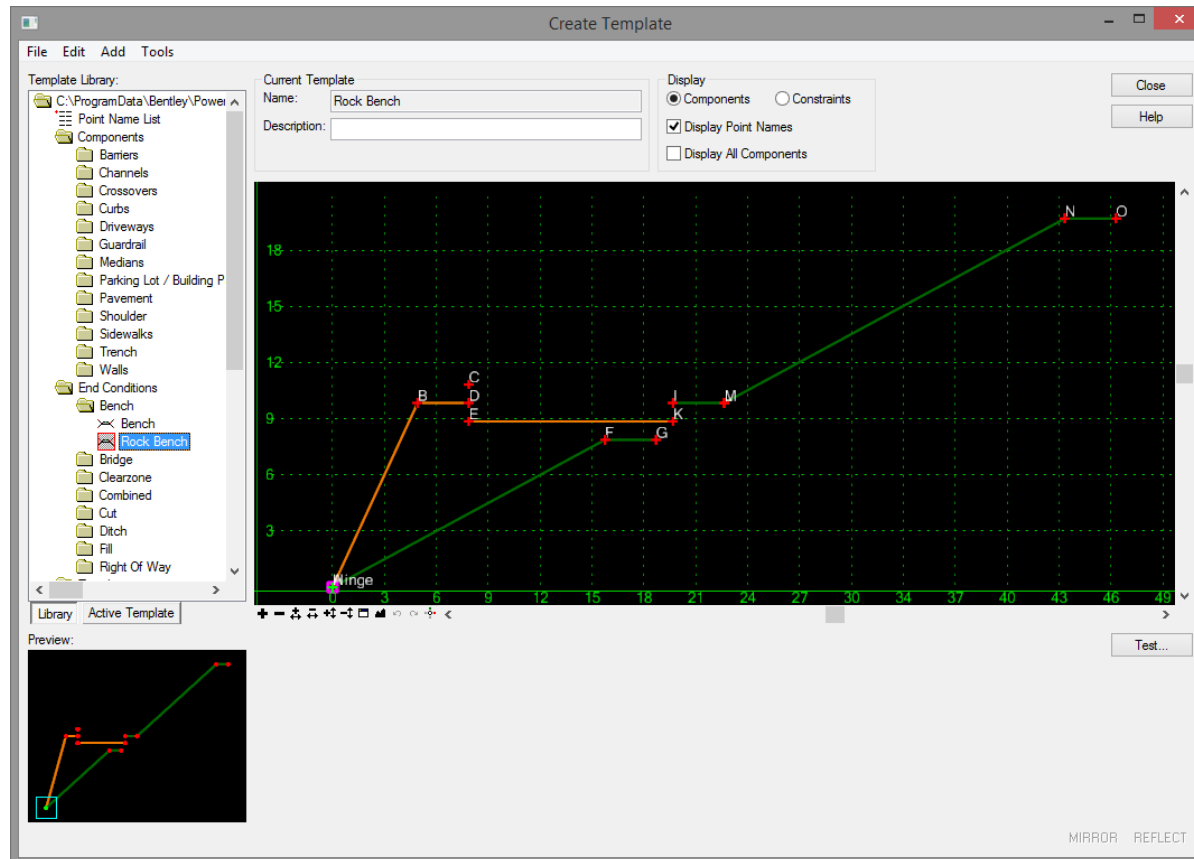
Completed Items

- New 3D Element Template Category
 - 3D break lines now match material assignment colors



Completed Items

- New Template for Advanced Rock Benching



Completed Items

- Config Changes

```
# Allows the user to relax the number of adjacent linear elements.  
# If this is set to false or undefined then the maximum number of adjacent lines is 20.  
# To remove the limit, set to 1. Set to 0 to maintain limits.  
CIVIL_RELAX_NUMBER_OF_LINEARS = 1  
  
# Allows the user to relax the total number of elements (i.e. lines + arcs).  
# If this is set to false or undefined then the maximum number of total elements is 250  
# To remove the limit, set to 1. Set to 0 to maintain limits.  
CIVIL_RELAX_NUMBER_OF_ELEMENTS_FOR_RULES = 1
```

Completed Items


- Config Changes

```
#-----  
#   SUE Inclusion  
#-----  
%if defined (MSSUE_APPDIR)  
    %include $(MSSUE_APPDIR)/SubsurfaceUtilitiesSamples.cfg  
%endif
```

Completed Items

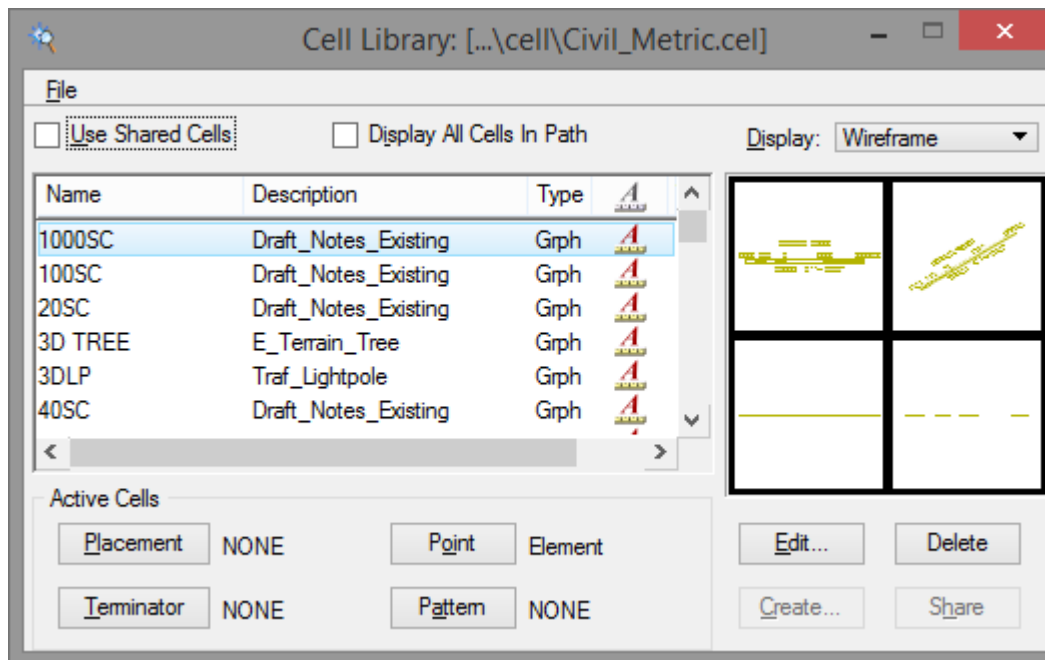
- Config Changes

```
#-----  
#   InRoads Specific Variables  
#-----  
%if defined (InRoads_SS3)  
  MS_DESIGNSEED = $(_USTN_PROJECTDATA)/seed/Seed2D-InRoads-Imperial.dgn  
  CIVIL_SUPERELEVATION_RULES_DIRECTORY = $(CIVIL_CONTENTDIR)/Standards/$(_CIVIL_CONTENT_VERSION)/$(_CIVIL_CONTENT_LANGUAGE)/Superelevation/SEP/  
%endif
```



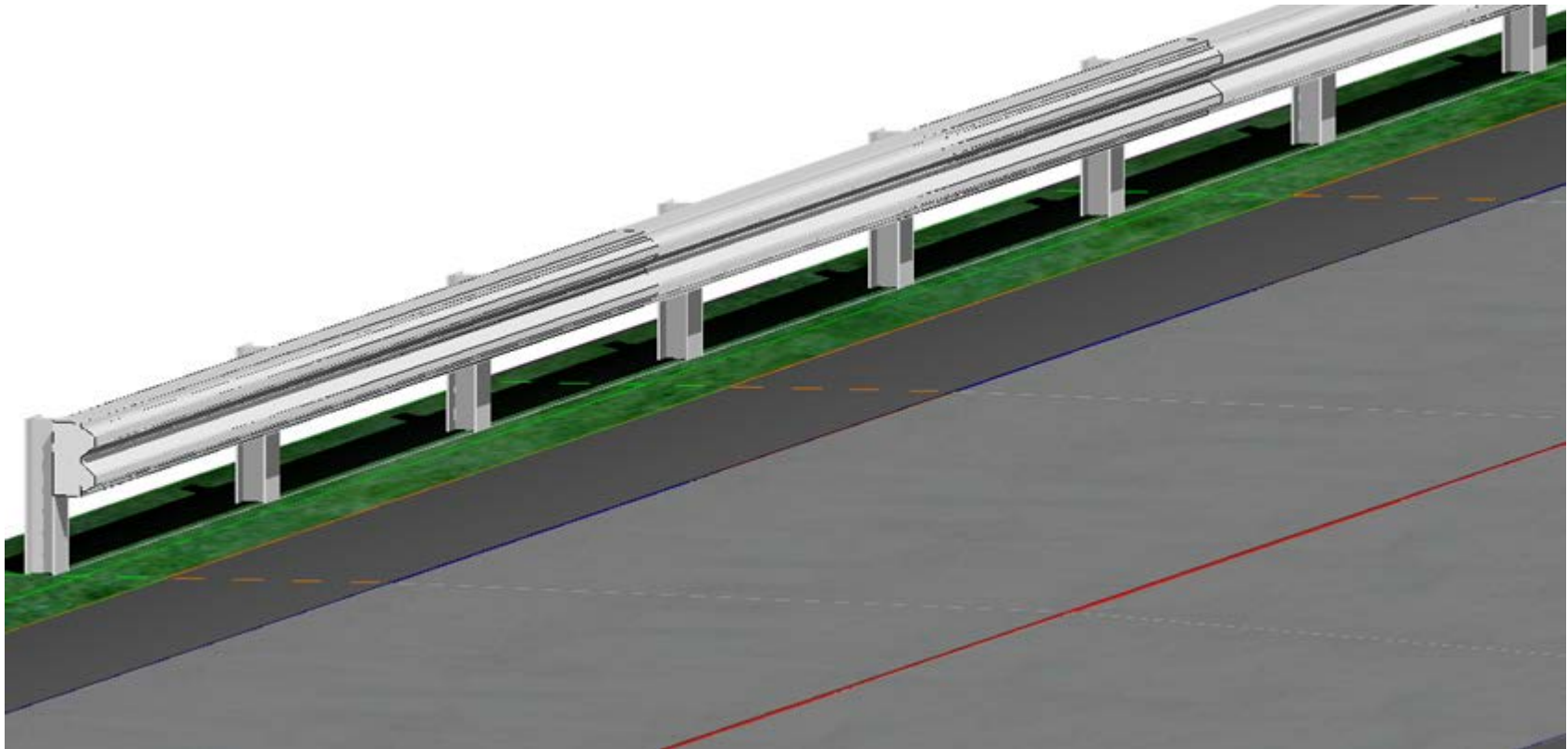
Completed Items

- Fixed metric seed files pointing to imperial cell library



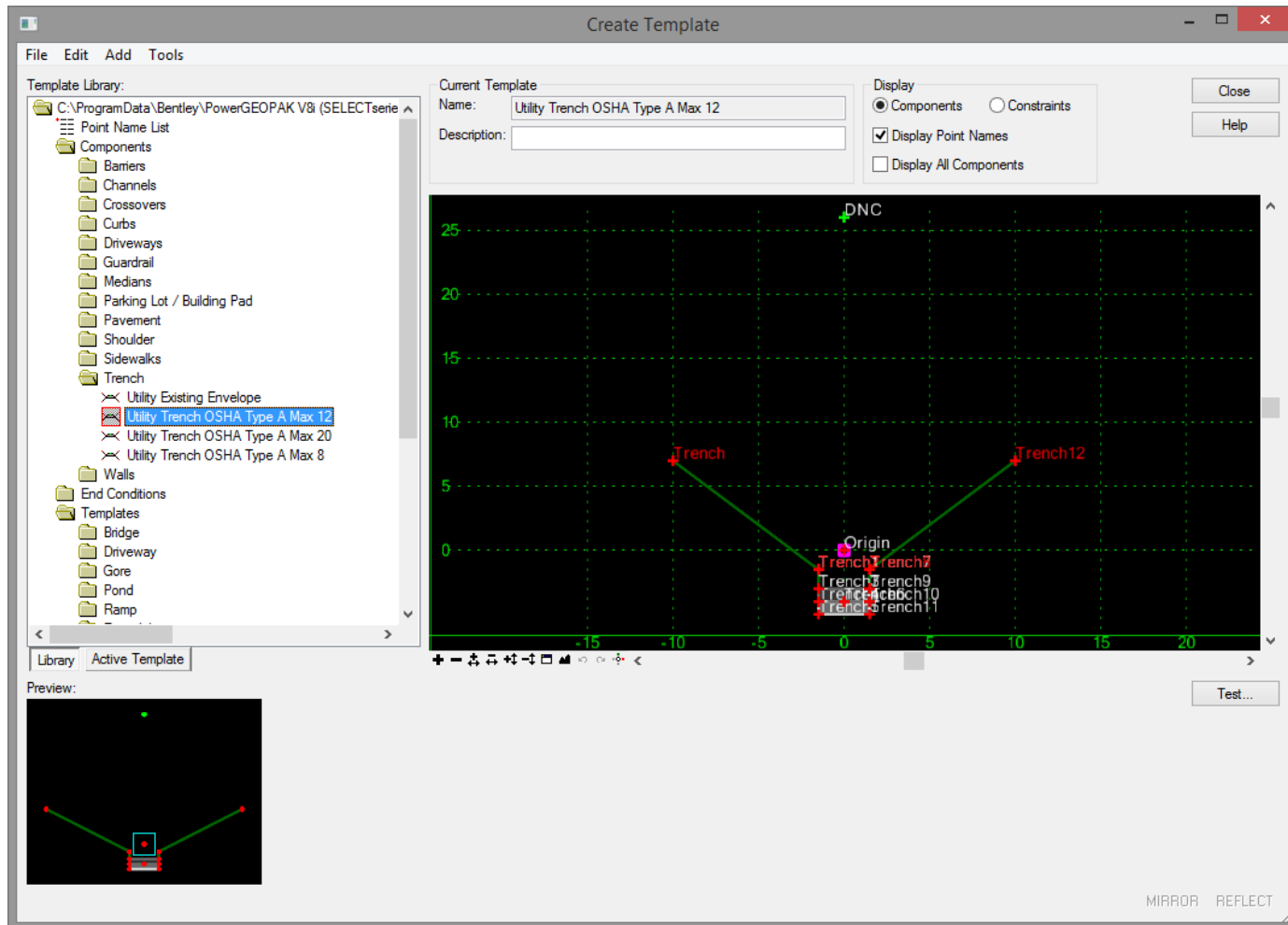
Completed Items

- Adding new linestyle, feature, element template, and template changes to accommodate plotting guardrails properly



Completed Items

- Trench templates to be modified to better work with SUE



Completed Items

- Existing ground line will now be a dashed line in dynamic xs view and when cutting cross sections
- The Corridor Graphics Handles will now be shown at a constant spacing regardless of the length of the project.
- Imperial and Metric pavement markings are now included as linear features
- Seed files no longer contain an Auxiliary Coordinate System