Creating and Managing Plan, Profile, and Cross Section Drawings

Robert Nice, Senior Consultant– Bentley Systems

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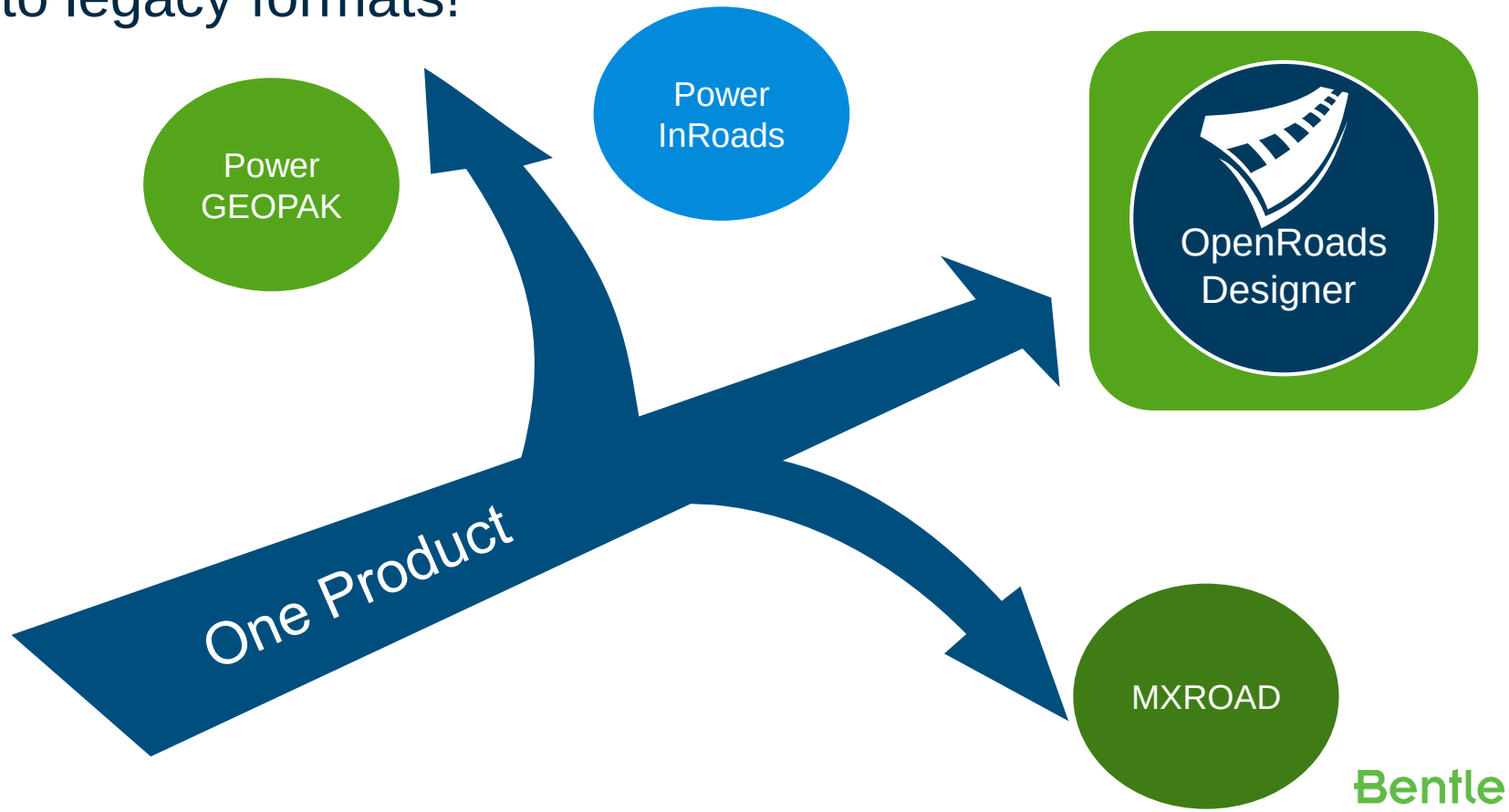
OpenRoads Designer Drawing Production

- No more DETOURS!!
  - No more hybrid workflows!!
  - No more exporting to legacy formats!



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Agenda

- **Drawing Production Workflow and Tools**
- **Plan and Profile Sheet Layout**
  - *The Basics*
  - *Annotation*
  - *Modifying Named Boundaries*
  - *Federated Workflows*
- **Cross Section Sheet Layout**
  - *The Basics*
  - *Adding Single Cross Sections*
  - *Annotation*
  - *Federated Workflows*
- **Sheet Index**
- **Workspace Setup**

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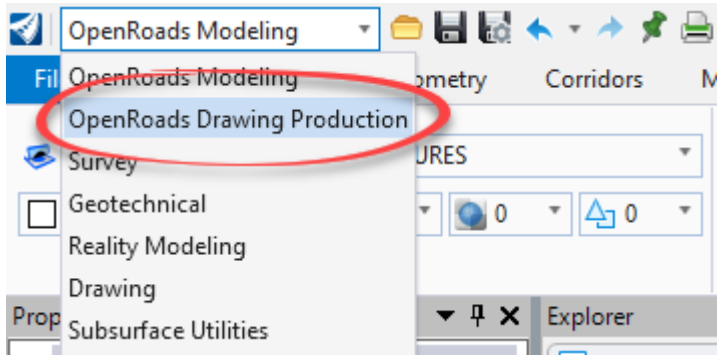
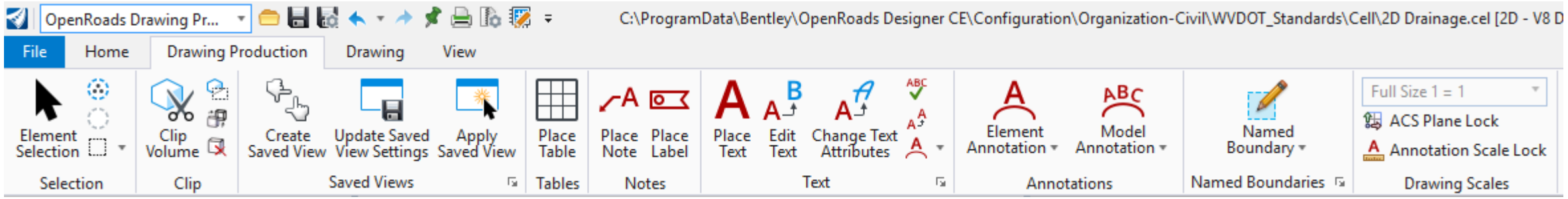
Drawing Production Workflow and Ribbon





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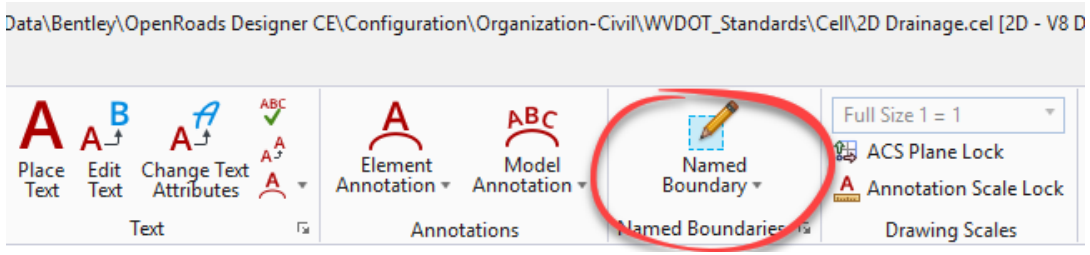
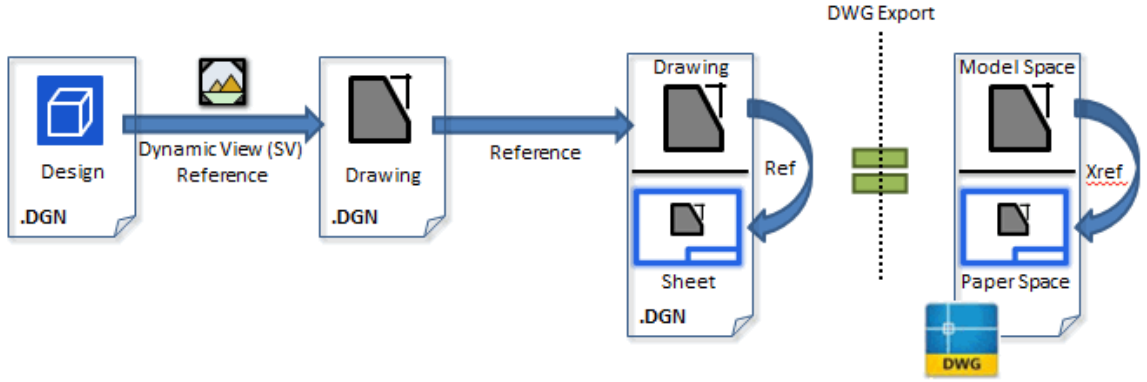
Place Named Boundary

- Automated Sheet Creation
  - *Civil Plan*
    - *Plan*
    - *Dual Plan*
    - *Plan-Profile*
  - *Civil Profile*
    - *Full Profile*
    - *Dual Profile*
  - *Cross Section*



Behind the Scenes:



Easy export to .dwg sheets!

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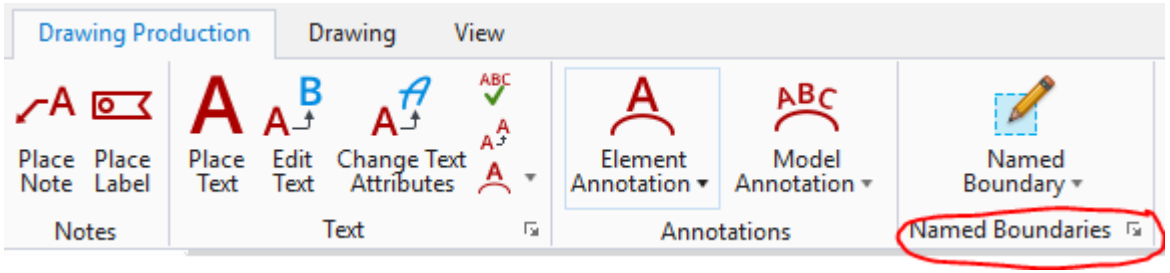
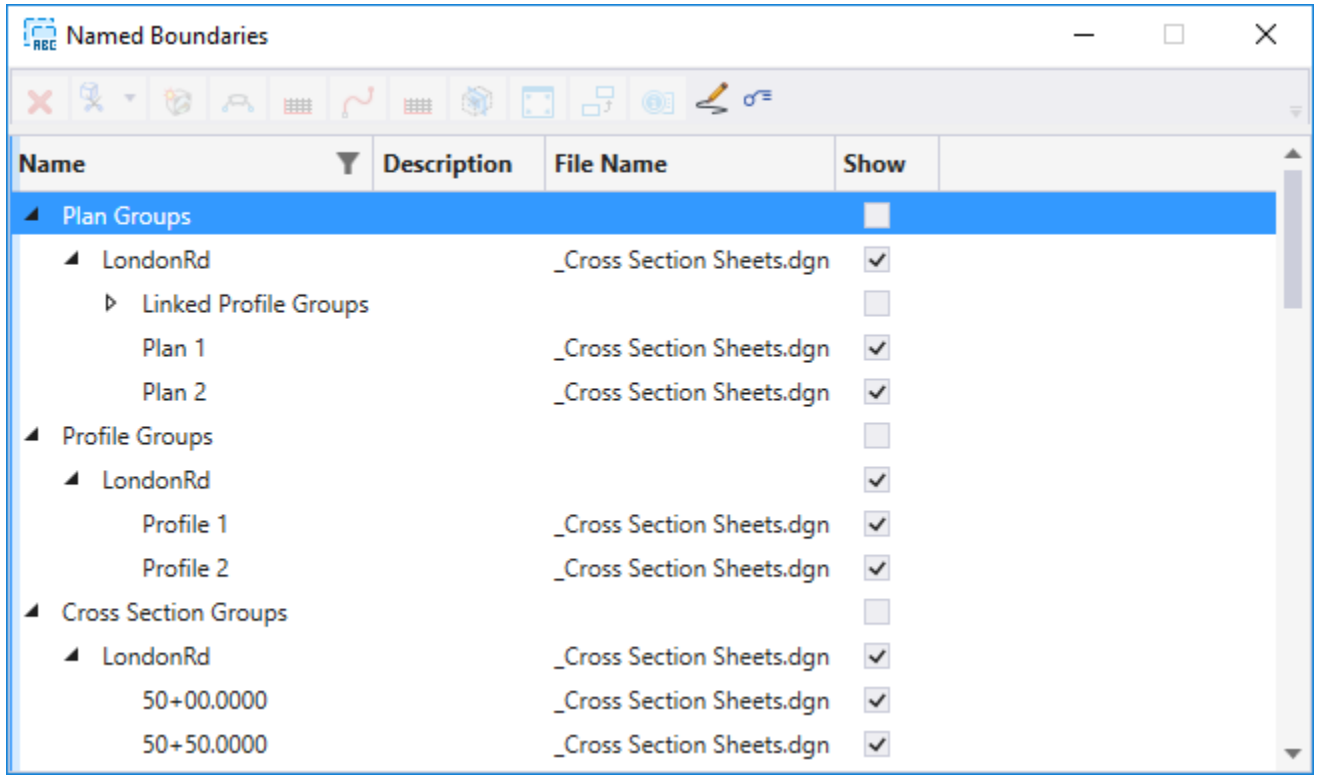
Named Boundary Manager

- Contains the boundaries that exist in the file.
  - Create or re-create drawings
  - Delete Named Boundaries
  - Annotate drawings
  - Etc.





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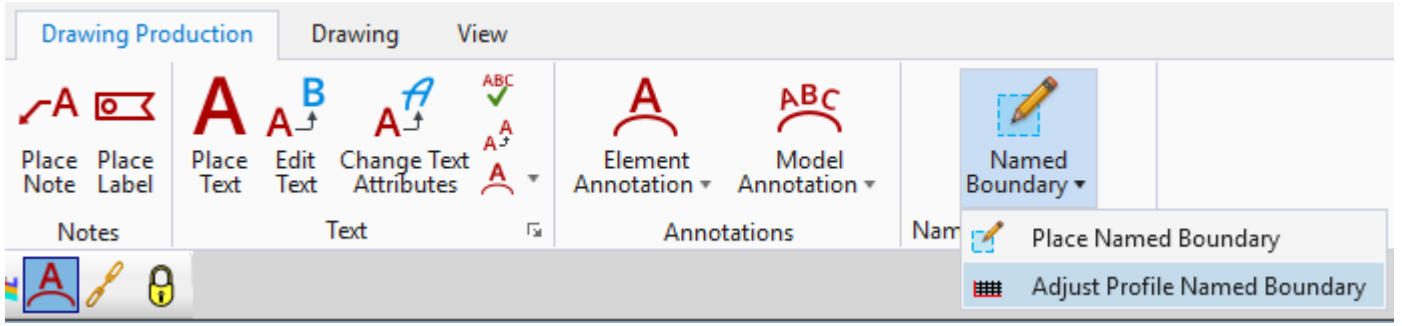
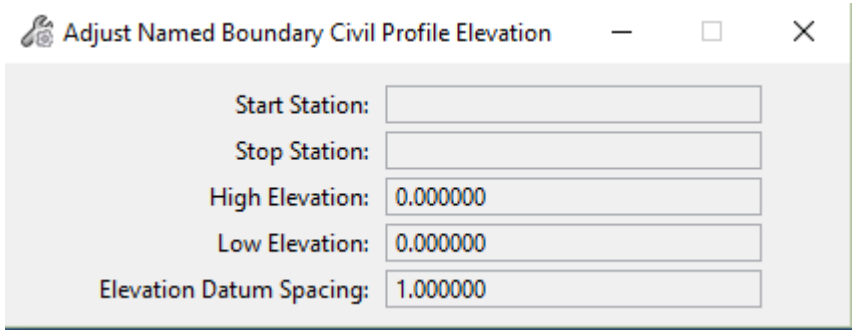
Adjust Profile Named Boundary (*Profiles Only*)

- Shift profile boundaries vertically.





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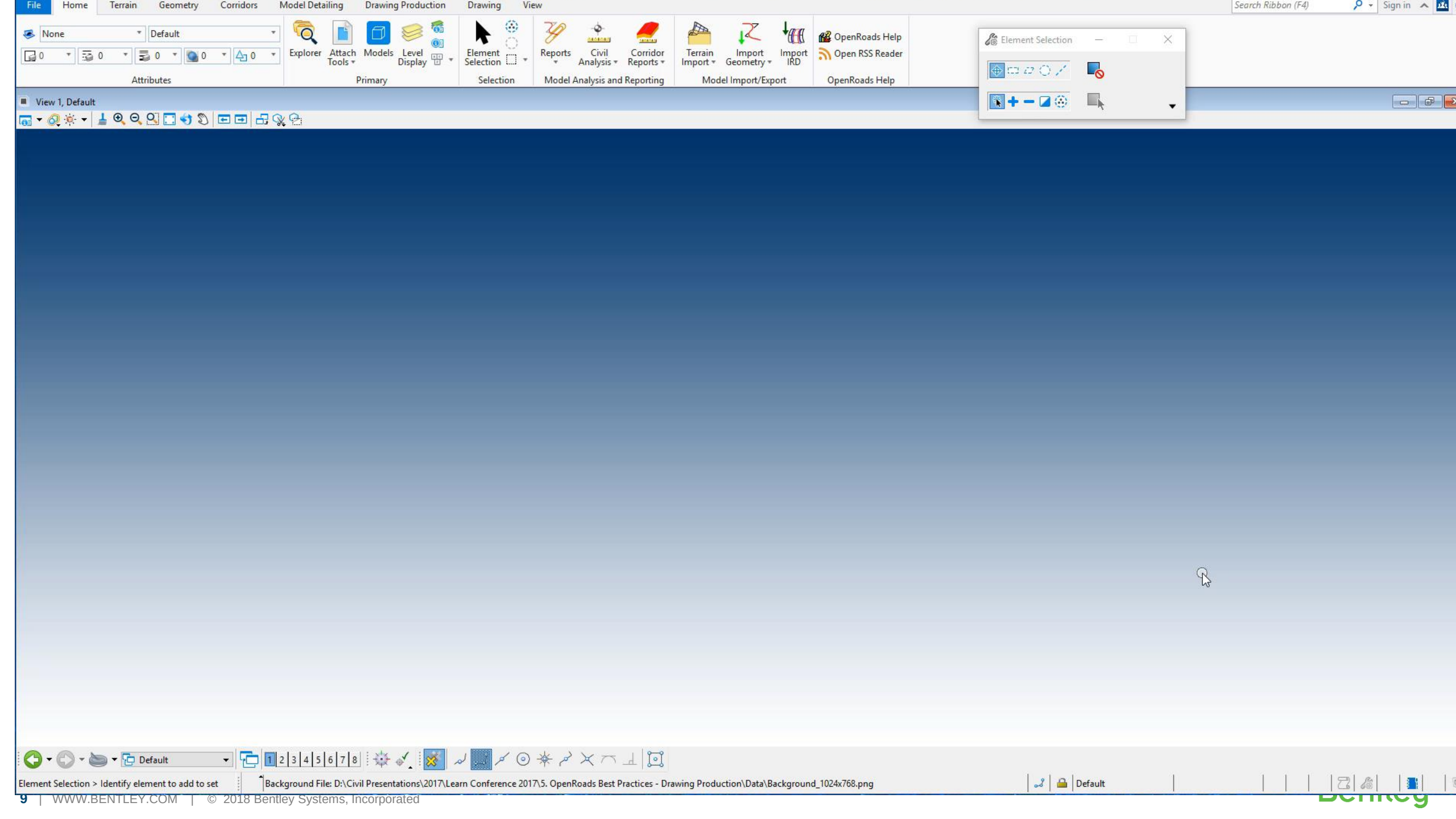
Plan Profile Sheet Layout – The Basics



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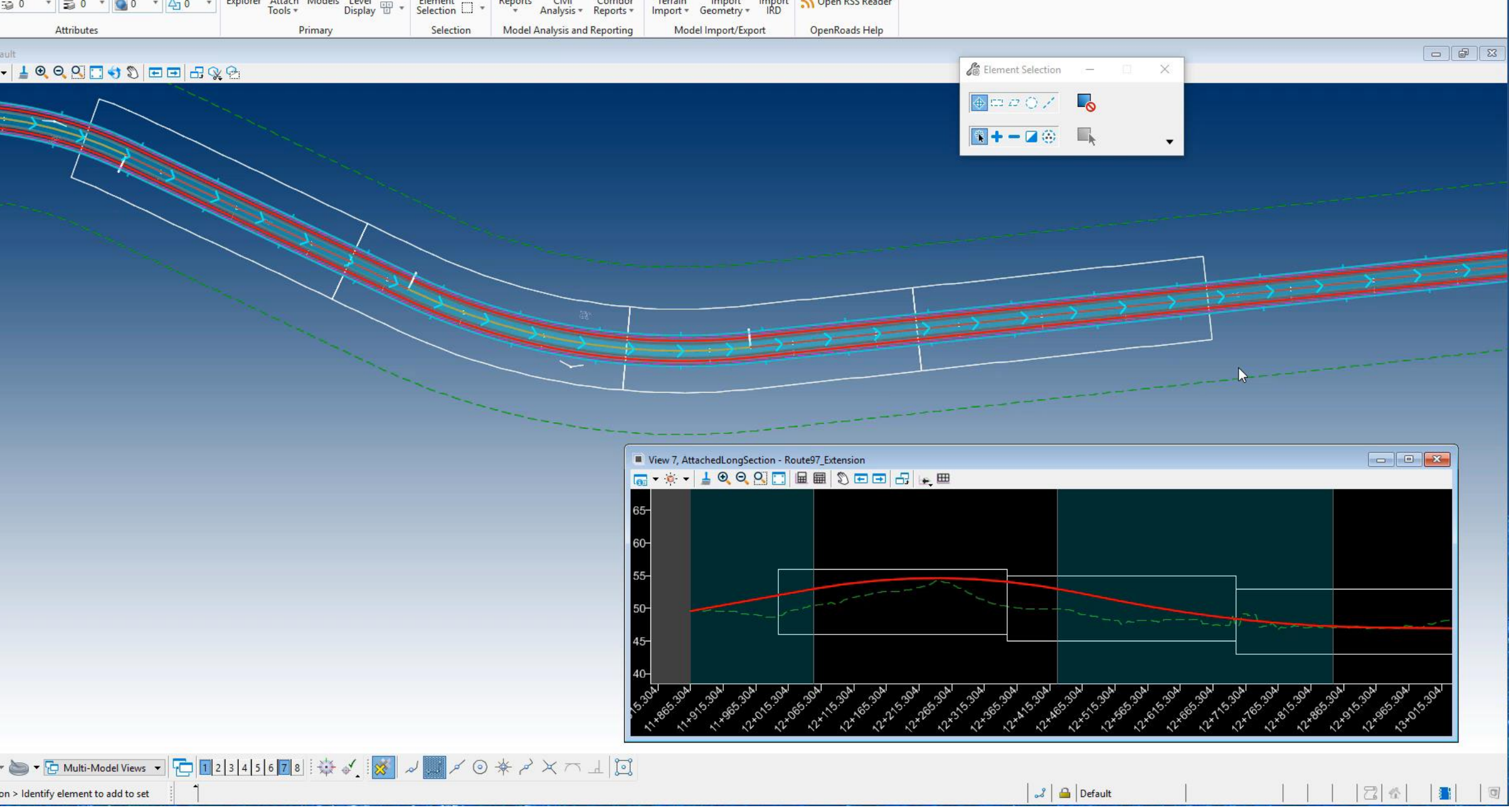
Sheet Annotation



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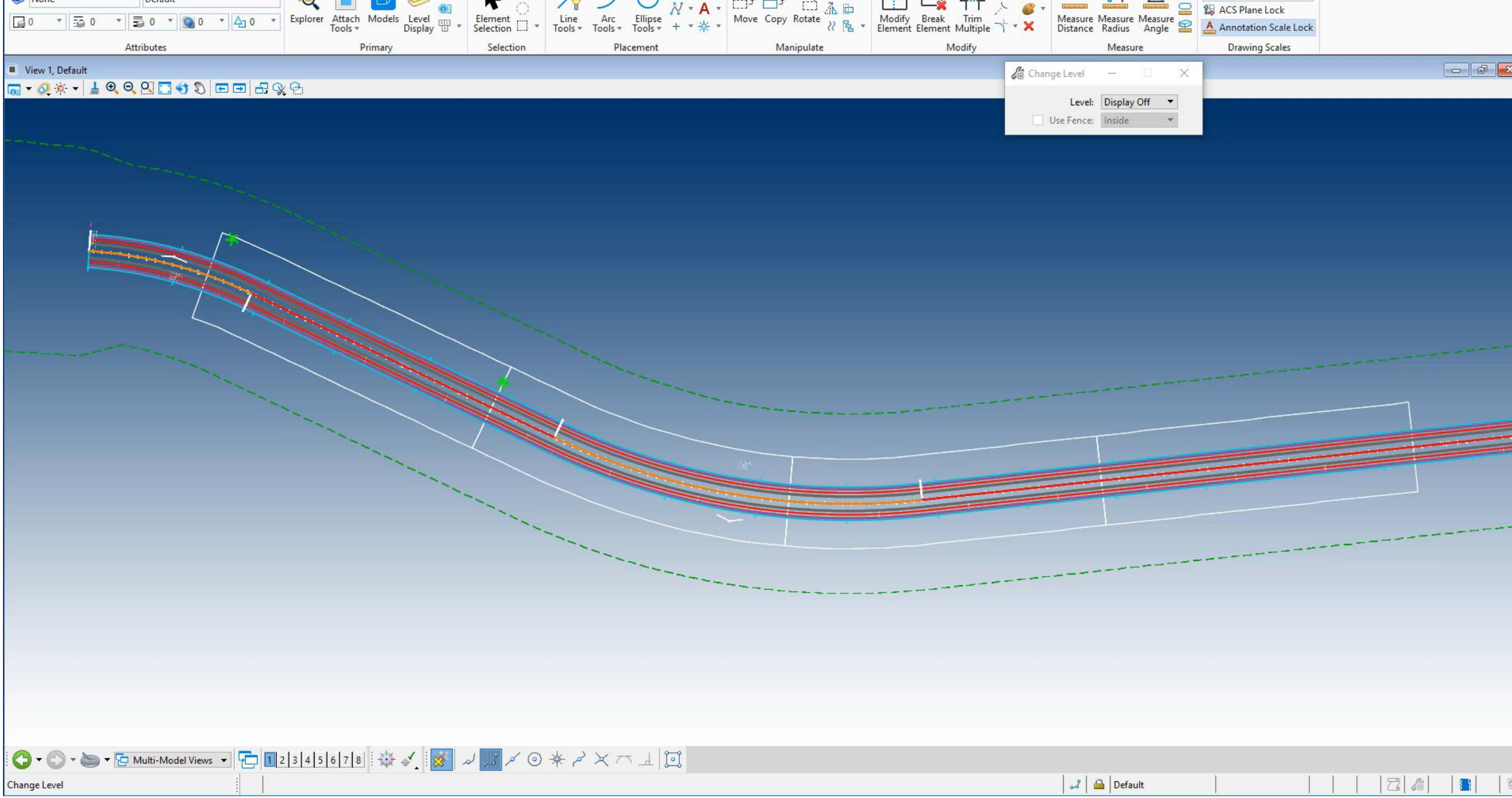
Modifying Named Boundaries (Plan)



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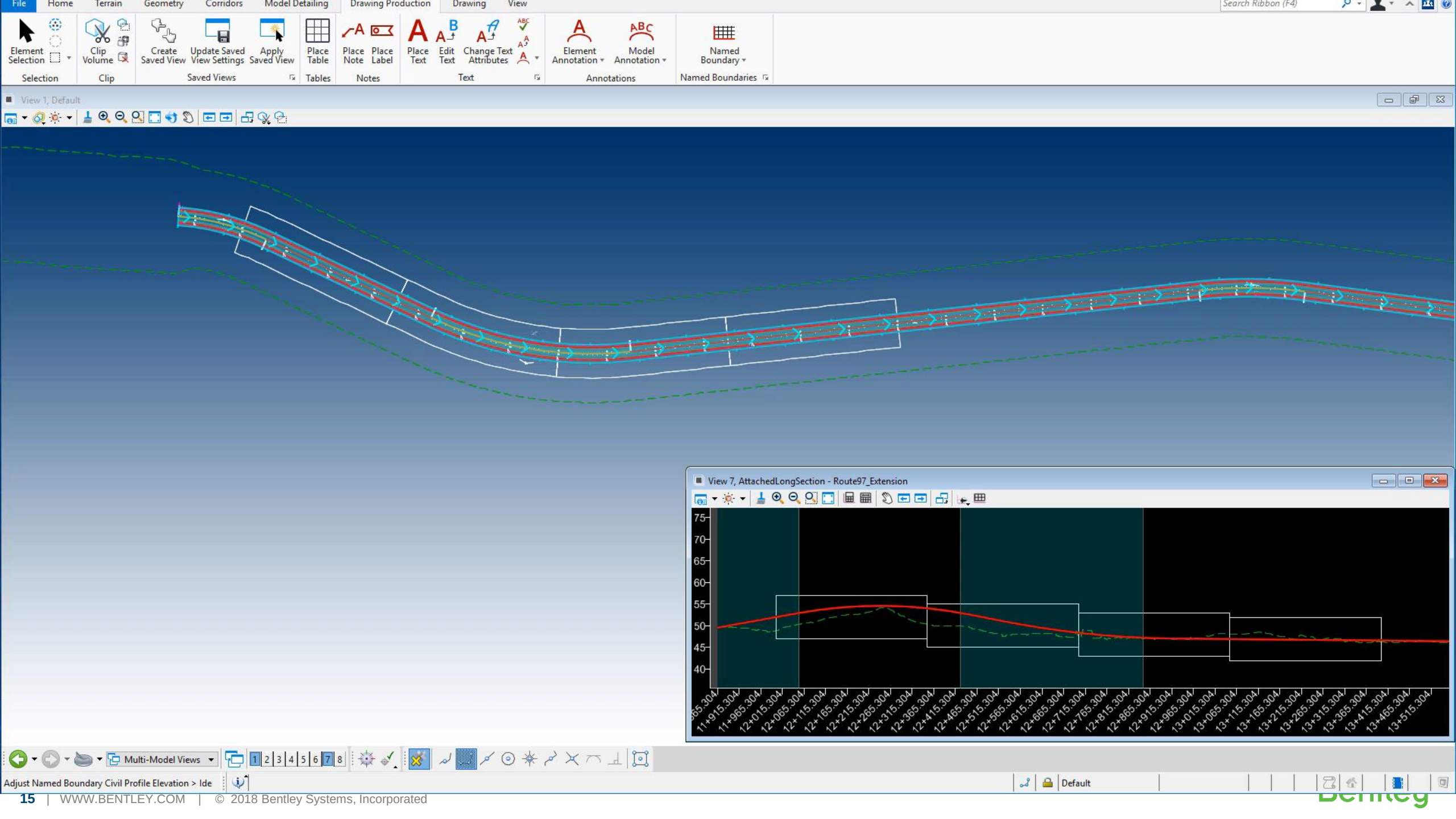
Modifying Named Boundaries (Profile)



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Federated Workflows

- So far we have looked at a workflow where our Named Boundaries and Sheets are *in the same file*, and we referenced in our Geometry, Terrain and Corridor.
- **QUESTION:**

  What if we want all of our Named Boundaries (Plan/Profile, MOT, etc.) in one file and our sheets in another?

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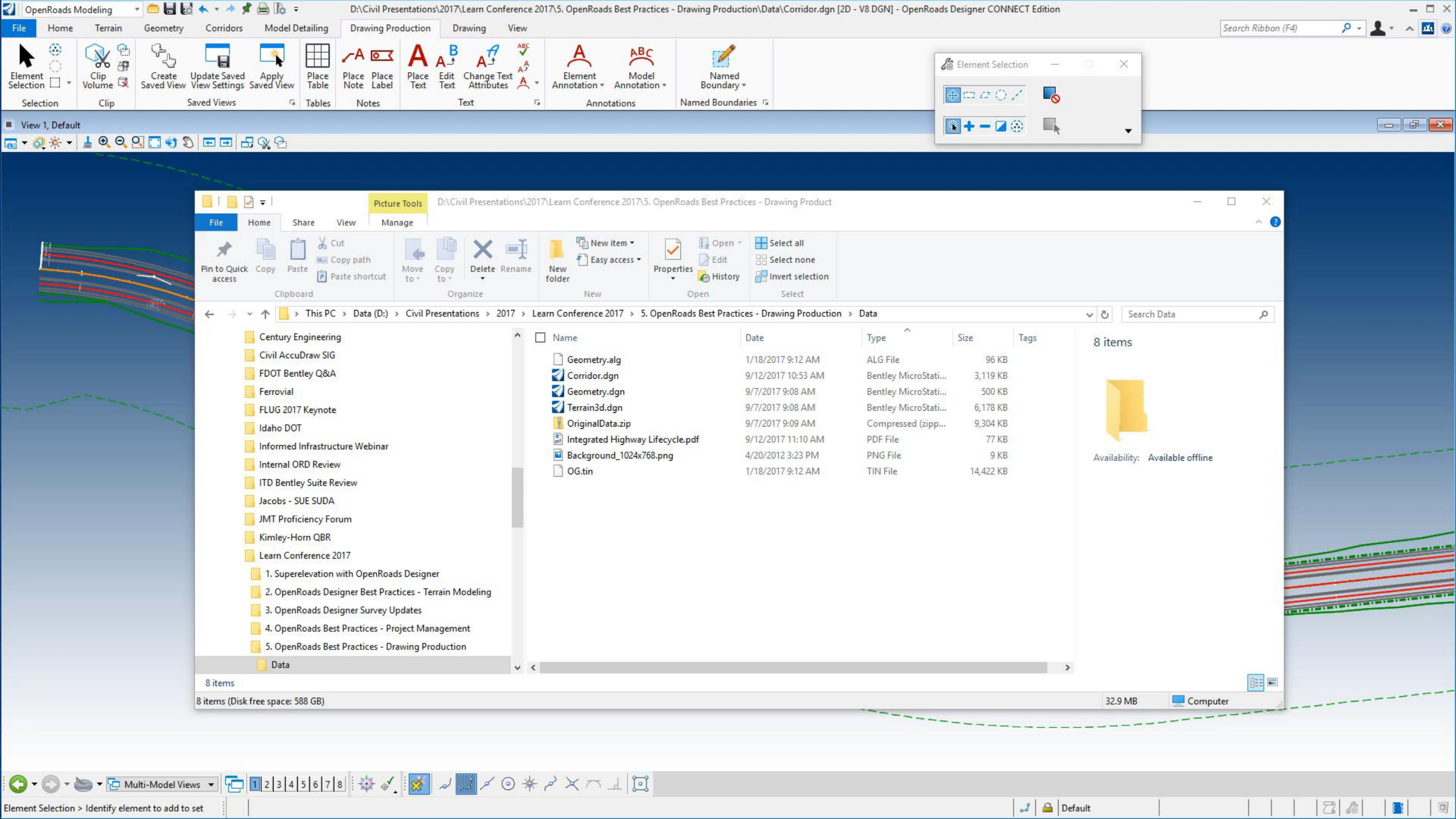
OpenRoads Modeling
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File
Home
Terrain
Geometry
Corridors
Model Detailing
Drawing Production
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Apply Saved View
Place Table
Place Note
Place Label
Place Text
Edit Text
Change Text Attributes
Element Annotation
Model Annotation
Named Boundary
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Clip
Saved Views
Tables
Notes
Text
Annotations
Named Boundaries
Element Selection
View 1, Default
Picture Tools
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Manage
Pin to Quick access
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Century Engineering
Civil AccuDraw SIG
FDOT Bentley Q&A
Ferrovial
FLUG 2017 Keynote
Idaho DOT
Informed Infrastructure Webinar
Internal ORD Review
ITD Bentley Suite Review
Jacobs - SUE SUDA
JMT Proficiency Forum
Kimley-Horn QBR
Learn Conference 2017
1. Superelevation with OpenRoads Designer
2. OpenRoads Designer Best Practices - Terrain Modeling
3. OpenRoads Designer Survey Updates
4. OpenRoads Best Practices - Project Management
5. OpenRoads Best Practices - Drawing Production
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Name
Date
Type
Size
Tags
Geometry.alg 1/18/2017 9:12 AM ALG File 96 KB
Corridor.dgn 9/12/2017 10:53 AM Bentley MicroStati... 3,119 KB
Geometry.dgn 9/7/2017 9:08 AM Bentley MicroStati... 500 KB
Terrain3d.dgn 9/7/2017 9:08 AM Bentley MicroStati... 6,178 KB
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OG.tin 1/18/2017 9:12 AM TIN File 14,422 KB
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8 items
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32.9 MB
Computer
Multi-Model Views
Element Selection > Identify element to add to set
Default

Cross Section Sheets – The Basics

Boundaries Created in the 3D View

- To place Named Boundaries for cross section sheets, you must have the 3D model open and available. If not, you will receive a warning message.

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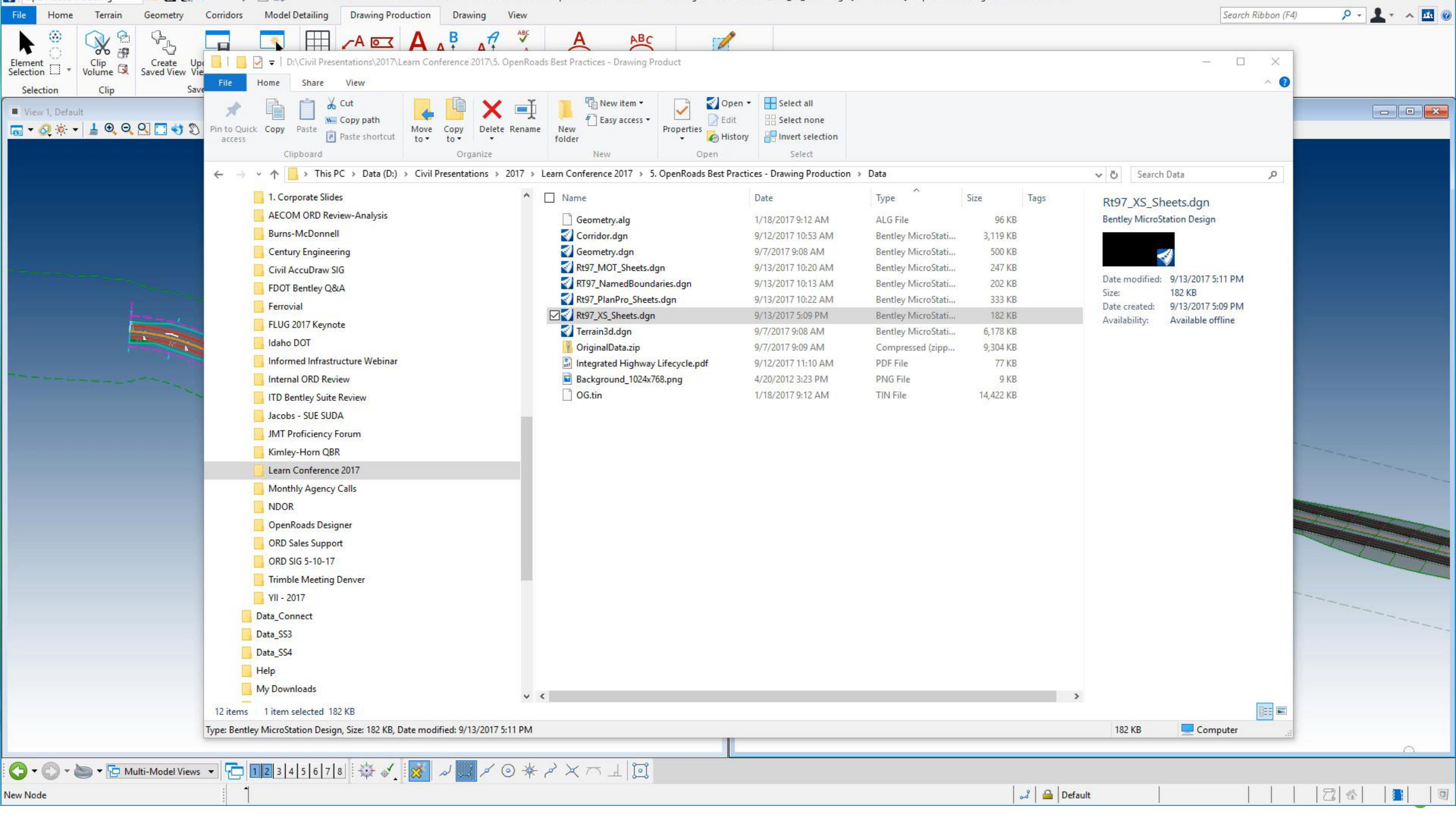
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File
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Pin to Quick access
Copy
Paste
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Copy path
Paste shortcut
Clipboard
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New item
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Data
Search Data
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Burns-McDonnell
Century Engineering
Civil AccuDraw SIG
FDOT Bentley Q&A
Ferrovial
FLUG 2017 Keynote
Idaho DOT
Informed Infrastructure Webinar
Internal ORD Review
ITD Bentley Suite Review
Jacobs - SUE SUDA
JMT Proficiency Forum
Kimley-Horn QBR
Learn Conference 2017
Monthly Agency Calls
NDOR
OpenRoads Designer
ORD Sales Support
ORD SIG 5-10-17
Trimble Meeting Denver
YII - 2017
Data_Connect
Data_SS3
Data_SS4
Help
My Downloads
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Geometry.dgn 9/7/2017 9:08 AM Bentley MicroStati... 500 KB
Rt97_MOT_Sheets.dgn 9/13/2017 10:20 AM Bentley MicroStati... 247 KB
RT97_NamedBoundaries.dgn 9/13/2017 10:13 AM Bentley MicroStati... 202 KB
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Rt97_XS_Sheets.dgn 9/13/2017 5:09 PM Bentley MicroStati... 182 KB
Terrain3d.dgn 9/7/2017 9:08 AM Bentley MicroStati... 6,178 KB
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Bentley MicroStation Design
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Size: 182 KB
Date created: 9/13/2017 5:09 PM
Availability: Available offline
12 items
1 item selected 182 KB
Type: Bentley MicroStation Design, Size: 182 KB, Date modified: 9/13/2017 5:11 PM
182 KB
Computer
Multi-Model Views
New Node
Default

Adding Data

- Once your cross sections are cut, you can continually add data by referencing additional models into the 3D model.

For Example: Referencing in the drainage or utility models, would cause them to automatically show up in the cross sections.

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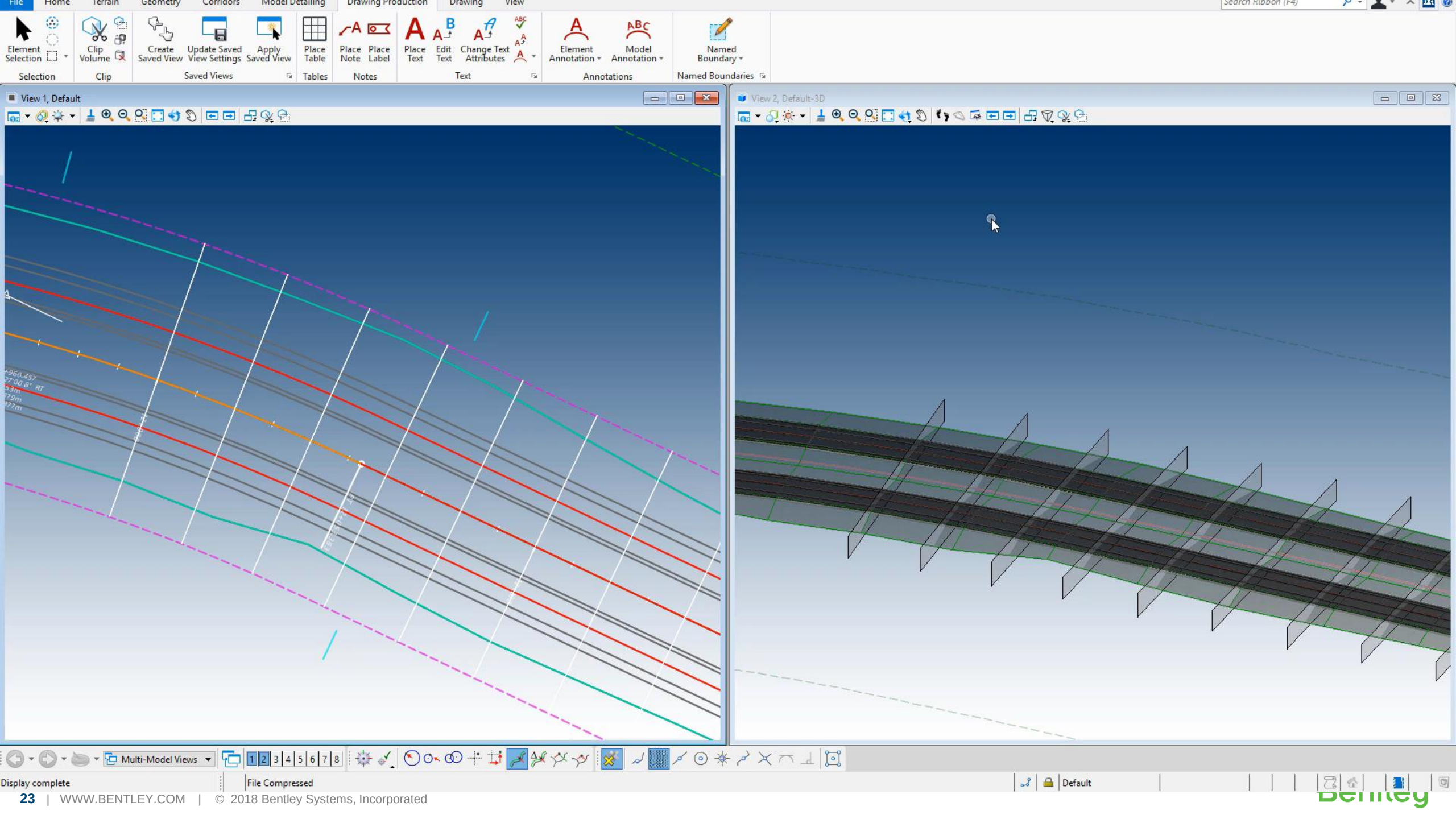
Adding Cross Sections – Single Station



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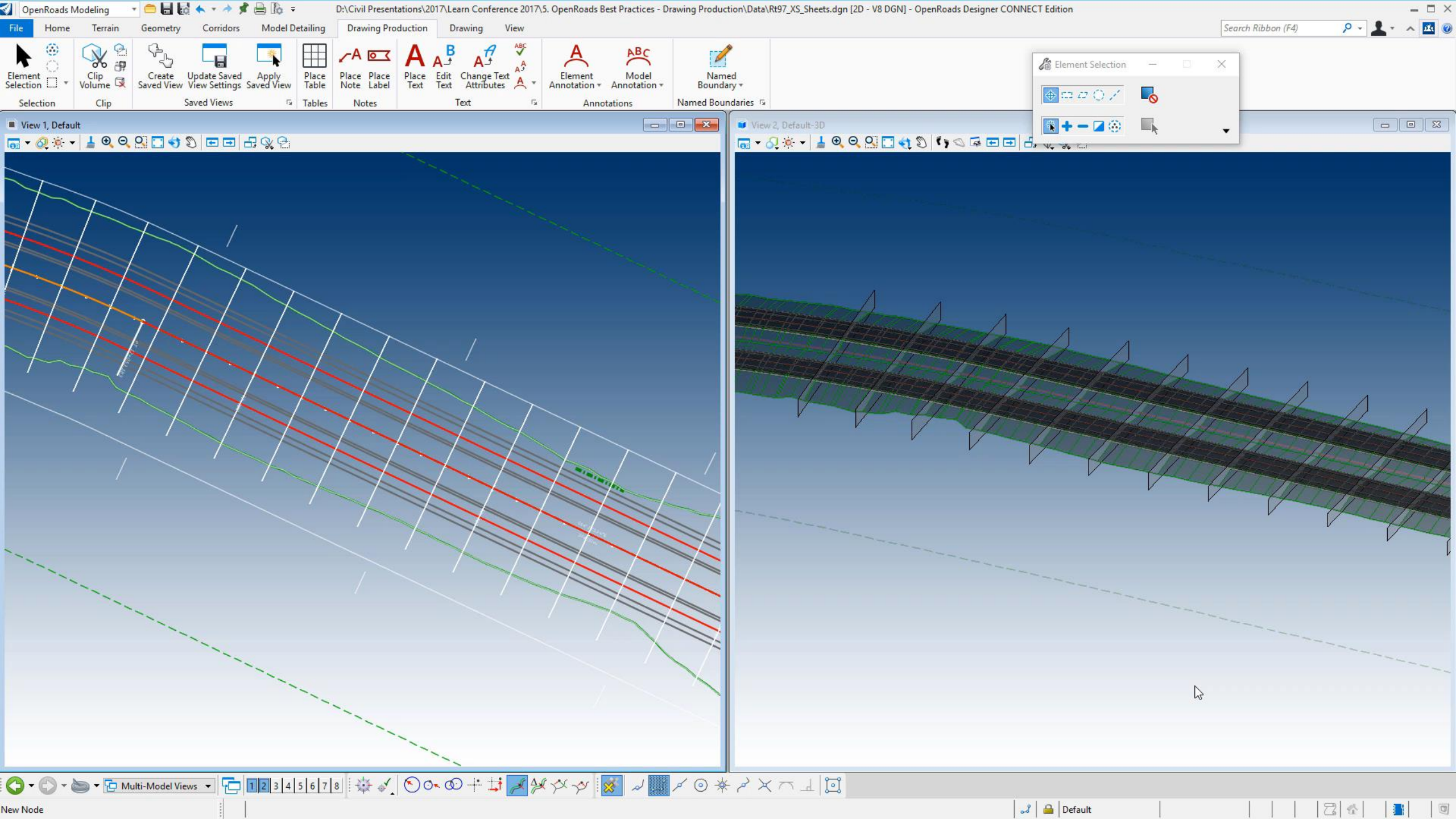
Cross Section Annotation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File
Home
Terrain
Geometry
Corridors
Model Detailing
Drawing Production
Drawing
View
Search Ribbon (F4)
Element Selection
Clip Volume
Create Saved View
Update Saved View Settings
Apply Saved View
Place Table
Place Note
Place Label
Place Text
Edit Text
Change Text Attributes
Element Annotation
Model Annotation
Named Boundary
Selection
Clip
Saved Views
Tables
Notes
Text
Annotations
Named Boundaries
Element Selection
View 1, Default
View 2, Default-3D
Multi-Model Views
New Node
Default

Federated Workflows

- So far we have looked at a workflow where our XS Named Boundaries and Sheets are *in the same file*, and we referenced in the required information (ex. Geometry, Terrain and Corridor).
- For cross sections, this is the required workflow (i.e. you cannot separate your Named Boundaries and your cross section sheets).

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Seed Files

- The *Drawing Seed* and *Sheet Seed* **MUST** be created to generate customized sheets.

- **Config Variables:** The 4 variables below must be set to properly configure the sheet creation process.
  - MS_DRAWINGMODELSEED
  - MS_DRAWINGMODELSEEDNAME
  - MS_SHEETMODELSEED
  - MS_SHEETMODELSEEDNAME

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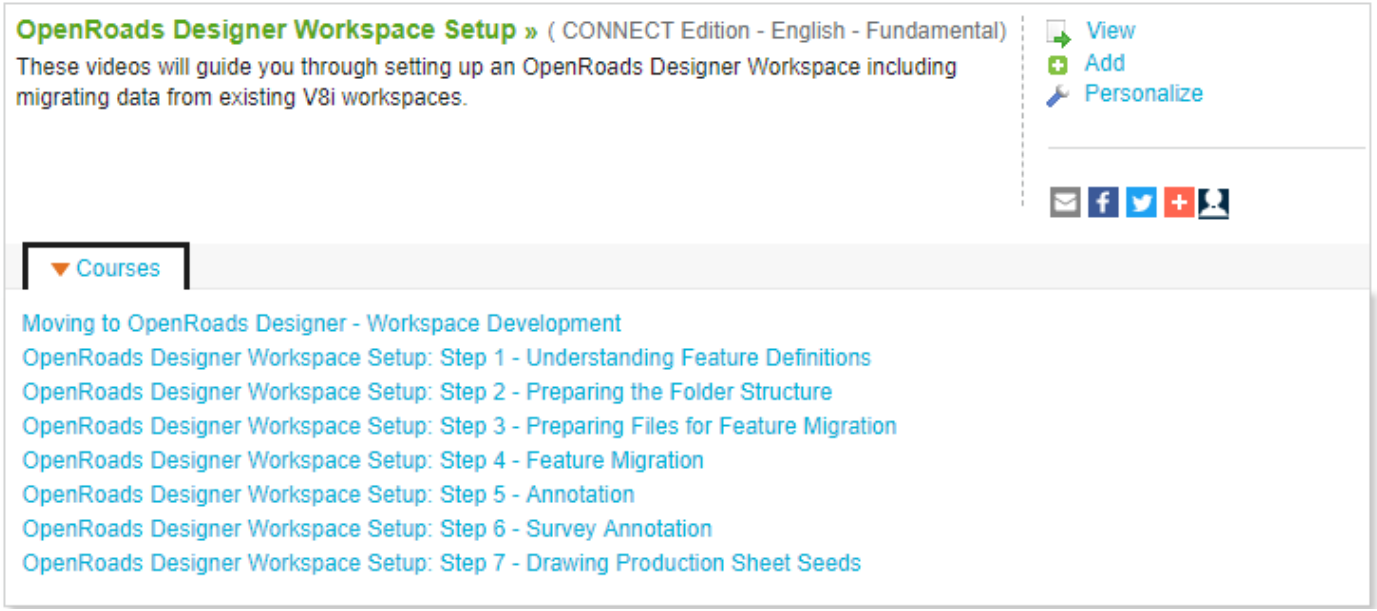
Other Information and/or Files to be Setup

- Sheet Border files/cells
- Sheet Seed Definitions
- Annotation Groups
- Sheet Index Customization



- See the Bentley LEARN Server for training on sheet setup.

  OpenRoads Designer Workspace Setup Learning Path

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Thank You!!

Have a great conference!

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