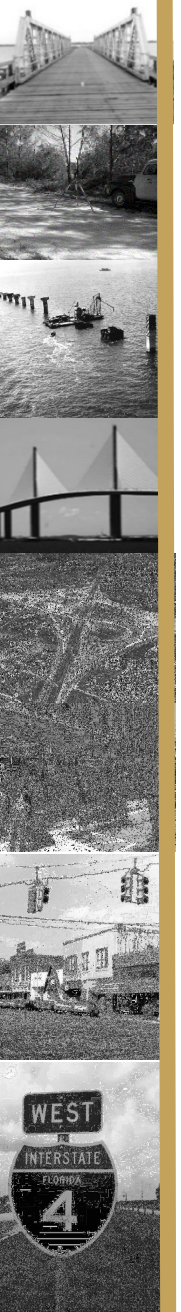

2015 Design Training Expo

# Migrating to SS4

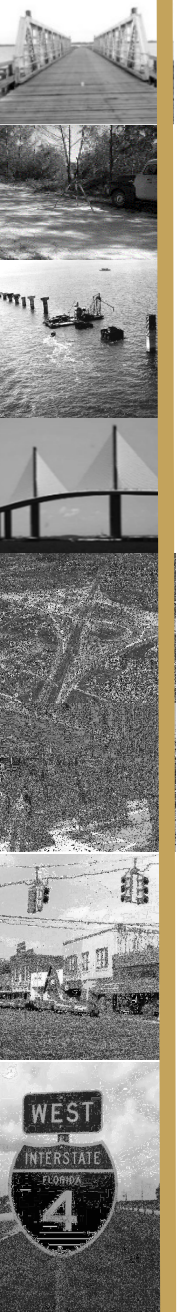



# *Software Release Schedule*

- July 2015
  - FDOTSS2 MR4
  - FDOTSS4
  - FDOT2015.C3D MR2
- January 2016
  - FDOTSS4 MR1
  - FDOT2015.C3D MR3

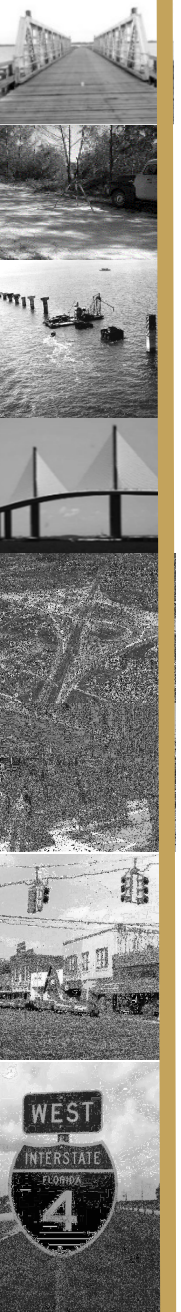
Maintenance of FDOTSS2 will end after July 2015 release

- This means that any changes to design criteria (Design Standards, Plans Preparations Manual, Basis of Estimates, …) after July 2015 will only be available in FDOTSS4 and FDOT2015.C3D.



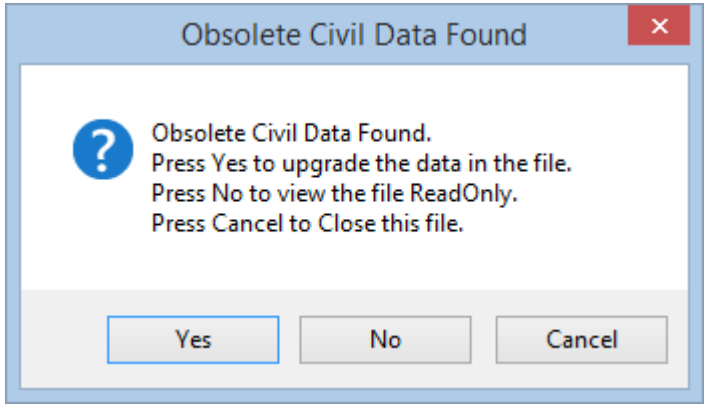

# *What's Different between SS2 and SS3*

- Bentley's new "Open Roads" technology in GEOPAK Select Series 3 (SS3) and later will require existing Corridor Modeling projects be imported.
- The Corridor Modeling dialog has been removed.
- The Roadway Designer dialog has been removed.
- Open Roads reads and saves data in the DGN file instead of external files like the GPK, ALG,ITL, IRD, and TIN.
- Features replace the Drafting Standards & Styles.



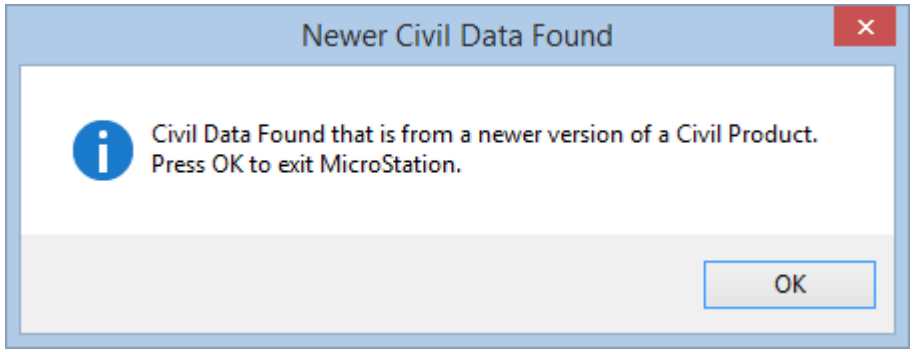

# *What's Different between SS3 and SS4*

- Many bug fixes. Testers and other agencies report it being more stable.
- The primary change to GEOPAK in SS4 is a updated Civil Model format. The Civil Model was updated to provide a direct data exchange with Trimble via I-Models.

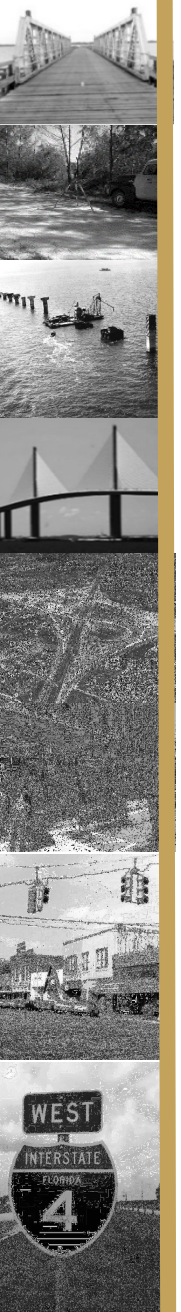



- Only files containing "Civil Data" created using the OpenRoads technology require the upgrade

- Once upgraded to SS4, a file cannot be opened again in SS3.




- SS4 files can be opened in SS2 but the Civil intelligence is lost.

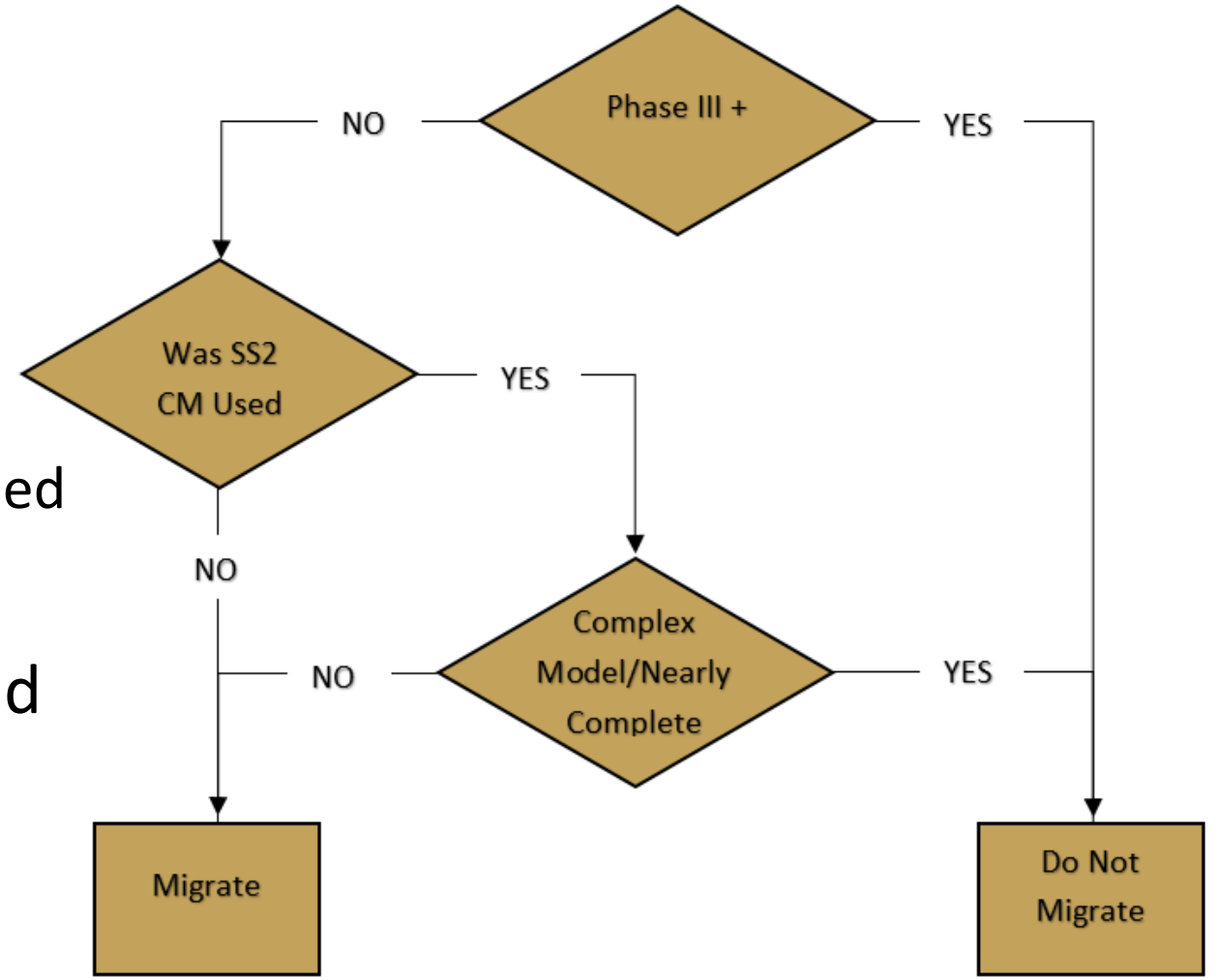


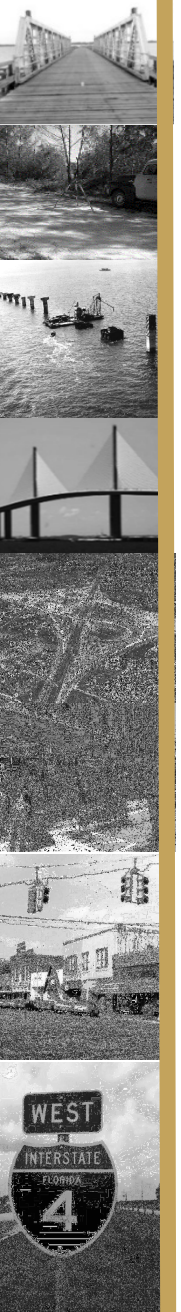

# *Software Upgrade Consideration*

Evaluate each project individually

- There are two primary considerations
  1. Phase of Project
  2. Was SS2 Corridor Modeling applied

- Any project in early phases should brought forward.

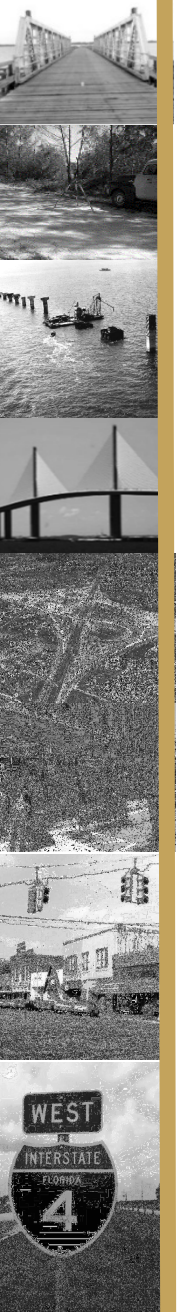





# *Bringing SS2 Models Forward*

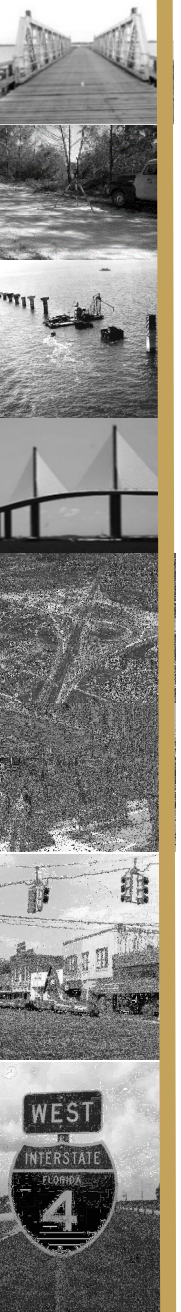
When you decide to bring a model started in SS2 forward there are options.

- Convert only ITL and ALG files the recreate corridors in SS3\SS4 using templates created in SS2
  - Basically a search and replace of old "Drafting Standards" to new "Civil Features"
- Convert everything (IRD,ITL, and ALG) and import SS2 corridors into SS3\SS4
  - Importing corridors brings in things like:
    - Template Drops
    - Key Stations
    - Point Controls



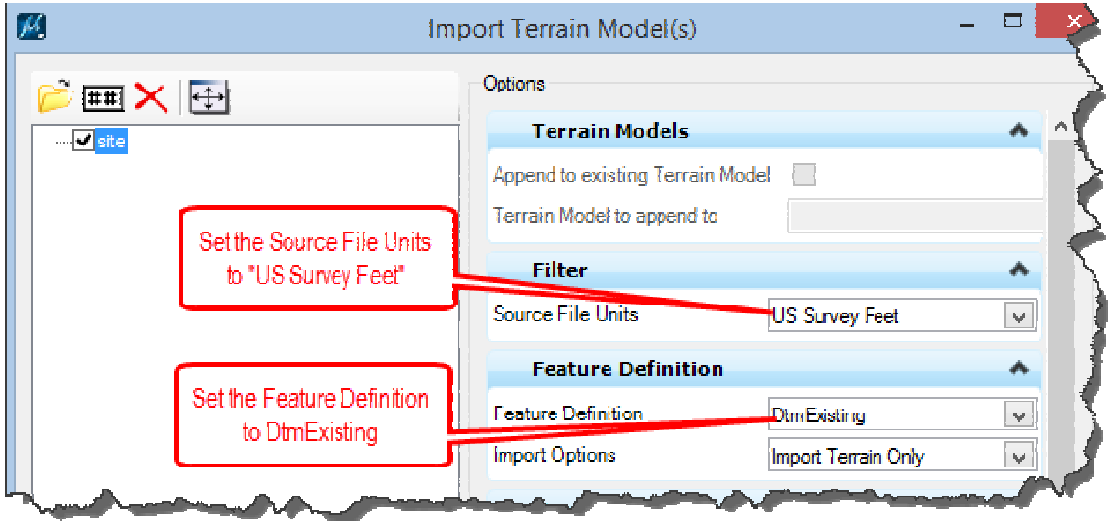

# *Migration Workflow*

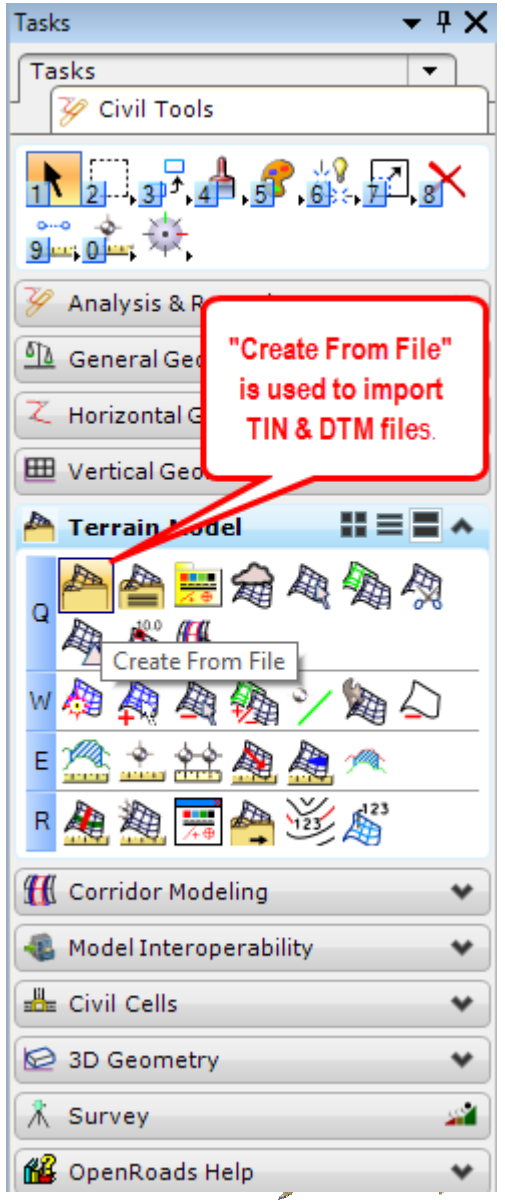
1. Create new GDTMRDxx.DGN
   a) Import existing terrain.
2. Create a new ALGNRDxx.DGN
   a) Use D&C Manager to plot Stations and Tics for each scale
3. Create DSGNRDxx.DGN
   a) Reference GDTMRDxx.DGN
   b) Reference ALGNRDxx.DGN
   c) Convert ITL and IRD files with FDOT Conversion Tools.
   d) Import Geometry from GPK file
   e) Set the Feature for Imported Chains
   f) Set profile for each alignment to "Active"
   g) Copy in MicroStation Elements
   h) Set Features on Corridor Targets
   i) Attach Project ITL
   j) Arrange views to see 2D plan and 3D views
   k) Review Corridor Dependencies
   l) Import IRD Files
   m) Add Corridor References

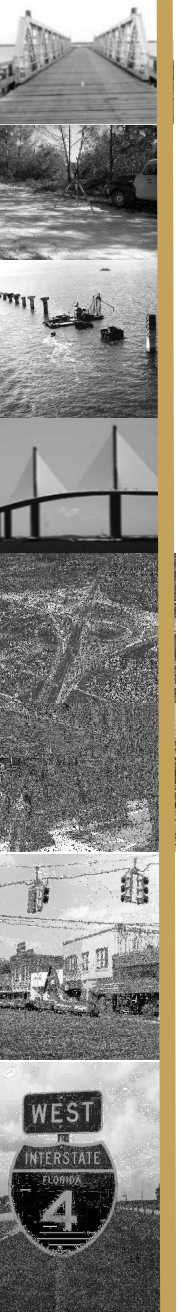



# *1. a) Import Existing Terrain*

- From the "Civil Tools" Workflow select "Terrain Model > Create From File"
- When prompted browse for the TIN or DTM to be imported.
- On the Import Terrain Models dialog select the appropriate Feature Definition and Click Import.



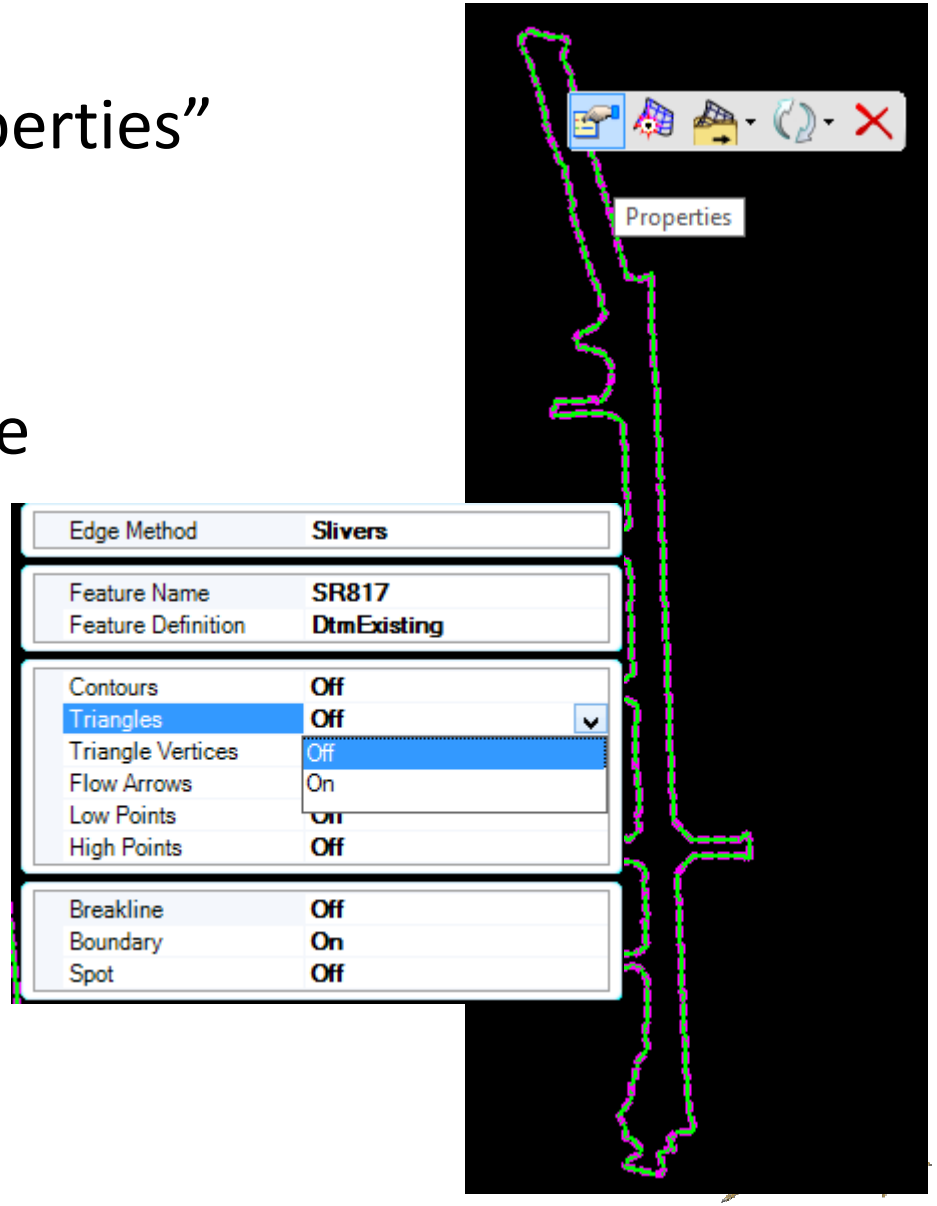



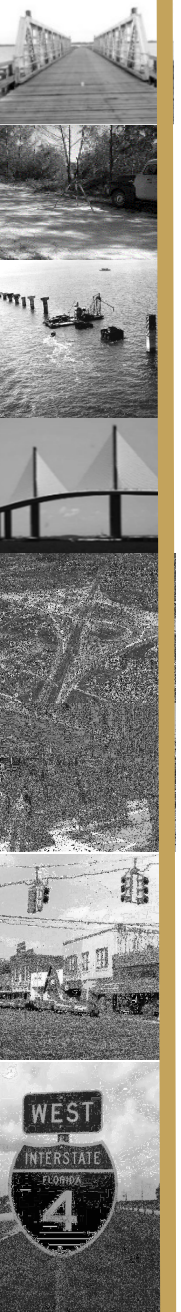



# *Terrain Properties*

- Hover over the terrain hull and select "Properties" from the context menu.

- Properties of the terrain such as the Feature Definition and if Triangles, Contours, and such are displayed can be adjusted here.
  - These properties can also be adjusted using Element Info and Project Explorer.

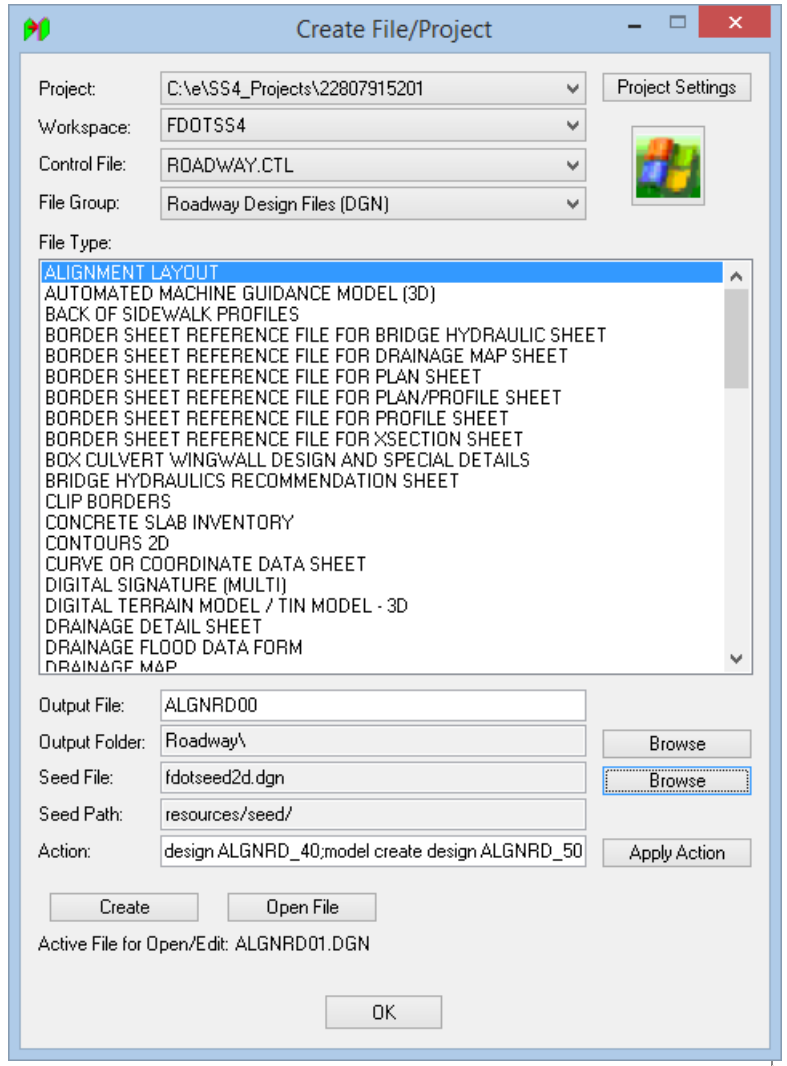





# 2. Create a New ALGNRDxx.DGN

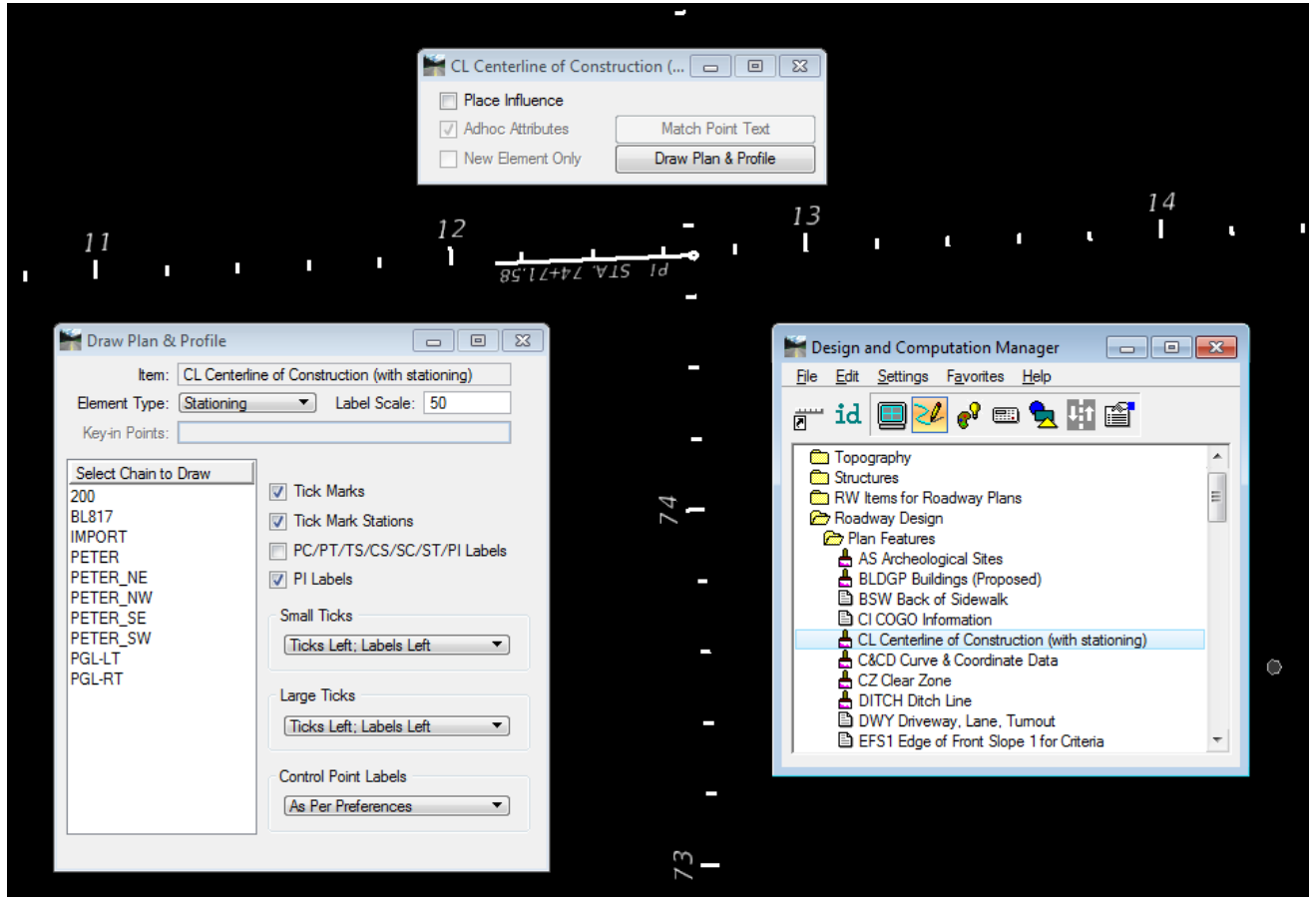
The ALGNRD file will contain the stations, labels, and tick marks only. The chains will be plotted into the DSGNRD file.

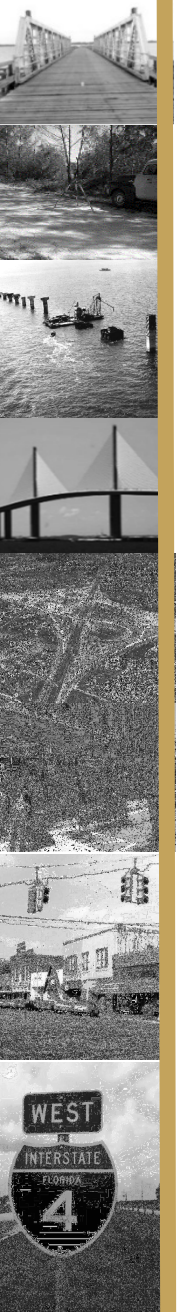
- From the FDOT menu select "Actions > Create/Edit File"
- From the Roadway Design Files File Group select Alignment Layout
- Click "Create" and then Click "Open File"



# 2. a) Create Stationing and Tic Marks

- Using D&C Manager, plot the stations, labels, and tick marks.

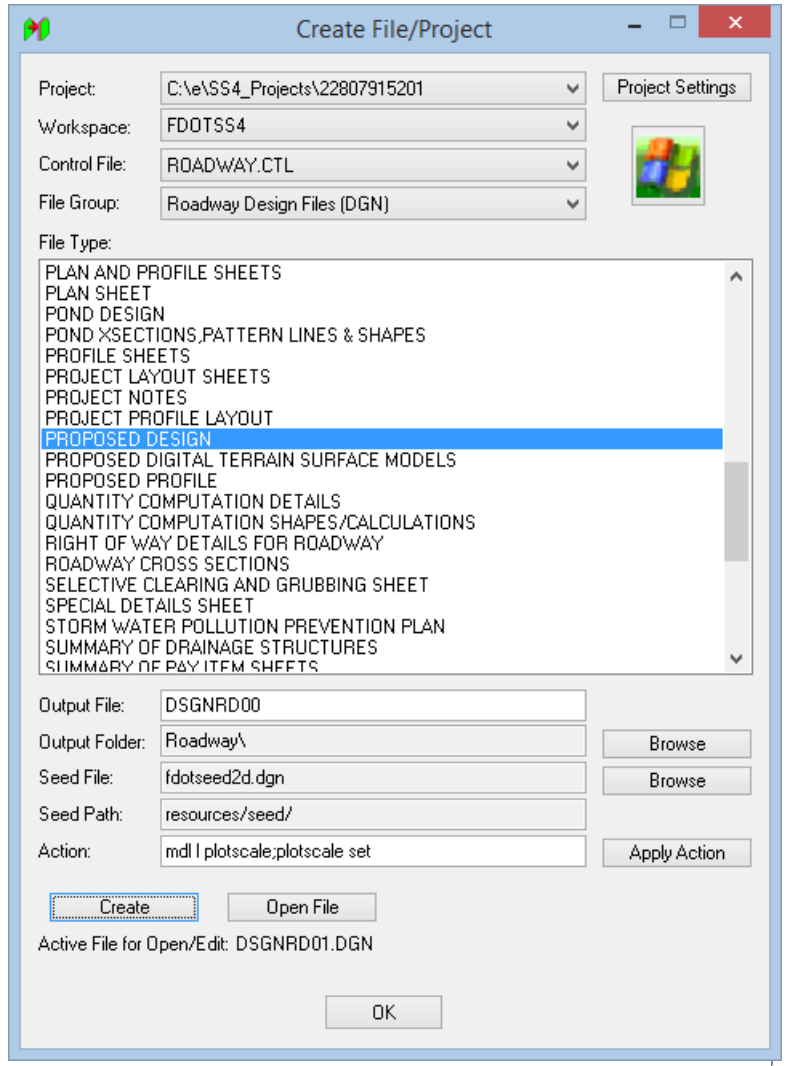





# *3. Create new DSGNRDxx.DGN*

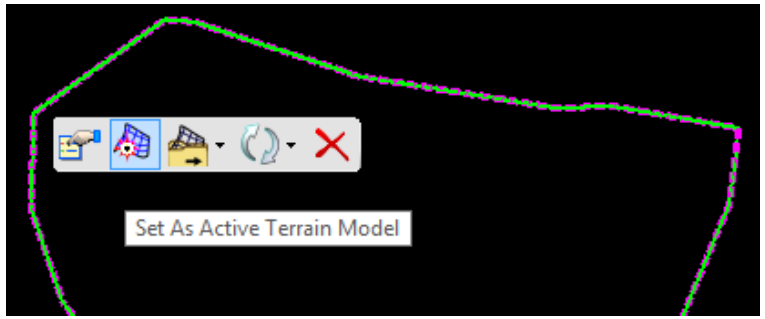
The DSGNRD file will contain the proposed design elements and corridors.

- From the FDOT menu select "Actions > Create/Edit File"
- From the Roadway Design Files File Group select Proposed Design
- Click Create and then Click Open

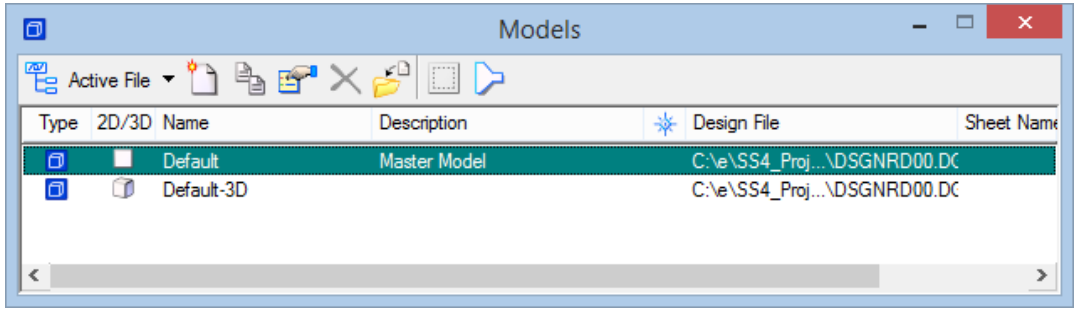


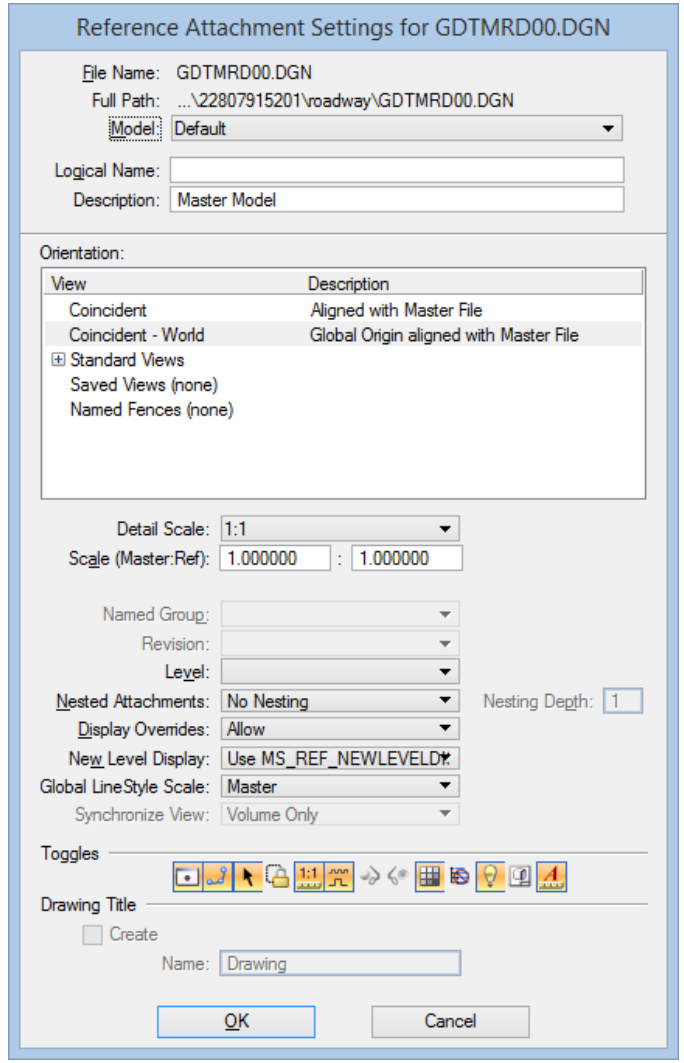
# 3. a) Reference GDTMRDxx.DGN

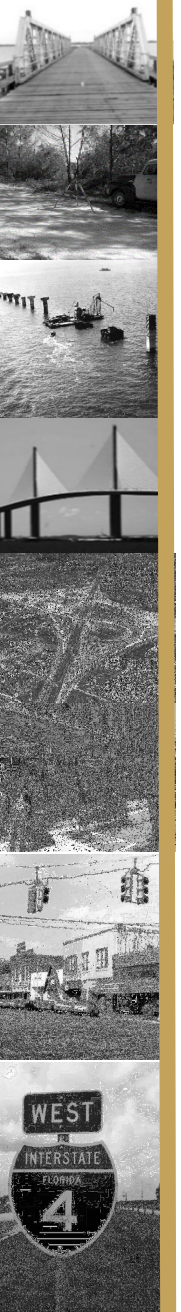
- Reference the GDTMRD file.
- After fitting the view, select & hover over the terrain hull then select "Set As Active Terrain Model" from the context menu.




- This will cause a 3D model to be created.

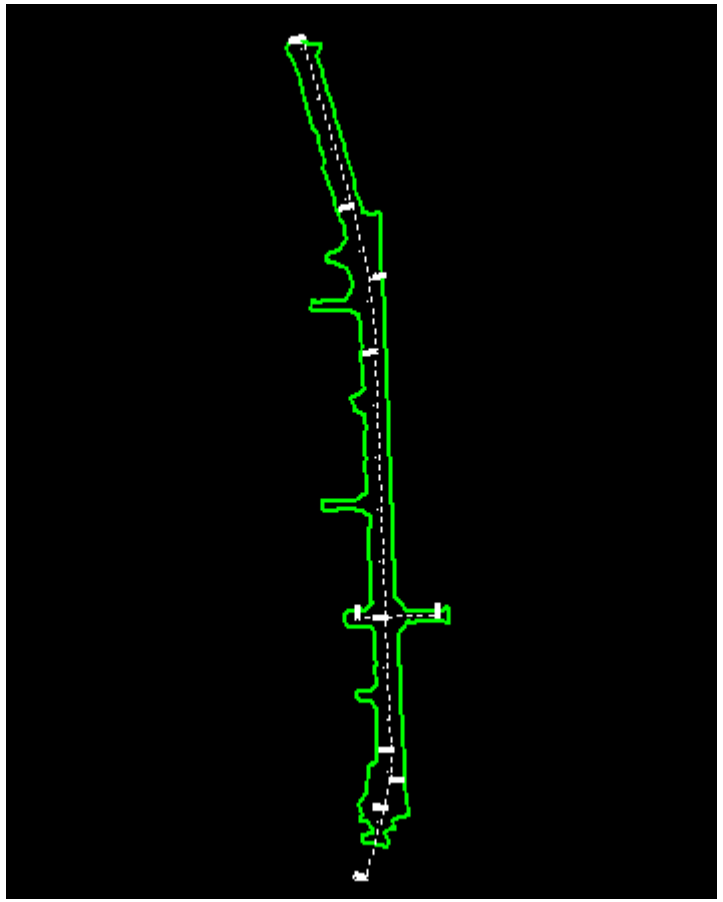


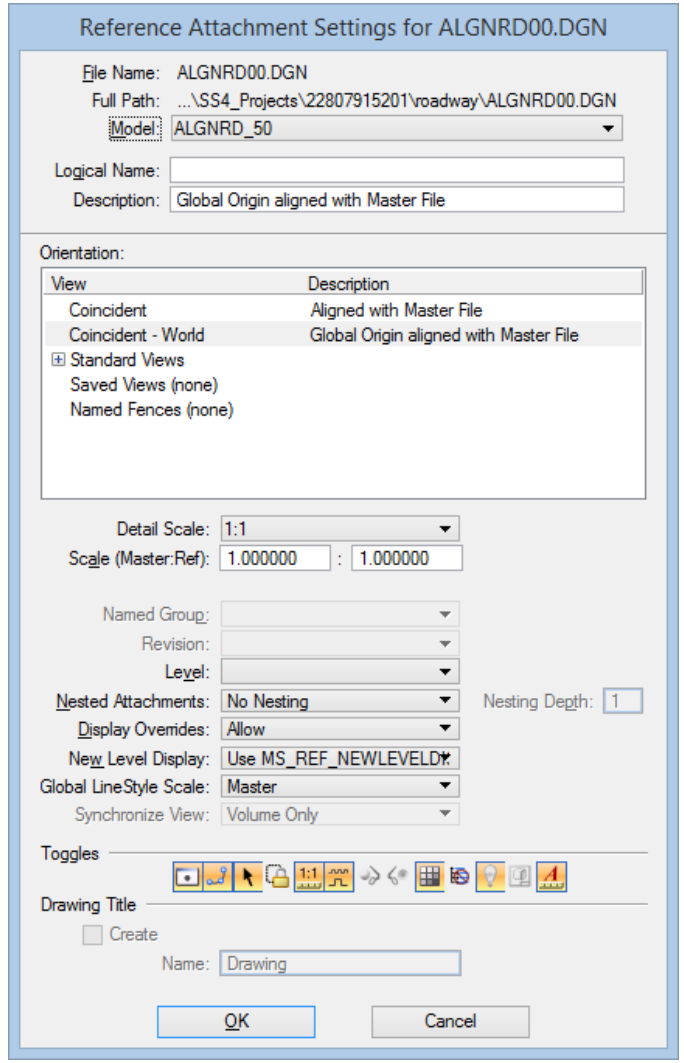



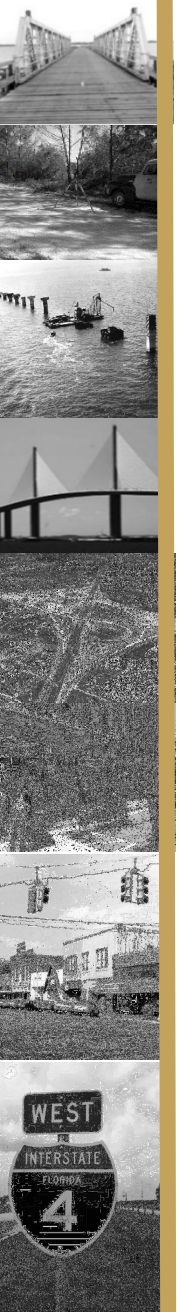



# 3. b) Reference ALGNRDxx.DGN

- Reference the ALGNRD file.







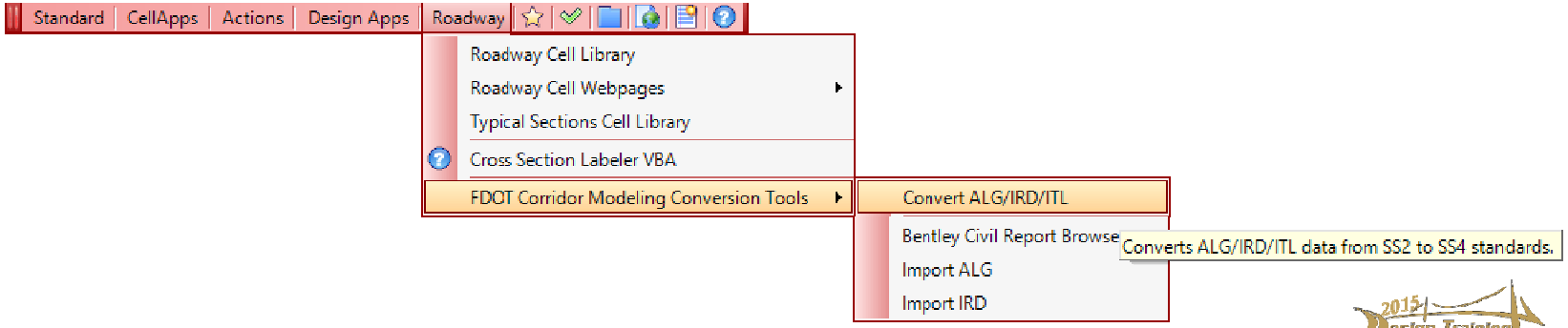

# *3. c) Convert ITL and IRD files*

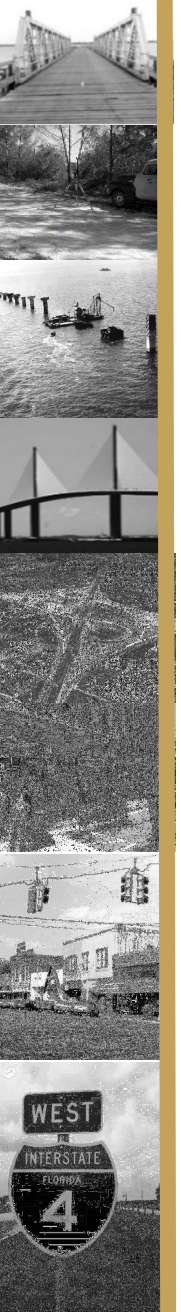
In an effort to better organize the elements produced in 3D design some of the Styles used in FDOTSS2 were renamed and several new SS3 Features were created.

The ALG, IRD, and ITL files, where these names are stored, will have to be updated before importing or the imported elements will be on the "Default" level.

FDOT developed a tool to automat this process.

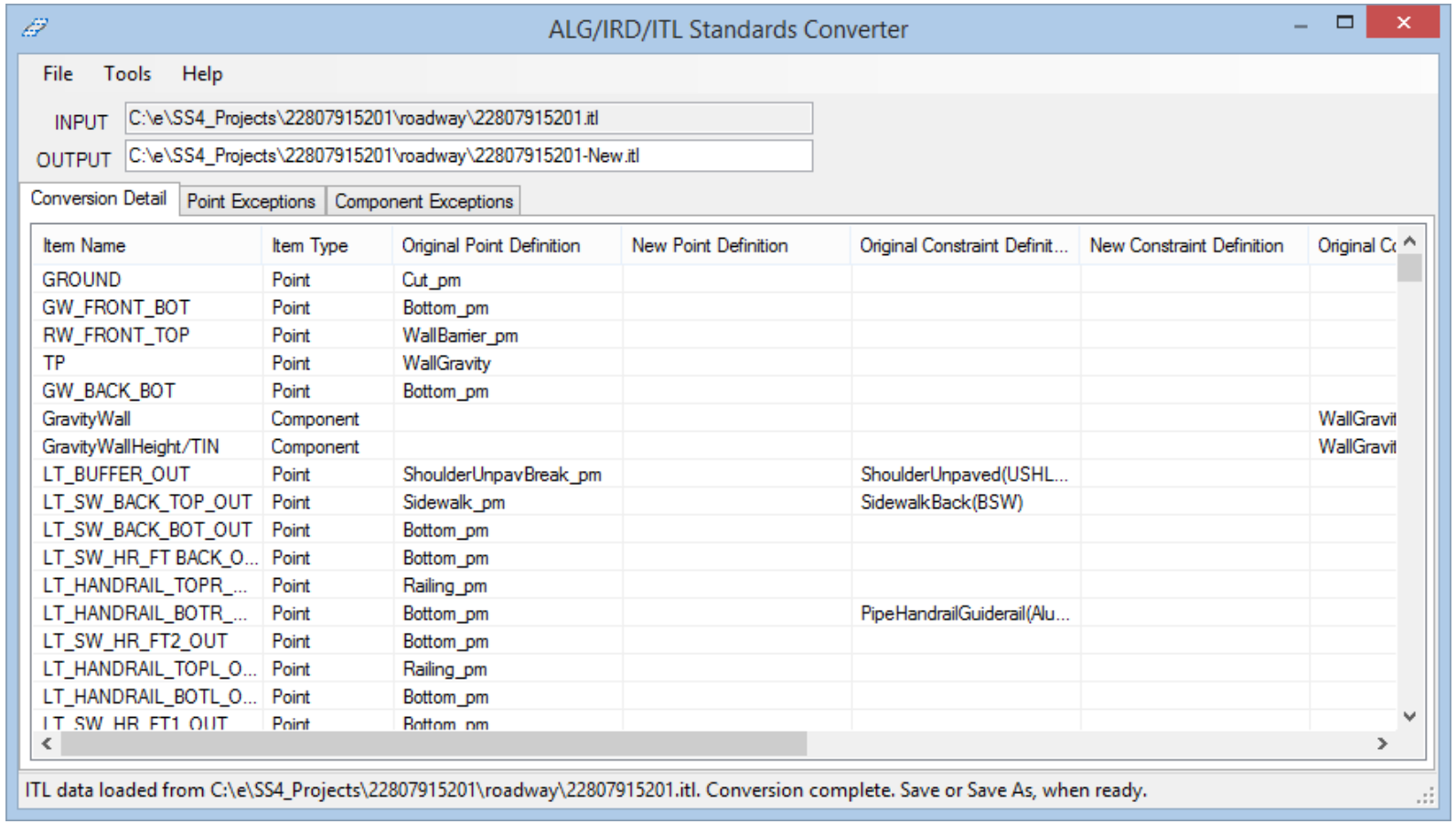
From the FDOT Menu select Roadway > FDOT Corridor Modeling Tools > Convert ALG/IRD/ITL"





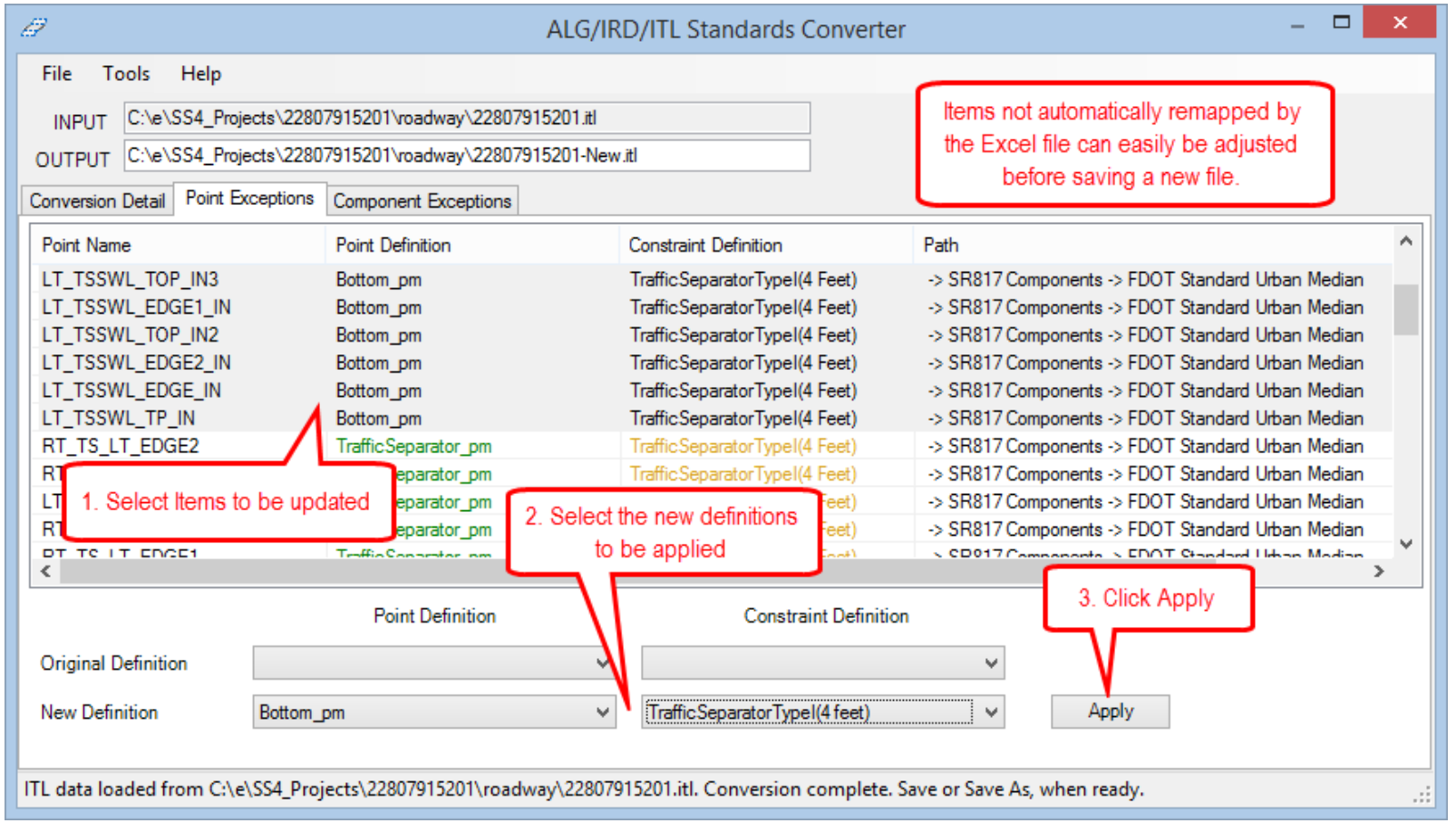

# *ALG/IRD/ITL Standards Converter*

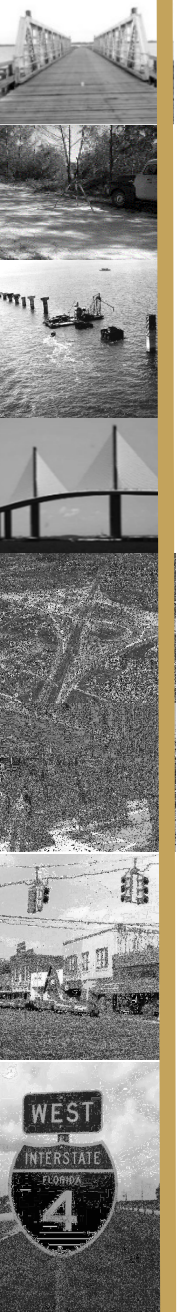
- ALG/IRD/ITL Standards Converter uses an Excel file which renames old FDOTSS2 Styles to new FDOTSS3 Features.



# *Exceptions*

- Items not covered by the Excel file are called Exceptions and can be addressed on the "Point Exceptions" and "Component Exceptions" tabs.





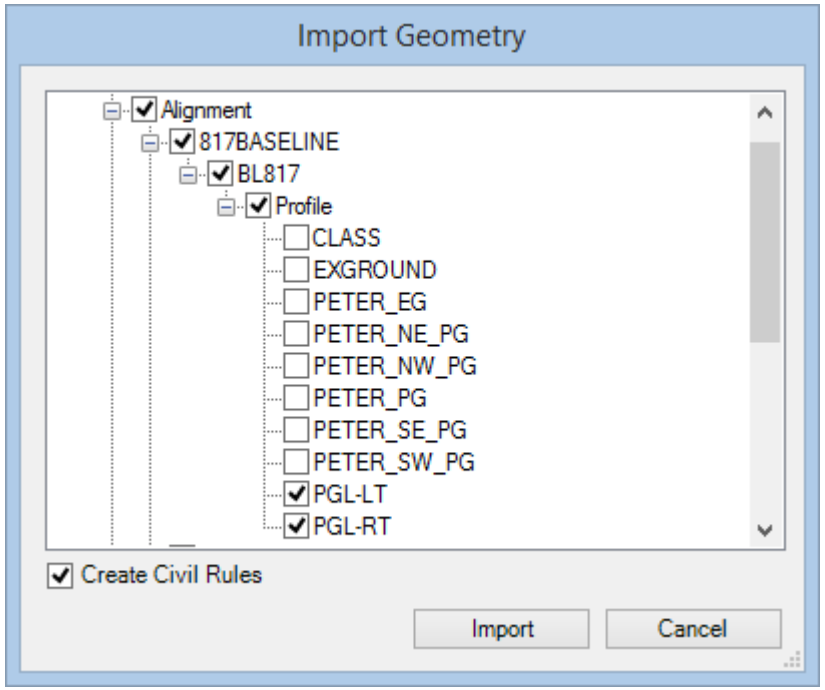

# *3. d) Import Geometry from GPK file*

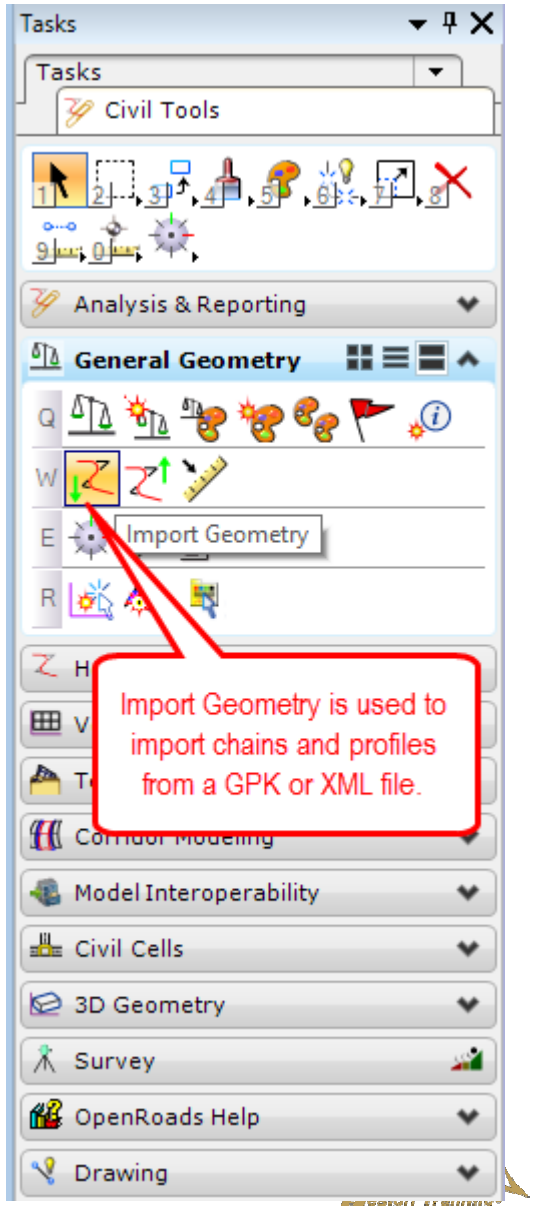
- From the "Civil Tools" Workflow select "General Geometry > Import Geometry"
- When prompted browse for the GPK file.

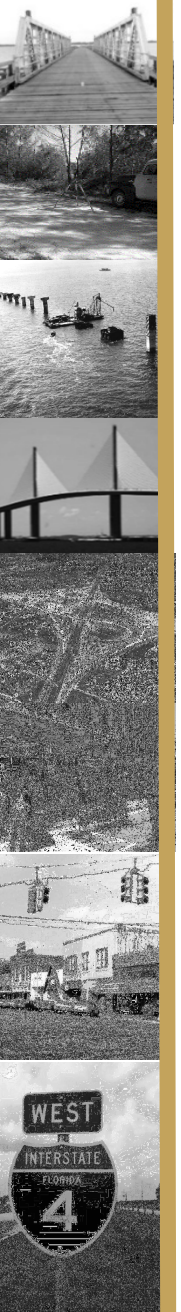
On the Import Geometry select the chains and profiles to be imported.

Select "Create Civil Rules"

Click Import



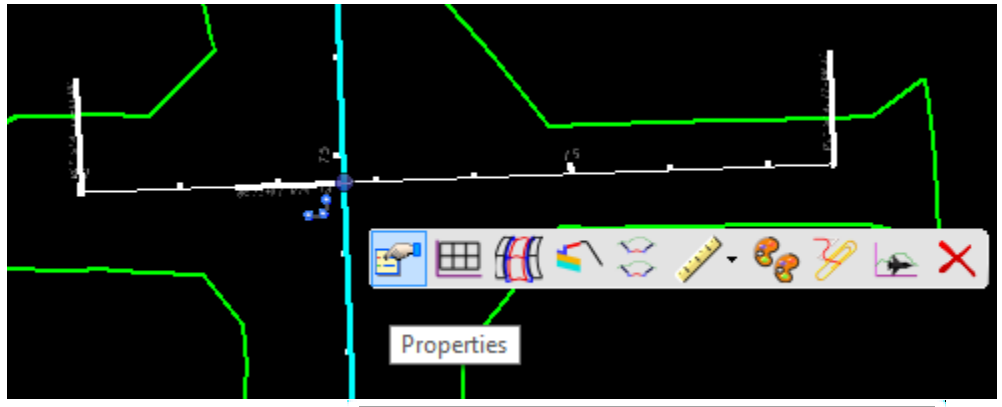



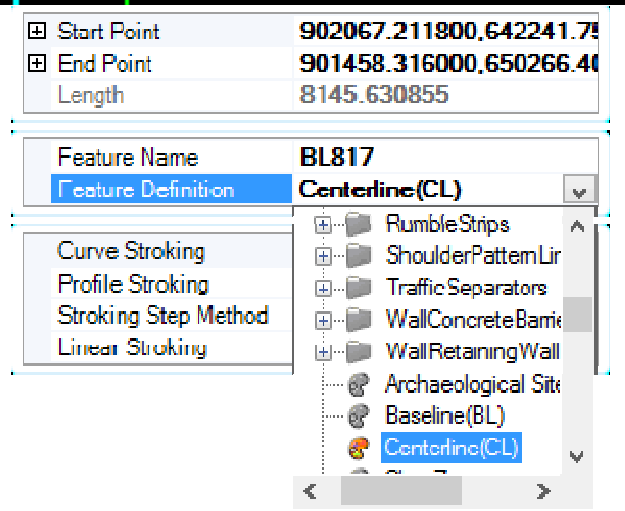


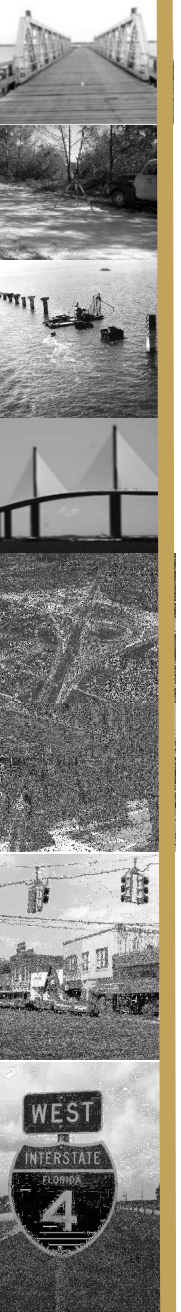

# *3. e) Set the Feature for Imported Chains*

Chains imported from the GPK do not have a Feature Definition so one will need to be applied once imported.

- Select, then hover over the chain to select the Properties icon from the context menu.
- Select a Feature Definition from the drop down.

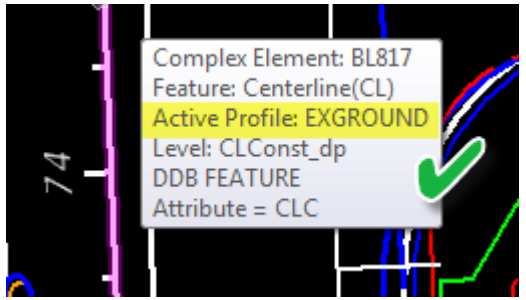


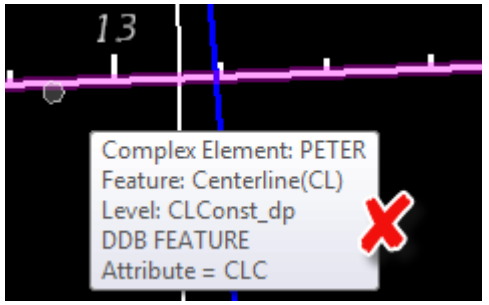





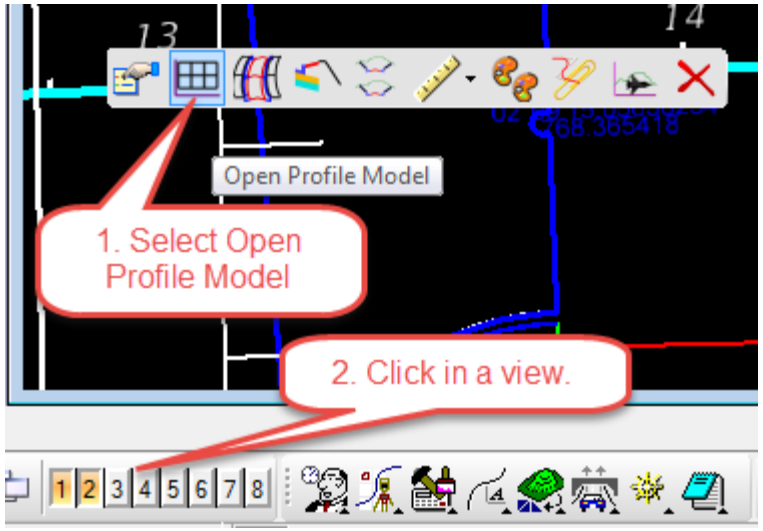

# *3. f) Set profile for each alignment to "Active"*

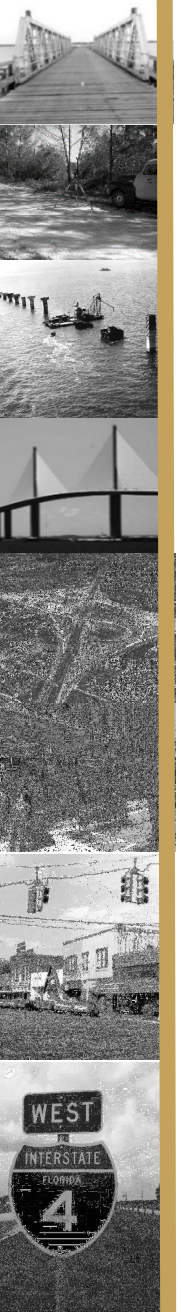
- Make sure an Active Profile is set for each alignment



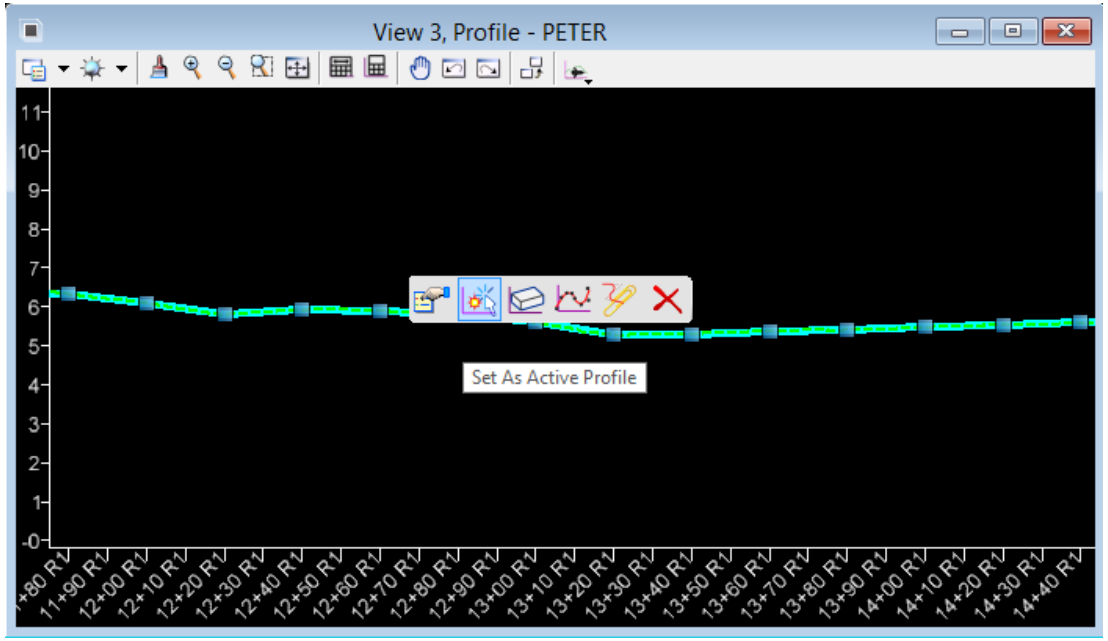

- If not hover over the alignment and select "Open Profile Model" from the context menu.
- When prompted open another view window and select it.





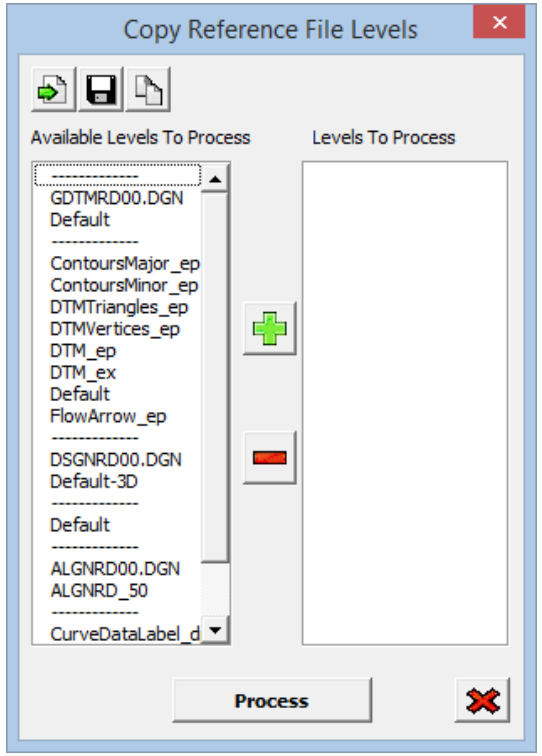

# *f) Set profile for each alignment to "Active"*

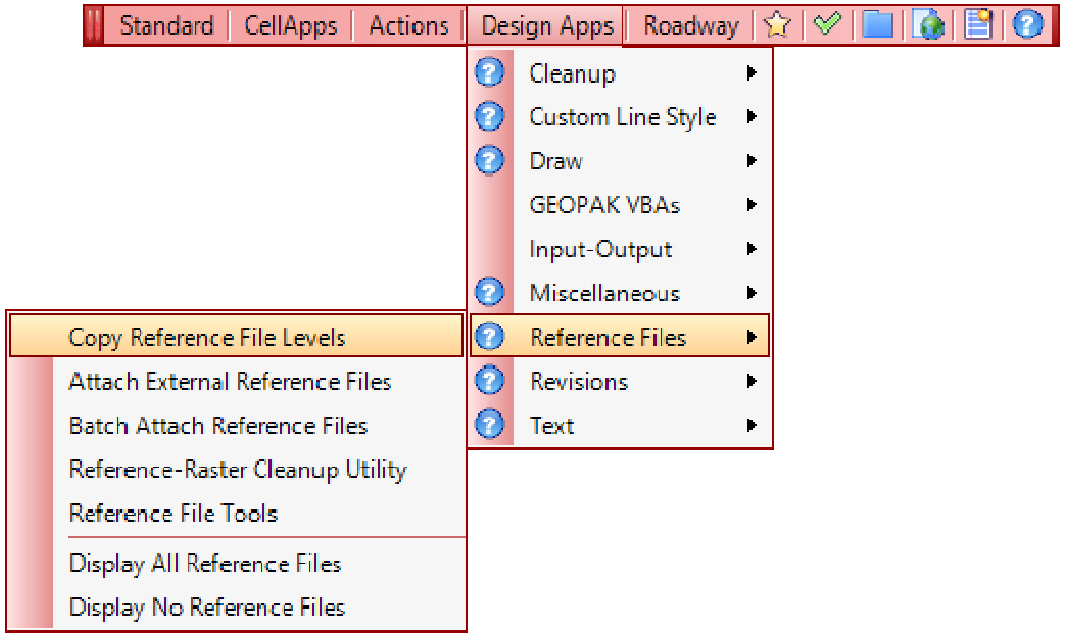
- In the profile view select the appropriate profile and select Set As Active Profile from the context menu



# *3. g) Copy in MicroStation Elements*

- The old DSGNRD file can be referenced to copy in elements that were not imported.
- Select "Design Apps > Reference Files > Copy Reference File Levels" from the FDOT menu.



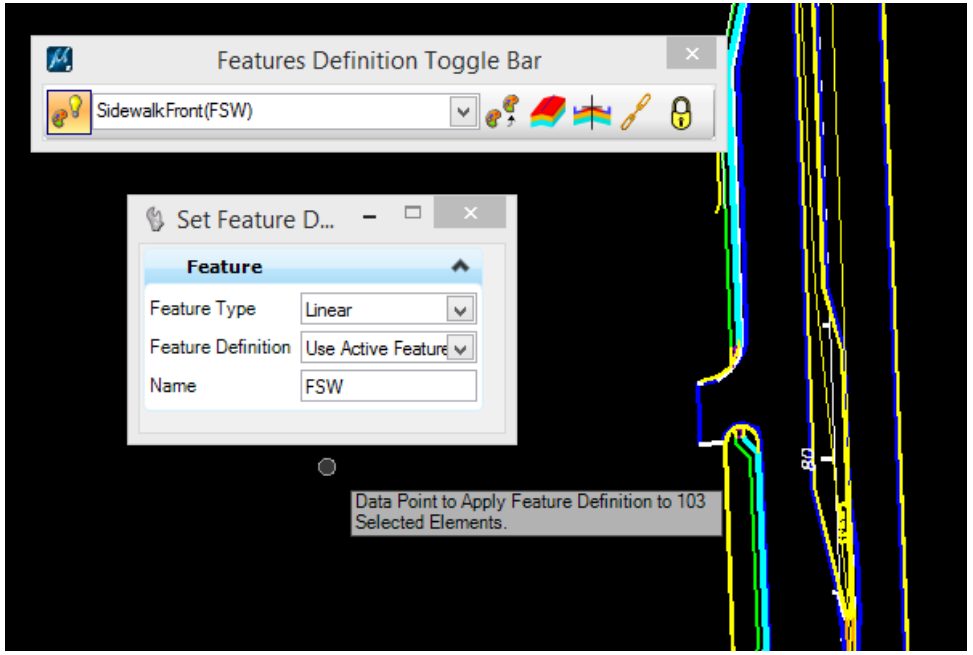

Levels who's names have changed will be placed on the active level.

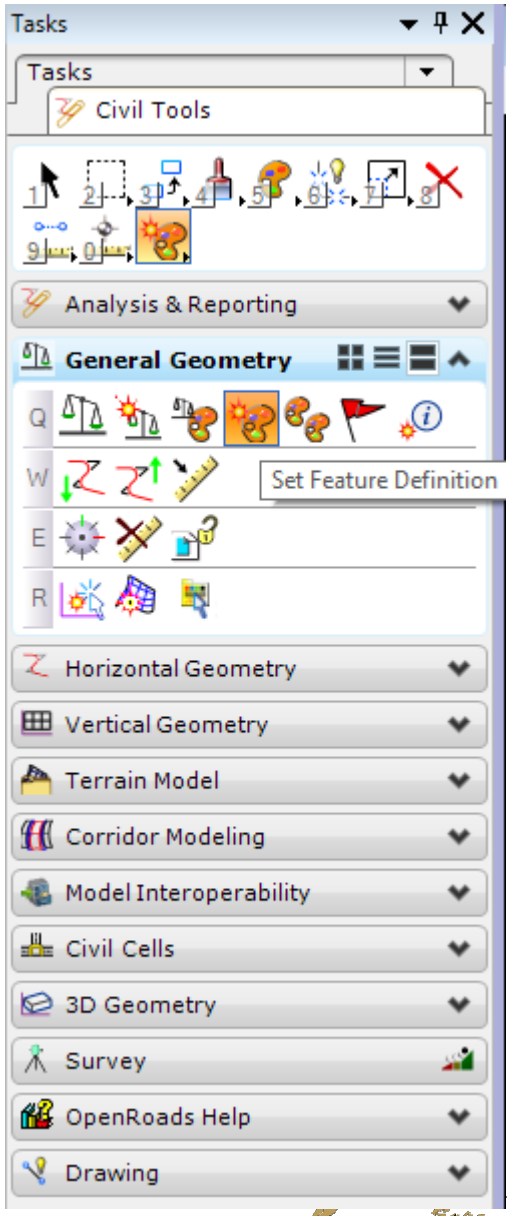
(Pavement Levels have changed)

# *3. h) Set Features on Corridor Targets*

Any elements that will be targeted by a corridor using Feature Constraints will need to have Features applied.

- Use "Set Feature Definition" from the General Geometry task

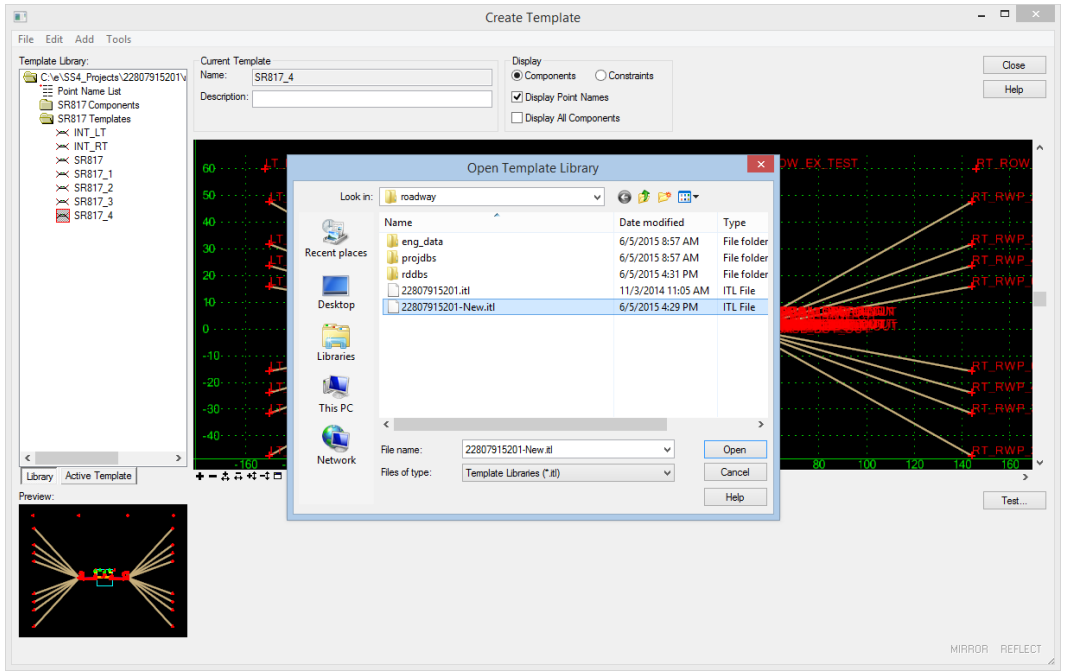


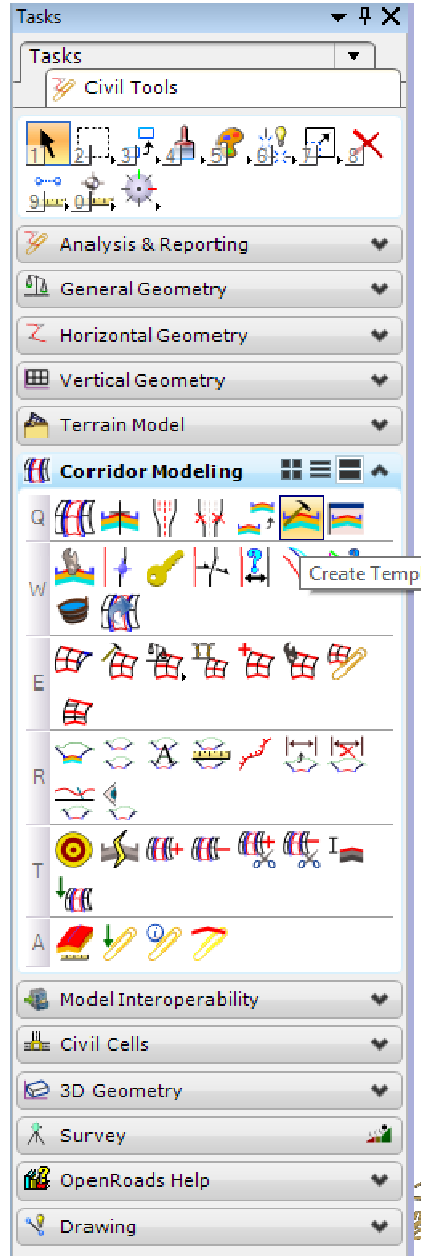



# *3. i) Attach Project ITL*

- If the project ITL is named the same as the project it will automatically be attached. If not you will need to attach the project ITL before you can synchronize template drops.

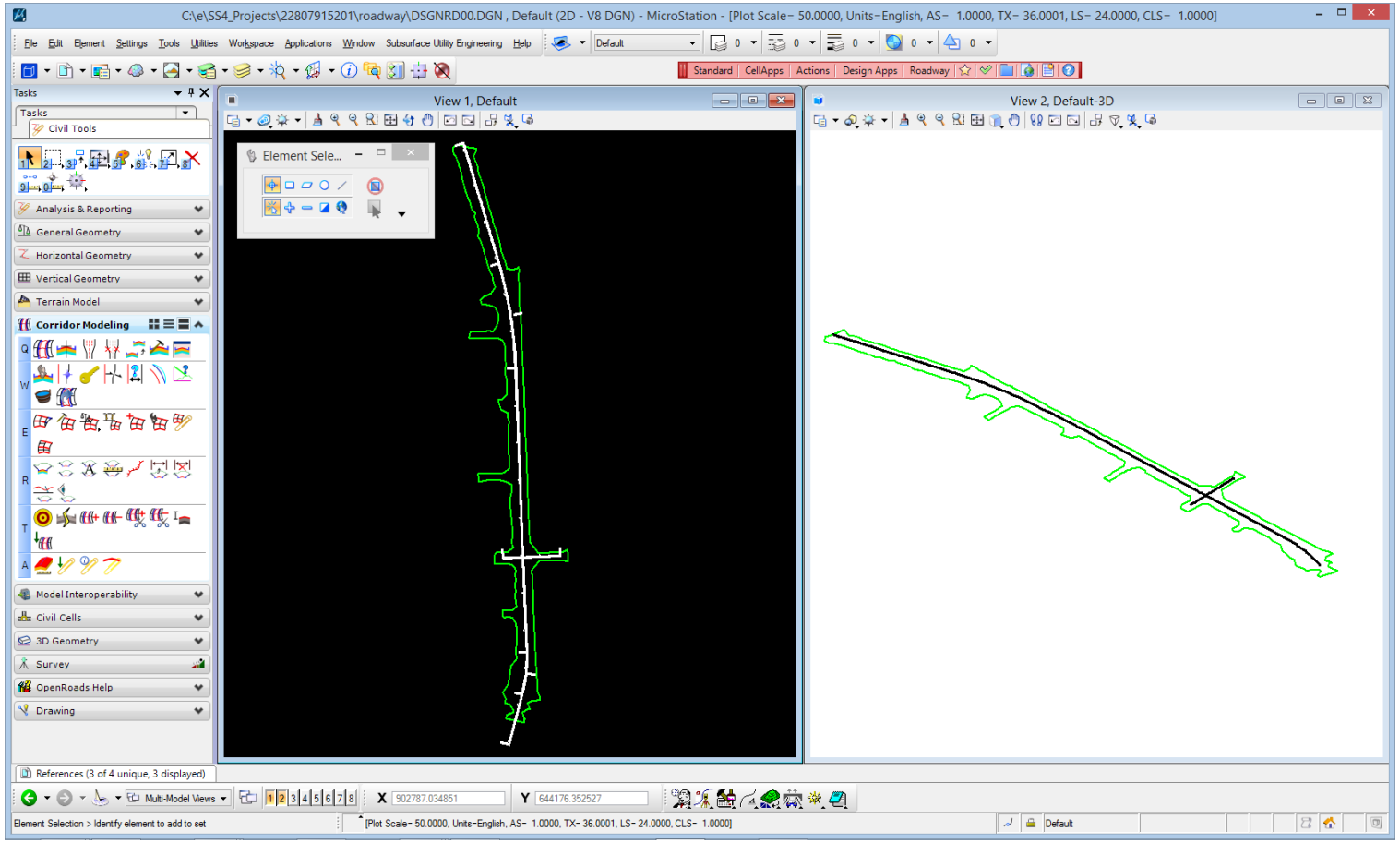
- Open the "Create Template" dialog from the Corridor Modeling task or hit F12 on the keyboard.
- Select File > Open and browse to the project ITL file.

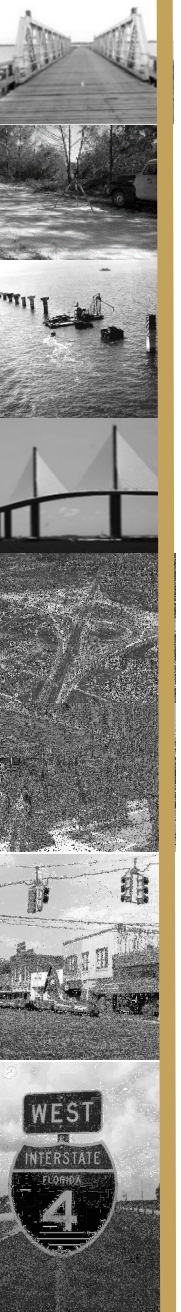


# *j) Arrange views to see 2D plan and 3D views*

- Function Keys to automate the view arrangements have been added.
  - F2 = 2 views
  - F4 = 4 views
  - F3 = 1 view

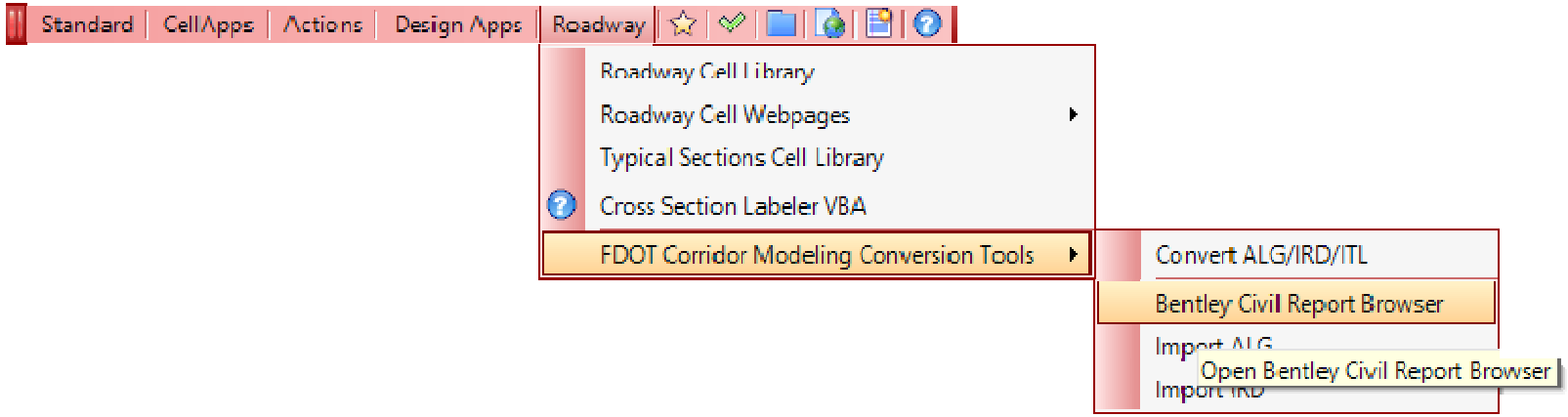





# *3. k) Review Corridor Dependencies*

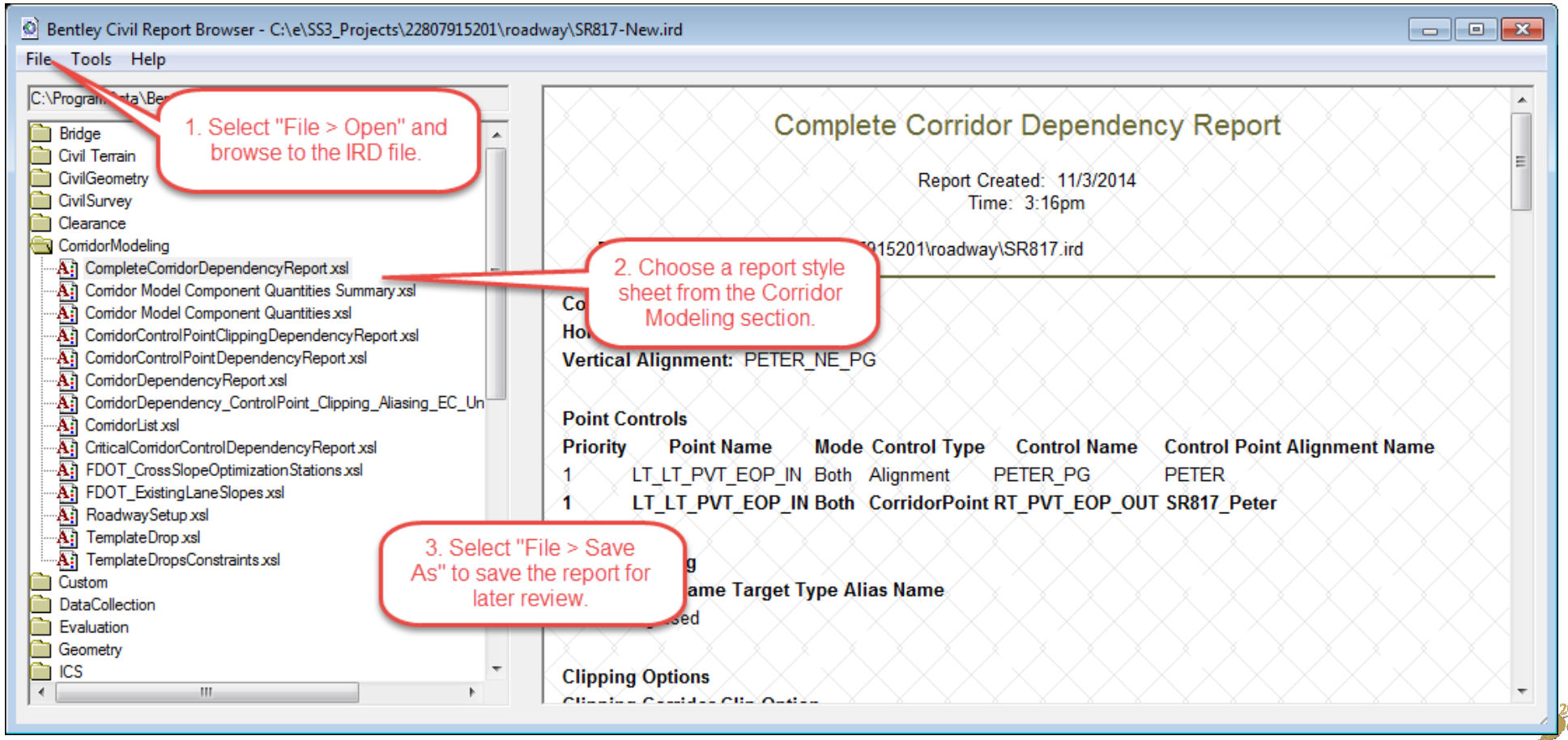
Corridor dependencies must be present in the file before importing a corridor or the dependency will be lost.

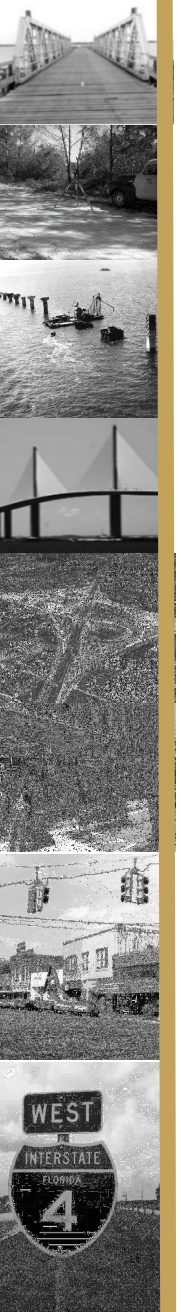
- Reports are available to review the dependencies.
- To view reports, elect "Roadway > FDOT Corridor Modeling Conversion Tools > Bentley Civil Report Browser"



# 3. k) Review Corridor Dependencies

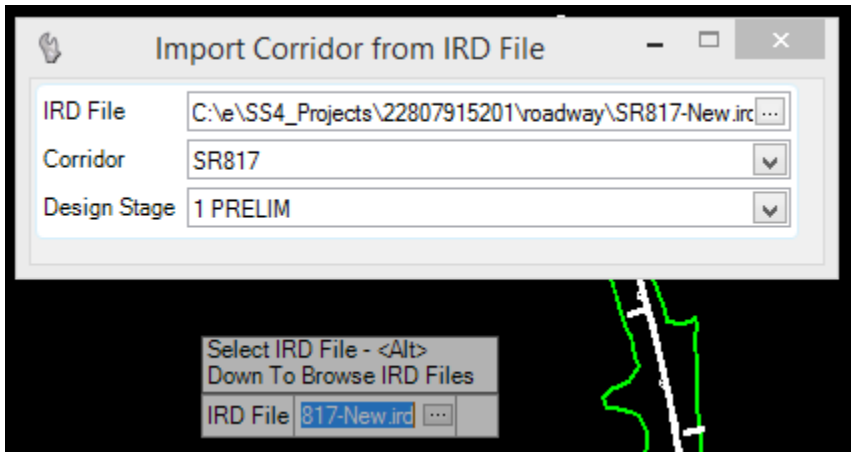
- The Bentley Civil Report Browser allows you to open the IRD files and use style sheets to format the information for easy use.

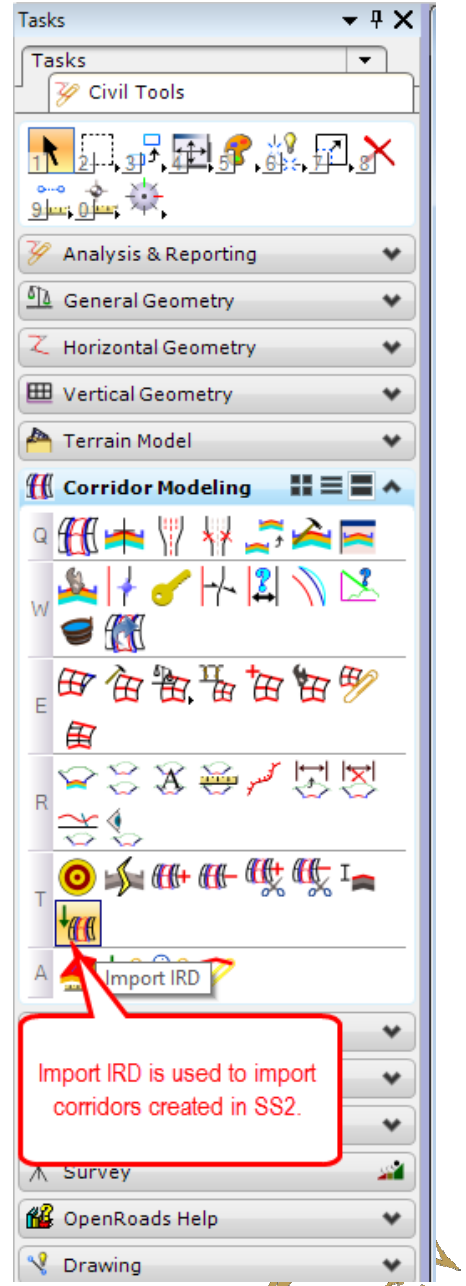





# *3. l) Import IRD Files*

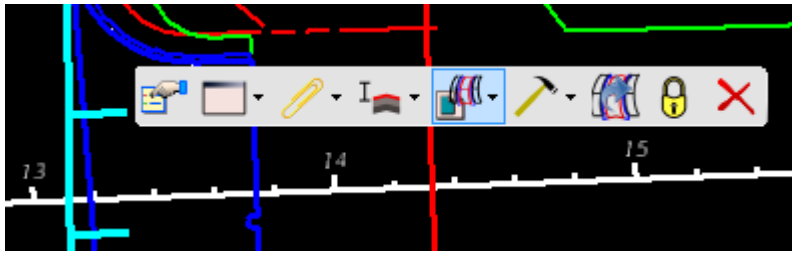
- From the "Civil Tools" Workflow select "Corridor Modeling > Import IRD"
- On the Import Corridors from IRD File dialog
  - Browse to the converted IRD file.
  - Select the first corridor to be imported
  - Select the1 PRELIM Design Stage.



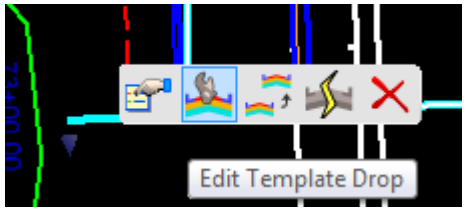



# 3. l) Import IRD Files

- Corridors will have a boundary with handles for the corridor and template drops.
- These handles are used to access various properties of the corridor.
  - Corridor Context Menu



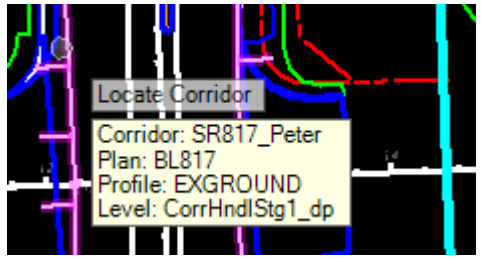

  - Template Drops



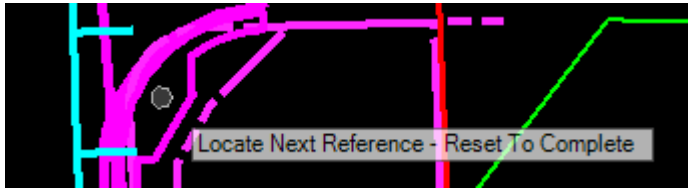

# *3. m) Add Corridor References*

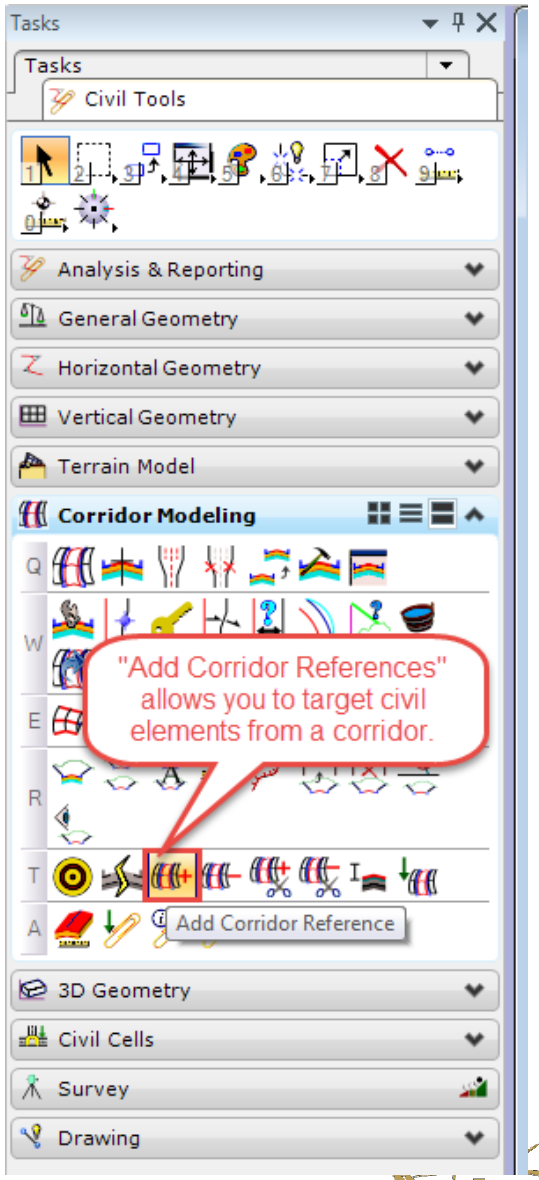
In order to target civil elements in the design file they must be added as corridor references.

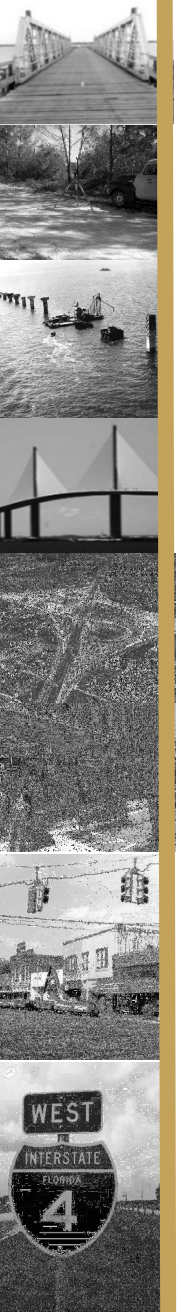
- Select the elements to be added as references to one of the corridors.
- Click the "Add Corridor References" tool.
- When prompted, select the corridor.




- Reset to accept.



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