FDOT Plans Production Tools Part 1 of 2

This course helps you automate the creation of Sheets, Plan, Plan/Profile and Cross Section sheets.

FDOT State Kit for AutoCAD Civil 3D 2014

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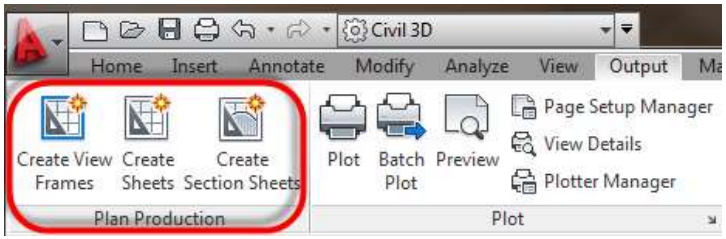
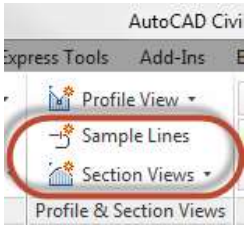
FDOT Plans Production Tools

- The workflows created for use with Florida Department of Transportation (FDOT) plans are dependent on the following:
  - **Create a Civil 3D FDOT Project**. - Information from the creation of the project is carried into the sheet Title Blocks.
  - **Creating a Sheet Set** (dst) **file -** Displays and organizes named collections of drawings.
  - **Create a Key Sheet** – Add Key Sheet to Sheet Set file.
  - **Data Shortcuts -** Used only for the creation of data references such as Alignments, Surfaces, Pipe networks, and View Frames…
  - **Create View Frames** wizard (Clip Borders for Plan and Plan/Profile View Sheets)
  - **Create Sheets** wizard (Use to create Plan or Plan/Profile sheets and add to existing Sheet Set file)
  - **Create Section Sheets** wizard (Use to create Cross Section Sheets and add to an existing Sheet Set file)





- **Create View frames** are used to represent rectangular areas along the alignment that will be displayed on plan/profile or plan-only sheets. Before you create view frames, an alignment must already exist in your drawing. Depending on the type of sheets you want to produce (plan and profile or profile only), you may also need to have a profile already created. If you are creating a plan only view frame (or sheet set), then you do not need to have a profile in the drawing.

  Command will not execute with out an alignment.

- **Create Sheets** wizard to quickly create sheets for construction documents (plans) from View Frames.

  Command will not execute with out an alignment.

- **Create Section Sheets** command to create layouts for plotting section views and Sheets. As a prerequisite to using the Create Section Sheets command, you must use the "Sample Lines" and "Create Multiple Views" command to generate section views before you can Create Section Sheets.

  Requires and Alignment, Sample Line Group Name and Section View Group.

FDOT Plans Production Tools

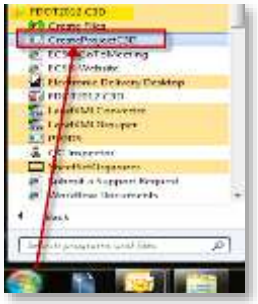
Creating a Civil 3D FDOT Project

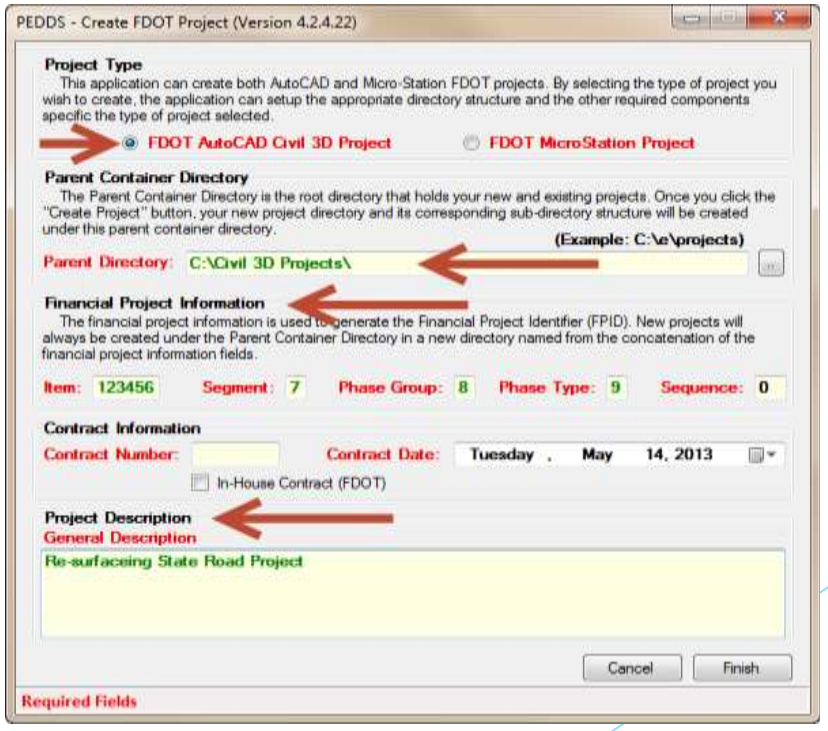
- *Exercise: Create a project. By using this process most of the Title Block sheet data will be populated automatically.*

1

2

3





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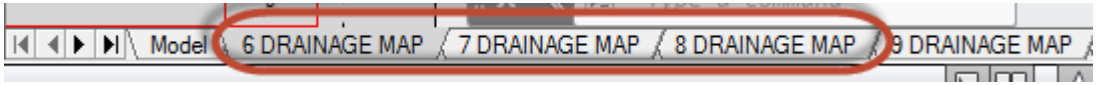
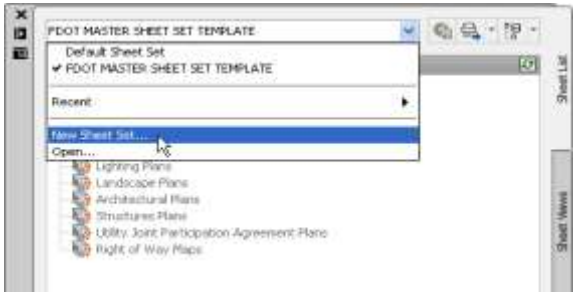
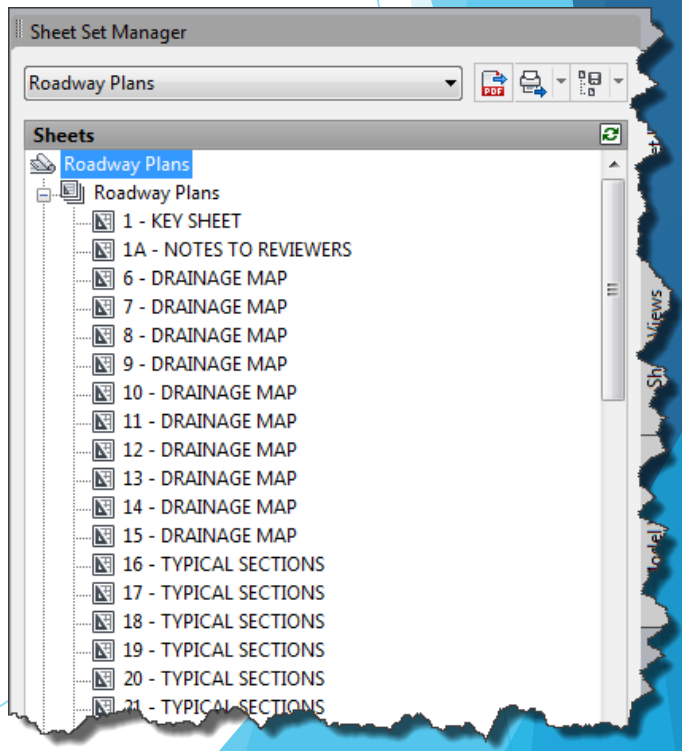
Creating a Sheet Set (dst) file

The Sheet Manager organizes, displays and manages collections of drawing sheets. Each *sheet* in a set is a layout in a drawing (DWG) file.

Layouts become sheets in Sheet Set Manager







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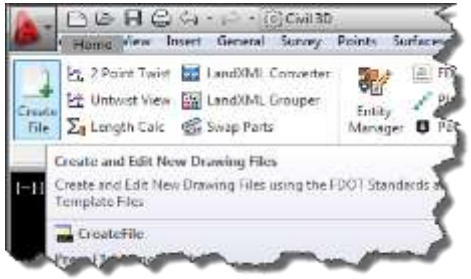
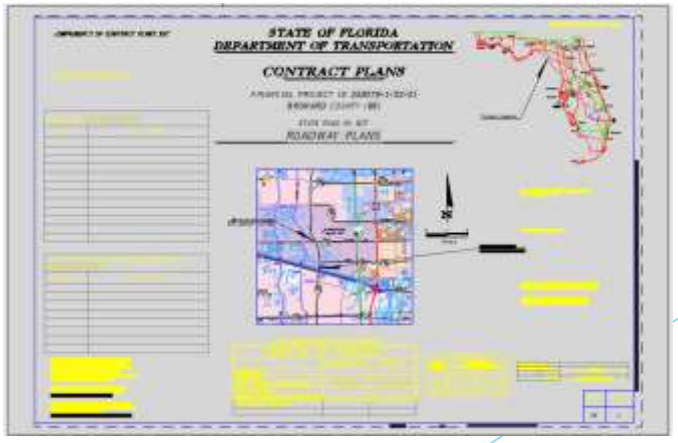
Creating a Key Sheet and add to Sheet Set file.

- Key Sheets are already created in the FDOT State Kit along with layouts for the different types of funding and map requirements.
- *Exercise: Create a Key Sheet.dwg file and add it manually to the Sheet Set (DST) file.*





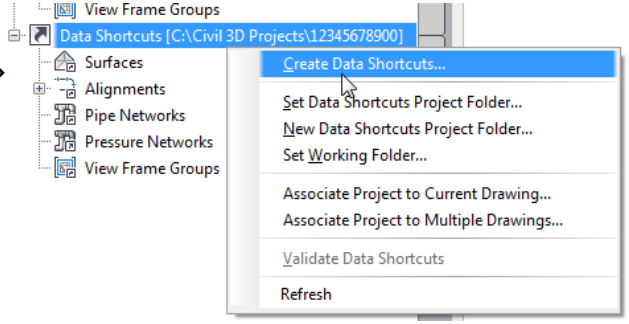
FDOT Plans Production Tools

Data Shortcuts - (Data Referencing Alignments, View Frames…)

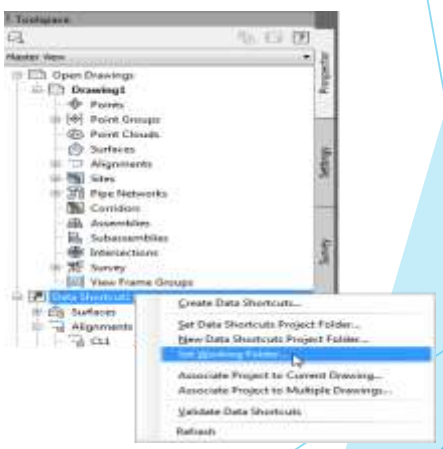
- Data Shortcuts - A data shortcut provides a direct path to the location of a shareable source object such as Alignments, Surfaces, Pipe Networks, Pressure Networks and View Frame Groups. In a single operation, you can create data shortcuts for multiple objects in a source drawing. The data shortcut is used only for the creation of data references.

  A data reference is a read-only copy of a source object, inserted into another drawing, often called a consumer drawing. From the Prospector tab, you can select a shortcut for an object and create a reference to that object in the active drawing. The data reference maintains an active link to the source object in the source drawing, without relying on the data shortcut.

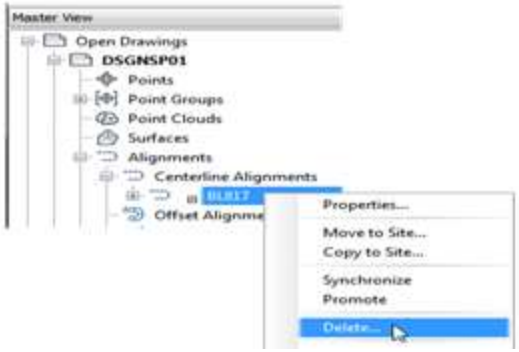
Objects that are added as Data Shorts cuts can dynamically be shared across multiple drawings.



Regardless of who creates the Data Shortcuts , once it is created it can be shared with others for data referencing.



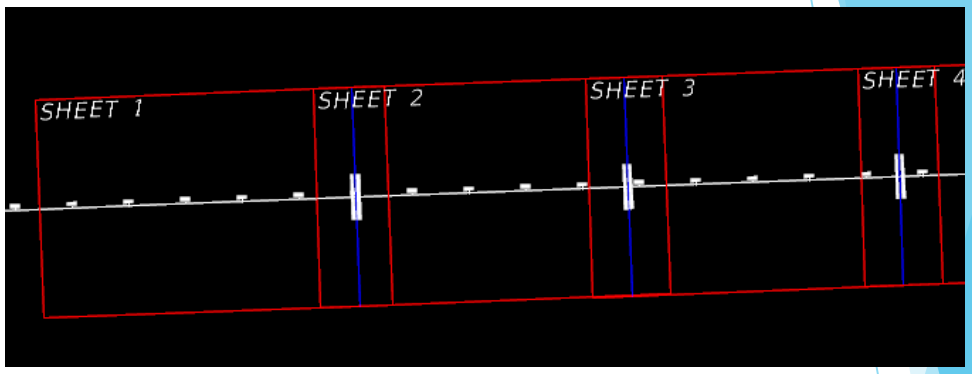
If an object needs to be removed from a design file, expand the alignments under the design file heading and Delete.



FDOT Plans Production Tools

Create View Frames

- View Frames are used to represent rectangular areas along the alignment that will be displayed on Plan/Profile or Plan only sheets. You can only create View Frames when an alignment is present. Before you can create View frames your drawing must contain an alignment.



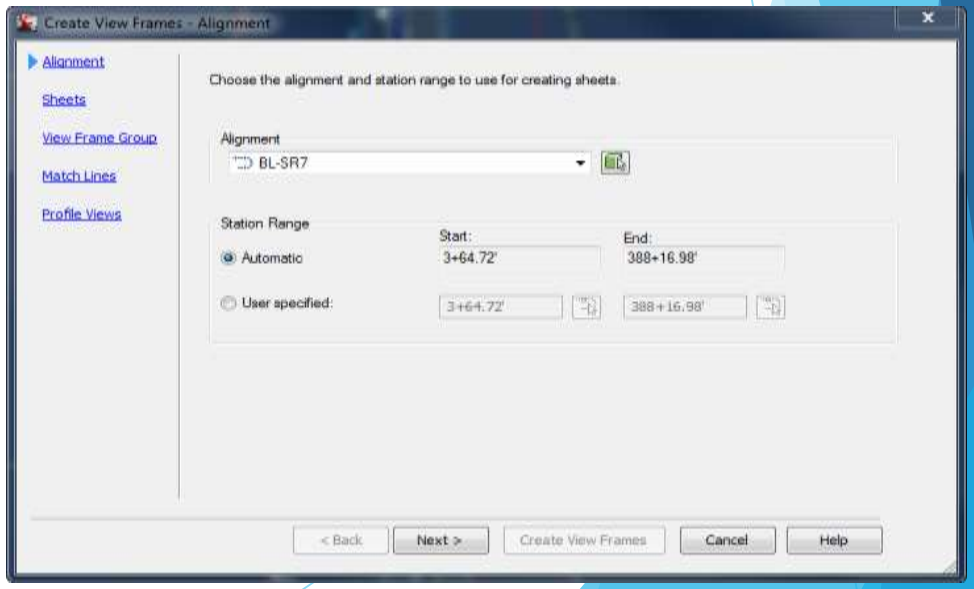
Alignment - Choose the desired Alignment and Station range for creating Sheets.

Sheets – Define a View Frame Group name to help you identify what the View Frame Group is for.

View Frame Group – Specify object creation criteria for the view frames group and view frames.

Match Lines – Choose to insert match lines automatically and define how they are placed and named.

Profile Views - Select the profile view style and band set that will be used for the profile views displayed in the viewports (sheets).

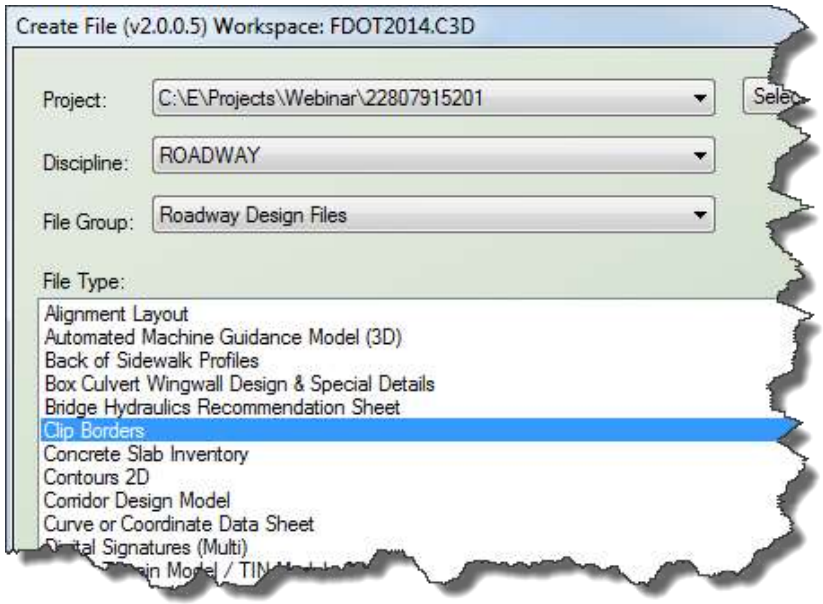


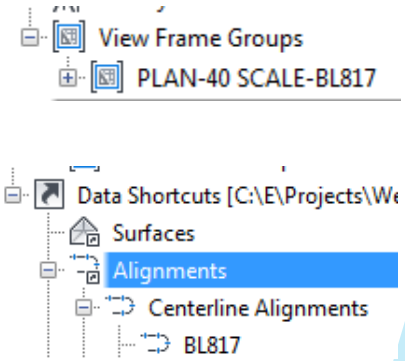
FDOT Plans Production Tools

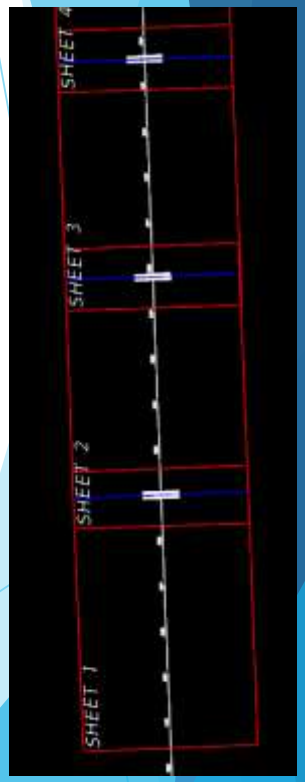
Create File for View Frames - (Used as a source Drawing to House and Create View Frames)

- *Exercise: Generate Drawings for View Frames*

1. Use the “Clip Borders” template to create a new file called CLIPRD##.dwg using the FDOT Create File tool. This file is used to combine the View Frames and Alignment data.





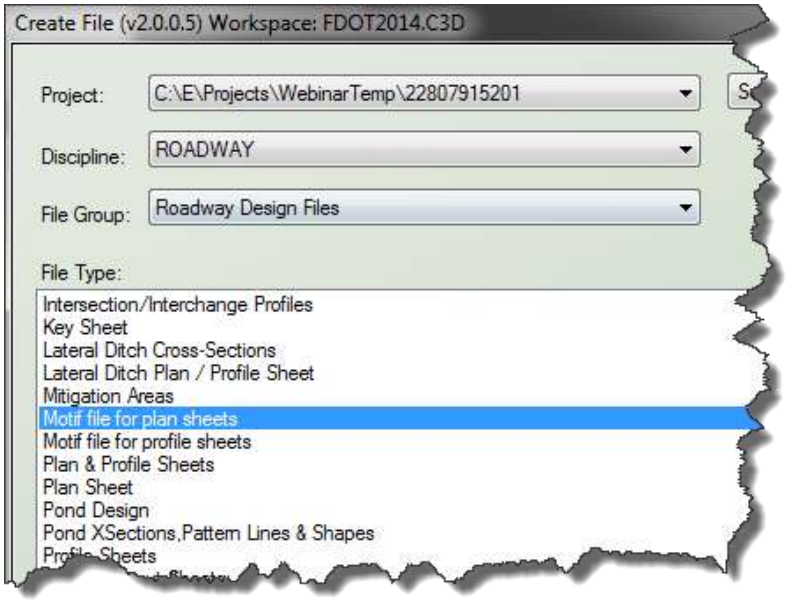


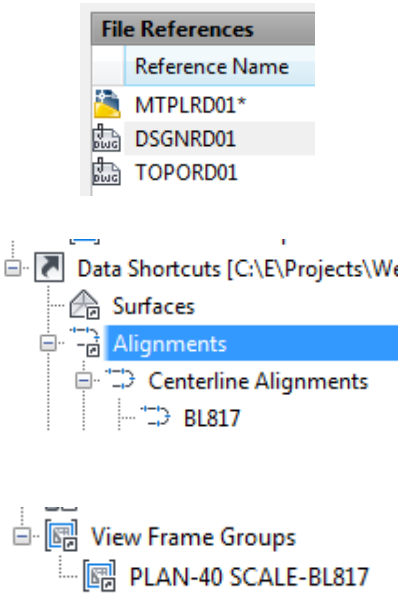
FDOT Plans Production Tools

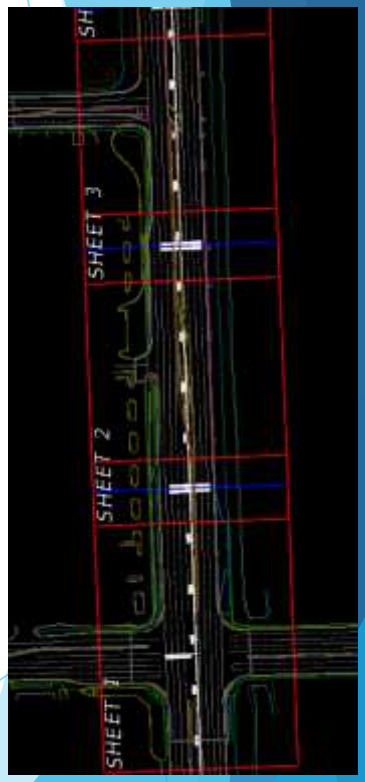
Create File for Plan Sheet Motif - (Use to create Plan or Plan/Profile sheets and add to existing Sheet Set file)

- *Exercise: Generate Drawings for Plan Sheets.*

1. Use the "Motif File for Plan Sheets" template to create a new file called MTPLRD##.dwg using the FDOT Create File tool. This file is used to combine the Design file, Topography file, Alignment data and the View Frame Group.







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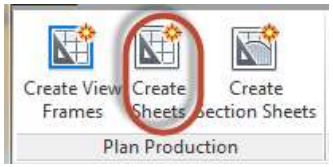
Create Sheets

- Creates sheets for plotting from existing view frames.
- CREATE SHEETS command (Output Ribbon → Plans Production Tab).



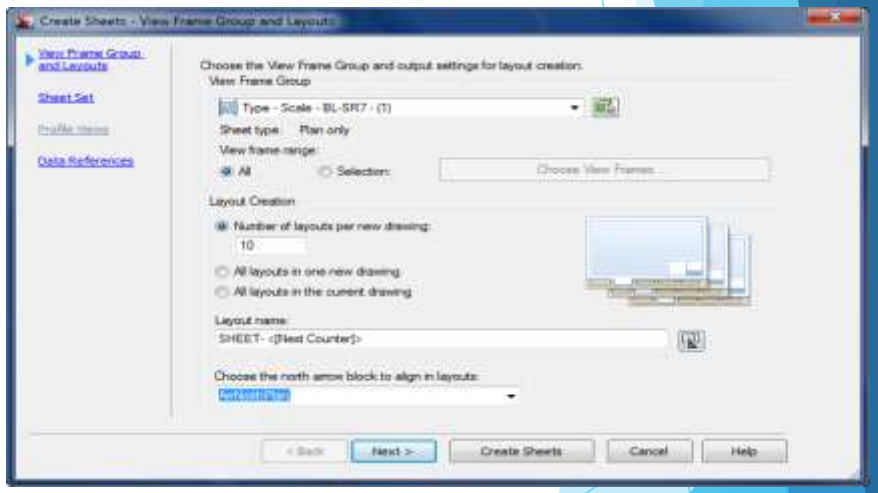
<u>View Frame Group and Layouts</u> – Choose the desired View Frame Group and output settings for Sheet layout Creation.

<u>Sheet Set</u> – Use these options to create a new sheet set or add to an existing sheet set. You can also specify storage location of the sheet set file association with the new or existing sheet set.

Select "Add to existing sheet set:" Select Roadway Plan.dst file located in the eng_data folder under the roadway folder.

Sheet file name: Plan <[View Frame Group Alignment Name]>

<u>Data References</u> - Select the data you want to reference in your sheets.



Select CREATE SHEETS when finish

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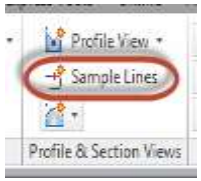
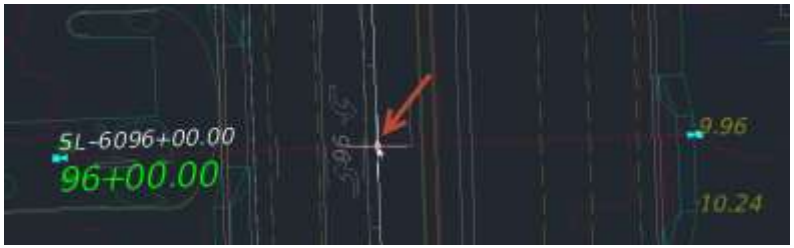
Create Section Sheets wizard - (Use to create Cross Section Sheets and add to an existing Sheet Set file)

Create Sample Lines

- Sample lines define the stations at which the cross sections are cut, and also the width of the sections to the left and right of the alignment.

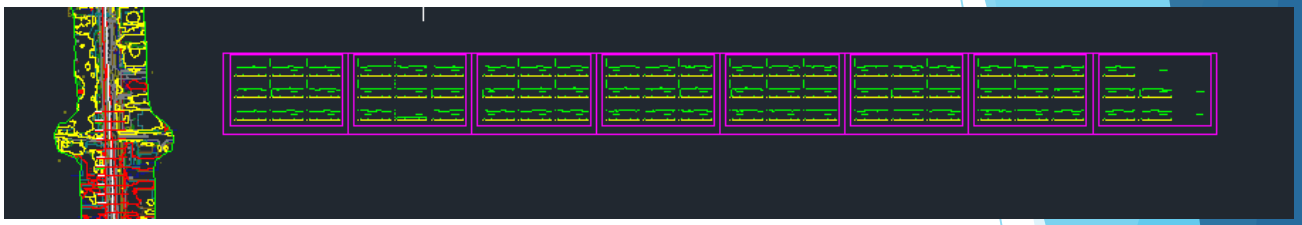




FDOT Plans Production Tools

Create Section Sheets wizard - (Use to create Cross Section Sheets and add to an existing Sheet Set file)

Exercise: Create Multiple Views (Create multiple sections views for a group of sample lines along an alignment).



General - Specify information about the section views, including the parent alignment and sample line group name, range of stations, description, style, and layer. Adjust "Section View Style" to anything other than _No Display.

Section Placement – Pick a placement option, then choose a group plot style. *Specify a drawing template to use for creating production-ready section sheets.*

C:\FDOT2012.C3D\Data\templates\Sheets\Roadway\SHPLAN.dwt
(For PLAN ONLY TEMPLATE)

Offset Range – Use this page to specify the offset range to which the section views are drawn.

Elevation Range - Specify the elevation properties of the selected section view.
Use default settings

Section Display Options – Select Data types and style to display in the X-sections.

Data Bands – Select the data band type to associate with the section view.
Use FDOT Page Plot option

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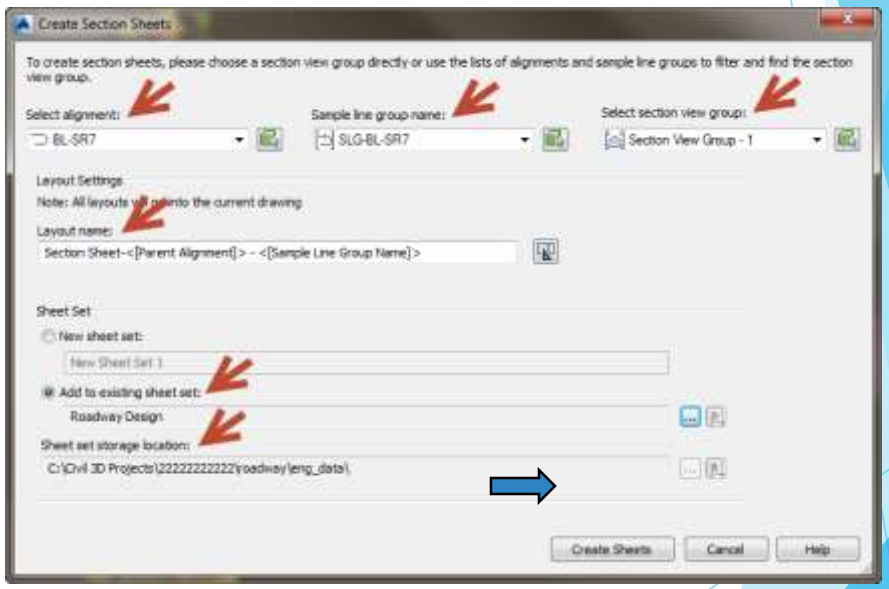
Create Section Sheets wizard - (Use to create Cross Section Sheets and add to an existing Sheet Set file)

- Create Layouts for plotting section views. Use this dialog box to create paper space layouts that contain the section views in your drawing



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Any Questions?

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