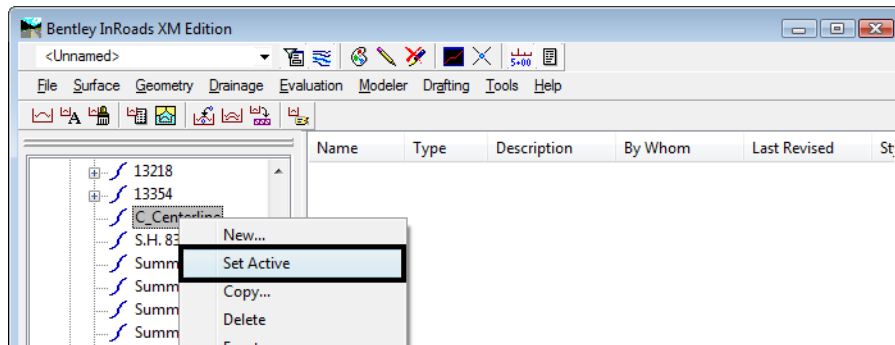


LAB 27 - Project Specific Plan Sheets

The following exercise will step through creating a full plan view depicting right of way plan sheets (sheet subset 5) at a scale of 1"=100'. The plan sheets will be centered along the design alignment for the project S.H. 86.

Chapter Objectives:

- Create plan sheets using InRoads Plan and Profile Generator
 - Edit reference clip boundary
1. Open the MicroStation file **12345ROW_Model.dgn** from the ... \Survey_ROW\Drawings\Reference_Files folder.
Note: The MicroStation file opened is immaterial and only acts as an interface to InRoads. New plan sheets will be created and the open drawing will not be impacted.
 2. **Load** the geometry project **12345_ROW** if not already in memory
 3. Select **Tools > Options [Factors]** and set the global scale factors to **100** then <D> Close to dismiss the **Options** dialog box.
 4. <R> on the alignment **C_Centerline** and select **Set Active** from the fly-out list.



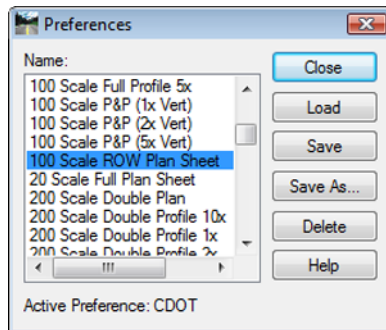
5. Select **Drafting > Plan and Profile Generator...** from the InRoads interface.

By default, the dialog will populate with the CDOT preferences (100 horizontal scale by 1x vertical exaggeration Plan & Profile sheet).

Note: Drafting notes is an InRoads Application Add-In. If the Drafting category is not shown in the InRoads menu bar, select Tools > Application Add-Ins and enable Drafting Production Add-In.

6. Select the **Preferences** button (at the bottom of the **Plan and Profile Generator** dialog).
7. Select the preference named - **100 Scale ROW Plan Sheet**
8. <D> **Load**

9. <D> Close

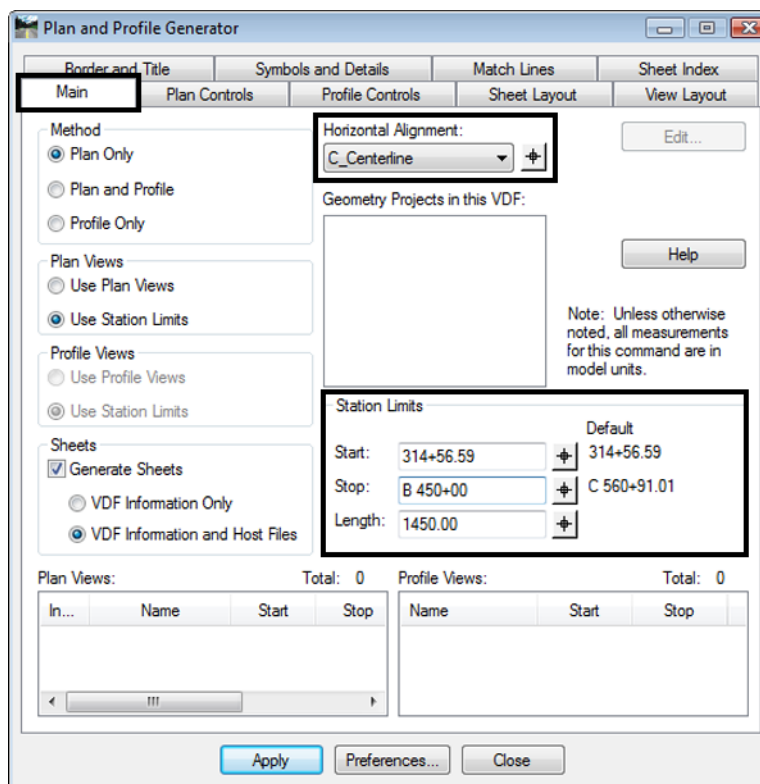


Preferences developed for ROW are:

- ◆ 100, 200, and 300 scale full plan view ROW Sheets

Main Tab

By default, the active horizontal alignment and the begin/end station limits for said alignment will populate the dialog.

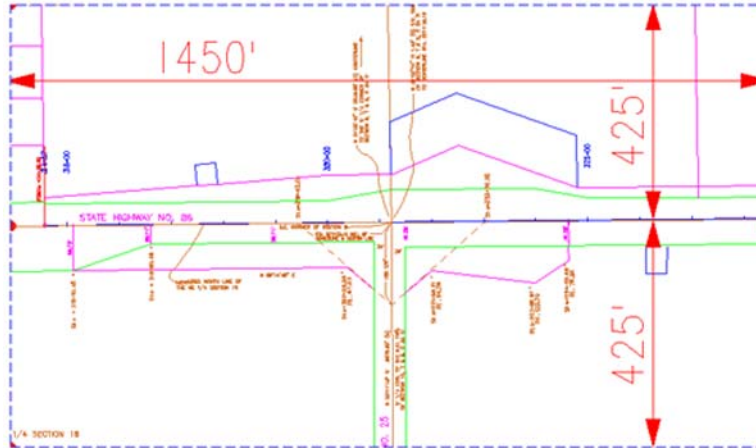


10. **Load** the appropriate *Preference* (if not done in step 6)
11. **Select** the appropriate *Horizontal Alignment* (the sheet will be centered on the defined alignment).
12. **Redefine** start and stop station limits to:

- Start: 314+56.59
- Stop: B 450+00.00

Note: The 'B' in the 'stop' station defined above is required as it indicates the stop station falls within a station-equation range.

Length defines the length along the alignment that will fit in a plan view. 1450 feet is the default for a 100 scale 11" x 17" plotted sheet.



Changing Scale:

A 200 scale plot will display 2,900 feet along the alignment in plan view, a 300 scale plot will display 4,350 feet.

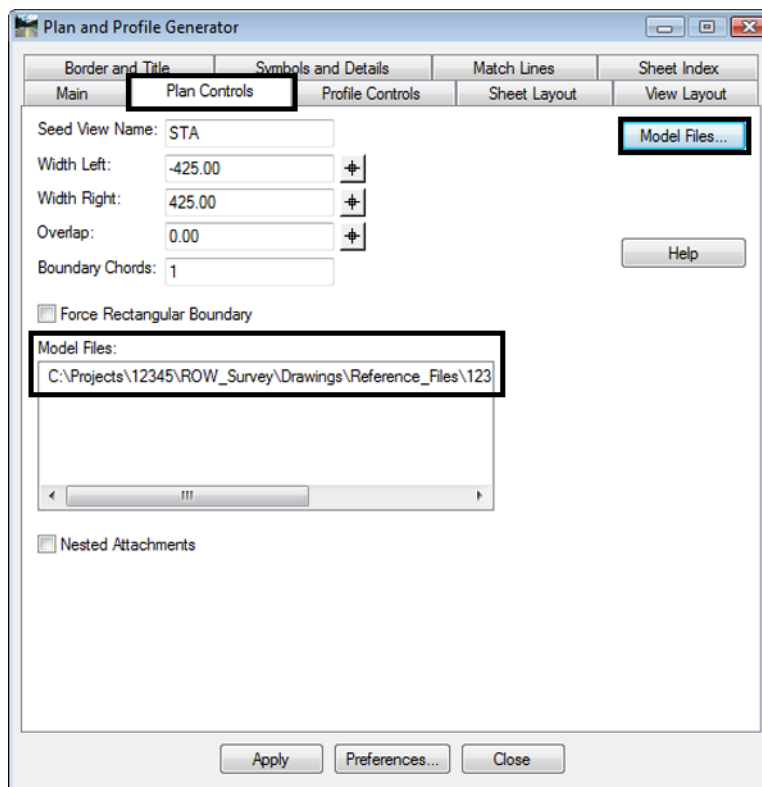
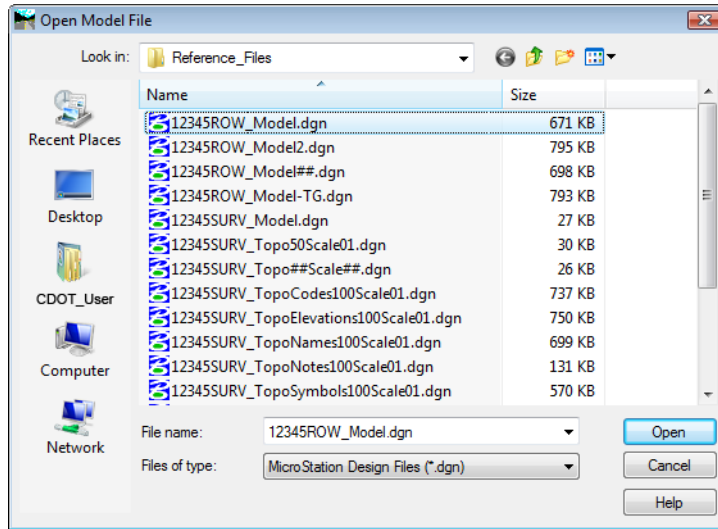
If something other than 100 scale is desired, the user must proportionally change:

- ◆ Main tab – modify Length
- ◆ Plan Controls tab – modify Width Left, & Width Right
- ◆ View Layout tab – modify Scale
- ◆ Symbols and Details – modify Scale

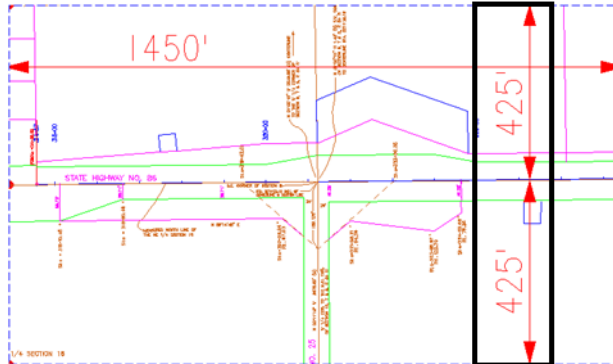
Plan Controls tab

13. Select the **Model Files** button to pick the Drawing files (references) for display in plan view.
14. Select the file **12345ROWModel01.dgn** in the Open Model File dialog.

15. <D> Open



Width Left and **Width Right** define plan view limits perpendicular from the reference line (left is negative).



The **Boundary Chords** setting will create a clipping limit that will fit the extents of the plan window area. This reference file clipping edge should be considered a “first pass limit” and may have to be edited on curved portions of the corridor path in locations where the desired limits extend beyond this “calculated” clipping limit. This plan limit editing, along with any shifting of the plan window position, is accomplished on the **Sheet Index** tab after the sheets have been created or through the use of the MicroStation references dialog.

Model Files & Levels

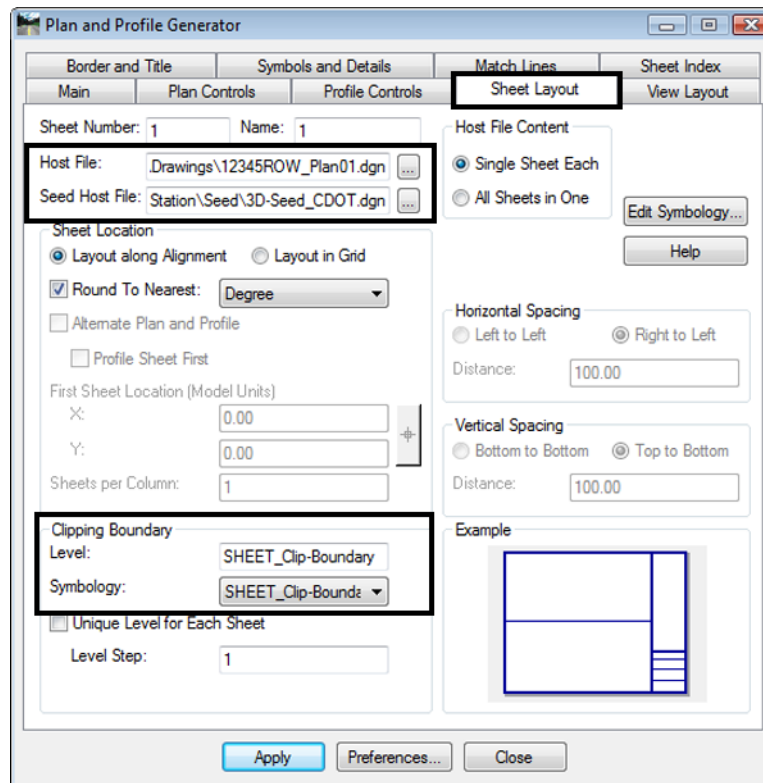
The Model files selected will be attached as reference files. The attached files will have all levels turned on that contain data. If additional data (levels) are added to the referenced files after the sheets are created, the user is required to turn on the appropriate levels through the use of the references dialog box.

Additionally, the files referenced will have the design file ‘Default’ model attached. The user should not use any model space other than ‘Default’.

Profile Controls tab

No action required

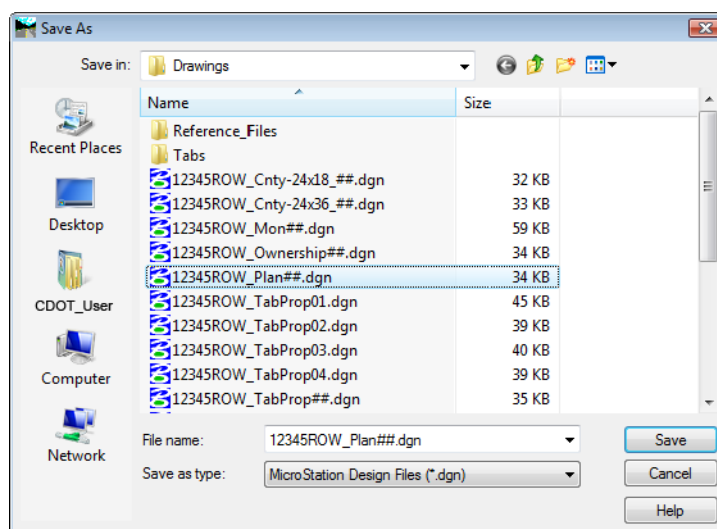
Sheet Layout tab



16. <D> the ... button next to **Host File** to identify the path and initial sheet name for the new drawing set. The **Host File** refers to the new MicroStation plan drawings that will be created by this tool. The last number, "1", will be automatically incremented as each new sheet is created. Set to the project directory, i.e.

.....*ROW_Survey\Drawings\ 12345ROW_Plan01.dgn*

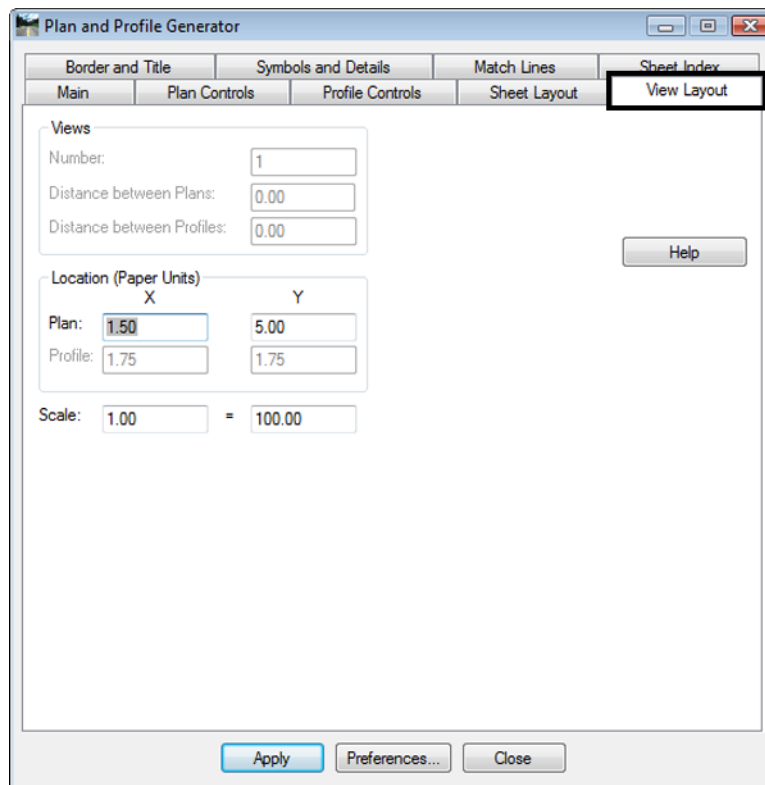
17. <D> Save in the Save As dialog.



18. The **Seed Host File** is the ‘prototype’ file used to create the Host files and should be set to:
C:\Program Files\Workspace-CDOT\Standards-Global\MicroStation\Seed\3D-Seed_CDOT.dgn
19. Make sure the **Level** and **Symbology** options in the **Clipping Boundary** section display **SHEET_Clip-Boundary**.

View Layout tab

This tab sets location (origin) for the plan views relative to the border sheet. No user input is required in this dialog.



Note: The Location of the Plan position is computed from the outside edge of the border sheet in paper (plotted) units.

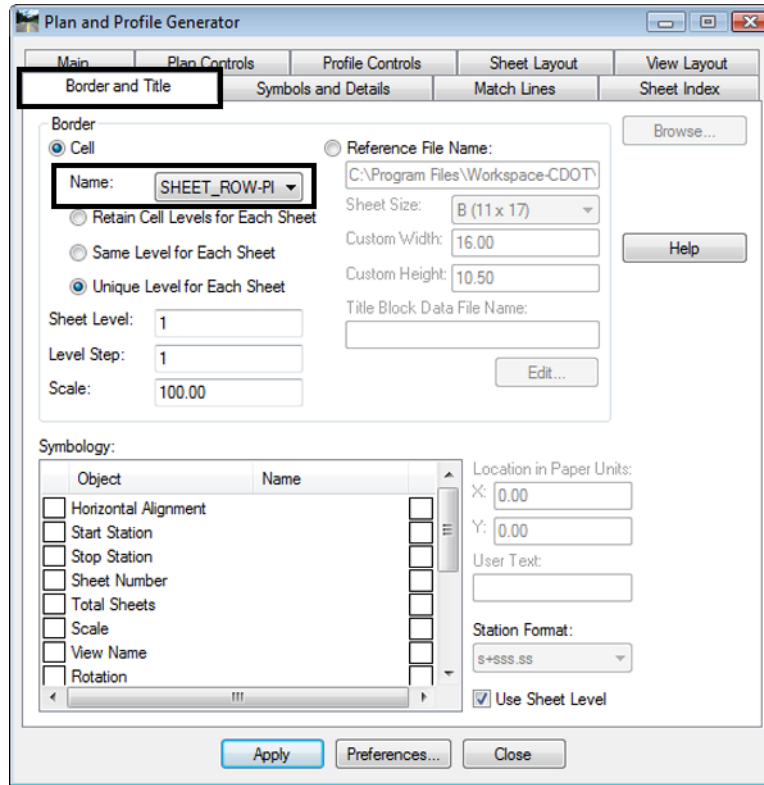
Border and Title tab

The only user input on this tab is to ensure the correct cell is specified for the border sheet. No other user input is required in this dialog unless creating sheets at a scale other than 1"=100'.

Source cell library: C:\Program Files\Workspace-CDOT\Standards-Global\MicroStation\cells\General.cel

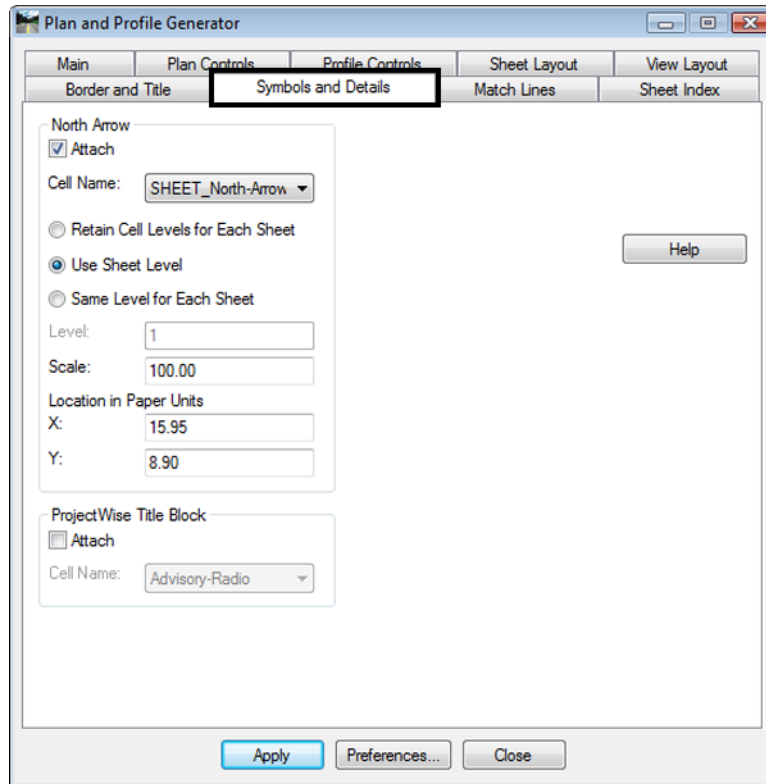
Cell Placed:

20. Verify Cell Name: SHEET_ROW-Plan-Sheet



Symbols and Details tab

No user input is required in this dialog unless modifications to the stored preference are required.



The screenshot shows the 'Plan and Profile Generator' dialog box with the 'Symbols and Details' tab selected. The dialog has a tabbed interface with the following tabs: Main, Plan Controls, Profile Controls, Sheet Layout, and View Layout. Below these are sub-tabs: Border and Title, Symbols and Details (highlighted), Match Lines, and Sheet Index. The 'Symbols and Details' section contains the following controls:

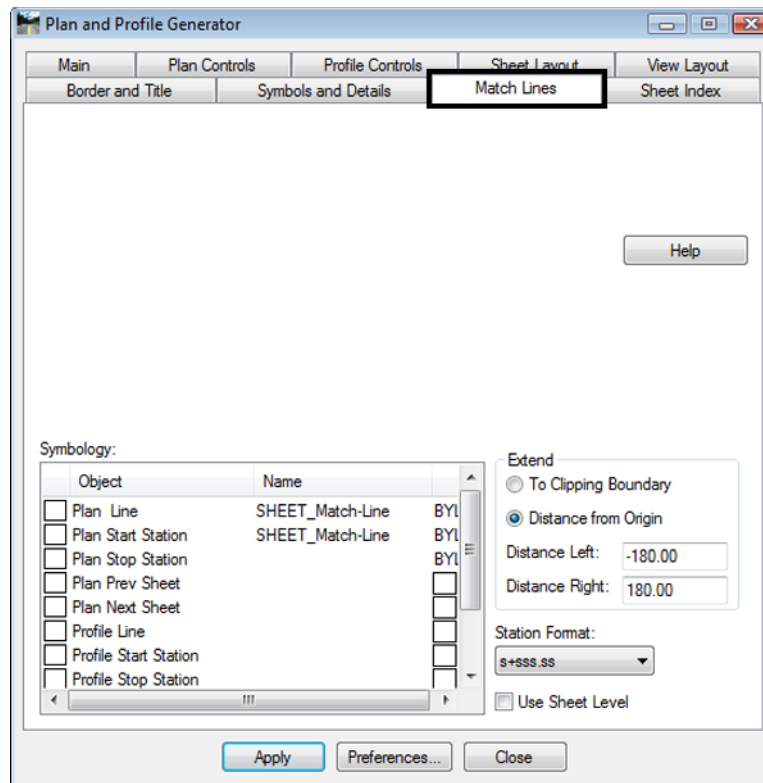
- North Arrow**
 - Attach
 - Cell Name: SHEET_North-Arrow (dropdown)
 - Retain Cell Levels for Each Sheet
 - Use Sheet Level
 - Same Level for Each Sheet
 - Level: 1 (text box)
 - Scale: 100.00 (text box)
 - Location in Paper Units
 - X: 15.95 (text box)
 - Y: 8.90 (text box)
- ProjectWise Title Block**
 - Attach
 - Cell Name: Advisory-Radio (dropdown)

Buttons at the bottom: Apply, Preferences..., Close. A Help button is also present in the North Arrow section.

The **North Arrow** position set by the **Location in Paper Units** and is set to the upper right corner of the sheet. This is a rough placement and will likely have to be moved for clarity and conflicts on many sheets. Once the sheets are constructed each sheet should be checked for optimum cell position.

Match Lines tab

No user input is required in this dialog. Match lines are not being used for ROW sheets.



Executing the Plan & Profile Command

Once the Apply command is executed, the workflow process for this command follows the following sequence:

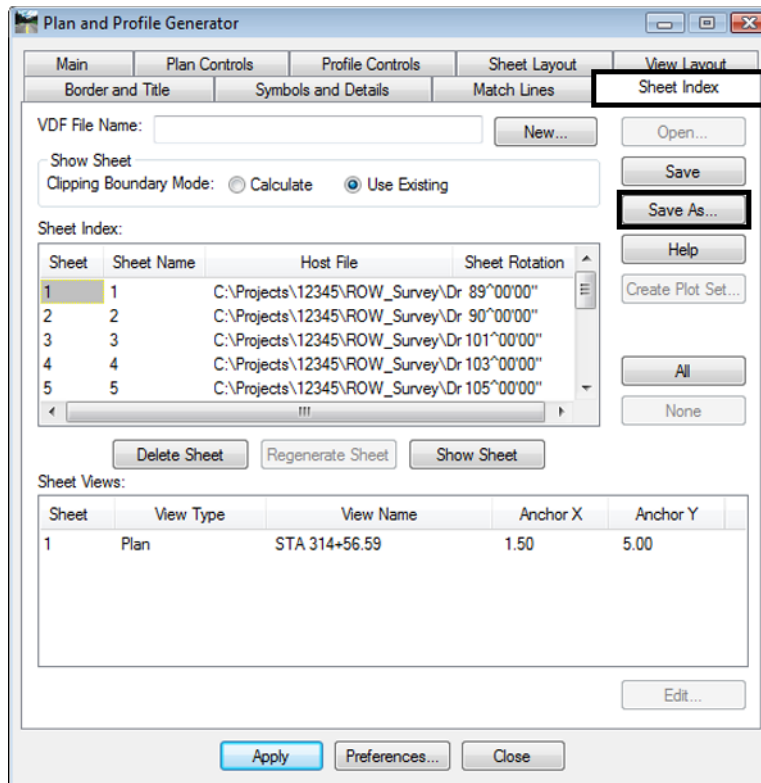
- Plan view reference limits are established.
- New drawing files are created based on the host file name.
- Each new drawing file has 3 items generated.
 - ◆ Plan views
 - ◆ Border sheet placed as a cell in each generated drawing
 - ◆ North arrow placed on each sheet
- The Plan and Profile dialog (sheet index tab) will populate with sheets created and sheet limits.

Sheet Index tab

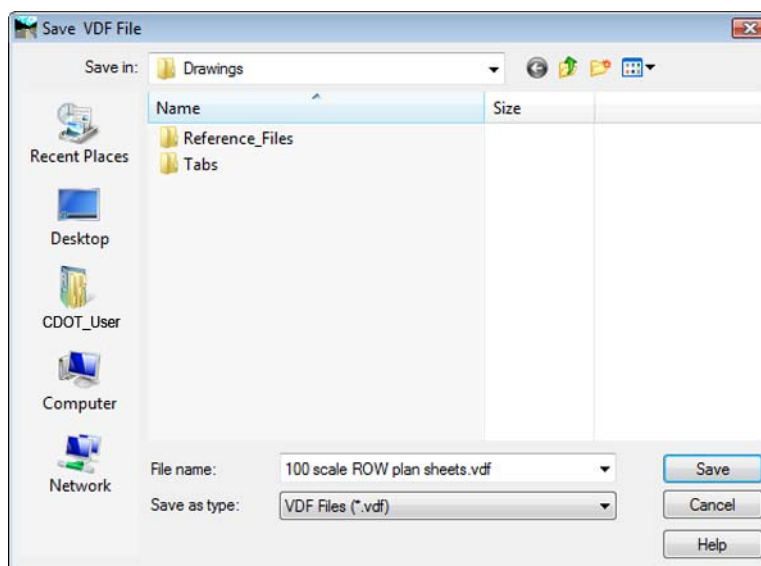
Nothing is required by the user on this tab prior to executing the PnP command. A summary of sheets created is displayed after successful execution of the command.

21. <D> **Apply**, the routine will run and MicroStation will cycle through the sheets as they are created – be patient and wait for the command to complete.

The Sheet Index tab will display a list of sheets created and MicroStation will display the last sheet created.



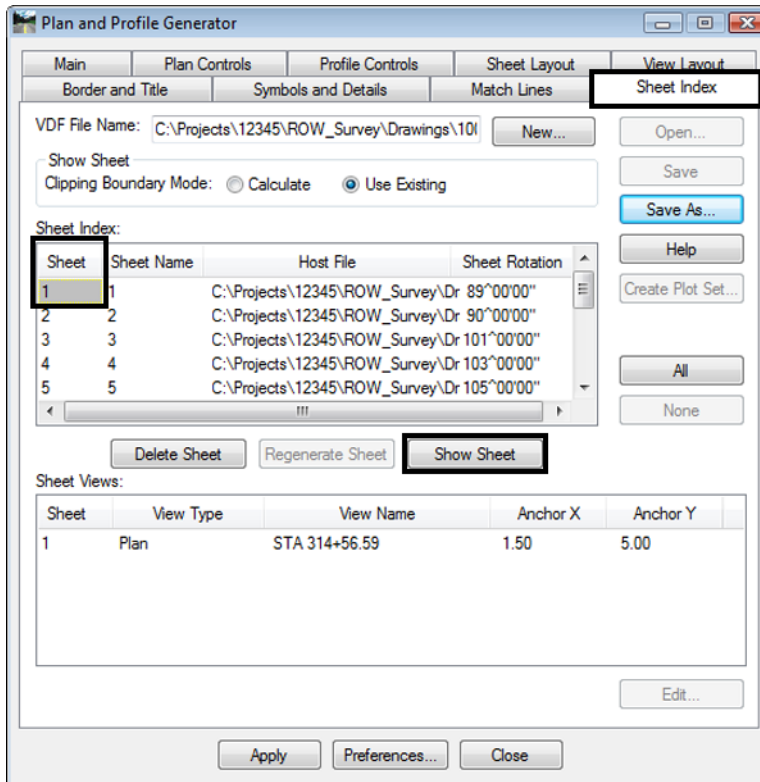
22. Select **Save As** from the Sheet Index tab to store a project specific **View Definition File** (VDF). A VDF file allows sheet definitions to be recalled and modified in subsequent MicroStation/InRoads sessions if necessary.
23. Name the file **100 scale ROW plan sheets.vdf**
24. <D> **Save**



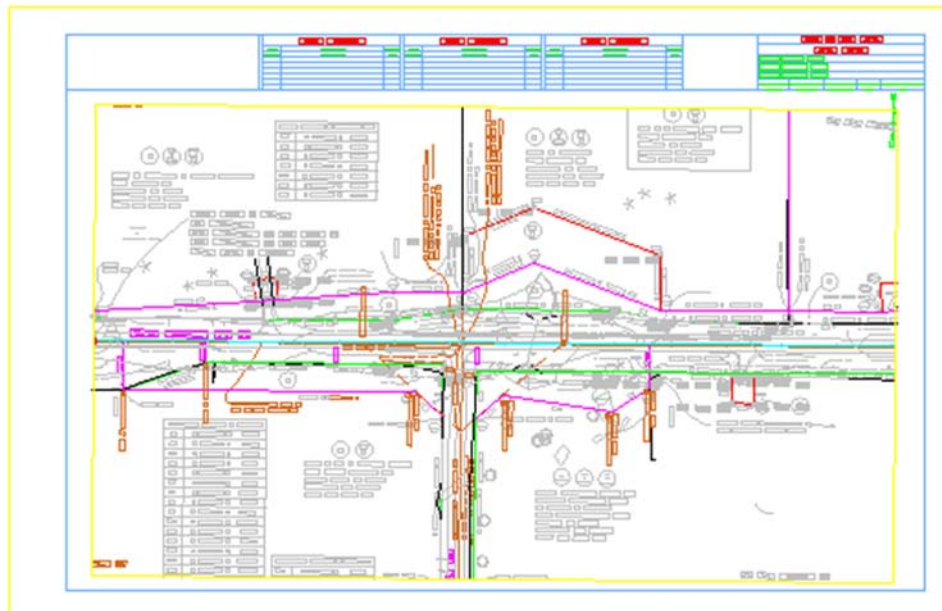
Displaying sheets

By highlighting a specific sheet in the Sheet Index tab and selecting Show Sheet, MicroStation will open the selected drawing.

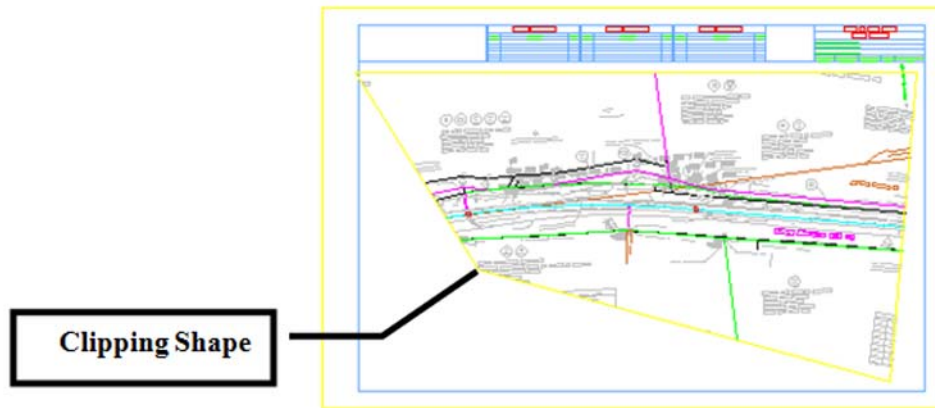
25. Identify *Sheet 1* and <D> Show Sheet



MicroStation opens the identified sheet



26. Identify *Sheet 2* and <D> **Show Sheet**
27. Use the MicroStation **Modify** command to adjust the clipping shape to any new location.
28. <D> **Show Sheet** to redefine the clipping limits after modifying the clipping shape.

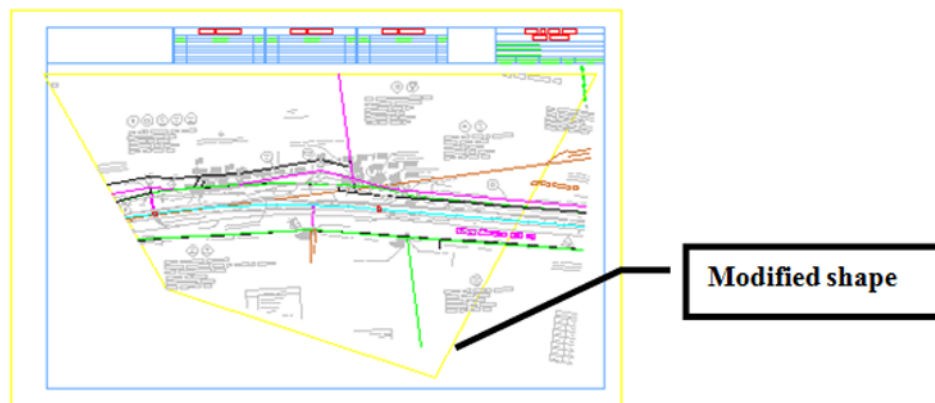


Note: Other modification tools such as insert vertex and delete vertex can be used also.



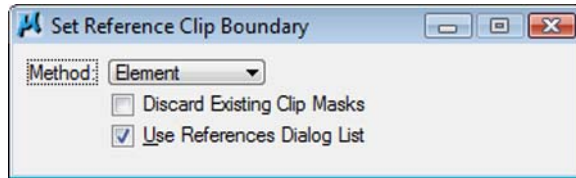
Standard MicroStation References commands can also be applied.

29. Use the MicroStation **Modify** command to adjust the clipping shape to any new location.

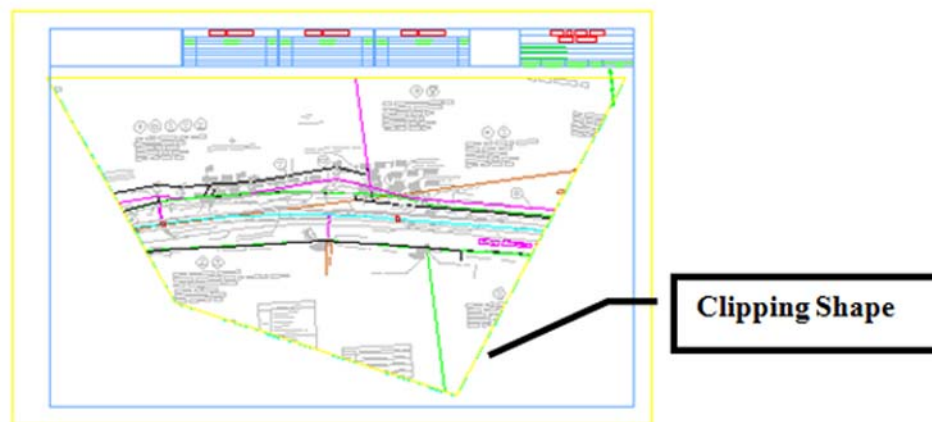


30. Select **File > References** from the MicroStation menu bar.
31. **Highlight** the 12345ROW_Model.dgn file.

32. Select **Tools > Clip Boundary** from the **References** dialog.



33. Set the **Method** to **Element**
34. <D> on the modified clipping shape in the MicroStation view.
35. <D> to accept the command.



Notes:

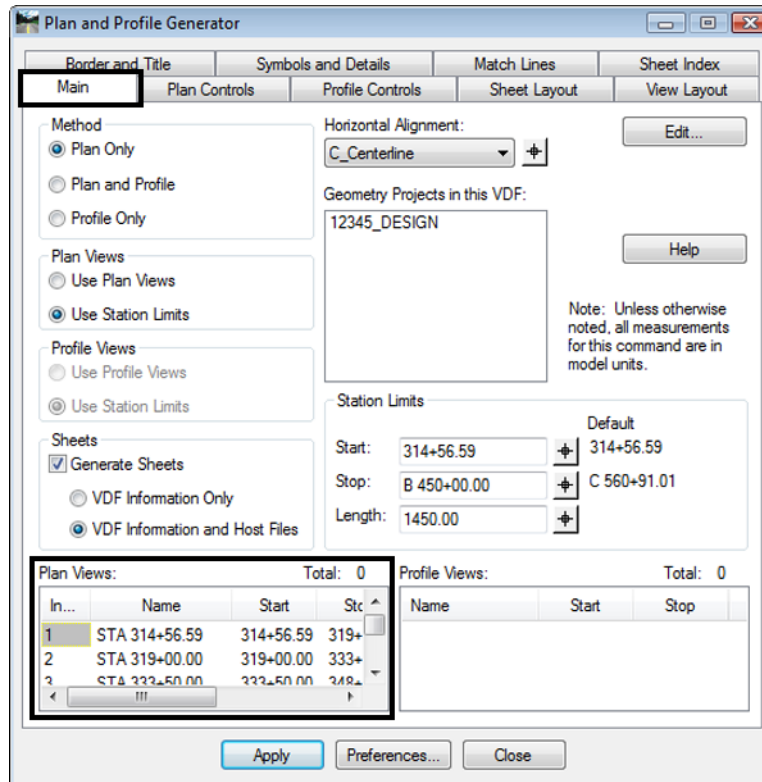
- ◆ The clipping boundary is now defined by the identified shape. Using any MicroStation command to modify this shape will automatically update the reference file clipping boundary. This shape is on the level GEN_SHEET_Clip-Boundary. This level is configured as a non-plotting level.
- ◆ Deleting the clipping boundary shape will result in the reference file display limits reverting to the initial limits defined by the PnP command.
- ◆ Regenerating a sheet from the PnP Sheet Index tab will also cause the sheet to revert to the reference file display limits initially defined by the PnP command.

After the Plan and Profile Generator has been run, each sheet should be reviewed for:

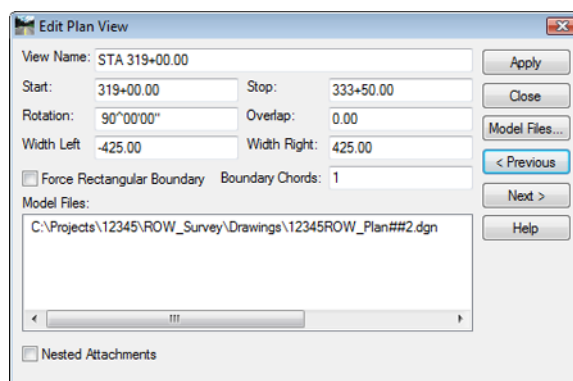
- North Arrow position (move the cell using MicroStation move command)
- Plan view Clipping limits
- Title block information

Main tab – After running the P&P command

Once the command has been run, the Geometry Project field will populate and the Plan and Profile view limits display.



Double clicking on a specific Plan View sheet opens an Edit Plan View dialog. Sheet limits can be modified numerically and reference files can be added or removed.



Challenge Exercises:

- ◆ Modify the last sheet to add 500' to the stop station
- ◆ Modify any sheet to change the left and/or right offsets
- ◆ Add or subtract from the model file list
- ◆ Modify the station limits on the first sheets and 'adjust' adjacent sheet

