

WSDOT

MS203

MicroStation - Sheet Development with ProjectWise

HQ CAE Support

Version 1.02

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Please provide feedback on this manual to Clint Hill or Thomas Kerr of WSDOT HQ CAE Support.

Welcome and Objectives

Welcome to the WSDOT MicroStation 203 Sheet Development with ProjectWise course. This training is intended for MicroStation users familiar with the management of base files and plan sheets explored in the MicroStation 201 Production Level course. This material will introduce ProjectWise specific workflows for sheet development.

This material references ProjectWise Explorer SS4. Some functions may not be available or are different for earlier versions.

Objectives

At the completion of this course, the student will be able to:

- Describe basic concepts of single sheet per file approach and benefits
- Define when and why an intermediate “container” file is used
- Create a plan set deliverable package including base files, container, and sheet files

For more information and continued learning, visit the WSDOT CAE training webpage:

wwwi.wsdot.wa.gov/design/cae/training.htm

Or contact WSDOT CAE Support at 360.709.8013.

Sheet Preparation with ProjectWise

This chapter introduces the Sheet file and WSDOT plans preparation approach to sheet development and management in ProjectWise projects. For workflow purposes, it assumes that base plan development has been completed including page layout in the alignment base.

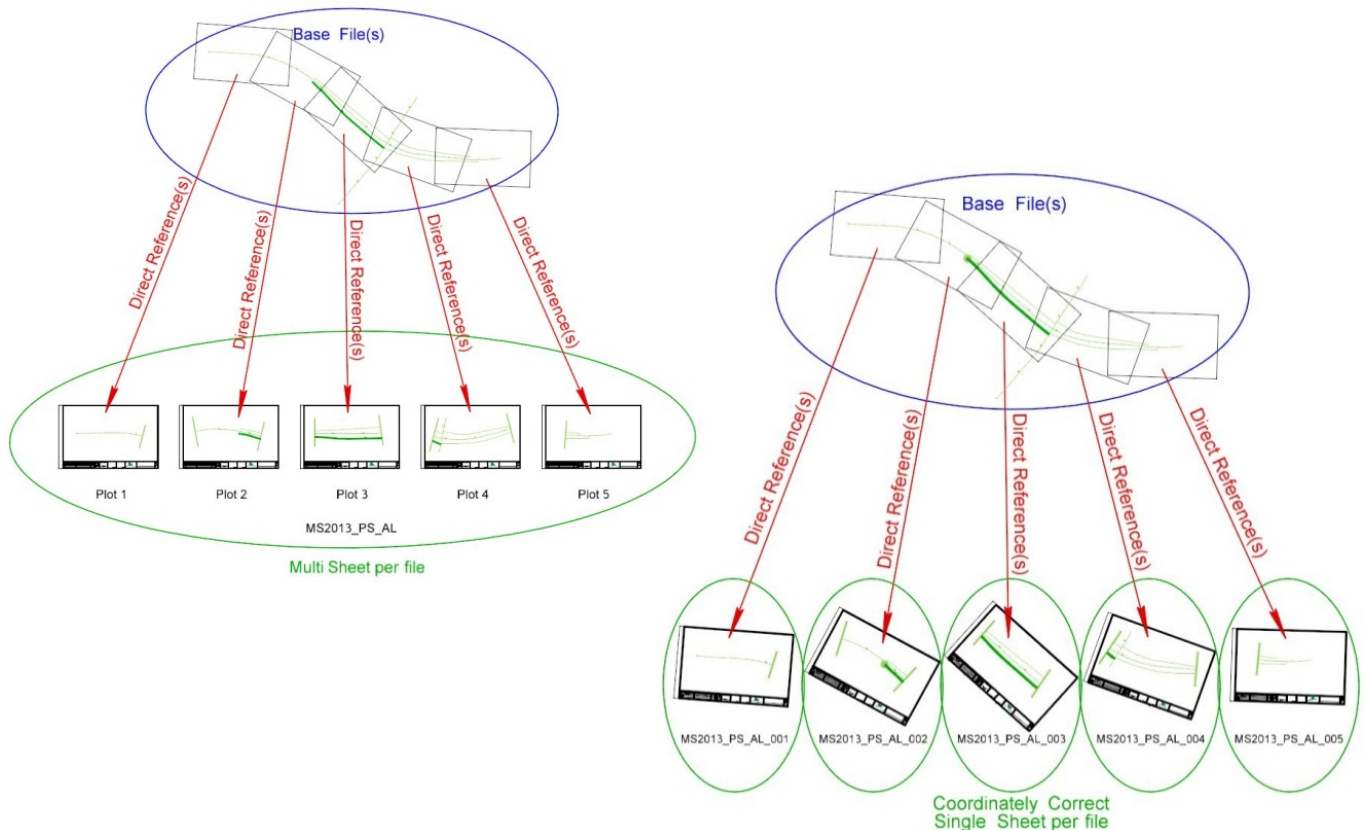
Overview

Sheet files are the second of two basic types of DGN used at WSDOT for production drafting (Base files being the first). This DGN type represents the paper “report” of the base plans that act as the instruction plan set for removing, revising, or placing project features. Sheet files may also indicate typical sections, detour routes, plan view, profile view, details, and tabular information for work organized into plan types. Construction notes and other applicable annotation -such as call-outs- are stored in the sheet file.

For plan view sheets, the project base information is referenced to the sheet file, aligned with the sheet border, then are clipped to plot within the viewable area. Match lines to adjacent sheets are added and plan set specific annotation is placed to complete the sheet.

Single Sheet-per-File Method

The single sheet-per file method is, as the name implies, one sheet border per sheet file. At first glance, this may appear strictly to increase the number of files to manage compared to historic WSDOT methodology. However, it also comes with a few new ways to manage sheet data and allows some useful functionality.



Coordinate Correct Sheet Files

Sheet files may be created using USFt seed files. When the base information is referenced using Coincident World, the sheet border cell may be rotated and oriented along the alignment at the appropriate scale. Following the cleanup process of clipping the base reference, applying match lines, placing annotation, etc. the sheet is completed.

When snapping on a base element in the sheet, MicroStation returns the project XY coordinate. Since the file unit of measure is USFt and the base reference scale is 1:1, measuring tools also output the real world distances, angles, and bearings by default. This includes InRoads tracking functions as well.

Additional referenced project base files will automatically be aligned properly with the sheet since they are already aligned coordinately with each other.

Working with ProjectWise

ProjectWise maintains what it refers to as documents. These documents represent a file that includes attributes or “meta-data” further describing the document, its purpose, or unique related data. Attributes can be used to narrow a search in ProjectWise for specific information in one or many documents.

Some MicroStation DGN files contain a set of tags that hold information such as the title block entries, file name, plan sheet type and plan set sheet number. These tags are recognized and matched with corresponding attributes in ProjectWise.

Because there can be only one instance of an attribute value per document, each sheet file may contain only one sheet border.

Work Distribution

Since each sheet border is in a separate file, multiple drafters may work in the same plan set at the same time.

That also means more files to manage. The WSDOT Electronic Engineering Data Standards (EEDS) manual provides standards for file naming conventions for both single and multiple sheet-per-file approaches to help organize and manage those files.

Basic approach at WSDOT

- Container File
- Display Control
- First Sheet Set
- Additional Sheet Sets

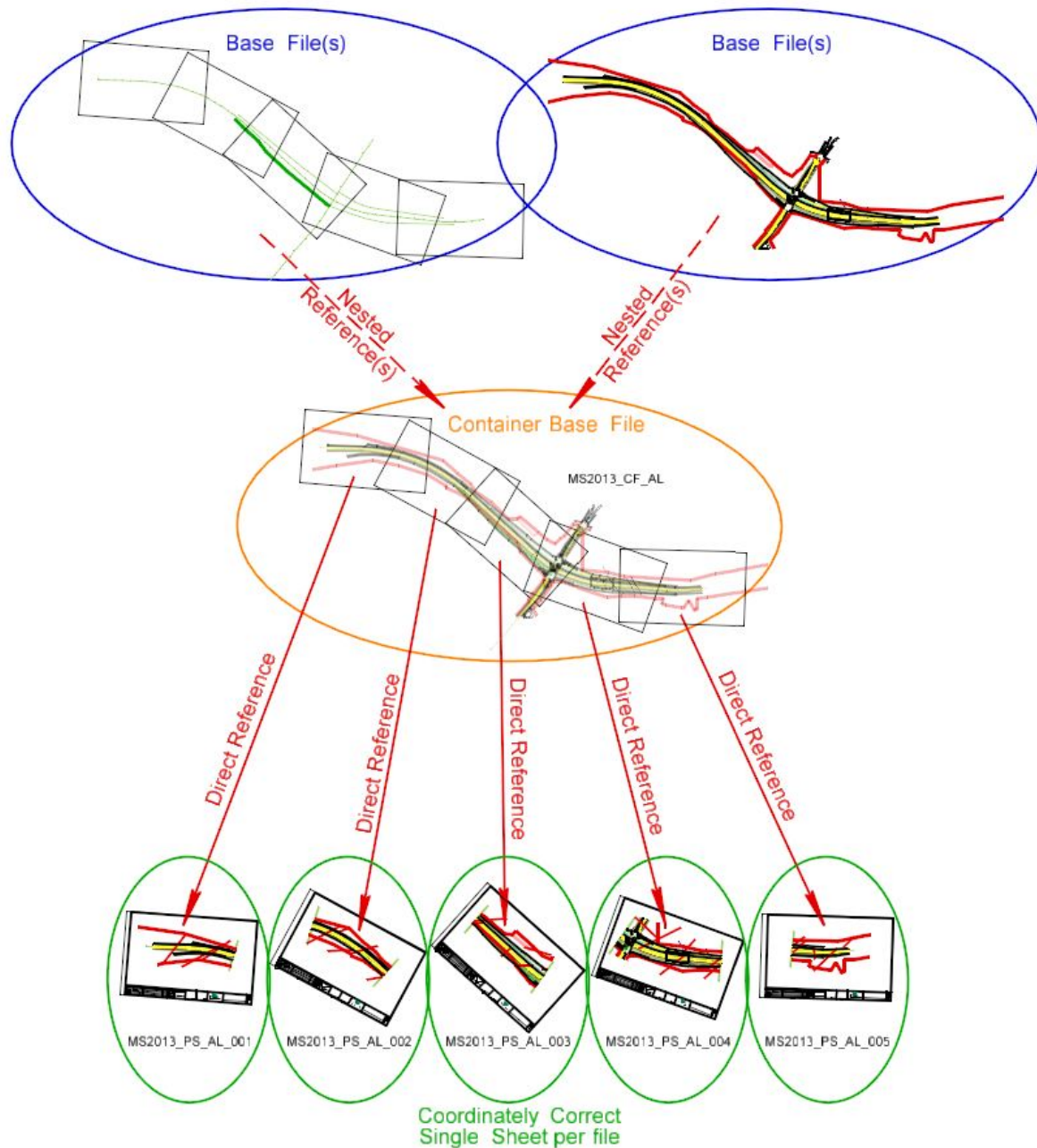
Container Files

Using a container file effectively groups common base information files with plan type specific base files in a single portal for each plan type. This reduces the number of references necessary for each sheet, and allows a central opportunity to control level display for the plan set.

The container file shall not hold any data, but rather serves as a plan type reference and level display control mechanism. All base files applicable to a plan type are referenced to the container which is, in turn, referenced to each sheet file. Each new base file is referenced to the container and immediately displayed in each sheet file.

Level display filtering for plans preparation is done in the container. Therefore, the container should be located in the same folder as the sheet set for the applicable plan type.

Nested referencing is used to see base information in the sheet through the container.



When working on a simple project with a small footprint requiring a single sheet for each plan type, a design team may determine that direct references are adequate. However, the more sheets, the more reference management is required and the use of container files is recommended. Even with simpler projects, a container method may be a good idea as it's consistent with other projects and covers the file management when project scope creep occurs and that one sheet becomes five.

Display Control

Level display of each associated base file is controlled in the container file. This is similar to sheet level display control in the historic WSDOT multiple sheet-per-file method and acts like a level filter for a specific plan type set.

Why control level display in the container rather than the base? Level display control is a necessary part of base development. During base development, levels may be turned off for clarity in a specific task. There are no set level display rules for base files. Using the container to control the level display for plan type requirements allows a separation from the day-to-day base work and the deliverable plan set. Therefore, base file level display control should not be used for what is shown in the sheet files.

Often a plan type may be completed and the leveling scheme filtered appropriately, then the next plan type effort changes the base leveling scheme - causing stress when attempting to print previously completed plan sets. Container control isolates the level display and maintains it at a single point.

If saved views are used in this process, they should strictly be for camera position and rotation only. Do not use saved views to control level display.

First Sheet Set

The first set of sheet files will act as a template for other plan types. These steps will set up the referencing, apply match lines, establish clipping boundaries, and apply sheet annotation common to all plan sheets such as the north arrow.

Additional Sheet Sets

The container and sheet files can be copied to produce additional plan type file sets. Revising the file names, re-pointing to the container references, and adjusting the level display in the new container completes the development of a new plan sheet set.

Let's give it a try.

Set up the training data

In ProjectWise, verify that you have a User folder and copy the training dataset.

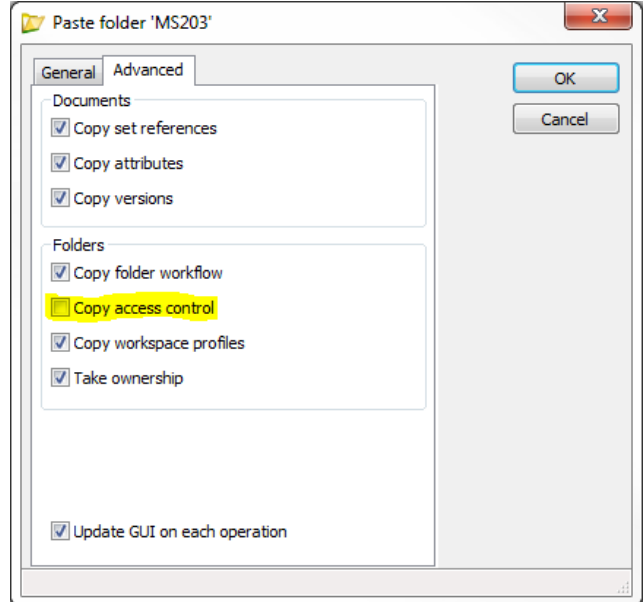
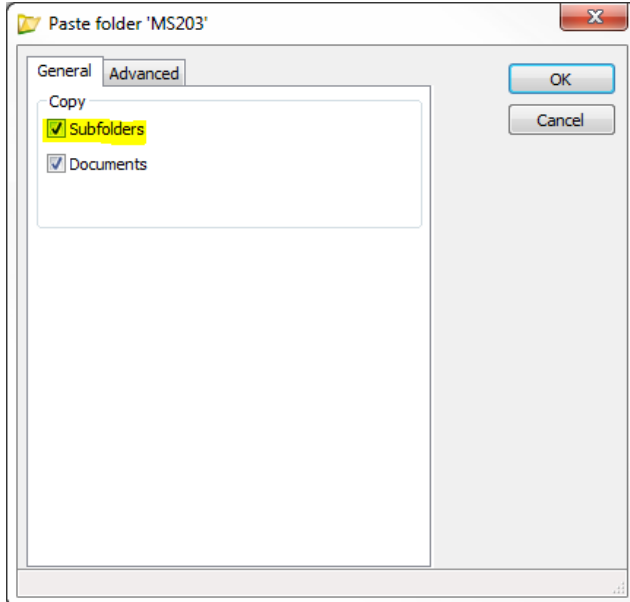
1. In ProjectWise, browse to your region's *Users* folder: *WSDOT\Documents\[Your Region]\Users*
2. Create a folder with your account name (WSDOT login).
3. If you have problems creating a folder, contact your Region/Program ProjectWise Coordinator or the HQ CAE Help Desk.
4. Create a new folder in your user folder with the following information:

Name: **Training**
 Description: **My training materials**

This is the folder we will be working in from this point forward.

Copy the training data to your workspace.

5. In ProjectWise, browse to **-CAE Training\Projectwise**.
6. Copy the **MS203** folder with all subfolders to your *Training* folder including subfolders.
7. In the resulting *General* tab, toggle **Subfolders** and **Documents** to **ON**.
8. In the *Advanced* tab, toggle the **Copy Access Control** to **OFF**.
9. Disregard other settings.



10. Click **OK**.

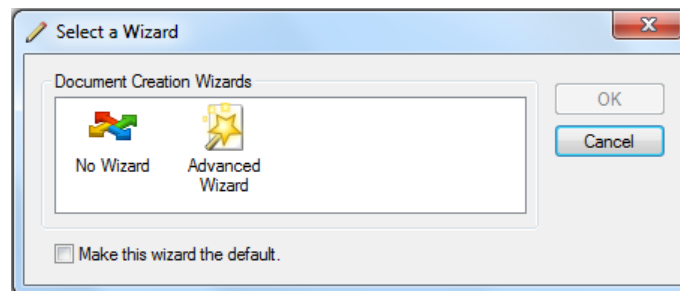
EXERCISE 1

In this exercise we will create a container file for use with the basic single sheet-per-file method.

Create a container file

The first step is to create a document in ProjectWise with a starter set of attributes. The resulting associated file will be a MicroStation DGN container that we'll set up with appropriate base references. This method is used when creating any new document from within ProjectWise.

1. Browse to the **[YourUserName]\Training\MS203_CAEData\CAD\ContractPlans\080-AlignRWPlans** folder.
2. Right-click in the document pane and select **New > Document**.



3. Select **No Wizard** and click **OK**.

Alternatively you may double-click the option.

This initiates the Create Document dialog.

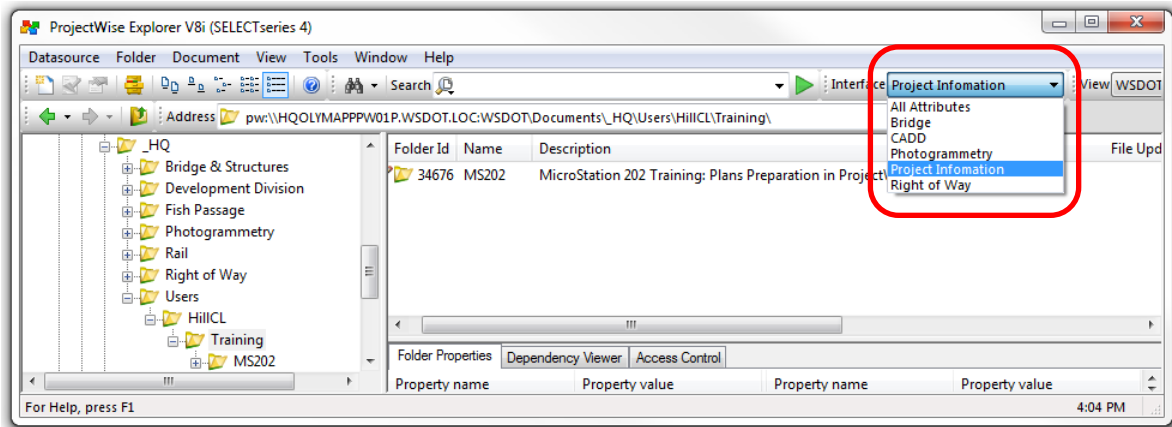
4. In the *General* tab *Document* frame, enter **MS203_CF_AL.dgn** in the *Name* field.
5. In the *Description* field, enter **Container - Alignment Plans**.
6. In the *File* frame, click on **Advanced**.
7. Select **Import**.
8. Browse to **C:\Users\Public\CAE\Standards\WSDOT\Seed**.
9. Select **PSE_Base.dgn** and click **Open**.

Just right of the name, the Lock is now toggled on regarding Synchronizing Names.

10. Select **Use original document name** and click **OK**.
11. Select the *Attributes* tab.
12. Click **Ok** in the prompt to save the document before continuing.

Note that a list of attributes is displayed. The list is not necessarily all of the attributes, but rather a subset based on the interface you choose in ProjectWise.

13. In ProjectWise, verify that **View > Toolbars > Interface** is checked **ON**.
14. Change the ProjectWise Interface to **Project Information**.



This sets the collection of attributes to those related to project information.

15. In the Project Information screen, enter the following fields:

- Project Name = **MS203 Sheet Development with ProjectWise**
- Region = **[Your Region]**
- SR Number Primary = **090**

16. Click **Save**, then **Close**.

Populate the container file

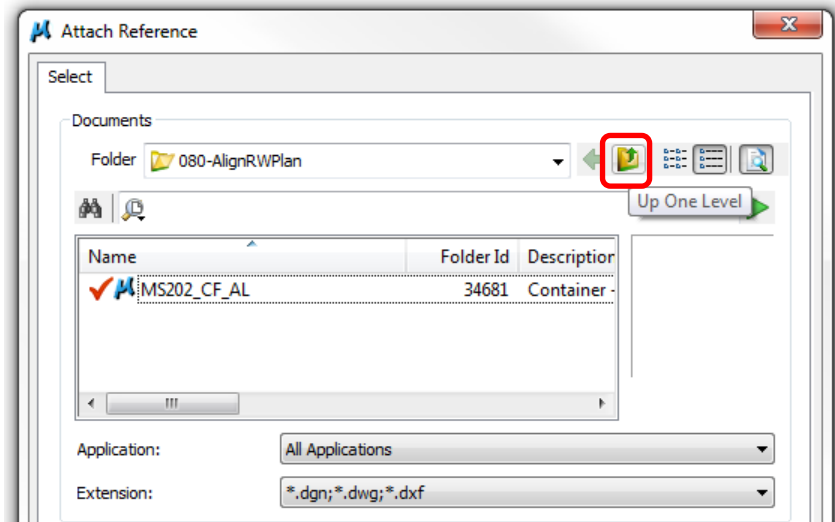
17. Double-click on the new file.

Note that the file is Checked Out to you. A red check next to the file indicates that this file is checked out and that when others open the file will it will be read only and not necessarily see the most recent changes until you check it back in.

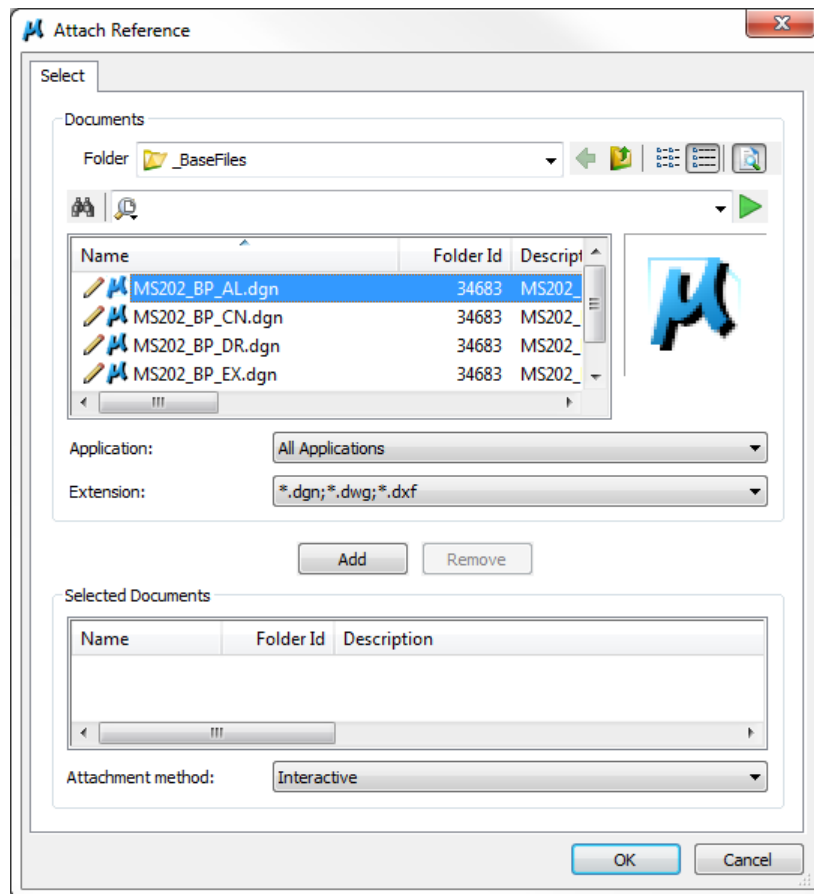
Folder Id	Name	Description
✓ 37978	MS203_CF_AL.dgn	MS203_CF_AL

18. In MicroStation, select **File > References**.

19. In the *References* dialog, select **Tools > Attach**.



20. Browse up two levels to the CAD folder, and then double-click the **_BaseFiles** folder.



21. Highlight **MS203_BP_AL.dgn**, click **Add** to include it in the *Selected Documents* field.

You can alternatively double-click the file.

22. Ensure that the attachment method is set to **Interactive** and click **OK**.

23. In the *Reference Attachment Settings* dialog enter or set the following:

Logical Name	= BP_AL
Description	= Base – Alignment
Orientation	= Coincident – World
Scale	= 1:1
Nested Attachments	= No Nesting
New Level Display	= Never

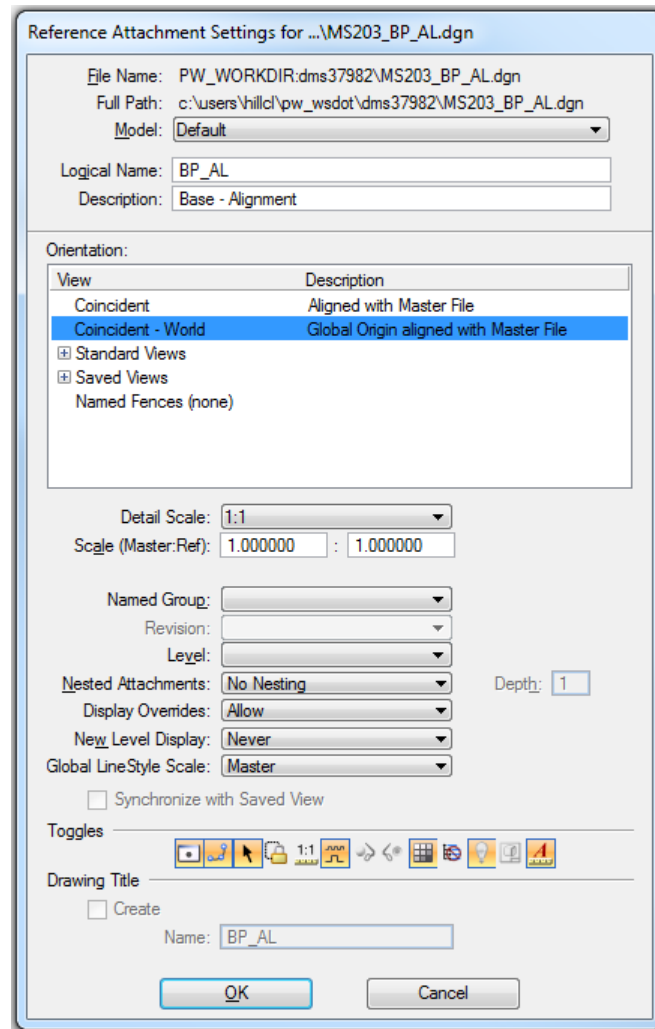
Things to note in this dialog:

Logical Name and *Description* – these fields are used to provide more information regarding what the purpose of the reference is. This becomes more beneficial with more references.

Orientation and *Scale* – these settings determine the coordinate alignment and scale of the reference to the master. These options ensure that the coordinates align and distances are consistent.

Nested Attachments – indicates the number of layers of references available to display. For container files, we reference project base files directly, so no nesting.

New Level Display – for the container may be set to *Always* during development of the base file. However, it should be set to *Never* once all applicable elements to the target plan type are added. This allows you to continue to maintain attached base files for other plan types without impacting the level schema of this plan type container.



24. Click **OK**.

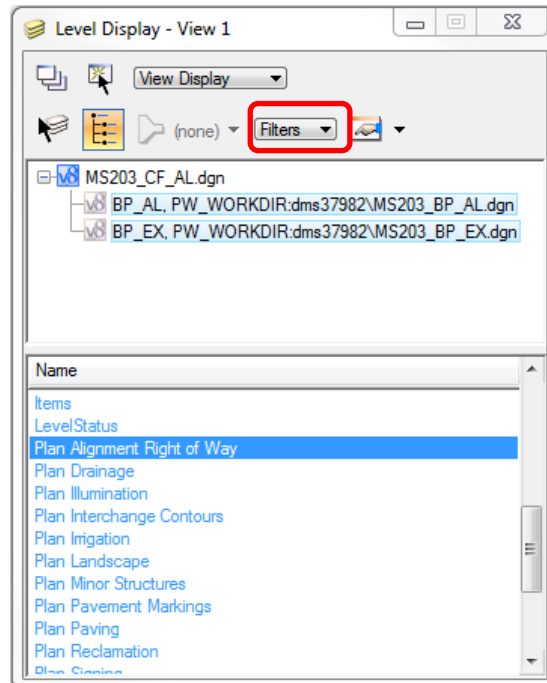
25. Repeat steps 18 through 23 for **MS203_BP_EX.dgn**.

The base location is remembered from the previous reference attachment.

26. Fit the view.

27. In the Level Display dialog, highlight all references

28. Set the level filter to *Plan Alignment Right of Way* and view the results.



29. Select **File > Save Settings** to maintain the level display and view settings.

This is a very important step as it sets and stores the level display control settings, among many others in the file for future use.

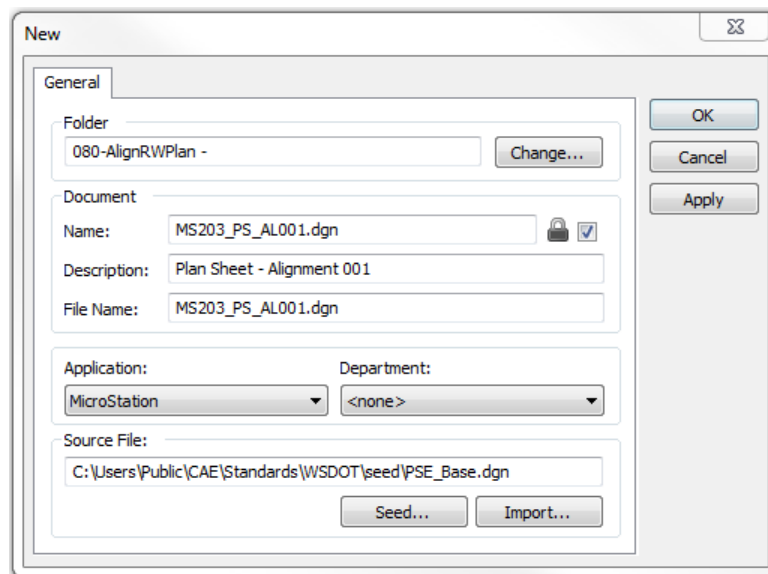
EXERCISE 2

In this exercise we will create the associated sheet files using the basic single sheet-per-file method.

Create the First Sheet File

The method we will use to create the first sheet file is more familiar to historic WSDOT workflow. The primary difference between how we created the container document/file and the sheet document/file is that the ProjectWise *New > Document method* allows for entry of attributes (such as title block info) on creation while the native MicroStation File > New command does not. Attributes may be entered afterwards as we will demonstrate.

1. In MicroStation, select *File > New*.
2. Select No Wizard and click **OK**.
Remember, you may alternatively double-click the option.
3. In the Document Name field enter **MS203_PS_AL_001**.
4. In the Document Description field, enter **Plan Sheet - Alignment 001**.
5. Note that the Folder is set to *080-AlignRWPlan*, and that the file name matches the document name.
6. Confirm that the Source File is the *PSE_Base.dgn*.



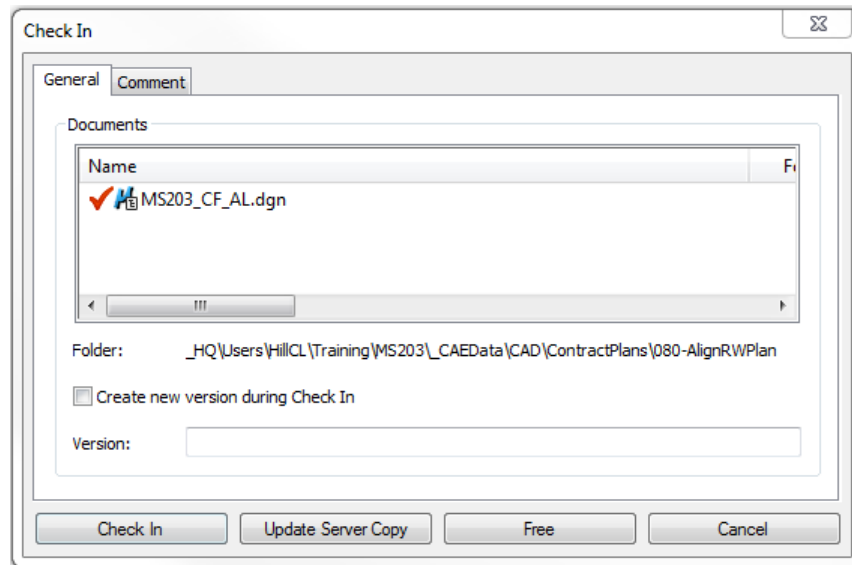
7. Click **OK**.

You will be prompted to check in the container file.

Checking Files in to ProjectWise

Note that in ProjectWise, when closing MicroStation, closing the current file, opening an existing file or creating a new file, the current file needs to be addressed before the next file can be viewed.

What do you want ProjectWise to do with this file?



If you wish to save changes to the ProjectWise copy, select **Check In**. This sends the file changes to ProjectWise. Others can now see any changes you made in this session.

If you wish not to save any changes you made, select **Free**. This disregards any changes and changes the status of the file in ProjectWise from checked out to available.

8. Click **Check In**.
9. In the MS203_PS_AL_001 file, select *File > References*.
10. In the *References* dialog, select **Tools > Attach**.
11. Browse up one level to the CAD folder, then double-click on *ContractPlans*, and again on *080-AlignRWPlan*.
12. Double-click the *MS203_CF_AL.dgn* file and click **OK**.
13. Ensure that the attachment method is set to *Interactive*.

Logical Name	= CF_AL
Description	= Container – Alignment
Orientation	= Select Coincident – World
Scale	= 1:1
Nested Attachments	= Live Nesting
Depth [Nesting]	= 1
Display Overrides	= Never
New Level Display	= Never

Things to note in this dialog:

Nested Attachments – This time, since the container does not contain any data itself, but rather contains references of our base files, those base files are not direct references. Instead, they

are nested. Setting Nested Attachments to Live Nesting allows MicroStation to determine how many layers of references are present and enters that number in Depth.

Display Overrides – this setting works similarly to *New Level Display*, but for nested references. For the container file to maintain control of the associated base plan level display, this must be set to Never. This prevents level display adjustments in the nested base files to impact this sheet.

14. Click **OK**.

15. Select **Fit View**.

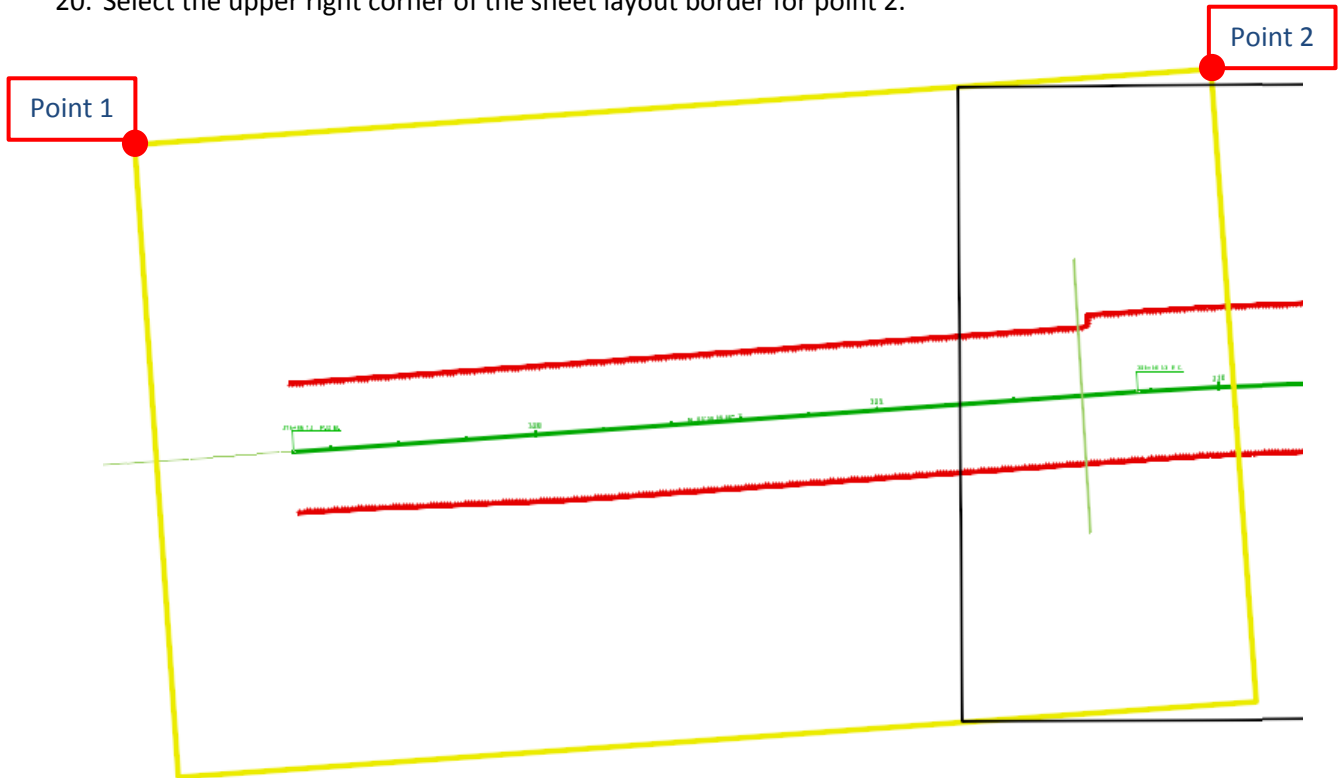
The alignment base file provided has been prepared with sheet border layout and match lines.

16. Zoom to the first border view area.

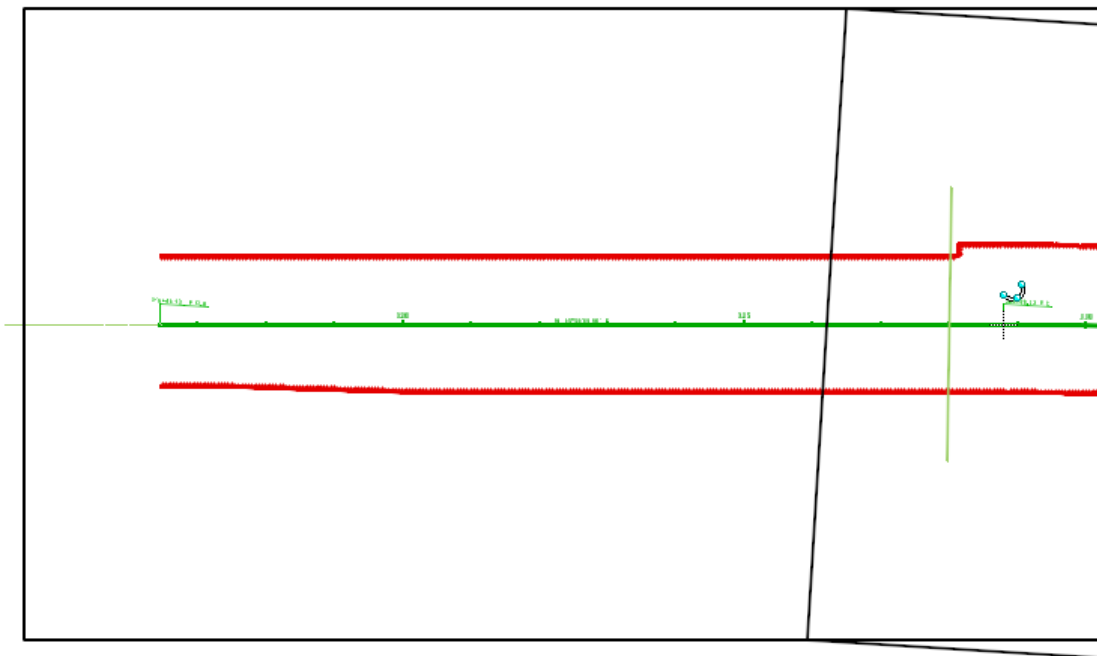
17. Select the **Rotate View** command.

18. Set Method to *2 Points*.

- 19. Select the upper left corner of the sheet layout border for point 1.
- 20. Select the upper right corner of the sheet layout border for point 2.



This will set the view for the sheet perpendicular to the view.



Place the Sheet Border Cell

21. Select **WSDOT > Place WSDOT Items**.
22. At the top of the *Place WSDOT Items* dialog, check to ensure the scale is set to the desired sheet scale, we will be using 1 in = 100 ft and that *New* is selected.
23. Use the *Place WSDOT Items > SH Sheet Items > PS Plan Sheet PSE* to place a PSE Plan Sheet (SH_PS_PSEPlanSheet) element close to the first border shown in the container file.
24. Move the cell so that the upper left corner of the view area border coincides with the container file first border upper left corner.

Add Annotation and Clean Up the Sheet Border

We will not be adding title block information at this time. However, other typical sheet annotation can be addressed. For example, we will place match lines and text along with the north arrow. Additional sheet annotation would need to be added to complete the sheet.

25. In the Place WSDOT Item utility, browse to PSE Plans > SH Sheet Items > GI General Sheet Items
26. Double-click on *Match Line Text*.

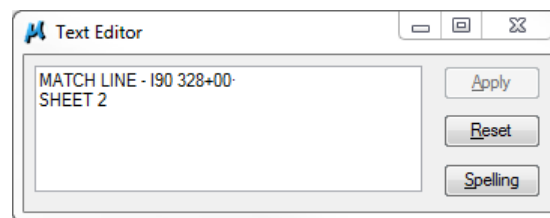
This sets the attributes to the standards requirements for match line text and initiates the text editor.

It is not recommended to use the Key-in Text Editor option for multi-line text placement.

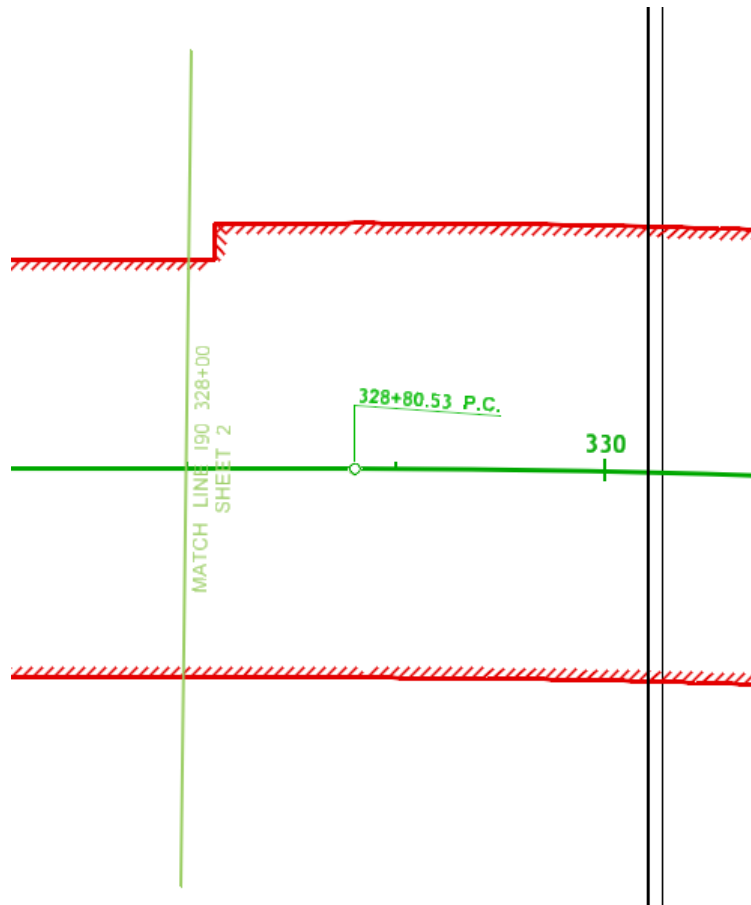
27. In the *Text Editor* settings dialog, set the following:

Method	= Below Element
Height/Width	= 7.0
Font	= 200 arial
Justification	= Center Center
Line Spacing	= 0.5

28. Enter **MATCH LINE - I90 328+00<enter>SHEET 2**.



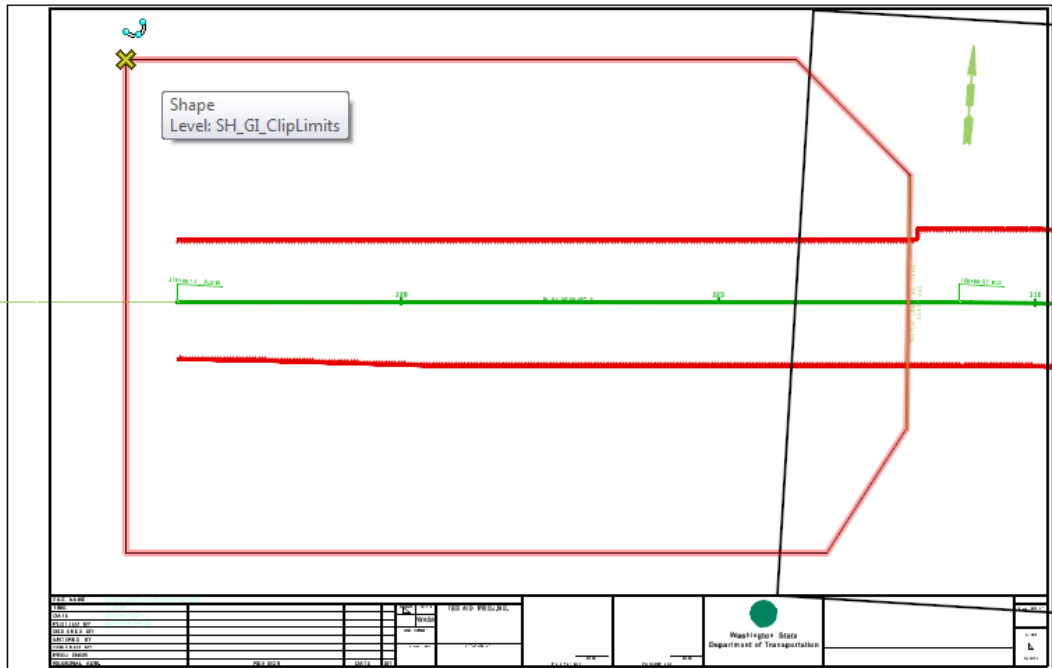
29. Snap to the center of the match line on sheet 1 to place the text, and data point to accept.



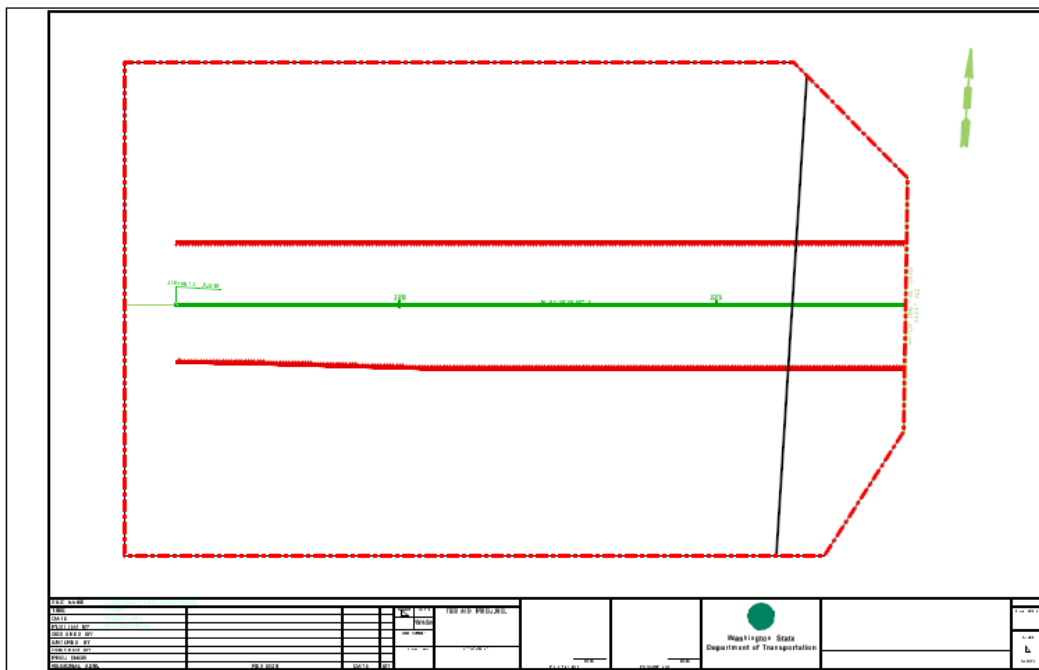
30. Add a North Arrow (PSE Plans > SH Sheet Items > GI General Sheet Items > North Arrow (Rotate to Active)).
31. Use the **Copy** command to copy the match line at station 328+00 into the sheet file.

This step needs to be done prior to defining the clip limits for the reference. The clip limit shape will be defined along the match line. If the match line graphic is not in the master file, it may not show after clipping.
32. In the *Place WSDOT Items* menu, select **PSE Plans > SH Sheet Items > GI General Sheet Items > Clip Limits**, and draw the reference clip limits shape.

Snap to one end of the match line, and then snap to the other end of the match line. Continue in the same direction to complete a shape that will include all the reference data to view in sheet 1.



33. Open the References utility and clip the reference to the boundary you just created.



Do not delete the clip limit element. Either keep it displayed - it does not print, but may be useful to adjust for sheet annotation or new data, or turn the *SH_GI_ClipLimit* level display **OFF**.

Create the remaining Alignment Plan sheets.

34. Repeat steps 1 thru 33 for each remaining sheet location, replacing the appropriate sheet number where needed.

DO NOT COPY the first sheet and modify it. This may corrupt the title block information.

The remaining sheet file information will be:

<i>Sheet Name</i>	<i>Left match line</i>	<i>Right match line</i>
MS203_PS_AL_002	MATCHLINE I90 328+00 SHEET 1	MATCHLINE I90 339+50 SHEET 3
MS203_PS_AL_003	MATCHLINE I90 339+50 SHEET 2	

Container Cleanup

Once the sheet set is complete, the container may be cleaned up. All plan sheet set level display control is done in the container file.

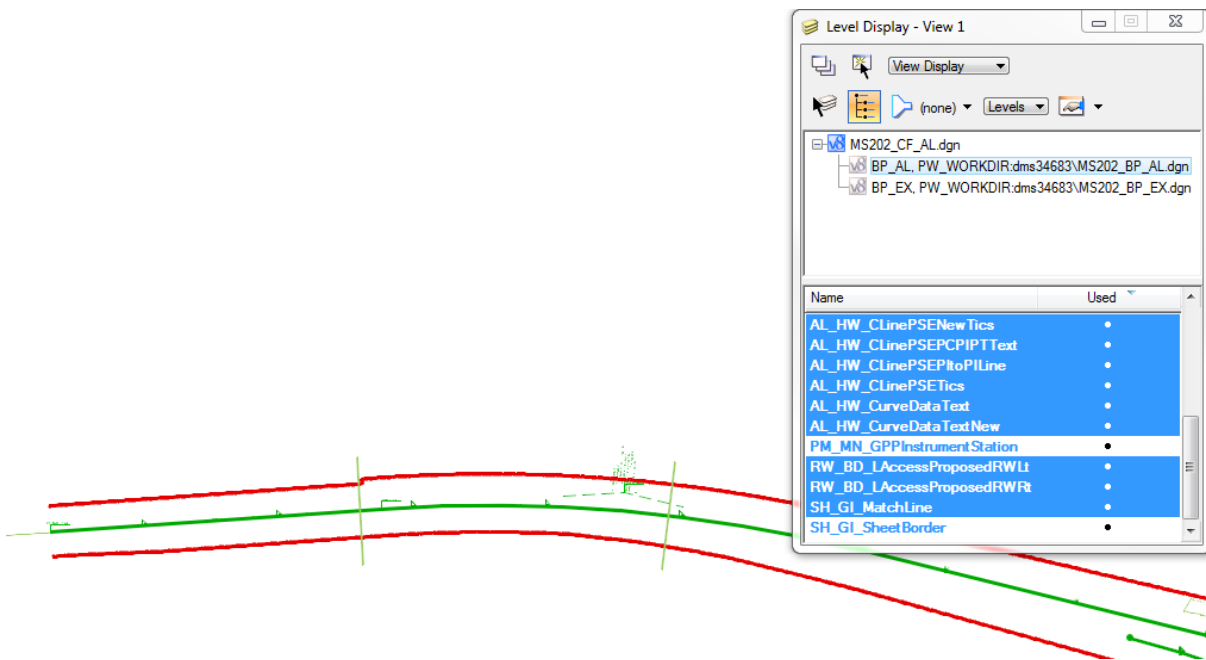
35. Select **File > Open**.

36. Highlight *MS203_CF_AL* and click **Open**.

Remember that double-clicking the file also works. Check in the current file.

37. In the *Level Display* dialog, select the *BP_AL* reference.

38. Toggle the *SH_GI_Match Line*, and *SH_GI_SheetBorder* levels display **OFF**.



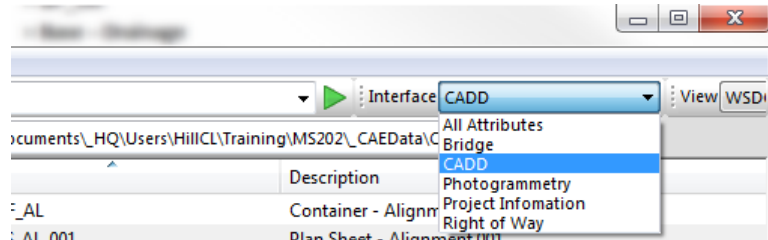
39. Exit MicroStation and check in the file.

Title block entries

The title block information may be entered in the DGN directly or in ProjectWise Explorer. Both the below methods actually populate ProjectWise attributes. These attributes are tied to the sheet border title block entries using MicroStation tags.

Entering title block information in the DGN

40. In ProjectWise Explorer, Change the *Interface* to **CADD**.



41. Browse to the *080-AlignRWPlan* folder.
 42. Open the **MS203_PS_AL_001.dgn** file.
 43. Using the Key-in dialog, type **Titleblock Modify**.
 44. In the Attributes tab, enter the following:

Designed by	= SNEEZY
Entered by	= HAPPY
Checked by	= DOPEY
Project Engineer	= GRUMPY
Regional Administrator	= DOC

45. Click Save, then Close.
 46. Review the sheet border title block.
 47. Close MicroStation.

Entering title block information using ProjectWise

48. In ProjectWise Explorer, browse to the *080-AlignRWPlan* folder.
 49. Right-click on **MS203_PS_AL_001** and select **Properties**.
 50. Select the *Attributes* tab.
 51. Enter the remaining available information.

Project Title Line 1	= MS203
Project Title Line 2	= SHEET DEVELOPMENT
Project Title Line 3	= WITH PROJECTWISE
Sheet Title Line 1	= ALIGNMENT PLAN

Plan Reference ID = **AL1**

MS203_PS_AL_001.dgn *

General Security Attributes More Attributes File Properties Audit Trail

Plan Sheet Titleblock See "More Attributes" tab

Designed By: SNEEZY

Entered By: HAPPY

Checked By: DOPEY

Project Engineer: GRUMPY

Regional Administrator: DOC

Project Title Line 1: MS203

Project Title Line 2: SHEET DEVELOPMENT

Project Title Line 3: WITH PROJECTWISE

Sheet Title Line 1: ALIGNMENT PLAN

Sheet Title Line 2:

Region Code: [Dropdown]

Location Number: [Text]

Job Number: [Text]

Contract Number: [Text]

Federal Aid Number 1: [Text]

Federal Aid Number 2: [Text]

Federal Aid Number 3: [Text]

Plan Reference ID: AL [Dropdown]

Sheet # of: [Text]

Sheets Total: 3

Save Undo Close < < 1/1 > >

52. Click **Save**, then **Close**.
53. Right-click **MS203_PS_AL_001** again and select *Attributes > Copy Attributes*.
54. Select both **MS203_PS_AL_002** and **MS203_PS_AL_002**, right-click and select *Attributes > Paste Attributes*.
55. Right-click on **MS203_PS_AL_001**, and select *Properties*.
56. Select the *Attributes* tab and add *Sheet # of = 1*
57. Repeat for the other two files.

Exercise 3

In this exercise we will create additional plan sets using the alignment set as a template.

Additional plan sheet sets

Now that we have a complete plan set, they can be copied, re-named, and re-path much easier than creating from scratch.

1. In *ProjectWise*, browse to the.
2. Select all the files in the **080-AlignRWPlan** folder using the Shift key.
3. Copy all four files and paste them in the **150-DrainPlan** folder.
Alternatively left-click and drag the set of files to the destination folder.
Note that there is one container file and three sheet files in folder.
4. Select No Wizard.
 - a. In ProjectWise Explorer SS3 and prior, enable the *maintain attributes* check box.

For the container file:

5. Right-click the container file and select *Properties*.
6. In the General tab, rename to **MS203_CF_DR**.
7. Change the *Description* to **Container - Drainage Plans**
8. Click **Save** and **Close**.

With the sheet files:

9. Change the names and descriptions appropriately in the *General* tab:
MS203_PS_DR_00x.dgn Plan Sheet - **Drainage** 00x
10. In the *Attributes* tab, change the *Sheet Title Line 1* to **DRAINAGE PLAN**.

Adjust levels and references.

11. Open the container file and change the level filter to *Plan Drainage*.
See step 27-29 on page 15.
12. Open **MS203_PS_DR_001.dgn**.
13. Select *File > References*.
14. Double-click on the container reference.
15. Select **Browse** and navigate to the **150-DrainPlan** folder.
16. Select the **MS203_CF_DR.dgn** and click **Open**.
17. Change the *Logical Name* to **CF_DR**.

18. Change the description to **Container – Drainage**.
19. In the *Attachment Settings* dialog, click **OK**.
20. Repeat for each of the remaining drainage sheet files.

Now, let's add an additional base data

21. Open the *MS203_CF_DR.dgn* container.
22. Reference the *MS203_BP_DR.dgn* and *MS203_BP_RD.dgn* from the *_BaseFiles* folder.
23. Ensure that the attachment method is set to Interactive.

Logical Name	= BP_DR	= BP_RD
Description	= Base – Drainage	= Base - Roadway
Orientation	= Coincident – World	= Coincident – World
Scale	= 1:1	= 1:1
Nested Depth	= No Nesting	= No Nesting

24. Adjust the levels in the new references for drainage plan.
25. Open the Drainage sheet files and notice the displayed levels.
26. Close MicroStation.

Working with ProjectWise

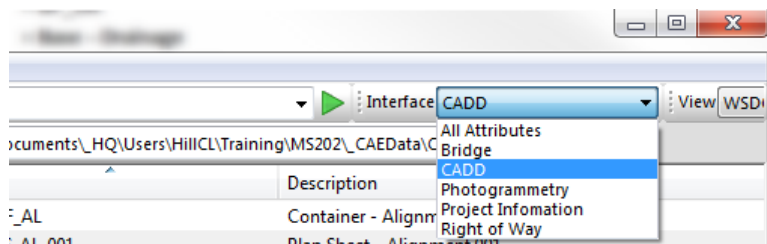
The sheet title block labels are stored in tags within the DGN file. These tags are recognized in ProjectWise, and used for maintenance and search functionality.

Working with sheet title block information in ProjectWise

Although editing the tags directly in the DGN works well, it is also possible to edit the ProjectWise associated tags without opening the file(s).

27. In ProjectWise, right-click *MS203_PS_DR_001* and select **Properties**.
28. Select the *Attributes* tab.

If the Plan Sheet Titleblock attributes are not shown, change the Interface in ProjectWise Explorer to CADD.



29. Change the *Checked by* entry to your name.
30. Click **Save**.

31. Without closing the dialog, select **MS203_PS_DR_002**.
32. Change the *Checked by* entry to your name.
33. Repeat for **MS203_PS_DR_003**.
34. Click **Save**, then **Close** to exit the properties.
35. In MicroStation, open any of these files to see the resulting change.

Searching title block information in ProjectWise

36. Select the ProjectWise CADD interface if it is not already selected.
37. In *ProjectWise*, select your **Training** folder.
38. From the *ProjectWise* pull down menu, select Folder > Advanced Search.
Alternatively, click the binoculars icon.
39. Select *Search Form* and click **OK**.
40. Select the *Attributes* tab.
41. Enter your name in the *Checked by* field.
42. At the bottom of the dialog, enable "*Show results in new window*".
43. Click on **OK**.
44. Review the results.

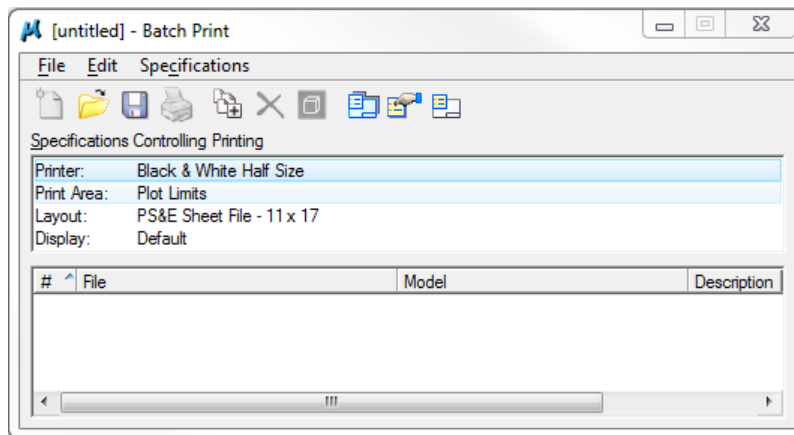
Exercise 4

In this exercise we will look at using batch plot to print the plan sheets.

Printing

Printing sheets in ProjectWise can be done one at a time or in bulk. The Batch Print utility allows printing of multiple files that meet the specific criteria. The file set and criteria can be saved as a print job for later use.

1. Open **MS203_PS_AL_001.dgn** from ProjectWise.
2. Select **WSDOT > Custom Tools**.
3. Expand **Sheet Utilities**.
4. Double-click on **Batch Print**.



Batch Print uses four basic criteria or “Specifications” to control and define the printed output. At WSDOT, these are preset to accommodate all standard print requirements including many sizes of black and white, color, paper prints, and PDF prints.

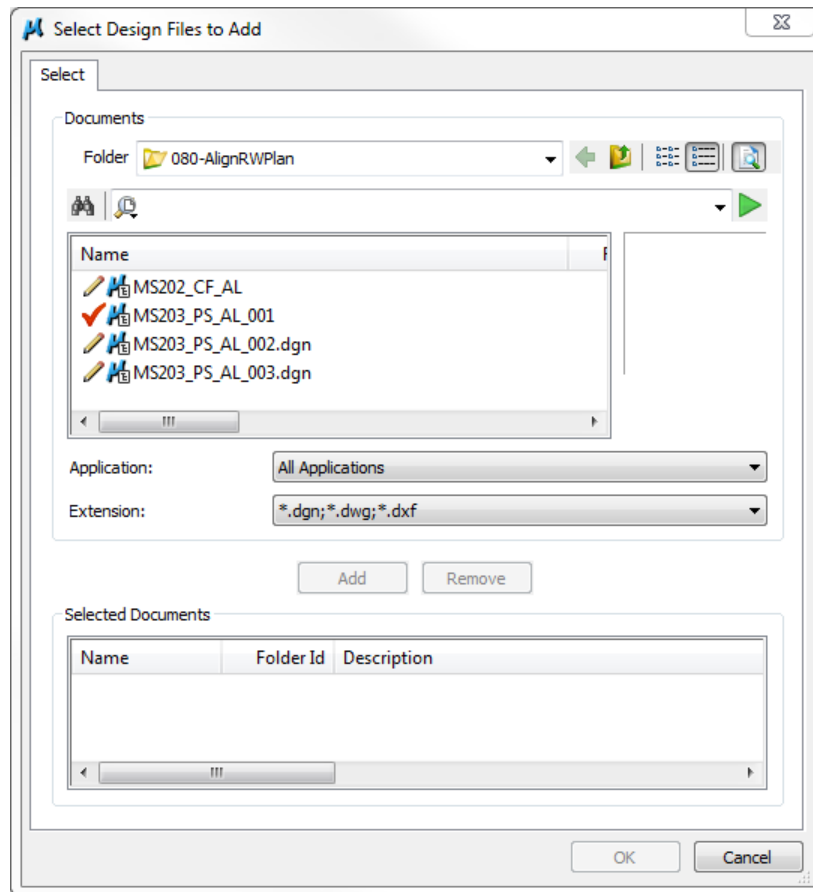
- Printer - controls the print color, plot size, and output (paper or PDF).
- Print Area - defines what to print and how to recognize it.
- Layout - sets the output orientation based on discipline and paper size/scale.
- Display - applies Print Attributes settings

The basic approach is to add files to print, set the output needs using these four specifications, then print.

There are preset specifications for a vast majority of printing needs at WSDOT. However, if custom criteria are needed, the specifications can be modified to suit.

5. Select **Edit > Add** files.

Alternatively, click the *Add Design Files*  icon.



6. In the *080-AlignRWPlan* folder, select all the **MS203_PS** plan sheet files.
7. Click **Add**.
8. Change the folder to **150-DrainPlan**.
9. Select all the **MS203_PS** plan sheet files.
10. Click **Add**.

This illustrates that you can select any number of files from any location to include in the print job.

Click **OK**.

11. Back in the *Batch Print* dialog, double-click on the **Printer** specification.
12. Scroll down to and select **PDF Color Half Size**.


For paper prints, choose the appropriate option that does not start with PDF.

13. Double-click the **Layout** specification.

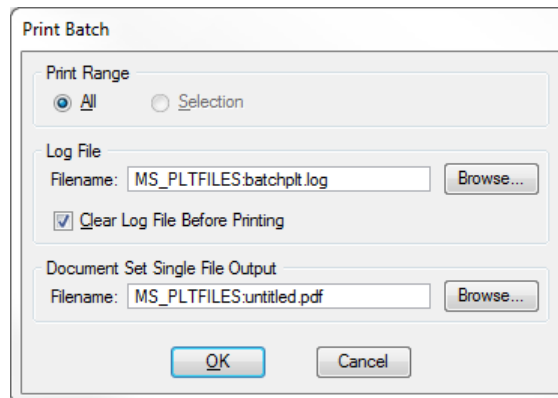
14. Scroll down the list and select **Sheet Borders in Base File_c 1:100**.

Note that the “_c” simply forces the list to sort in a more user friendly fashion. The 1:100 indicates the drawing scale.

15. In the *Batch Print* dialog, select **File > Print**.

Alternatively, click the *Print*  icon.

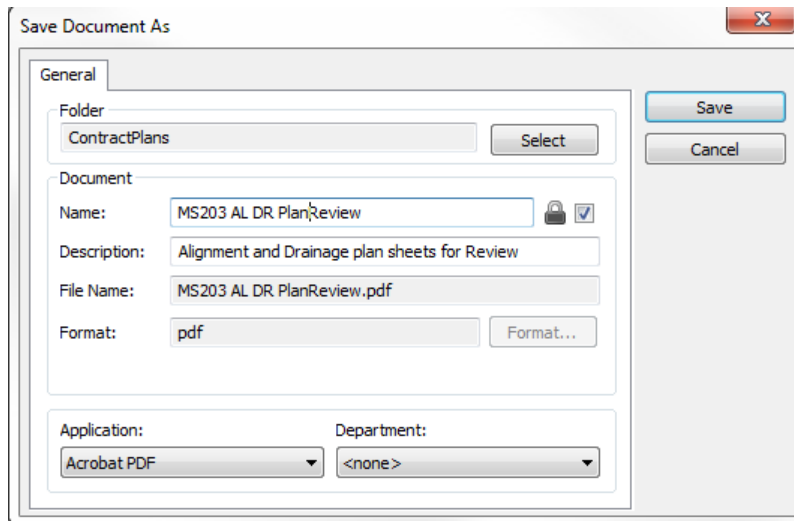
For PDF prints, the following dialog displays.



This allows you to change the location of the resulting print log and PDF file.

16. In the Log File area, click the **Browse** button.
17. In the ProjectWise *Select a Wizard* dialog, double-click on **No Wizard**.
18. Store the batchprint.log in the *080-AlignRWPlan* folder.
19. In the *Document Set Single File Output* area, click the **Browse** button.
20. In the ProjectWise *Select a Wizard* dialog, double-click on **No Wizard**.
21. Change the destination folder to **ContractPlans**.
22. Enter **MS203_AL_DR_PlanReview.pdf** for the document name.
23. Enter **Alignment and Drainage plan sheets for Review** in the description field.

The PDF name and description should be pertinent and complimentary.



24. Click **Save**.

25. Back in the *Print Batch* dialog, click on **OK**.

The resulting PDF will display.

26. Review it for all sheets and consistency.

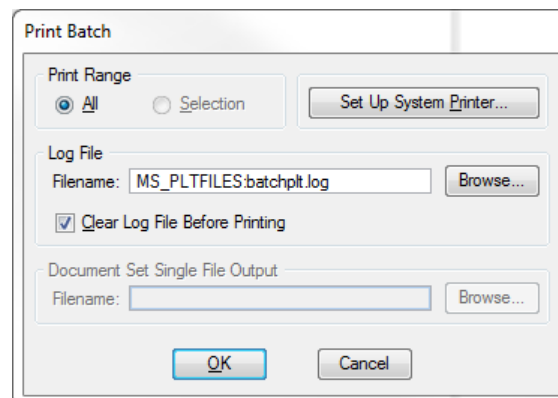
27. In the *Batch Print* dialog, select **File > Save As** to retain the print job.

Using the same steps we've used throughout the class to save a document, this stores the selected Batch Print settings and included files in a print job file for future print efforts.

28. When done, close the Batch Print dialog.

29. ProjectWise prompts you to check in the new job

For paper prints, the *Print Batch* dialog changes accordingly. The **Set Up System Printer** button is used to set and configure the destination printer.



For more information on Batch Print process review the MicroStation - WSDOT Sheet Batch Printing tech note:

http://www.wsdot.wa.gov/publications/fulltext/design/cae/TechNotes/MS_BatchPrint.pdf

This completes the training.

