# **INDOTWISE 5.1**

Plotting

**INDOT CAD Support** 

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## 1. Plotting

As of the DOTWise 5.0 release, CAD Support is solely focusing on the use of the Print Organizer tool in the MicroStation Platform (for most INDOT users, this will be OpenRoads Designer) to create plots—in lieu of the previously used ProjectWise InterPlot Organizer application. To address the use of ProjectWise InterPlot Organizer, CAD Support has created supplemental documentation in ProjectWise under <u>Resources\Documentation</u>. As with prior releases of the INDOT Workspace, users can continue to use the ProjectWise InterPlot software if needed; however, it is strongly suggested by CAD Support to transition to using Print Organizer to create plots. This chapter will discuss the processes needed to create and print plot sets using Print Organizer. Also, with the update to Adobe Acrobat DC, the steps to create and implement your digital signature on plan sheets using Print Organizer will be discussed.

## 1.1 PDF Support Only

Due to the number of different plotter and printer configurations currently available across all INDOT locations, CAD Support is now using preconfigured Print Styles for use with Print Organizer. As PDF is largely becoming the standard format for the publishing of documents to ERMS and for transport across the agency, CAD support has found that this method will allow better control for the consistency of plots, while maintaining the flexibility to send the completed PDF to any preferred hardcopy device (printer/plotter).

The attempted usage of any non-supported Print Style, plot queue, or hard copy device can potentially result in application instability, or the failure of the application to generate the appropriately formatted product. Please ensure that you are using the appropriate methods discussed in the following sections.

## 1.2 Plotting References with Transparency in OpenRoads Designer

As a result of a functionality change in the underlying MicroStation platform, it has been discovered that any reference files brought into a design model that have transparency associated with them no longer plot properly when propagated down to a sheet model and then plotted as a PDF file. The resolution of this issue is a simple two-step process, as described below.

1. With the Default design model open in ORD, select the applicable reference in the References dialog and navigate to Properties > Adjust Colors.



**Adjust Colors Option in References Dialog** 

2. In the Adjust Colors dialog, select the checkbox for Print Adjusted Colors and click OK.



## **Print Adjusted Colors Setting**

By enabling this setting, ORD will plot the reference with the adjusted colors associated with the transparency that's been applied to the file. Please note that this will have to be enabled for any references that might otherwise have transparency displayed.

## 1.3 How to Create a Plot Set with Print Organizer

This section will cover the necessary steps to create a plot set using the INDOT CAD Workspace and the Print Organizer tool in the MicroStation Platform. Then after covering the process, a subsection is provided with tips on how to use Print Organizer most effectively and troubleshooting common issues that may arise when using the tool.

#### 1.3-1 Creating the Plot Set

1. The Print Organizer tool can be accessed by clicking on the File tab in the Ribbon area.





2. Then in the File menu, click on Print > Print Organizer:



**Accessing Print Organizer from File Menu** 

The Print Organizer dialog will then appear as shown:

🜍 Untitled.pset - Print Organizer		_	
File Edit View Tools			
🗋 🧰 🔚 🖶 Q 📪 🛱 🛛	× @∃   ⊼ ∧ ∨ ⊻    •	1	
彦 Untitled	Name	File Name	Model
	<	P ndf nltcfa 0 ita	× (0 selected)
			ms (0 selected)

## Print Organizer Dialog

3. To add files to the plot set, click on File > Add Files to Set... in the Print Organizer dialog.

📢 U	ntitled.pset - Print Organizer		
File	Colity View Tools		
4	New		
😑 Open			
Н	Save		
	Save As		
	Default Print Definition Name		
	Output File Names		
<u>a</u>	Add Folder to Set		
b∎	Add Files to Set		
-	Add Active File to Set		
9	Print Preview	Adds print definitions to the print set	
	Printer Setup		
	Print		
	1 pwr\\dotwise indot in govrDOTWi	ise\Documents\La Porte\1801219\Design\Di	

Add Files to Set

4. This will open the Create Print Definitions dialog. On this dialog, click on the Add button to add the necessary files to the plot set.

put Files	
	Add
	Remove
rint Definition Creation Options	
Print style name:	
Print style name:	
Print style name: Manually Specified Options	

#### Add Button

5. Once the desired files have been added, the fields in the "Print Definition Creation Options" section will then become enabled. To apply a Print Style to the files, click on the ellipsis button to the right of the "Print style name:" field.

pw:\\dotwise.indot.in.gov:DOTW	ise\Documents\_Testing\0001350\De	Add
		Remove
<	>	
rint Definition Creation Options		
Print style name:		
Manually Specified Options.		_

Selecting a Print Style

Upon clicking on the icon, the user will be presented with a list of preconfigured Print Styles to apply.

Apply Print Style		×
Select a print style to apply:		
Print Style Name	File Name	
KINDOT 8.5 x 11 Color PDF	IN_PrintStyles.dgnlib	
KINDOT 8.5 x 11 Color_XSec PDF	IN_PrintStyles.dgnlib	
💪 INDOT 8.5 x 11 PDF	IN_PrintStyles.dgnlib	
SINDOT 8.5 x 11_XSec PDF	IN_PrintStyles.dgnlib	
SINDOT Full Size Color PDF	IN_PrintStyles.dgnlib	
SINDOT Full Size Color_XSec PDF	IN_PrintStyles.dgnlib	
🗸 INDOT Full Size PDF	IN_PrintStyles.dgnlib	
KINDOT Full Size_XSec PDF	IN_PrintStyles.dgnlib	

#### **Preconfigured INDOT Print Styles**

To provide clarity, here is an explanation of the naming convention for these print styles:

8.5 x 11	Configured for use with 8.5 x 11 sheets.
Full Size	Configured for use with Full Size sheets.
Color	Configured specifically for use if plotting in color is desired.
XSec	Configured specifically for use with cross section sheets.

6. Select the desired Print Style from the list and click OK to exit the Apply Print Style dialog. With the files added and the Print Style applied, proceed to click OK on the Create Print Definitions dialog to apply the Print Style to the files—which will then be added to the plot set.

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**Applying Print Style to the Added Files** 

Upon completion of the processing, the Print Style will be applied to the selected files, and the resulting plots will be added to the plot set in the Print Organizer dialog. The example shown below results from applying the INDOT Full Size\_XSec PDF Print Style to a cross section drawing.

File Edit View Tools			
그 ㅡ 님 글 약 ( 구 '	$\mathbb{P} \times \mathbb{O} =   \mathbf{v} \cdot \mathbf{v}   \mathbf{v}$		
Untitled	Name	File Name	Model
	G Sht_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F
	G Sht_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F
	Given Sht_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F
	Given Sht_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F
	Ght_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F
	Ght_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F
	Sht_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F
	Sht_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F
	Ght_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F
	Sht_X9_IntCom	Sht_X9_IntCorr.dgn	Line F
	Sht_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F
	(Sht_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F
	<		>
		😑 pdf.pltcfg 🛛 12 item	s (0 selected)

Plots Created and Added to Plot Set

- 7. Once all the desired plots have been created, it is highly recommended to first save the plot set for future use. To accomplish this, click on File > Save As... in the Print Organizer dialog, and select the No Wizard option when prompted. It is suggested to save this under the Plot Sets folder for the ProjectWise project being worked from. Name the plot set as desired and click Save to save the plot set file (.pset) to ProjectWise.
- 8. To print the plot set to PDF format, click on File > Print... in the Print Organizer dialog.



File > Print...

9. On the Print dialog that appears, click on the ellipsis button in the Submit section to save the resulting PDF file to a desired destination (it is suggested to save this outside of ProjectWise).

Printer Driver	Configuration		
File name:	pdf.pltcfg		
Туре:	Bentley PDF printer driver		
			Printer Setup
Print Range –		Copies	
All		Number of copies: 1	* *
O Selection			
Submit			
	Create print file $\sim$		
Submit as:	Single print job $\checkmark$		
Destination:	H:\Untitled.pdf		
	Open print file after creat	ion	
		OK	Cancel

#### Selecting Desired Destination of PDF File

10. After selecting the destination, click OK to print the plot set to PDF format. Once completed, the PDF file will be created and placed in the desired location.

## 1.3-2 Creating the Plot Set using a Sheet Index

Starting with the INDOTWise Workspace for OpenRoads Designer for 2023, CAD Support has enabled Workset functionality for projects. One of the benefits of this is the inclusion of Sheet Indexes—the discussion of which can be found in both the INDOTWise Microstation and ORD Plans Production documents. This section will cover how to further leverage this functionality into the direct creation of a Plot Set for use in the Print Organizer.

As discussed in the Microstation document, the Sheet Index allows for any sheet models in the project to be added, categorized, and ordered according to user need. By maintaining a Sheet Index in the desired order, one can simply then send the Sheet Index to Print Organizer and use the set as a starting point for plotting needs. The below capture shows a partially populated Sheet Index (*Note that your ordering/categorization needs will be different*):

🕒 Sheet Index 🔹				
🕼 🖽 😂 i 🧭 + - 🏟 i 🕞 💪 i 🗙 🤷 📲				
▲ 📴 INDOT_WS (24)				
🔺 📁 Plan Profiles (3)				
🕒 A001 [1, 1] Line A - Plan 3 [Sheet]				
🕒 A002 [2, 2] Line A - Plan 1 [Sheet]				
🕒 A003 [3, 3] Line A - Plan 2 [Sheet]				
<ul> <li>Cross Section (21)</li> </ul>				
🕒 A001 [1, 4] Line A - 15+00.00 [Sheet]				
A002 [2, 5] Line A - 16+50.00 [Sheet]				
🕒 A003 [3, 6] Line A - 17+50.00 [Sheet]				
🕒 A004 [4, 7] Line A - 18+00.00 [Sheet]				

#### Sample Sheet Index

Within the Sheet Index, one can then send the contents to the Print Organizer by selecting the Open Print Organizer button shown below.

Note: Plots will be sent to the Print Organizer based on the current selection in the Sheet Index. If you have a single file or folder in the index selected, that will be the only sheet that a print is created for. As mentioned, make sure that the INDOT\_WS level of the index is selected so all prints are sent to Print Organizer.



#### **Open Print Organizer**

After selecting the Open Print Organizer button, you will be prompted to immediately set the Print Style for the prints. Select the appropriate style for the majority of your prints. Note that you can change this for individual prints afterwards.

Select Print Style	×
Print Style Name INDOT 11 X 17_Standard INDOT 11 X 17_Standard INDOT 11 X 17_Standard INDOT 8.5 x 11 Color PDF INDOT 8.5 x 11 Color_XS INDOT 8.5 X 11 PDF INDOT 8.5 X 11 PDF INDOT Full Size Color PDF INDOT Full Size Color_XS INDOT Full Size PDF INDOT Full Size PDF INDOT Full Size_XSec PDF	File Name IN_Print Styles.dgnlib IN_Print Styles.dgnlib
	OK Cancel

#### Select Print Style

This will generate a .pset with all prints as ordered/categorized in the Sheet Index. Based on our previous example, this looks like the following:

	ois						
		Name Plan Profiles Cross Section Non ORD Sheets	File Name	Model	Print Style	View Group	View
@ A007	~	<					>

**Print Organizer Set from Sheet Index** 

There are a couple of important differences when creating the print set using the Sheet Index. The most immediate one is that fine control of plot output is no longer available when using this method. Items such as adjusting raster settings, color output, etc. that aren't part of the Print Style itself cannot be applied. When looking at the print properties, the following dialog illustrates the only settings available.

Main				
Filename:	DRD Dev\Design\OpenRoa	ads\_Clean Temp	late Files∖Plan Profi	le Sheets.dgn
Model:	Line A - Plan 3 [Sheet]	~		
Print style:	INDOT Full Size PDF	$\sim$		
			01/	Canad

**Print Settings from Sheet Index** 

As shown, only the File, Model, and Print Style can be changed. Settings discussed later in this document—such as those in 1.3-3b Adjusting Raster Options on Plot—are not available.

Other things to consider:

- Individual sheets will not be extracted when added and will have to be pointed to directly for each added print. Care should be used to ensure that all potential prints are added to the Sheet Index.
- Naming considerations such as disabling auto numbering and sequencing on the Sheet Index itself might be needed to identify the content of each plot more readily.
- This is new functionality being implemented. As such, suggestions and feedback are appreciated to make it more useful. Please discuss with your CAD Peer Group Representative for changes that might be advantageous.

## 1.3-3 Print Organizer Tips and Troubleshooting

This section will cover some tips and best practices when it comes to using Print Organizer. Troubleshooting common issues in Print Organizer will also be covered.

#### 1.3-3a Creating a Plot Set Using Multiple Print Styles

It could be a common occurrence to need to use multiple Print Styles to create a plot set. In a much similar fashion to the current process with InterPlot Organizer, if a user needed to create a plot set that contained sheets with cross sections AND ALSO contained sheets without cross sections (Plan and Profile sheets for example), the process for adding files to the set would need to be run twice: once for the cross sections file using a cross section-specific Print Style, and a second time for the other sheets that are not cross sections. To continue from where section 1.2-1 left off, if it is necessary to add other sheets to the plot set, the process would need to be run a second time. This time, the Create Print Definitions dialog would look like the following:

iput Files	
pw:\\dotwise.indot.in.gov:DOTWise\Documents\La Porte\1801219\De: pw:\\dotwise.indot.in.gov:DOTWise\Documents\La Porte\1801219\De:	Add
pw:\\dotwise.indot.in.gov.DOTWise\Documents\La Porte\1801215\De: pw:\\dotwise.indot.in.gov:DOTWise\Documents\La Porte\1801219\De: pw:\\dotwise.indot.in.gov:DOTWise\Documents\La Porte\1801219\De:	Remove
pw:\\dotwise indot in.gov:DOTWise \Documents \La Porte \1801219\De: pw:\\dotwise indot in.gov:DOTWise \Documents \La Porte \1801219\De: pw:\\dotwise indot in.gov:DOTWise \Documents \La Porte \1801219\De:	
pw://dotwise.indot.in.gov:DOTWise\Documents\La Porte/1801219\De: pw://dotwise.indot.in.gov:DOTWise\Documents\La Porte/1801219\De: pw://dotwise.indot.in.gov:DOTWise\Documents\La Porte/1801219\De:	
Vidotwise.indot.in.gov.bo rwise vbocuments \La Porte (1601215 \Dei	
rint Definition Creation Options	
Print style name:	
INDOT Full Size PDF	
Manually Specified Options	
ОК	Cancel

Adding Sheets to a Plot Set with a Separate Print Style

Note that the Print Style chosen is not associated with cross sections. Separate print styles are needed in this scenario, as the sheet border frames are addressed differently between cross section sheets and any other sheet—which is how the plot extents are determined. The resulting plot set would now look like the following:

ile Edit View Tools						
] 📛 🔚 🗎 🖕 🕻	<b>2</b> 6a 🤉	< 0   ⊼ ^ ∨ ⊻	- IP			
📂 Untitled	^	Name	File Name	Model	View Group	^
		Sht X9 IntCorr	Sht X9 IntCorr.dan	Line F	Line F Temp Vie	
		G Sht X9 IntCorr	Sht X9 IntCorr.dgn	Line F	Line F Temp Vie	
		Ght_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F	Line F Temp Vie	÷
		Sht_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F	Line F Temp Vie	
		Sht_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F	Line F Temp Vie	
		Ght_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F	Line F Temp Vie	
		Sht X9 IntCorr	Sht X9 IntCorr.dgn	Line F	Line F Temp Vie	
		Traffic Mod - 1st	Traffic Mod - 1st.d	ADA Detail - 1st	ADA Detail - 1st	
		🏹 Traffic Mod - 1st	Traffic Mod - 1st.d	Signal Detail - 1st	Signal Detail - 1	
Sht_X9_IntCorr		🏹 Traffic Mod - 6th	Traffic Mod - 6th.d	ADA Detail - 6th	ADA Detail - 6th	
Sht X9 IntCorr		🏹 Traffic Mod - 6th	Traffic Mod - 6th.d	Signal Detail - 6th	Signal Detail - 6t	
Sht X9 IntCorr		🏹 Traffic Mod - Boyd	Traffic Mod - Boyd	Signal Detail - B	Signal Detail - B	
Traffic Mod - 1st		Traffic Mod - Clay	Traffic Mod - Clay	ADA Detail - Clay	ADA Detail - Cla	
Traffic Mod - 1st		Traffic Mod - Clay	Traffic Mod - Clay	Signal Detail - Cl	Signal Detail - Cl	
Traffic Mod - 6th		Traffic Mod - Jackson	Traffic Mod - Jack	ADA Detail - Ja	ADA Detail - Ja	
Traffic Mod - 6th		Traffic Mod - Jackson	Traffic Mod - Jack	Signal Detail - J	Signal Detail - J	
Traffic Mod - Boud		Traffic Mod - Jefferson (SR 4)	Traffic Mod - Jeffe	ADA Detail - Jef	ADA Detail - Jef	
Traffic Mod - Doyd		Traffic Mod - Jefferson (SR 4)	Traffic Mod - Jeffe	Signal Detail - J	Signal Detail - J	۲
Trainic Mod - Clay	×	<			>	

#### **Completed Plot Set with a Second Print Style**

When completed, the second set of sheets will be placed into the plot set as denoted above.

#### 1.3-3b Adjusting Raster Options on Plots

If a plot in the plot set contains raster imagery, the user can adjust the Raster Options on it if desired. To access these settings, right-click on the plot in the plot set and select Properties. Then click on the Advanced tab in the Properties dialog that appears to view the raster settings.

raffic Mod - 1st Properties	References
WorkSpace:	
WorkSet:	~
Color Options	
Color: True Color ~	
Raster Options	
✓ Print raster images	
Raster Color:	Raster quality factor: 50.0
Print raster in grayscale	Printer resolution (dpi): 600
Print monochrome raster as-is	Raster resolution (dpi): 300
Brightness: 0.0	
Contrast: 0.0	
PDF Property Publishing	
Include properties: None	~
Property filter file:	
Update Options	
Update from design file	Update print definition name
	OK Cancel

#### **Raster Options**

Note the following settings:

- The *Print raster in grayscale* setting allows the user to have the raster image plotted in grayscale vs. color.
- The *Raster Quality* setting allows the user to set the Quality factor as a percentage of the printer resolution (dpi). The default setting that has been configured with the Print Styles is a factor of 50 (percent). This can be adjusted if desired but note that a higher factor could have a significantly negative effect on the time it takes for Print Organizer to process the plot.
- The *Brightness* and *Contrast* settings can be especially useful if you wish to apply transparency indirectly to any aerial imagery in your file. Note, however, that if you have already altered the brightness and contrast settings for the aerial imagery in the file via the Raster Manager (as discussed in Section 3.1-3 in our INDOTWise 5.1 Microstation reference document), DO NOT change these settings. Doing so will further accentuate the transparency appearance in the plotted file.

#### 1.3-3c Incorporating Sheet Numbering

Within Print Organizer, there is a process that can be used to show the sheet numbering of the plot set by altering the name of the plot. This process is outlined below:

 With the plots already added to the plot set, ensure that the plot set itself is selected in the left navigation pane (with a blue background). Then click on Edit > Rename by Expression... Note the Name field in the example below (before sheet numbering is incorporated).

Edit	View lools							
	Rename		12	< ^ V V 🖬 I 🕞 🖊				
_	Rename by Expres	ssion		Name	File Name	Model	View Group	View
×	Delete	Del		1000570 C h i li li i		CLETH	CLI THE VA	10
_	Maura da Tara	Ale, Lleves		1000570 Consultant_Ltr_sneets	Consultant_Ltr_sn	Sht Inte	Sht litle views	Viel
$\sim$	iviove to lop	Alt+Home		U 1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht Index	Sht Index Views	Viet
$^{\sim}$	Move Up	Alt+Up		U 1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht Utility Inform	Sht Utility Information_1 Views	Viev
$\sim$	Move Down	Alt+Down		U 1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht Utility Inform	Sht Utility Information_2 Views	Viev
~	Move to Pottom	Alt - End		U 1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht Strp Map_1	Sht Strp Map_I Views	Viev
	NOVE LO BOLLOTT	AIL+LIIU		U 1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht Strip Map_2	Sht Strp Map_2 Views	Viev
	Reverse	Alt+R		U 1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht Sign Layout	Sht Sign Layout_1 Views	Viev
	Select All	Ctrl+A		U 1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht Sign Layout	Sht Sign Layout_2 Views	Viev
	Jeleet All	CurrA		U 1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht Lane Restn	Sht Lane Restriction Type C	Viev
	Select		۲I	18005/0 Consultant_Ltr_sheets	18005/0 Consulta	Sht MOT Quanti	Sht MOT Quantities_1 Views	Viev
	Find and Replace	File Daths		U MOI_SR 267_TypSec	MOT_SR 267_Ty	Typical Section	Typical Section Sheet Views	Viev
	rind and Replace	rife Faults		<pre>U Sht_PedMOT_CR700</pre>	Sht_PedMOT_CR	Sht PedMOT_C	Sht PedMOT_CR700_Ph.1A	Viev
	Preferences			<pre>U Sht_PedMOT_CR700</pre>	Sht_PedMOT_CR	Sht PedMOT_C	Sht PedMOT_CR700_Ph.1B	Viev
01	Properties			Sht_PedMOT_CR700	Sht_PedMOT_CR	Sht PedMOT_C	Sht PedMOT_CR700_Ph.1C	Viev
001	riopentes		_	Sht_PedMOT_CR700	Sht_PedMOT_CR	Sht PedMOT_C	Sht PedMOT_CR700_Ph.2A	Viev
S	ht PedMOT CR700			Sht_PedMOT_CR700	Sht_PedMOT_CR	Sht PedMOT_C	Sht PedMOT_CR700_Ph.2B	Viev
<i>(</i> 0	H RedMOT CR700			Sht_PedMOT_CR700	Sht_PedMOT_CR	Sht PedMOT_C	Sht PedMOT_CR700_Ph.2C	Viev
1	800570 Consultant Lt	r sheets		4 1800570 Consultant Ltr sheets	1800570 Consulta	Sht Pedestrian	Sht Pedestrian MOT General	Viev `

Edit > Rename by Expression

2. On the Rename Print Definitions by Expression dialog that appears, select one of the options in the Expression name dropdown that has the first field value of "<print counter>". The user can determine what fields can be listed after the print counter—which include source file name, model name, or both. In this example, "<print counter>-<source file name>" will be selected.

<source file="" name=""/>			$\sim$
<model name=""> <source file="" name=""/>-<mo <sheet number=""></sheet></mo </model>	del name>		^
<print counter="">-<source <print counter="">-<model i<br=""><print counter="">-<source <print counter="">-<sheet n<br=""><print definition="" name=""></print></sheet></print></source </print></model></print></source </print>	file name> name> file name>- <model umber&gt;</model 	name>	
Custom			~
Set as default print de	finition name expre	ession	

**Rename Print Definitions by Expression** 

3. With your desired expression selected, click OK on the dialog. The selected expression will process for each plot in the set, and the name of each plot will change accordingly to reflect the current sheet numbering order.

ile Edit View Tools					
l 😑 🔚   🚔 🗣   📪 🗞 🗙 🎯	$ \overline{} \land \lor \simeq  \overline{\underline{\mathbf{B}}} \cdot  \overline{\mathbf{a}}   $				
📂 1800570-FT	^ Name	File Name	Model	View Group	Viev ^
	001-1800570 Consultant Ltr sheets	Consultant Ltr sh	Sht Title	Sht Title Views	Viev
	002-1800570 Consultant Ltr sheets	1800570 Consulta	Sht Index	Sht Index Views	Viev
	003-1800570 Consultant Ltr sheets	1800570 Consulta	Sht Utility Inform	Sht Utility Information 1 Views	Viev
	004-1800570 Consultant Ltr sheets	1800570 Consulta	Sht Utility Inform	Sht Utility Information 2 Views	Viev
005-1800570 Consultant_Ltr_sheets	005-1800570 Consultant Ltr sheets	1800570 Consulta	Sht Strip Map 1	Sht Strip Map 1 Views	Viev
006-1800570 Consultant_Ltr_sheets	006-1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht Strip Map_2	Sht Strip Map_2 Views	Viev
007-1800570 Consultant_Ltr_sheets	007-1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht Sign Layout	Sht Sign Layout_1 Views	Viev
008-1800570 Consultant Ltr sheets	008-1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht Sign Layout	Sht Sign Layout_2 Views	Viev
009-1800570 Consultant Ltr sheets	009-1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht Lane Restri	Sht Lane Restriciton Type C	Viev
010-1800570 Consultant Ltr sheets	010-1800570 Consultant_Ltr_sheets	1800570 Consulta	Sht MOT Quanti	Sht MOT Quantities_1 Views	Viev
011-MOT_SB 267_TypSec	011-MOT_SR 267_TypSec	MOT_SR 267_Ty	Typical Section	Typical Section Sheet Views	Viev
012-Sht PedMOT CB700	012-Sht_PedMOT_CR700	Sht_PedMOT_CR	Sht PedMOT_C	Sht PedMOT_CR700_Ph.1A	Viev
013-Sht PedMOT CB700	013-Sht_PedMOT_CR700	Sht_PedMOT_CR	Sht PedMOT_C	Sht PedMOT_CR700_Ph.1B	Viev
014-Sht PedMOT CB700	014-Sht_PedMOT_CR700	Sht_PedMOT_CR	Sht PedMOT_C	Sht PedMOT_CR700_Ph.1C	Viev
115-Sht RedMOT_CP700	015-Sht_PedMOT_CR700	Sht_PedMOT_CR	Sht PedMOT_C	Sht PedMOT_CR700_Ph.2A	Viev
	016-Sht_PedMOT_CR700	Sht_PedMOT_CR	Sht PedMOT_C	Sht PedMOT_CR700_Ph.2B	Viev
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#### Plots with Sheet Numbering Added

#### 1.3-3d Using an Incorrect Print Style to Add Files to a Plot Set

If an incorrect Print Style is chosen to add plots to a plot set, undesirable results will occur. Here is an example of what occurs when a non-cross section Print Style is applied to a cross section drawing:

🜍 Untitled.pset - Print Organizer				_	×
File Edit View Tools					
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V 📂 Untitled	Name	File Name	Model	View Group	
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	Grand Sht_X9_IntCorr	Sht_X9_IntCorr.dgn	Default-3D	Default-3D \	/iews
	Ght_X9_IntCorr	Sht_X9_IntCorr.dgn	Line F	Line F Temp	Vie

#### Applying Non-Cross Section Print Style to a Cross Section Drawing

What ends up happening is that one plot gets created for each model in the cross section DGN file. The model that contains the sections (Line F in the example above) only produces one sheet for the entire set of sections. Therefore, it is important to use a cross section specific Print Style when working with cross sections—as these Print Styles have been configured to split the cross sections into their separate sheets.

Conversely, if a cross section specific Print Style is applied to a drawing that does not contain cross sections, no plots will get created in the plot set. Instead, notifications will appear in the Message Center in the MicroStation Platform to notify you of the issue:

Message Center	-		×
No elements matching the automatic area search criteria were found			
BD_Batch Plot Border' is not a valid level for file 'c:\users\psmock\dotwise\pw_work\d0744216\1602106 SR	2 Topo - Boy	/d.dgn'	
BD_Batch Plot Border' is not a valid level for file 'c:\users\psmock\dotwise\pw_work\d0744216\1602106 SR	2 Property Li	ines.dgn'	
BD_Batch Plot Border' is not a valid level for file 'c:\users\psmock\dotwise\pw_work\d0744216\1602106 SR	2 Utilities.do	gn'	
'BD_Batch Plot Border' is not a valid level for file 'c:\users\psmock\dotwise\pw_work\d0744216\1602106 SR	2 Topo.dgn'		
'BD_Batch Plot Border' is not a valid level for file 'c:\users\psmock\dotwise\pw_work\d0744216\1602106 SR.	2 Topo - Boy	/d.dgn'	

#### Applying Cross Section Print Style to a Non-Cross Section Drawing

No plots get created in this scenario because the cross section Print Styles are configured to specifically look for cross section border frames to create the separate sheets. All sheets other than cross sections do not have these border frames, so the Print Style is not able to create plots from them.

#### 1.3-3e Print Organizer, PDFs and Optional PDF Content

When using Print Organizer to generate PDFs, the printer configuration allows for the generation of Optional PDF content. For files from the OpenRoads/MicroStation environments, this content will show up in PDFs as an additional Layers entry in the Acrobat Navigation panel docked on the left side of the application:



#### Layer Content in Acrobat

When using this functionality, those who open the PDF created in this way will have the ability to perform very basic level control on the PDF to make it easier to see other items, etc. There is a tradeoff

for this functionality however, it can increase the amount of time needed to generate the PDF plot, sometimes substantially.

Moving forward, the optional content flag has been disabled for the default pdf.pltcfg and this functionality will be opt in by the end user. If one would like to enable the optional content/layering control for their plots, the following process will allow pointing to a plot configuration that enables it.

To enable Optional Content:

1. On your Plot Organizer dialog, *File > Printer Setup...* option.

File	Edit View Tools
4	New
	Open
	Save
	Save As
	Default Print Definition Name
	Output File Names
-	Add Folder to Set
à.	Add Files to Set
	Add Active File to Set
Q	Print Preview
	Printer Setup
	Print
	1 pw:\\indot-pw.ber Changes the printer and the printer settings 0013
	Fxit

#### **Printer Setup**

2. On the Printer Setup window, select the ... which will allow for browsing to another plot configuration file.

Printer Setup		×
Printer Driver Configuration File		
File name:		
n:indot-pw-01\Documents\INDOT Workspace\0	RDWorkspace\INDOT\pltcfg\pdf.p	tcfa 🧷 😷
Type: Bentley PDF printer driver		
	ОК	Cancel

**Browsing to Different Plot Configuration File** 

 On the ProjectWise browsing dialog that's presented, navigate to <u>\Documents\INDOT</u> <u>Workspace\ Resources\ClientWorkspaces\INDOT\INDOT OpenRoads\Organization-</u> <u>Civil\INDOT\pltcfg\</u> and select the *pdf – optional content.pltcfg* entry and select OK. This will now use the plot configuration with Optional Content on.

				^
Printer Driver Configuration	on File			
File name:				
cuments\INDOT Worksp	ace\ORDWorkspace\	INDOT\pltcfg\pdf - o	otional content.pl	tcfg 🥒 🈷
Type: Bentley PDF printe	er driver			
			ОК	Cancel

Selected Plot Configuration File

At this time, the Print Organizer set can be run, saved, etc. for use in the project and have the layering content enabled. Again, please keep in mind that with this enabled, plot times may be increased.

Note: CAD Support has assisted with examples of this issue and found that plot times can vary greatly depending on data with Optional Content enabled on. In many instances, this has manifested on cross section sheets, but can affect a wide variety of plotted content and the disabling optional content can result in plots that run between 4 and 8 times faster. Resulting troubleshooting is suggesting that compressing files to clear out old/orphaned content can help alleviate some of the performance issues and users who wish to enable optional content should perform that function on their DGNs prior to plotting.

#### 1.3-3f Reducing the Size of PDF Files Created from Print Organizer

After creating the PDF plot set, it is recommended that users reduce its file size from within Adobe Acrobat. The process for this is described below.

Note: Performing this compression process can result in reduced clarity, particularly with highly detailed raster imagery. Please verify that the resulting output is still appropriate after running this compression process.

1. With the PDF file open in Adobe Acrobat, click on *File > Reduce File Size*.

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8	Reopen PDFs from last s	session	
	Open Recent Elle	,	
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	Properties	Ctrl+D	
	<u>C</u> lose File	Ctrl+W	
	Egit Application	Ctrl+Q	

File > Reduce File Size from Acrobat Menu

2. You will then be prompted to select a folder location where your reduced size PDF will be saved. Choose a folder that is already listed, or you can choose a different folder if necessary.

Save As Reduced	Size PDF	
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My Computer	Save in Recent Folder	
Document Cloud	PDF	
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	Choose a Different Folder	
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Save As Reduced Size PDF

3. As prompted, name the reduced size PDF to be created, and click Save. Saving it to your local computer is shown below.

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This PC	Name	Date modified	Туре	Size	-
3D Objects	Alex CA Unhandled Exception	12/23/2019 10:53	File folder		
Desktop	📙 Asset Management-Pay Item Excel Data	3/5/2020 11:50 AM	File folder		
Documents	Aug20ConnectionClient	8/24/2020 11:12 AM	File folder		
Develoade	Bad Cross Sections	12/3/2018 1:06 PM	File folder		
- Downloads	Bentley Training Material	6/24/2020 9:50 AM	File folder		
J Music	Bentley User Registration Project Docs	12/10/2018 10:49	File folder		
Pictures	C Sharp Tutorials	11/13/2018 1:34 PM	File folder		
Videos	CAD Peer Group Docs	4/1/2020 10:50 AM	File folder		
L Windows (C:)	CAD Support Ticket Data	4/14/2020 8:10 AM	File folder		
E NETCOUNT (\\D	Besign Checklists	4/18/2019 10:54 AM	File folder		
APPS (\\DOTAPF	Desktop background images	9/18/2020 10:11 AM	File folder		
	DOTWise Manual Reviews	4/15/2020 9:19 AM	File folder		
	DWG Conversion Testing	8/13/2019 1:09 PM	File folder		
	Goals and Objectives Forms	8/14/2020 11:06 AM	File folder		
TS-DIV (\\State.in	Good Cross Sections	12/3/2018 1:06 PM	File folder		
E CAD (\\DOTPWS	InRoads LandXML Style Sheets	11/13/2018 1:34 PM	File folder		
File name: 1800570	-FT_NEW_Reduced Size.pdf				~
Save as type: Adobe P	DE Files (*.pdf)				~
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#### Naming the Reduced Size PDF

4. Adobe will then proceed with the file compression process, which can take a few minutes depending on the amount data it has to compress. Once completed, the file will be created and placed in the specified location. In addition, a message will appear to let you know how much the original PDF file was compressed.



File Size Reduction Message

#### 1.3-3g Changing File Names and Model Names in Print Organizer

Many times after creating plots, there may be instances where either a file name or model name needs to be changed. When this occurs, Print Organizer is not able to dynamically update the existing plot definitions to the new names for models but does accommodate full file name changes. Errors like the following may be experienced and the following resolutions should be employed.

#### When a Model Name has changed

When this occurs, the Message Center will report that the appropriate view group cannot be found.



In the previous screen capture, (1) illustrates that the model name from the BR\_Detail Sheet has been changed to Detail Sheets for BR. When running the plot after the model name has been changed, (2) shows that a notification is put in the Message Center notifying that the view group tied to that existing model name cannot be found.

To resolve this issue, the following can be done. The first option is to simply remove and re-add the plot. To do so, right click on the plot entry and select Delete as shown below:

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Then re-add the plot using the instructions starting with Step 3 on page 6 earlier in this document.

When a File Name has changed

Print Organizer can resolve file name changes when those occur. If you open a print set that includes file names that have changed, you will be presented with the following dialog illustrating the name change:

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By selecting close, Print Organizer will dynamically update all the existing plots to the new file name paths and restore the plot set to working order.

Note: This will only work for files that are renamed using the ProjectWise Explorer interface. It will not be able to resolve those changes if a file is removed and brought back into the system, copied, etc.—as that would create a new document record.

At that point, the print set can be saved and updated to ProjectWise to record the file name change and print set adjustments.

## 1.4 Preparing an Electronic Signature

In this section, the creation of the electronic signature and the associated image with it will be discussed.

## 1.4-1 Creating a .pdf of your Signature

Note: Before starting this process, you will need to determine where your Digital ID should be saved, which should be in a secure location that only you have access to. One suggestion would be in your Documents folder or on OneDrive. This will ensure that your Digital ID will be available to you if you are logged into the DOT domain.

You will need to locate an INDOT photocopier that also scans images for this next exercise. One that also sends the scanned image to you via email would be a best-case scenario.

- Navigate within ProjectWise to ... <u>Documents\Resources\Design Information\Electronic</u> <u>Signatures\Electronic Signature.pdf</u>. (This folder contains the sheets on 8. 5" x 11" paper that you use to scan your signature.)
- Open (read only) Electronic Signature.pdf (This is an 8.5" x 11" print of the signature area on a large format (D+ 24" x 36") border sheet.

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**PDF Electronic Signature Template** 

Notice the faint yellow line in the signature area. Your signature must be contained entirely within this area. (Your signature should not cross the line above "DESIGN ENGINEER".

- Print the .pdf onto an 8.5" x 11" sheet of paper, and then sign the printed piece of paper as you would sign a contract document. Remembering to keep your signature within the now very faint box described in the previous step. Some additional suggestions are:
- Use a black pen, blue does not always cooperate in gray scale situations and can contribute to poor contrast with the finished product.

- Use a fine point marker or felt tip pen. Both will give the actual signature some weight that will transfer better when inserted/cropped/scaled.
- Exaggerate the size of your signature. This will also assist in visibility when it is inserted/cropped/scaled.
- 3. Locate a printer/copier with scanning and emailing capabilities. Then scan and email the paper with your signature to yourself.
- 4. Open the .pdf that you previously scanned/emailed using Adobe Acrobat. If you do not have Adobe Acrobat, you will need to locate a machine with this installed. Please contact your supervisor and security coordinator should you require this software.
- 5. You may have to rotate the image so that it is orientated properly. This can be accomplished using the Rotate View tool in Adobe Acrobat.

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#### Scanned PDF Signature

6. Using the zoom tools, make your signature just large enough that you see it, and a portion of the surrounding data. As shown below.

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**Scanned PDF Signature** 

7. In Adobe Acrobat Reader in the menu bar, go to *View > Tools > Edit PDF > Open* 

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**Cropping the PDF Signature** 

8. This will open the Edit PDF toolbar and pane. On the toolbar, select the Crop Pages tool.



9. Draw a box around your signature by left clicking the mouse button and dragging the mouse. Try to get as close to the outline of the previously mentioned "faint yellow line" as shown in an earlier step in this exercise. If necessary, drag the corner handles of the cropping rectangle until the cropping rectangle is the size you want. Do not cross any of the elements in the border sheet.



**Cropping the PDF Signature** 

10. Double-click inside the cropping rectangle.



**Cropping the PDF Signature** 

11. This will open the Crop Pages dialog box. Make sure that all your options match those illustrated below except the margins which may differ for all users.

Show All Boxes	
Units: Inches	
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**Cropping the PDF Signature** 

12. Click Ok.

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**The Finished PDF Signature** 

13. Save the file making sure to place it in a location that meets the criteria listed in the note at the beginning of this series of exercises.

*Note:* When using Adobe Acrobat Professional DC, you will need to make sure that the background is turned on so that the electronic signature will cover the "this media not considered a certified document" text that is in the signature block on the border sheets.

14. On the Edit PDF toolbar, you may have to select the ellipsis or More menu (depends on if the window is maximized), followed by *Background* > *Add*.

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**PDF Signature Background** 

15. Then, taking the default settings, click OK on the Add Background dialog box.

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Horizontal Distance: 0 Inches v from Center v	

Adding a Signature Background

16. At this time, save your PDF signature image to a location you can locate for the steps in the following section.

## 1.4-2 Creating an Electronic Certificate

Once you have created a .pdf version of your signature, you then need to create a secure certificate to use to manage your signature. Once created, the certificate will be stored by you in a secure location and you will be required to send the CAD Support staff a version of your certificate so that it may be stored in a secure location in ProjectWise, should there be a need to either verify your signature or replace a lost (deleted) local copy. This can be done using either Adobe Acrobat Professional or Acrobat Reader.

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С	<u>Eind</u>	Ctrl+F				- 1	OBJECTS	
	Advanced Search	Shift+Ctrl+F						
	<u>M</u> anage Tools							
	Preferences	Ctrl+K						
_							Edit Using	Ŧ

1. In the Adobe Acrobat Professional tool bar select *Edit > Preferences*.

#### **Creating the Electronic Signature**

2. In the left column of the Preferences dialog box select Signatures and then click *More* in the Identities & Trusted Certificates area of the dialog box.

	Digital Signatures	
ull Screen	Creation & Appearance	
beneral	ereation experiance	
'age Display	Control options for signature creation	Mara
D 0 M Him of	<ul> <li>Set the appearance of signatures within a document</li> </ul>	Wore
o o multimedia		
Accessibility	Verification	
debe Opline Services	venication	
Catalog	Control how and when signatures are verified	Marr
Color Management		More
Content Editing		
Convert From PDF	Identities & Trusted Certificates	
Convert To PDF		
mail Accounts	Create and manage identities for signing	More
forms	<ul> <li>Manage credentials used to trust documents</li> </ul>	Wore
dentity		
nternet	Document Timestamping	
avaScript	bocanient innexamping	
anguage	Configure timestamp server settings	Mara
Aeasuring (2D)		Wore
Measuring (3D)		
Measuring (Geo)		
Aultimedia (legacy)		
Aultimedia Trust (legacy)		
Reading		
Reviewing		
earch (		
Security 🛛 🚽		
ecurity (Enhanced)	-	
Signatures		
pelling 🗸 🗸		
		OK Cancel

Adobe Signature Preferences

3. In the left column of the Digital ID and Trusted Certificates Settings dialog box select Digital IDs, and then click Add ID.



**Creating the Electronic Signature ID** 

4. In the Add Digital ID dialog box, select *A new digital ID I want to create now*, and then select the Next button.

Add or create a digital ID to si digital ID is sent to others so t	gn and encrypt documents. Th hat they can verify your signat	ne certificate that comes ure. Add or create a digi	with your tal ID using:	
○ My existing digital ID	from:			
A file				
O A roaming digital	ID accessed via a server			
O A device connect	ted to this computer			
i new digital 10 1 Wa	n to create now			
Cancel			< Back	Next >

Adding the Digital ID

5. Select the New PKCS#12 Digital ID File and then select the Next button.

here would you like to store your self-signed digital ID? New PKCS#12 digital ID file Creates a new password protected digital ID file that uses the standard PKCS#12 format. This common digital ID file format is supported by most security software applications, including major web browsers. PKCS#12 files have a .ptx or .p12 file extension. Windows Certificate Store Your digital ID will be stored in the Windows Certificate Store where it will also be available to other Windows applications. The digital ID will be protected by your Windows login.		
New PKCS#12 digital ID file Creates a new password protected digital ID file that uses the standard PKCS#12 format. This common digital ID file format is supported by most security software applications, including major web browsers. PKCS#12 files have a .pfx or .p12 file extension. Windows Certificate Store Your digital ID will be stored in the Windows Certificate Store where it will also be available to other Windows applications. The digital ID will be protected by your Windows login.		
Creates a new password protected digital ID file that uses the standard PKCS#12 format. This common digital ID file format is supported by most security software applications, including major web browsers. PKCS#12 files have a .pfx or .p12 file extension. <b>Windows Certificate Store</b> Your digital ID will be stored in the Windows Certificate Store where it will also be available to other Windows applications. The digital ID will be protected by your Windows login.		
Windows Certificate Store Your digital ID will be stored in the Windows Certificate Store where it will also be available to other Windows applications. The digital ID will be protected by your Windows login.		
Your digital ID will be stored in the Windows Certificate Store where it will also be available to other Windows applications. The digital ID will be protected by your Windows login.		
Cancel	< Back	Next >

Adding the Digital ID

 Fill out the dialog with the appropriate information. The Organization Unit should be your District and Division. (i.e., CO – Roadway Services, CO – Structural Services, Vincennes Design, Seymour Design...). All other settings may be left with their default values.

Add Digital ID					×
Enter your identity inform	ation to be used when generating the self-signed certificate.				
Na <u>m</u> e (e.g. John Smith):	CAD Support				
Organizational <u>U</u> nit:	CO - CAD Support				
Organization Name:	INDOT				
<u>E</u> mail Address:	indotcadsupport@indot.in.gov				
<u>C</u> ountry/Region:	US - UNITED STATES	~			
Key Algorithm:	2048-bit RSA	~	]		
Lise digital ID for	Digital Signatures and Data Encryption	~	]		
ose digitario <u>r</u> oi.		·			
Cancel			< Back	N	ext >
		-	_	-	

#### Adding the Digital ID

 Now you will need to save the Digital ID. Make sure to place the file into a location that meets the criteria described in the note at the beginning of this series of exercises.
 When saving the PFX file (Digital ID), make sure you use the following file naming convention. Date is necessary in the event another Digital ID is created in the future. The Adobe version is important for compatibility reasons.

Userid\_YYYYMMDD.pfx [CADSupport\_20180731.pfx]

When creating a Digital ID, you will need to create a password that you will use every time you apply it. *Do not forget your password or you will need to create a new Digital ID*. The password must be a minimum of 6 characters, and it is case sensitive.

file using the Security Settings dialog.	
File Name:	
D:\Electronic Signature\CADSupport_20180731.pfx	Browse
Password:	
****	
Best	
Confirm Password:	
*****	

#### Adding the Digital ID

- 8. Select Finish.
- 9. Now, highlight your name and select the Export option. The file created in this can be used to validate your Digital ID.



**Exporting the FDF File** 

10. Select the Save the data to a file option and click *Next*.

Y	'ou have chosen to export the following data:
	My Certificate(s)
	Certificates are exported to allow the recipients to validate signatures created by you and to encrypt documents for you. Exporting your certificate does not export your private key.
	Export Options
	Select whether you want to save the data to a file or share it via email:
	○ Email the data to someone
	Save the data to a file
	Next Cancel

#### Exporting the FDF File

11. When saving the exported file, make sure that the path is to the same location as your Digital ID. The Save As type should be set to Acrobat FDF Data Exchange.

→ ✓ ↑ → This PC	<ul> <li>Local Disk (D:) &gt; Electronic</li> </ul>	Signature		νõ	Search Electronic	signature	٩
ganize 🔻 New folder							?
This PC Na	ame	Date modified	Туре	Size			
Desktop		No items ma	ch your search.				
Documents			-				
🕹 Downloads							
👌 Music							
Pictures							
🚪 Videos							
Windows (C:)							
Local Disk (D:)							
STJKUHN (\\stat							
NETCOUNT (\\D							
APPS (\\DOTAPF							
IS-DP90 (\\STATI							
SyncDrive (\\Syr							
APPS (\\DOTPW							
	· 20100721 D.C. ((1))						
File name: CADSuppo	rt_20180731_DCprof.fdfJ						
Save as type: Acrobat FDI	F Data Exchange (*.fdf)						~
					Save	Cancel	
Hide Folders					Jave	Cancel	

Userid\_YYYYMMDD\_ver.fdf [CADSupport\_20180731\_DCprof.fdf]



12. Now that you have created a certification file to validate your Digital ID, you will need to email that .fdf file to INDOT CAD Support (<u>indotcadsupport@indot.in.gov</u>). INDOT will then be the holder of this file to validate any contract plans that you have signed electronically. The .fdf file will be kept in a secure location within ProjectWise where it cannot be altered in any way.



**Exporting the FDF File** 

Note: If you would like for CAD Support to store a copy of the .pdf of your signature, make sure to forward a copy of the .pdf while you send the copy of your .fdf file.

#### 1.4-3 Creating the Electronic Signature Image

Now, using either Adobe Acrobat application, you will need to generate the graphical appearance of your signature. For this, return to the scanned image of the signature you generated earlier in this section.

1. Click More in the Creation & Appearance area of the Preferences dialog box.

ategories:		
Full Screen	Digital Signatures	
General	Creation & Appearance	
Page Display BD & Multimedia	Control options for signature creation     Set the appearance of signatures within a document	More
Accessibility Action Wizard Adobe Online Services	Verification	
Catalog Color Management	Control how and when signatures are verified	More

**PDF Signature Properties** 

2. In the Appearances area of the Creation and Appearances Preferences dialog box, click New.

	-			
Default Signing Method:	Adobe Defau	It Security	$\sim$	
Default Signing Format:	PKCS#7 - Det	ached	$\sim$	
When Signing:				
Show reasons				
Show location and	l contact inform	nation		
🗹 Include signature'	s revocation sta	tus		
View documents in	n Preview Mode	•		
Enable Review of Docume	ent Warnings:	When certifyi	ng a document	$\sim$
Prevent Signing Until War	nings Are Revie ace for signing	wed: Never	configuration	~
Prevent Signing Until War Use modern user interf	nings Are Revie ace for signing	wed: Never	configuration	~
Prevent Signing Until War Use modern user interf ppearances	nings Are Revie ace for signing	wed: Never	configuration	~
Prevent Signing Until War ☑ Use modern user interf ppearances	nings Are Revie ace for signing	wed: Never and Digital ID	Configuration	~
Prevent Signing Until War ☑ Use modern user interf ppearances	nings Are Revie	wed: Never	New Edit Duplicate	~
Prevent Signing Until War ☑ Use modern user interf ppearances	nings Are Revie	and Digital ID	New Edit Duplicate Delete	~

**Combining the PDF & FDF Signatures** 

3. This opens the Configure Signature Appearance dialog box. Configure this dialog as described below.

	Cad Support
Configur	e Graphic
Show:	O No graphic Import Graphic from:
	Imported graphic     File
	() Name
Configur	e Text
Show:	Name Location Distinguished name Logo
	Date Reason Adobe Version Labels
Text Prop	erties
Text	Direction:   Auto   Left to right   Right to left

#### **Combining the PDF & FDF Signatures**

- *Title*: Use the name that you use in your signature.
- *Configure Graphic*: Select Imported Graphic and select the File button. Browse to the location that you stored the .pdf of your signature.
- *Configure Text*: Disable all! Print Organizer functionality will be used to fill in the date.
- *Text Properties*: Use the default selection.
- 4. Now you have created you Electronic Signature Image. Click the OK button.
- 5. Click on the Ok button on the Creation and Appearances Dialog box, this will take you back to the Preferences dialog box, Select OK.

## 1.5 Applying Electronic Signatures to Exported PDFs

## 1.5-1 Overview

As mentioned at the front of this chapter, the use of Electronic Signatures has been approved and is in use by INDOT. Note that the Electronic Signature is not placed on every sheet in the document but is used to electronically sign and seal the entire plan set. If any page within the .pdf plan set is altered in any way after placing the Electronic Signature, the Electronic Signature will appear with a broken indicator.

## 1.5-2 "Signing" sheets within the plan set

Per the approval INDOT has received, it has been determined that a graphic representation of the Engineers signature responsible for each sheet within a plan set is acceptable. Therefore, an interface has been provided for the purpose of signing the sheets within a plan set. This can be done either individually or as a group function.

#### 1.5-2a Placing the Graphic Representation of a Signature on Individual Sheets:

- 1. In ProjectWise Explorer, Set your interface to \_SIGNATURE.
- 2. Modify the Properties of the MicroStation file that you want to place the Graphic Representation in.



#### **Setting Document Properties**

3. Select the Attributes Tab of the Document Properties dialog Box and place the Name of the Responsible Engineer and the Date.

neral Security	Attributes	More Attributes	File Properties	Audit Trail	Geospatial	Work Space	
ЕСОММЕ	ENDED F	OR APPR	ROVAL:		DATE:		
CAD Suppo	rt				07/31/20	18	
DESIGN ENGI	NEER						
This interfa graphic rej	ace prov presenta	ided for t ation of th	he sole p e Enginee	urpose ers Sigi	of placi nature.	ing a	
A legal, Bi	nding El	ectronic S	Signature set ( pdf)	will be	attacheo	ł	

#### Attributes Tab of \_\_\_\_\_SIGNATURE Interface in ProjectWise

4. The Graphic Representation of the signature will be placed on the sheet model using a script type font.

RECOMMENDED FOR APPROVAL	CAD Support	DESIGN ENGINEER	07/31/2018 DATE

Printed PDF Signature (prior to Signing)

#### 1.5-2b Placing the Graphic Representation of a Signature on Multiple Sheets

- 1. In ProjectWise Explorer, set your interface to \_PROJECT INFORMATION.
- Select the properties of the MicroStation files that you want to place the Graphic Representation in and on the Document menu, select Modify.



**Modifying Multiple Document Properties** 

3. Select the Plan\_Production tab on the Modify documents dialog box and scroll down to the entries for "SIG\_DATE" and "SIGNATURE".

eneral Plan_Production	
SIG_DATE:	07/31/2018
SIGNATURE:	CAD Support
SPEC DATE:	
Sponsored By::	Indiana Department of Transportation
Stage 1 Design::	
Stage 2 Design::	
Stage 3 Design::	
STRUCT_LOCATION:	
STRUCTURE NO .:	08395
Sub District Location::	
SURVEY BOOK:	
	OK Cancel Apply

#### Modifying Multiple Document Properties

- 4. Place the name of the Responsible Engineer and date, and then select apply.
- 5. The Graphic Representation of the signature will be placed on the sheet models using a script type font.

RECOMMENDED	CAD Support	07/31/2018
FOR APPROVAL	DESIGN ENGINEER	DATE

Printed PDF Signature (prior to Signing)

## 1.5-3 Electronically Signing the Plan Set Created in the MicroStation Platform

With Print Organizer, the plan set (.pdf) will be signed using the Responsible Engineer's Electronic signature after the plot is created. This is accomplished by using one of the new design scripts provided.

- 1. Create your plot set (.pset file) using the process discussed in Section 4.2-1 of this document.
- 2. Print the plot set to PDF format and open using either Adobe Acrobat Professional or Adobe Acrobat Reader.
- 3. Open the Title Sheet and notice in the "Certified by" area, text stating that "THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT". This text is in place to ensure that the reviewer knows that the plan set has not yet been signed by the responsible engineer. This text is in place on both the letter size and 24" x 36" title sheets.

PLANS PREPARED BY:		
		PHONE NUMBER
CERTIFIED BY:	"THE MODE REGILS NOT HE COMBINENED A CENTRIES DOCUMENT."	31-JUL-2018
APPROVED FOR LETTING:		DATE
	INDIANA DEPARTMENT OF TRANSPORTATION	DATE

#### **Unsigned PDF Document**

4. To electronically sign the plan set, the responsible engineer can simply left click on shaded signature box. To sign the document, select "Sign Document".

Process of the second s		FHOME NOMBER
	Sign Document	31-JUL-2018
	Certify with Visible Signature	DATE
APPROVED	<b>N</b> ~ 3	
OR LETTING:		

#### **PDF Document Signing**

5. This will activate the "Sign with a Digital ID" dialog box. Fill this form out as you see fit. Then after using the password that you chose when you created your Digital ID (Error! Reference source not found.), select Continue on the first panel, and then Sign once you have selected the appropriate image.

Choose the	Digital ID that you want to use for signing:	Refresh
	CAD Support (Digital ID file) Issued by: CAD Support, Expires: 2023.07.31	View Details
	Configure New Digital ID	Casel

Applying the Electronic Signature

Appearance	CAD Support	~	Create
(	Cad	Su	pport
			View Certificate Details

6. After clicking on Sign in Acrobat DC, you will automatically be prompted to save your signed file in another location. Place this file at a location of your choosing and then drag/drop it into ProjectWise.

	-				
ganize 🔻 New folder				8=	- ?
📌 syncplicity 🖈 ^ Name ^	Date modified	Type Siz	e		
This PC	No items mat	ch your search.			
E Desktop					
Documents					
🖶 Downloads					
J Music					
E Pictures					
🛃 Videos					
Windows (C:)					
Local Disk (D:)					
TJKUHN (\\stat					
T NETCOUNT (\\D					
APPS (\\DOTAPF					
IS-DP90 (\\STATI					
le SyncDrive (\\Syn					
File name: SignedSheets.pdf					`
Save as type: Adobe PDF Files (*.pdf)					~

## Signature Confirmation

7. With the signature applied, you can then validate the signature using the steps in the following section.

## 1.5-4 Verification of Signatures

If the need to verify a signature arises, CAD Support will be able to provide the appropriate files for verification provided the end user has provided their .fdf file for storage. Otherwise, the signature will present that the file is in its original, unaltered state. To verify signatures in Adobe Acrobat, the following process can be done:

1. After applying the signature to your file, you can then validate that the file is signed by clicking on the signature itself. You will receive a Signature Validation Status dialog like what is shown below:



#### Signature Validation Status

2. You can also further vet the signature at this point by clicking on the Signature Properties button. Note that you can then see all the signatures applied to a single document.

	<b>B</b> 44	~
gnature	Properties	×
P.	Signature is VALID, signed by	
~	Signing Time: 2020/02/05 12:38:25 -05'00'	
Valid	ity Summary	
	The document has not been modified since this signature was applied.	
	The certifier has specified that Form Fill-in, Signing and Commenting are allowed for this document. No other changes are permitted.	
	The document is signed by the current user.	
	Signing time is from the clock on the signer's computer.	
	Signature was validated as of the signing time: 2020/02/05 12:38:25 -05'00'	
Sign	er Info	
	Path validation checks were successful.	
	Revocation checking is not performed for Certificates that you have directly trusted.	
	Show Signer's Certificate	
Adv	vanced Properties Validate Signature Close	
_		

**Signature Properties**