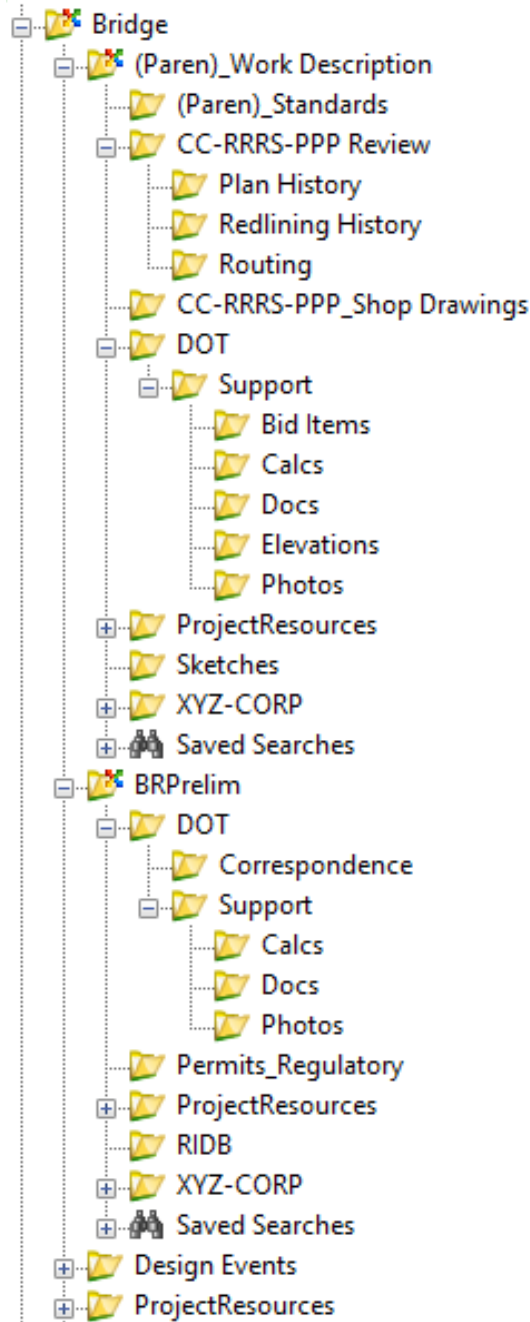


CONNECT Bridge Project Folder Structure in ProjectWise

For CONNECT projects the default folder structure for projects includes one root folder for bridge related projects. Subfolders for files specific to (Paren)_Work Description for final design of a project and BRPrelim for the preliminary design, hydraulics and permit related documentation are provided.



Limit the root folder Bridge to the development of models and the files to be used by other designers to reference with other files stored under the appropriate subfolders.

Both (Paren)_Work Description and BRPrelim contain subfolders for use by internal staff (DOT) or consultants (XYZ-CORP). Both areas have the Support subfolder structure to be used for storing calculations, documentation, and photos. Refer to [Consultant ProjectWise CONNECT Bridge Project Folder Structure](#) for additional information.

CC-RRRS-PPP is the ~~contract-ID~~[Project Control Number \(PCN\)](#) format used for some subfolder names. The ~~contract-ID~~[Project Control Number \(PCN\)](#) contains a 2-digit county, 3-digit route, single digit federal control section number, and 3-digit paren number of the specific project.

The explanations of the specific use of the subfolders are provided below.

Bridge

- Store the project overview and 3D model files for bridges, pipes, culverts, and berms related to the project in this main root folder. Other designers should reference from the structure overview file of all the structures in the project.
 - The **3D model** of every file will be stored in this folder at all stages of development. This is a single source model. The 3D model files will be created, kept and actively worked on in this folder at all times during all stages of development. The Prelim Designer and Final Designer will use this same file accordingly. If needed, this file will only be copied for archive purposes and stored elsewhere.
 - For staged projects, the complete structure shall be modeled, with linework and dimensions separating the individual stages.
 - The file(s) necessary to sheet the design and the PDF files at each stage of development (Concept, B01 etc.) may be created from the 3D model and will be stored in the appropriate subfolders.

(Paren)_Work Description

- Contains the final design detail files developed. Specific workflows, and tools used, will dictate what software application is used to create the plan sheet files (ORD or ProStructures). ProStructures files for modeling of rebar and steel components should be created and developed in this subfolder. The dgn file(s) necessary to sheet the final design plan set are also stored here. [The County/City map pdf that is used on the Map Sheet Model in the plan set is stored here.](#)
- A folder named with the paren number and work code for the specific project will be added for each project stored in the same Project Directory.

(Paren) Standards

- [Contains the Bridge Bureau Standards CADD worksheet files used in final design plan detail files.](#)

CC-RRRS-PPP Review

- The review folder is used to turn in files for plan review routing before turn-in for letting.
- Rename the folder to reflect the ~~contract ID~~Project Control Number (PCN).
- Store one set of 100% review plans with date included in the file name. Do not override or store multiple sets in the Review folder.
 - 99-0034-038_review_01-23-2021.pdf

Plan History

- The plan history folder is for the PDF files of modified plan sets.
- Store all revised versions of the plans. These plan sets are intended to be archived versions of the plan set with the latest date being the most current.
- Include the date in the file name.
 - 99-0034-038_01-23-2021.pdf

Redlining History

- The redlining history folder is for the PDF files reviewed by the designer, ~~and Excel files used for table insertions into the CADD file for bid items or elevations.~~
- Store all reviewed versions of the plans with the comments and markups.
- Include the initials of the reviewer and date in the redlined ~~pdf~~PDF file name.
 - 99-0034-038_AMJ_01-23-2021.pdf

Routing

- The routing history folder is for the PDF files and Specifications sent for peer review by other Bureaus and the corresponding DOT District.
- If there are signed standards included with the project, those shall be placed in the routing folder.
- The PDF shall be permanently stored in this location for review and not overwritten.
- Include the ~~contract ID~~Project Control Number (PCN) and date in the ~~file name of~~PDF file name.
 - 99-0034-038_review_01-30-2021.pdf
- Example folder contents:
 - 99-0034-038_Review_01-30-2021.pdf
 - 99-0034-038_H40_Standard.pdf
 - 99-0034-038_DS-15001.pdf

CC-RRRS-PPP_Shop Drawings

- The shop drawing folder is used to store the final shop drawings.
- Rename the folder to reflect the ~~contract ID~~ Project Control Number (PCN).

DOT

Support

- Store files that support the design process that do not fall into the specific categories of the subfolders or create additional subfolders as appropriate.

Bid Items

- ~~Store bid item quantities and estimate reference notes.~~
- Excel files used for table insertions into the CADD file for bid items.
- Include the ~~contract ID~~ Project Control Number (PCN), County, Design Number and Date in the file name of the Excel file ~~table~~.
 - 99-0034-038_Wright 118_BidItemsandReferenceNotes_01-23-2021.xlsx

Calcs

- Store related calculation files.

Docs

- Store project related documentation, communication, e-mails, and information not considered to be calculations.

Elevations

- Store plan elevation tables.
- Excel files used for table insertions into the CADD file for elevations.
- Include the Project Control Number (PCN), County, Design Number and Date in the file name of the Excel file.
 - 99-0034-038 Wright 118 Elevations 01-23-2021.xlsx

Photos

- Store photos obtained related to the development of the design.

ProjectResources

- The ProjectResources portion of the folder structure is intended for storage of project specific WorkSets files used with the CONNECT applications.
- The sheet indexing file laDOT_WS.dgnws stored under WorkSets subfolder is used to provide sheet numbering and property values for the sheet models created under the (Paren)_Work Code folder.

Sketches

- Store CADD file and PDF files developed for inspection sketches. The sketches are used by bridge maintenance personnel for inspections.

XYZ-CORP

- Refer to [Consultant ProjectWise CONNECT Bridge Project Folder Structure](#) for additional information.

BRPrelim

- Contains the files developed at the preliminary design stage. The models files completed at this stage are under the Bridge folder.
- Optional, a backup copy of the models completed at the Event Dates of B01 & B02 could be stored here. Add a prefix of “B1 or B2 Backup” to the original file name.
 - B1 Backup - OBM_52380453_DOT_0425_600531_Z10.dgn

DOT

Support

- Store files that support the preliminary design process that do not fall into the specific categories of the subfolders or create additional subfolders as appropriate.

Calcs

- Store related hydraulic calculation files.

Docs

- Store project related documentation, communication, e-mails, and information not considered to be calculations. This may include a pdf version of the completed checklist and OpenBridge Modeler input report spreadsheet and screenshots.

Photos

- Store photos obtained related to the preliminary development of the design.

Permits_Regulatory

- Store documentation for permits related to the design.

ProjectResources

- The ProjectResources portion of the folder structure is intended for storage of project specific WorkSets files used with the CONNECT applications.
- The sheet indexing file IaDOT_WS.dgnws stored under WorkSets subfolder is used to provide sheet numbering and property values for the sheet models created under the BRPrelim folder.

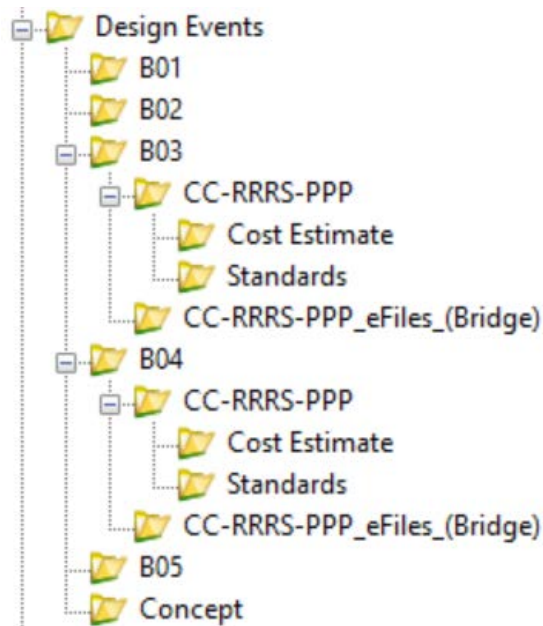
RIDB

- Store the files for the data required at each site for the Riverine Infrastructure Database (RIDB). Refer to the Riverine Infrastructure Database portion of the Bridges and Structures Bureau website (<https://iowadot.gov/bridge/>).

XYZ-CORP

- Refer to [Consultant ProjectWise CONNECT Bridge Project Folder Structure](#) for additional information.

The Design Events portion of the folder structure is intended for final deliverable submittals only. This is used by designers to finalize submittals and organize files for turn in.



Design Events

B01 - Used for Preliminary Design submittal to Final Design.

- PDF of B01 Deliverable
- Copy of B01 Completion Email
- ASCII Input file(s) used to create the 3D culvert model
- .xml files for proposed bridge grading.
 - Include the directional location, County, and Design Number of the specific project.
 - Grading_Surface_NS_77_425.xml

B02 - Used for Preliminary Design submittal to the Design Bureau.

- PDF of B02 Deliverable
- ASCII Input file(s) used to create the 3D proposed pipes model
- PDF of Culvert Schedule Sheet from the database

B03 - Used for Final Bridge Plans submittal to the Contracts Bureau.

CC- RRRS-PPP

- ~~Contract ID~~ Project Control Number (PCN) folder renamed to finalize turn in of project.
- Store project plan for letting including addendums and all subsequent plan revisions, if applicable.

Cost Estimate

- Store cost estimate file.

Standards

- Store signed standards used for the project.

CC- RRRS-PPP_eFiles_(Bridge)

- ~~Contract ID~~Project Control Number (PCN) folder renamed to finalize turn in of project.
- Store data files for construction including information for staking layout, beams and deck.
- Add the design number with four digits to the end of each file name if multiple designs are part of the same project.
 - 99-0034-038_PPC Beam Data Spreadsheet_1217.xlsx

B04 - Used for Final Bridge Plans submittal to the Design Bureau.

CC- RRRS-PPP

- ~~Contract ID~~Project Control Number (PCN) folder renamed to finalize turn in of project.
- Store project plan for letting including addendums and all subsequent plan revisions, if applicable.

Cost Estimate

- Store cost estimate file.

Standards

- Store signed standards used for the project.

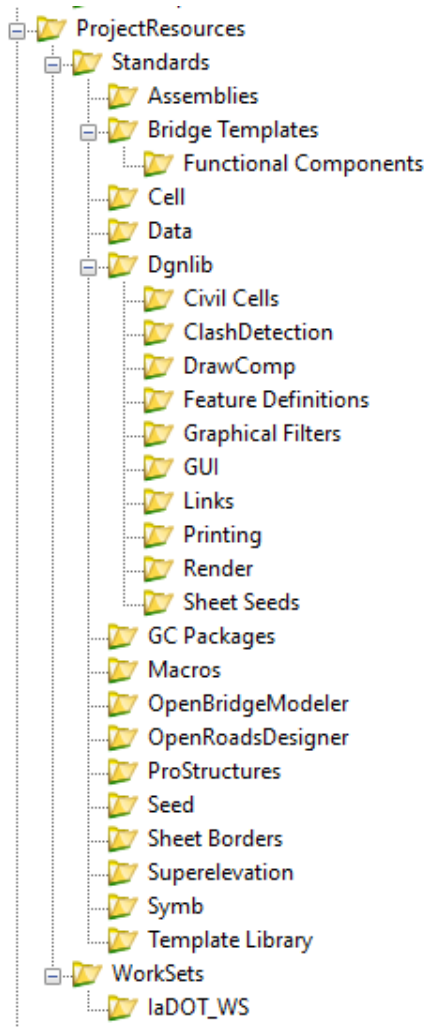
CC- RRRS-PPP_eFiles_(Bridge)

- ~~Contract ID~~Project Control Number (PCN) folder renamed to finalize turn in of project.
- Store data files for construction including existing plans and information for staking layout, beams and deck.
- Add the design number with four digits to the end of each file name if multiple designs are part of the same project.
 - 99-0034-038_PPC Beam Data Spreadsheet_1217.xlsx

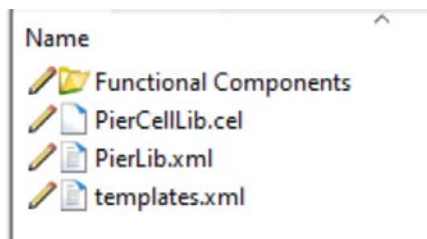
B05 - Used for storing approved Section 408 document.

Concept - Used for storing the final concept for project.

The ProjectResources portion of the folder structure is intended for storage of project specific WorkSets files used with the CONNECT applications.



The Bridge Template subfolder will contain template files that can be used to store project specific versions of the templates used.



Refer to [CONNECT Standard Templates](#) for additional information on templates available and possible project specific usage.

The sheet indexing file laDOT_WS.dgnws stored under WorkSets subfolder is used to provide sheet numbering and property values for the sheet models created for files stored under Bridge.

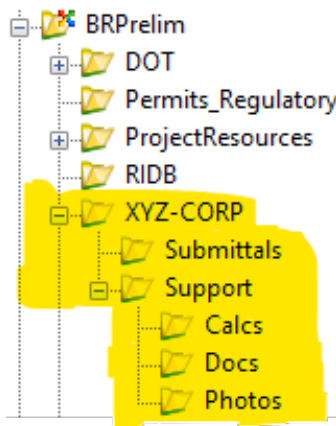
Additional information will be provided as we expand use of the project WorkSets.

Consultant ProjectWise CONNECT Bridge Project Folder Structure

The XYZ-CORP subfolder under the “BRPrelim” or “(Paren)_Work Description” subfolders of Bridge are provided as a working and submittal area for the consultant assigned to the project. The consultant folder is renamed to indicate the consultant. The appropriate permission is assigned to the folders in ProjectWise prior to the beginning of the design. There will be a folder structure provided for each consultant involved in the project.

The Bridge folder stores the project overview and 3D model files for bridges, pipes, culverts and berms related to the project. This folder will also be used by consultants so all other designers can reference from the same location regardless of the designer and stage of design. Refer to [CONNECT Bridge Project Folder Structure](#) for additional information.

The explanations of the specific use of the subfolders are provided below.



Submittals

Store intermittent deliverables for B01 and B02 submittals in this folder. The consultant will deliver the final TSL pdf file directly in the B01 or B02 Design Events folder. Refer to [CONNECT Bridge Project Folder Structure](#) for additional information.

Support

- Store files that support the preliminary design process that do not fall into the specific categories of the subfolders or create additional subfolders as appropriate.

Calcs

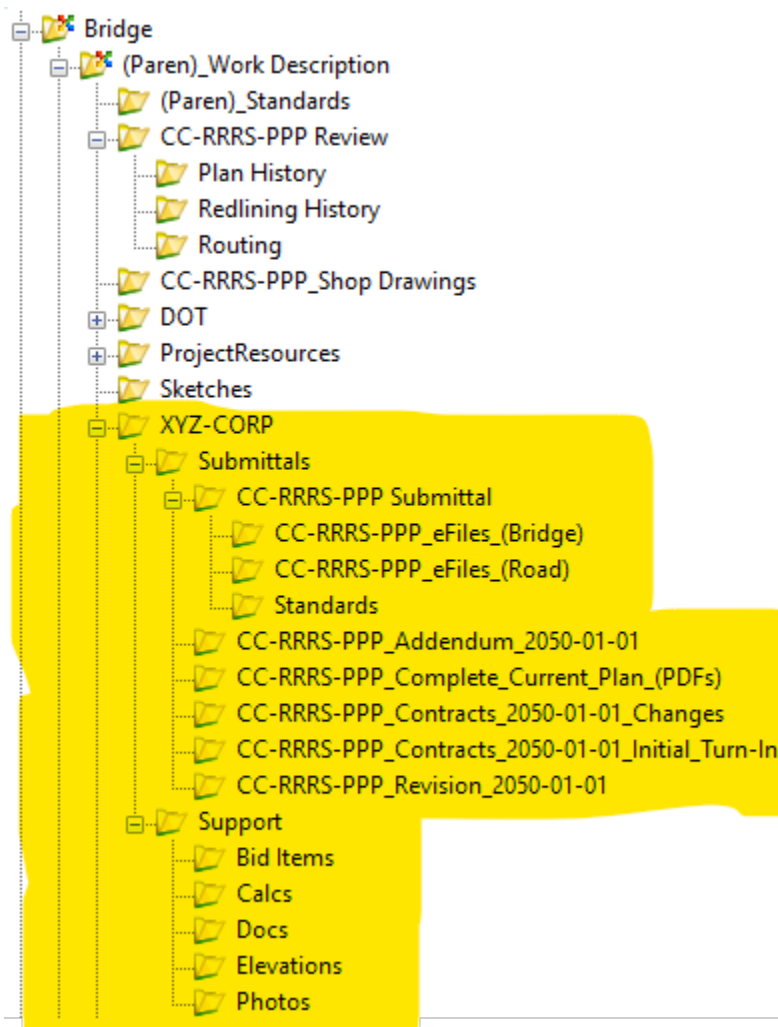
- Store related hydraulic calculation files.

Docs

- Store project related documentation, communication, e-mails, and information not considered to be calculations. This may include a pdf version of the completed checklist and OpenBridge Modeler input report spreadsheet and screenshots.

Photos

- Store photos obtained related to the preliminary development of the design.



CC-RRRS-PPP is the Project Control Number (PCN) format used for some subfolder and file names. The ~~contract ID~~ Project Control Number (PCN) contains a 2-digit county, 3-digit route, single digit federal control section number, and 3-digit paren number of the specific project.

The explanations of the specific use of the subfolders are provided below.

(Paren)_Work Description

- Contains the detail files developed in MicroStation or ProStructures.

(Paren) Standards

- Contains the Bridge Bureau Standards CADD worksheet files used in final design plan detail files.

Submittals

- Store deliverables for B3 and B4 submittals in these subfolders.

CC-RRRS-PPP Submittal

- This submittal subfolder is used to submit plans for review before final turn in for letting.
- Rename the folder to reflect the Project Control Number (PCN)~~contract ID~~.
- The files should include the plan and related comments.
- Store all review versions of the plans with the date included in the file name.
 - 99-0034-038_01-23-2021.pdf

CC-RRRS-PPP_eFiles_(Bridge)

- Store data files for construction including existing plans and information for staking layout, beams and deck.
- See [Bridge Design Manual](#) Section 1.14.1 E-file submittals for list of files needed for projects.
- Rename the folder to reflect the ~~contract ID~~Project Control Number (PCN).
- Add the design number with four digits to the end of each file name if multiple designs are part of the same project.
 - 99-0034-038_PPC Beam Data Spreadsheet_1217.xlsx

CC-RRRS-PPP_eFiles_(Road)

- Store data files for construction for road specific items.
- See [Design Bureau Manual](#) for list of eFiles needed for projects.
- Rename the folder to reflect the ~~contract ID~~Project Control Number (PCN).

Standards

- Store standards used for the project.

CC-RRRS-PPP_Addendum_2050-01-01

- This submittal subfolder is reserved for possible addendum.
- Rename the folder to reflect the ~~contract ID~~Project Control Number (PCN).

CC-RRRS-PPP_Complete_Current_Plan_(PDFs)

- This submittal subfolder is reserved for submittals after the official contracts turn-in.
- Rename the folder to reflect the ~~contract ID~~Project Control Number (PCN).

CC-RRRS-PPP_Contracts_2050-01-01_Changes

- This submittal subfolder is reserved for submittals after the official contracts turn-in.
- Rename the folder to reflect the ~~contract ID~~Project Control Number (PCN).

CC-RRRS-PPP_Contracts_2050-01-01_Initial_Turn-In

- This submittal subfolder is reserved for submittals after the official contracts turn-in.
- Rename the folder to reflect the ~~contract ID~~Project Control Number (PCN).

CC-RRRS-PPP_Revision_2050-01-01

- This submittal subfolder is reserved for possible revisions.
- Rename the folder to reflect the ~~contract ID~~ Project Control Number (PCN).

Support

- Store files that support the design process that do not fall into the specific categories of the subfolders or create additional subfolders as appropriate.

Bid Items

- Store bid item quantities and estimate reference notes.
- Excel files used for table insertions into the CADD file for bid items.
- Include the Contract ID, County, Design Number and Date in the file name of the Excel file table.
 - o 99-0034-038_Wright 118_BidItemsandReferenceNotes_01-23-2021.xlsx

Calcs

- Store related calculation files.

Docs

- Store project related documentation, communication, e-mails, and information not considered to be calculations and final QC/QA documents.

Elevations

- Store plan elevation tables.
- Excel files used for table insertions into the CADD file for elevations.
- Include the Project Control Number (PCN), County, Design Number and Date in the file name of the Excel file.
 - o 99-0034-038 Wright 118 Elevations 01-23-2021.xlsx

Photos

- Store photos obtained related to the development of the design.

Placing/Using MicroStation V8i Standards in CONNECT Files

Listed below are the locations of the Iowa DOT Bridge Bureau V8i CADD Standards in ProjectWise (PW).

PWMain\Documents\Highway\Bridge\V8i Standards\Bridges\

PWMain\Documents\Highway\Bridge\V8i Standards\Culverts\LRFD\

PWMain\Documents\Highway\Bridge\V8i Standards\Pedestrian Tunnels\

PWMain\Documents\Highway\Bridge\V8i Standards\SignTrusses\

Connect Version Bridge Cell Libraries

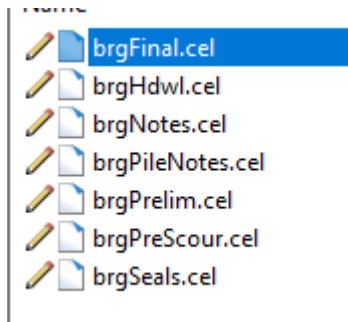
PWMain\Documents\IowaDOTStandardsConnect\Configuration\Organization-Civil\IowaDOT_Standards\Cell\BridgeGeneralUseCells.cel

PWMain\Documents\IowaDOTStandardsConnect\Configuration\Organization-Civil\IowaDOT_Standards\Cell\BridgeDesManualCaddNotes.cel

V8i Version Bridge Cell Libraries

If necessary, some of the V8i cells may be used and modified as needed if a CONNECT version is not available. It may be necessary to update the cell to use the current levels if the cell is used on a CONNECT format sheet. If the cell is used on a V8i format sheet, then it may be used as-is.

PWMain\Documents\IowaDOTStandards\BridgeDesign\Cells\brgFinal.cel



When working in a MicroStation CONNECT Edition file, there will be a need to use existing Iowa DOT Bridge Bureau standards that were developed in MicroStation V8i. **This document is meant to provide general guidance on the use of the V8i standards in CONNECT plan sheet models. Some of these new levels/colors/line weights will change as these are still being developed and refined while the CONNECT workflow is being established. There may be a need for Professional Detailer judgement to determine an adequate color and line weight to use on some details for current projects, until the official Iowa DOT Bridge Bureau level library is finalized and V8i standards are updated to CONNECT.**

It is suggested to use black and white (B&W) pdf print style, “**BW_pdf_SheetModel**”, since this is a transitional phase of setting levels/colors/line weights from V8i to CONNECT and print output may be visually different than what was used in V8i. **The important thing to focus on, is that the details and information to construct what is in the plans is accurate, legible, and understood.**

The previous font used on Bridge Bureau standards in V8i was Font83 and all text was upper case. The new font used on CONNECT files and updated standards will be Engineering Vert, a TrueType font, using sentence case text. **When using existing V8i standards\worksheets in CONNECT, the STANDARD font style or Font83 may be retained, or it may be updated to the Engineering Vert font.** (It is not required to change the existing V8i font when using existing V8i standards\worksheets.)

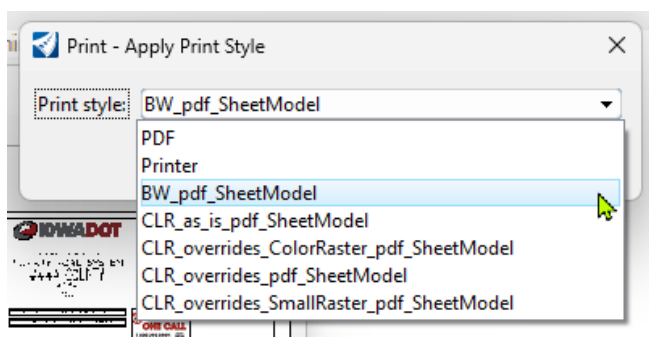
Note: The images used in this document are from a file using Bentley Systems ProStructures CONNECT Edition. The Bridge Bureau Final Design plan sheets may be done in ProStructures. However, if there are no ProStructures generated elements modeled in the file, then the plan sheets may also be developed in OpenRoads Designer (ORD). ProStructures working units are in Feet\Inches. OpenRoads Designer and OpenBridge Designer\Modeler working units are in Survey Feet\Survey Inches.

Do not use the same file that an actual bridge model is in, OpenBridge Modeler (OBM), for plan sheet development.

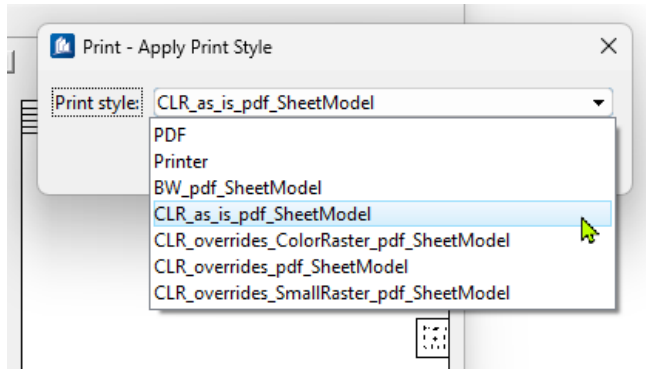
If any MicroStation V8i standards (with unmodified levels) are used in a MicroStation CONNECT file, then it is suggested to print in black and white (B&W), using print style “**BW_pdf_SheetModel**”. Currently it is recommended to not spend time editing V8i standards to change the levels to CONNECT versions when used in plan sheet development. **The one recommended conversion to make, is to change all V8i text to CONNECT SheetText level and all V8i dimensions to the CONNECT Dimensions level.** If it is requested on a project to update the V8i elements on a worksheet, then see the “Recommended Conversion of V8i to CONNECT Levels” section in this document.

If all of the file is fully CONNECT version, with no V8i standards or elements, then the print output may be done in color with the suggested print style “**CLR_as_is_pdf_SheetModel**” or as another option **“CLR_overrides_ColorRaster_pdf_SheetModel” (this style may cause some of the rebar elements to print black).**

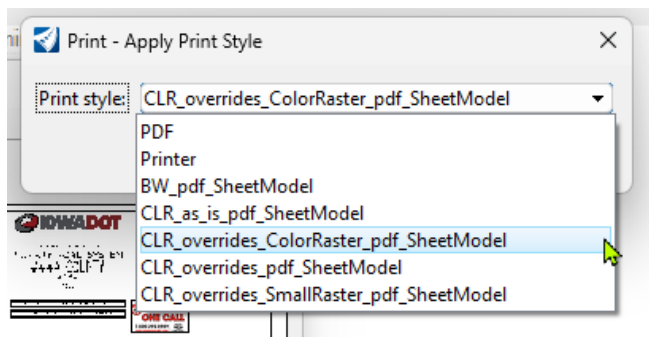
The image below is showing the black & white print style “**BW_pdf_SheetModel**”.



The image below is showing the black & white print style “CLR_as_is_pdf_SheetModel”.

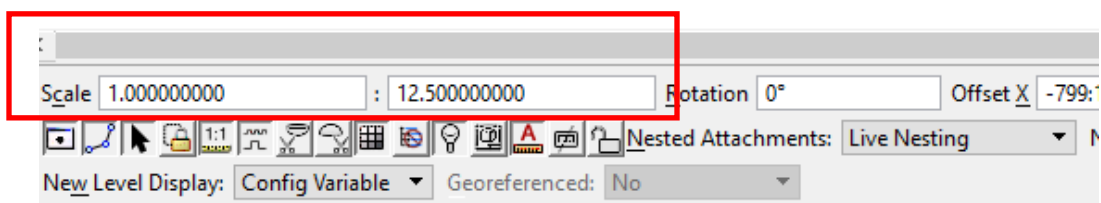


The image below is showing the color print style “CLR_overrides_ColorRaster_pdf_SheetModel” (this style may cause some of the rebar elements to print black).



The V8i standard may be Imported or Referenced **and copied or merged** into the CONNECT file. Importing the V8i models is preferred because this will allow more ideal editing capabilities by referencing **within the same file** the imported V8i 2D Design Model in to a CONNECT Sheet Model. This would be similar to the recommended CONNECT workflow of using a Design Model referenced to a Drawing Model that is referenced to a Sheet Model.

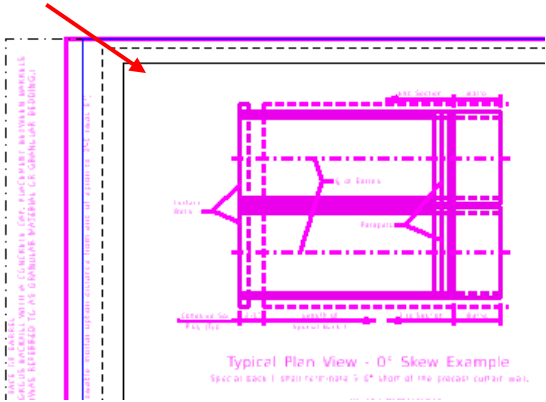
Reference the V8i standard in at a 1:12.5 scale into the CONNECT Sheet Model Border.



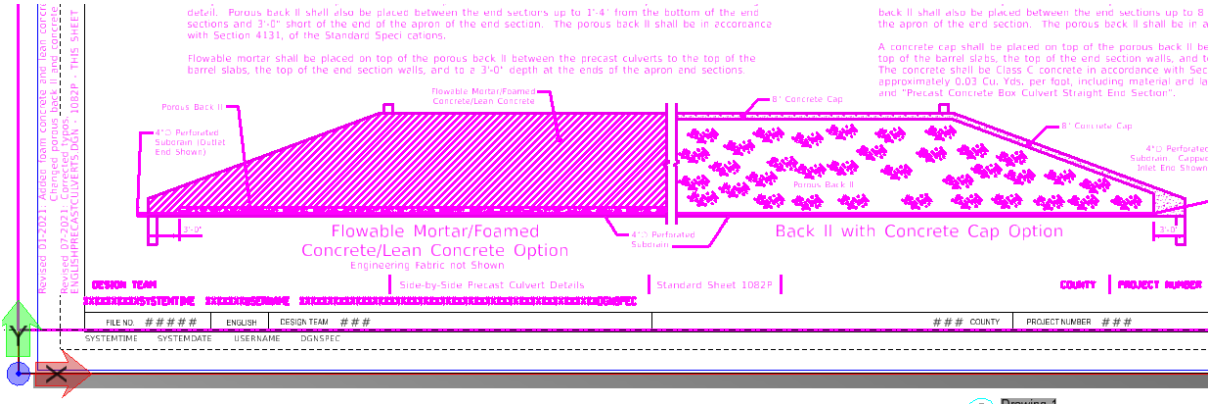
The CONNECT Sheet Model is using an ANSI D size sheet and provides a slightly larger detailing area compared to the V8i standard that is referenced in at a 1:12.5 reference scale and moved into the CONNECT sheet border. The ideal location of the V8i standard into the larger CONNECT sheet area is to

place the upper left corner of the V8i drawing border to the upper left corner of the CONNECT sheet border. This will require relocating of the V8i standard border text to the proper location in the CONNECT sheet border (sheet revision data, sheet title and number).

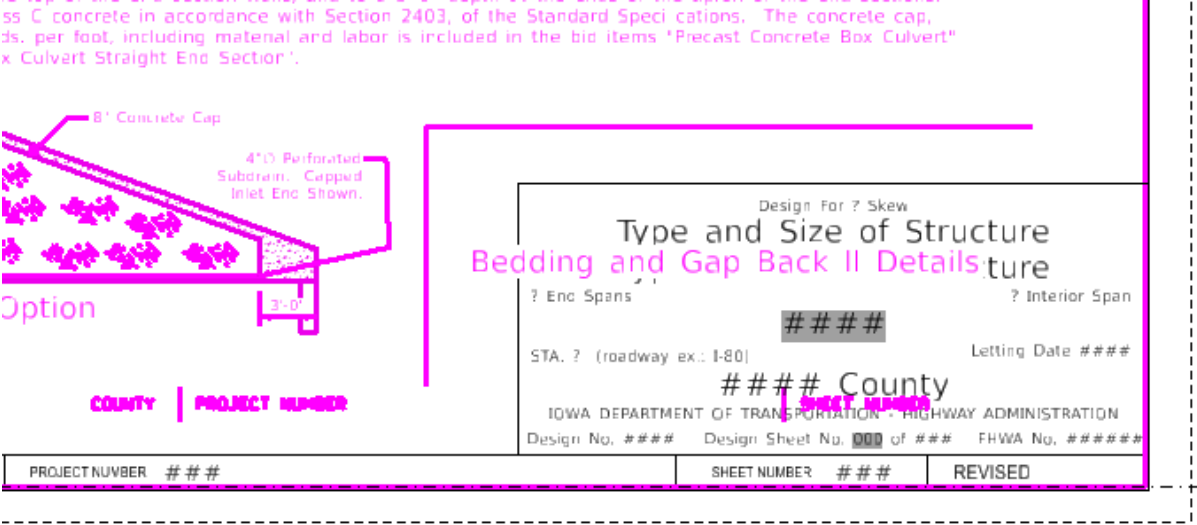
The image below is showing upper left corner of highlighted V8i standard placed into CONNECT sheet border.



The image below is showing highlighted V8i standard in CONNECT sheet model with some of the text that will need to be properly located. If it is a standard worksheet, ensure the information in the lower center of the sheet border is placed in the CONNECT Sheet Model border (Standard Sheet Number and Sheet Description).



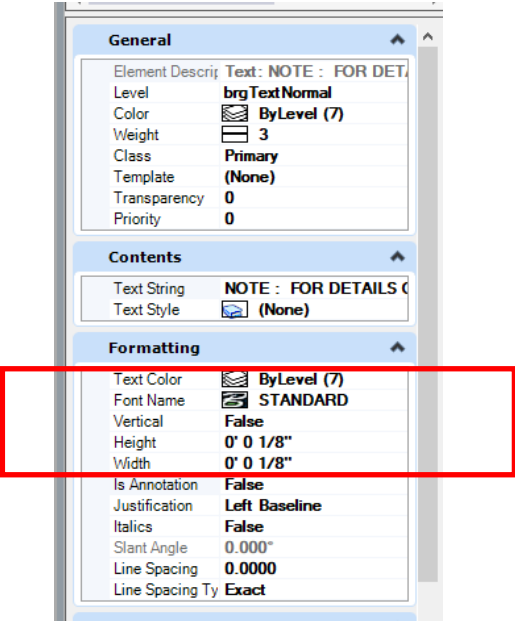
The image below is showing highlighted V8i standard in CONNECT sheet model with some of the text that will need to be properly located.



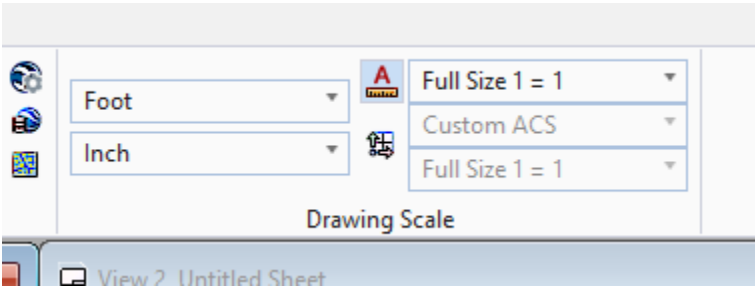
Text Styles

When the V8i version of the standard is placed into a CONNECT file, the Font83 text may come in as STANDARD font style (this is because Font83 is not supported in a CONNECT configured directory). **The STANDARD font style or Font83 may be retained, or it may be updated to the Engineering Vert font.** If keeping the V8i font, then change the V8i text levels from "brgText..." to the CONNECT SheetText level and the V8i dimension levels from "brgDim..." to the CONNECT Dimensions level (set to Color=0, Weight=1). When the V8i standard is scaled at a 1:12.5 reference scale, the normal text height will be at 1/8" in a Full Size 1=1 scale CONNECT sheet model.

The image below is showing properties of text elements.



The image below is showing drawing scale of Sheet Model.



The previous Font83 symbols that were created using fractions and certain keyboard symbols will no longer be valid. The Font83 symbols will display as the original characters that were used to create the symbols (example: ± will display as } and ø will display as 59/64).

The Font83 text elements shown in the image below will have to be changed to the proper symbols supplied in MicroStation Text Editor.

FONT 83															APPENDIX E	
															SPACE	
!	"	#	\$	%	&	'	()	*	+	,	-	.	/	Ø	
!	"	#	\$	%	&	'	()	*	+	,	-	.	/	0	
1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	@	
	2	3	4	5	6	7	8	9	:	;	<	=	>	?	@	
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
Q	R	S	T	U	V	W	X	Y	Z	[\]	o	-	\	
Q	R	S	T	U	V	W	X	Y	Z	[\]	o	-	HALF SPACE	
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	
q	r	s	t	u	v	w	x	y	z	{	:	}	~	UNDEF	UNDEF	
q	r	s	t	u	v	w	x	y	z	{	:	}	~	UNDEF	UNDEF	
1/2	1/4	3/4	1/8	3/8	5/8	7/8	1/16	3/16	5/16	7/16	9/16	11/16	13/16	15/16	1/32	
1/2	1/4	3/4	1/8	3/8	5/8	7/8	1/16	3/16	5/16	7/16	9/16	11/16	13/16	15/16	1/32	
3/32	5/32	7/32	9/32	11/32	13/32	15/32	17/32	19/32	21/32	23/32	25/32	27/32	29/32	31/32	1/64	
3/32	5/32	7/32	9/32	11/32	13/32	15/32	17/32	19/32	21/32	23/32	25/32	27/32	29/32	31/32	1/64	
3/64	5/64	7/64	9/64	11/64	13/64	15/64	17/64	19/64	21/64	23/64	25/64	27/64	29/64	31/64	33/64	
o	2	3	4	6	-2	-3	-4	-6	21/64	23/64	25/64	27/64	29/64	31/64	o	
35/64	37/64	39/64	41/64	43/64	45/64	47/64	49/64	51/64	53/64	55/64	57/64	59/64	61/64	63/64	KEY	
±	2	3	41/64	U	45/64	.	φ	ℓ	I	II	III	φ	IV	ℓ	RESULT	

When editing the V8i standard in CONNECT, the text may be left as STANDARD, Font83, or updated to the Engineering Vert. If converting text and dimensions to the Engineering Vert font, then use the proper template for plan annotation.

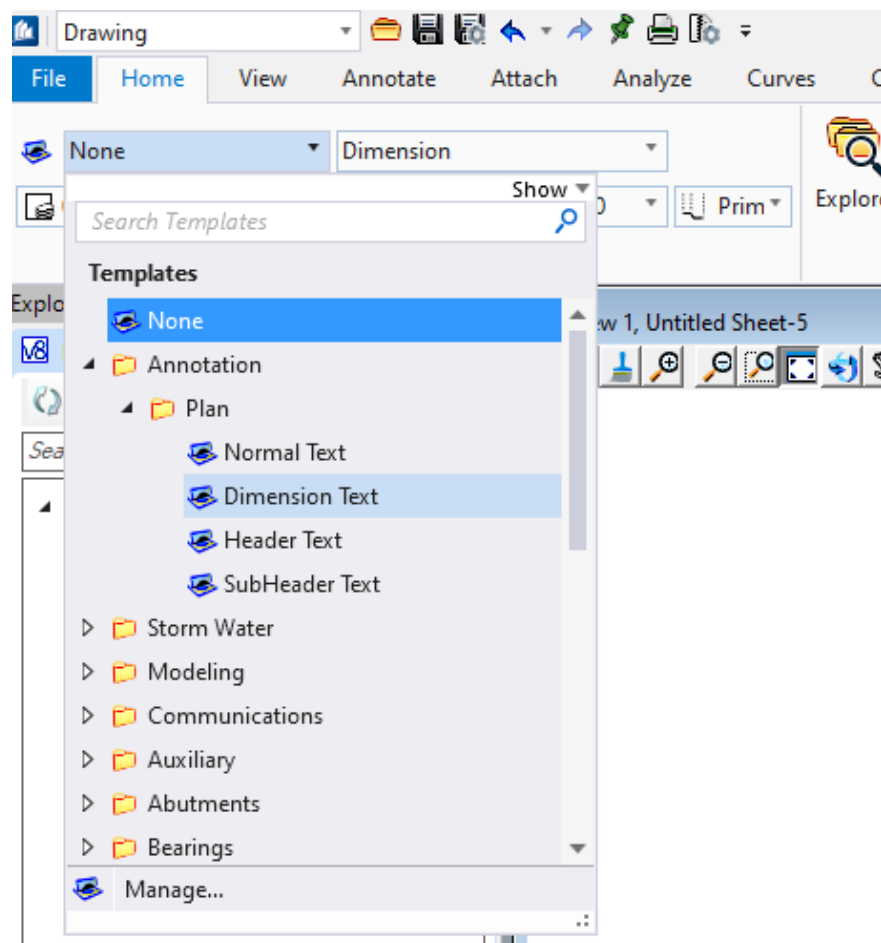
Normal Text: Use for any notes except dimension leader notes.

Dimension Text: Use for all dimensions, leader notes and dimensional/numerical values and text used in tables or fields. For an example, see the tables used on the Iowa DOT Culvert Barrel Details standard sheets.

Header Text: Use for all headers and title blocks.

SubHeader Text: Use when Header and Normal text do not seem appropriate. Such as the word “Notes” used when labeling or title of a group of notes or instructions.

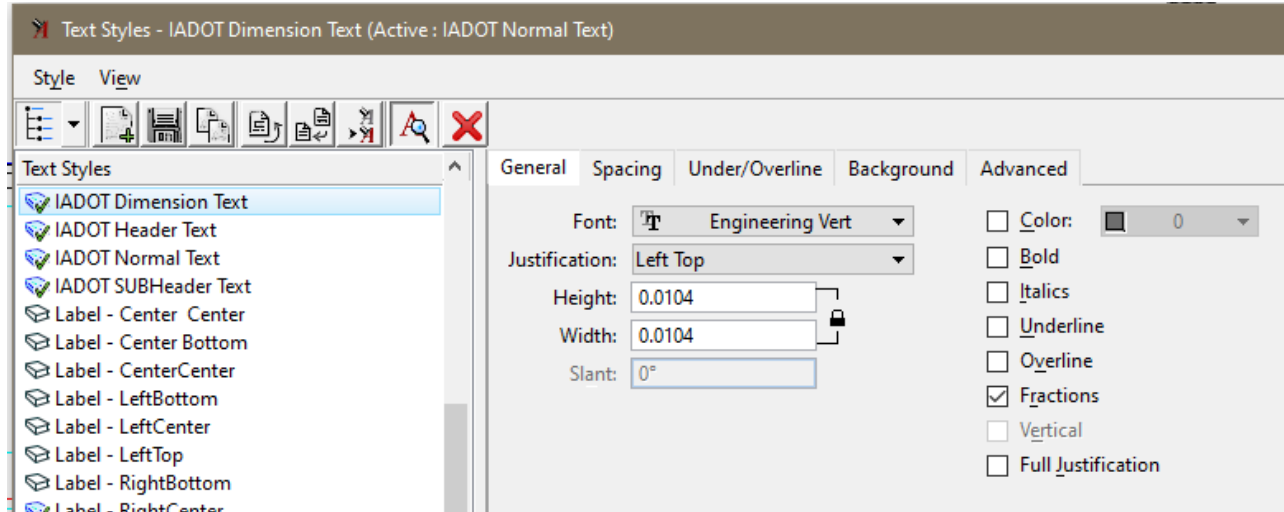
The image below is showing the list of text Annotation Templates.



Text Style Sizes

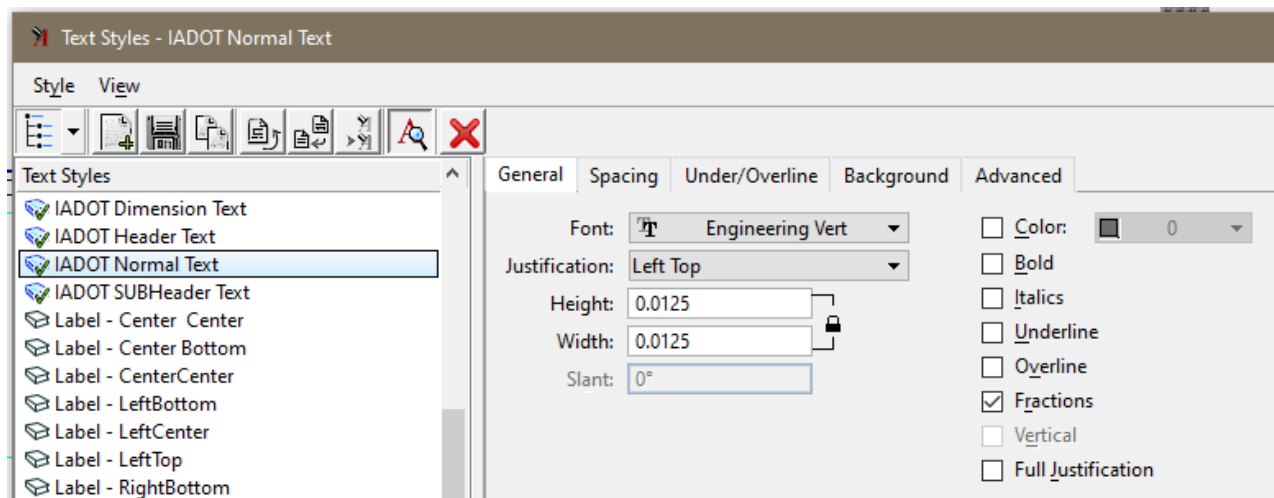
Settings for text styles are shown in the images below.

Dimension Text: $1/8''$ ($0.125/12=0.0104166$)

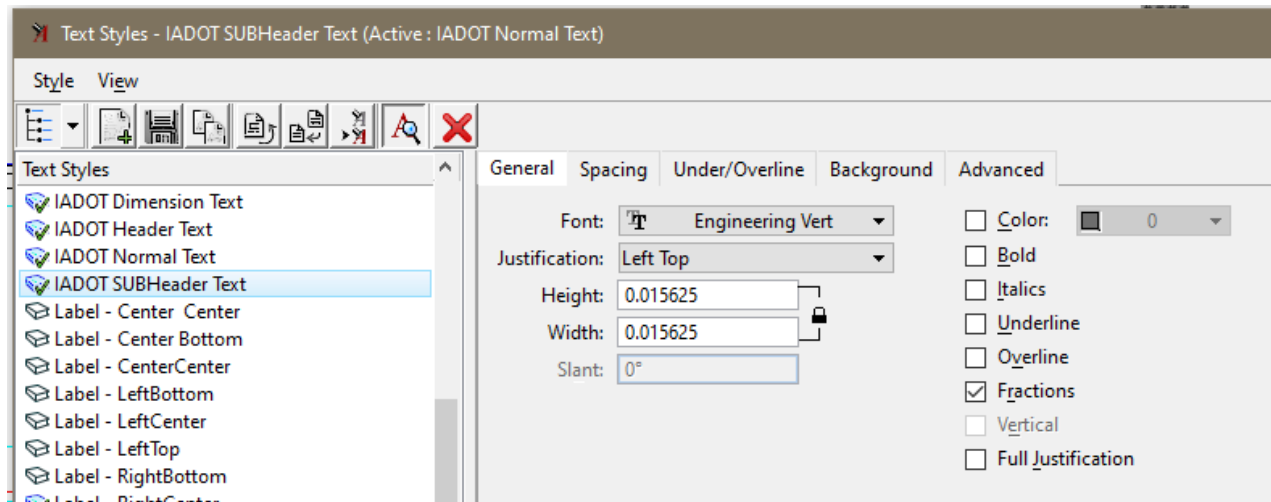


Normal Text: Approx. $5/32''$ ($0.15/12=0.0125$)

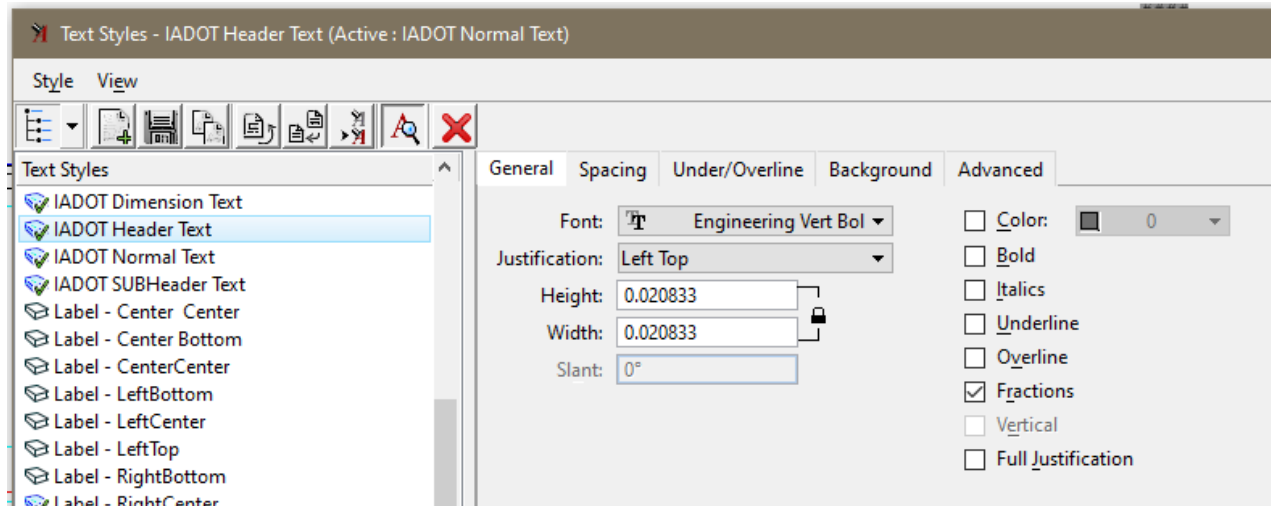
Slightly larger than Dimension Text for increased legibility on notes.



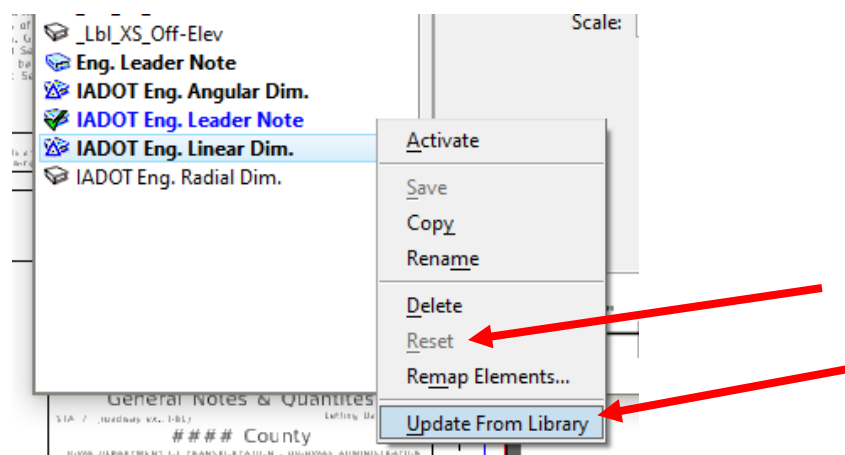
Subheader Text: 3/16" (0.1875/12=0.015625)



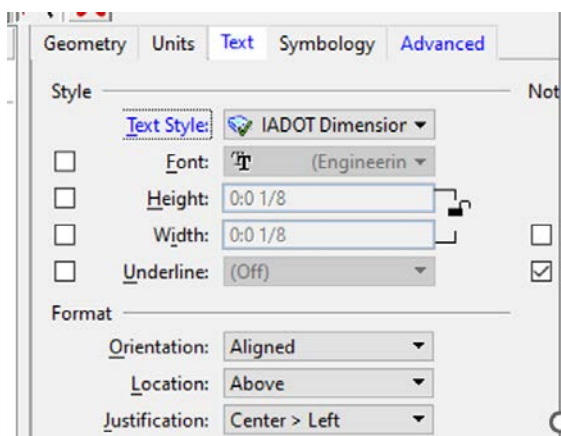
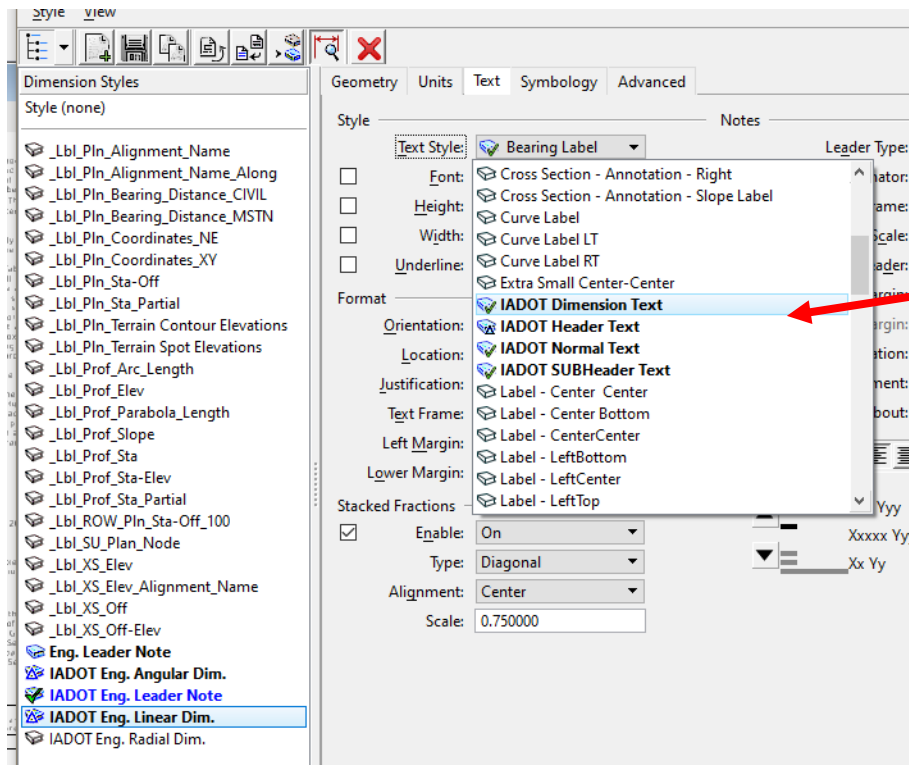
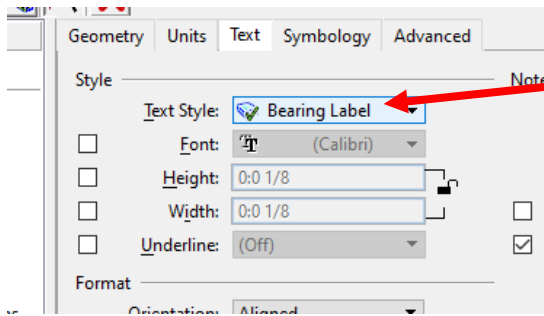
Header Text: 1/4" (.25/12=.020833)



If the IADOT Dimension Styles are not using the proper **Text Style** with the proper **Font**, then the dimension style may need "Reset" or "Update From Library".



If this does not work, then select the proper IADOT Text Style in the dimension settings.



Placing the Title Block Text Field Cell

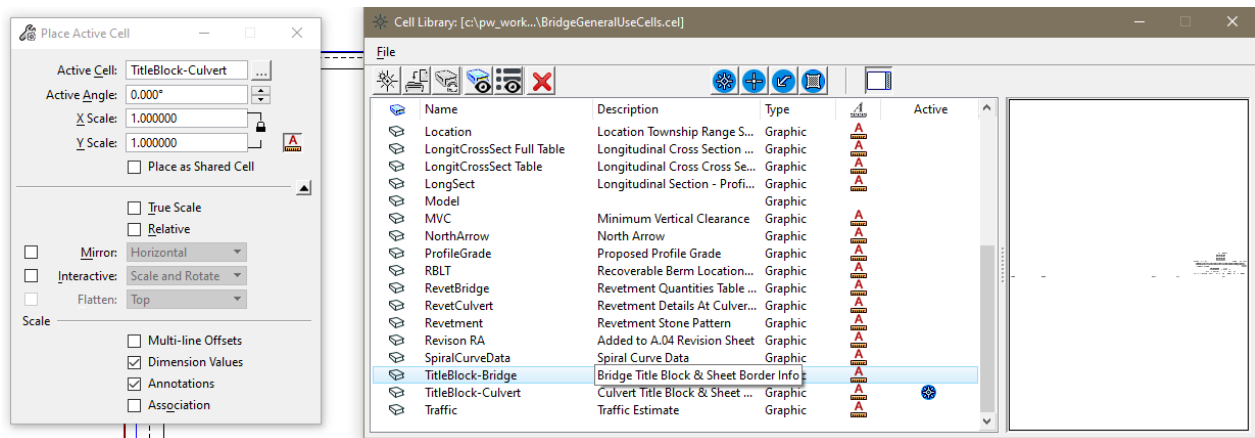
The new CONNECT “Bridge Plan Production Seed” file includes the proper Bridge and Culvert Sheet Models with the Title Block included using text fields to auto populate text when the sheet model is added to the Sheet Index. The below guidance is to show how to attach the cell in a manual process if desired.

When placing the Title Block Cell for plan sheets ensure “Place as Shared Cell” is **UNCHECKED**. This will allow editing of the individual title block text lines for each sheet. If “Place as Shared Cell” is activated, then all instances of that cell will show the same changes.

Shared Cell definition: A cell whose elements are stored only once in the DGN file, regardless of how often the cell is placed. Any change made to one instance of a shared cell reflects in all instances of that shared cell.

Title Block cells for Bridge and Culvert sheets are in the **BridgeGeneralUseCells.cel** file on ProjectWise. PWMain\Documents\IowaDOTStandardsConnect\Configuration\Organization-Civil\IowaDOT_Standards\Cell\BridgeGeneralUseCells.cel

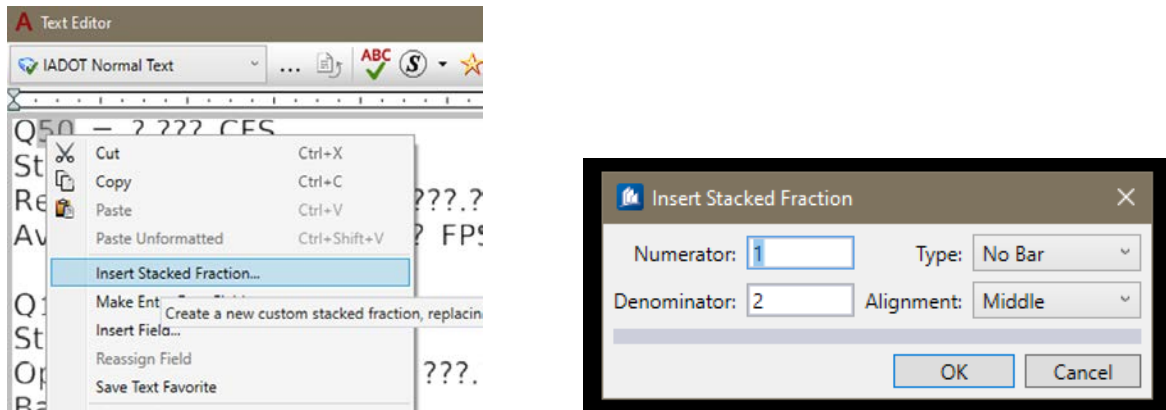
The image below is showing the cell library with the Title Block cells.



Create Text Subscript/Superscript

The use of the Subscript and Superscript in the Text Editor tools provide text that is too small to adequately read if a pdf is printed on paper. To create an adequate size subscript/superscript, the use of “Insert Stacked Fraction” in the Text Editor provides a good option.

In the Text Editor, right click to get the menu to pop up and select **Insert Stacked Fraction...**



In the Numerator window hit the “space bar” to create an empty space (this is just a place holder, blank numerator).

In the Denominator window enter the required text/number for the subscript entry.

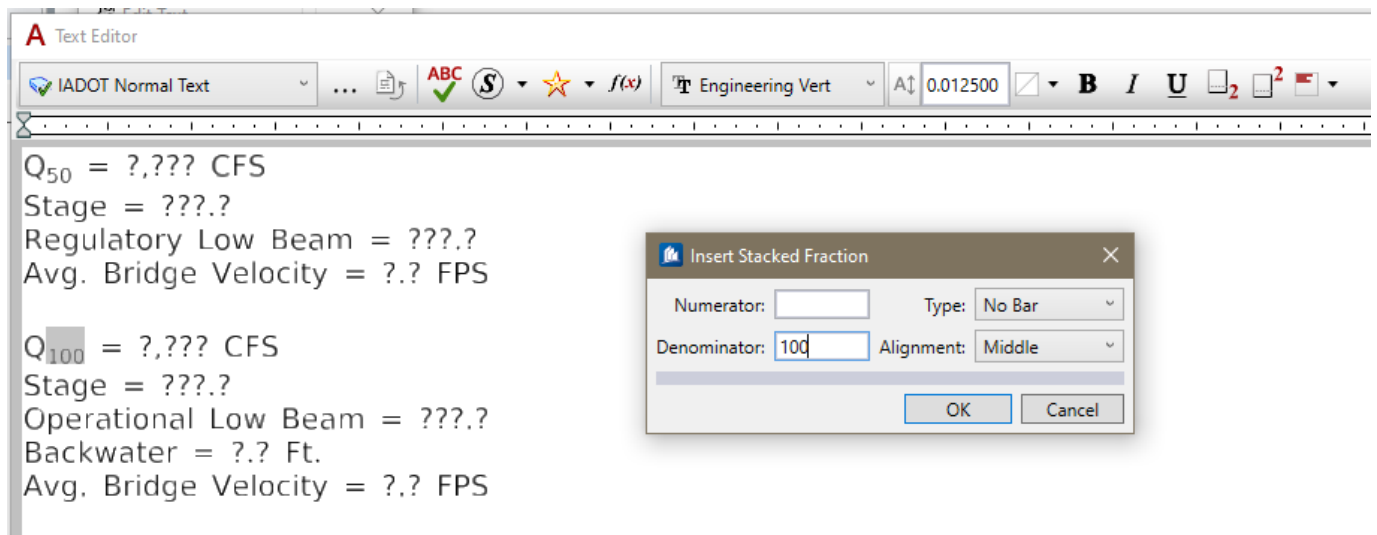
In the Type window select No Bar.

In the Alignment window select Middle.

Select OK to complete the subscript creation.

For Superscript the entries of information in Numerator and Denominator are reversed.

The image shows the example of a flow rate value label for 100 years.



Levels

This guidance is for 2D detailing. When using a 3D model to develop 2D details, some of the levels used in the 3D model will be set from the model features and may differ from what is listed below. Examples of these levels would be the OBD and OBM prefixed levels.

The **PC_ & PS_** levels were put in place with the intent of being used with ProStructures 3D rebar/steel modeling. If only applying 2D details, without the ProStructures rebar/steel tools (not 3D model based), then the recommendation would be to use the rebar type/coating levels **PC_REBAR**, **PC_REBAR_EPOXY** and **PC_REBAR_STAINLESS** similar to what was done in the past with 2D detailing. In addition, the other **PC_** levels may be used in a logical manner (structural element) based from their descriptions in the Level Manager list.

Some levels have prefix letters to signify the application elements they are tied to. These prefix levels may be used for any detailing, as desired.

- PC = ProConcrete
- PS = ProSteel
- OBD and OBM = OpenBridge Designer/Modeler
- OBD_D and OBM_D = OpenBridge Designer/Modeler Decorations (2D elements tied to the 3D OBM model components).
- All levels ending in **GL** are intended to be used in ProStructures as “Guide Lines” when modeling rebar.

Recommended Conversion of V8i to CONNECT Levels:

The one recommended conversion to make, is change all V8i text and dimensions levels to CONNECT SheetText level. This conversion is not mandatory, it is a suggested change that would make V8i text and dimensions black on the white background of the CONNECT Sheet Model and ensure consistent output of a B&W print.

Below are some of the recommended level conversions from V8i to CONNECT. When using V8i standard worksheets in a CONNECT file, it is not required to convert the levels of V8i linear elements to CONNECT levels. The V8i worksheets may be used “as is” in a CONNECT file. The use of B&W print output is recommended for these sheets.

V8i Level

CONNECT Level

brgTextNormal	SheetText
brgTextSubheader	SheetText
brgTextHeader	SheetText
brgDimensionLines	Dimensions (Change Color=0, Weight=1)
brgTableBorder	SheetGridMajor
brgTableLines	SheetGridMinor
brgTextBlockOut	TextBlockOut
brgBorder	SheetBorder

V8i Level

brgShading
brgRevAnnotation

brgAluminum
brgBentoniteSlurry
brgDirtRock

brgConcrete

brgConcreteAbutFoot
brgConcreteAbutWall
brgConcreteAbutWing
brgConcreteDeck
brgConcretePierCap
brgConcretePierCol
brgConcretePierFoot
brgConcretePrecast
brgConcreteRail
brgConcreteRustication

brgDeckBottom
brgDeckTop

brgConstructionLines

brgErosionStoneBottom
brgErosionStoneTop

brgGranularMaterial

brgXsFabric
brg3DFabric

brgFlowableMortar
brgJointMaterial
brgNeoprene

brgPVC
brgRebarBlack

CONNECT Level

PC_REPAIR_SHADING
PC_REVISION_ANNOTATION, Revisions

Aluminum
BentoniteSlurry
Dirt

Concrete *or* PC_CONCRETE (either may be used for all 2D concrete), PC_CONCRETE_MISC, PC_CULVERT_CIP

PC_ABUT, PC_FTG
PC_ABUT, PC_WALL
PC_ABUT, PC_WALL
PC_DECK
PC_PIER_CAP
PC_PIER_COLUMN
PC_FTG, PC_PADFOOTING
PC_CULVERT_PC
PC_BARRIER
PC_CONCRETE_MISC, ConcreteRustication

PC_DECK
PC_DECK

PS_CONST (Ensure Element Class is set to Construction.)

ErosionControl
ErosionControl

TC_Granular
TC_GranularBackFill
TL_GranularTop

TC_EngineeringFabric
TC_EngineeringFabric

FlowableMortar
Joints
Neoprene

PVC
PC_REBAR

V8i Level

brgRebarEpoxy
brgStainless

brgRemovals

brgRevetmentBottom
brgRevetmentTop
brgXsRevetment
brg3DRevetment

brgStrandsPrestressed

brgStructuralSteel
brgStructuralSteelWeathered

brgTemporaryStructures
brgTimbers

brgUtility

brgWireMesh

CONNECT Level

PC_REBAR_EPOXY
PC_REBAR_STAINLESS

PC_REPAIR_REMOVALS, Removals

Revetment
Revetment
Revetment
Revetment

OBD_Tendon

PS_GIRDER, PS_PLATE, Steel

BridgeTemporaryStructure
Timbers

UtilitiesAboveGround, UtilitiesBelowGround

WireMesh

See additional CONCRETE and REBAR options shown below.

Name	Description	Color	Quantity	Unit	Material
Bridge	IowaDOT_FeatureDefinitions_ElementTemplates_Annotation_Levels.dgnlib	White	0	0	0
BridgeExistingStructure	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Green	234	0	1
BridgeSubstructure	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Blue	65	0	8
BridgeSubstructureExisting	IowaDOT_FeatureDefinitions_ElementTemplates_Annotation_Levels.dgnlib	Green	234	0	0
BridgeSubstructureProposed	IowaDOT_FeatureDefinitions_ElementTemplates_Annotation_Levels.dgnlib	Red	3	0	0
BridgeSuperStructure	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	3	0	8
BridgeSuperStructureExisting	IowaDOT_FeatureDefinitions_ElementTemplates_Annotation_Levels.dgnlib	Green	234	0	0
BridgeSuperStructureProposed	IowaDOT_FeatureDefinitions_ElementTemplates_Annotation_Levels.dgnlib	Red	3	0	0
BridgeTemporaryStructure	IowaDOT_FeatureDefinitions_ElementTemplates_Annotation_Levels.dgnlib	Purple	15	0	3

Name	Description	Color	Quantity	Unit	Material
Culvert	IowaDOT_FeatureDefinitions_ElementTemplates_Annotation_Levels.dgnlib	White	0	0	0
CulvertExisting	IowaDOT_FeatureDefinitions_ElementTemplates_Annotation_Levels.dgnlib	Green	234	0	0
CulvertProposed	IowaDOT_FeatureDefinitions_ElementTemplates_Annotation_Levels.dgnlib	Red	3	0	0

Name	Description	Color	Quantity	Unit	Material	Used
Dimensions	IowaDOT_FeatureDefinitions_ElementTemplates_Annotation_Levels.dgnlib	White	0	0	1	•
Dirt	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Yellow	28	0	4	
Di-ROW Existing	IowaDOT_FeatureDefinitions_ElementTemplates_Annotation_Levels.dgnlib	Green	10	0	6	

Name	Description	Color	Quantity	Unit	Material	Used
Dimensions	IowaDOT_FeatureDefinitions_ElementTemplates_Annotation_Levels.dgnlib	Blue	230	0	0	•
Dirt	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Yellow	28	0	4	

Name	Description	Color	Quantity	Unit	Material
PC_ABUT	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	13	0	8
PC_APPROACH	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	35	0	8
PC_BARRIER	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	131	0	6
PC_BEAM	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	19	0	8
PC_BEARING	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Purple	89	0	2
PC_COLUMN	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	13	0	8
PC_CONCRETE	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	3	0	8
PC_CONCRETE_MISC	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	3	0	8
PC_COVER	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	32	0	0
PC_CULVERT_CIP	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	35	0	8
PC_CULVERT_PC	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	46	0	8
PC_DECK	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	3	0	8
PC_DIAPHRAGM_CONC	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	51	0	8
PC_FTG	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	13	0	8
PC_MARKER	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Green	6	0	0
PC_OBJECT	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Green	2	0	0
PC_PADFOOTING	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	13	0	8
PC_PIER_CAP	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	13	0	8
PC_PIER_COLUMN	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Red	13	0	8
PC_REBAR	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Yellow	12	0	3
PC_REBAR GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR ABUT	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Yellow	28	0	3
PC_REBAR ABUT GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR ABUT GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR ABUT GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR ABUT GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR ABUT GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR ABUT GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR APPROACH	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Green	82	0	3
PC_REBAR APPROACH GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR APPROACH GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR APPROACH GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR APPROACH GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR APPROACH GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR APPROACH GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR BARRIER	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Green	34	0	3
PC_REBAR BARRIER GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR BARRIER GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR BARRIER GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR BARRIER GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR BARRIER GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR BARRIER GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	White	16	4	0
PC_REBAR BEAM	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Yellow	60	0	3
PC REBAR BEAM GL	IowaDOT Bridge Features Levels Elem Temp Imperial.dgnlib	White	16	4	0

See additional CONCRETE and REBAR options shown below.





















Name	Description			
PC_REBAR_BEAM	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing: Beam	60	0 3
PC_REBAR_BEAM GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Beam	16	4 0
PC_REBAR_BEAM GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Beam	16	4 0
PC_REBAR_BEAM GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Beam	16	4 0
PC_REBAR_BEAM GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Beam	16	4 0
PC_REBAR_BEAM GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Beam	16	4 0
PC_REBAR_BEAM GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Beam	16	4 0
PC_REBAR_CULVERT_CIP	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing: Cast-in-place Culvert	12	0 3
PC_REBAR_CULVERT_CIP GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: for CIP Culvert	16	4 0
PC_REBAR_CULVERT_CIP GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: for CIP Culvert	16	4 0
PC_REBAR_CULVERT_CIP GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: for CIP Culvert	16	4 0
PC_REBAR_CULVERT_CIP GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: for CIP Culvert	16	4 0
PC_REBAR_CULVERT_CIP GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: for CIP Culvert	16	4 0
PC_REBAR_CULVERT_CIP GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: for CIP Culvert	16	4 0
PC_REBAR_CULVERT_PC	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing: Precast Culvert	12	0 3
PC_REBAR_CULVERT_PC GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guidelin: Precast Culvert	16	4 0
PC_REBAR_CULVERT_PC GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guidelin: Precast Culvert	16	4 0
PC_REBAR_CULVERT_PC GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guidelin: Precast Culvert	16	4 0
PC_REBAR_CULVERT_PC GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guidelin: Precast Culvert	16	4 0
PC_REBAR_CULVERT_PC GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guidelin: Precast Culvert	16	4 0
PC_REBAR_CULVERT_PC GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guidelin: Precast Culvert	16	4 0
PC_REBAR_DECK	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing: Decking	18	0 3
PC_REBAR_DECK GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Decking	16	4 0
PC_REBAR_DECK GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Decking	16	4 0
PC_REBAR_DECK GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Decking	16	4 0
PC_REBAR_DECK GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Decking	16	4 0
PC_REBAR_DECK GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Decking	16	4 0
PC_REBAR_DECK GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Decking	16	4 0
PC_REBAR_DIAPHRAGM	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing: Diaphragm	12	0 3
PC_REBAR_DIAPHRAGM GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Diaphragm	16	4 0
PC_REBAR_DIAPHRAGM GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Diaphragm	16	4 0
PC_REBAR_DIAPHRAGM GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Diaphragm	16	4 0
PC_REBAR_DIAPHRAGM GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Diaphragm	16	4 0
PC_REBAR_DIAPHRAGM GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Diaphragm	16	4 0
PC_REBAR_DIAPHRAGM GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Diaphragm	16	4 0
PC_REBAR_DOWELS	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing: Dowels	10	0 3
PC_REBAR_DOWELS GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Dowels	16	4 0
PC_REBAR_EPOXY	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Epoxy Rebar	18	0 3
PC_REBAR_EPOXY GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Epoxy Rebar Guideline	16	4 0
PC_REBAR_FOOTING	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing: Foundations	42	0 3
PC_REBAR_FOOTING GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Foundations	16	4 0
PC_REBAR_FOOTING GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Foundations	16	4 0
PC_REBAR_FOOTING GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Foundations	16	4 0
PC_REBAR_FOOTING GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Foundations	16	4 0
PC_REBAR_FOOTING GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Foundations	16	4 0
PC_REBAR_FOOTING GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Foundations	16	4 0
PC_REBAR_MISC	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing: Misc	12	0 3
PC_REBAR_MISC GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Misc	16	4 0
PC_REBAR_MISC GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Reinforcing Guideline: Misc	16	4 0

See additional CONCRETE and REBAR options shown below.

Name	Description	Quantity	Unit	Material
PC_REBAR_MISC	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	12	0	3
PC_REBAR_MISC GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_MISC GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_MISC GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_MISC GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_MISC GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_MISC GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PIER_CAP	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	0	3
PC_REBAR_PIER_CAP GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PIER_CAP GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PIER_CAP GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PIER_CAP GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PIER_CAP GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PIER_CAP GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PIER_COL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	26	0	3
PC_REBAR_PIER_COL GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PIER_COL GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PIER_COL GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PIER_COL GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PIER_COL GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PIER_COL GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PILE	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	12	0	3
PC_REBAR_PILE GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PILE GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PILE GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PILE GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PILE GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_PILE GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_STAINLESS	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	41	0	3
PC_REBAR_STAINLESS GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_STAINLESS GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_STAINLESS GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_STAINLESS GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_STAINLESS GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_STAINLESS GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WALL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	10	0	3
PC_REBAR_WALL GL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WALL GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WALL GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WALL GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WALL GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WALL GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WINGWAL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WINGWAL GL 1	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WINGWAL GL 2	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WINGWAL GL 3	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WINGWAL GL 4	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WINGWAL GL 5	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	16	4	0
PC_REBAR_WINGWALL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	28	0	3

Name	Description	Quantity	Unit	Material
PC_REBAR_WINGWALL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	28	0	3
PC_REPAIR_EXISTING	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	230	0	1
PC_REPAIR_REMOVAL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	228	0	2
PC_REVISION_ANNOTATION	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	5	0	5
PC_SHADING	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	233	0	0
PC_SLAB	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	99	0	8
PC_STRIPFOOTING	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	115	0	8
PC_STRUCT_WALL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	19	0	8
PC_WALL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	13	0	8

See additional STEEL options below.

Name	Description	Color	Line Style	Weight
PS_BOLT	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Connection Bolts		2
PS_CONST	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Construction Line		0
PS_DAWA	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib			0
PS_DIM	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Dimension		0
PS_Elev_flag	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Elevation Flag		0
PS_GIRDER	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Steel Girder		4
PS_HANDRAIL	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Handrail		4
PS_HATCH	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Hatching		0
PS_HIDDEN	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Hidden Lines		3
PS_KOTE	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib			0
PS_MID	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Midline		7
PS_OBJECT	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Object		0
PS_PLATE	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Plate-Metal		4
PS_POS	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Position Flag		0
PS_RoofWall	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Roof Wall		0
PS_SHAPE	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Shape		4
PS_SOLID	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Visible Lines		0
PS_TEXT	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Text		0
PS_WELD	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Connection: Weld		4
PS_WORKFRAME	IowaDOT_Bridge_Features_Levels_Elem Temp Imperial.dgnlib	Workframe		0

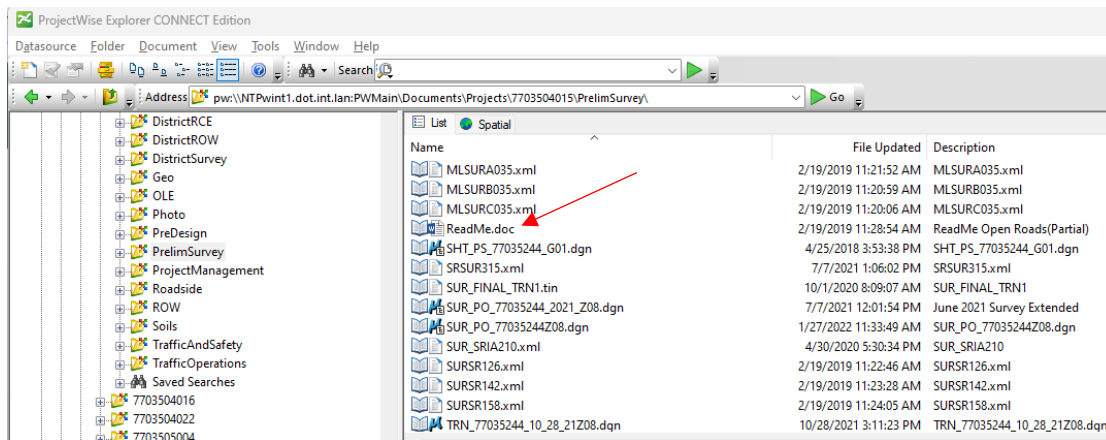
Typical Referenced Files Used for Bridge Bureau OBM & ORD Projects

For Iowa DOT Bridge Bureau projects using OpenBridge Designer /OpenBridge Modeler (OBD/OBM) or OpenRoads Designer (ORD), the following information is to explain the basic files that are referenced. The main files needed to create a bridge or culvert model are the roadway alignment (GEO) and the existing (TRN_EX) and proposed terrains (TRN). This document shows where to locate these files in ProjectWise. These files are to be used as references and not copied as live/active elements into the OBD/OBM or ORD files.

EXISTING TERRAIN

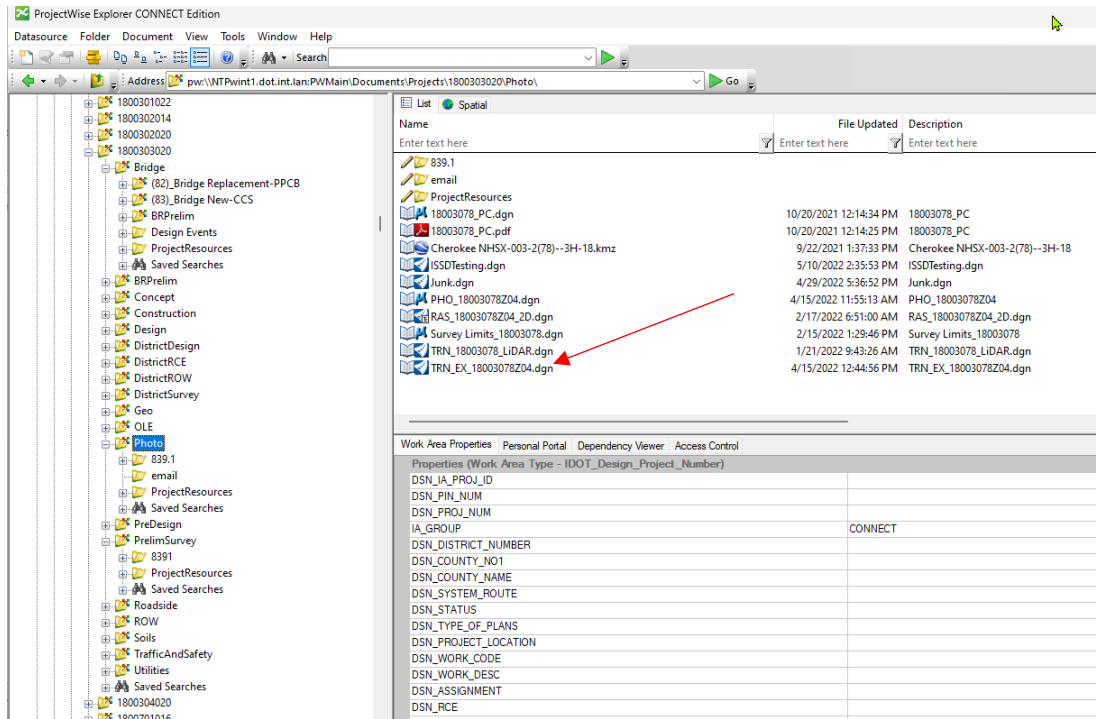
To find the Existing Terrain file, it could be in three different locations depending on who generated this information. Because of the three possible ways the existing ground can be surveyed, there are three locations as described below to locate the TRN_EX file. **The file should only reside in one of the locations, not more than one.**

Refer to the ReadMe.doc file located under the PrelimSurvey folder for project survey information.

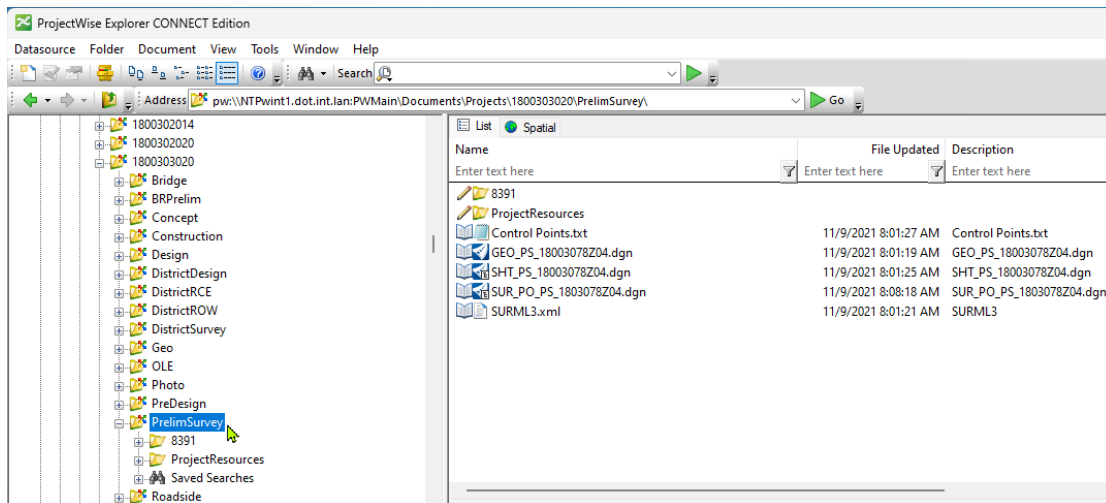


1. **Photo** folder - When the existing ground is processed by both photogrammetry and prelim survey, the TRN_EX file will reside in the Photo folder.
2. **PrelimSurvey** folder - If the existing ground is processed by a full field survey without photogrammetry, the TRN_EX file will reside in the PrelimSurvey folder.
3. **DistrictSurvey** folder - If the survey was completed exclusively by a district survey section, the TRN_EX file will reside in the DistrictSurvey folder.

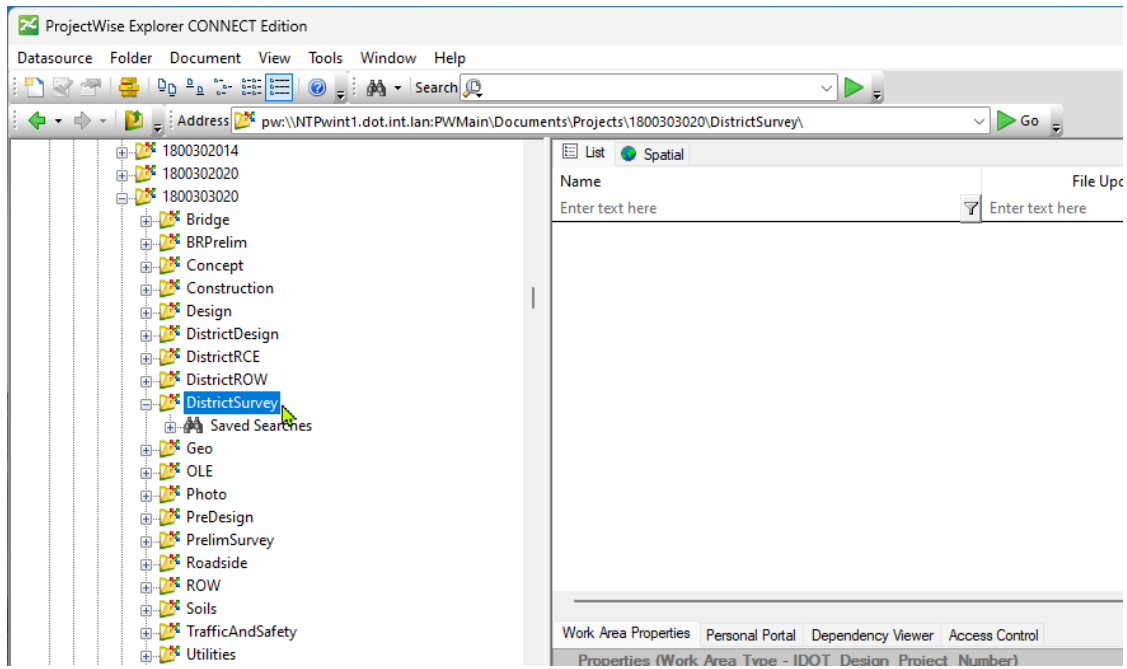
The image below is an example showing the 1st location an Existing Terrain file may be found, the **Photo** Folder. The file should not be referenced from Subfolders.



The image below is an example showing the 2nd location an Existing Terrain file may be found, the **PrelimSurvey** Folder. The file should not be referenced from Subfolders.



The image below is an example showing the 3rd location an Existing Terrain file may be found, the **DistrictSurvey** Folder. The file should not be referenced from Subfolders.



The following is to show the possible locations of files providing the Proposed Terrain, Geometry and Corridor. The files may be in various locations and communication is necessary to confirm the actual location on a project-by-project basis.

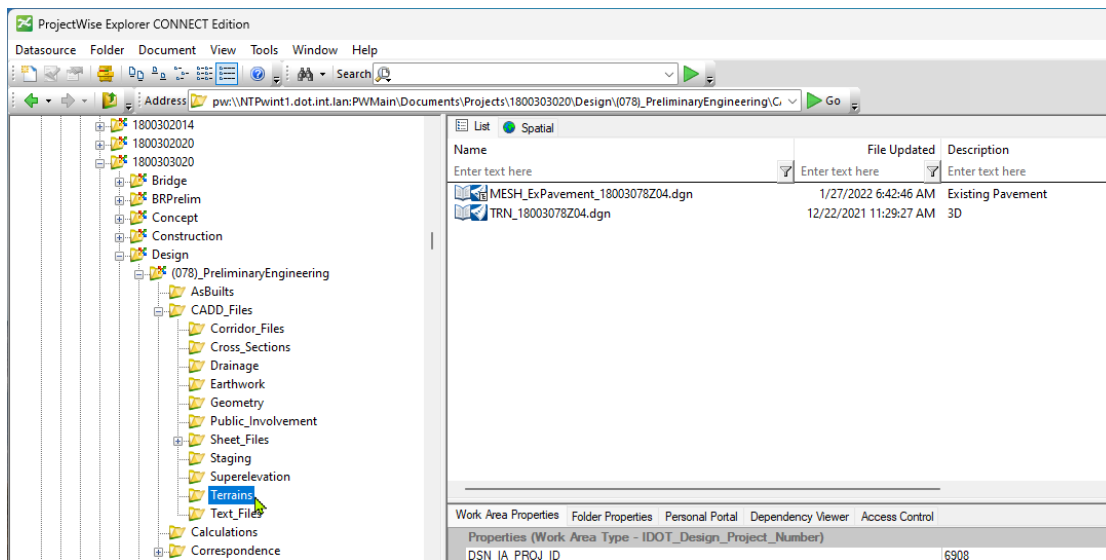
PROPOSED TERRAIN

The Proposed Terrain can be in two different locations depending on who is responsible for the Road Design work (Design Bureau or District Design).

Proposed Roadway Terrain will be provided by the Roadway Designer.
 Proposed Berm Modeling will be provided by the Prelim Bridge Designer.

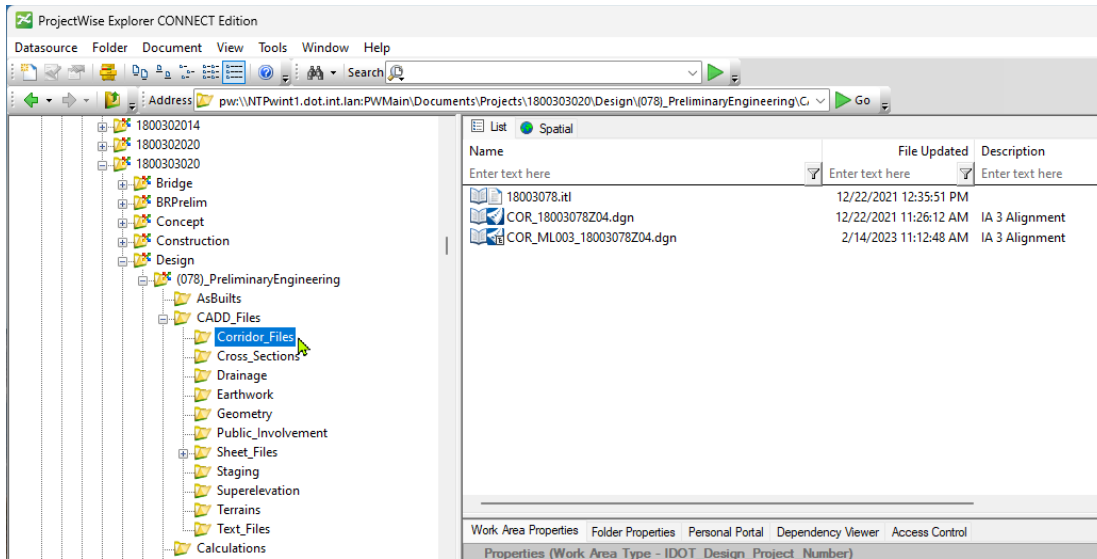
The Proposed Terrain (the clipped terrain for proposed contours) will be generated by whomever creates the proposed corridor modeling. The Structural Designer shall work in collaboration with the Road Designer to create the proposed terrains.

The image below is an example showing the location of Proposed Terrain file.



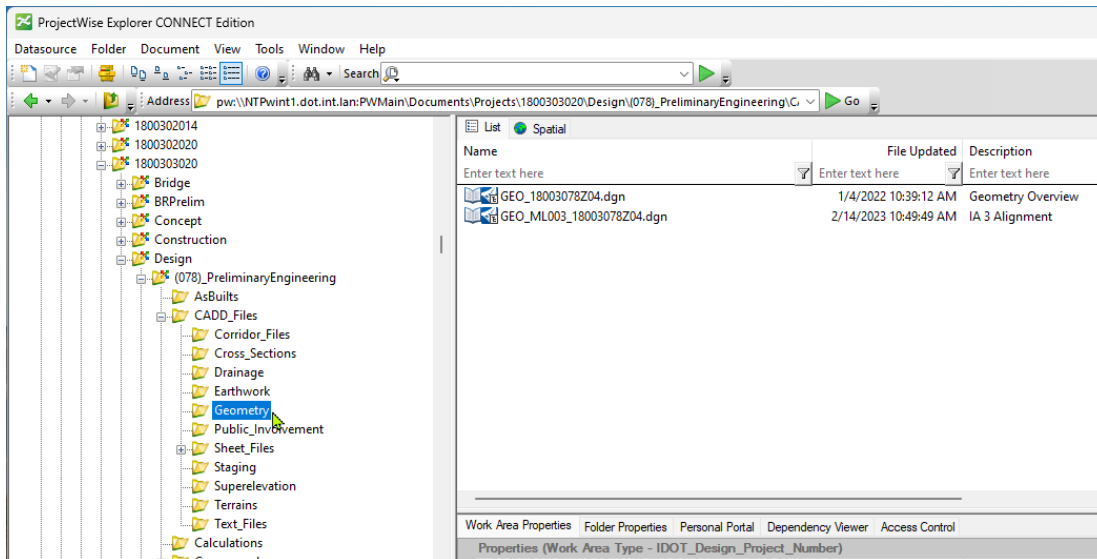
PROPOSED CORRIDOR

The image below is an example showing the location of Proposed Corridor file.



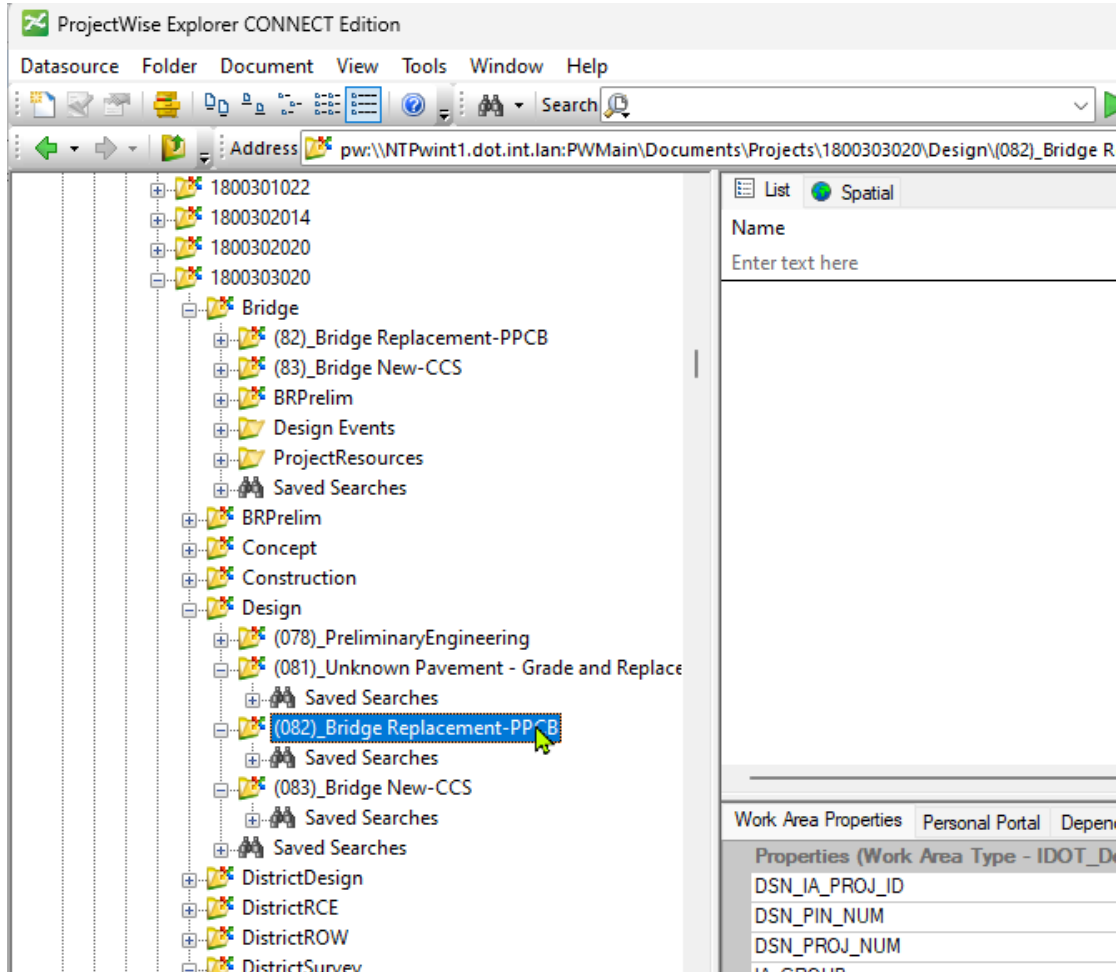
PROPOSED GEOMETRY

The image below is an example showing the location of Proposed Geometry file.



The Proposed Corridor, Geometry and Terrain files may be located in the **Design\(\Paren)_Work Description** folder.

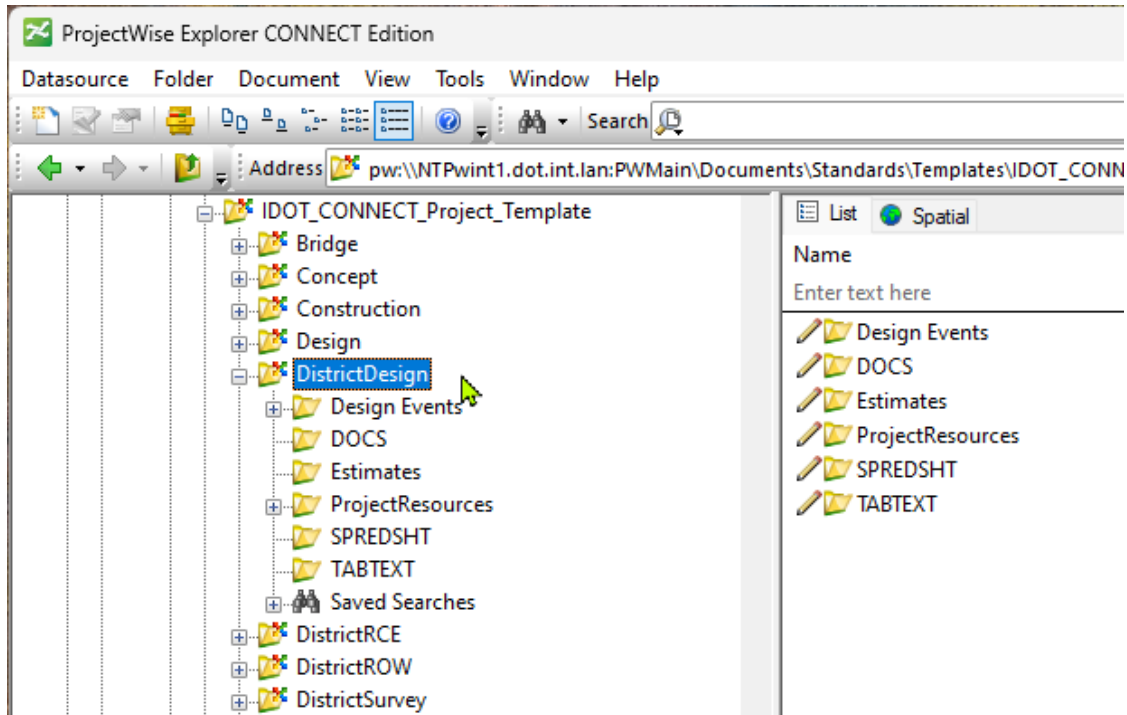
The image below is an example showing possible location of Proposed Corridor, Geometry and Terrain files.



District Design Files

When the District is responsible for the Proposed Corridor, Geometry and Terrain files, the files may be in various locations. Communication with the District Designer is necessary to confirm the actual location on a project-by-project basis.

The image below is an example showing the default DistrictDesign folder structure.



Sheet Index Editing – Bridge Bureau

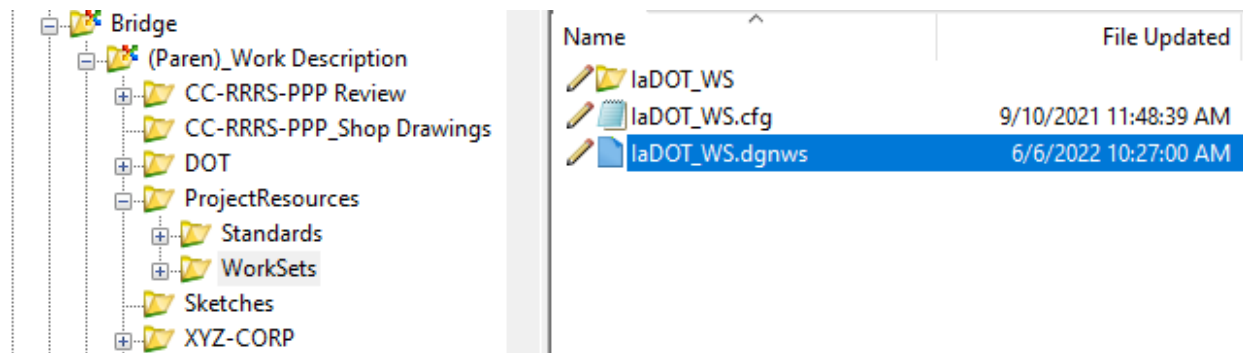
For Iowa DOT Bridge Bureau plan sheet development, the following information is to aid with the use of the Sheet Index tool in MicroStation CONNECT workflows. The Sheet Index is used only with Sheet Models and will aid in populating Text Fields and print output.

Bentley Systems has guidance on the basic use of the Sheet Index. This can be found on the Bentley Learn Website (<https://learn.bentley.com/app/Public>) as well as videos on YouTube.

The Iowa DOT Road Design Bureau also has a video on YouTube covering the use of Sheet Index used for Road Design plans and the Title Sheet, “Iowa DOT MicroStation ORD Connect - Sheet Index” (<https://youtu.be/Ks3IPBL582I>). This video is more specific to the use of the Road Design Bureau sheeting process, however, some of the steps are similar to the Bridge Bureau process.

Every Project Directory and Work Area folder (*this includes the **Bridge and (Paren)_Work Description subfolders***) has a Sheet Index file (**laDOT_WS.dgnws**) that is located in the **ProjectResources\WorkSets** subfolders. The laDOT_WS.dgnws file is what sets the format of the Sheet Index properties and Text Fields.

If the laDOT_WS.dgnws file is updated/revised by the Iowa DOT, then existing project directories will not see the updated version, only new directories will show this. If existing projects require the need to have the updated version, then the original dgnws file will need to be replaced in ProjectWise through the managed export/import process. ***Something to consider prior to replacing an existing dgnws file, is that all existing dgnws data will be overwritten requiring this data to be reentered.***



The Sheet Index is available for use in OpenBridge Modeler (OBM), OpenRoads Designer (ORD) and ProStructures. Plan sheeting and the use of the Sheet Index will be done in either ORD or ProStructures.

To do ANY editing of the Sheet Index, this includes adding/removing sheet models, the Sheet Index must be open for editing.

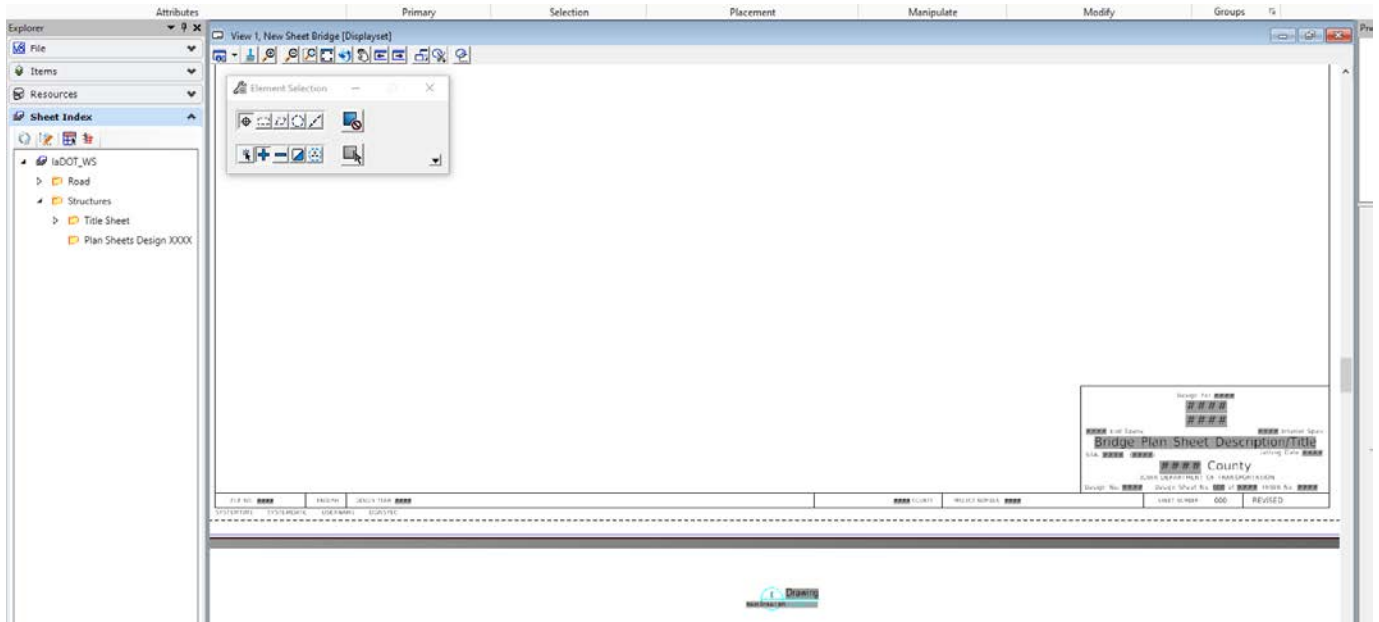
The source location for the Bridge Plan Production Seed file is,
PWMain\Documents\IowaDOTStandardsConnect\Configuration\Organization-Civil\IowaDOT_Standards\ProStructures\Seed\Imperial3d.dgn

Open the project file created from the Bridge Plan Production Seed file (Imperial3d.dgn) to either the **New Sheet Bridge** or **New Sheet Culvert** sheet models.

Type	2D/3D	Name	Description	Sheet Number	Cell Type	
	<input type="checkbox"/>	ORD Design	ORD 2D Design Model			
	<input type="checkbox"/>	New Sheet Bridge	Bridge Plan Sheet Description/Title	000		
	<input type="checkbox"/>	New Sheet Culvert	Culvert Plan Sheet Description/Title	000		
	<input type="checkbox"/>	Map Sheet	Title Sheet Map	000		
	<input type="checkbox"/>	Title Sheet	Title Sheet	000		
	<input type="checkbox"/>	New Sheet Revision RA	Revision Sheet Design No. ????	000		
	<input type="checkbox"/>	Summary Sheet	Summary Quantities Sheet	000		
	<input type="checkbox"/>	Drawing	Drawing Model		Graphic	✓
	<input type="checkbox"/>	Map Sheet Text	Edit This for Map Sheet Data		Graphic	✓
	<input type="checkbox"/>	Title Sheet Text	Edit This for Title Sheet Data		Graphic	✓
	<input type="checkbox"/>	Summary Sheet Text	Edit This for Summary Sheet Data		Graphic	✓

If developing plans with an existing file created from an older version of the Bridge Plan Production Seed file, there may be a need to import the new Title and Map sheet and drawing models, and the Revision RA sheet model from the updated seed file.

The text displaying in “gray background blocks” is a visual indicator that the text has a Text Field applied to it meaning it is linked to data from a CADD element, model, or file. In MicroStation Explorer, expand the Sheet Index section while in a sheet model.



Sheet Index Structure

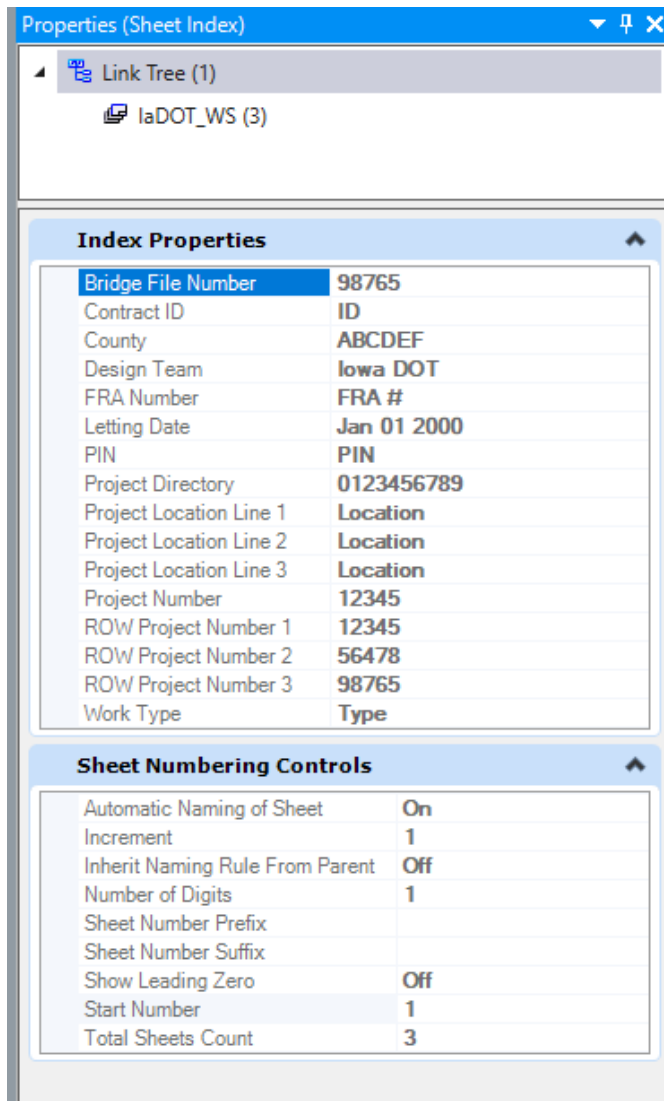
There are three groups of properties within the Sheet Index - **Index**, **Folder** and **Sheet**. The **Index** and **Folder** Properties are what is being used on the Sheet Models. The **Sheet** Properties are not currently being used in the preset Text Fields.

Index Properties are used to populate Text Fields on the following sheet models:

- Title Sheet
- Map Sheet (in border)

The Index Properties can be edited through the MicroStation Properties dialog window. Properties are only editable when the Sheet Index is open for editing.

The Index Properties image shown below displays the text in **gray**, this is a visual indicator that the Sheet Index is not opened for editing (Sheet Index file is Read-Only).



The Index Properties image shown below displays the text in **bold black**, this is a visual indicator that the Sheet Index is opened for editing allowing changes to be entered.

NOTE: The example BOLD text in the Index Properties data (column on the right in the image below) is to be edited accordingly to match the project specific information. Also, as of 10-24-2023 the CONTRACT ID NUMBER is no longer being placed on the Bridge Bureau Title Sheet. Therefore, this data field of the Sheet Index-Index Properties is not being used.

Properties (Sheet Index) ▼ 📌 ✕

Link Tree (1)

laDOT_WS (3)

Index Properties ▲

Bridge File Number	98765
Contract ID	ID
County	ABCDEF
Design Team	Iowa DOT
FRA Number	FRA #
Letting Date	Jan 01 2000
PIN	PIN
Project Directory	0123456789
Project Location Line 1	Location
Project Location Line 2	Location
Project Location Line 3	Location
Project Number	12345
ROW Project Number 1	12345
ROW Project Number 2	56478
ROW Project Number 3	98765
Work Type	Type

Sheet Numbering Controls ▲

Automatic Naming of Sheet	On
Increment	1
Inherit Naming Rule From Parent	Off
Number of Digits	1
Sheet Number Prefix	
Sheet Number Suffix	
Show Leading Zero	Off
Start Number	1
Total Sheets Count	3

Folder Properties are used to populate Text Fields on the sheet model:

- Title Sheet (in title block and border)

The Folder Properties are essentially a template used for each Plan Sheet Design number folder. These can be edited through the MicroStation Properties dialog window for each Design number. Properties are only editable when the Sheet Index is open for editing.

NOTE: The example BOLD text in the Folder Properties data (column on the right in the image below) is to be edited accordingly to match the project specific information.

Folder Properties	
Bridge Design Team	AAA\BBB\CCC
Bridge Project Number	NHSX-092-9(007)-3H-58
County	County Test Name
Cross Section Road Name	Road Name
Design Number	2222
Design Team	Iowa DOT
End Spans	10'-0"
FHWA or Asset ID Number	223344
Interior Span	10'-0"
Plan Sheet Description	Description
Skew and Direction	30 Degree RA
Station	10+45.89
Turn-in Date	Jan 2025
Type and Size of Structure 1	Type and Size of Structure 1
Type and Size of Structure 2	Type and Size of Structure 2

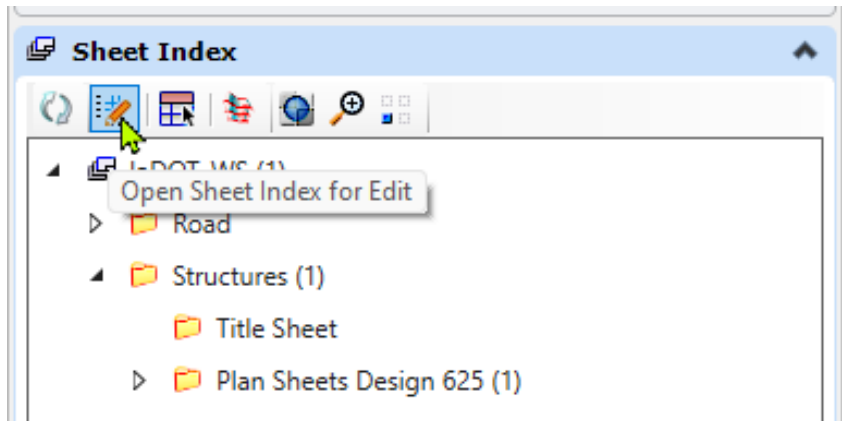
Sheet Numbering Controls	
Automatic Naming of Sheet	On
Increment	1
Inherit Naming Rule From Parent	Off
Number of Digits	1
Sheet Number Prefix	
Sheet Number Suffix	
Show Leading Zero	On
Start Number	1
Total Sheets Count	3

Sheet Index Use

To assign or edit the Text Fields used with the Sheet Index, select **Open Sheet Index for Edit**.

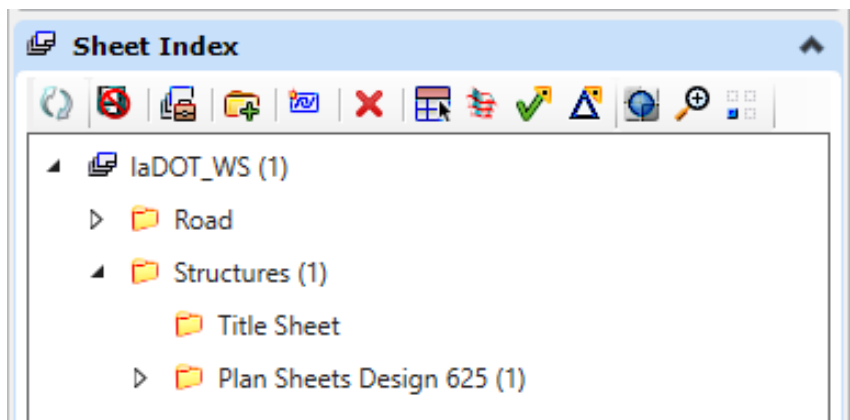


The image below is showing the Sheet Index in ORD.

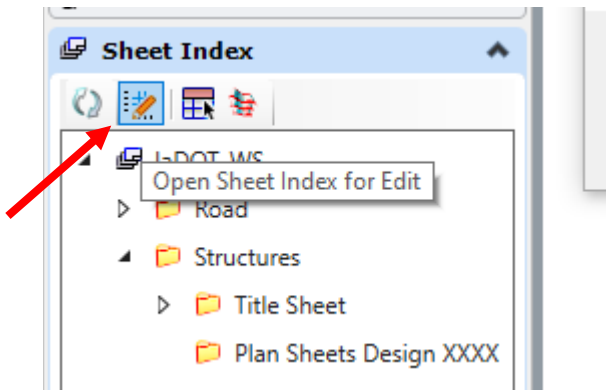


Once the Sheet Index is opened for editing the icon selections will change.

The image below is showing the Sheet Index open for edit in ORD. This also shows two “technology preview” tools indicated by the yellow triangle w/ black dot added by Bentley Systems to ORD.

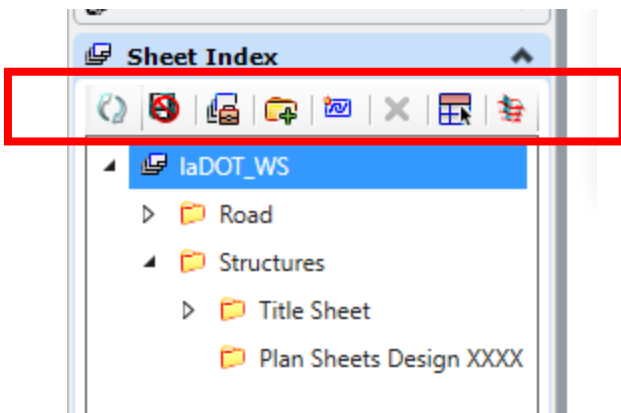


The image below is showing Sheet Index in ProStructures.

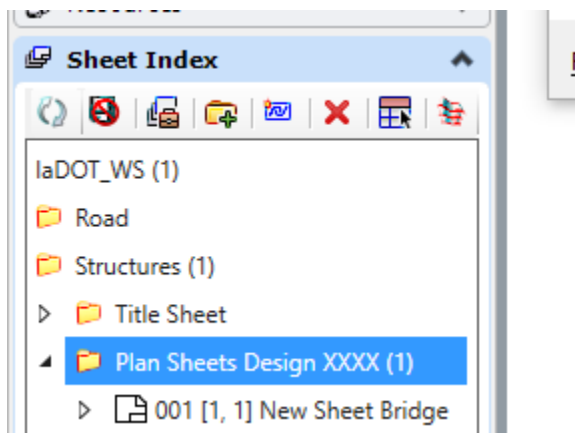


Once the Sheet Index is opened for editing the icon selections will change.

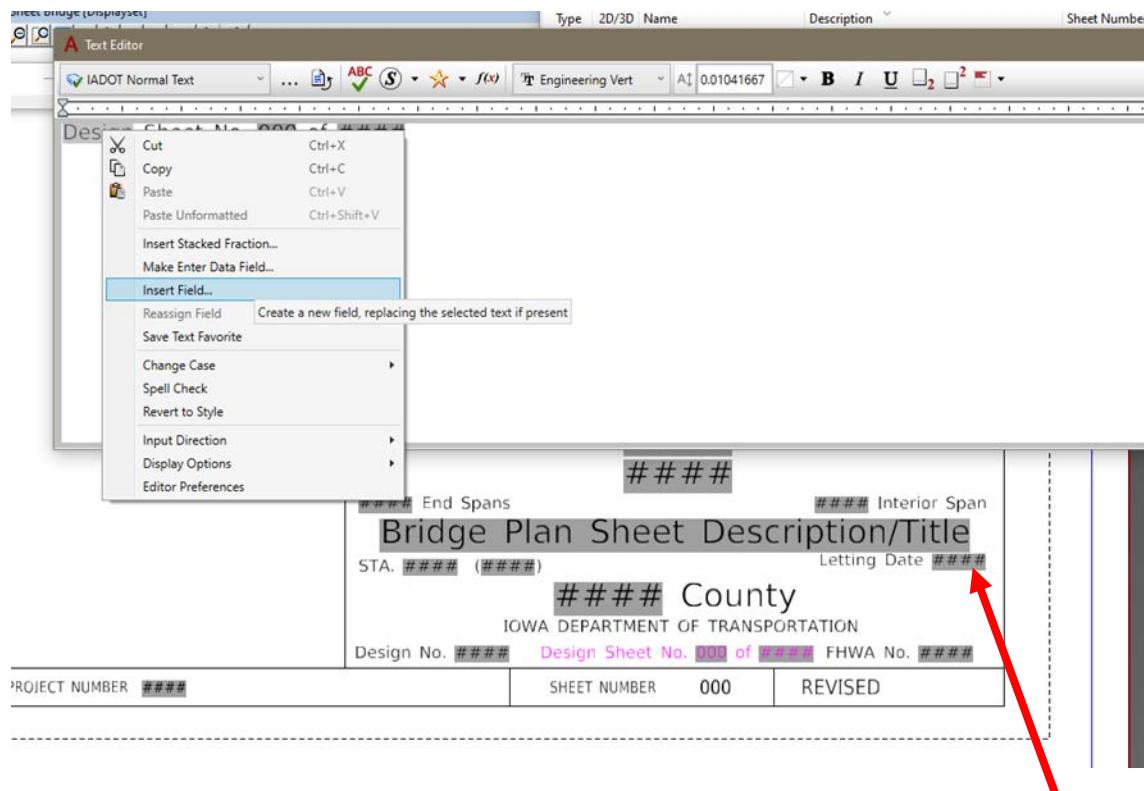
The image below is showing the Sheet Index open for edit in ProStructures.



To assign the Text Fields to the Sheet Index properties, the Sheet Index must be open for editing and the Bridge and Culvert sheet models must be added to the Sheet Index under the Plan Sheets Design XXXX folder.

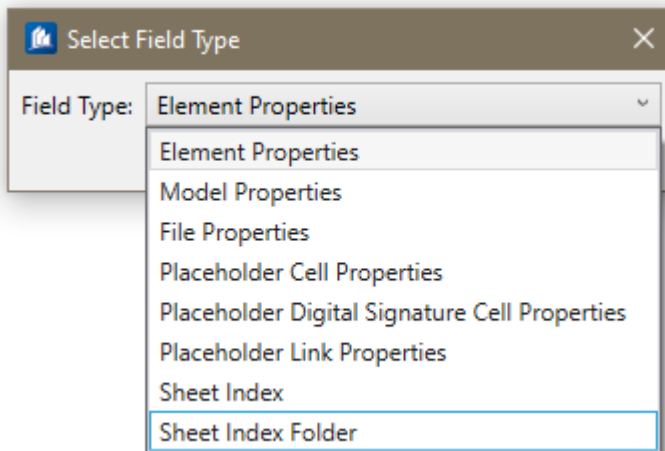


The Bridge and Culvert Sheet Models already have Text Fields assigned to the Title Block and Sheet Border. There may be a need to create a new Text Field or change, reassign, an existing Text Field. To create/assign a new Text Field, select text to edit, highlight text, right click, and select Insert Field...



Note: The image above shows an earlier version of the Title Block using “Letting Date”, this has been changed to now state “Turn-in Date”.

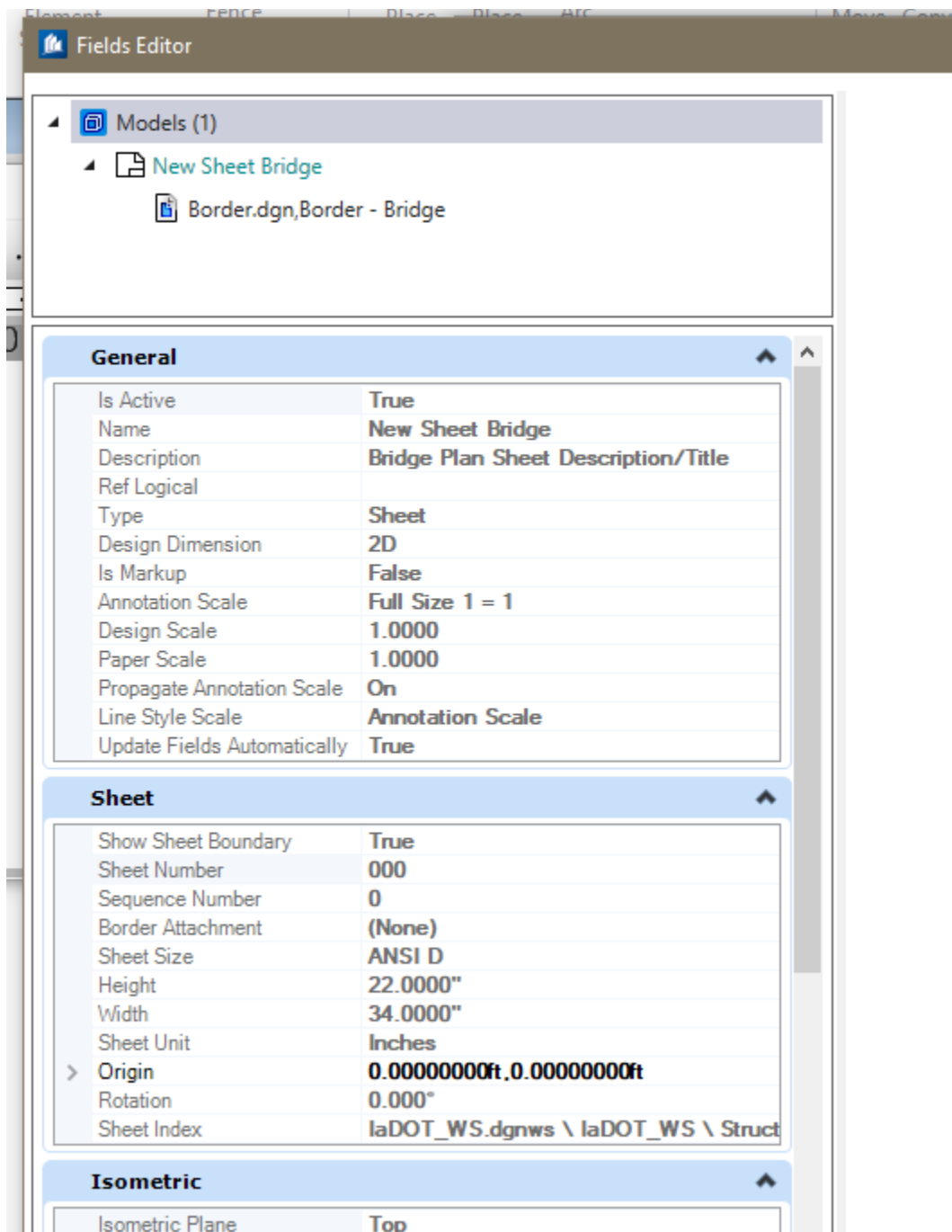
Choose the Text Field Type from the list shown. This list will vary depending on field types that are available. If the Sheet Index is not “Open for Edit” then the two Sheet Index options shown below will not display in the list, therefore they will not be available as a selectable option.



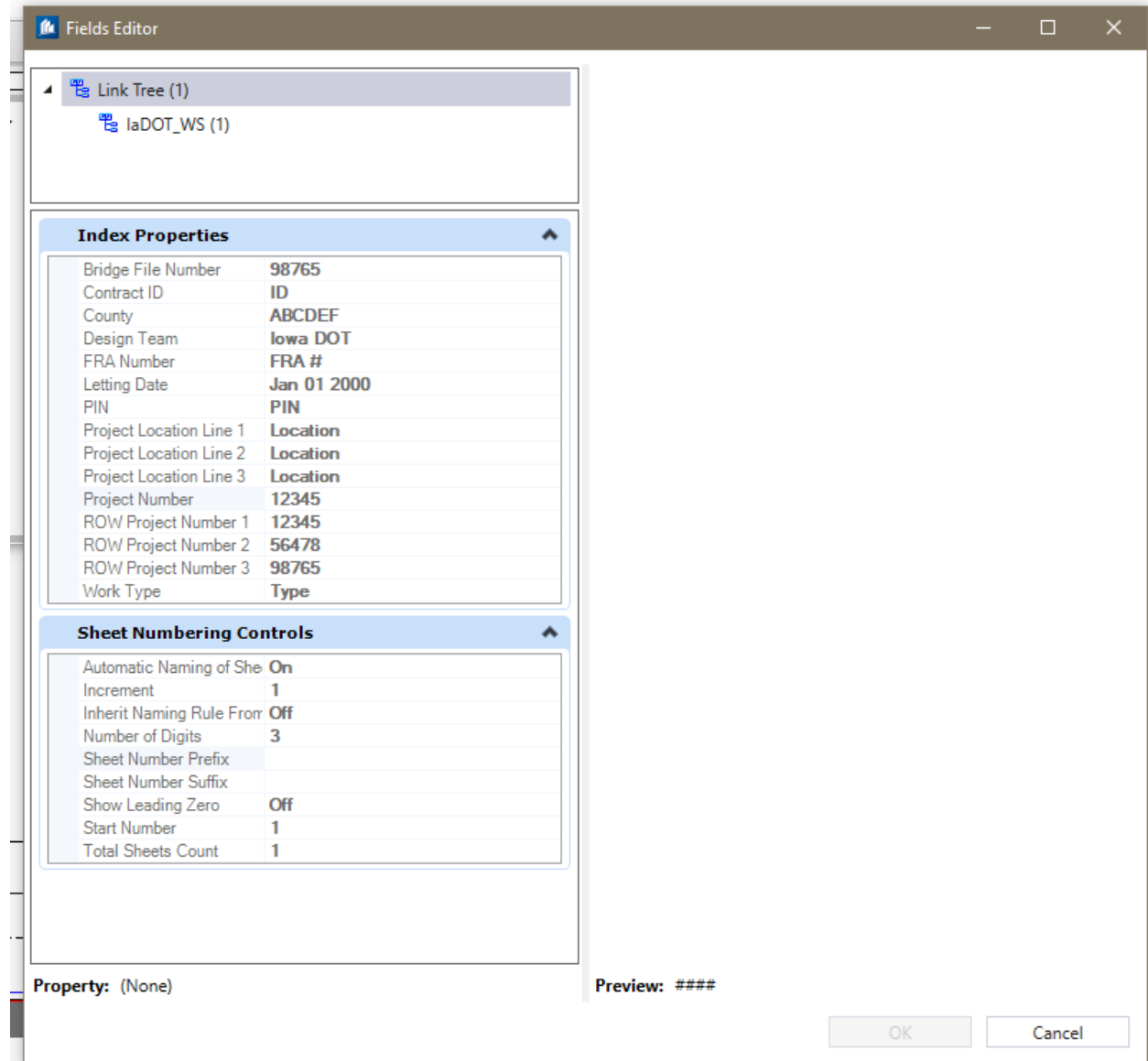
Once the Field Type is selected then select (click/highlight) the appropriate field properties wanting assigned to the Text Field.

Bridge plan sheets are using the Field Types of “Model Properties”, “Sheet Index” and “Sheet Index Folder”.

The “**Model Properties**” field is selected to populate the Text Field used on the Title Block plan sheet Description/Title, and the Design Sheet number used on Bridge Bureau plan sheets.



The “**Sheet Index**” field is selected for Text Fields used on the Title Sheet and the Map Sheet used on Bridge Bureau Plan sheets.



The “Sheet Index Folder” field is selected for fields used on the Title Block of Bridge Bureau plan sheets.

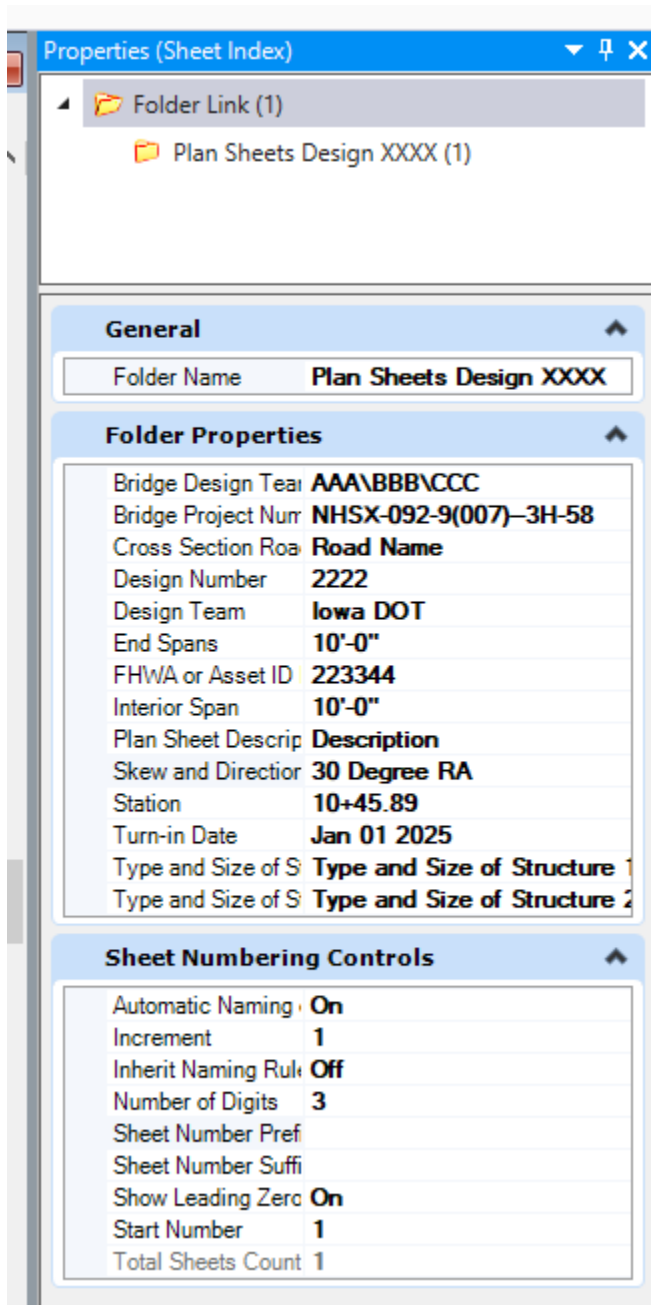
The screenshot shows the 'Fields Editor' dialog box. At the top, a tree view shows a folder named 'Folder Link (1)' containing a sub-folder 'Plan Sheets Design XXXX (1)'. Below this, the 'General' section shows the 'Folder Name' as 'Plan Sheets Design XXXX'. The 'Folder Properties' section contains a table of metadata fields and values. The 'Sheet Numbering Controls' section contains a table of numbering options. At the bottom, the 'Property' is set to '(None)' and the 'Preview' shows '####'. 'OK' and 'Cancel' buttons are at the bottom right.

Folder Properties	
Bridge Design Team	AAA\BBB\CCC
Bridge Project Number	NHSX-092-9(007)-3H-58
Cross Section Road Name	Road Name
Design Number	2222
Design Team	Iowa DOT
End Spans	10'-0"
FHW/A or Asset ID Number	223344
Interior Span	10'-0"
Plan Sheet Description	Description
Skew and Direction	30 Degree RA
Station	10+45.89
Turn-in Date	Jan 01 2025
Type and Size of Structure	Type and Size of Structure 1
Type and Size of Structure	Type and Size of Structure 2

Sheet Numbering Controls	
Automatic Naming of Sheets	On
Increment	1
Inherit Naming Rule From	Off
Number of Digits	3
Sheet Number Prefix	
Sheet Number Suffix	
Show Leading Zero	On
Start Number	1
Total Sheets Count	1

Adding a sheet model to the Sheet Index will allow the Text Fields to populate from their perspective properties they are assigned to.

Properties are only editable when the Sheet Index is open for editing. These are specific to each Plan Sheets Design folders per Design Number. All plan sheets that are added under each Plan Sheets Design folder will use these properties in their Text Fields.

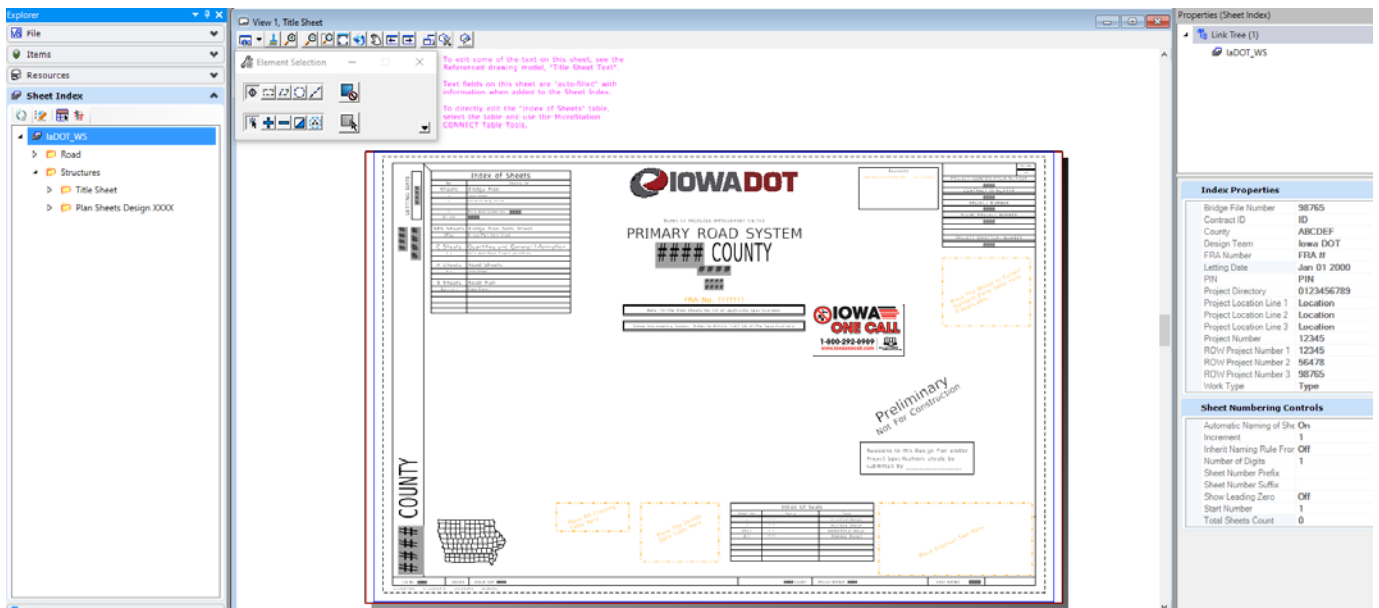


Sheet Models in the Bridge Plan Production Seed file

The Title, Map, Bridge and Culvert sheet models contain instructions outside of the sheet border that provide guidance for editing the sheet Title Block and border information with regards to Addendum, Revision and Plan Sheet Number “V” sequencing.

Type	2D/3D	Name	Description	Sheet Number	Cell Type	
	<input type="checkbox"/>	ORD Design	ORD 2D Design Model			
	<input type="checkbox"/>	New Sheet Bridge	Bridge Plan Sheet Description/Title	000		
	<input type="checkbox"/>	New Sheet Culvert	Culvert Plan Sheet Description/Title	000		
	<input type="checkbox"/>	Map Sheet	Title Sheet Map	000		
	<input type="checkbox"/>	Title Sheet	Title Sheet	000		
	<input type="checkbox"/>	New Sheet Revision RA	Revision Sheet Design No. ????	000		
	<input type="checkbox"/>	Summary Sheet	Summary Quantities Sheet	000		
	<input type="checkbox"/>	Drawing	Drawing Model		Graphic	✓
	<input type="checkbox"/>	Map Sheet Text	Edit This for Map Sheet Data		Graphic	✓
	<input type="checkbox"/>	Title Sheet Text	Edit This for Title Sheet Data		Graphic	✓
	<input type="checkbox"/>	Summary Sheet Text	Edit This for Summary Sheet Data		Graphic	✓

The image below is showing the Title Sheet, sheet model in the **Bridge Plan Production Seed** file with instructional notes outside the sheet border.



The information for the **R.O.W. Project Number** Text Field may not be available to enter. If needed, the text element may be changed to the **TextNonPlot** level that will allow the text to display in the CADD file but will not print in the pdf output.

NOTE: As of 10-24-2023 the CONTRACT ID NUMBER is no longer being placed on the Bridge Bureau Title Sheet. Therefore, this data field of the Sheet Index-Index Properties is not being used and is to be deleted if necessary.

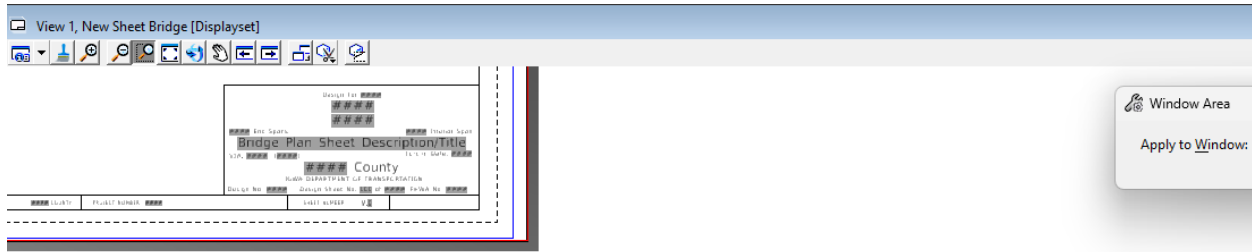
The screenshot displays a software interface for creating a title sheet. On the left, a 'Revisions' table is visible with one entry: 'See Revision Sheet RA' dated '12-31-2022'. The main area contains a grid of fields for project information: 'PROJECT IDENTIFICATION NUMBER', 'CONTRACT ID NUMBER' (which is crossed out with a red line), 'PROJECT NUMBER', 'R.O.W. PROJECT NUMBER', and 'PROJECT DIRECTORY NUMBER'. Each field contains a placeholder '#####'. To the right, there are two panels: 'Index Properties' and 'Sheet Numbering Controls'. The 'Index Properties' panel lists various project details like 'Bridge File Number 98765', 'Contract ID ID', 'County ABCDEF', 'Design Team Iowa DOT', 'FRA Number FRA #', 'Letting Date Jan 01 2000', 'PIN PIN', 'Project Directory 0123456789', and 'Project Location Line 1 Location'. The 'Sheet Numbering Controls' panel shows settings for 'Automatic Naming of She On', 'Increment 1', 'Inherit Naming Rule For Off', 'Number of Digits 1', 'Sheet Number Prefix', 'Sheet Number Suffix', 'Show Leading Zero Off', 'Start Number 1', and 'Total Sheets Count 0'. A yellow dashed box at the bottom of the main area contains the text 'Place The Bridge or Culvert Standard Plans Table Here'.

The Bridge and Culvert Plan sheet models are essentially the same with the exception that the Title Block in the Culvert sheet does not include the End Span and Interior Span Text Fields.

The image below is showing the Bridge Plan sheet model in the **Bridge Plan Production Seed** file.

The screenshot shows a 'Bridge Plan Sheet Description/Title' form. At the top, it says 'Design For' followed by a placeholder '#####'. Below this are two more placeholder lines '#####'. The form includes fields for '##### End Spans' and '##### Interior Span'. The main title is 'Bridge Plan Sheet Description/Title'. Below the title are fields for 'STA. ##### (#####)' and 'Turn-in Date: #####'. The word 'County' is followed by a placeholder '#####'. Below this is the text 'IOWA DEPARTMENT OF TRANSPORTATION'. At the bottom, there are fields for 'Design No. #####', 'Design Sheet No. 000 of #####', and 'FHWA No. #####'. At the very bottom, there is a table with three columns: '##### COUNTY', 'PROJECT NUMBER #####', and 'SHEET NUMBER V.0'.

The image below is showing the Bridge Plan sheet model with instructional notes outside the sheet border.



INSTRUCTIONS TO CADD USER (UPDATED JANUARY 2023):
 (It may be ideal to keep this Sheet Model as a template to copy for all new sheets as needed.)
 Text fields in the border and Title Block are 'auto-filled' with information when added to the Sheet Index.
 The text fields on this sheet are reading data from the Folder Properties of the "Plan Sheets Design" folder part in the Sheet Index (See Image 1).

When applicable, to show the "Addendum" cell in the lower right corner of plan sheet, turn on the level "SheetAddenda" (See Image 2).

The Sheet Number of Bridge Bureau plan sheets are now setup to use the "V" Sheet number at ALL TIMES. No longer using a differing Sheet Number for Bridge Bureau plans submitted separately versus plans submitted to Road Design Bureau as "V" sheets.
 The updated Sheet Number "V.0" will auto sequence when added to the Sheet Index.

When applicable, to show the "Revised" text in the lower right box of the plan sheet border, turn on the level "SheetRevisedText" in the referenced file "Border.dgn". Also turn on the level "PC_REVISION_ANNOTATION" and the "Revised" cell will display vertically outside the border at the lower right corner (See Images 2 & 3). Edit the date in the cell accordingly.

IN SEED FILES CREATED PRIOR TO JANUARY 2023, THE PREVIOUS STATEMENT WAS AS SHOWN BELOW:
 (When applicable, to show the "Addendum" cell in the lower right corner of plan sheet, turn on the level "SheetAddendum" in the referenced file "Border.dgn".)

(When applicable, to show the "Revised" text in the lower right box of the plan sheet border, turn on the level "SheetRevisedText" in the referenced file "Border.dgn".
 Add "Revised" cell vertically outside the border at the lower right corner. Edit the date in the cell accordingly.)

Image 1

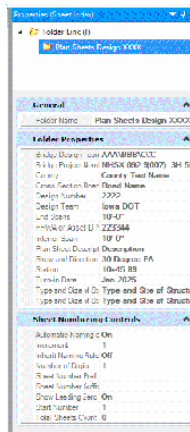


Image 2

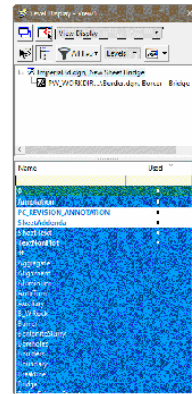
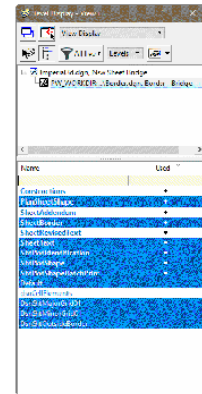
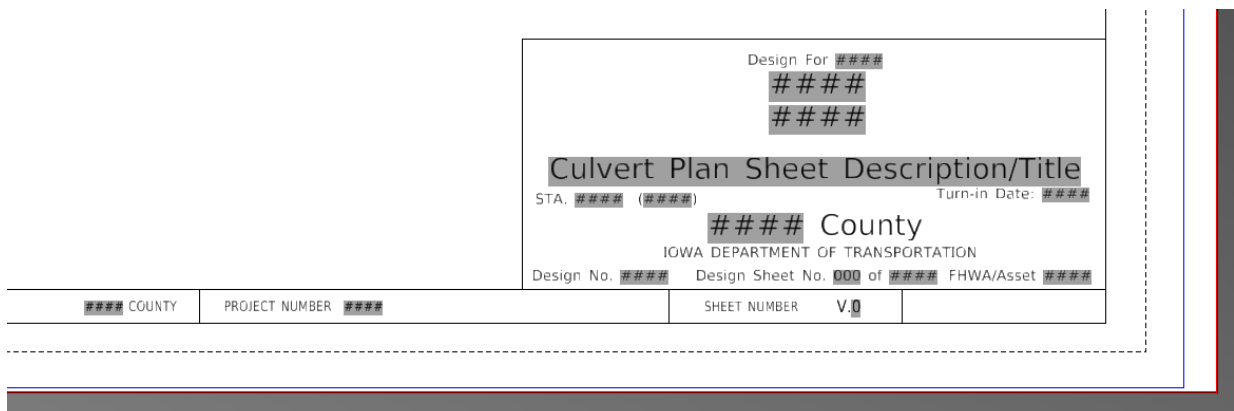


Image 3



The image below is showing the Culvert Plan sheet model in the Bridge Plan Production Seed file.



The image below is showing the Culvert Plan sheet model with instructional notes outside the sheet border.



INSTRUCTIONS TO CADD USER (UPDATED JANUARY 2023):
 (It may be ideal to keep this Sheet Model as a template to copy for all new sheets as needed.)
 Text fields in the border and Title Block are "auto-filled" with information when added to the Sheet Index.
 The text fields on this sheet are reading data from the Folder Properties of the "Plan Sheets Design" folder part in the Sheet Index (See Image 1).

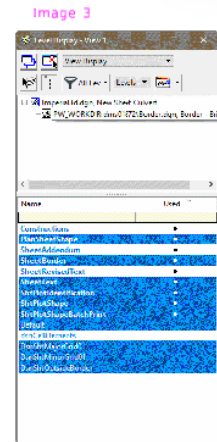
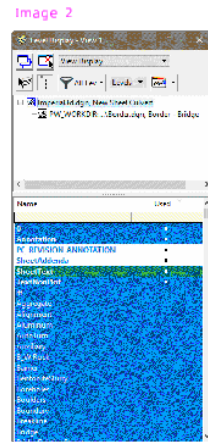
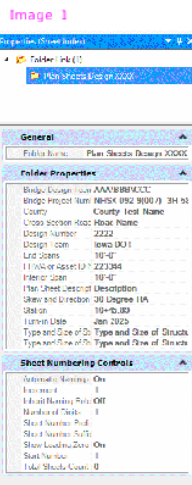
When applicable, to show the "Addendum" cell in the lower right corner of plan sheet, turn on the level "SheetAddenda" (See Image 2).

The Sheet Number of Bridge Bureau plan sheets are now setup to use the "V" Sheet number at ALL TIMES. No longer using a differing Sheet Number for Bridge Bureau plans submitted separately versus plans submitted to Road Design Bureau as "V" sheets.
 The updated Sheet Number "V.0" will auto sequence when added to the Sheet Index.

When applicable, to show the "Revised" text in the lower right box of the plan sheet border, turn on the level "SheetRevisedText" in the referenced file "Border.dgn". Also turn on the level "PC_REVISION_ANNOTATION" and the "Revised" cell will display vertically outside the border at the lower right corner (See Images 2 & 3). Edit the date in the cell accordingly.

IN SEED FILES CREATED PRIOR TO JANUARY 2023, THE PREVIOUS STATEMENT WAS AS SHOWN BELOW:
 (When applicable, to show the "Addendum" cell in the lower right corner of plan sheet, turn on the level "SheetAddendum" in the referenced file "Border.dgn".)

(When applicable, to show the "Revised" text in the lower right box of the plan sheet border, turn on the level "SheetRevisedText" in the referenced file "Border.dgn".
 Add "Revised" cell vertically outside the border at the lower right corner. Edit the date in the cell accordingly.)



Plan Sheets for Multiple County Projects in the Same Project Number

There will be scenarios where a project normally assigned to one county will have one or more structural Designs located in another(adjoining) county. When this happens the plan sheets for the adjoining counties will list both counties.

The Title Sheet will list all counties involved in the project.

The Detail Plan Sheets for the designs located in the Project Number Primary County listed in the Project Number will show only that county.

The Detail Plan Sheets for the designs located in the adjoining Design Number County (or secondary) to the county listed in the Project Number will show both counties.

The multiple county listing is explained with the following project example.

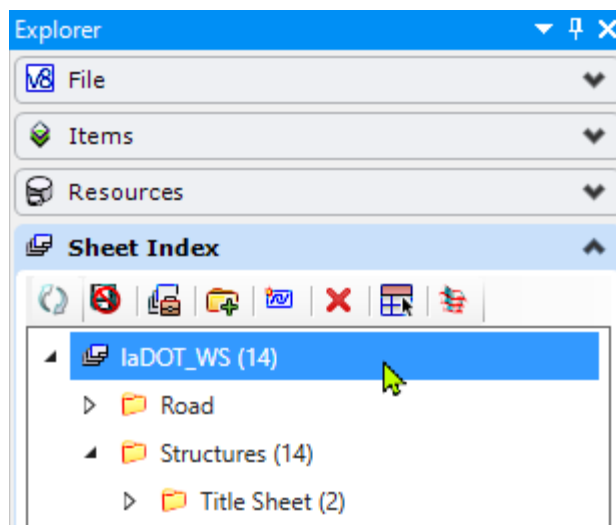
Example Project NHSX-218-3(090)- -3H-92 **Washington Co. Des. No. 1324** (Project Number Primary County) with **Johnson Co. Des. 1424** (the adjoining Design Number County, or secondary) tied to it.

The “Project Number Primary County”, in this example, is Washington Co. Des. No. 1324 and will be the only county shown in the Title Block and Sheet Border of the plan sheets, shown as **Washington**.

The adjoining “Design Number County”, in this example, Johnson Co. Des. 1424 will be shown in the Title Block and Sheet Border of the plan sheets as **Johnson (Washington)**.

With the use of the Sheet Index to populate the Text Fields on the plan sheet, the County Text Field in the Sheet Index is used to provide the data in the Title Block as well as the Sheet Border.

The image below is showing the location in the Sheet Index of the data used for the Title Sheet Text Fields.



The image below is showing the data in the Sheet Index Properties used for the Title Sheet Text Fields. The “Project Number Primary County” is for Washington County and the adjoining “Design Number County” (in this example, Johnson) is shown in parenthesis.

Index Properties	
Bridge File Number	98765
Contract ID	ID
County	Washington(Johnson)
Design Team	Iowa DOT
FRA Number	FRA #
Letting Date	Jan 01 2000
PIN	PIN
Project Directory	0123456789
Project Location Line 1	Location
Project Location Line 2	Location
Project Location Line 3	Location
Project Number	NHSX-218-3(090)-3H-92
ROW Project Number 1	12345
ROW Project Number 2	56478
ROW Project Number 3	98765
Work Type	PPCB Bridge

Sheet Numbering Controls	
Automatic Naming of	On
Increment	1
Inherit Naming Rule	Off
Number of Digits	1
Sheet Number Prefix	
Sheet Number Suffix	
Show Leading Zero	Off
Start Number	1
Total Sheets Count	14


The image below is showing an example of the Title Sheet Text Fields after editing of the Sheet Index. (For this example, only the County and Project Numbers were edited in the Sheet Index. Due to lengthy county names, the vertical text on the left sheet border may have to be narrowed.)

LETTING DATE
MAY 13 2008

PPCB Bridge
NHSX-218-31090--3H-92

Washington(Johnson) COUNTY

Index of Sheets	
No.	Description
Sheets	
A-1	Title Sheet
A-2	Location Map Sheet
B-1	BRIDGE LOCATIONS - BRIDGE #PPP
B-2	BRIDGE #PPP
SPS Sheets	
B-3	Bridge Plan Soils Sheet
B-4	BRIDGE #PPP Soils Sheet
Road Sheets	
Road Plan	
A-1	Road Plan
B-1	BRIDGE LOCATIONS - BRIDGE #PPP
B-2	BRIDGE #PPP
B-3	BRIDGE LOCATIONS - BRIDGE #PPP
B-4	BRIDGE #PPP




PLANS FOR PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
Washington(Johnson) COUNTY
PPCB Bridge

Location
 Location

FRA No. ????????

Refer to the Plan Sheets for list of applicable specifications.

Value Engineering Services - Refer to Article 2302.04 of the Specifications.



Revised

Preliminary
Not For

Revisions to the
Project Specific
submitted by

When Applicable, place
the Crossing Table Here.

When Applicable,
Place Standard Road
Plan Table Here.

Place the Urban or Rural
Design Data Table Here

Index Of Seals		
Sheet No.	Name	Sign
A-1	???	Standard Seal
A-2	???	Location Seal
B-1	???	Bridge Plan Seal
B-2	???	Bridge Seal

Page 19 of 21

The image below is showing the Sheet Index Properties and the data used for the detail plan sheets specific to "Project Number Primary County", Washington Co. Design 1324. This is used for the Title Block and Sheet Border Text Fields.

General	
Folder Name	Washington Design 1324
Folder Properties	
Bridge Design Team	JS\PES\JM
Bridge Project Number	NHSX-218-3(090)-3H-92
County	Washington
Cross Section Road Name	US 218
Design Number	1324
Design Team	Iowa DOT
End Spans	35'-9"
FHWA or Asset ID Number	604570
Interior Span	51'-6"
Plan Sheet Description	Description
Skew and Direction	15 Degree LA
Station	38+04.00
Turn-in Date	Feb. 2024
Type and Size of Structure 1	123'-0" x 40'-0" Pretensioned
Type and Size of Structure 2	Prestressed Concrete Beam Bridge
Sheet Numbering Controls	
Automatic Naming of Sheet	On
Increment	1
Inherit Naming Rule From P	Off
Number of Digits	1
Sheet Number Prefix	
Sheet Number Suffix	
Show Leading Zero	On
Start Number	1
Total Sheets Count	1

The image below is showing the Title Block and Sheet Border for the Project Number County entry, actively reading data from the Sheet Index "County" field.

Design For 15 Degree LA 123'-0" x 40'-0" Pretensioned Prestressed Concrete Beam Bridge 35'-9" End Spans 51'-6" Interior Span Bridge Plan Sheet Description/Title STA. 38+04.00 (US 218) Turn-in Date: Feb. 2024 Washington County IOWA DEPARTMENT OF TRANSPORTATION Design No. 1324 Design Sheet No. 1 of 1 FHWA No. 604570		
Washington COUNTY	PROJECT NUMBER NHSX-218-3(090)-3H-92	SHEET NUMBER V.14

The image below is showing the Sheet Index Properties and the data used for the detail plan sheets specific to Johnson Co. Design 1424. Since the Project Number is for Washington County, and the Johnson County Design is part of the Washington County Project, then Washington is in parenthesis only on the Johnson County detail plan sheets. This is used for the Title Block and Sheet Border Text Fields.

General	
Folder Name	Johnson Design 1424
Folder Properties	
Bridge Design Team	JS\PES\JM
Bridge Project Number	NHSX-218-3(090)-3H-92
County	Johnson (Washington)
Cross Section Road Name	US 218
Design Number	1424
Design Team	Iowa DOT
End Spans	85'-9"
FHWA or Asset ID Number	604900
Interior Span	91'-6"
Plan Sheet Description	Description
Skew and Direction	15 Degree LA
Station	124+92.00
Turn-in Date	Feb. 2024
Type and Size of Structure 1	263'-0" x 40'-0" Prestensioned
Type and Size of Structure 2	Prestressed Concrete Beam Bridge
Sheet Numbering Controls	
Automatic Naming of Sheet	On
Increment	1
Inherit Naming Rule From Parer	Off
Number of Digits	1
Sheet Number Prefix	
Sheet Number Suffix	
Show Leading Zero	On
Start Number	1
Total Sheets Count	1

The image below is showing the Title Block and Sheet Border with a multiple county entry, actively reading data from the Sheet Index "County" field.

Design For 15 Degree LA 263'-0" x 40'-0" Prestensioned Prestressed Concrete Beam Bridge 85'-9" End Spans 91'-6" Interior Span Bridge Plan Sheet Description/Title STA. 124+92.00 (US 218) Turn-in Date: Feb. 2024 Johnson (Washington) County IOWA DEPARTMENT OF TRANSPORTATION Design No. 1424 Design Sheet No. 1 of 1 FHWA No. 604900		
Johnson (Washington) COUNTY	PROJECT NUMBER NHSX-218-3(090)-3H-92	SHEET NUMBER V.13