Module 1

File Management

April 11, 2023

Published: July 2021

(Updated: Nov 2022)

JASON AND OAK TO REVIEW PAGES 6-10 TO SEE IF IT SUFFICENTLY COVERS THE REQUESTED BRIEF INTRODUCTION TO THE IDENTIFIED IMPORTANT CONCEPTS THAT HAVE CHANGED FROM V8i

JASON AND OAK TO REVIEW ANYTHING HIGHLIGHTED IN YELLOW AND MAKE DECISIONS IF TO PROCEED WITH SUGGESTED WORKFLOW

AS OF 2021.03.25 MEETING, WHEN MANAGED WORKSPACES ARE WORKING, START OVER REWRITING THIS MODULE AND ADDING NEW SCREENSHOTS

INSERT PAGE BREAKS TO CLARIFY

AUTOMATIC TABLE OF CONTENTS

SPELL CHECK

RECORD VIDEOS

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About this Practice Workbook...

- This PDF file includes bookmarks providing an overview of the document. Click on the bookmark to quickly jump to any section in the file. You may have to turn on the bookmark function in your PDF viewer, such as Adobe Reader.

- The dataset used throughout this module uses English units and US Survey Feet.

- Each module in this series is self-contained. You can jump to any module and begin the exercises.

- This training module uses the **DOT-US North Carolina** WorkSpace and the **R-2635C (Training)** Workset installed. It is very important that you select the correct WorkSpace, WorkSet and Desktop Icon/Discipline/future Role **NCDOT_Roadway** when working the exercises in this course and to set the **NCDOT_USE_LOCAL_WORKSETS = (Load Value)** to be **L2** in the ***NCDOT_WorkSets.inp*** file on your desktop to be able to access this WorkSet.

- The tool tips and help were copied from the Bentley Online Help. See this link for the complete list of tools and common usage.

  OpenRoads Designer CONNECT Edition Help (bentley.com)

- This workbook was written with the release of OpenRoads Designer 10.09.00.91 (2020 Release 3 Update 9).

- This workbook has been updated for OpenRoads Designer 10.10.XX.XX (2021 Release 1 Update 10).

Table of Contents

DRAFT TOC, AUTOMATIC ONE WITH PAGE NUMBERS CREATED AT END AFTER ALL REVIEWS

Computer Specifications

Designing roadways using ORD requires a computer that has more powerful hardware and software specifications. Minimal and desirable specifications are listed on **NCDOT CADD Services' website** at the link below and will be continually updated as specifications change. Please refer to this list and ensure that your computer is properly equipped before proceeding.

NCDOT CADD Services

AWAITING WEBSITE TO BE REVISED BY CADD SERVICES TO ADD COMPUTER SPECIFICATIONS

Overview

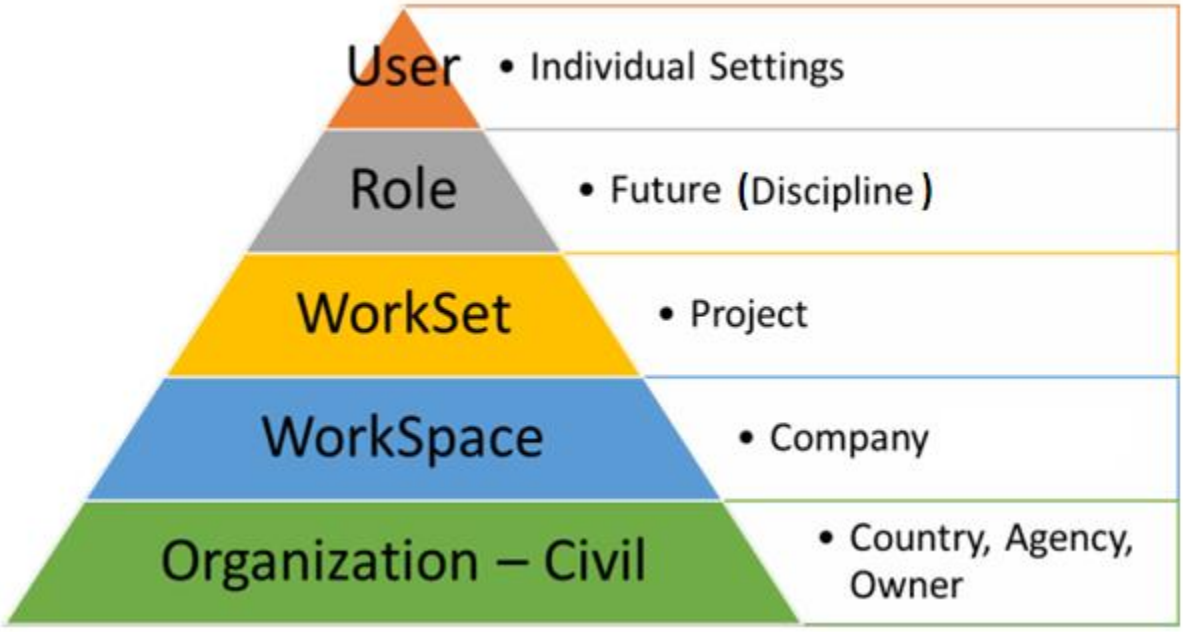
OpenRoads CONNECT Edition is the successor to Bentley's MicroStation/GEOPAK software and is a comprehensive, multi-discipline 3D modeling application that advances the delivery of roadway projects from conceptual design through construction. OpenRoads blends traditional 2D engineering workflows for plan, profile, and cross-sections with 3D parametric modeling to enable the model-centric creation of all design deliverables.

Before designing an NCDOT project using Open Roads Designer (ORD), the user must:

- Ensure the computer meets minimum hardware specifications
- Have the current NCDOT CONNECT workspace loaded
- Have the standard project folder structure created using NCDOT's folder naming convention using either
    - ProjectWise
    - Network Drive (ProjectStore) JASON STILL INCLUDE?
    - Local Drive (C:)
- Create ORD .dgn files
    - Using the correct seed file
    - Named according to NCDOT's ORD standard naming conventions
    - And placed in the appropriate subdirectory folder

Files need to be referenced to each other for the proper operation of ORD and logical reference names assigned to these files for printing to work properly. Proper naming and referencing of the files are far more important in ORD than previous versions of MicroStation and GEOPAK. Renaming files or moving their location can result in links being broken between design files that are vital for ORD to work correctly and is therefore not recommended that you rename or move files.

An understanding of these three concepts used in ORD, **WorkSpace, WorkSet, Role? and WorkFlow** is beneficial for designing in ORD and will be explained in this Module 1. Note the hierarchy of the ORD customization containing these concepts represented in the diagram below.



New ORD Concepts

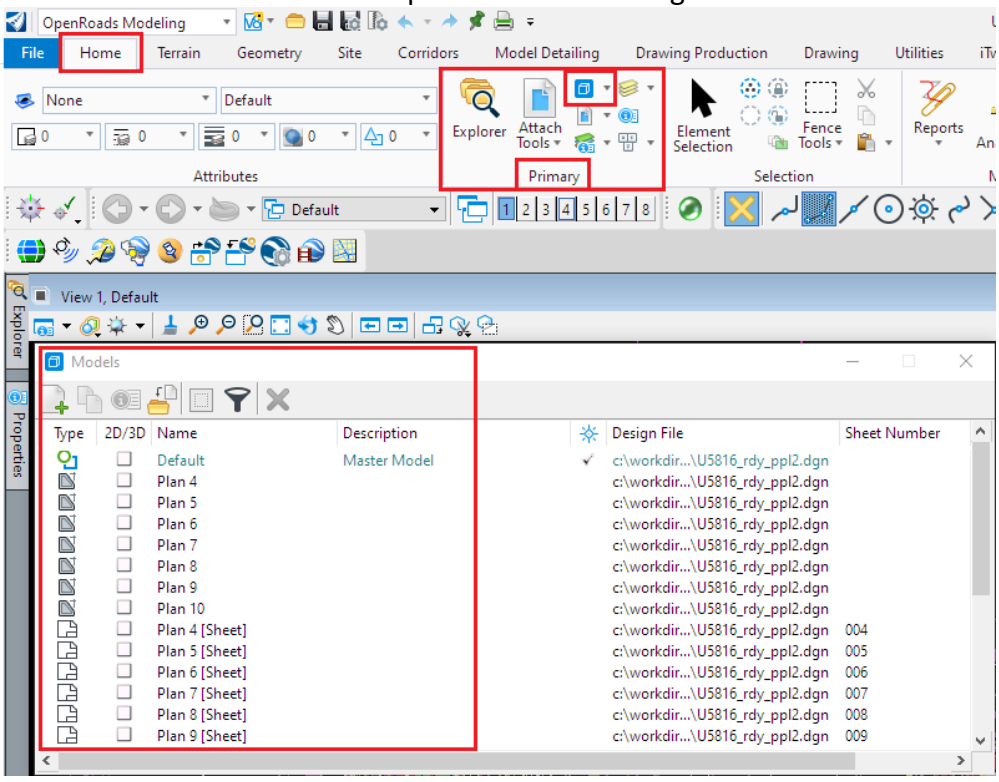
1. Multiple Models

In the past, the designer had **one Model** inside of a design file and were perhaps blissfully ignorant that there could be more. The concept of **multiple Models** within a design file will be used often in ORD. It is helpful to think of a Model as a design file within a design file or another analogy to think of is that a Model in a design file is like Worksheets in a Workbook in MS Excel. The Model is a container that the design elements are drawn in.

This term **Model** should not be confused with the ORD **3D Design Model** of the proposed surfaces that the designer produces with the ORD software. It is likely that the designer will have an ORD **3D Design Model** of the proposed surfaces drawn into a **3D Model** inside of a **2D design file**. This concept will be further explored in the **Corridor Modeling Module** in NCDOT's ORD Training

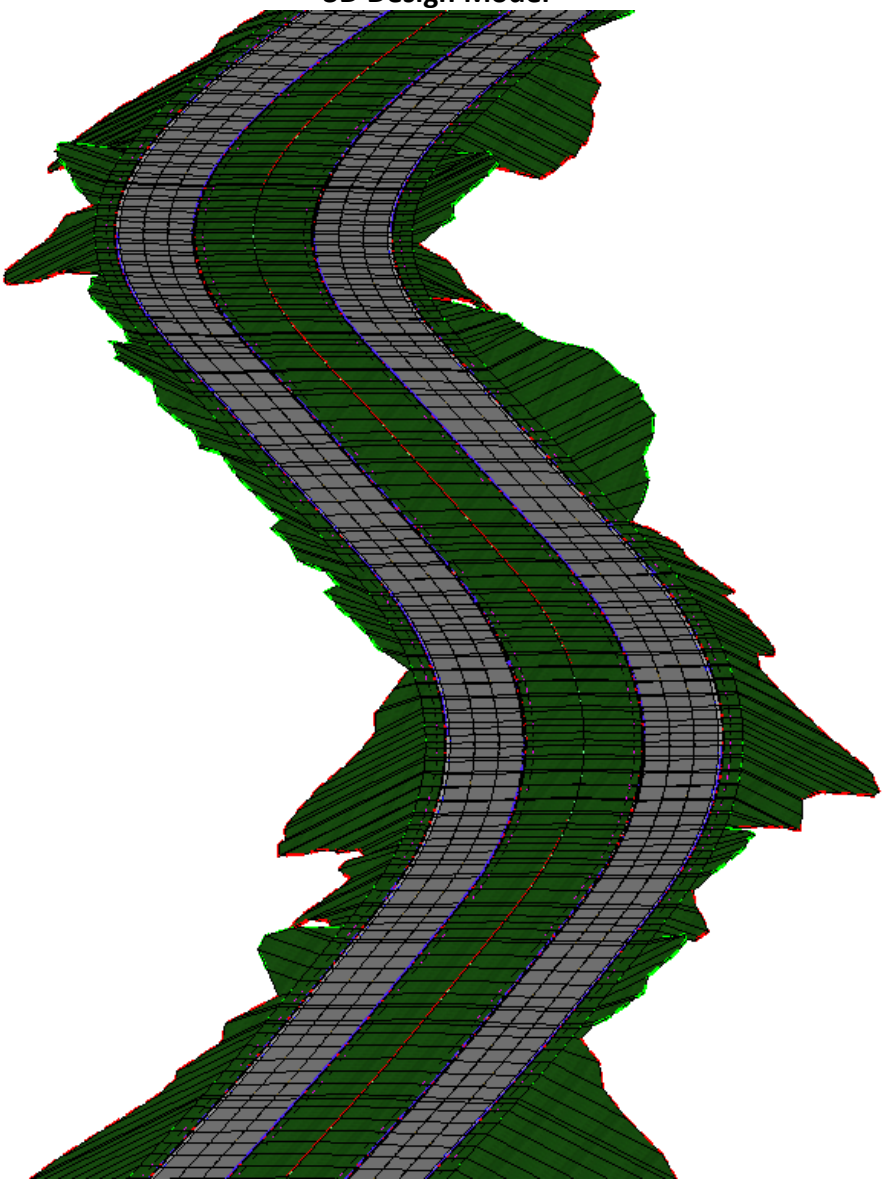
Looking under the *Home Tab* → *Primary Tool Group* → **Models Tool** in this file shows an example of multiple **Models** used in a design file to contain the design as well as plan sheets in one file. This concept will be further explored in the **Sheeting Module** in NCDOT's ORD Training.

Multiple **Models** in a Design File

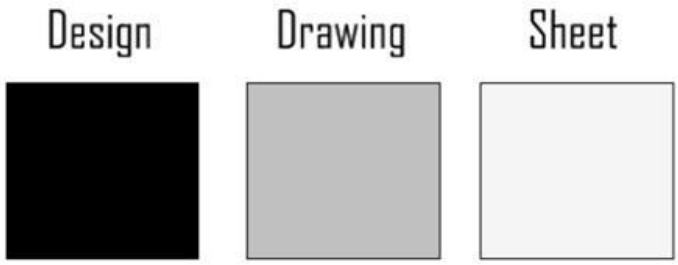


Below is an example of a **3D Design Model** produced with the ORD software.

3D Design Model



A new concept introduced in ORD is the use of different types of **Models** within a design file. ORD uses **Design, Drawing, and Sheet Models** to carry the project from design through plan sheet production. Each type of Model has a distinguishing background color for easy identification when the user is in it. This concept will be further explored in the **Sheeting Module** in NCDOT's ORD Training.



2. 3D Models

As we begin using ORD where the main goal is to produce a 3D model, it can be confusing whether to create and work in a 2D or 3D design file. The best "rule of thumb" to follow when creating design files is to ALWAYS CREATE AN ORD DESIGN FILE USING THE 2D SEED FILE UNLESS YOU ARE CREATING A FILE FOR PROCESSING SURVEY DATA OR CREATING A TERRAIN MODEL.

A new concept that is important to understand when using ORD is the **automatic creation** of a new **3D model** inside of the working design file by ORD. This happens when the user is in **a 2D Model** and initiates an ORD command that calls a model in a design file that contains **3D** attributes such as vertical elevation. Once a vertical component is introduced to the 2D design model such as adding an active vertical alignment (proposed profile) or making the referenced terrain model active, ORD will create a companion **Default-3D model** and it will be referenced to the design file to store and process the 3D information in. This allows the user to be in the **2D model** and use the **2D model** as an interface to develop and edit the **3D model**. This concept will be further explained in the **Existing Terrain, Corridor Modeling,** and **Sheeting Modules** in NCDOT's ORD Training.

3. Design Element Creation Workflow

Another very important concept the user must be aware of is the new workflow for drawing a majority of the design elements into a file. In the past, the user would draw **2D design elements** into a **2D model** inside of a **2D design file** to begin the design and later produce a **3D design model** of those 2D elements in a separate **3D design file** using templates.

In ORD, the user will begin the design by creating a **2D** Corridor Modeling design file ***R-2635C_RDY_CMD.dgn*** that contains a **2D** default model. The user will create a corridor using ORD and apply a roadway template to that corridor in the **2D** model in the **2D** design file. When the corridor is processed, a **3D** model will **automatically be created** within the same **2D** design file. A 3D model **view** can then be opened inside of the 2D design file to view the **3D Design Model** created with the template. At this point the CMD file now has both **2D** and **3D** Models and Views. In addition to the 3D design model that is created when processing the template along the corridor, a **majority** of the project's **2D design elements** such as edge of pavements are also **automatically drawn** in the **default 2D model** with correct symbology that can be used in plan sheet production.

Once the majority of the design elements have been automatically drawn into the **2D model** by processing the template, the user will then draw additional design details not provided by the template such as a right turn bay into a **2D model** using **Construction Class** line symbology that can be read by the template. This 2D model can be the 2D model located in the CMD design file or another 2D model located in another file such as the ***R-2635C_RDY_DSN.dgn*** file. The user will then reprocess the template which will read the additional construction class design elements from the **2D model**, draw them in the **3D model,** and redraw them back into the **2D model** using the correct **Primary Class** symbology which can also be used in plan sheet production. This workflow makes the 2D and 3D models co-dependent on each other.

This concept will be further explained in the **Corridor Modeling Modules** in NCDOT's ORD Training.

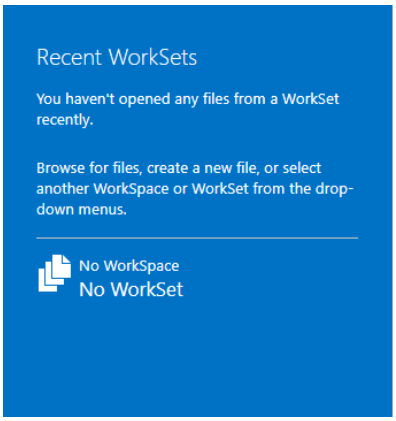
4. Features and Feature Definitions

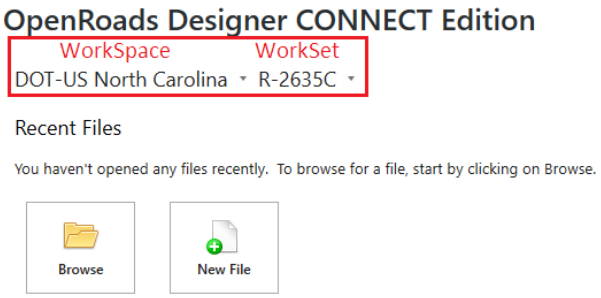
Throughout ORD, the user will encounter Features and Feature Definitions. A Feature is a measurable thing that is part of your design such as Centerline, Edge of Pavement, Catch Basin, or a Terrain Model. A Feature has certain properties that define how its created and behaves in different contexts and that Feature is defined by a Feature Definition. Feature Definitions are similar to but more powerful than the Drafting Standards set in Plan Graphics in earlier Bentley software. A Feature Definition describes what a Feature is and sets the symbology for the Feature. These properties allow ORD to model the Feature and display it differently according to the context such as plan, profile, cross section, or 3D views. This is accomplished through Element Templates and Annotation Groups.

This concept will be further explained in the **Horizontal Alignment** and **Corridor Modeling Modules** in NCDOT's ORD Training.

NCDOT ORD Workspace Setup

A **WorkSpace** is a collection of files where organizations like DOT's store their standards such as resources, libraries, custom applications, levels, cells, line styles, feature definitions, macros (BAS/VBA/MDL), pen tables/design scripts, color table/book, unit definitions (miles/feet English vs. kilometers/meters Metric), design standards, seed files, etc. A **WorkSpace** is the "parent" of a **WorkSet.** Each WorkSpace has one or more Configuration File(s) that specify locations for WorkSpace standards and the WorkSets associated with the WorkSpace.





Storing WorkSpaces and WorkSets on ProjectWise is referred to as **Managed WorkSpaces**. WorkSpaces and WorkSets will be created automatically by NCDOT when the project is initially created on ProjectWise. The user will not need to create either (though some manual file renaming may be necessary).

Storing WorkSpaces and WorkSets outside of ProjectWise is referred to as **Nonmanaged Workspaces**. While using Nonmanaged WorkSpaces, the WorkSets will be created and stored outside of ProjectWise on the local **C:\ Drive** as described below.

1. **Loading NCDOT WorkSpace and associated files is a three-step process.**

   A. NCDOT ORD WorkSpaces are **loaded** using the **UpdateConnectWS** program that NCDOT provides and will create this folder *C:\MICROSTATION_CONNECT_WORKSPACE* and the

WorkSpace contents. The same **UpdateConnectWS** program can also be used to **update** your workspaces as revisions to the WorkSpaces are posted.

In addition to the WorkSpace files, other files need to also be loaded on your computer. These files are loaded onto your computer with two zip files that NCDOT provides.

B. The first zip file **NAME.zip???** overwrites the default ***ConfigurationSetup.cfg*** and ***WorkSpaceSetup.cfg*** files in the *C:\ProgramData\Bentley\OpenRoads Designer CE\Configuration* folder allowing the user to access both the default Bentley Workspaces and the NCDOT WorkSpaces. If a user has more than one version of ORD on their machine, then there must be a separate ***ConfigurationSetup.cfg*** file for each version of ORD

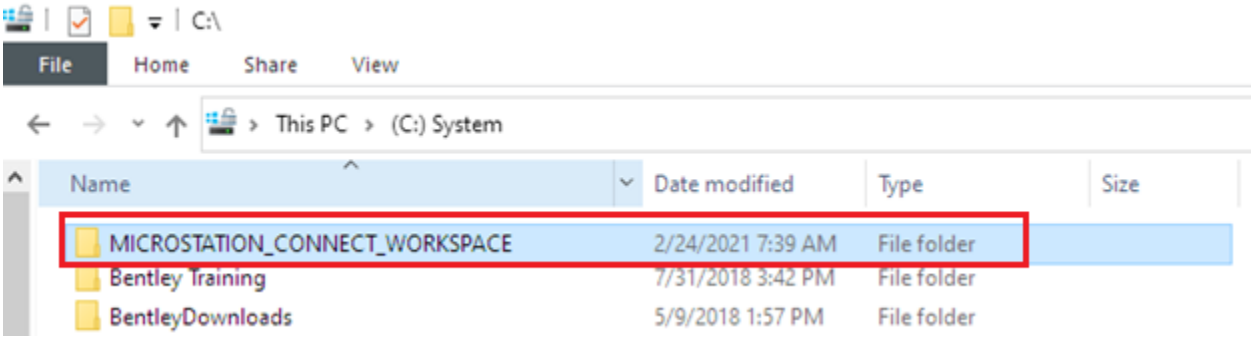
C. The second zip file **NAME.zip???** creates the *C:\Projects* folder and its subdirectories including the B-0000 project folder. The intention of including this project is to provide an example NCDOT ORD project showing NCDOT's ORD project folder structure. Information within the folders will grow as more content is made available. Users can navigate to find examples of what files are stored in each Unit, the file's contents, deliverables and how the units' files interact with each other. This B-0000 project will also serve as a template to be replicated when creating WorkSets.

Video 1-1 Setup WorkSpace
HTTP LINK PLACEHOLDER

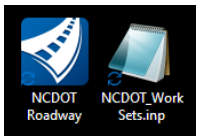
2. Workspace Setup

A. If any old Connect WorkSpace folders, desktop icons, and desktop .inp files exist that were loaded prior to May 2021, **delete** them from the computer to ensure that all of the WorkSpace is updated on the local drive.

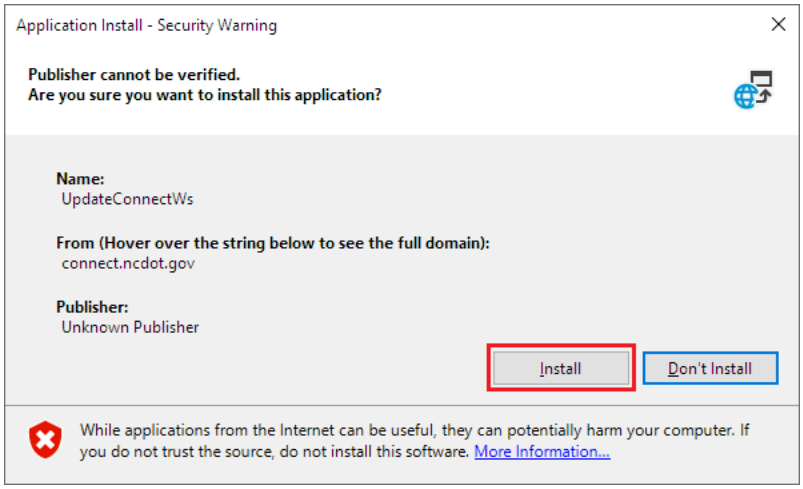
- **Delete** this folder from your computer *C:\MICROSTATION_CONNECT_WORKSPACE*



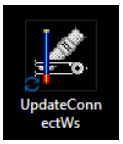
- **Delete** any previously installed ORD desktop icons and .inp files such as the **NCDOT Roadway** icon and ***NCDOT_Worksets.inp*** file from your desktop if present.



B. **Load** the NCDOT UpdateConnectWS program which creates or updates the WorkSpace on the user's computer.
   - **Go** to this webpage to download the program *https://connect.ncdot.gov/resources/CADD/Pages/default.aspx*
   - **Choose** the **UpdateConnectWS** link in the lower right of the webpage to load the program onto your computer. Direct Link: *https://connect.ncdot.gov/resources/CADD/Applications/UpdateConnectWs/UpdateConnectWs.application*
   - Choose **Install** if prompted

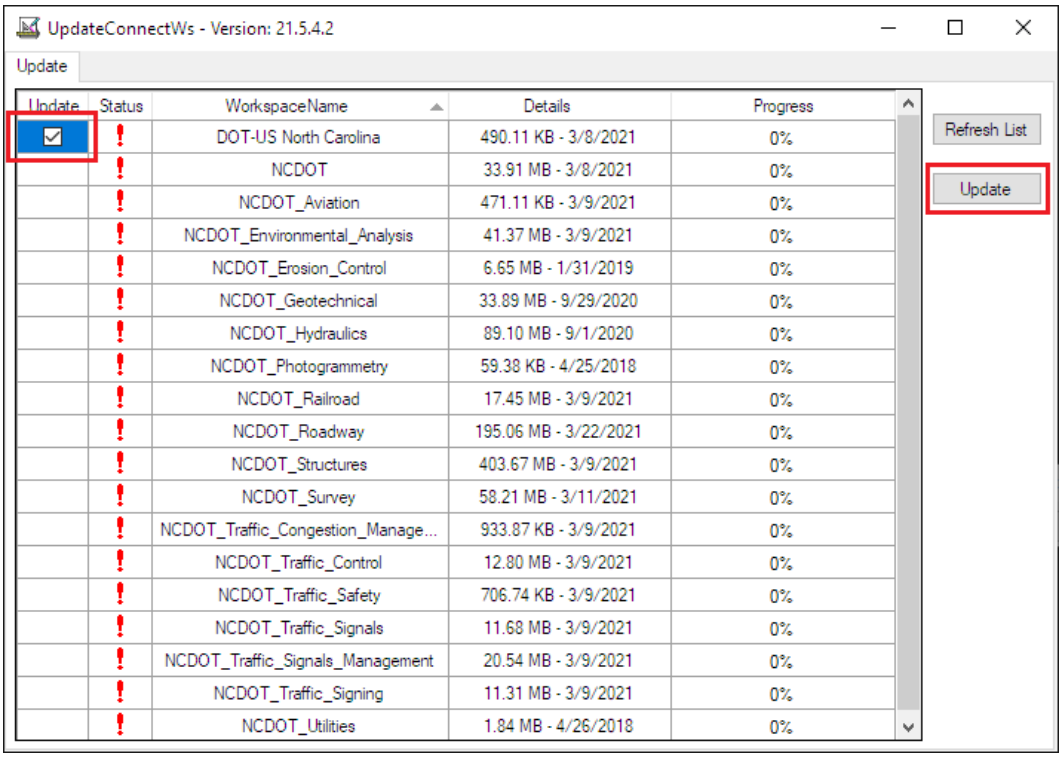


- **Choose** the icon that the installer created on your desktop to launch the program



- This dialog box will launch and the program will compare the WorkSpace files on your local computer to the WorkSpace files stored on NCDOT's server. The red exclamation Status points ! indicate that the Workspace files on your local computer do not match the version on NCDOT's server. If this is the user's first time loading the WorkSpaces, then all of the WorkSpaces Status will indicate this.

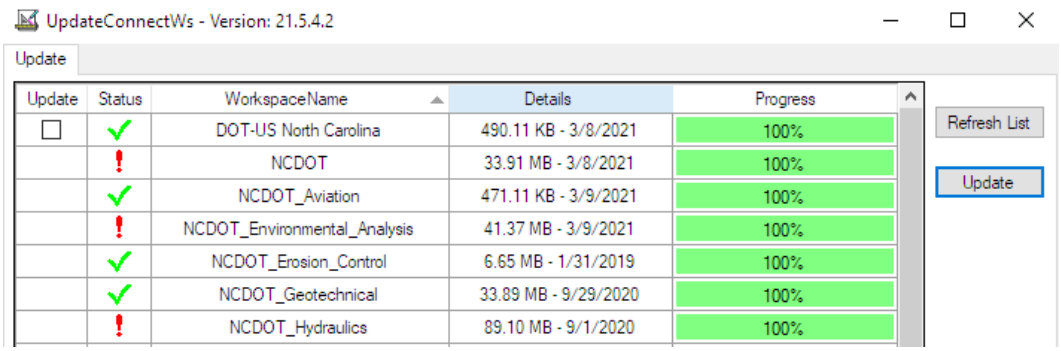
  Check the box next to the red exclamation Status point ! next to DOT-US North Carolina and choose Update and **ALL** of the WorkSpaces below that have an exclamation point ! will be updated.



Update	Status	WorkspaceName	Details	Progress
☑	!	DOT-US North Carolina	490.11 KB - 3/8/2021	0%
	!	NCDOT	33.91 MB - 3/8/2021	0%
	!	NCDOT_Aviation	471.11 KB - 3/9/2021	0%
	!	NCDOT_Environmental_Analysis	41.37 MB - 3/9/2021	0%
	!	NCDOT_Erosion_Control	6.65 MB - 1/31/2019	0%
	!	NCDOT_Geotechnical	33.89 MB - 9/29/2020	0%
	!	NCDOT_Hydraulics	89.10 MB - 9/1/2020	0%
	!	NCDOT_Photogrammetry	59.38 KB - 4/25/2018	0%
	!	NCDOT_Railroad	17.45 MB - 3/9/2021	0%
	!	NCDOT_Roadway	195.06 MB - 3/22/2021	0%
	!	NCDOT_Structures	403.67 MB - 3/9/2021	0%
	!	NCDOT_Survey	58.21 MB - 3/11/2021	0%
	!	NCDOT_Traffic_Congestion_Manage...	933.87 KB - 3/9/2021	0%
	!	NCDOT_Traffic_Control	12.80 MB - 3/9/2021	0%
	!	NCDOT_Traffic_Safety	706.74 KB - 3/9/2021	0%
	!	NCDOT_Traffic_Signals	11.68 MB - 3/9/2021	0%
	!	NCDOT_Traffic_Signals_Management	20.54 MB - 3/9/2021	0%
	!	NCDOT_Traffic_Signing	11.31 MB - 3/9/2021	0%
	!	NCDOT_Utilities	1.84 MB - 4/26/2018	0%

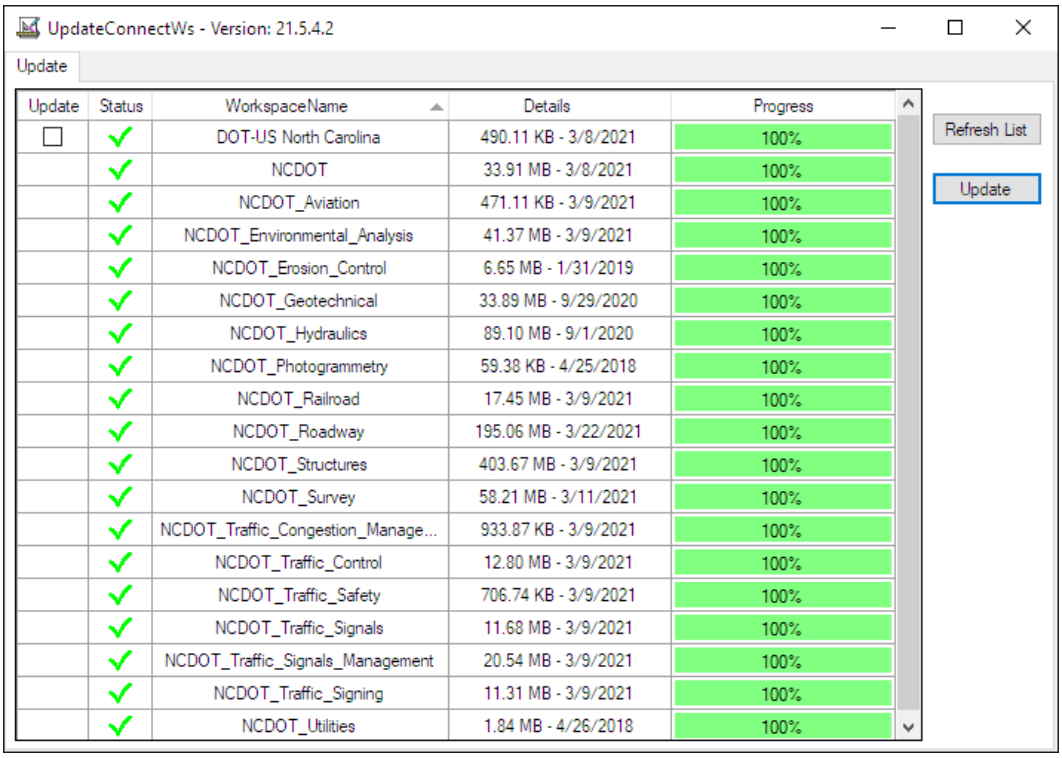
- If this is the initial load of the workspaces, this process may take 30 minutes or more depending on your network connection. Once the files are copied from NCDOT's

server, The red exclamation points ! will turn to green check marks ✓ indicating an updated workspace. Occasionally, the program does not update every file on its initial pass and must be run again as shown below.



Update	Status	WorkspaceName	Details	Progress
☐	✓	DOT-US North Carolina	490.11 KB - 3/8/2021	100%
	!	NCDOT	33.91 MB - 3/8/2021	100%
	✓	NCDOT_Aviation	471.11 KB - 3/9/2021	100%
	!	NCDOT_Environmental_Analysis	41.37 MB - 3/9/2021	100%
	✓	NCDOT_Erosion_Control	6.65 MB - 1/31/2019	100%
	✓	NCDOT_Geotechnical	33.89 MB - 9/29/2020	100%
	!	NCDOT_Hydraulics	89.10 MB - 9/1/2020	100%

- If this happens, Check the update box and choose update again to complete update shown by all green check marks ✓ .



Update	Status	WorkspaceName	Details	Progress
☐	✓	DOT-US North Carolina	490.11 KB - 3/8/2021	100%
	✓	NCDOT	33.91 MB - 3/8/2021	100%
	✓	NCDOT_Aviation	471.11 KB - 3/9/2021	100%
	✓	NCDOT_Environmental_Analysis	41.37 MB - 3/9/2021	100%
	✓	NCDOT_Erosion_Control	6.65 MB - 1/31/2019	100%
	✓	NCDOT_Geotechnical	33.89 MB - 9/29/2020	100%
	✓	NCDOT_Hydraulics	89.10 MB - 9/1/2020	100%
	✓	NCDOT_Photogrammetry	59.38 KB - 4/25/2018	100%
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	✓	NCDOT_Roadway	195.06 MB - 3/22/2021	100%
	✓	NCDOT_Structures	403.67 MB - 3/9/2021	100%
	✓	NCDOT_Survey	58.21 MB - 3/11/2021	100%
	✓	NCDOT_Traffic_Congestion_Manage...	933.87 KB - 3/9/2021	100%
	✓	NCDOT_Traffic_Control	12.80 MB - 3/9/2021	100%
	✓	NCDOT_Traffic_Safety	706.74 KB - 3/9/2021	100%
	✓	NCDOT_Traffic_Signals	11.68 MB - 3/9/2021	100%
	✓	NCDOT_Traffic_Signals_Management	20.54 MB - 3/9/2021	100%
	✓	NCDOT_Traffic_Signing	11.31 MB - 3/9/2021	100%
	✓	NCDOT_Utilities	1.84 MB - 4/26/2018	100%

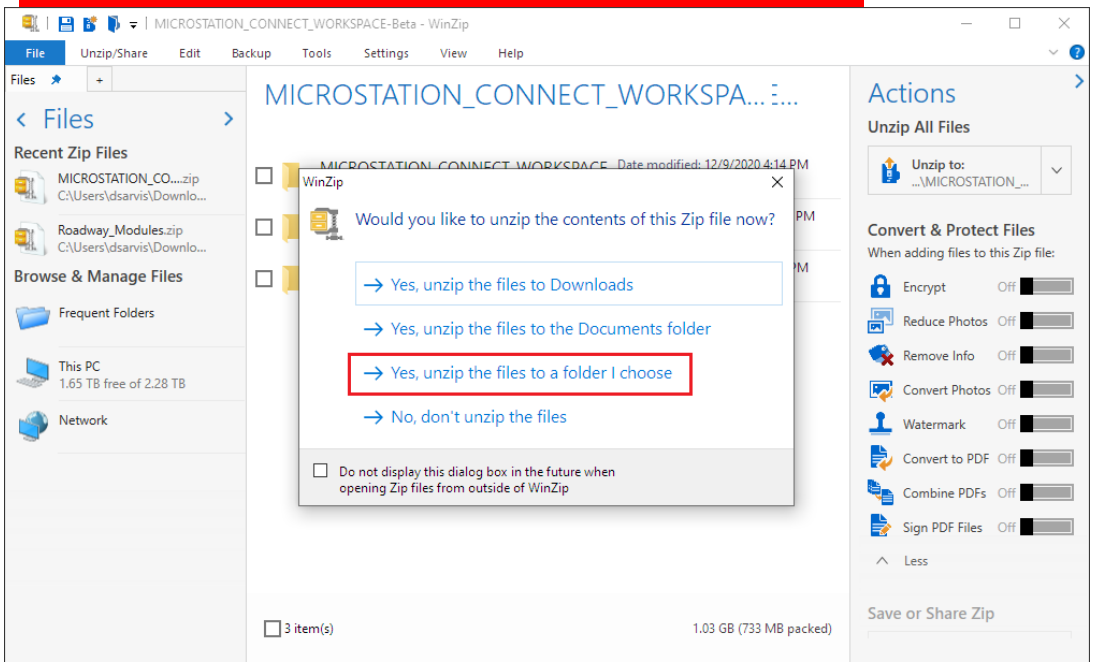
3. Additional Files Setup

A. **Go** to this webpage
https://connect.ncdot.gov/projects/Roadway/Pages/Technical-Resources.aspx

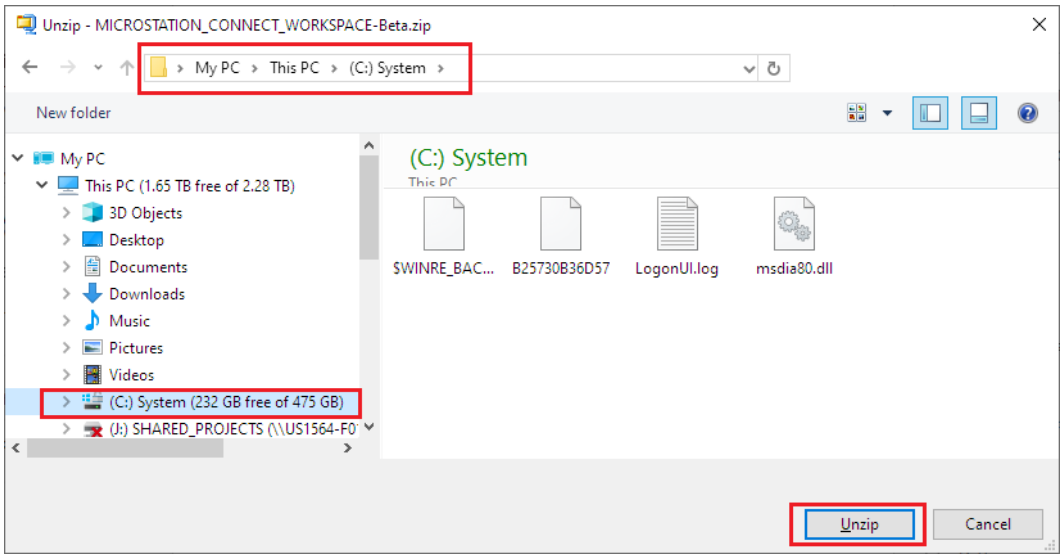
B. In the lower right under **CADD → Workstation → Resource Type: Files**, download **NAME.zip???** file CHECK BACK WITH OAK TO DETERMINE NEW **NAME** FOR .ZIP FILE THAT ONLY LOADS .CFG IN PRORGAM DATA and **NOT** WORKSPACES
Launch the zip file to load or update the .cfg files in the Program Data folder.

C. **Choose "Yes, unzip the files to a folder I choose"**

REDO SCREENSHOT ONCE OAK CREATES THE TWO NEW ZIP FILES



D. Choose the **C:\ drive** and Unzip. **It is very important to unzip this to the C:\ Drive in order for the WorkSpaces to work properly.**

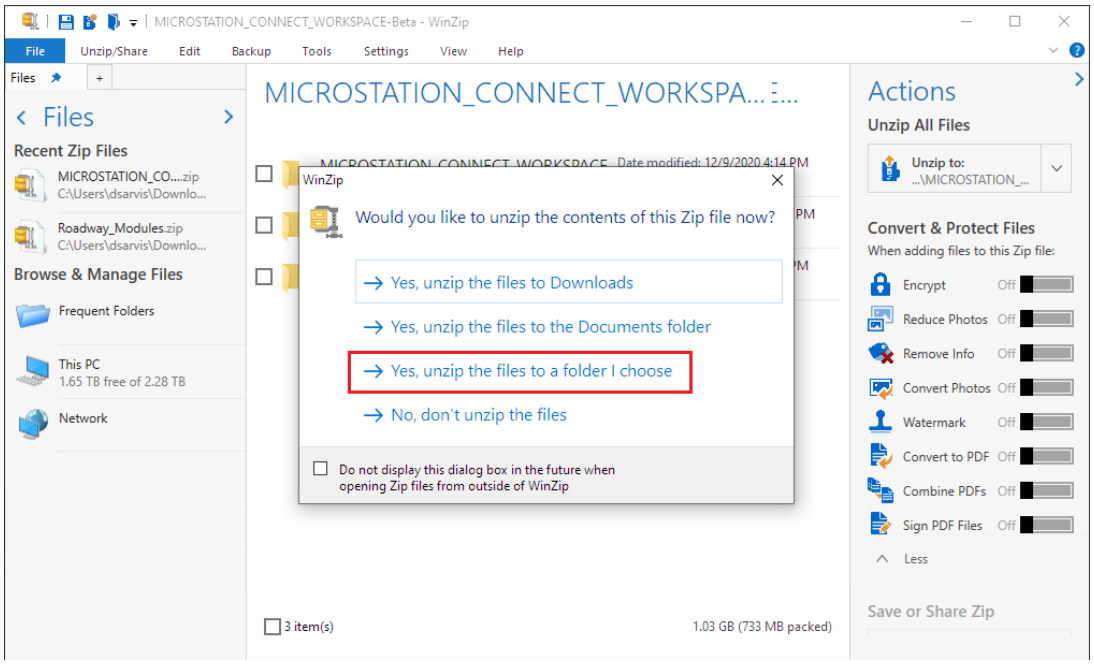


B. **Go** back to this webpage *https://connect.ncdot.gov/projects/Roadway/Pages/Technical-Resources.aspx*

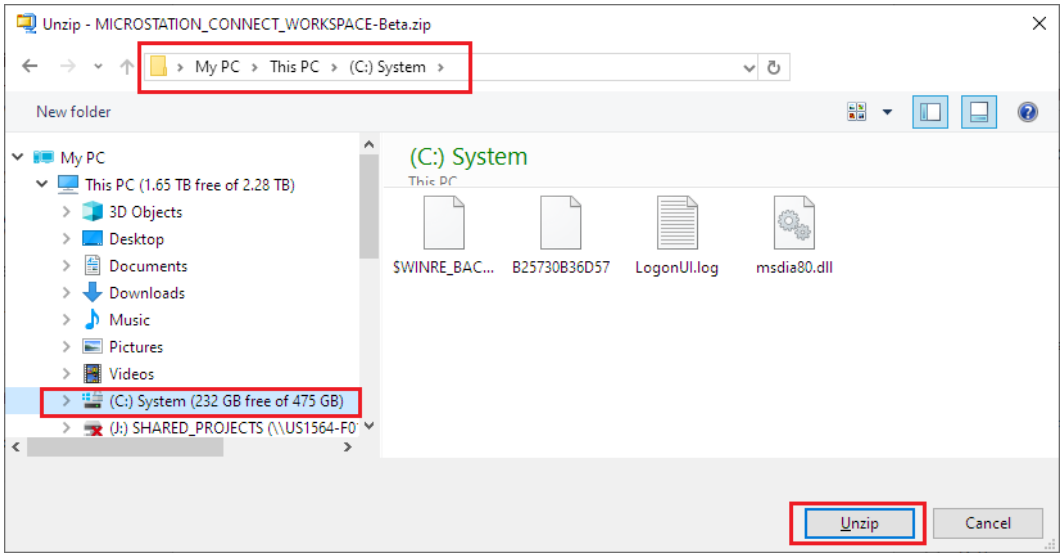
E. In the lower right under **CADD → Workstation → Resource Type: Files**, download **NAME.zip???** file CHECK BACK WITH OAK TO DETERMINE NEW **NAME** FOR .ZIP FILE THAT ONLY ADDS C: PROJECTS, AND **NOT** WORKSPACES
Launch the zip file to load create the **C:\Projects** folder. The **C:\Projects** folder contains a sample project **B-0000** and its associated ***B-0000.cfg*** and ***B-0000.dgnws*** files.

F. Choose "Yes, unzip the files to a folder I choose"

REDO SCREENSHOT ONCE OAK CREATES THE TWO NEW ZIP FILES



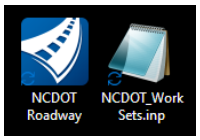
G. Choose the **C:\ drive** and Unzip. **It is very important to unzip this to the C:\ Drive in order for the WorkSpaces to work properly.**



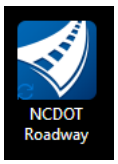
H. **Copy** the new desktop files from the following WorkSpace folder to your desktop

C:\MICROSTATION_CONNECT_WORKSPACE\Configuration\WorkSpaces\DOT-US North Carolina\Desk

- NCDOT Roadway (or any other unit specific icon)
- NCDOT_WorkSets.inp (required)
- NCDOT ---ALL--- (optional to load all NCDOT Unit's workspaces)



- This icon is to be used to properly enter ORD design files to ensure that NCDOT WorkSpaces and project WorkSets are called when entering the file. These icons are temporarily necessary until Bentley allows Role designations under their workspaces that can be assigned to each discipline.



I. Notes
- A detailed explanation of loading and configuring WorkSpaces is available in this video

Video 1-2 NCLUG Tech Talk NCDOT Workspaces - YouTube

- If you are loading WorkSpaces onto a computer whose desktop is being backed up on One-Drive, the ***NCDOT_WorkSets.inp*** file used by the desktop launching icons must be located on the **local system desktop** located under *C:\Users\(USER)\Desktop* or the WorkSet will not launch properly. You can create a shortcut from your **One-Drive desktop** to call the ***NCDOT_WorkSets.inp*** file for editing.
- There is no need to modify the ***WorkSpaceSetup.cfg*** file as in the past. This file should **NOT** be edited from its default values.

- For OpenRail and OpenBridge to work together with OpenRoads using the same WorkSpace, the ***ConfigurationSetup.cfg*** file for each CONNECT civil platform is automatically modified with the same value when the user uses the **NAME?.zip** file. This are the standard installation folders which contain the .cfg files that are required for proper functionality.

C:\ProgramData\Bentley\OpenRoads Designer CE\Configuration
C:\ProgramData\Bentley\OpenRail Designer CE\Configuration
C:\ProgramData\Bentley\OpenBridge Designer CONNECTEdition\OpenBridgeModeler\Configuration

Project ORD WorkSets

Storing WorkSpaces and WorkSets on ProjectWise is referred to as **Managed WorkSpaces**. WorkSpaces and WorkSets will be created automatically by NCDOT when the project is initially created on ProjectWise. The user will not need to create either (though some manual file renaming may be necessary).

Storing WorkSpaces and WorkSets outside of ProjectWise is referred to as **Nonmanaged Workspaces**. While using Nonmanaged WorkSpaces, the WorkSets will be created and stored outside of ProjectWise on the local **C:\ Drive** as described below.

A WorkSet is a collection of files that defines the project and plan-set parameters and uses the resources and standards of a WorkSpace. A WorkSet is the "child" of a WorkSpace. For each WorkSet, there is a corresponding ***STIP#.dgnws*** and ***STIP#.cfg*** configuration files that specify locations for the various files that comprise the WorkSet resources and designs. In some cases, it is desirable to override or augment the standards supplied at the Organization and WorkSpace level with standards that are appropriate for a particular project. That can be accomplished in WorkSet Configuration Files.

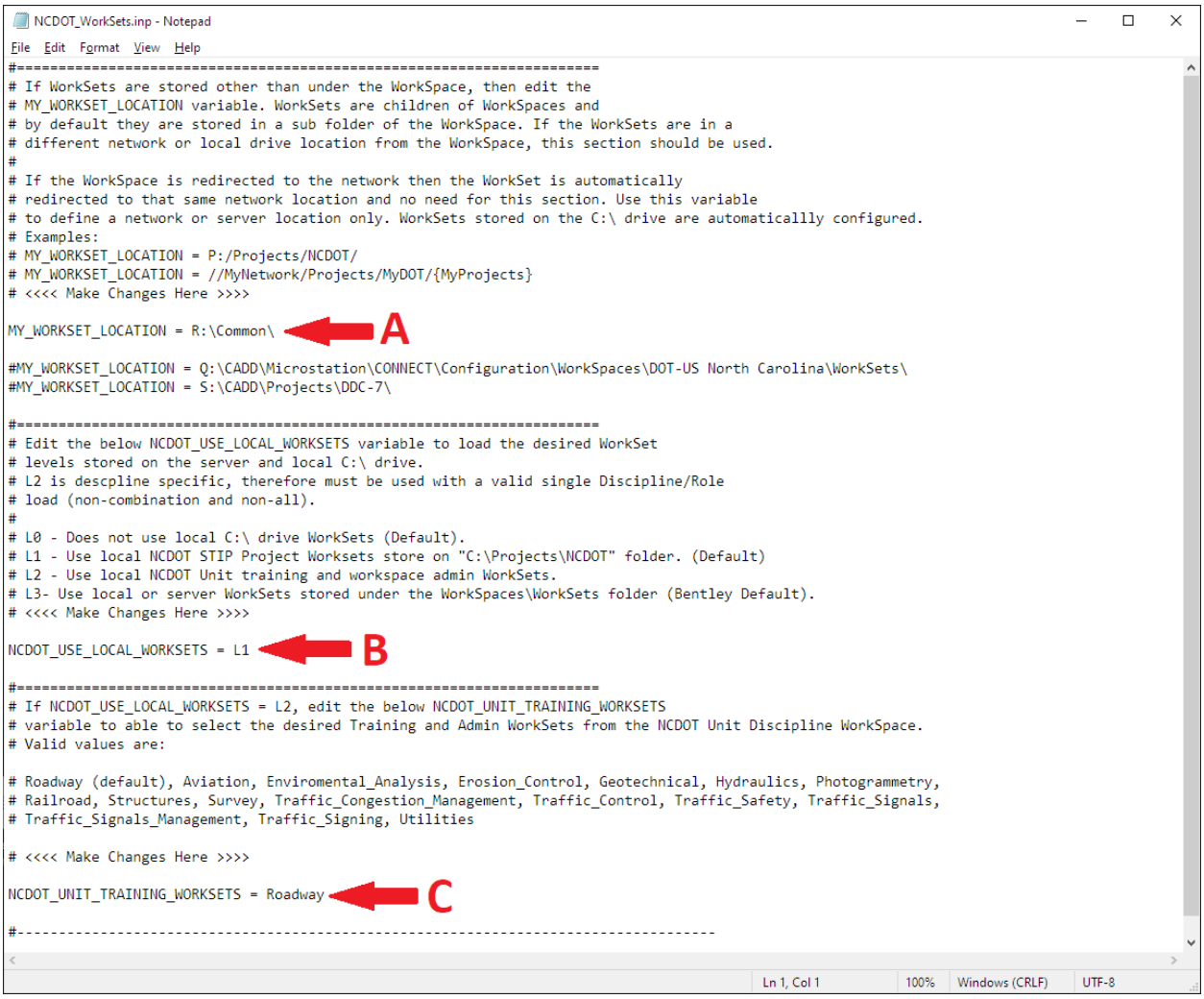
WorkSets are named using the STIP number of your project. For example, name your WorkSet **R-2635C** with a **CAPITAL** first and **LAST LETTER** and **a dash** between the first letter and the numbers. Note that this is different than the old Design File Generator instructions that eliminated the dash. It is however consistent with the STIP name in NCDOT's STIP and SAP.

Examples
R-2635C.cfg points to where the project CADD files and Design Standards are stored
R-2635C.dgnws contains the sheet index for the project

WorkSets can also be stored in customized locations according to your needs. Since project information such as the Plan Sheet Index is stored in the WorkSet, it is important that **all** users working on a project have access to the most recent version of the WorkSet when entering project files. This should be considered when choosing a place to store the WorkSet. If it is chosen to be stored locally, then consider how others working on the project will be able to access the most recent version of the WorkSet files. If it is necessary to be stored on a server for everyone to access, use the **L0 Load Value** in the ***NCDOT_WorkSets.inp*** file described below and follow the link below to get instructions posted on NCDOT's CADD Services website.

NCDOT CADD Services
AWAITING WEBSITE TO BE REVISED BY CADD SERVICES TO ADD SERVER WORKSPACE/WORKSET INSTRUCTIONS

The ***NCDOT_WorkSets.inp*** file on your desktop contains a variable that can be edited to path to where you choose to locate your WorkSets. Edit these **three values** with the proper values before you use the NCDOT icon to launch your ORD design files.



MY_WORKSET_LOCATION = (Folder Location)

If the user sets the **Load Value** option described below to be **L0**, set this **Folder Location** value to be the folder where you want your project's WorkSets stored.

This can be a common folder containing WorkSet files for **all projects** such as *R:\Projects* or a folder under each project such as *R:\Workset* that contains the WorkSet files for **only that project.** Storing WorkSets under each project requires a means such as NCDOT's Mapdrive to map the R:\ Drive to each individual project to access that project's WorkSet.

NCDOT_USE_LOCAL_WORKSETS = (Load Value)

Load Value Options

L0 = *R:\Projects*

- Can be **any** drive letter or **folder name** and is commonly mapped to a **server** location

L1 = *C:\Projects\NCDOT*

- **Default WorkSet location** that was loaded with the **NAME?.zip** file and contains example WorkSets

L2 = *C:\MICROSTATION_CONNECT_WORKSPACE\Configuration\Organization-Civil\Disciplines\NCDOT_(Unit)\WorkSets*

- NCDOT Unit Training and Administrative WorkSets

L3 = *\\Configuration\WorkSpaces\DOT-US North Carolina\WorkSets*

- Bentley default location

NCDOT_UNIT_TRAINING_WORKSETS = (Unit Name)

If the user sets the **Load Value** option described above to be **L2**, set this **Unit Name** value to be one of the Unit Name values listed in the ***NCDOT_WorkSets.inp*** file to access that unit's training.

Create WorkSet Files

Storing WorkSpaces and WorkSets on ProjectWise is referred to as **Managed WorkSpaces**. WorkSpaces and WorkSets will be created automatically by NCDOT when the project is initially created on ProjectWise. The user will **not** need to create either.

Storing WorkSpaces and WorkSets **outside** of ProjectWise is referred to as **Nonmanaged Workspaces**. While using Nonmanaged WorkSpaces, the WorkSets will be created and stored outside of ProjectWise on the local **C:\ Drive** as described below.

A WorkSet must be created before Design Files can be created since the Design Files will be calling the **WorkSpace** to get NCDOT standards and the **WorkSet** to get project standards when you open them.

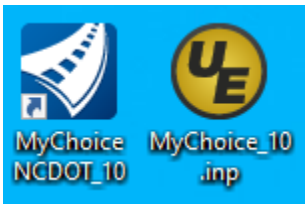
Video 1-3 Creating WorkSet Files outside of ProjectWise

HTTP LINK PLACEHOLDER

REDO THIS VIDEO WITH NEW WORKSET OR STANDARDS SUBDIRECTORIES

1. **Creating a WorkSet**
   A. **Locate** the NCDOT Roadway ORD Icon **on your desktop** that was loaded with the NCDOT WorkSpaces and manually copied to your desktop from the following folder earlier.

   C:\MICROSTATION CONNECT WORKSPACE\Configuration\WorkSpaces\DOT-US North Carolina\Desk

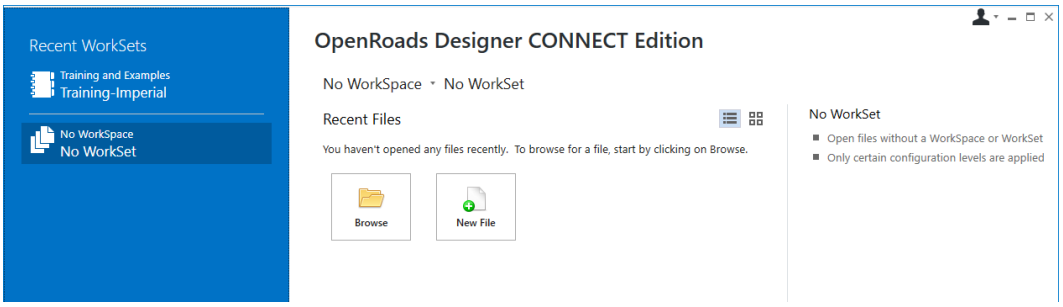


   B. To open a NCDOT ORD design file properly, **ensure** that your ***NCDOT_WorkSets.inp*** file is configured to write the **C:\Projects\NCDOT** folder by setting the variable in the ***NCDOT_Worksets.inp*** file on your desktop as show below:

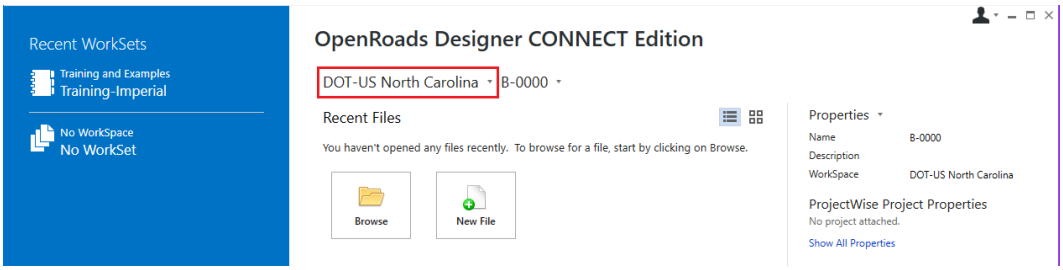
- **NCDOT_USE_LOCAL_WORKSETS = L1**

C. **Choose** the **MyChoice NCDOT_10** icon to launch ORD

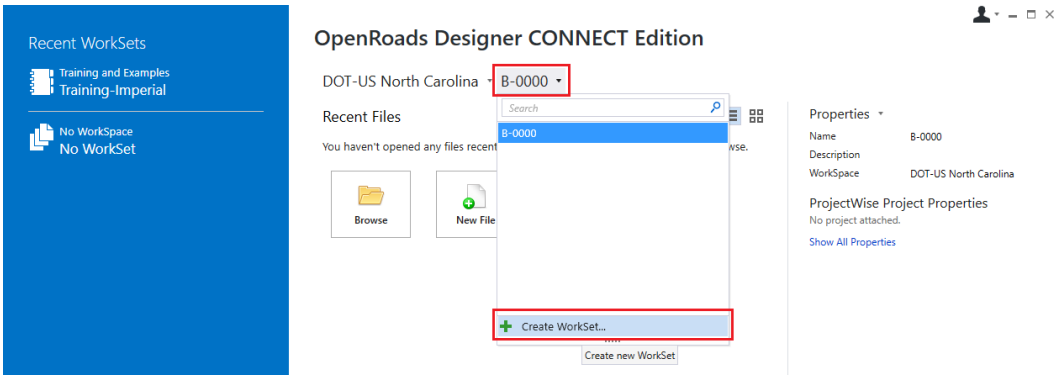
D. The following dialogue will appear.



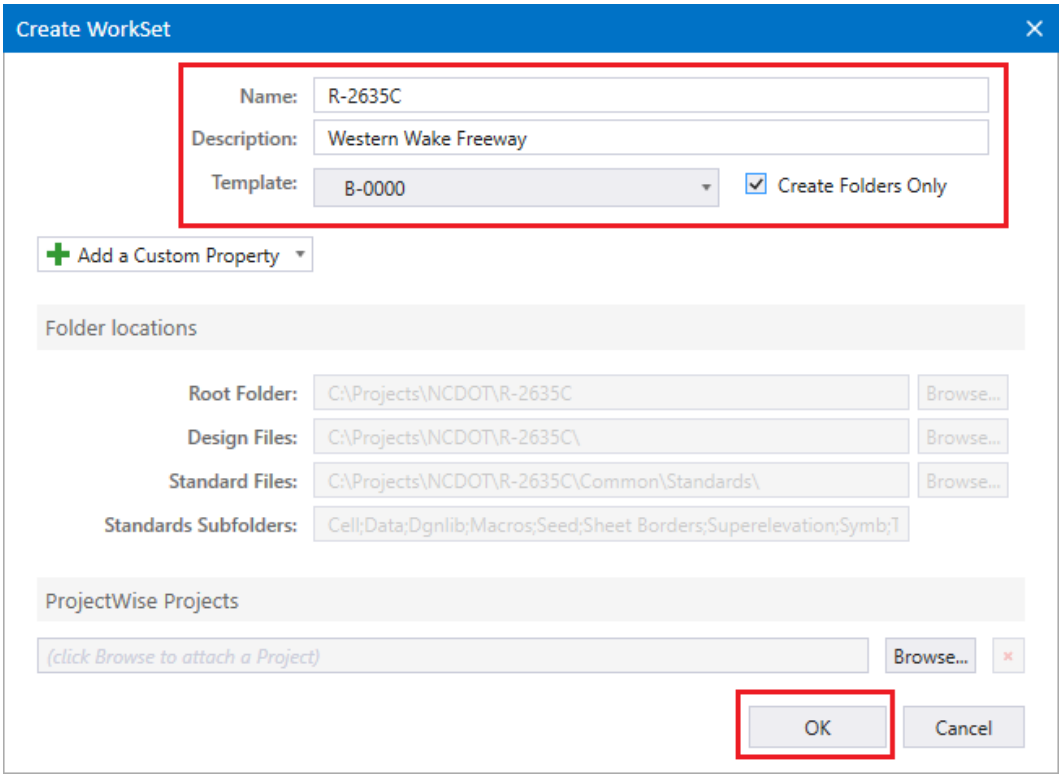
E. **Choose** the down arrow next to **No WorkSpace** and choose the **DOT-US North Carolina** Workspace.



F. Once the WorkSpace is chosen, the B-0000 WorkSet will appear. Choose the down arrow next to **B-0000** and choose **Create WorkSet** to create a new WorkSet to have available to assign to your new file.



A. **Enter** a name and description for your WorkSet. WorkSets are named using the STIP number of your project. For example, name your WorkSet **R-2635C** with a **CAPITAL** first and **LAST LETTER** and a **dash** between the first letter and the numbers. **Choose** the down arrow next to the template box and **choose** the B-0000 project provided when the WorkSpaces were loaded to use and as a template to create your WorkSet subdirectories with. **CHECK THE CREATE FOLDERS ONLY BOX** or the sample project's subdirectories **AND FILES** will be copied when creating your WorkSet. **Choose OK** to create the new WorkSet

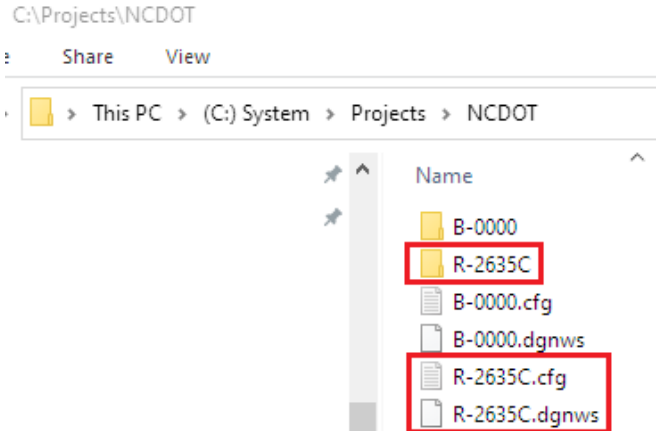


J. A folder with the project name **R-2635C** and the two main WorkSet files ***R-2635C.cfg*** and ***R-2635C.dgnws***

OAK SHOULDN'T THESE TWO FILES BE CREATED UNDER THE STANDARDS FOLDER UNDER ROADWAY?

described earlier will be created in the *C:\Projects\NCDOT* folder. The **R-2635C** folder contains the default NCDOT ORD folder structure.

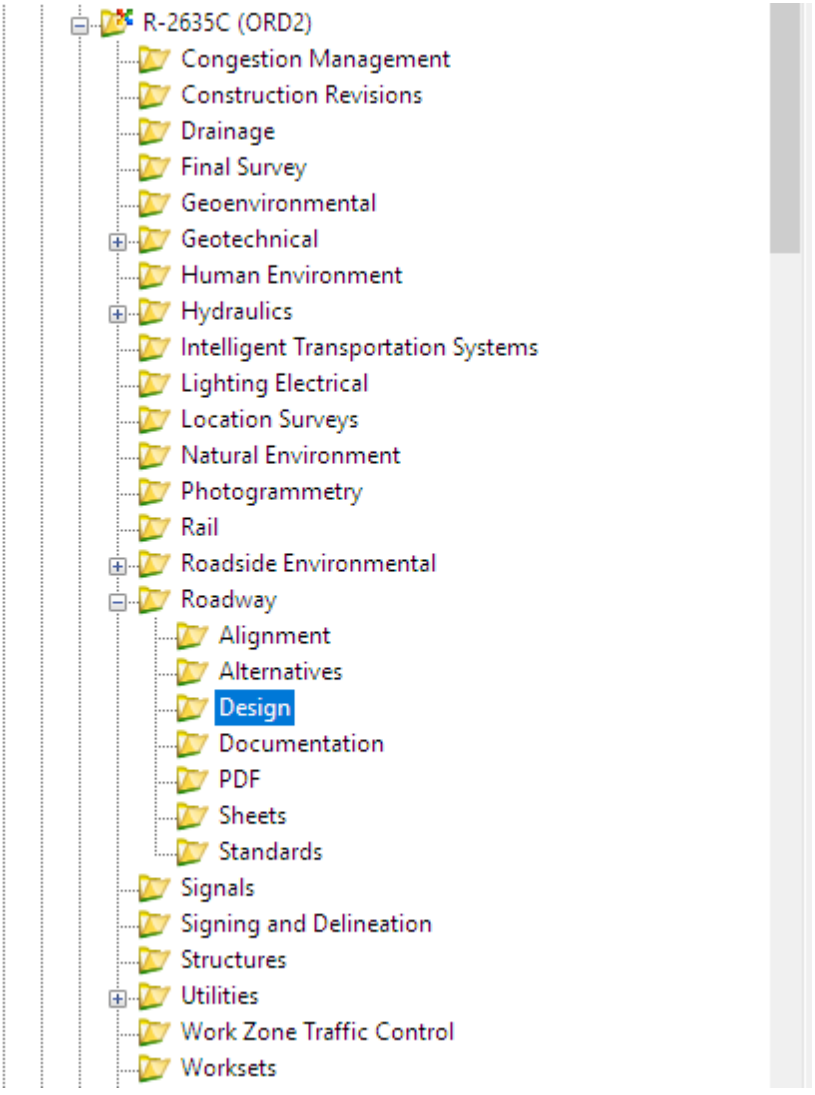
CHANGE THE NEXT SCREENSHOT IF OAK MOVES THESE FILES TO STANDARDS



ORD Folder Naming Convention

For proper organization and consistency, an ORD folder structure has been developed and **all new projects** will be stored on ProjectWise with the following subdirectories.

Original editions of files transmitted between shareholders of a project should be stored on a local server and only the edited version of the transmitted design file should be stored on ProjectWise.



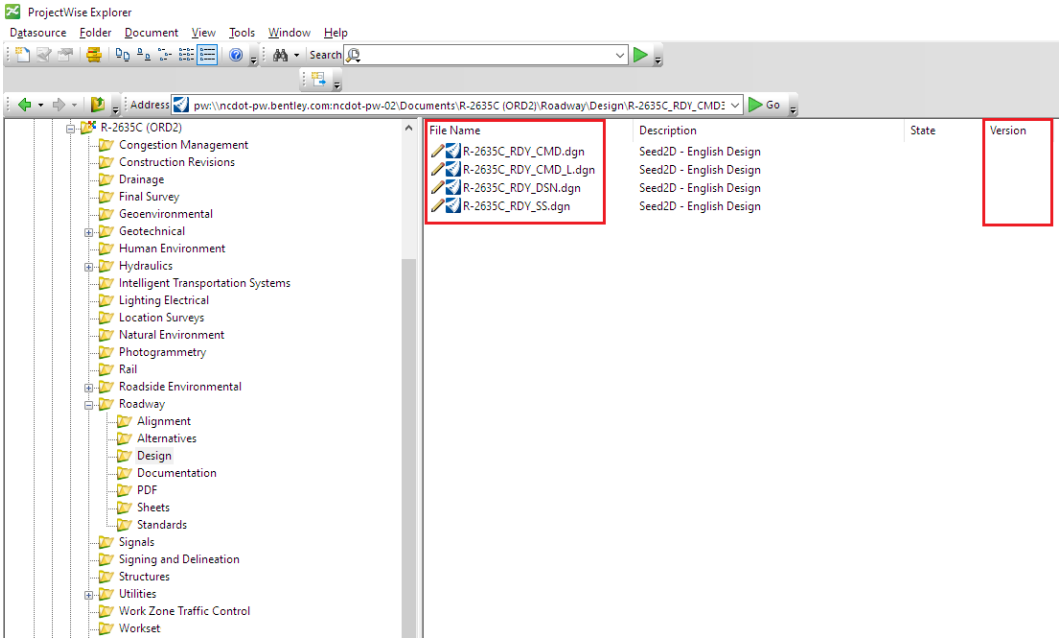
Archiving Files at Project Stages

Project plan sets will be assembled and submitted at stages throughout the life of the project. This will be accomplished by producing a set of PDF plans and storing them in the PDF folder under the appropriate stage of the project. Archiving of the project design files used to produce the plans at a particular stage will be accomplished by utilizing the **Version** and **Document Set** capabilities in ProjectWise explorer.

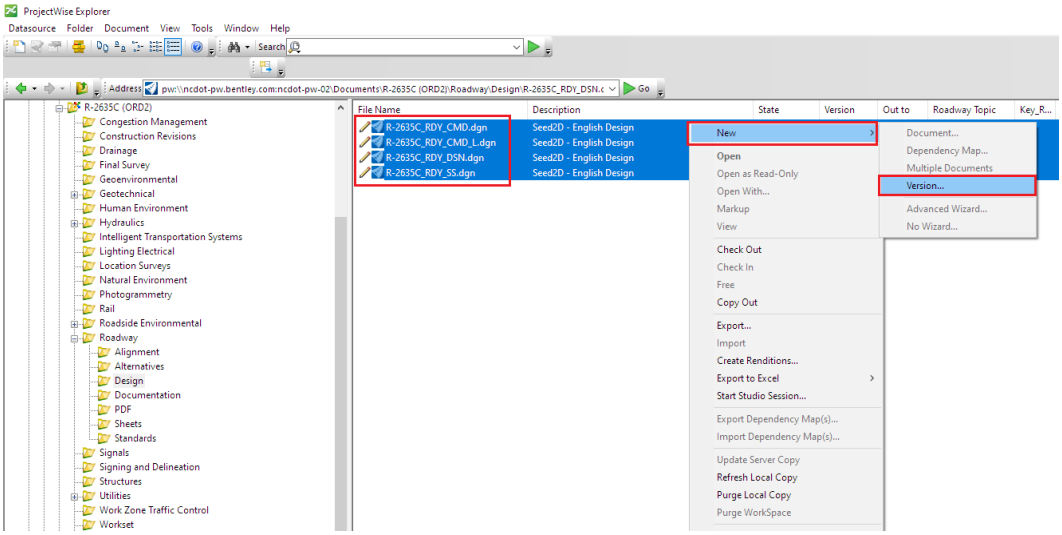
Video 1-4 Archiving Files at Project Stages
HTTP LINK PLACEHOLDER

1. **Archiving Files at Project Stages**
   A. **Launch** ProjectWise Explorer using the Icon.

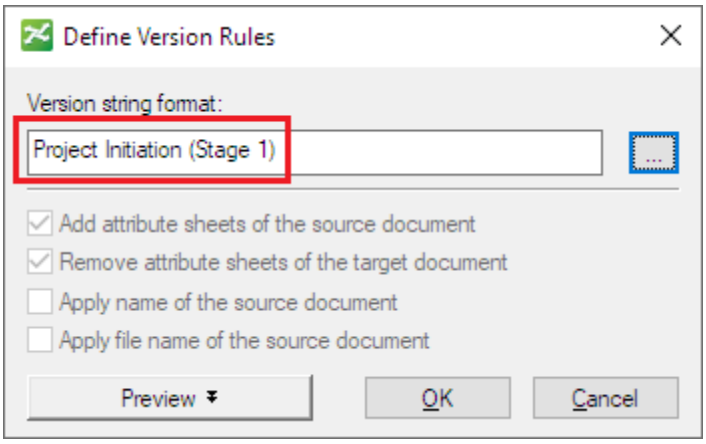
   B. **Navigate** to the folder that contains the project files that you want to archive at a specific project stage. **Choose** the files that you want to assign a **Version** designation to and **note** the **Version** number or letter if one exists.



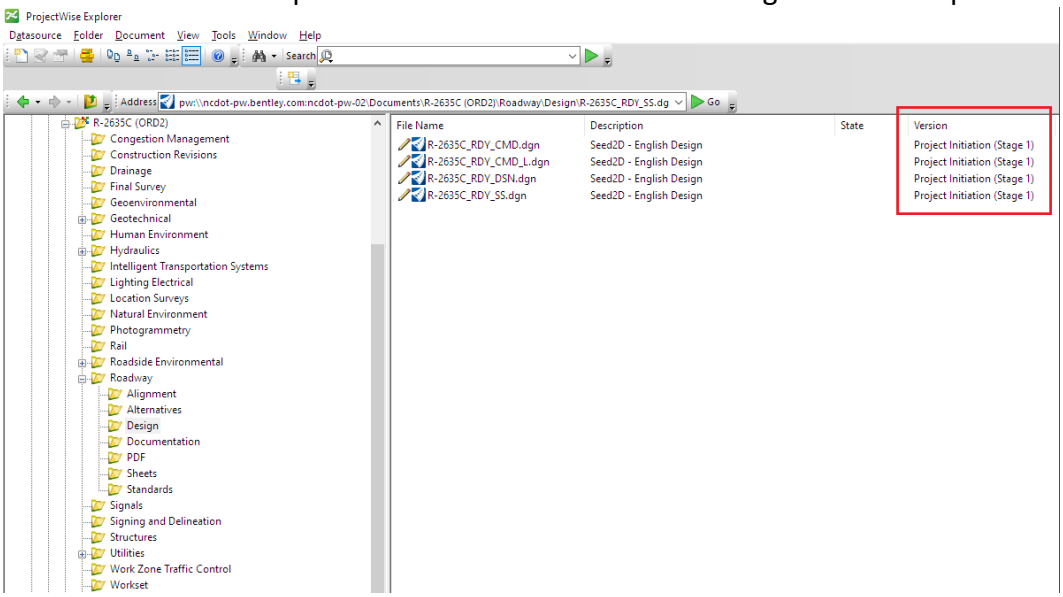
C. **Right click** over the files and **choose** New → Version



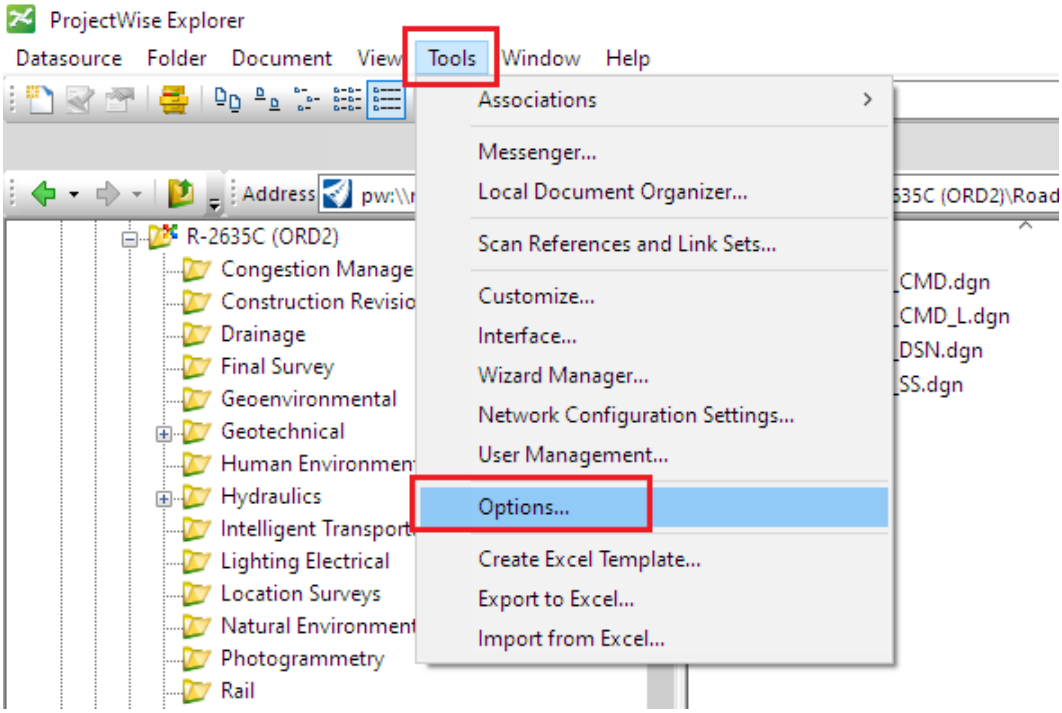
D. **Type** in a Version string format to assign to each selected file.



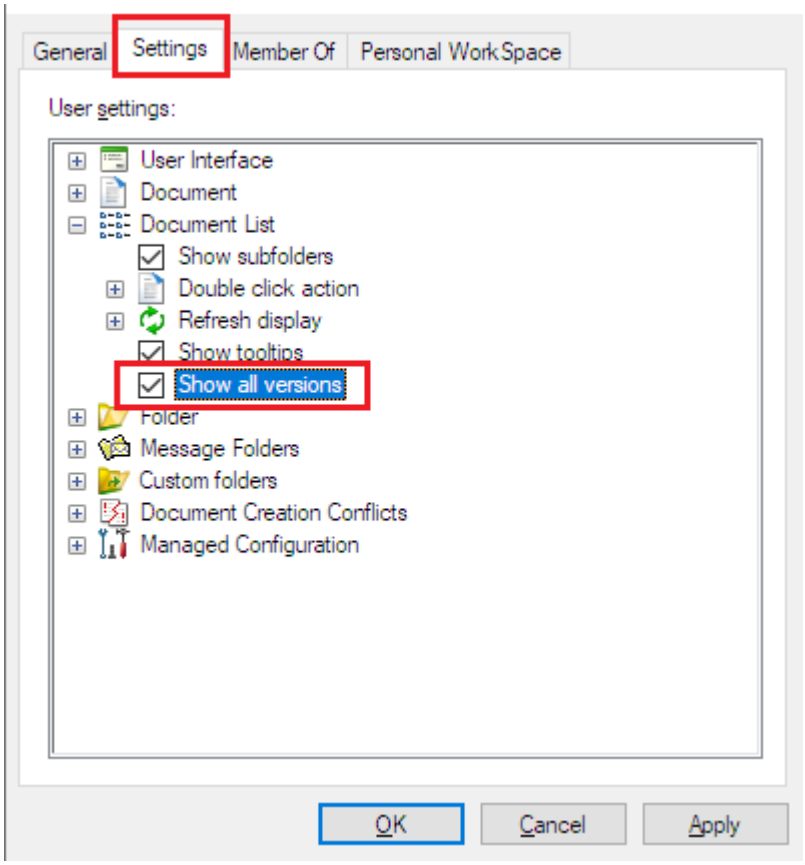
E. Each selected file is copied and a new **Version** name is assigned to the copied files.

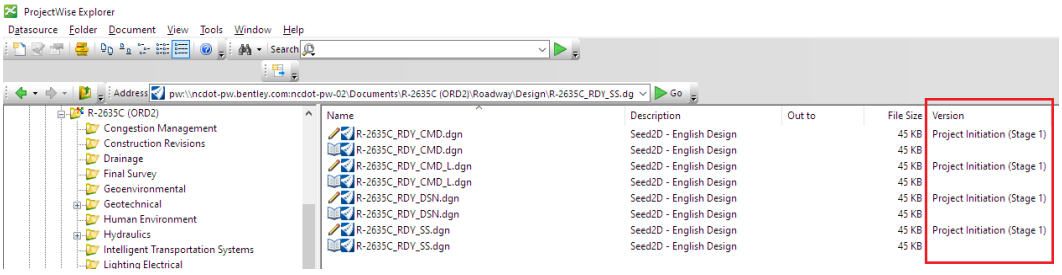


F. To view all versions of the files, **choose** Tools → Options

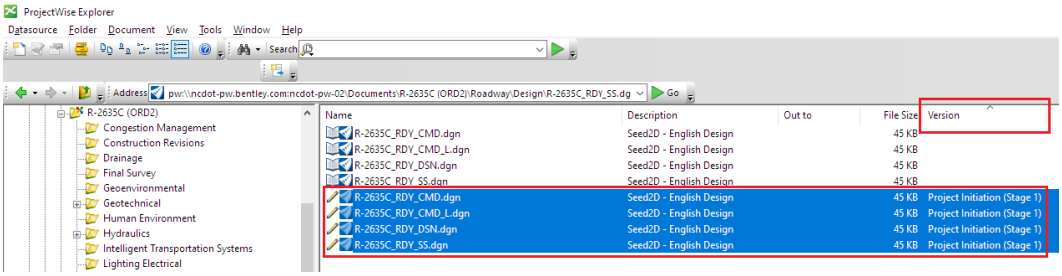


G. **Choose** Settings → Show all Versions

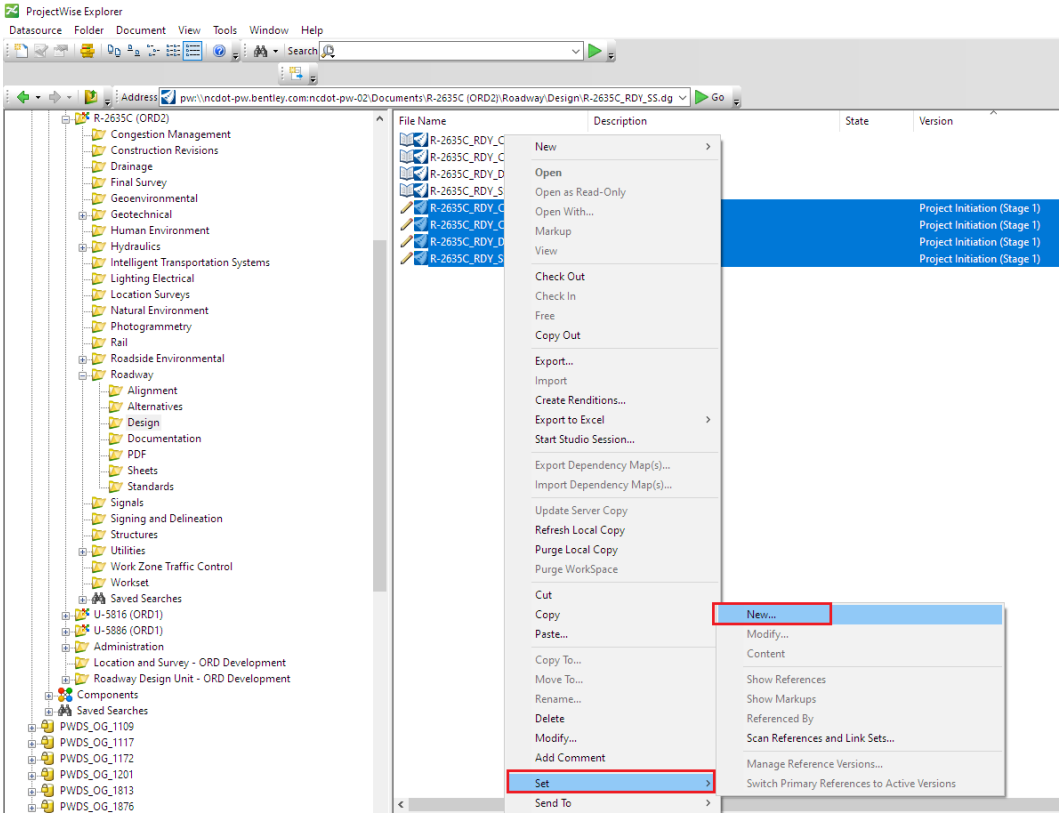




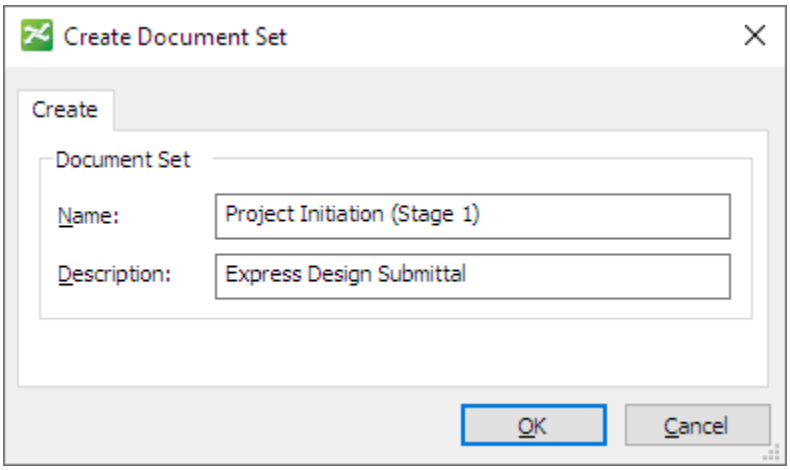
H. **Tag** the Version column to sort by Version names and **choose** the files to add to the **Document Set**.



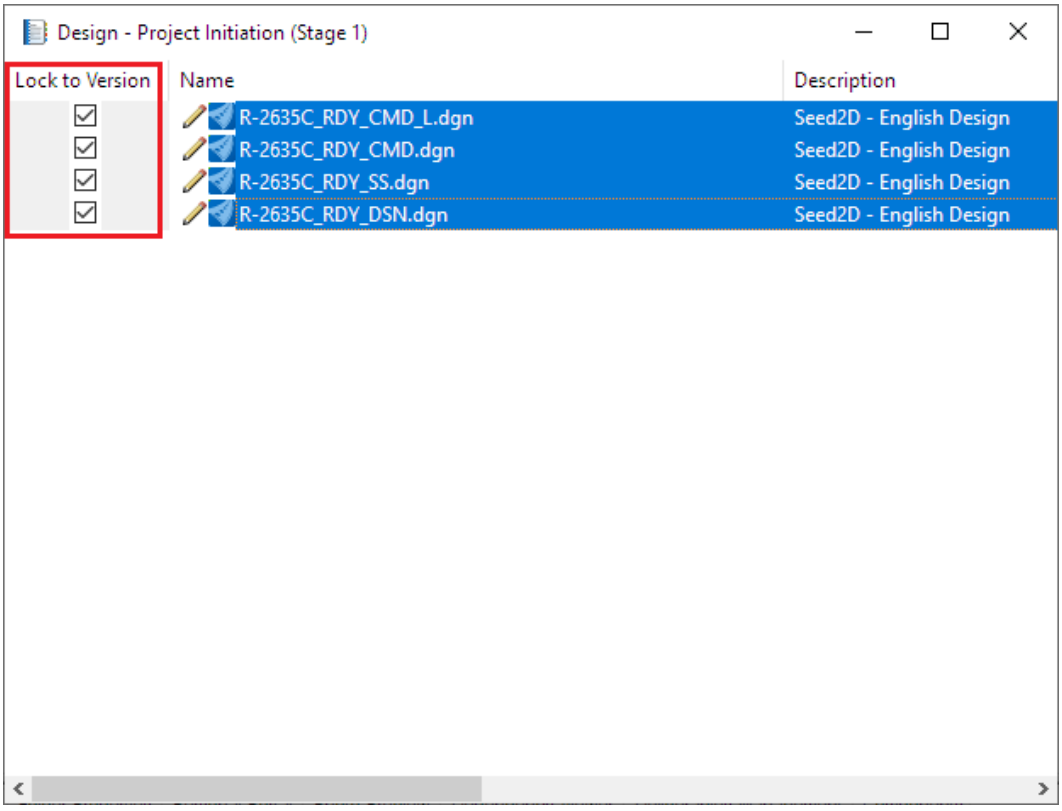
I. **Right click** over the files and **choose** Set → New



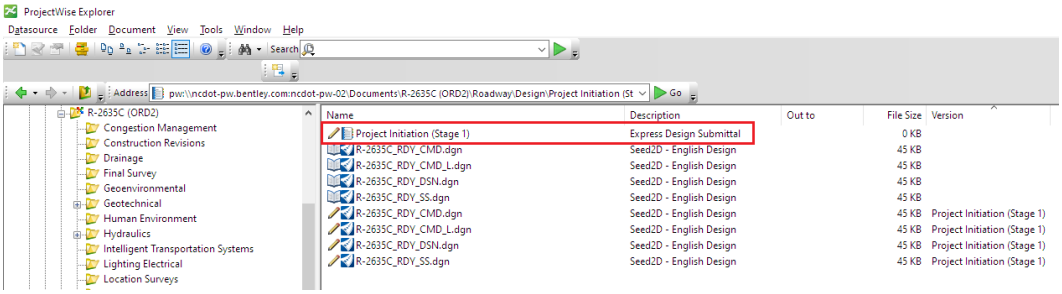
J. **Type** in a Name and Description for the Document Set



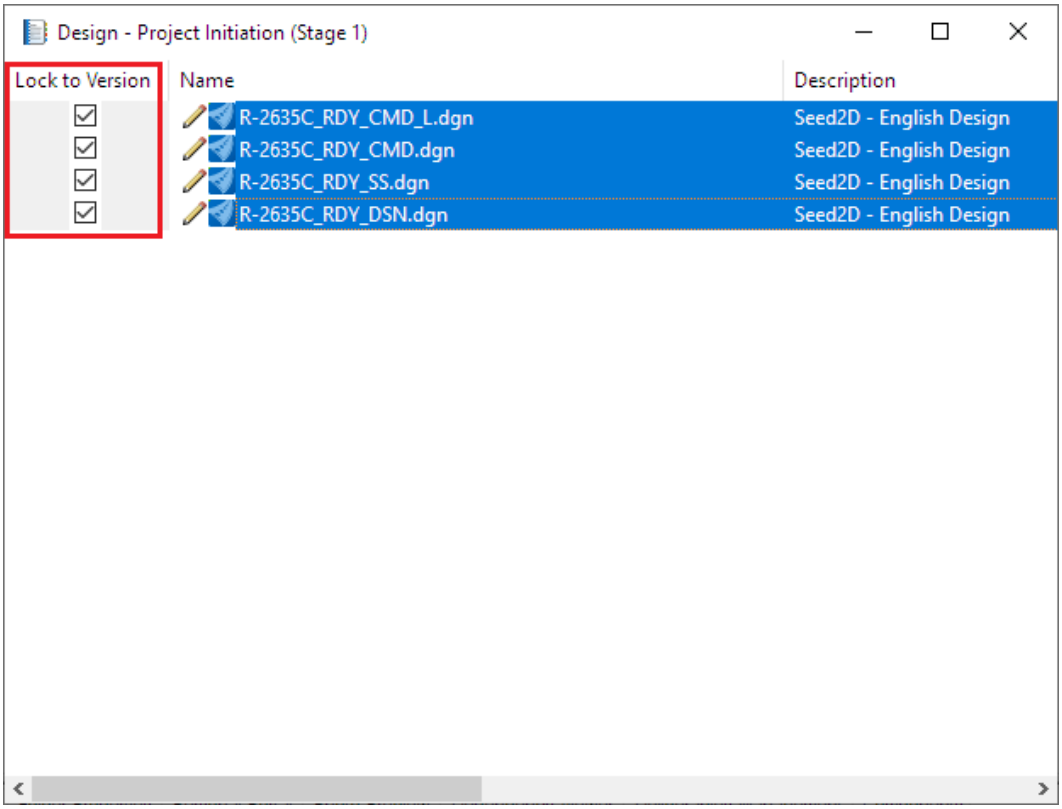
K. **Select all files** and check the Lock To Version box to ensure that this Version of the files is called when the document set is opened in the future.



L. **Note** the **Document Set** added to the folder which will call the assigned Version of the files thereby providing an archived version of the project at the specified stage of the project.



M. **Double Click** the Document Set to open the Document Set dialog box where additional files can be drug to include in the Document Set.



ORD Design File Naming Conventions

ORD Design File Naming Convention will follow the same naming convention format that NCDOT has used for many years with two exceptions.

1. There will be a **dash** between the first letter and the STIP number.
2. The file name will be in **ALL CAPITAL LETTERS except for the .dgn extension**.

The following format applies for all new ORD design files:

(STIP NUMBER)_(UNIT ABBREVIATION)_(FILE TYPE)_(DESCRIPTION).dgn

Example *R-2635C_RDY_DSN_ALT1.dgn*

(STIP NUMBER) is the Strategic Transportation Improvement Program assigned number

Example R-2635C

(UNIT ABBREVIATION) is the assigned NCDOT Unit Code. Choose the link below to get a complete listing of unit codes.

NCDOT CADD Services AWAITING REVISED UNIT CODES TO BE ADDED TO THE WEBSITE

Examples

RDY – Roadway Design	LS – Location Surveys
HYD – Hydraulics Design	PH - Photogrammetry

Note: Assign this ALL CAPS unit abbreviation as the logical name for the reference file when this file is attached to another file. This allows pentables to call the reference file by unique logical name and print it with proper shading, color, priority, or transparency.

(FILE TYPE) is the two or three letter code describing contents of file

Examples

ALG - Alignments	DSN – Design
CMD – Corridor Modeling	SUP – Superelevation

(DESCRIPTION) (Optional) content description of the file

Examples

1 – Alternative of a DSN file

211225 - date format is year, month, day (December 25,2021)

ORD File List with File Contents and References

The following is an **ORD Folder Listing** showing the common design files that belong under them, the design elements that are in them, and the design files that are commonly referenced to those design files. Following this standard convention will assist others using the files to locate and use the data they need to complete their portion of the project. Consistency is the key for efficient communication between users.

```
R-2635C
├──Congestion Management
├──Construction Revisions? JASON WHAT GOES HERE?
├──Drainage
│       R-2635C_HYD_DRN.dgn
│       R-2635C_HYD_EC.dgn
│
├──Final Survey
│       R-2635C_LS_DTM.dgn
│       R-2635C_LS_TIN.tin
│       R-2635C_NCDOT_ETM.dgn
│       R-2635C_NCDOT_FS.dgn
│       R-2635C_NCDOT_ROW.dgn
│
├──Geoenvironmental
├──Geotechnical
├──Human Environment
├──Hydraulics
├──Intelligent Transportation Systems
├──Lighting Electrical
├──Location Surveys
├──Natural Environment
│       R-2635C_NEU_WET.dgn
│
├──Photogrammetry
│   └──Aerial
│           R-2635C_PH.sdw
│           R-2635C_PH.sid
├──Rail
├──Roadside Environmental
├──Roadway
│   ├──Alignment
│   │       R-2635C_RDY_ALG.dgn
│   │       R-2635C_RDY_L.dgn
│   │       R-2635C_RDY_Y.dgn
│   │       R-2635C_RDY_Y1.dgn
│   │
│   ├──Alternatives
│   │       R-2635C_RDY_DSN_ALT1.dgn
│   │       R-2635C_RDY_EST_CON.dgn
│   │       R-2635C_RDY_EST_ROW.dgn
│   │       R-2635C_RDY_HIS.dgn
```

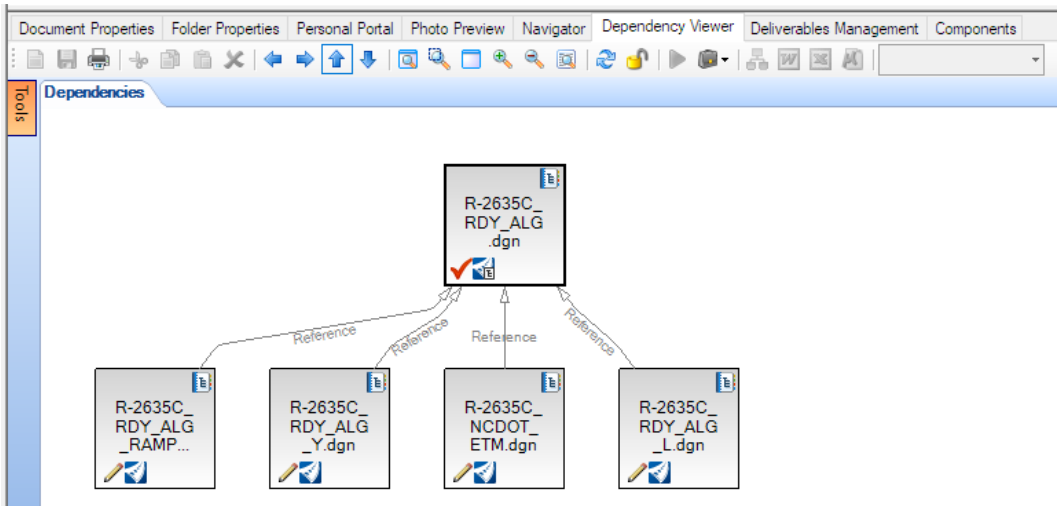
```
        R-2635C_RDY_PHM_1.dgn

    ---Design
        R-2635C_RDY_AER.dgn
        R-2635C_RDY_ATN.dgn
        R-2635C_RDY_CMD.dgn
        R-2635C_RDY_DSN.dgn
        R-2635C_RDY_EAR.dgn
        R-2635C_RDY_EOP.dgn
        R-2635C_RDY_EST.dgn
        R-2635C_RDY_SS.dgn
        R-2635C_RDY_SUP.dgn
        R-2635C_RDY_SUR.dgn

    ---Documentation
    ---PDF
        ---R-2635C_STAGE 1_PROJECT_INITIATION
            R-2635C_RDY_PLS.pdf
            R-2635C_RDY_PRS.pdf
            R-2635C_RDY_XSS_L.pdf
            R-2635C_RDY_XSS_Y.pdf
            R-2635C_RDY_XSS_Y1.pdf

        ---R-2635C_STAGE 2_ALINGMENT_DEFINED
        ---R-2635C_STAGE 3_PLAN-IN-HAND
        ---R-2635C_STAGE 4_PSE
        ---R-2635C_STAGE 5_LETTING
        ---R-2635C_STAGE 5_POST-LETTING
    ---Sheets
        R-2635C_RDY_CTY.dgn
        R-2635C_RDY_DTL.dgn
        R-2635C_RDY_DTL_2B.dgn
        R-2635C_RDY_PPL.dgn
        R-2635C_RDY_PPL_PLS_004_THRU_014.dgn
        R-2635C_RDY_PPL_PRS_015_THRU_020.dgn
        R-2635C_RDY_SUM_3B.dgn
        R-2635C_RDY_TSH.dgn
        R-2635C_RDY_TYP.dgn
        R-2635C_RDY_XPL.dgn
        R-2635C_RDY_XSS_L.dgn

    ---Standards
        R-2635C_RDY.cfg
        R-2635C_RDY.dgnrl

        ---Cell
            R-2635C_RDY.cel

        ---Data
        ---Dgnlib
            R-2635C_RDY.pltcfg
            R-2635C_RDY.pset
```

```
│       │       R-2635C_RDY.tbl
│       │       R-2635C_RDY_PRINT.dgnlib
│       │
│       ├───Macros
│       ├───Seed
│       ├───Sheet Borders
│       │       R-2635C_RDY_LOGO.dgn
│       │       R-2635C_RDY_SEAL.dgn
│       │
│       ├───Superelevation
│       ├───Symbols
│       └───Template Library
│               R-2635C_RDY.itl
│
├───Signals
│       R-2635C_SIG_POL.dgn
│
├───Signing and Delineation
│       R-2635C_SGN_DSN.dgn
│
├───Structures
│       R-2635C_SMU_S1.dgn
│
├───Utilities
│       R-2635C_UC_POW.dgn
│       R-2635C_UC_SEW.dgn
│       R-2635C_UC_WAT.dgn
│
├───Work Zone Traffic Control
└───Workset
    ├───Cell
    ├───Data
    ├───Dgnlib
    ├───Macros
    ├───Seed
    ├───Sheet Borders
    │       R-2635C_RDY_BDR.dgn
    ├───Superelevation
    ├───Symbols
    └───Template Library
```

\Alignment

This folder contains the design files that have the proposed horizontal and vertical alignments (HAL and VAL) in them for use with ORD modeling. Each horizontal and corresponding vertical alignment is to be located in its **own separate ALG design file**. Each of these files are then referenced to a **master ALG alignment file** to make referencing all of the individual alignments to another file easier. When a design procedure requires the project's alignment information such as cutting plan, profile and XS sheets, the user can reference **just** the master ALG with a **Live Nested Depth of 1**. This will automatically reference all the individual alignments ALG file(s) that were attached to the master ALG design file.

Referencing the Existing Terrain Model (ETM) to each alignment file is required. Making the ETM file **Active** is necessary to display the existing ground profile. This procedure will be explained in future training Modules.



All horizontal and vertical alignments for smaller projects such as bridge replacement projects can be stored in the **master ALG** file for ease of use.

For projects whose design began in GEOPAK SS2, the GPK file should be placed in the **Alignment** folder to use when converting alignments to a format that is compatible with ORD. Beware that conversion can create slight mathematical differences in the alignment and once converted to ALG, the GPK file should **not be used again** for obtaining alignment information.

File Types

- ALG - Horizontal and Vertical Alignments
- ETM - Existing ground profile\contours

Example Files

- ***R-2635C_RDY_ALG.dgn*** ***(master ALG file)***

  Contains

  No Elements

  Files Referenced

  R-2635C_RDY_ALG_L.dgn (all individual HAL ALG files)

- ***R-2635C_RDY_ALG_L.dgn*** ***(individual alignment ALG file)***

  Contains

  HAL and VAL with no annotation

  Files Referenced

  R-2635C_RDY_ALT_1.dgn (preferred alternative from Alternatives)
  R-2635C_RDY_HIS.dgn (historic properties from Alternatives)
  R-2635C_RDY_HAZ.dgn (hazardous sites from Alternatives)
  R-2635C_NEU_WEX(T).dgn (wetlands from NEU)
  R-2635C_RDY_AER.dgn (aerial photography)
  R-2635C_NCDOT_FS.dgn (final surveys from Final Survey)
  R-2635C_LS or PH or NCDOT_ETM.DGN (existing ground profile\contours)
  AWAITING FAITH/EMORY TO CONFRIM NAMING

\Alternatives

This folder contains all the design files such as horizontal and vertical alignments, corridor models, documents, roll plots, and hearing maps used to evaluate project alternatives.

File Types DISCUSS WITH OAK

- ALT Alternatives
- CHM (or CMP?) Corridor Hearing Map Sheet SOLIDIFY NAME?
- CHS (or CMS?) Corridor Hearing Map Shapes SOLIDIFY NAME?
- COR Corridor Map FROM PW CHOICES, SOLIDIFY NAME COR?, CHM?, CMP?
- EST Estimate Shapes
- HAZ Hazardous Sites
- HIS Historic Properties
- IMP Wetland and Stream Impacts
- PHM (or PMP?) Public Hearing Map SOLIDIFY NAME?
- PHS (or PMS?) Public Hearing Map Shapes SOLIDIFY NAME?
- STR Structures

Example Files

- ***R-2635C_RDY_DSN_ALT1.dgn***
- ***R-2635C_RDY_DSN_ALT2A.dgn***
- ***R-2635C_RDY_CHM_1.dgn***
- ***R-2635C_RDY_CHS_2.dgn***
- ***R-2635C_RDY_HIS.dgn***
- ***R-2635C_RDY_IMP.dgn***
- ***R-2635C_RDY_PHM_1.dgn***
- ***R-2635C_RDY_PMS_2.dgn***
- ***R-2635C_RDY_STR.dgn***

- ***R-2635C_RDY_EST_ROW.dgn***

  Contains

  Shapes and area labels used for producing right-of-way estimates

  Files Referenced

R-2635C_NCDOT_FS.dgn	(final surveys from Final Survey)
R-2635C_NEU_WEX(T).dgn	(wetlands from NEU)
R-2635C_RDY_ALG.dgn	(alignments from Alignments)
R-2635C_RDY_AER.dgn	(aerial photography)
R-2635C_RDY_CMD.dgn	(master CMD file's 2D & 3D models)
R-2635C_RDY_ROW.dgn	(right of way from Final Survey)

R-2635C_RDY_SS.dgn	(slope stakes from CMD Nested 1)
R-2635C_RDY_SUP.dgn	(superelevation)
R-2635C_SMU_S1.dgn	(bridge general drawings from Structures)

- ***R-2635C_RDY_EST_CON.dgn***

Contains

Shapes used for producing construction estimates

Files Referenced

R-2635C_NCDOT_FS.dgn	(final surveys from Final Survey)
R-2635C_NEU_WEX(T).dgn	(wetlands from NEU)
R-2635C_RDY_ALG.dgn	(alignments from Alignments)
R-2635C_RDY_AER.dgn	(aerial photography)
R-2635C_RDY_CMD.dgn	(master CMD file's 2D & 3D models)
R-2635C_RDY_ROW.dgn	(right of way from **Final Survey**)
R-2635C_RDY_SS.dgn	(slope stakes from CMD Nested 1)
R-2635C_RDY_SUP.dgn	(superelevation)
R-2635C_SMU_S1.dgn	(bridge general drawings from Structures)

STRONGLY SUGGEST INCLUDING THE FOLLOWING SUBDIRECTORIES UNDER ALTERNATIVES TO BE ABLE TO GROUP FUNCTIONAL AND PRELIMNARY DESIGN FILES THE SAME AS WE GROUP FINAL DESIGN FILES. SINCE THESE FOLDERS HAVE BEEN DETERMINED TO BE NEEDED UNDER DESIGN FOR FINAL ROADWAY DESIGN PURPOSES, THEN THEY'RE ALSO NEEDED UNDER ALTERNATIVES FOR ALTERNATIVES ROADWAY DESIGN PURPOSES

\Alternative 1
- \Alignments
- \Design
- \Documentation
- \PDF
- \Sheets

\Alternative 2
- \Alignments
- \Design
- \Documentation
- \PDF
- \Sheets

\Design

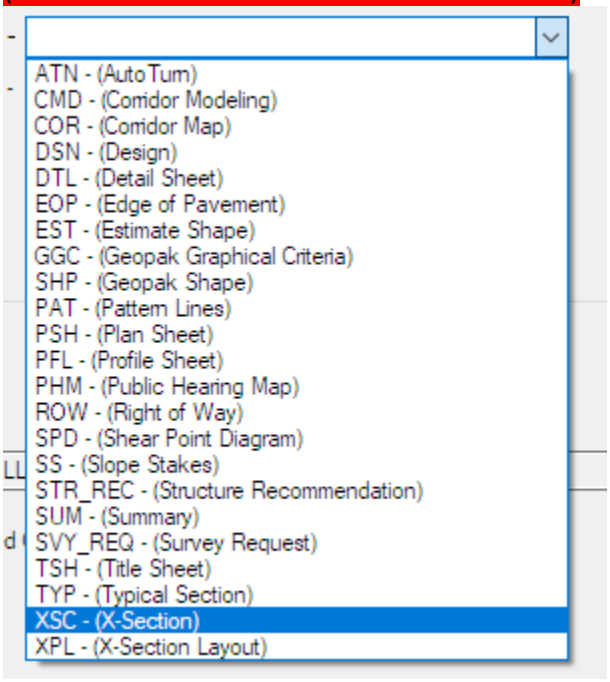
This folder contains all the 2D and 3D design files as well as non-design files necessary to produce a corridor model.

There is an important change from previous methods of 3D modeling when using ORD. The designer will now utilize the template to draw a majority of the design file elements such as edge of pavements and curbs into the 2D model of the CMD file and NOT into the DSN file. The DSN file will mainly contain elements not used for producing the corridor model such as annotations, labels, dimensions, lane arrows, super labels, paint striping, and hatching but can be used to draw temporary construction class elements such as a right turn bay which the template will read when reprocessed and draw Primary Class elements of the turn bay into the 2D CMD model.

File Types (extensions)

- AER - Aerial ADD TO PW LIST
  - (.JPG) - Aerial (raster files from Google Earth to update aerial)
  - (.DWG) - Site Plans
  - (.PDF) - Site Plans (used to update aerial)
- ATN - AutoTurn
- CMD - Corridor Modeling
- DSN – Design
- EAR – Earthwork ADD TO PW LIST
- EOP – Edge of Pavement
- EST – Estimate Shapes Design File
- GGC – Geopak Graphical Criteria DELETE FROM PW LIST
- (.KMZ) - Google Earth (exported DSN or CMD 2D model)
- PAT – Pattern Lines DELETE FROM PW LIST
- SHP – Geopak Shape DELETE FROM PW LIST
- SPD – Shear Point Diagram (if requested)
- STR_REC – Structure Recommendation DELETE FROM PW LIST
- SIGHT - Sight Distance Design Elements ADD TO PW LIST
- SS - Slope Stakes OAK SAID ROADWAY ADMINISTRATION NEEDS TO ADD NOTE IN PLANS THAT THESE COME FROM CMD. OAK HOW TO GET C's and F's INTO THE FILE?
- SUP - Superelevation
- SUR - Survey Request RENAMED SVY_REQ FROM PW LIST CHANGE NAME IN PW LIST

PROJECTWISE PULLDOWN
ADD NEW FILE TYPES FROM ABOVE
DELETE OLD FILE TYPES FROM ABOVE
PUT PW LIST IN ALPHABETICAL ORDER
(DELETE THIS LIST FROM DOCUMENTATION)



DELETE WHEN FINISHED WITH DOCUMENTATION

MASTER REFERENCE LIST

R-2635C_EC_DSN.dgn	(erosion control from Drainage)
R-2635C_HYD_DRN.dgn	(hydraulics from Drainage)
R-2635C_LS or PH or NCDOT_ETM.dgn	(existing terrain from Final Survey)
R-2635C_NCDOT_FS.dgn	(final surveys from Final Survey)
R-2635C_NEU_WEX(T).dgn	(wetlands from NEU)
R-2635C_RDY_ALG.dgn	(alignments from Alignments)
R-2635C_RDY_AER.dgn	(aerial photography)
R-2635C_RDY_CMD.dgn	(master CMD file's 2D & 3D models)
R-2635C_RDY_DSN.DGN	(annotations, labels, dimensions, hatching, construction class design elements)
R-2635C_RDY_HIS.dgn	(historic properties from Alternatives)
R-2635C_RDY_HAZ.dgn	(hazardous sites from Alternatives)
R-2635C_RDY_PPL.dgn	(plan sheet layout)
R-2635C_RDY_ROW.dgn	(right of way from **Final Survey**)
R-2635C_RDY_SIGHT.dgn	(sight distance)
R-2635C_RDY_SIGNS.dgn	(business' relocated signs)
R-2635C_RDY_SS.dgn	(slope stakes from CMD Nested 1)
R-2635C_RDY_SUP.dgn	(superelevation)
R-2635C_SMU_S1.dgn	(bridge general drawings from Structures)
R-2635C_SIG_POL.dgn	(signal poles from Signals)
R-2635C_UT_POW.dgn	(power from Utilities)
R-2635C_UT_SEW.dgn	(sewer from Utilities)
R-2635C_UT_WAT.dgn	(water from Utilities)
"VARIOUS NAMES".dwg	(site plans adjacent to project)

Example Files

- ***R-2635C_RDY_AER.dgn***

  Contains

  No Design Elements

  Files Referenced

  R-2635C.sid (corridor from Photogrammetry)

  R-2635C.sid (tiles of additional coverage for Hydraulics and Noise from Web)

  R-2635C_RDY_AER_"site name".jpg (updates to aerial from Google Earth)

  R-2635C_RDY_AER_"site name".pdf (pdf's of site plans unavailable as DWG)

- ***R-2635C_RDY_ATN.dgn***

  Contains

  Turning envelopes for design vehicles

  Files Referenced

  R-2635C_RDY_AER.dgn (aerial photography)

  R-2635C_RDY_CMD.dgn (roadway design elements are now stored in CMD)

  R-2635C_NCDOT_FS.dgn (final surveys from Final Survey)

- ***R-2635C_RDY_AER_"site name".jpg***

  Contains

  Aerial images of updated areas extracted from Google Earth

  Files Referenced

  N/A

- ***R-2635C_RDY_AER_"site name".pdf***

  Contains

  PDF's of site plans unavailable as DWG

  Files Referenced

  N/A

- ***R-2635C_RDY_AER_"site name".DWG***

  Contains

  AutoCad elements

  Files Referenced

  N/A

- ***R-2635C_RDY_CMD.dgn*** ***(master CMD file)***

  Contains

  No Design Elements

  Files Referenced

  R-2635C_RDY_CMD_L.dgn (all individual alignments CMD files)

- ***R-2635C_RDY_CMD_L.dgn*** ***(individual alignment CMD file < 1 mile long)***

  One CMD file per short alignment

  OR

- ***R-2635C_RDY_CMD_L_SECT1.dgn*** ***(section 1 of individual alignment > 1 mile)***
- ***R-2635C_RDY_CMD_L_SECT2.dgn*** ***(section 2 of individual alignment > 1 mile)***

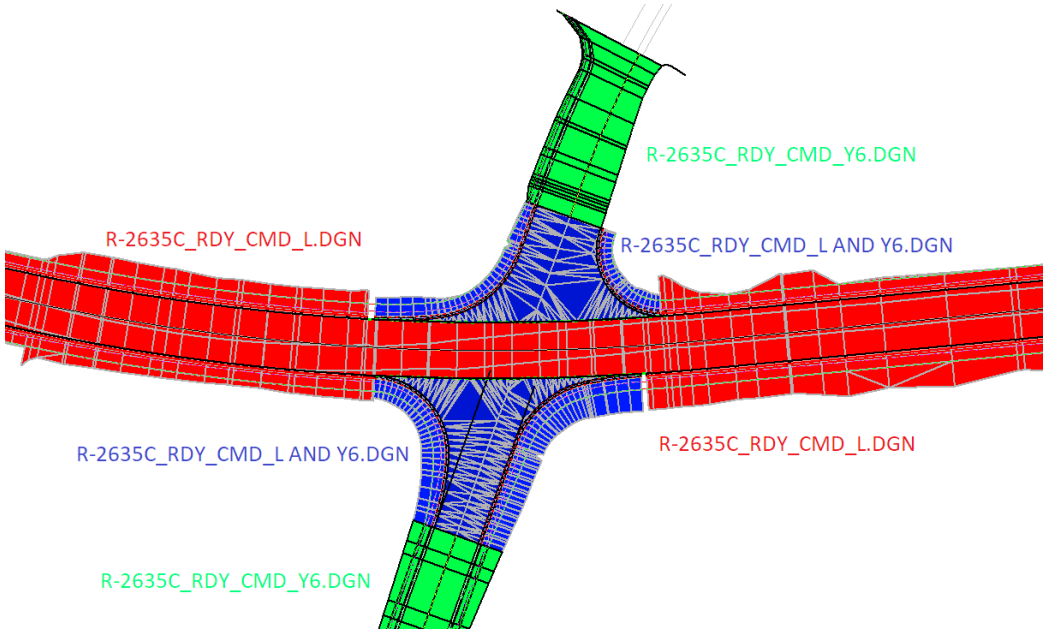
  Multiple CMD files containing a Section of one long alignment

  A corridor along an alignment that is greater than one mile long should be divided into one-mile segments to optimize model processing speed. The corridor should be divided on a tangent but not be broken in an intersection or on a vertical curve. The alignment should NOT be divided, only the corridor along it.

- ***R-2635C_RDY_CMD_L AND Y6.dgn*** ***(detailed model of intersection)***

  One CMD file for each **Detailed Modeled** intersection

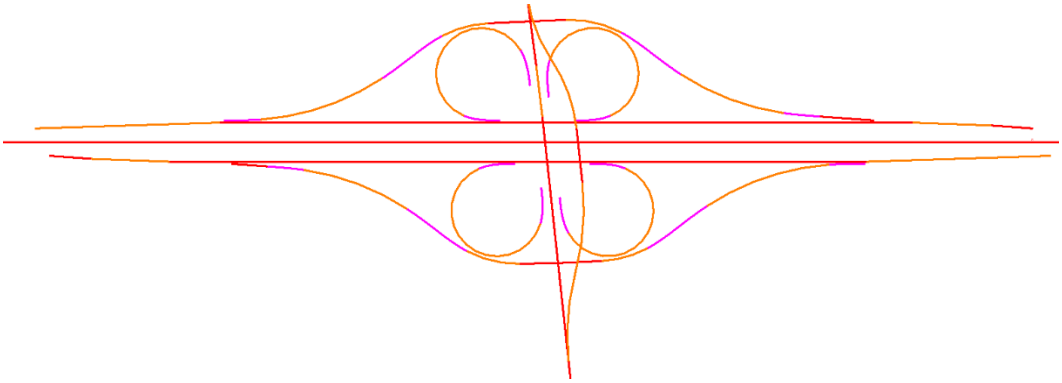
  The user should split the corridor models at intersections as shown below.



- ***R-2635C_RDY_CMD_L AND Y14.dgn (interchange)***

  One CMD file for each interchange

  The user may also elect to separate the CMD file into areas that contain multiple alignments that are related to each other such as an interchange.



Contains

Roadway Design elements in 2D model generated by the templates

Roadway Design corridor model in 3D model generated by the templates

Files Referenced

R-2635C_LS or PH or NCDOT_ETM.dgn (existing terrain from Final Survey)
R-2635C_EC_DSN.dgn (erosion control from Drainage)
R-2635C_HYD_DRN.dgn (hydraulics from Drainage)
R-2635C_NCDOT_FS.dgn (final surveys from Final Survey)
R-2635C_NEU_WEX(T).dgn (wetlands from NEU)
R-2635C_RDY_ALG.dgn (alignments from Alignments)
R-2635C_RDY_ATN.dgn (AutoTurn envelopes)
R-2635C_RDY_AER.dgn (aerial photography)
R-2635C_RDY_CMD_Y.dgn (adjacent alignment's CMD file's 2D & 3D models)
R-2635C_RDY_DSN.DGN
(annotations, labels, dimensions, hatching, construction class design elements)
R-2635C_RDY_HIS.dgn (historic properties from Alternatives)
R-2635C_RDY_HAZ.dgn (hazardous sites from Alternatives)
R-2635C_RDY_PPL.dgn (plan sheet layout)
R-2635C_RDY_ROW.dgn (right of way from **Final Survey**)
R-2635C_RDY_SS.dgn (slope stakes from CMD Nested 1)
R-2635C_RDY_SUP.dgn (superelevation)
R-2635C_SIG_POL.dgn (signal poles from Signals)
R-2635C_SMU_S1.dgn (bridge general drawings from Structures)

R-2635C_UT_POW.dgn	(power from Utilities)
R-2635C_UT_SEW.dgn	(sewer from Utilities)
R-2635C_UT_WAT.dgn	(water from Utilities)
"VARIOUS NAMES".dwg	(site plans adjacent to project)

- ***R-2635C_RDY_DSN.dgn***

  Contains

  Annotations, Labels, Dimensions, Hatching

  Construction class design elements for the template to target and redraw

  Files Referenced

R-2635C_EC_DSN.dgn	(erosion control from Drainage)
R-2635C_HYD_DRN.dgn	(hydraulics from Drainage)
R-2635C_NCDOT_FS.dgn	(final surveys from Final Survey)
R-2635C_NEU_WEX(T).dgn	(wetlands from NEU)
R-2635C_RDY_ALG.dgn	(alignments from Alignments)
R-2635C_RDY_AER.dgn	(aerial photography)
R-2635C_RDY_CMD.dgn	(master CMD file's 2D & 3D models)
R-2635C_RDY_PPL.dgn	(plan sheet layout)
R-2635C_RDY_ROW.dgn	(right of way from **Final Survey**)
R-2635C_RDY_SS.dgn	(slope stakes from CMD Nested 1)
R-2635C_RDY_SUP.dgn	(superelevation)
R-2635C_SMU_S1.dgn	(bridge general drawings from Structures)

- ***R-2635C_RDY_EAR.dgn***

  Contains

  Named Boundaries

  3D mesh elements representing cut and fill

  Files Referenced

R-2635C_RDY_ALG.dgn	(alignments from Alignments)
R-2635C_LS or PH or NCDOT_ETM.dgn	(existing terrain from Final Survey)

- ***R-2635C_RDY_EST_CON.dgn***

  Contains

  Shapes used for producing construction estimates

  Files Referenced

R-2635C_EC_DSN.dgn	(erosion control from Drainage)
R-2635C_HYD_DRN.dgn	(hydraulics from Drainage)
R-2635C_NCDOT_FS.dgn	(final surveys from Final Survey)
R-2635C_NEU_WEX(T).dgn	(wetlands from NEU)

R-2635C_RDY_ALG.dgn (alignments from Alignments)
R-2635C_RDY_AER.dgn (aerial photography)
R-2635C_RDY_CMD.dgn (master CMD file's 2D & 3D models)
R-2635C_RDY_DSN.DGN
(annotations, labels, dimensions, hatching, construction class design elements)
R-2635C_RDY_ROW.dgn (right of way from **Final Survey**)
R-2635C_RDY_SS.dgn (slope stakes from CMD Nested 1)
R-2635C_RDY_SUP.dgn (superelevation)
R-2635C_SMU_S1.dgn (bridge general drawings from Structures)

- ***R-2635C.kmz***

  Contains

  Rasterized images of the design file elements in Google Earth format

  Files Referenced

  N/A

- ***R-2635C_RDY_SIGHT.dgn***

  Contains

  Design elements of plan view sight distance calculations

  Files Referenced

  Some design files shown referenced are not available for the first evaluation of sight distances but need to be referenced to recheck sight distances once these additional designs are completed.

  R-2635C_EC_DSN.dgn (erosion control from Drainage)
  R-2635C_HYD_DRN.dgn (hydraulics from Drainage)
  R-2635C_LS or PH or NCDOT_ETM.dgn (existing terrain from Final Survey)
  R-2635C_NCDOT_FS.dgn (final surveys from Final Survey)
  R-2635C_NEU_WEX(T).dgn (wetlands from NEU)
  R-2635C_RDY_ALG.dgn (alignments from Alignments)
  R-2635C_RDY_AER.dgn (aerial photography)
  R-2635C_RDY_CMD.dgn (master CMD file's 2D & 3D models)
  R-2635C_RDY_ROW.dgn (right of way from **Final Survey**)
  R-2635C_RDY_SS.dgn (slope stakes from CMD Nested 1)
  R-2635C_RDY_SUP.dgn (superelevation)
  R-2635C_SIG_POL.dgn (signal poles from Signals)
  R-2635C_SMU_S1.dgn (bridge general drawings from Structures)
  R-2635C_UT_POW.dgn (power from Utilities)
  R-2635C_UT_SEW.dgn (sewer from Utilities)
  R-2635C_UT_WAT.dgn (water from Utilities)
  "VARIOUS NAMES".dwg (site plans adjacent to project)

- ***R-2635C_RDY_SIGNS.dgn***

  Contains

  Businesses relocated sign locations

  Files Referenced

  Some design files shown referenced are not available for the first evaluation of sight distances but need to be referenced to recheck sight distances once these additional designs are completed.

  R-2635C_EC_DSN.dgn (erosion control from Drainage)
  R-2635C_HYD_DRN.dgn (hydraulics from Drainage)
  R-2635C_LS or PH or NCDOT_ETM.dgn (existing terrain from Final Survey)
  R-2635C_NCDOT_FS.dgn (final surveys from Final Survey)
  R-2635C_NEU_WEX(T).dgn (wetlands from NEU)
  R-2635C_RDY_ALG.dgn (alignments from Alignments)
  R-2635C_RDY_AER.dgn (aerial photography)
  R-2635C_RDY_CMD.dgn (master CMD file's 2D & 3D models)
  R-2635C_RDY_ROW.dgn (right of way from **Final Survey**)
  R-2635C_RDY_SS.dgn (slope stakes from CMD Nested 1)
  R-2635C_RDY_SUP.dgn (superelevation)
  R-2635C_SIG_POL.dgn (signal poles from Signals)
  R-2635C_RDY_PPL.dgn (plan sheet layout)
  R-2635C_SMU_S1.dgn (bridge general drawings from Structures)
  R-2635C_UT_POW.dgn (power from Utilities)
  R-2635C_UT_SEW.dgn (sewer from Utilities)
  R-2635C_UT_WAT.dgn (water from Utilities)
  "VARIOUS NAMES".dwg (site plans adjacent to project)

- ***R-2635C_RDY_SS.dgn***

  Contains

  Minimal Supplemental Slope Stakes drawn in for clarity
  C's and F's indicating Cut and Fill placed by……..
  OAK HOW TO DRAW IN C's and F's?
  End point custom linestyle
  New place civil label from Bentley for Release 10.10
  Old place label commands

  Files Referenced

  Some design files shown referenced are not available for the first run of the slope stakes but need to be referenced to check slope encroachment on those additional designs and for labeling conflicts.

  R-2635C_EC_DSN.dgn (erosion control from Drainage)

R-2635C_HYD_DRN.dgn (hydraulics from Drainage)
R-2635C_LS or PH or NCDOT_ETM.dgn (existing terrain from Final Survey)
R-2635C_NCDOT_FS.dgn (final surveys from Final Survey)
R-2635C_NEU_WEX(T).dgn (wetlands from NEU)
R-2635C_RDY_ALG.dgn (alignments from Alignments)
R-2635C_RDY_AER.dgn (aerial photography)
R-2635C_RDY_CMD.dgn
(master CMD file's 2D & 3D models referenced with nested depth of 1 to see slope stakes of individual alignment models)
R-2635C_RDY_DSN.DGN
(annotations, labels, dimensions, hatching, construction class design elements)
R-2635C_RDY_ROW.dgn (right of way from **Final Survey**)
R-2635C_RDY_SUP.dgn (superelevation)
R-2635C_RDY_PPL.dgn (plan sheet layout)
R-2635C_SIG_POL.dgn (signal poles from Signals)
R-2635C_SMU_S1.dgn (bridge general drawings from Structures)
R-2635C_UT_POW.dgn (power from Utilities)
R-2635C_UT_SEW.dgn (sewer from Utilities)
R-2635C_UT_WAT.dgn (water from Utilities)
"VARIOUS NAMES".dwg (site plans adjacent to project)

- ***R-2635C_RDY_SUP.dgn***

  Contains

  Design elements showing superelevation sections
  Graphical, editable shapes with slopes and stations

  Files Referenced

  Some design files shown referenced are not available for the first design of superelevation but need to be referenced to revise the superelevation once these designs are completed.

  R-2635C_EC_DSN.dgn (erosion control from Drainage)
  R-2635C_HYD_DRN.dgn (hydraulics from Drainage)
  R-2635C_LS or PH or NCDOT_ETM.dgn (existing terrain from Final Survey)
  R-2635C_NCDOT_FS.dgn (final surveys from Final Survey)
  R-2635C_NEU_WEX(T).dgn (wetlands from NEU)
  R-2635C_RDY_ALG.dgn (alignments from Alignments)
  R-2635C_RDY_AER.dgn (aerial photography)
  R-2635C_RDY_CMD.dgn (master CMD file's 2D & 3D models)
  R-2635C_RDY_ROW.dgn (right of way from **Final Survey**)
  R-2635C_RDY_SS.dgn (slope stakes from CMD Nested 1)
  R-2635C_SMU_S1.dgn (bridge general drawings from Structures)

R-2635C_RDY_PPL.dgn	(plan sheet layout)
R-2635C_SIG_POL.dgn	(signal poles from Signals)
R-2635C_UT_POW.dgn	(power from Utilities)
R-2635C_UT_SEW.dgn	(sewer from Utilities)
R-2635C_UT_WAT.dgn	(water from Utilities)
"VARIOUS NAMES".dwg	(site plans adjacent to project)

- ***R-2635C_RDY_SUR.dgn***

  Contains

  Design elements showing plan view areas needed for survey requests
  Clarification notes for survey request

  Files Referenced

R-2635C_EC_DSN.dgn	(erosion control from Drainage)
R-2635C_HYD_DRN.dgn	(hydraulics from Drainage)
R-2635C_LS or PH or NCDOT_ETM.dgn	(existing terrain from Final Survey)
R-2635C_NCDOT_FS.dgn	(final surveys from Final Survey)
R-2635C_NEU_WEX(T).dgn	(wetlands from NEU)
R-2635C_RDY_ALG.dgn	(alignments from Alignments)
R-2635C_RDY_AER.dgn	(aerial photography)
R-2635C_RDY_CMD.dgn	(master CMD file's 2D & 3D models)
R-2635C_RDY_ROW.dgn	(right of way from **Final Survey**)
R-2635C_RDY_SS.dgn	(slope stakes from CMD Nested 1)
R-2635C_RDY_SUP.dgn	(superelevation)
R-2635C_SIG_POL.dgn	(signal poles from Signals)
R-2635C_SMU_S1.dgn	(bridge general drawings from Structures)
R-2635C_UT_POW.dgn	(power from Utilities)
R-2635C_UT_SEW.dgn	(sewer from Utilities)
R-2635C_UT_WAT.dgn	(water from Utilities)
"VARIOUS NAMES".dwg	(site plans adjacent to project)

\Documentation

This folder contains the Roadway Design project history, documentation, and calculations in non-CADD formats.

THE FUNDAMENTAL QUESTION IS WHERE TO STORE SOMETHING LIKE FINAL PAVEMENT DESIGN, REQUESTED BY ROADWAY AND DESIGNED BY PAVEMENT DESIGN. I PROPOSE THAT THE ORIGINAL STAYS IN A DESIGNATED FOLDER UNDER PAVEMENT DESIGN AND WE PLACE A LINK TO THAT DOCUMENT WITHIN PROJECTWISE IN OUR DOCUMENTATION FOLDER RATHER THAN COPYING IT. THAT WAY THE OWNER KEEPS IT AND WE JUST "REFERENCE" IT JUST LIKE WE REFERENCE THE DRN FILE IN THE DRAINAGE FOLDER.

Notice to proceed (NTP) letter
Note to file (NTF) .doc
Design Assumptions
Design Exceptions
Design Checklists
Workshop Materials (.pdf, .doc, .jpg)
DOES PDF'S OF THE MAPS GO HERE OR IN ALTERNATIVES? PREFER TO KEEP IN ALTERNATIVES AND PLACE A LINK TO THEM HERE
Pictures
THIS COULD GET MESSY UNLESS A METADATA FILTERING SYSTEM SET UP, I HAVE ALMOST 400 PHOTOS ON MY LATEST PROJECT AND ITS NOT COMPLETE YET
Correspondence letters
Advanced acquisition letter
Cost estimates at various phases of design
ROW AND UTILITIES ESTIMATES OR ARE THEY STORED IN RIGHT OF WAY (BTW NO R/W FOLDER IN PROJECTWISE) OR UTILITITES AND A LINK ADDED HERE TO ACCESS THEM?
Cost justification letter if applicable
Bridge vs. Culvert cost estimates
Field inspection checklist, letters, and notes
Survey and additional survey requests
Meeting minutes and notes
Encroachment agreement letters
Vertical clearance calculations
Gore area control point calculations
Superelevation calculations
Wetland / Stream impact calculations IN ALTERNATIVES' DOCUMENTS FOLDER AND A LINK HERE?
Pavement Design Requests
Field Visit Notes
Alignment name spreadsheet

Row revisions list
Special Details
Sight distance calculations
Signs relocation inventory
Parcel Index
MORE?

\PDF

This folder contains Roadway project plan sets in a PDF format at various stages of design. These PDFs are used for the submittals, review and markups, approval, and distribution of these plan sets.

From Bob's Email

"Created (where?) and pushed to sharepoint (when?) (how?)

1) *The files can be versioned after the pdf are created. The files and PDF can be listed in a document set for publishing to SharePoint. Also, Roadway has the attribute of Phase showing the work progress."*

BOB HOW TO ACCESS? EMAILED BOB AND WAITING FOR RESPONSE

BOB NEED TO CHANGE PHASES TO MATCH IPD

FOLDERS OR NAME THE PDF MILESTONE PLANS THE STAGE NAME?

\STAGE 1 Project Initiation

\STAGE 2 Alignment Defined

\STAGE 3 Plan-In-Hand

\STAGE 4 PSE

MUST HAVE THESE FOLDERS OR ANOTHER WAY TO DO IT WITH METADATA TO ASSEMBLE FINAL PDF PLANS FOR TURN-IN

\100 Roadway Plans

\200 Transportation Management Plans

\remaining subdirectories required at final plans turn-in

\STAGE 5 Letting and Post Letting

File Type

FROM NCDOT'S NEWEST LIST

- PLS – Title, Symbology, Typicals, Summaries, Details, Plans Sheets
- PRS – Profile Sheets
- XSS – Cross Section Sheets

Example Files

FROM NCDOT'S NEWEST LIST

- R-2635C_RDY_PLS.pdf
- R-2635C_RDY_PRS.pdf
- R-2635C_RDY_XSS.pdf (Small projects with few cross sections)
- R-2635C_RDY_XSS_L.pdf (Larger projects split by alignment)
- R-2635C_RDY_XSS_RAMPA.pdf
- R-2635C_RDY_XSS_Y.pdf
- R-2635C_RDY_XSS_Y1.pdf

\Sheets

This folder contains design files that contain the plan, profile, cross section, and other miscellaneous sheets used to communicate the design of the project to others. Sheets for plans, profiles, and cross sections are semi-automatically produced using the sheet layout programs within ORD. The rest of the plan sheets such as title, typical, details, summaries are produced as in the past with design elements being drawn into the files and a border referenced in from a ***R-2635C_NCDOT_BDR.dgn*** file. This file contains all of the project borders needed for the project in individual Models that the user manually references to a design file for producing sheets other than the sheets semi-automatically produced for plan, profile, and cross section layout. **Models** and the **Standard Sheet Borders** in the file are listed below:

"Title Sheet" Model (Title Sheet Border)
"Index of Sheets" Model (Index of Sheets / General Notes / Standard Drawings Border)
"Conventional Symbols Sheet" Model (Conventional Symbols Sheet)
"Plan Sheet" Model (Typical, Detail, Summary, Plan, Single Profile Sheet Border)
"Plan and Profile Sheet" Model (Plan AND Profile or Double Profile Sheet Border)
"Cross Section Sheet" Model (Cross Section Border)

File Types

- CTY - County Map
- DTL - Detail Sheet
- PPL - Plan or Profile Sheet Layout
- PLS - Plan Sheet
- PRS - Profile Sheet
- TSH - Title Sheet
- TYP - Typical Sections
- XPL - Cross Section Layout
- XSS - Cross Section Sheet

Example Files

- ***R-2635C_RDY_CTY.dgn*** ***(county map)***

  Contains

  Design elements showing county map for project to use on Title Sheet

  Files Referenced

  N/A

- ***R-2635C_RDY_DTL.dgn*** ***(plan detail sheets such as Intersections)***

  Contains

  Dimensions, Annotations in Design Model

Files Referenced (all files needed to make a detail sheet)
R-2635C_HYD_DRN.dgn (hydraulics from Drainage)
R-2635C_LS or PH or NCDOT_ETM.dgn (existing terrain from Final Survey)
R-2635C_NCDOT_FS.dgn (final surveys from Final Survey)
R-2635C_NEU_WEX(T).dgn (wetlands from NEU)
R-2635C_RDY_ALG.dgn (alignments from Alignments)
R-2635C_RDY_AER.dgn (aerial photography)
R-2635C_RDY_CMD.dgn (master CMD file's 2D & 3D models)
R-2635C_RDY_DSN.DGN
(annotations, labels, dimensions, hatching, construction class design elements)
R-2635C_RDY_ROW.dgn (right of way from **Final Survey**)
R-2635C_RDY_SS.dgn (slope stakes from CMD Nested 1)
R-2635C_NCDOT_BDR.dgn (Plan Sheet Model)

- ***R-2635C_RDY_PPL.dgn*** ***(master plan / profile sheet layout)***

Layout **Named Boundaries** into this file and write the plan sheets to the ***R-2635C_RDY_PLS_(Sheet Numbers).dgn*** file and write the profile sheets to the ***R-2635C_RDY_PRS_(Sheet Numbers).dgn*** file.

Contains
Only Sheet Named Boundaries in Design Model
Files Referenced (all files needed to make a plan sheet)
R-2635C_HYD_DRN.dgn (hydraulics from Drainage)
R-2635C_LS or PH or NCDOT_ETM.dgn (existing terrain from Final Survey)
R-2635C_NCDOT_FS.dgn (final surveys from Final Survey)
R-2635C_NEU_WEX(T).dgn (wetlands from NEU)
R-2635C_RDY_ALG.dgn (alignments from Alignments)
R-2635C_RDY_AER.dgn (aerial photography)
R-2635C_RDY_CMD.dgn (master CMD file's 2D & 3D models)
R-2635C_RDY_DSN.DGN
(annotations, labels, dimensions, hatching, construction class design elements)
R-2635C_RDY_ROW.dgn (right of way from Final Survey)
R-2635C_RDY_SS.dgn (slope stakes from CMD Nested 1)

- ***R-2635C_RDY_PPL_PLS_004_THRU_014.dgn*** ***(plan sheets layout)***

Write the plan sheets to this file using the Named Boundaries from the ***R-2635C_RDY_PPL.dgn*** file

Contains
North Arrow and Matchlines in Design Model
Files Referenced

R-2635C_RDY_PPL.dgn (Default Model Nested Referenced)
Plan Sheet Border Cells

Contains
STIP and Sheet Numbers in the Sheet Model
Files Referenced
R-2635C_RDY_PPL.dgn (Default Model Nested Referenced)

- ***R-2635C_RDY_PPL_PRS_015_THRU_020.dgn*** ***(profile sheets layout)***

Write the profile sheets to this file using the Named Boundaries from the ***R-2635C_RDY_PPL.dgn*** file

Contains
Annotations, Grid, Axis Labels in Design Model
Files Referenced
R-2635C_RDY_PPL.dgn (Default Model Nested Referenced)

Contains
STIP and Sheet Numbers in the Sheet Model
Files Referenced
R-2635C_RDY_PPL.dgn (Default Model Nested Referenced)
Profile Sheet Border Cells

- ***R-2635C_RDY_TSH.dgn*** ***(1 series sheets)***

Contains
Title Sheet (Sheet 1)
Index of Sheets (Sheet 1A)
Standard Drawings Listing (Sheet 1A)
General Notes (Sheet 1A)
Conventional Plan Sheet Symbols (Sheet 1B)
Files Referenced
R-2635C_NCDOT_BDR.dgn (Sheet Borders)
"Title Sheet" Model (Title Sheet)
"Index of Sheets" Model (Index of Sheets/Gen Notes/Standard Drawings)
"Conventional Symbols Sheet" Model (Conventional Symbols Sheet)
R-2635C_RDY_ALG.dgn (Alignments)
R-2635C_RDY_CMD.dgn (2D Design Elements)
R-2635C_HYD_DRN.dgn (Drainage Design)
R-2635C_RDY_CTY.dgn (County Map)

R-2635C_RDY_CTY.dgn (City Limit Boundary)
R-2635C_NCDOT_FS.dgn (Final Surveys)
R-2635C_RDY_PPL.dgn (Default Model Sheet Named Boundaries)

- ***R-2635C_RDY_TYP.dgn*** ***(Typical Sections)***

Contains
Pavement Schedule
Pavement Details
Typical sections design elements
Files Referenced
R-2635C_NCDOT_BDR.dgn (Sheet Borders "Plan Sheet" Model)
(Typical, Detail, Summary, Plan, Sheet Border)

- ***R-2635C_RDY_XPL.dgn*** ***(Cross Section sheets layout)***

Layout **Named Boundaries** into this file and write the cross section sheets resulting from the Named Boundaries into the R-2635C_RDY_XSS_(ALIGNMENT).dgn files.

Contains
Only Sheet Named Boundaries in the Design Model
Files Referenced (all files needed to make a cross section sheet)
R-2635C_LS or PH or NCDOT_ETM.dgn (existing terrain from Final Survey)
R-2635C_RDY_ALG.dgn (alignments from Alignments)
R-2635C_RDY_CMD.dgn (master CMD file's 2D & 3D models)
R-2635C_RDY_XPL.dgn (3D Model containing Named Boundaries)

- ***R-2635C_RDY_XSS_L.dgn*** ***(Cross Section sheets)***

Write the cross section sheets resulting from the Named Boundaries into this file.

Contains
Design elements grid and axis labels in the Drawing Model
Files Referenced
R-2635C_RDY_XPL.dgn (3D Model containing Cross Section)

Contains
STIP and Sheet Numbers in the Sheet Model
Files Referenced
R-2635C_RDY_XPL.dgn (Drawing Models of Cross Sections)
Cross Section Sheet Border Cells

SAME QUESTION AS EARLIER FOR THE FILES BELOW. THE FUNDAMENTAL QUESTION IS WHERE TO STORE SOMETHING LIKE FINAL PAVEMENT DESIGN, REQUESTED BY ROADWAY AND DESIGNED BY PAVEMENT DESIGN. I PROPOSE THAT THE ORIGINAL STAYS IN A DESIGNATED FOLDER UNDER PAVEMENT DESIGN AND WE PLACE A LINK TO THAT DOCUMENT WITHIN PROJECTWISE IN OUR DOCUMENTATION FOLDER RATHER THAN COPYING IT. THAT WAY THE OWNER KEEPS IT AND WE JUST "REFERENCE" IT JUST LIKE WE REFERENCE THE DRN FILE IN THE DRAINAGE FOLDER. DETAIL SHEETS COULD BE THE SAME. HYDRO PRODUCES THE DRAINIAGE SUMMARY SHEETS IN THEIR FOLDER AND WE LINK TO IT TO SUBMIT IT WITH OUR PLANS. GEOTECHNICAL PRODUCES THE SUMMARY SHEETS IN THEIR SUBDIRECTORIES AND WE LINK TO IT AND SUBMIT IT THUS NOT HAVING MULTIPLE COPIES OF THINGS

- ***R-2635C_RDY_DTL_2B.dgn*** ***(Roadway Detail Sheets)***

  Contains

  Design elements representing detail drawings of the project

  Files Referenced

  R-2635C_NCDOT_BDR.dgn (Sheet Borders)

  "Plan Sheet" Model (Typical, Detail, Summary, Plan, Single Profile Sheet Border)

  R-2635C_HYD_DTL_2C.dgn (Other details)

  OR IN INDIVIDUAL UNITS' FOLDER WITH LINK HERE?

  R-2635C_HYD_DTL_2D.dgn (Drainage details)

  OR IN DRAINAGE FOLDER WITH LINK HERE ?

  R-2635C_GEO_DTL_2G.dgn (Geotechnical details)

  OR IN GEOTECHNICAL FOLDER WITH LINK HERE?

  R-2635C_GEO_DTL_2H.dgn (GeoEnvironmental details)

  OR IN GEOENVIRONMENTAL WITH LINK HERE?

  R-2635C_SMU_DTL_2N.dgn (Structures wall envelopes)

  OR IN GEOTECHNICAL WITH LINK HERE?

- ***R-2635C_RDY_SUM_3B.dgn*** ***(Roadway Summary Sheets)***

  Contains

  Design elements representing summary of quantities

  Files Referenced

  R-2635C_NCDOT_BDR.dgn (Sheet Borders)

  "Plan Sheet" Model (Typical, Detail, Summary, Plan, Single Profile Sheet Border)

  R-2635C_HYD_SUM_3D.dgn (Drainage Summary Sheets)

  OR IN DRAINAGE FOLDER WITH LINK HERE?

  R-2635C_GEO_SUM_3G.dgn (Geotechnical Summary Sheets)

  OR IN GEOTECHNICAL WITH LINK HERE?

\Standards

This folder contains standards files that are **role-specific** which therefore should **not** be stored in the NCDOT WorkSpace or the project-specific WorkSet folder. It provides a folder location under the individual project to designate in the ***NCDOT_WorkSets.inp*** file when using **NCDOT_USE_LOCAL_WORKSETS = L0**

File Extensions

- ***.CEL*** ***Cell library***
- ***.CFG*** ***WorkSet configuration file***
- ***.DGNRL*** ***WorkSet sheet index file***
- ***.ITL*** ***Template Library***
- ***.PLTCFG*** ***Plot Configuration File for Printing***
- ***.PSET*** ***Print Organizer PrintSet for printing***
- ***.TBL*** ***Pentable for Printing***
- ***.DGN*** ***Design file***
- ***.DGNLIB*** ***Print Organizer Print Styles***

\Cell

R-2635C_RDY.cel

Contains

Custom cells if needed

Files Referenced

N/A

\Data

\Dgnlib

R-2635C_RDY_PRINT.dgnlib

Contains

PEF specific Print Organizer print styles for PEF printers

Files Referenced

N/A

R-2635C_RDY.pltcfg

Contains

Roadway custom plot configuration file

Recommended to copy WorkSpace .pltcfg to WorkSet directory, modify if necessary for the project and archive with the project

Files Referenced
N/A

R-2635C_RDY.pset
Contains
Roadway Print Organizer print set
Files Referenced
N/A

R-2635C_RDY.tbl
Contains
Unit-specific customized pen tables for printing
Files Referenced
N/A

\Macros

\Seed

\Sheet Borders

R-2635C_RDY_LOGO.dgn
Contains
Company logo and address if project is PEF designed
Files Referenced
N/A

R-2635C_RDY_SEAL.dgn
Contains
PE Seal for the Roadway Design Engineer
Files Referenced

\Superelevation

\Symb

HEY OAK CAN WE NAME THIS "SYMBOLS" IT'S THE ONLY FOLDER ABBREVIATED

N/A

\Template Library

R-2635C_RDY.itl

Contains

Roadway Design templates library

Files Referenced

N/A

AWAITING TO SEE IF OAK MOVES THESE TO THE PROJECT LEVEL WORKSETS FOLDER

- ***R-2635C_RDY.cfg***

Contains

Text file that designates where Roadway CADD files and Design Standards are stored

Files Referenced

N/A

- ***R-2635C_RDY.dgnrl***

Contains

Sheet index file for the Roadway project

Files Referenced

N/A

Other Unit's Subdirectories FILENAMES IN OTHER UNITS NOT DETERMINED
These folders contain files commonly used by Roadway Design to obtain information needed to complete and present the design of a roadway. Some ORD filenames for other units have not been determined and this list does not represent all of the files needed to complete a roadway project

Note the new name for the right of way file (TIP#)_NCDOT_ROW.dgn and new location for the right-of-way file (ROW) under Final Survey. The new workflow begins with Roadway Design creating the right-of-way file in the Final Survey folder, setting the right of way and easements, placing the monuments, and labeling them. Location Surveys then uses the file to create their Right of Way Plan Sheets. This results in a file created by multiple units resulting in the unit designation of NCDOT.

\Common

A folder located at Project Level where all units can access when coordinating with other units.

OAK I STILL CANT THINK OF ANY CONTENTS FOR THIS FOLDER

It's not a place to put project milestone archives as it is used for now. You directed us to put those on our local server and only the latest goes to NCDOT.

Because it's at project Level, it's not a place to put transmittals from other units to Roadway.

Its not a place for PDF's since we have a PDF folder where PDF versions of the milestone submittals will reside.

I vote to not include it

\Drainage

R-2635C_HYD_DRN.dgn	(hydraulics design)
R-2635C_EC_DSN.dgn	(erosion control)

\Final Survey

R-2635C_LS_DTM.dgn	(from a V8i project converting to ORD)
R-2635C_LS_TIN.tin	(from a V8i project converting to ORD)

R-2635C_LS or PH or NCDOT_ETM.dgn (existing terrain model)
R-2635C_NCDOT_FS.dgn (Final Survey file from Photogrammetry and Location Survey)
R-2635C_NCDOT_ROW.dgn

OAK I NAMED THE UNIT CODE "NCDOT" FOLLOWING THE PATTERN USED FOR THE FS FILE WHERE A COMBINATION OF UNITS CREATE A FILE (PHOTO AND L & S FOR THE FS FILE) AND (RDY AND L & S FOR THE ROW FILE).

Contains

Right-Of-Way and Easement design elements and labels

Files Referenced

R-2635C_EC_DSN.dgn	(erosion control from Drainage)
R-2635C_HYD_DRN.dgn	(hydraulics from Drainage)
R-2635C_LS or PH or NCDOT_ETM.dgn	(existing terrain)
R-2635C_NCDOT_FS.dgn	(final surveys)
R-2635C_NEU_WEX(T).dgn	(wetlands from NEU)
R-2635C_RDY_ALG.dgn	(alignments from Roadway → Alignments)
R-2635C_RDY_AER.dgn	(aerial from Roadway →Design)
R-2635C_RDY_CMD.dgn	(master CMD file from Roadway →Design)
R-2635C_RDY_HIS.dgn	(historic properties from Roadway →Alternatives)
R-2635C_RDY_HAZ.dgn	(hazardous sites from Roadway → Alternatives)
R-2635C_RDY_SIGHT.dgn	(sight distance from Roadway → Design)
R-2635C_RDY_SIGNS.dgn	(business' relocated signs from Roadway →Design)
R-2635C_RDY_SS.dgn	(slope stakes from Roadway → Design Nested 1)
R-2635C_RDY_SUP.dgn	(superelevation from Roadway → Design)
R-2635C_SIG_POL.dgn	(signal poles from Signals)
"VARIOUS NAMES".dwg	(site plans from Roadway → Design)
R-2635C_SMU_S1.dgn	(bridge general drawings from Structures)
R-2635C_UT_POW.dgn	(power from Utilities)
R-2635C_UT_SEW.dgn	(sewer from Utilities)
R-2635C_UT_WAT.dgn	(water from Utilities)

\Geoenvironmental

R-2635C_GEO_DSN.dgn	(hazardous sites)

\Geotechnical

R-2635C_GEO_DSN.dgn	(boring locations)

\Natural Environment

R-2635C_NEU_WEX(T).dgn	(wetlands)

\Photogrammetry

R-2635C_PH.sid (aerial photographs)
R-2635C_PH_ETM.dgn (existing terrain)

\Signals
R-2635C_SIG_POL.dgn (wooden/metal poles and mast arms)

\Signing
R-2635C_SGN_DSN.dgn (sign designs)

\Structures
R-2635C_SMU_S1.dgn (bridge general drawings)

\Utilities
R-2635C_UC_POW.dgn (power designs)
R-2635C_UC_WAT.dgn (water designs)
R-2635C_UC_SEW.dgn (sewer designs)

\Workset

This folder contains standards files that are project-specific which therefore should not be stored in the NCDOT WorkSpace. File such as the NCDOT standard border file BDR, are located in this folder and are shared and used by all roles.

\Cell

\Data

\Dgnlib

\Macros

\Seed

\Sheet Borders

- ***R-2635C_NCDOT_BDR.dgn***

OAK, I CALLED IT "NCDOT" BECAUSE I ASSUMED THAT ALL UNITS WOULD BE PULLING FROM THIS FILE TO GET THEIR SHEETS AND THE SHEETS WOULD HAVE CHANGEABLE ZONES TO FIT THE UNITS NEEDS.

This file is to be assembled at the beginning of each project by creating the BDR file and models within the BDR file and placing the most current sheet cell in each of the models. The cells in the models can then be referenced to the design files that need a sheet border manually referenced to them such a Title, Typical, Detail, and Summary Sheets. When sheet cells change over the life of the project, the old sheet cells can be replaced with the updated ones and that is reflected throughout all files that has these borders referenced. When the Preliminary or Right-Of-Way status designation needs to be removed from the plans, it can be accomplished in one file and that is reflected throughout all files that has these borders referenced.

Contains

Common sheet borders in individual Models that the user manually reference to a design file for producing sheets other than the sheets automatically produced for plan, profile, and cross section layout.

"Title Sheet" Model (Title Sheet Border)
"Index of Sheets" Model (Index of Sheets / General Notes / Standard Drawings Border)
"Conventional Symbols Sheet" Model (Conventional Symbols Sheet)
"Plan Sheet" Model (Typical, Detail, Summary, Plan, Single Profile Sheet Border)
"Plan and Profile Sheet" Model (Plan AND Profile or Double Profile Sheet Border)
"Cross Section Sheet" Model (Cross Section Border)

\Superelevation

\Symb

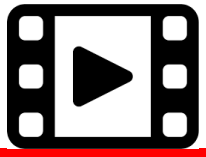
HEY OAK CAN WE NAME THIS "SYMBOLS" IT'S THE ONLY FOLDER ABBREVIATED

\Template Library

Create Design Files

All new ORD Design Files for STIP projects are to be created and stored on NCDOT's ProjectWise server. New files for training can be created elsewhere such as the local **C:\ Drive**. Creating design files outside of ProjectWise and moving them to ProjectWise is discouraged. The ability to create additional folders under the NCDOT defined folders has been blocked. Sorting files can be accomplished by assigning tags or metadata to the files. Although NCDOT is using ProjectWise, NCDOT WorkSpaces and WorkSets are temporarily not being stored on ProjectWise. This is referred to as **Nonmanaged Workspaces**. While using Nonmanaged WorkSpaces, the Design Files will be created and stored on ProjectWise and will call the WorkSpaces and WorkSets from the **C:\ Drive**. Once the user creates the design file and assigns a WorkSpace and WorkSet to the new design file, it is considered **"branded"** and when opened again, will open using the assigned WorkSpace and WorkSet if both are available to read. It is the intention of NCDOT to store Managed WorkSpaces and WorkSets on ProjectWise in the future. At that time, the procedure for creating Design Files will remain the same and they will call WorkSpaces and WorkSets on ProjectWise.

As we begin using ORD where many things are located in a 3D model, it can be confusing whether to create a 2D or 3D design file. The best "rule of thumb" to follow when creating design files is to **ALWAYS CREATE AN ORD DESIGN FILE USING THE 2D SEED FILE UNLESS YOU ARE CREATING A FILE FOR PROCESSING SURVEY DATA OR CREATING A TERRAIN MODEL.**

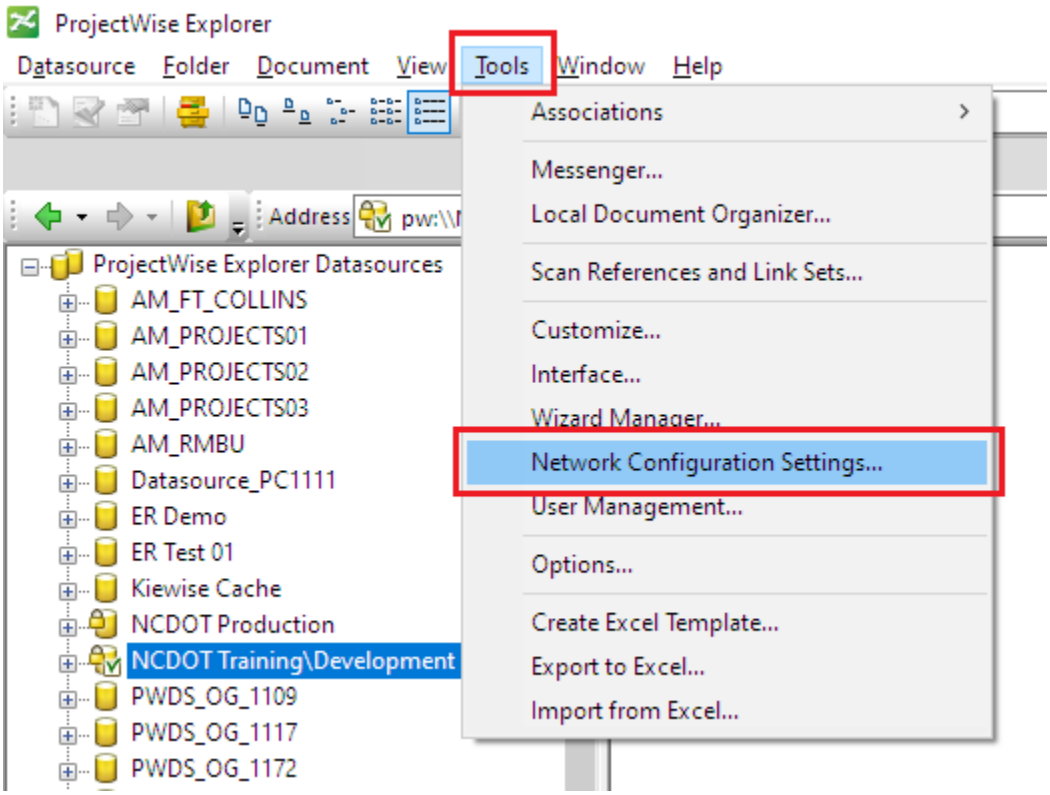


Video 1-5 Creating Design Files on ProjectWise
HTTP LINK PLACEHOLDER

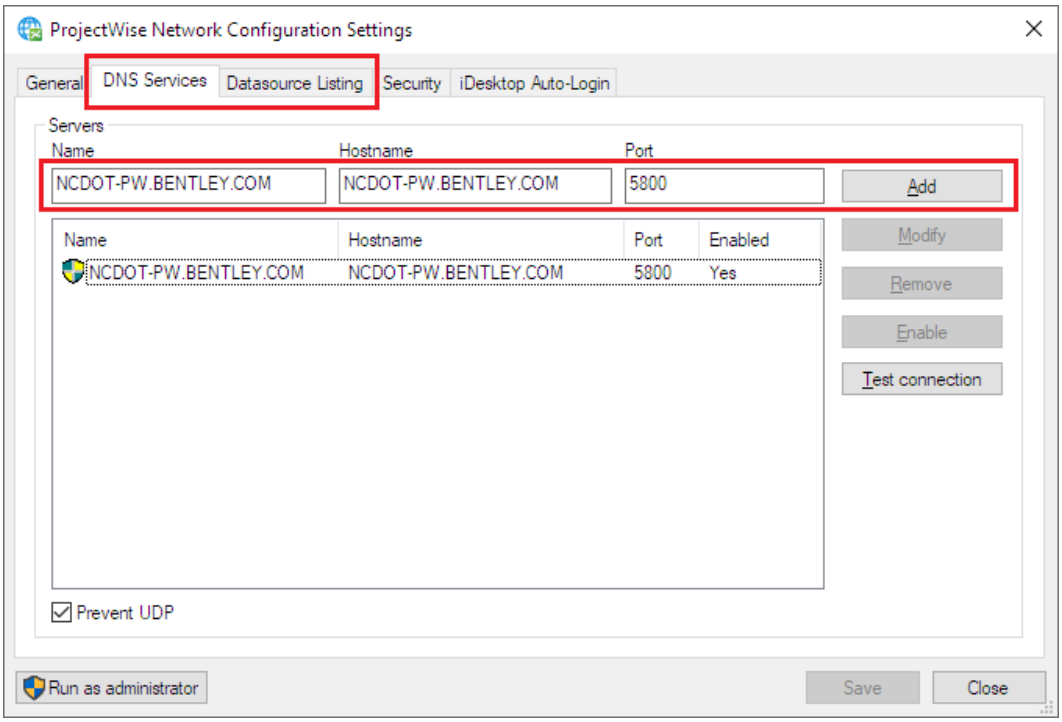
Create a Design File in ProjectWise

A. **Locate** the ProjectWise Explorer Icon in your program listing, desktop start menu, or taskbar and select it to enter ProjectWise Explorer.

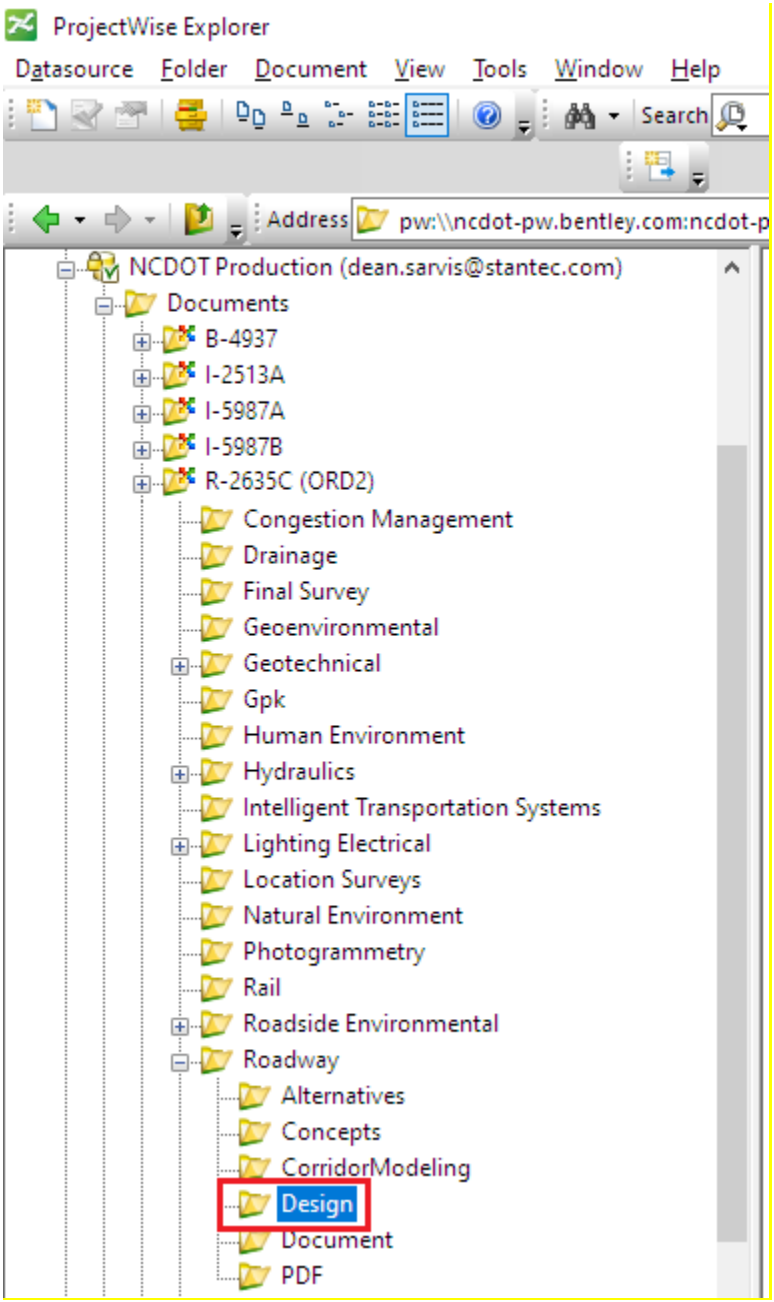
To access the subdirectories where files are stored on NCDOT's ProjectWise Server, choose **Tools → Network Configuration Settings**.



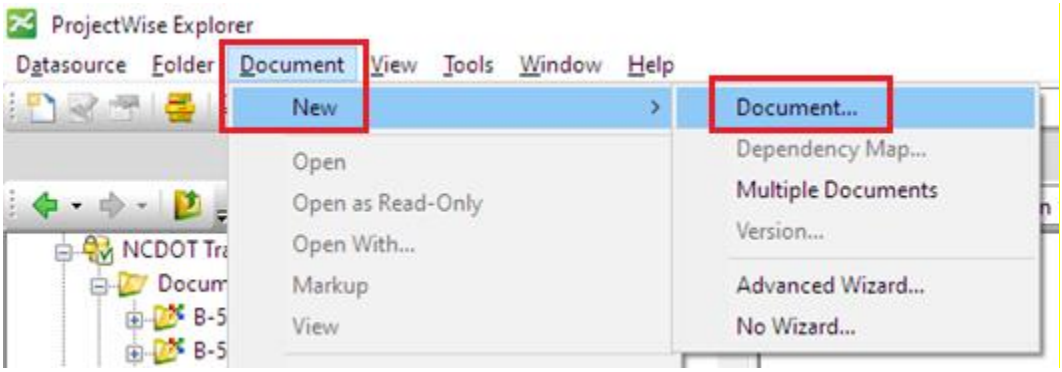
B. **Enter** the following NCDOT datasource information and **choose ADD** in both the **DNS Services** and **Datasource Listing** tabs



C. Your NCDOT Project Manager will create a STIP folder structure on ProjectWise under the **NCDOT Production** folder. Locate the folder where your **STIP** project is stored and choose the subdirectory that you want to create a file in.

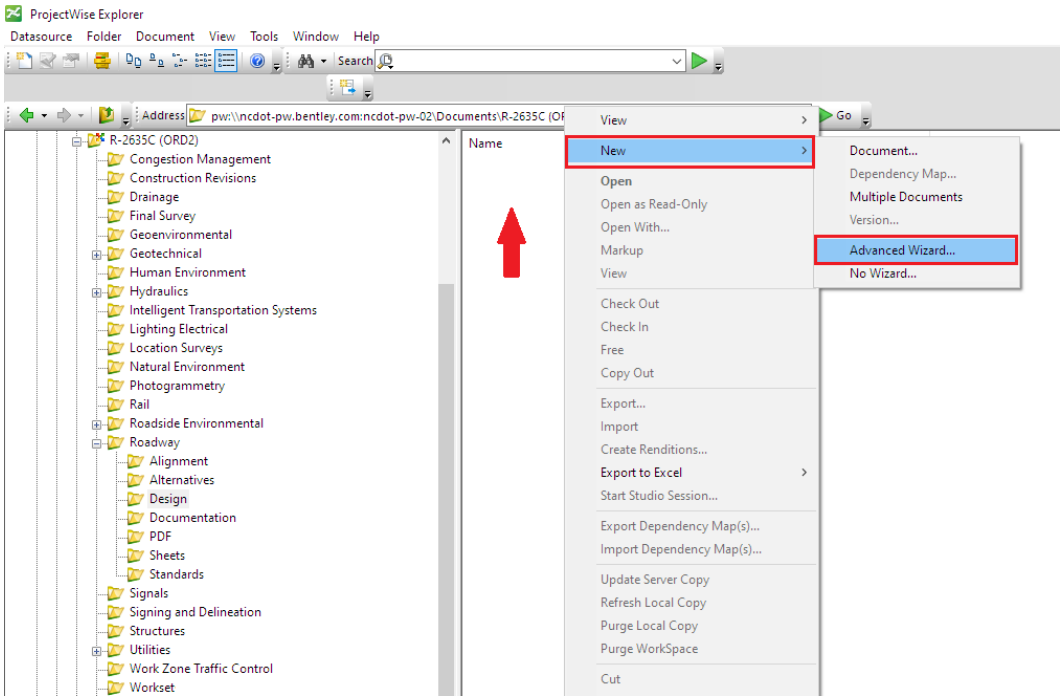


D. **Choose Document → New → Document** from the menu

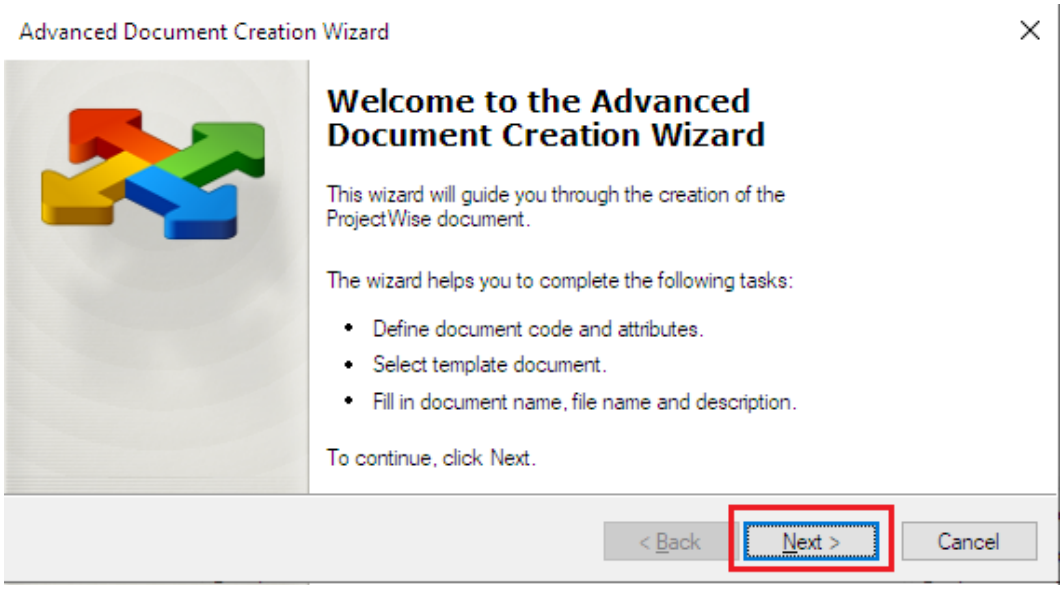


E. **Choose Advanced Wizard** and **OK** on the **Select a Wizard** dialog. Using the Wizard ensures that the file is set up properly with all of the necessary metadata assigned to it.

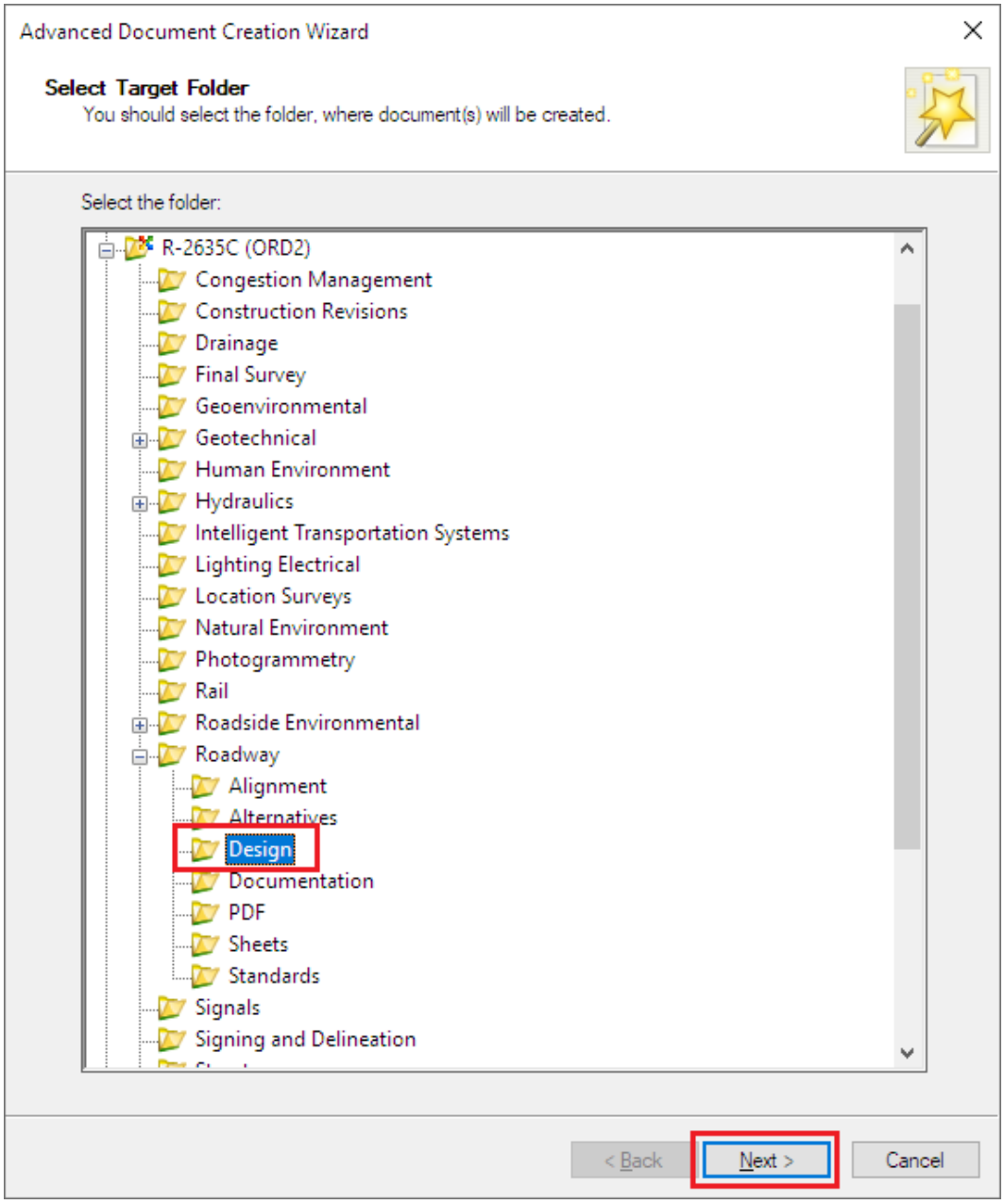
- Alternatively, you can **right click** in the file listing pane and chose **New → Advanced Wizard.**



F. **Choose Next** to enter the **Advanced Document Creation Wizard.**



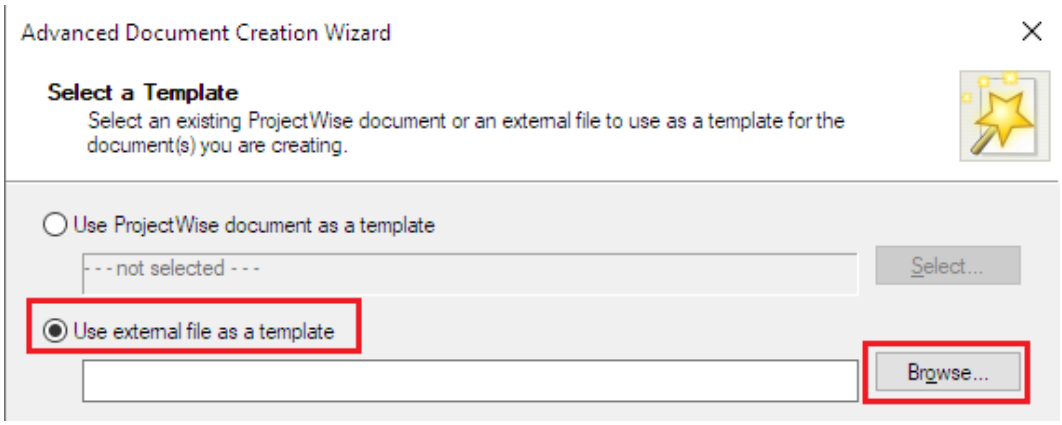
G. The **current active folder** will be highlighted. Choose **Next** to select the current active folder to place your new design in or choose another target folder to create the new design file in and then choose **Next**.



H. ProjectWise needs a seed file to create the new design file from. This seed file is located inside of the Managed WorkSpaces stored on ProjectWise at this location.

*pw:\\ncdot-pw.bentley.com:ncdot-pw-01\Documents\Administration*FINISH PATH

NEED NCDOT TO PUT WORKSPACES UNDER PW ADMINISTRATION FOLDER TO CALL
REVISE SCREENSHOT TO CALL PW

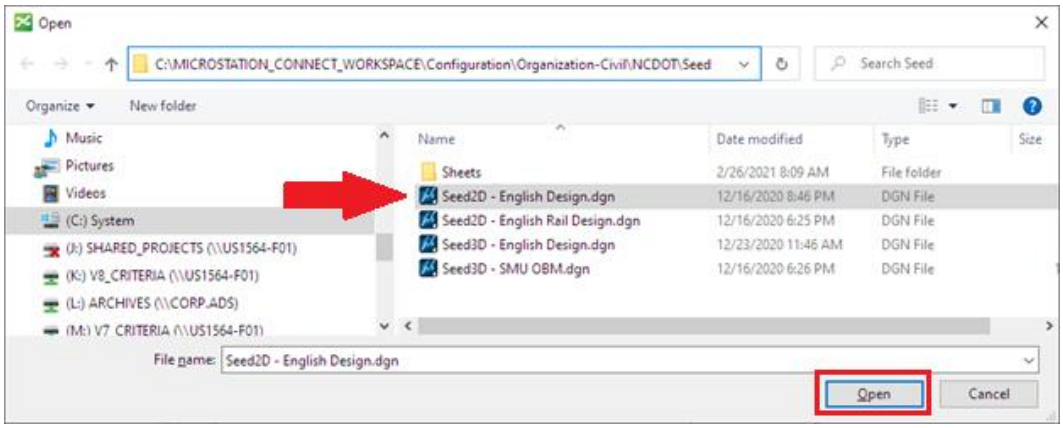


I. Choose **Browse** and it will take you to the location of the seed files. Remember to

ALWAYS CREATE A 2D FILE UNLESS YOU ARE CREATING A FILE FOR SURVEYS OR A TERRAIN MODEL

NEED NCDOT TO PUT WORKSPACES UNDER PW ADMINISTRATION FOLDER TO CALL
REVISE SCREENSHOT TO CALL PW

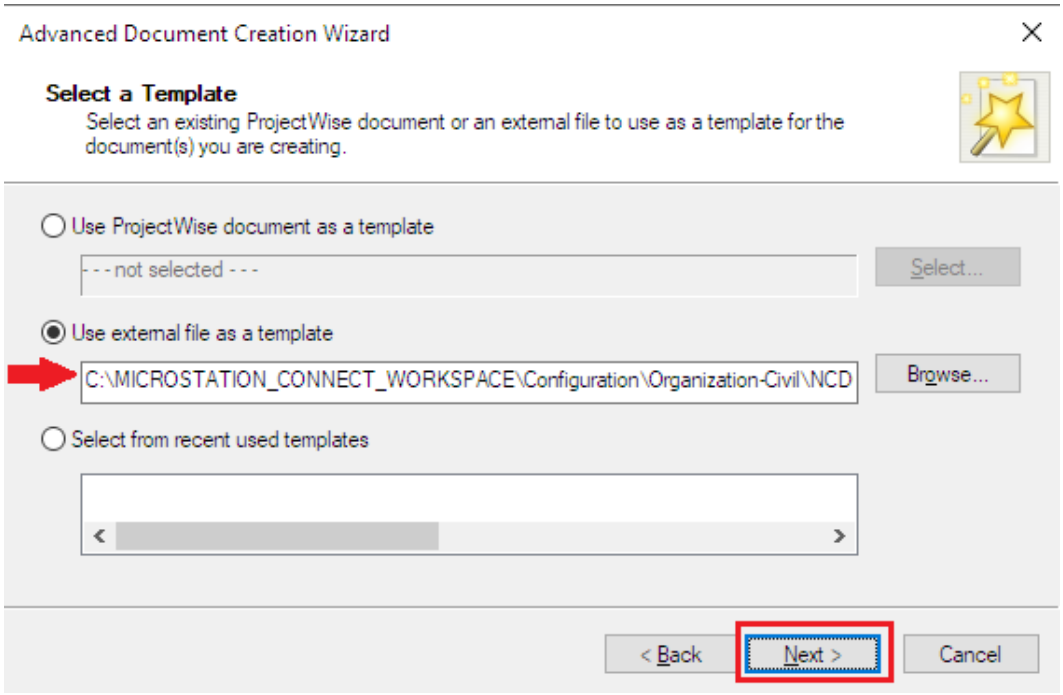
and ***Choose Seed2D – English Design.dgn*** and **choose Open** to begin creating a file.


Open
C:\MICROSTATION_CONNECT_WORKSPACE\Configuration\Organization-Civil\NCDOT\Seed
Search Seed
Organize
New folder
Music
Pictures
Videos
(C:) System
(J:) SHARED_PROJECTS (\\US1564-F01)
(K:) V8_CRITERIA (\\US1564-F01)
(L:) ARCHIVES (\\CORP.ADS)
(M:) V7_CRITERIA (\\US1564-F01)
Name
Date modified
Type
Size
Sheets
2/26/2021 8:09 AM
File folder
Seed2D - English Design.dgn
12/16/2020 8:46 PM
DGN File
Seed2D - English Rail Design.dgn
12/16/2020 6:25 PM
DGN File
Seed3D - English Design.dgn
12/23/2020 11:46 AM
DGN File
Seed3D - SMU OBM.dgn
12/16/2020 6:26 PM
DGN File
File name:
Seed2D - English Design.dgn
Open
Cancel

J. **Note** that the seed file was populated in the dialog box and **choose Next** to complete the **Select a Template** dialog box. **Note** also that this template will be placed in the **recent used templates** for future ease of use.

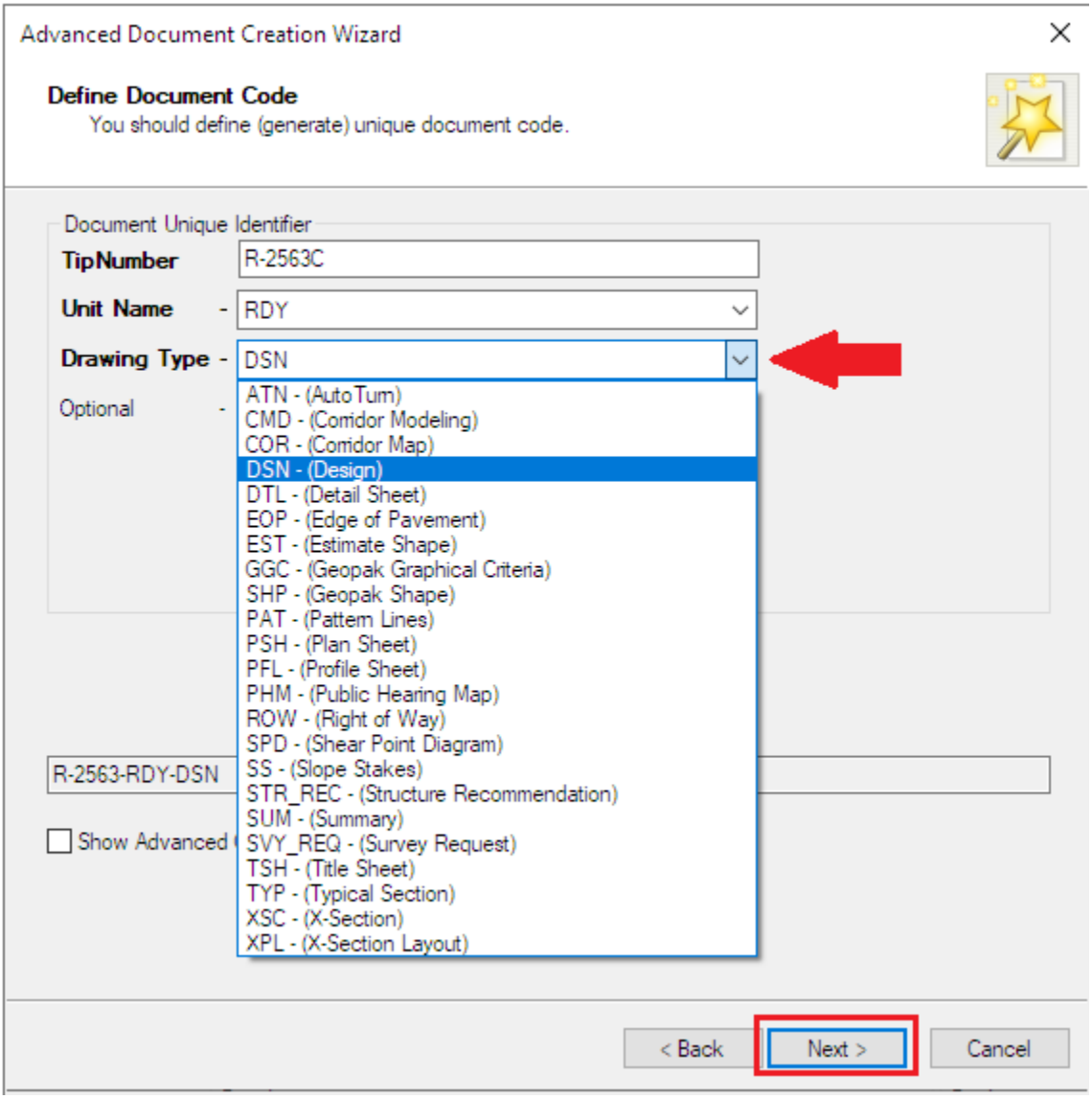
NEED NCDOT TO PUT WORKSPACES UNDER PW ADMINISTRATION FOLDER TO CALL

REVISE SCREENSHOT TO CALL PW

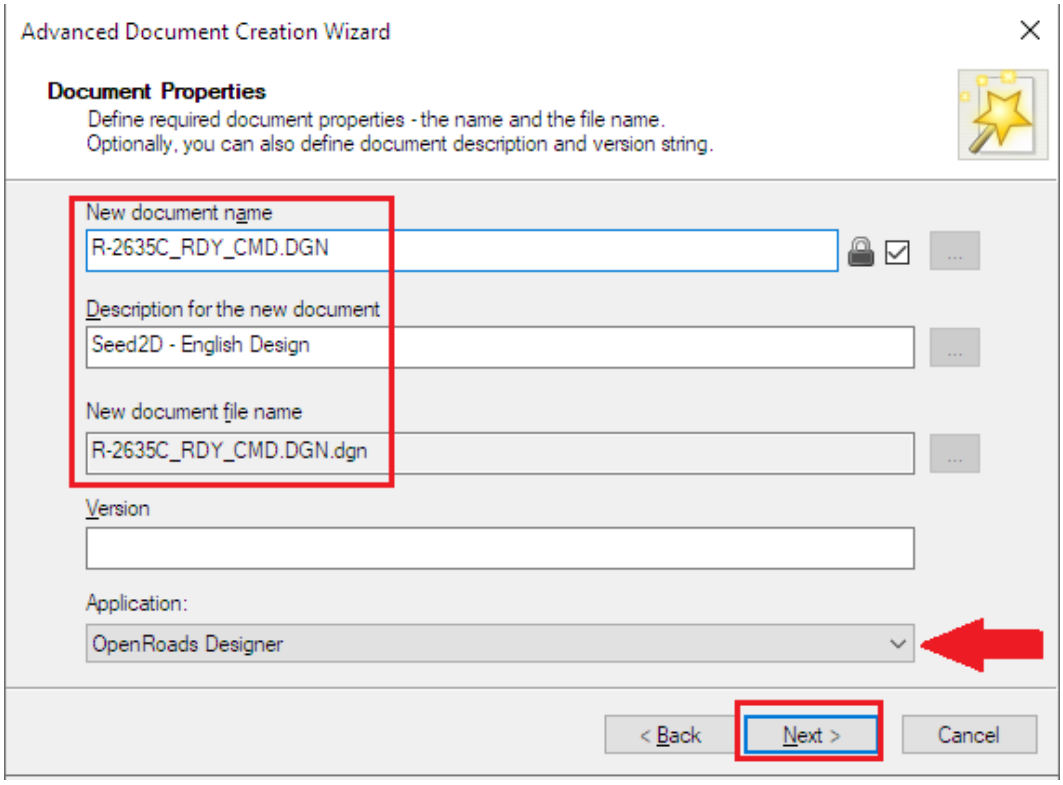


K. If the Wizard is used, ProjectWise will communicate with NCDOT's SAP program to gather information about the project and associate that data with the files that are created. The **Tip Number and Unit Name** should automatically populate from SAP. If not, you can manually enter this data and alert your NCDOT project manager to populate those fields in SAP. **Choose** the **Drawing Type** from the pulldown area and **choose Next** to complete the **Define Document Code** dialog box.

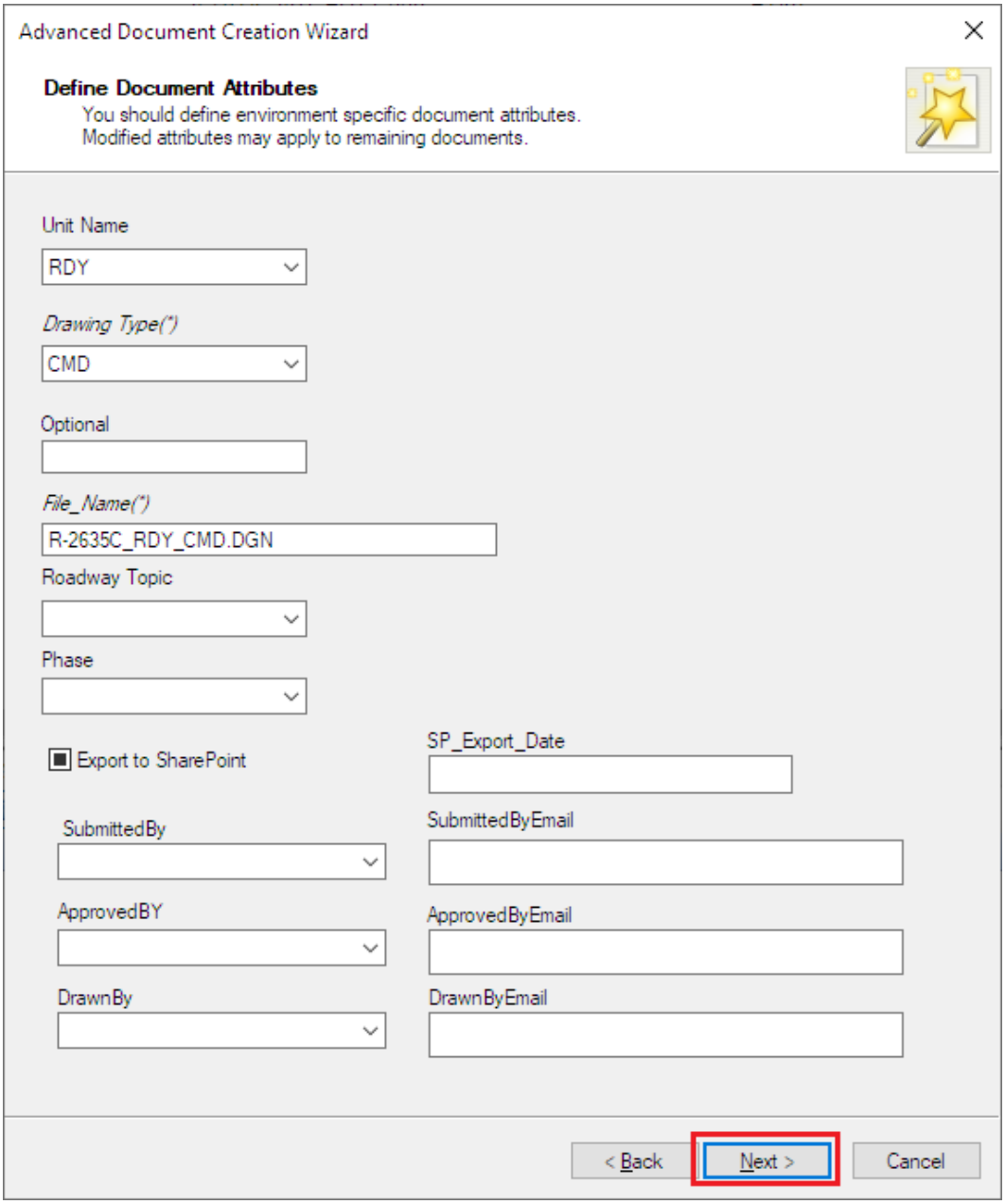
AWAITING ADVANCED DOCUMENT CREATION WIZARD TO BE FIXED BY BOB AND ELIZABETH AND FOR THE FILE TYPE LIST TO BE UPDATED BY BOB BEFORE I CAN REDO THIS SCREEN SHOT



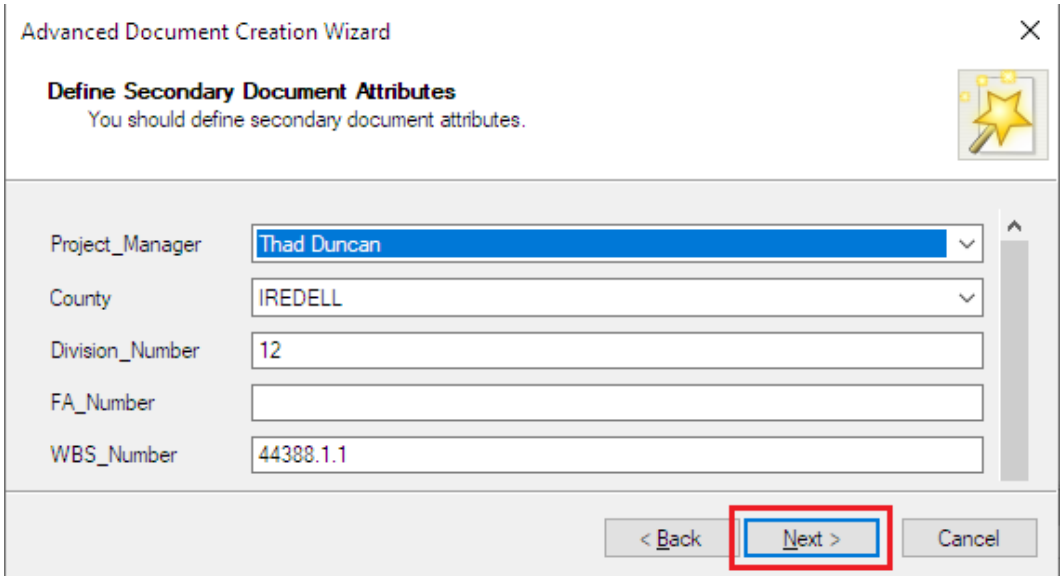
The next dialog box will be populated according to your previous choices. **Change** the Application to **OpenRoads Designer** using the pull-down menu to associate this program to it for launching in the future from ProjectWise Explorer once NCDOT has moved to Managed Workspaces within ProjectWise. **Choose Next** to complete the **Document Properties** dialog box. BOB SHOW EXTENSION? YES BUT IT BROKE THE DIALOG ABOVE



L. **Confirm** the information is correct in the next dialog and choose **Next** to complete the **Define Document Attributes** dialog box.



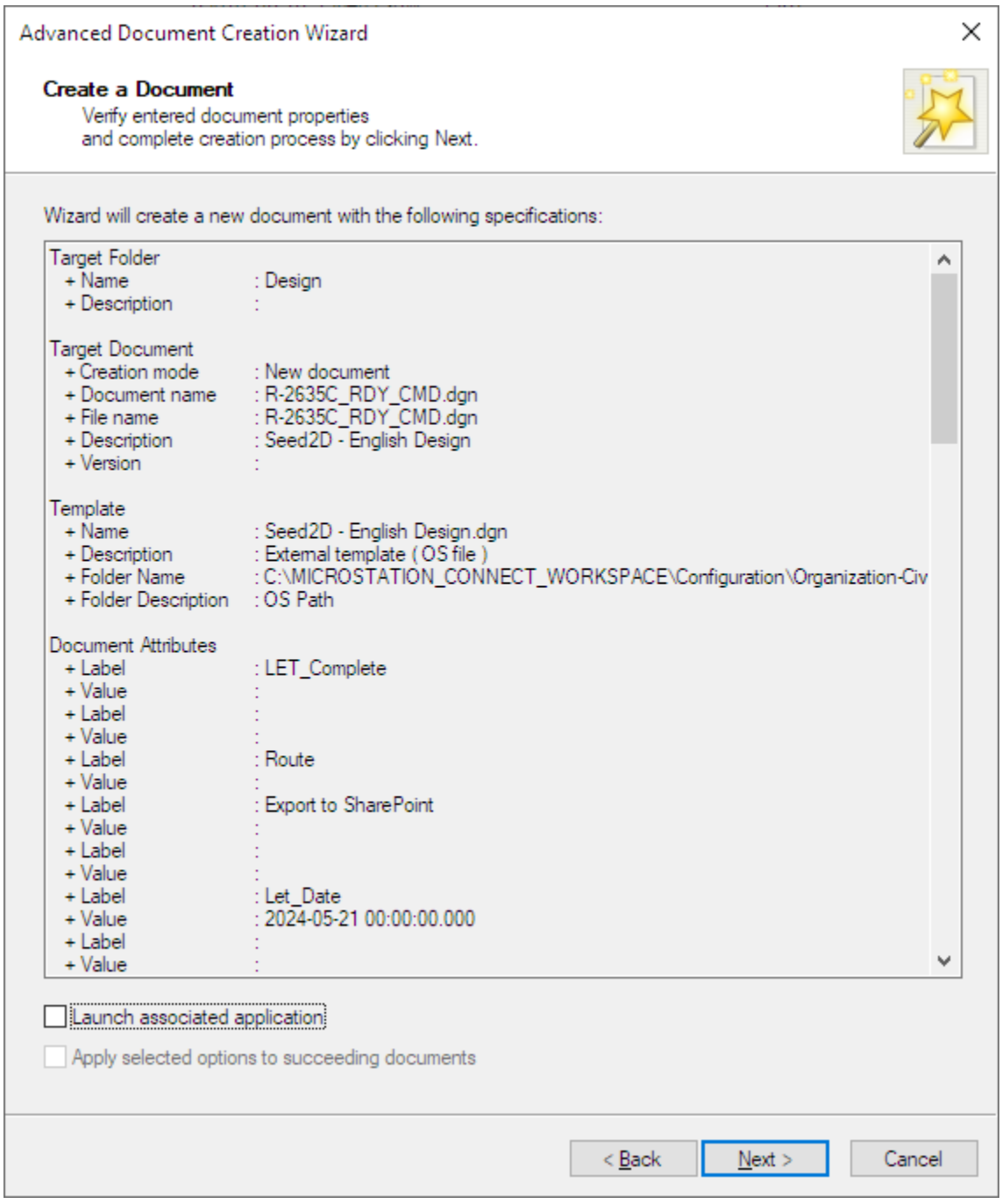
M. ProjectWise is communicating with NCDOT's SAP program to gather information about the project and associate that data with the files that are created. This information should automatically populate in the next dialog box. If not, alert your NCDOT project manager to populate those fields in SAP. Choose **Next** to complete the **Define Secondary Document Attributes** dialog box.



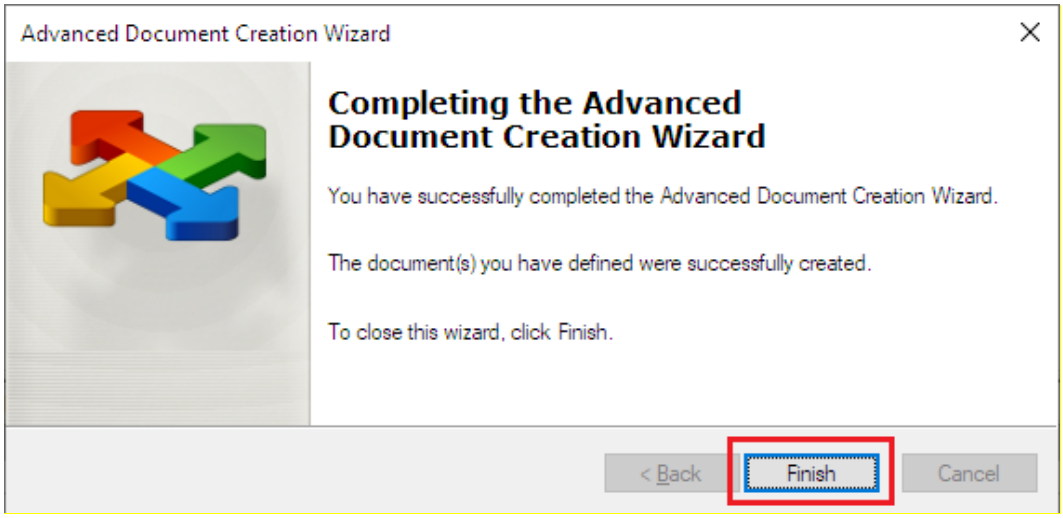
N. Information gathered in previous dialog boxes is displayed. **Review** the data to ensure accuracy and **choose Next** to complete the **Create a Document** dialog box.

NEED NCDOT TO PUT WORKSPACES UNDER PW ADMINISTRATION FOLDER TO CALL

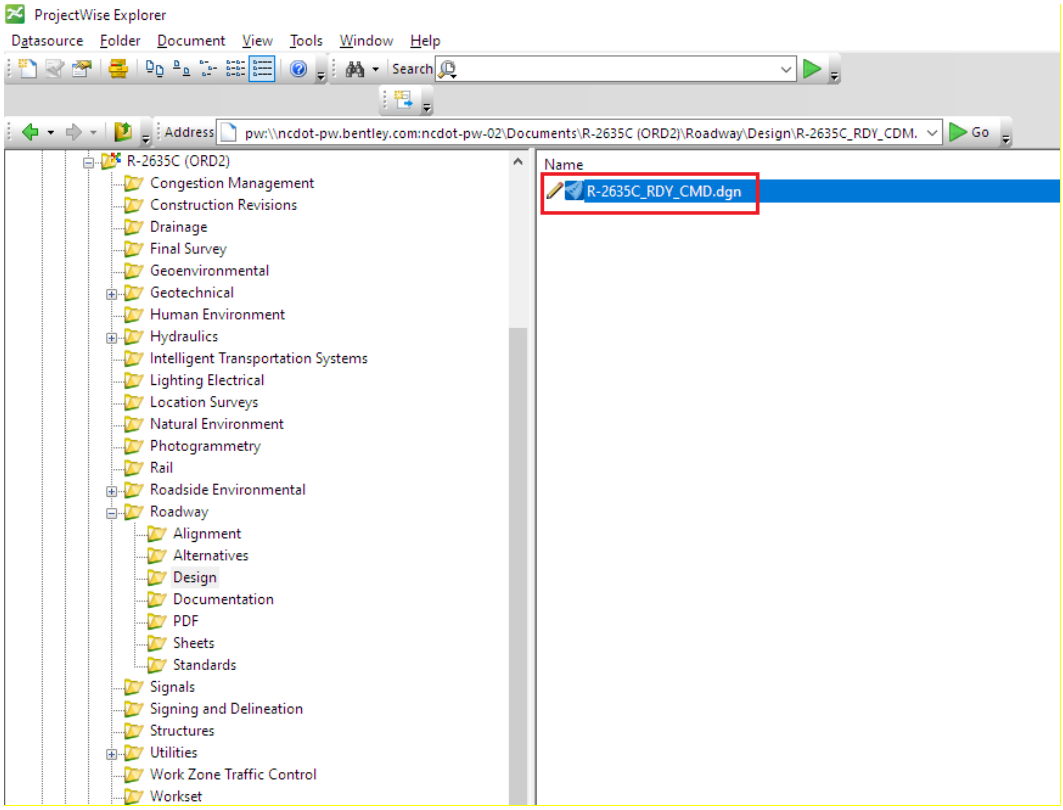
REVISE SCREENSHOT TO CALL PW



O. Choose **Finish** to complete the creation of a file with the **Advanced Document Creation Wizard**.



P. A **new file *R-2635C_RDY_CMD.dgn*** will then be created in the chosen subdirectory. Note the **ALL CAPITAL LETTERS**.



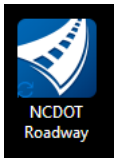
WHAT IS THE PROCEDURE FOR USERS TO GET PW BACKUPS?

Video 1-6 Creating Design Files outside of ProjectWise
HTTP LINK PLACEHOLDER

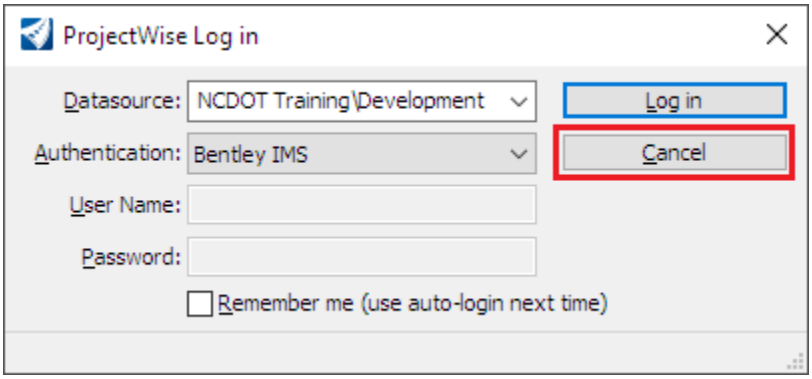
Create a Design File outside of ProjectWise

A. Open ORD through the NCDOT Roadway desktop icon

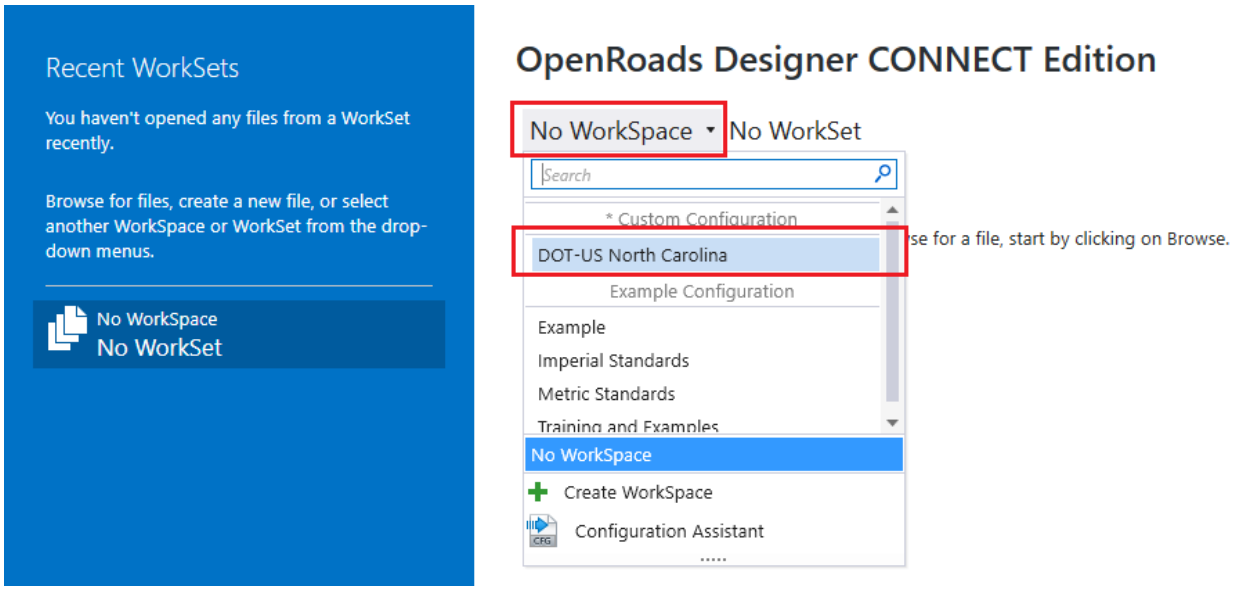
This Icon will open the **DOT-US North Carolina** workspace using the NCDOT and Roadway standards. Other desktop icons will use the same **DOT-US North Carolina** workspace but open with different standards from different units.



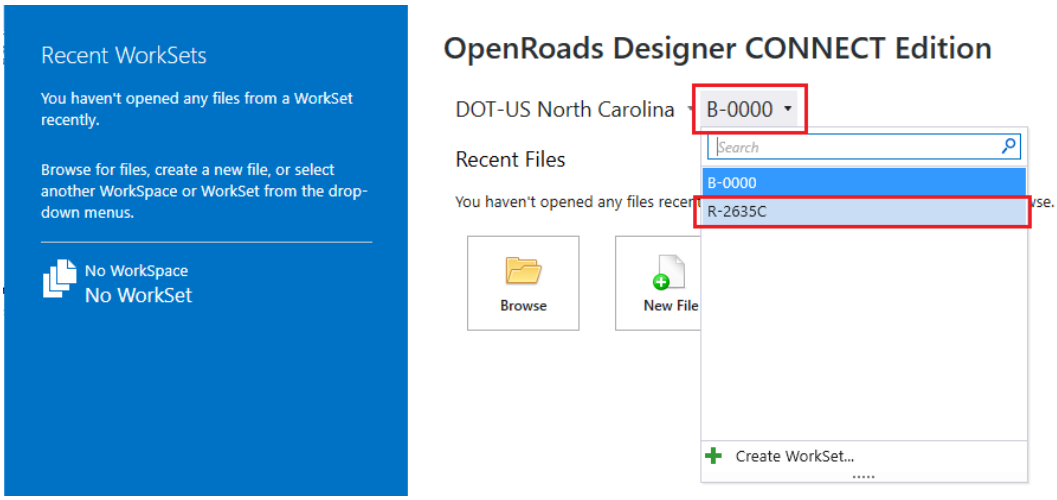
B. When the ProjectWise Integration dialog box opens, **choose Cancel** to continue without communicating with ProjectWise.



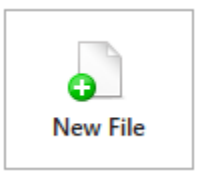
C. The following dialog box will appear. **Choose** the down arrow next to **No Workspace** and **choose** NCDOT's overall workspace **DOT-US North Carolina** out of the dropdown box to assign to the new file.



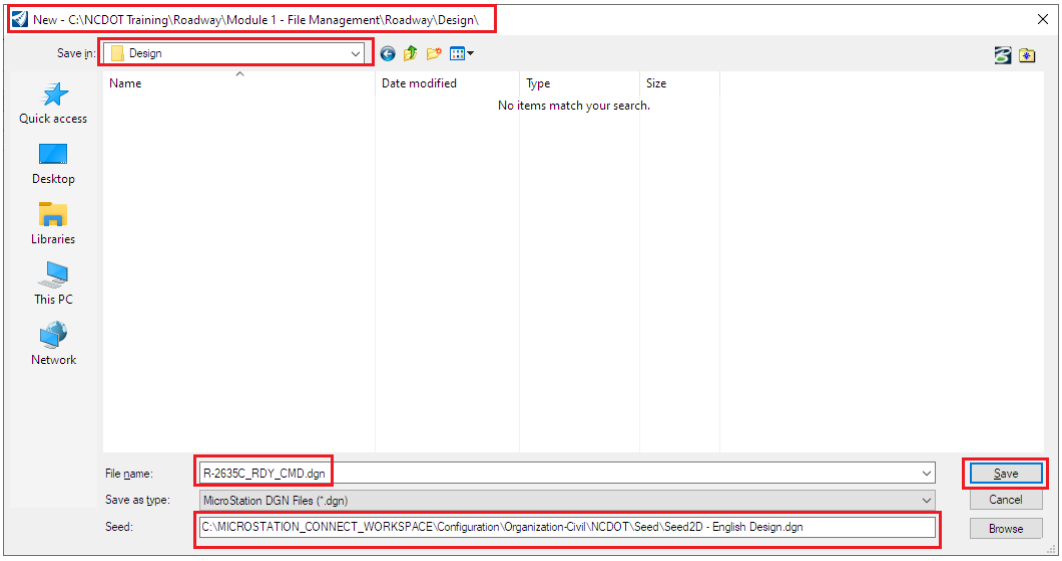
D. **Choose** the down arrow next to the **B-0000** WorkSet loaded with the workspaces and **choose** your WorkSet named after your STIP project number **R-2635C** that you created earlier under the **Create WorkSet Files** of this Module to **brand** your new file with.



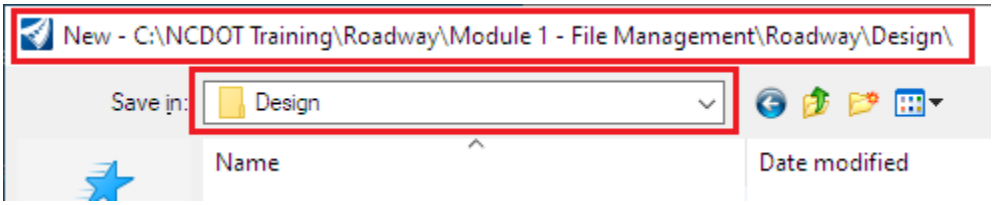
E. Choose the New File icon to create a new file.



F. The following dialog box will appear



G. **Choose** the path to the location where you want to store your new design file. In this case *C:\NCDOT Training\Roadway\Module 1 - File Management\Roadway\Design*



H. **Give** your new file a name that conforms with the Naming Convention explained previously in this Module; in this case ***R-2635C_RDY_CMD.dgn.*** **Note** the use of all capital letters.

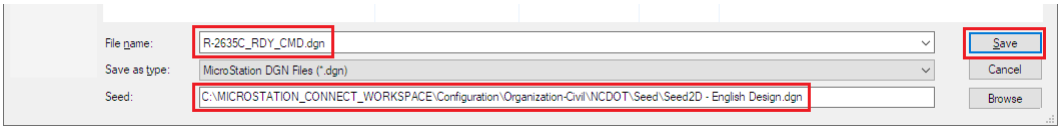
I. Follow the rule-of-thumb described previously **in this Module**,

ALWAYS CREATE AN ORD DESIGN FILE USING THE 2D SEED FILE UNLESS YOU ARE CREATING A FILE FOR PROCESSING SURVEY DATA OR CREATING A TERRAIN MODEL.

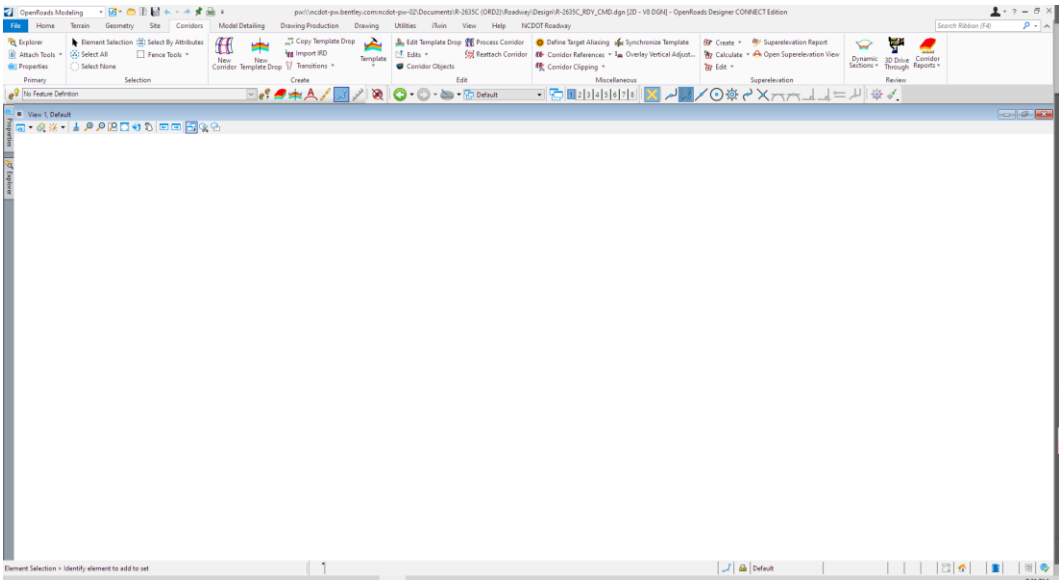
and **ensure** that the seed file is calling the **2D seed file** from the WorkSpaces loaded on the local **C:\ Drive**.

C:\MICROSTATION_CONNECT_WORKSPACE\Configuration\Organization-Civil\NCDOT\Seed\Seed2D - English Design.dgn

J. **Choose Save** to create your new design file and brand it with the chosen WorkSpace and Workset.

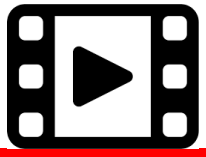


K. Your new file will open in ORD.



Open Design Files

Now that the WorkSpace has been set up, the WorkSet files for the project have been created, and a design file created, all of the supplementary files are now assembled to allow the user to open a design file. Although NCDOT is using ProjectWise to only store design files and it is the intention of NCDOT to ultimately store WorkSpaces and WorkSets on ProjectWise in the future, NCDOT WorkSpaces and WorkSets are temporarily **not** being stored on ProjectWise. This is referred to as **Nonmanaged Workspaces**. While using Nonmanaged WorkSpaces, the Workspaces and WorkSets are stored outside of ProjectWise on the users **C:\ Drive**. Since the workspaces are stored on the **C:\ Drive**, the user will **NOT** be using **ProjectWise Explorer** to enter design files. Rather, the user will be using the **NCDOT Roadway desktop icon** to open ORD and use **ProjectWise Integration** to browse to the files they want to open. This icon is to be used to properly enter ORD design files to ensure that NCDOT WorkSpaces and project WorkSets and called when entering the file. These icons are temporarily necessary until Bentley allows Role designations under their workspaces that can be assigned to each discipline.



Video 1-7 Opening Design Files

HTTP LINK PLACEHOLDER

AWAITING DECISION ABOUT WHICH VERSION(S) TO SHOW IN DOCUMENTATION BEFORE THIS ONE CAN BE RECORDED

ASK JASON AND OAK

1 – document opening totally projectwise explorer?

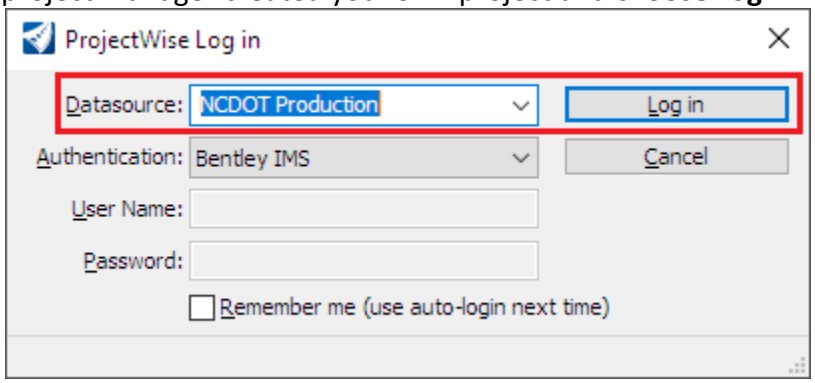
2- document opening ms with projectwise integration ?

3 – documentoutside of projectwise?

Opening Design Files

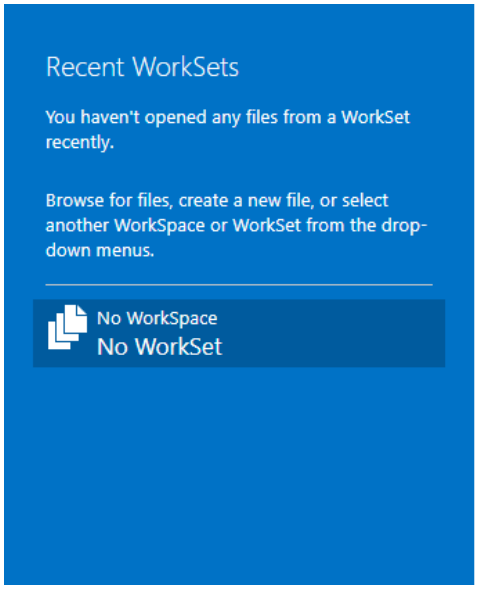
A. **Locate** the **NCDOT Roadway** ORD Icon loaded with the NCDOT WorkSpaces and manually copied to your desktop earlier and **choose** it to launch ORD to open a file.

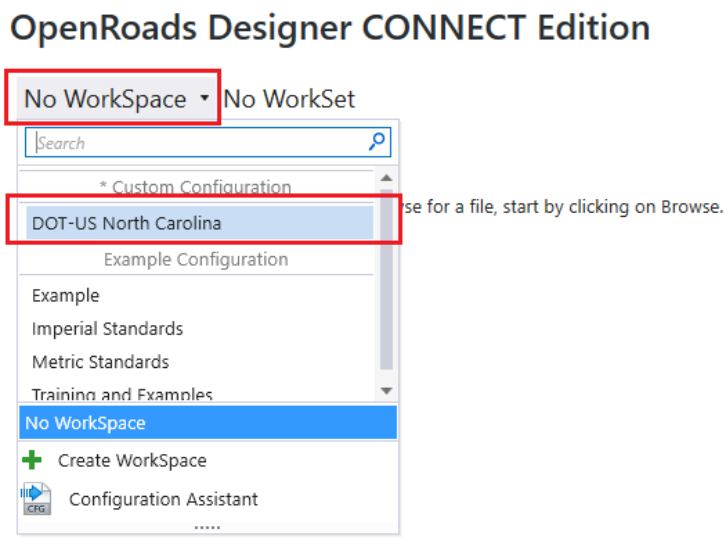
B. On the **ProjectWise Log in** dialog box **choose** the **NCDOT Production** Datasource where your NCDOT project manager created your STIP project and **choose Log In.**



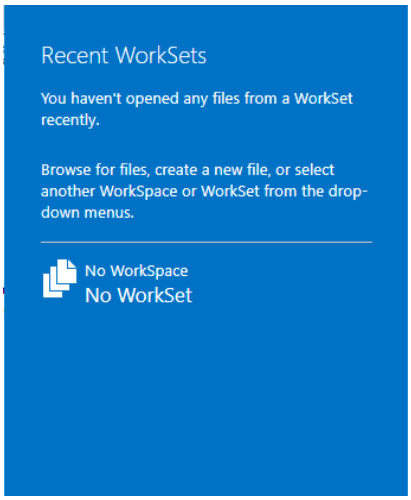
Note that you can check the **Remember me** box to eliminate this step **for this Datasource only.**

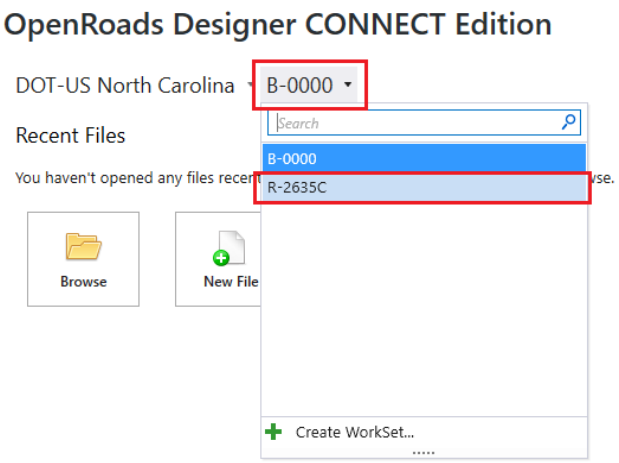
C. The following dialog box will appear. If you are opening a design file for the first time, **choose the down arrow next to No Workspace** and **choose** NCDOT's overall workspace **DOT-US North Carolina** out of the dropdown box to assign to the file.



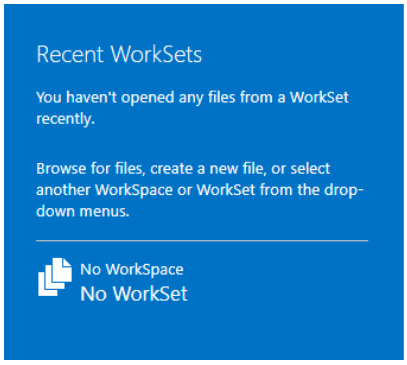


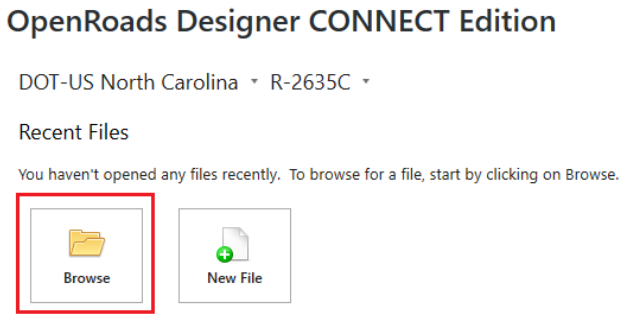
D. **Choose** the down arrow next to the **B-0000** WorkSet loaded with the workspaces and **choose** your WorkSet named after your STIP project number **R-2635C** that you created earlier under the **Create WorkSet Files** of this Module to **brand** your file with.



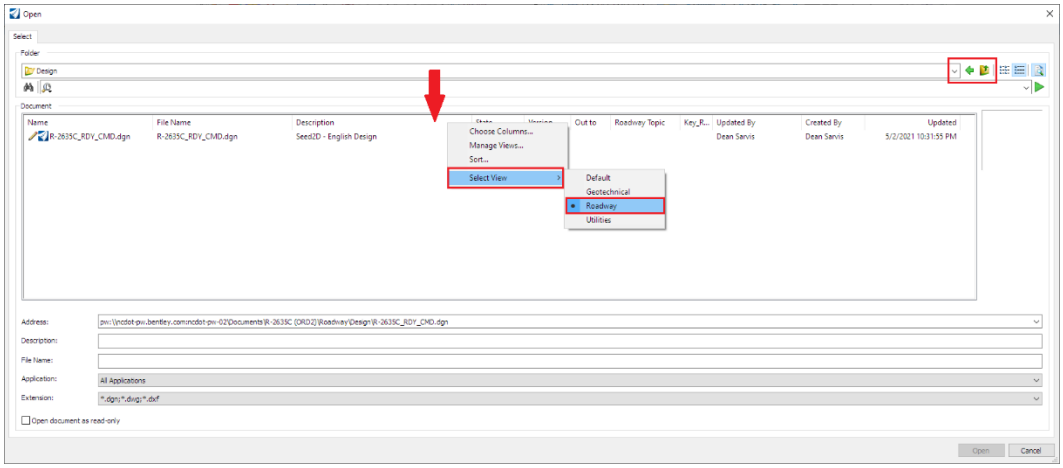


E. **Choose Browse** to open the **ProjectWise file browser** to be able to choose the design file located on the ProjectWise server.

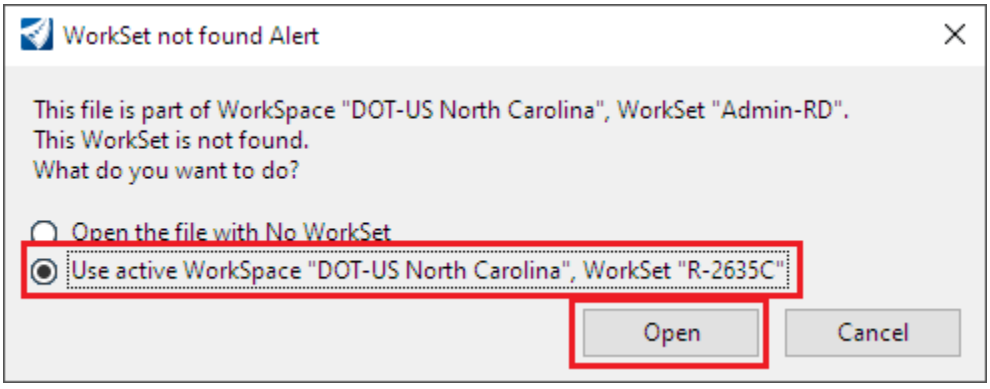




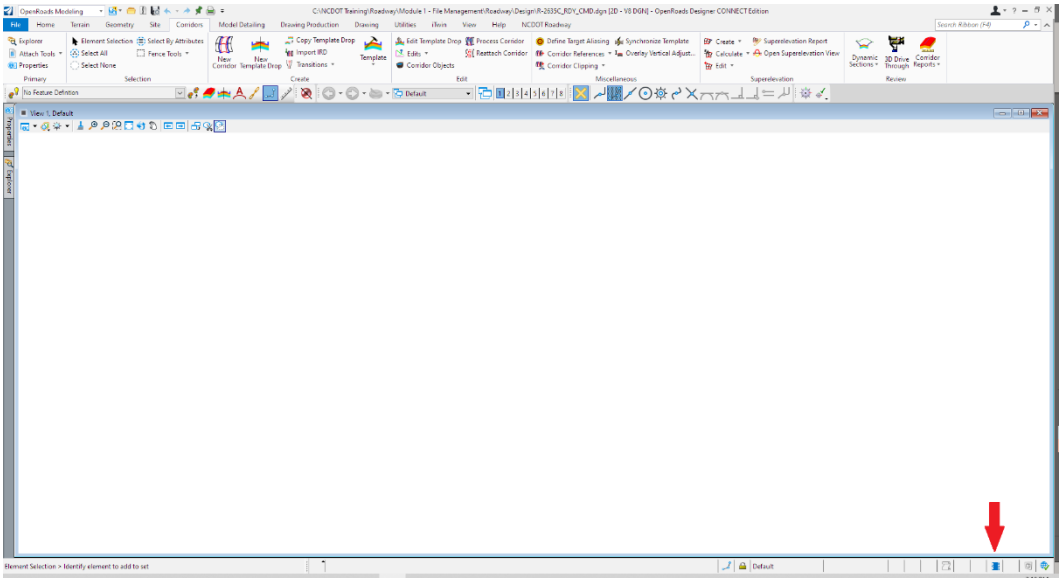
Q. If your NCDOT project manager submitted your name to the ProjectWise administrator to grant you access rights to the files, then **ProjectWise File Browser** will open. **Note** that a pre-defined custom column name scheme can be chosen for various units within the ProjectWise Browser by right clicking over the menu and choosing the unit name. This shows the columns that are anticipated to be needed or that unit's files. **Note** the navigation buttons in the upper right to **Show Folders**, **Navigate Back** and go **Up One Level**. **Choose a design file** and **choose Open** to go into it.



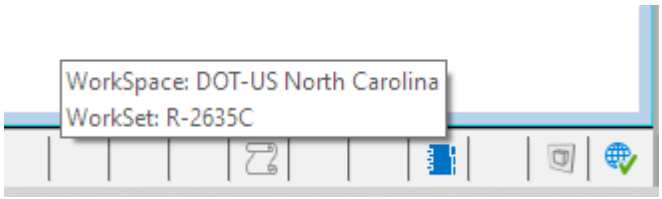
R. **Choose** the **Use active Workspace, WorkSet** to **brand** the file with this information and **choose Open** to **Check Out** a design file and go into it. Checking out a file from ProjectWise makes you the owner of the file and no changes can be made to that file by another user until you check it back in.



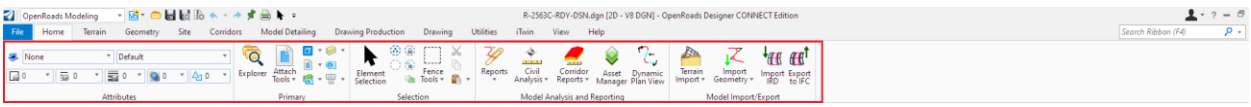
S. ORD will read the file from ProjectWise, the WorkSpace and WorkSet from your C:\Drive and will and launch it in ORD. **Note** the blue notebook icon in the lower right corner.



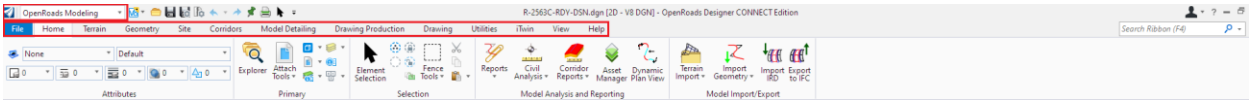
T. Choosing it confirms the WorkSpace and WorkSet that is branded to this file.



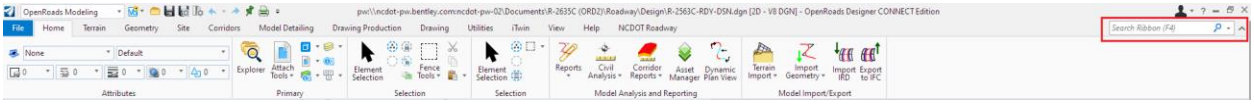
U. **Note** the **Ribbon Menus** across the top that **replaces** the old tasks menus along the left side. The user **CAN** add the task menus to the left side in ORD but those **OLD** task menus would only **duplicate** the commands in the ribbon and the old task menu would **NOT** contain all of the new commands introduced in ORD that are necessary for design. Therefore, **save the space** that would be taken up by these old task menus and **learn the Ribbon**. You'll appreciate that extra space when you have plan, profile, and cross section views on one screen at the same time.



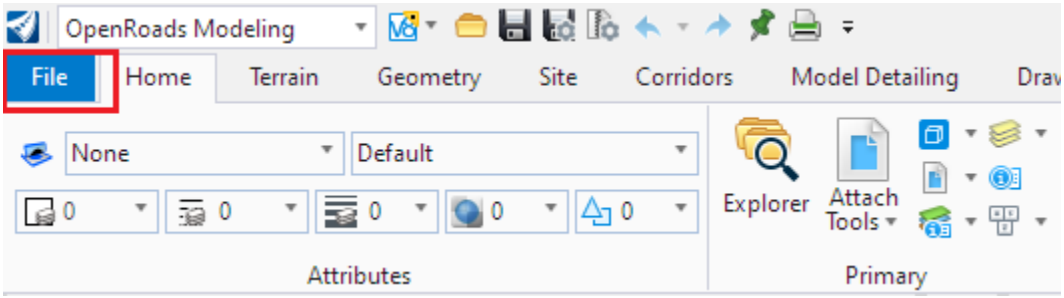
V. **Note** the **WorkFlow** dropdown menu. A **WorkFlow** groups various ORD commands logically according to the operation that needs to be accomplished. Choosing different WorkFlows changes the *Tab* choices that are available below the WorkFlow dropdown box. These *Tabs* contain the commands used to accomplish that WorkFlow.

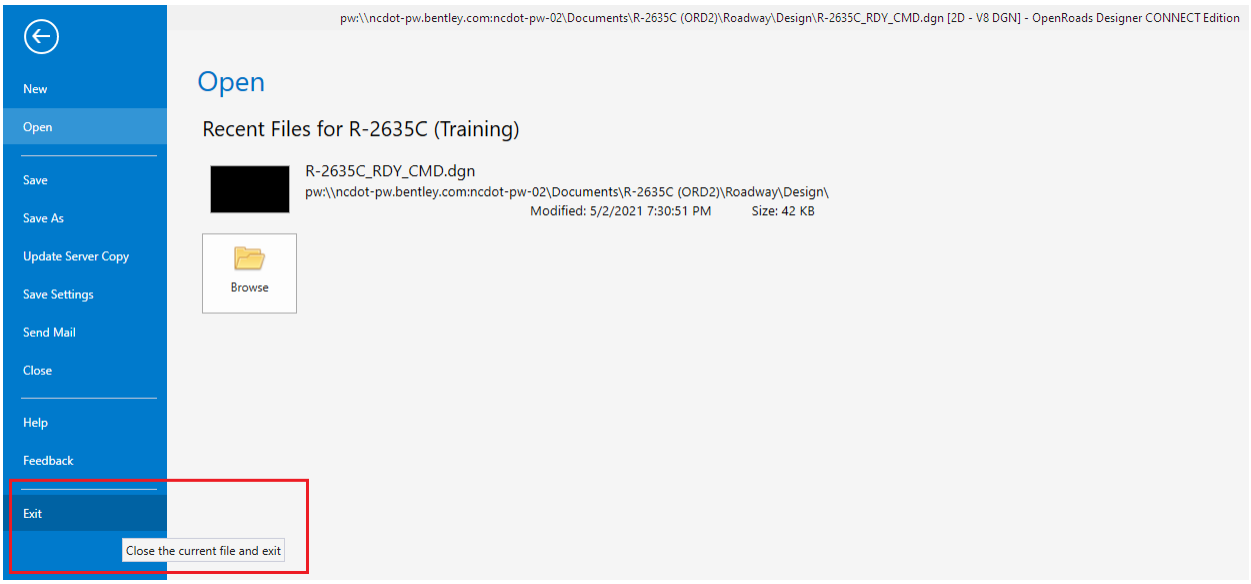


W. **Note** the **Search Ribbon** key-in field located at the top-right of the ORD user interface. It is useful to quickly find a desired command as you learn the ribbon interface without manually searching the ribbon. As you key-in the name of a command, the Search Ribbon function will show a list of commands matching the text string as it is entered.

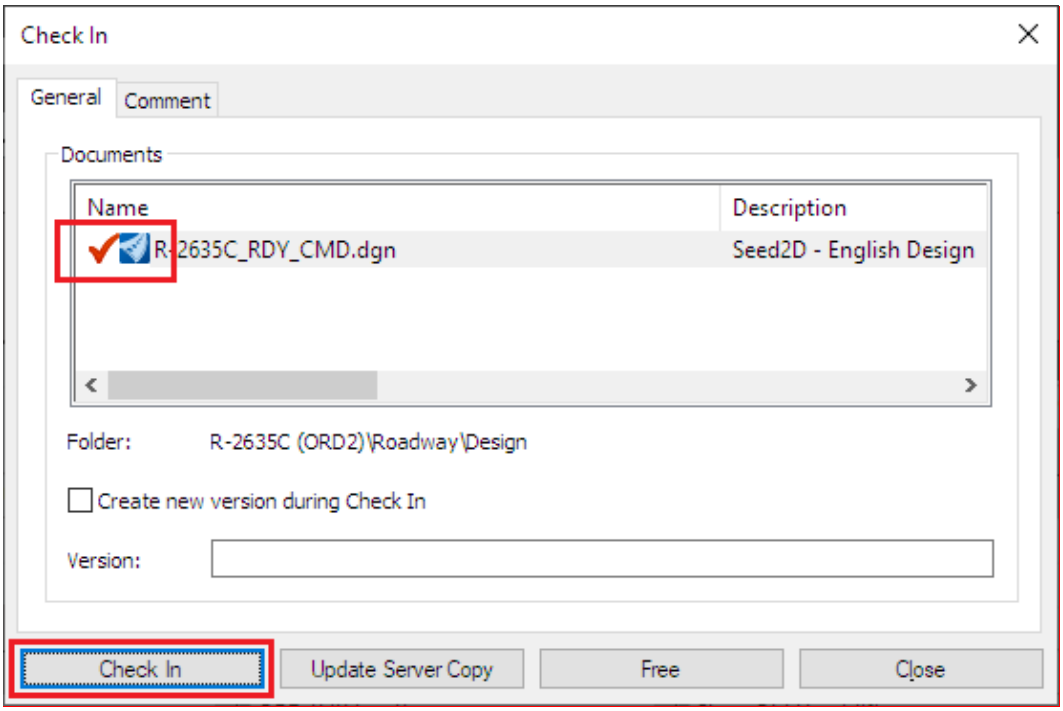


X. **Choose** the **File** tab and ORD's **Backstage** will appear where the user can **choose Exit** to exit the design file.




pw:\\ncdot-pw.bentley.com:ncdot-pw-02\Documents\R-2635C (ORD2)\Roadway\Design\R-2635C_RDY_CMD.dgn [2D - V8 DGN] - OpenRoads Designer CONNECT Edition
New
Open
Save
Save As
Update Server Copy
Save Settings
Send Mail
Close
Help
Feedback
Exit
Close the current file and exit
Open
Recent Files for R-2635C (Training)
R-2635C_RDY_CMD.dgn
pw:\\ncdot-pw.bentley.com:ncdot-pw-02\Documents\R-2635C (ORD2)\Roadway\Design\
Modified: 5/2/2021 7:30:51 PM
Size: 42 KB
Browse

Y. **Note** the Red check mark next to the design file in the Check In dialog box indicating that it is still **checked out** from ProjectWise even though you have exited ORD. **Choose Check In** to check in the file to ProjectWise thereby allowing another user to check it out and make changes to it.

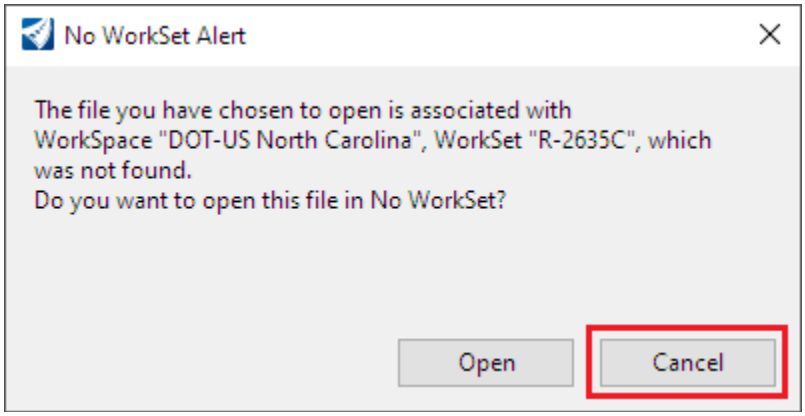


Opening Design Files Troubleshooting

A few of the common problems that occurs when trying to enter design files are summarized below. COVER OTHERS?

Troubleshooting

A. The following error occurs when you attempt to open a design file and the WorkSpace or WorkSet that it was branded with cannot be found by ORD. **Cancel** out of the box. **Follow** the solutions below and **reopen** the file and this box should disappear.



Possible solutions are:

- Ensure that you have NCDOT WorkSpaces loaded at

  C:\MICROSTATION_CONNECT_WORKSPACE

- Ensure that you have created a WorkSet for the project at

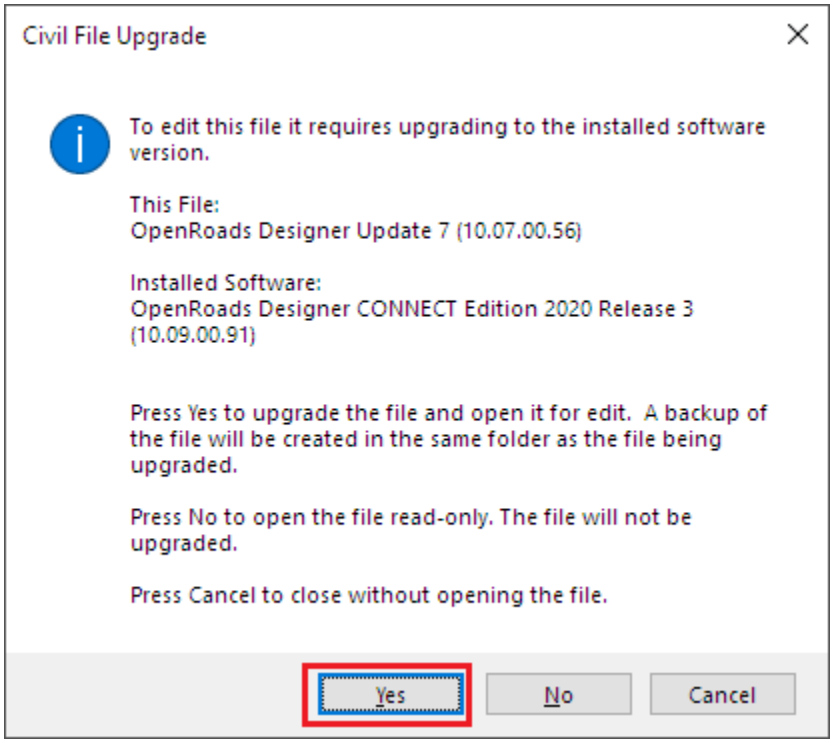
  C:\Projects\NCDOT

- Ensure that the **NAME?.zip** file has been unzipped to overwrite the default .cfg file under Program Data. See **NCDOT ORD Workspace Setup** under **Additional Files Setup** above in this Module.

- Ensure that the **NCDOT_USE_LOCAL_WORKSETS** variable in the ***NCDOT_WorkSets.inp*** file on your desktop is pathed to where your WorkSets are located.

B. The following error (your version descriptions may vary) occurs when you attempt to open a design file in ORD that was created in a **previous** version of ORD. Bentley releases **new** versions of ORD approximately every three months. Some new ORD versions are **minor version upgrades** and few updates were incorporated resulting in the new version being able to open a design file created in a previous version. Some new ORD versions are **major version upgrades**. In order to open the old design file in the new version of ORD, it must be converted to the new version by choosing **Yes**. As the dialog box says, a backup of the file using the old ORD version's parameters will be created.

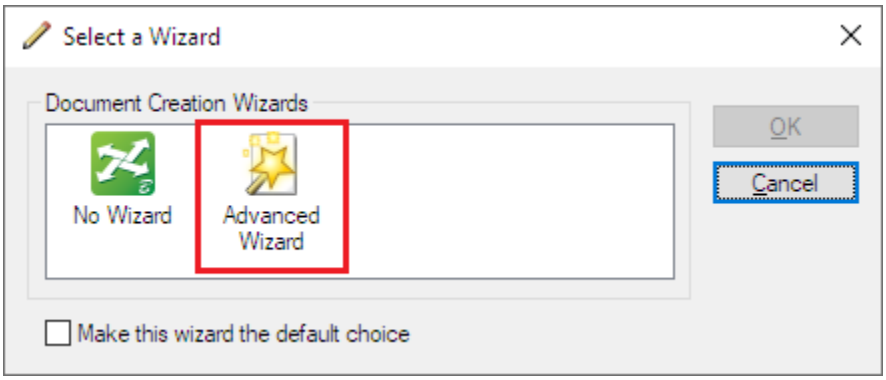
The user should note that updating the design file to the latest version **may not always be what the user should do.** If the file was created in the version that a specific entity such as another state uses and that entity has **not** upgraded to the current version loaded on the user's machine, upgrading the design file, finishing the design, and turning it in to the entity would result in a design file that the entity could not open since the file was upgraded to a version one or more ORD versions **ahead** of that entity. If this is true, then the user should **choose No** which enters the design file in the old format **read-only** and **does not upgrade it**.



Copying Files from Windows to ProjectWise

If the user needs to copy a file from Windows to ProjectWise, drag the file from **Windows File Explorer** over to the **ProjectWise Explorer** file listing pane. When the **Select a Wizard** dialog box appears, choose **Advanced Wizard,** and follow the procedures outlined above for Create Design Files and Open Design Files on ProjectWise and the file will be copied into the destination folder in ProjectWise Explorer.

Video 1-8 Copying Files from Windows to ProjectWise
HTTP LINK PLACEHOLDER



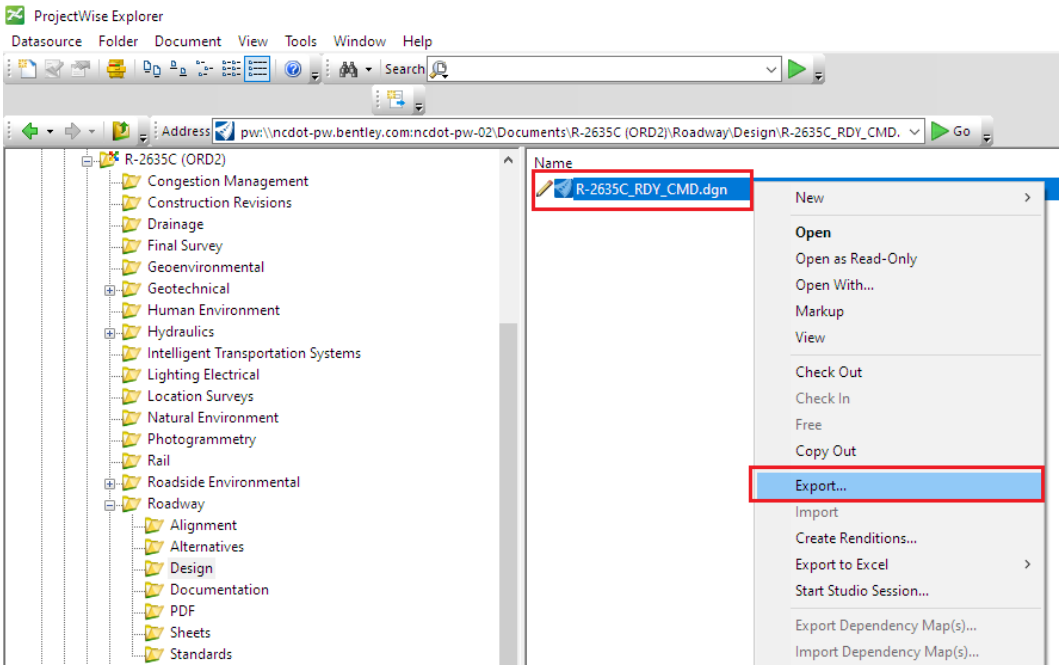
Exporting Files from ProjectWise to Windows

If the user needs to **export** a file from ProjectWise to Windows, this can be accomplished in ProjectWise Explorer.

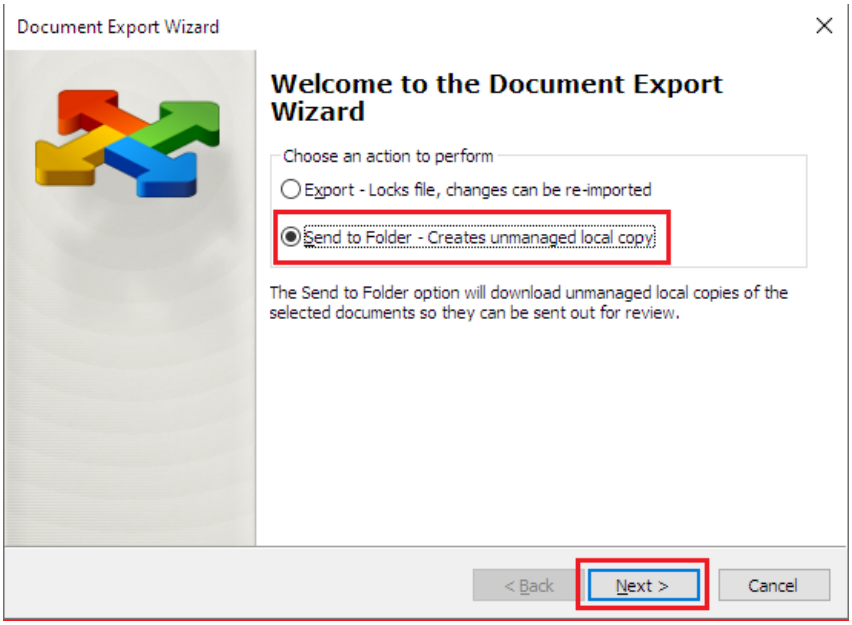
Video 1-9 Exporting Files from ProjectWise to Windows
HTTP LINK PLACEHOLDER

Exporting Files from ProjectWise to Windows

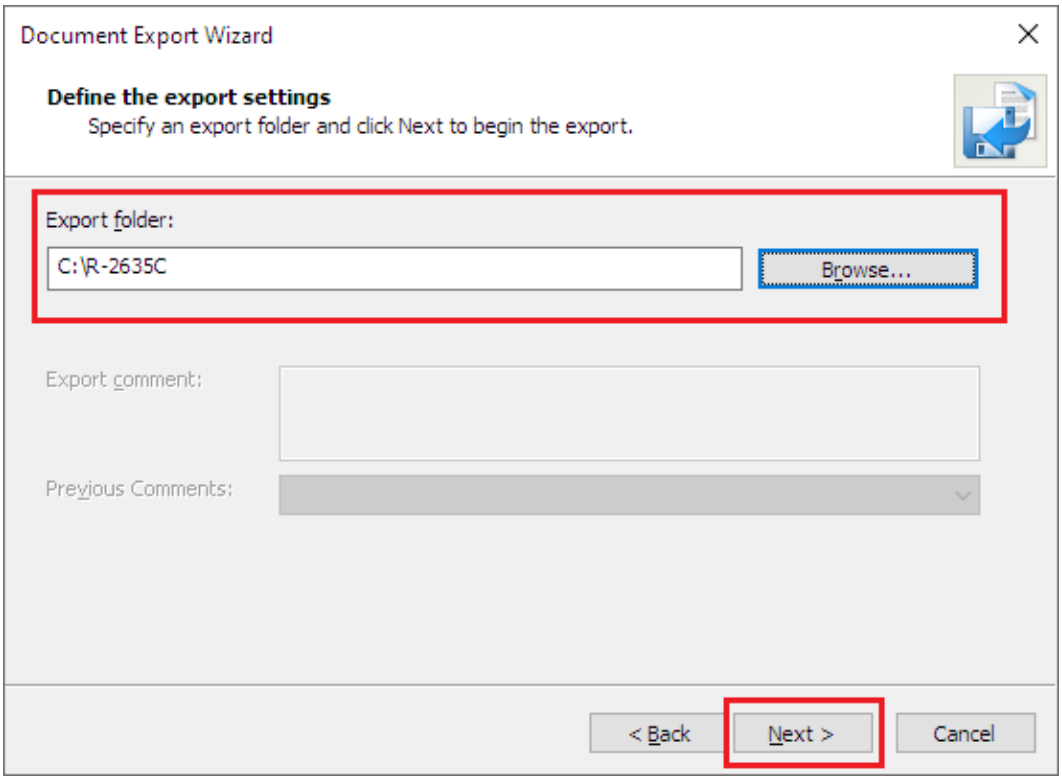
A. **Right-Click** over the file in the ProjectWise Explorer file listing pane and choose **Export**.



F. **Choose Send to Folder – Creates unmanaged local copy** and then choose **Next.**



G. Choose **Browse** and path to the destination folder. Choose **Next** and the selected file **as well as all of the reference files and nested reference files** will be copied to the destination folder.


Document Export Wizard
Define the export settings
Specify an export folder and click Next to begin the export.
Export folder:
C:\R-2635C
Browse...
Export comment:
Previous Comments:
< Back
Next >
Cancel