

MOVING FROM INROADS TO OPENROADS

Bentley Bash November 2023



ARCHWAY SYSTEMS

DANNY LAZEAR

Senior Application Engineer

Moving to OpenRoads Designer CE



Moving to OpenRoads Designer CE



PURPOSE

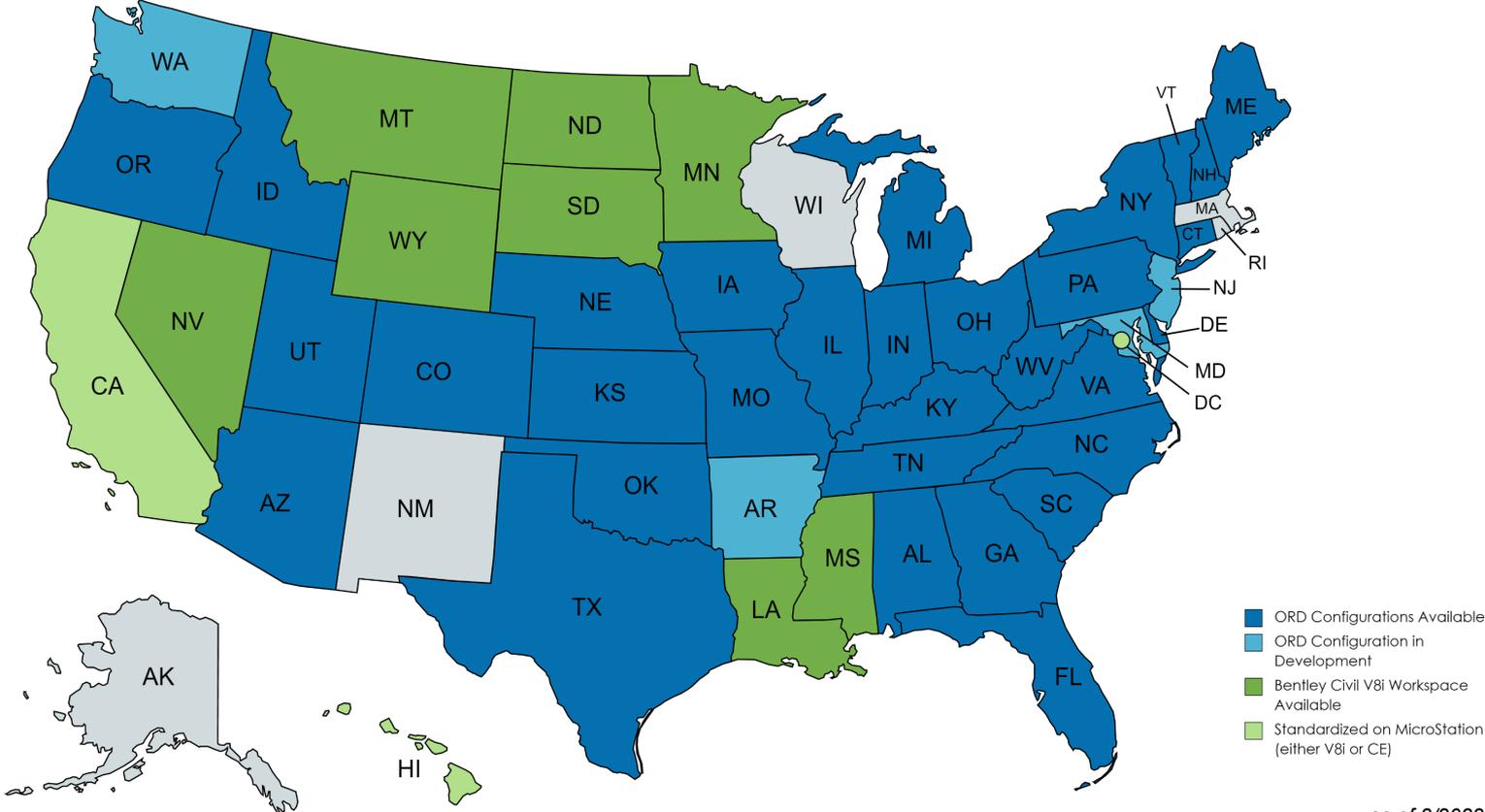
Project
Requirements

Industry
Standards

Functionality

Where are we coming from?

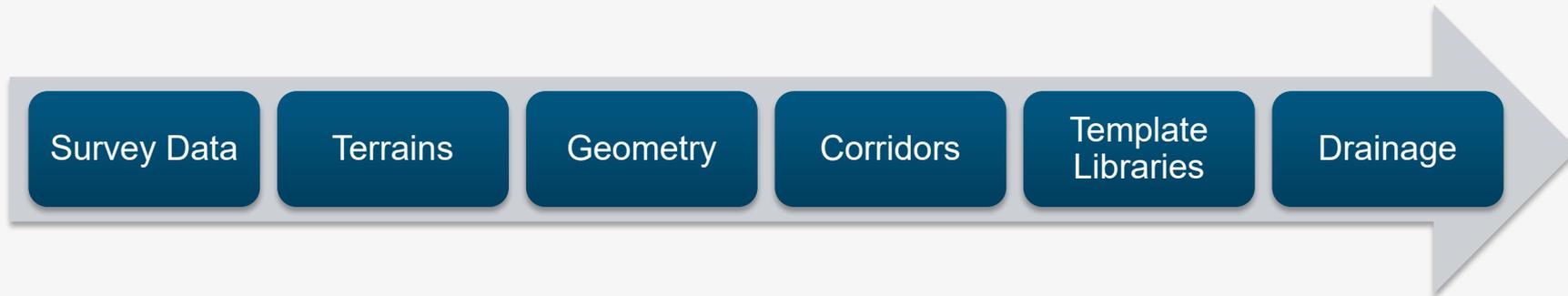




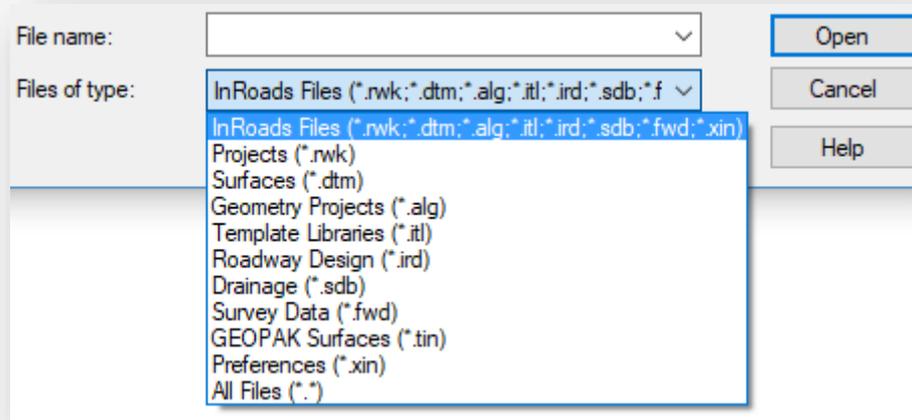
Moving to OpenRoads Designer CE



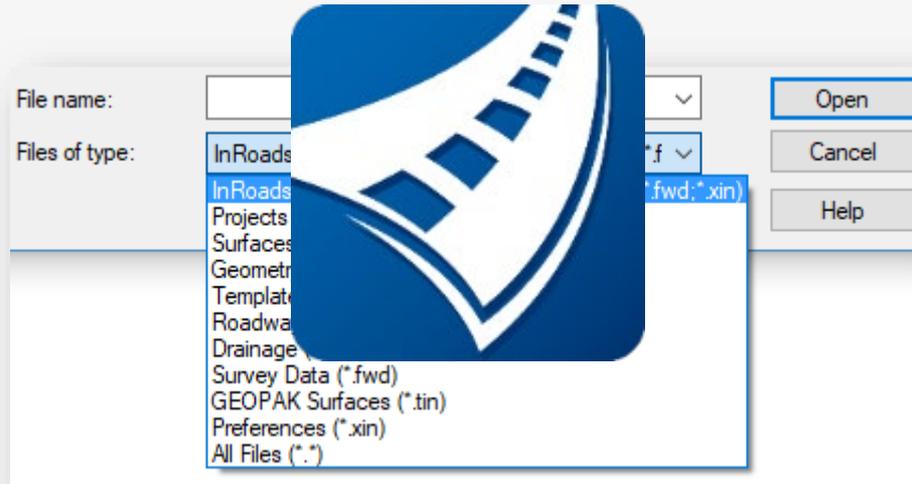
PROJECTS



What happened to all my file types?



What happened to all my file types?



Is everything all in one file now?

Yes and no...

- Yes,

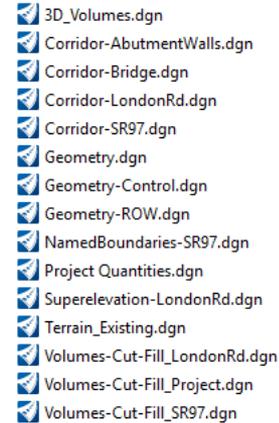
It is all in one file *format* now



MicroStation DGN file

- No,

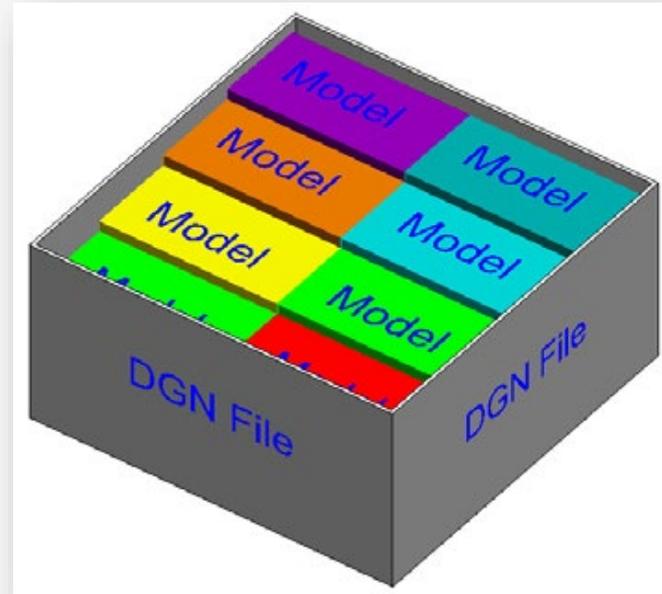
It is **NOT** all stored in one DGN file

A white rectangular box with a drop shadow containing a list of 16 DGN files, each preceded by a small blue icon of a document with a checkmark.

- 3D_Volumes.dgn
- Corridor-AbutmentWalls.dgn
- Corridor-Bridge.dgn
- Corridor-LondonRd.dgn
- Corridor-SR97.dgn
- Geometry.dgn
- Geometry-Control.dgn
- Geometry-ROW.dgn
- NamedBoundaries-SR97.dgn
- Project Quantities.dgn
- Superelevation-LondonRd.dgn
- Terrain_Existing.dgn
- Volumes-Cut-Fill_LondonRd.dgn
- Volumes-Cut-Fill_Project.dgn
- Volumes-Cut-Fill_SR97.dgn

How is a model different than a file?

- 1 DGN file
- Many models
 - Design
 - Drawing
 - Sheets
- 2D or 3D



Survey Data

InRoads V8i

FWD

- From Graphics
- From Text File
- From Raw Survey Data Formats

ORD

DGN

- From Graphics
- From Text File
- From Raw Survey Data
- From FWD File

Terrain Models

InRoads V8i

DTM

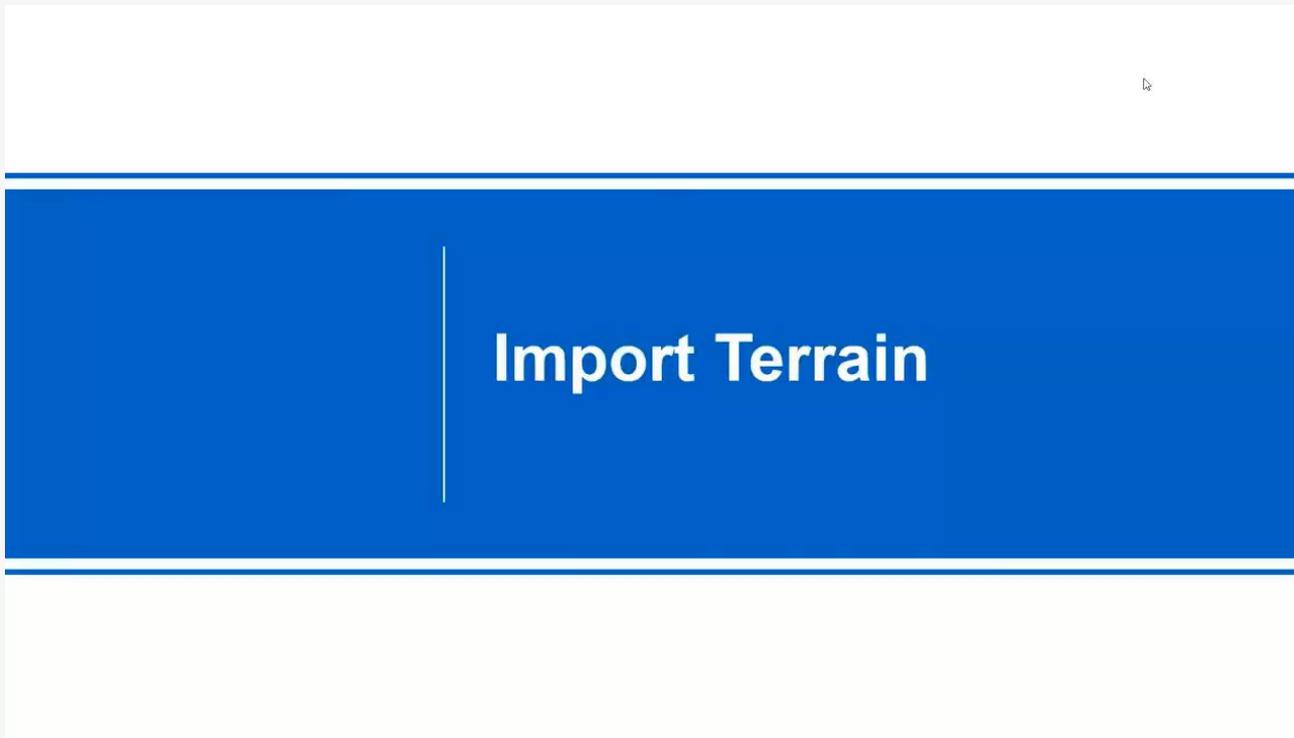
- From Graphics
- From Text File
- From Survey

ORD

DGN

- From Graphics
- From Text File
- From Survey
- From DTM or TIN
- Export to DTM, LandXML, TIN

Import Terrain Models



Geometry

InRoads V8i

ALG

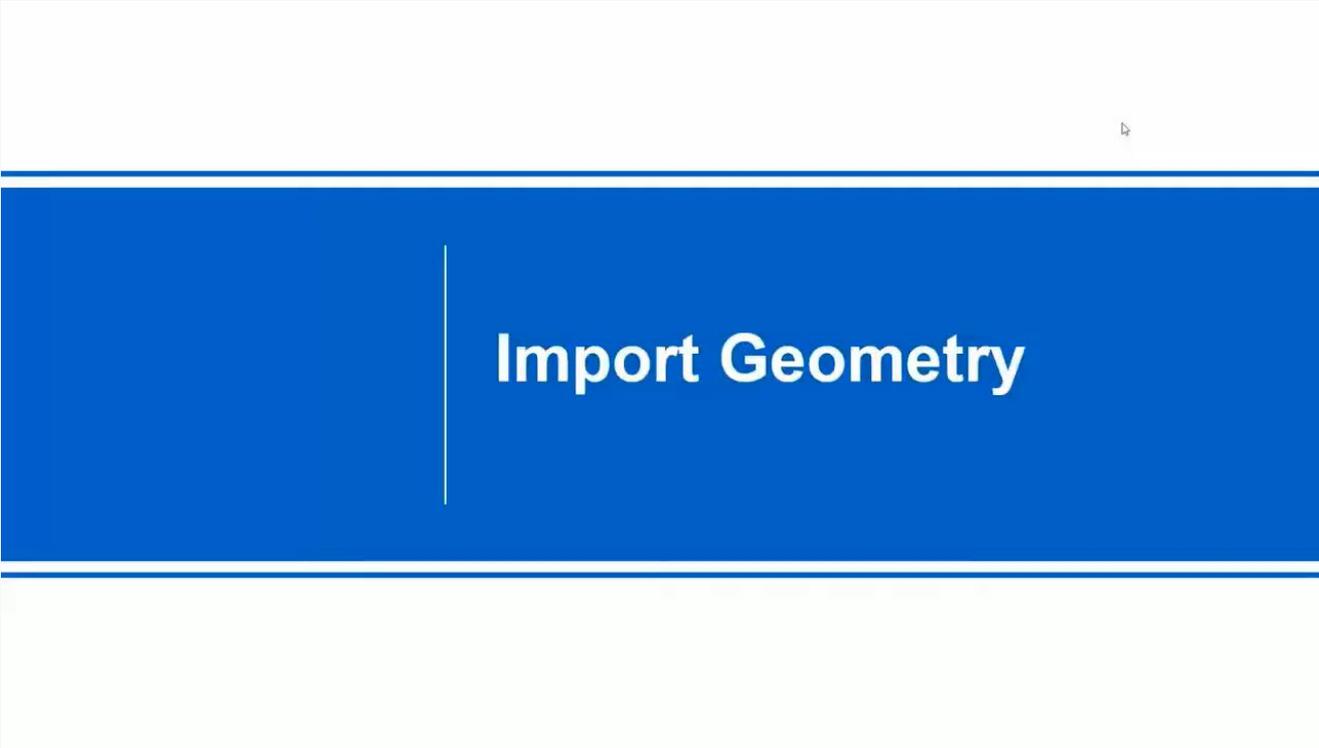
- Horizontal
- Vertical

ORD

DGN

- Horizontal
- Vertical
- From ALG

Import Geometry



Import Geometry

Corridors

InRoads V8i

IRD

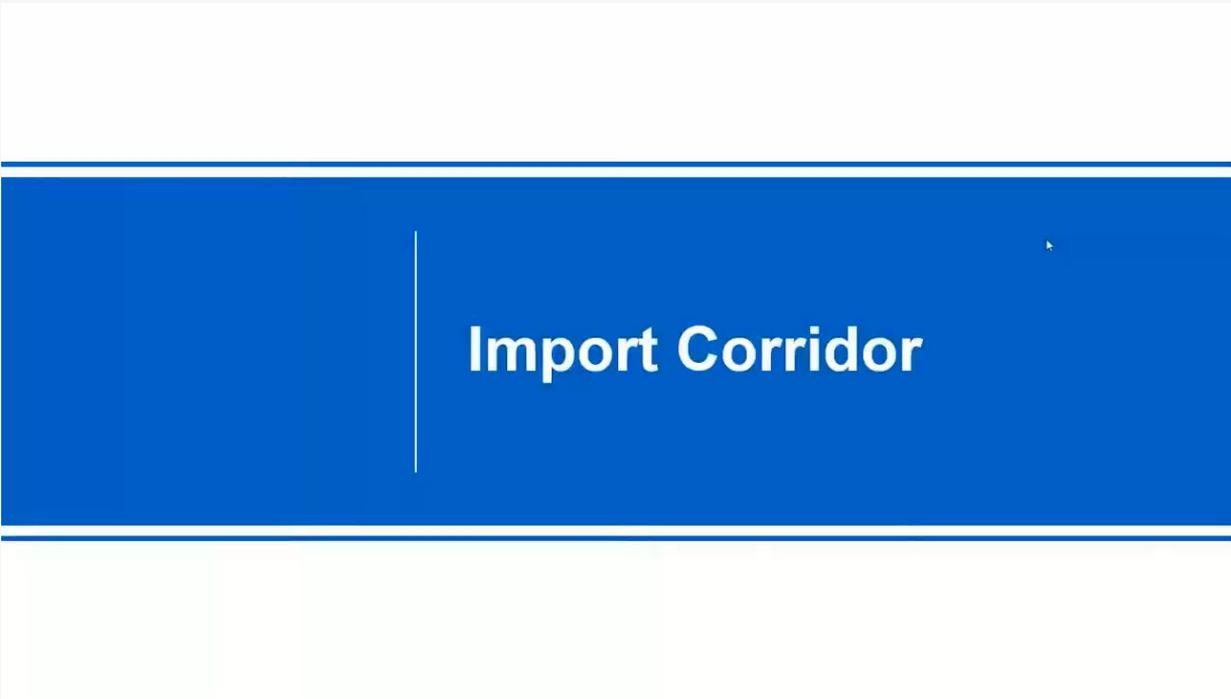
- Roadway Designer
- Templates
- Point Controls, Parametric Constraints, etc.
- Create Design Surface

ORD

DGN

- 2D/3D Corridor Modeling Workflow
- Templates
- Point Controls, Parametric Constraints, etc.
- Create 3D Mesh Objects
- Import Superelevation

Import Corridor



Import Corridor

Import Superelevation

Import Superelevation
Option 1: CSV

Templates

InRoads V8i

ITL

- Template Points
- Template Components
- Styles

ORD

ITL

- Template Points
- Template Components
- Feature Definitions
- Superelevation Flag

Templates - ITL Remapper



ITL Re-Mapper

The image shows a software interface for 'ITL Re-Mapper'. It features a central blue horizontal bar with the text 'ITL Re-Mapper' in white. The bar is flanked by white space above and below, and is separated from the rest of the interface by thin blue lines. A vertical white line is visible on the left side of the blue bar.

Drainage

InRoads V8i

SDB

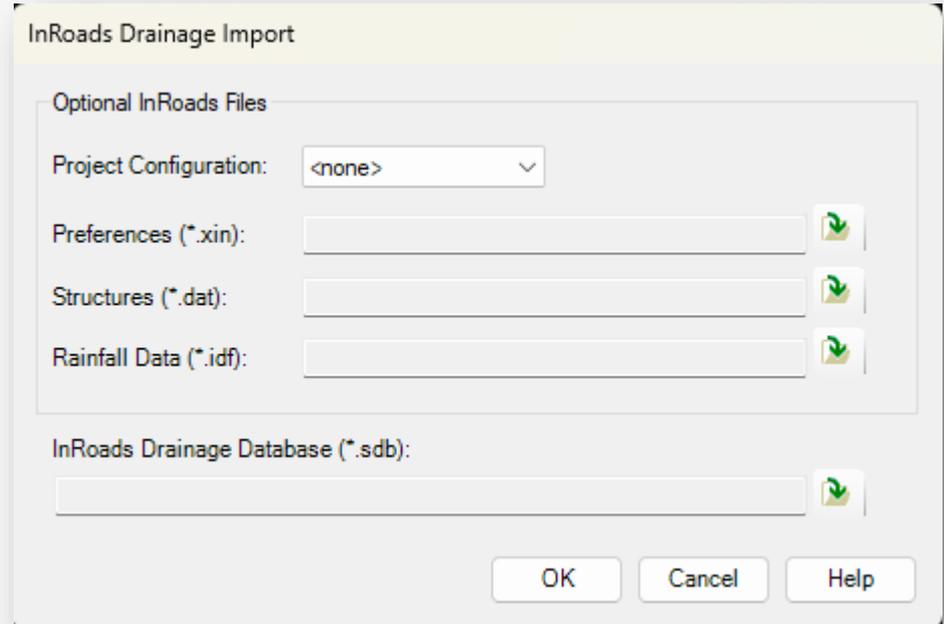
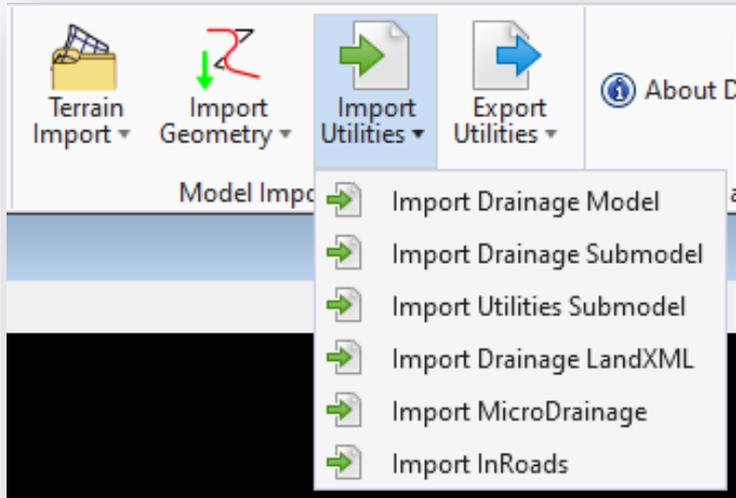
- Lay Out tools

ORD

DGN

- Nodes/Conduit
- Import Utilities from InRoads

Drainage



Moving to OpenRoads Designer CE



PRODUCT

Configuration
Files

ORD
Resources

Configuration Files

ConfigurationSetup.cfg

WorkSpaceSetup.cfg

WorkSpaces

Organization

Organization-Civil

WorkSpace Standards
.cfg

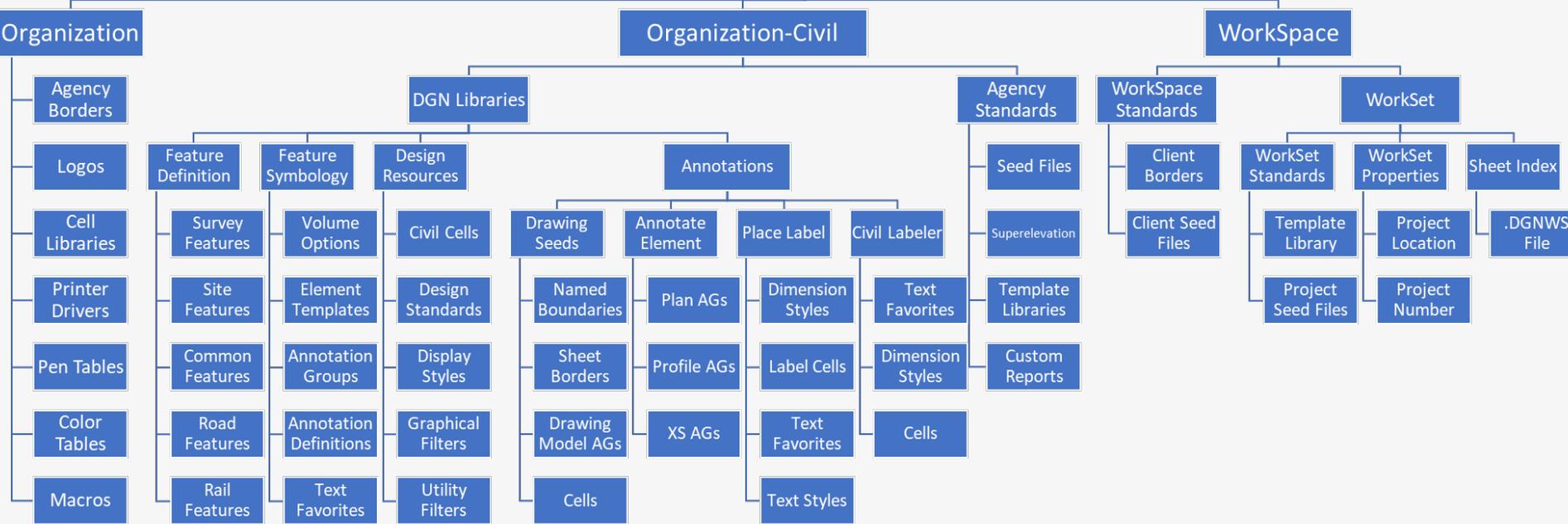
WorkSets

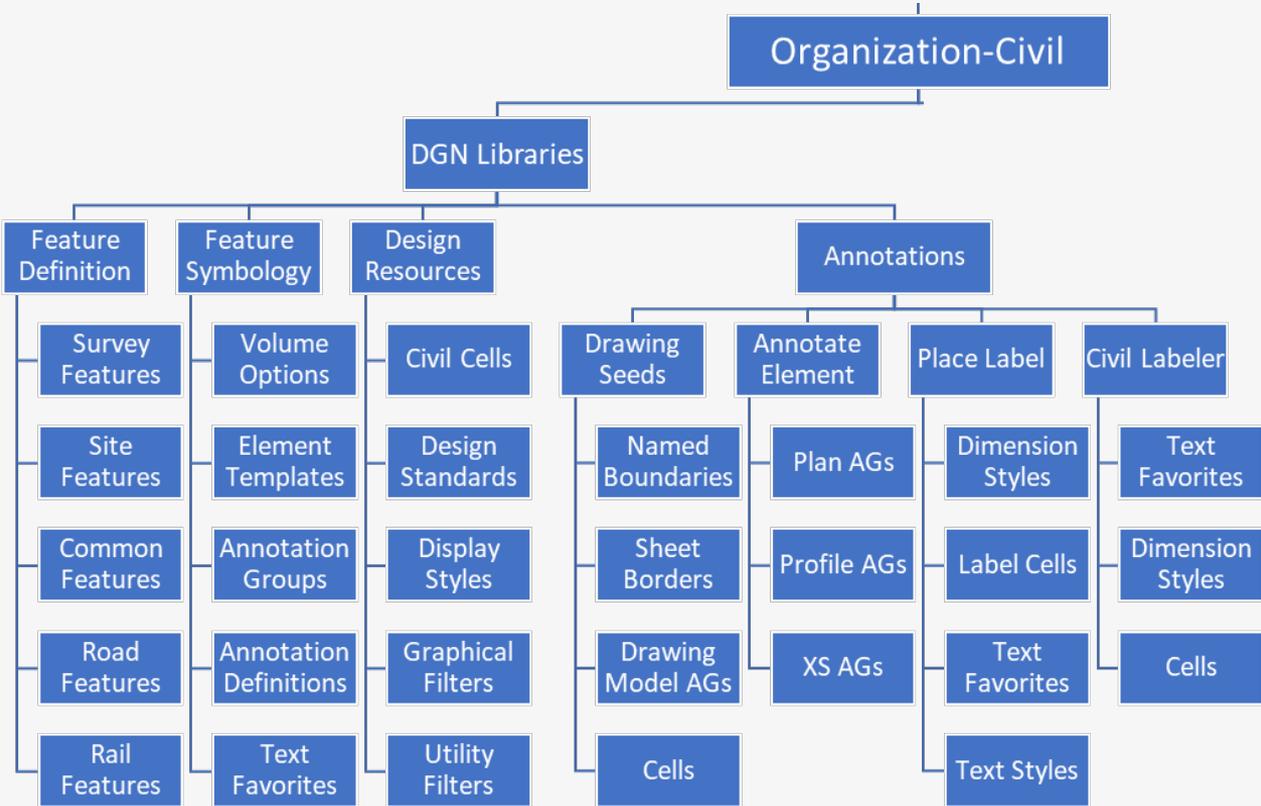
Organization
Standards .cfg

Civil Organization
Standards .cfg

WorkSet Standards
.cfg

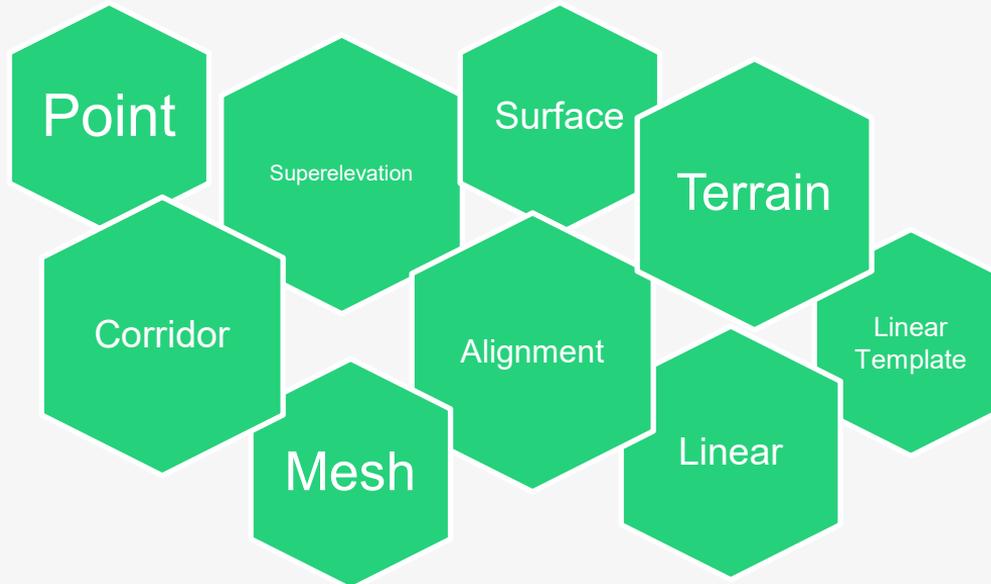
MicroStation CONNECT Platform
 OpenRoads Designer
 CONNECT Configuration





What is a Feature Definition anyway?

- Same thing as a style in SS2...only different

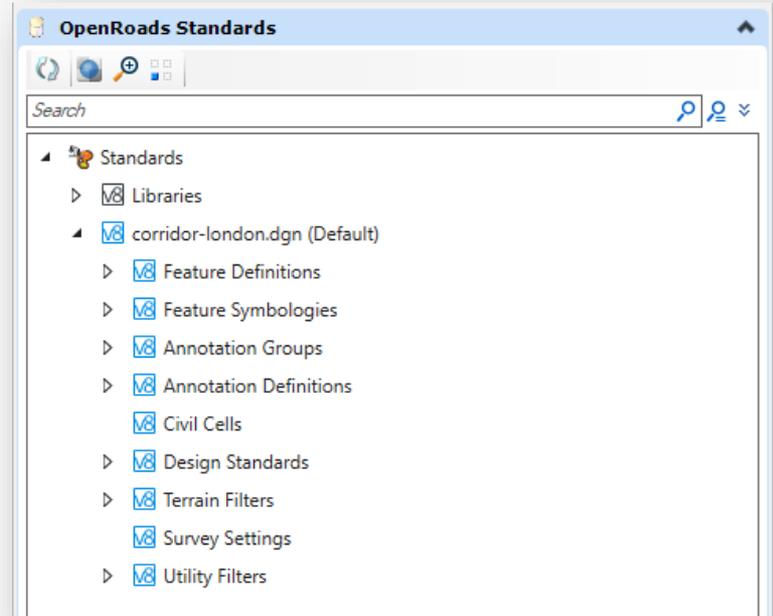


Features Comparison

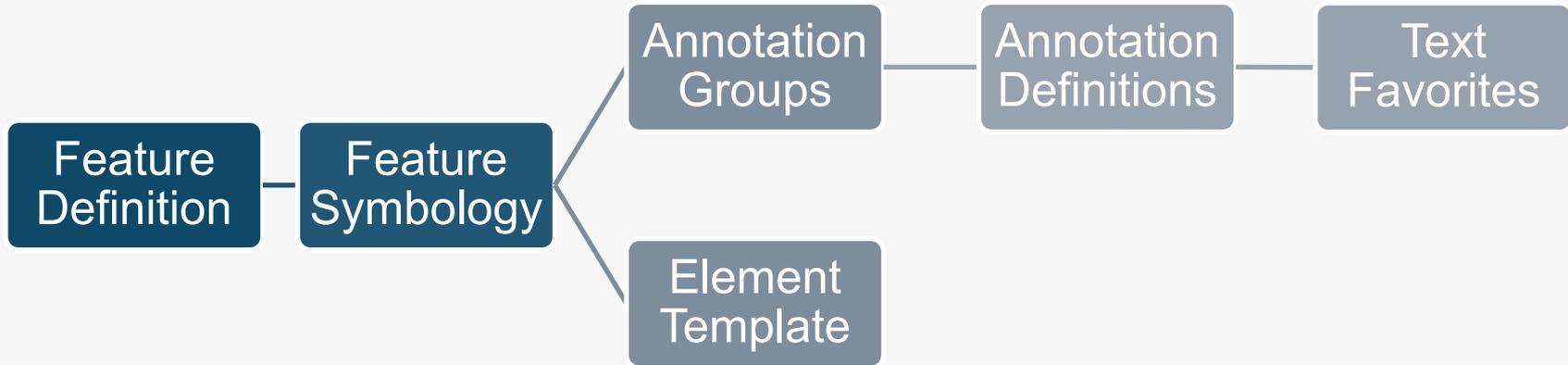
SELECTseries 3/4	OpenRoads Designer CONNECT Edition	
Point Features	Point Features	
Linear Features	Linear Features	
	Alignment Features	<i>(New Feature Type)</i>
Surface Features	Mesh Features	<i>(Renamed from "Surface")</i>
	Terrain Features	<i>(New Feature Type)</i>
Project Settings	Corridor Feature	<i>(New Feature Type)</i>
	Linear Template	<i>(New Feature Type)</i>
	Surface Feature	<i>(New Feature Type)</i>
	Superelevation Feature	<i>(New Feature Type)</i>

Still...what is a Feature Definition?

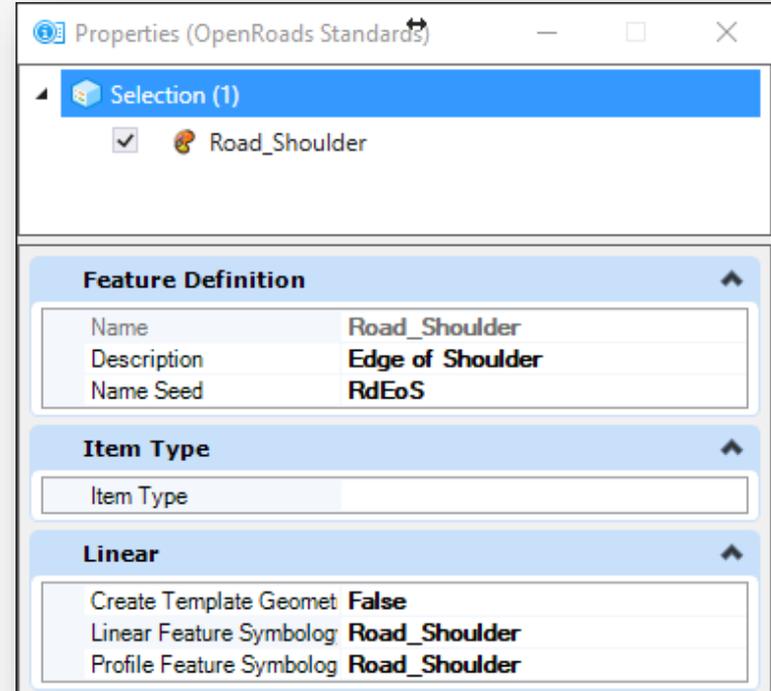
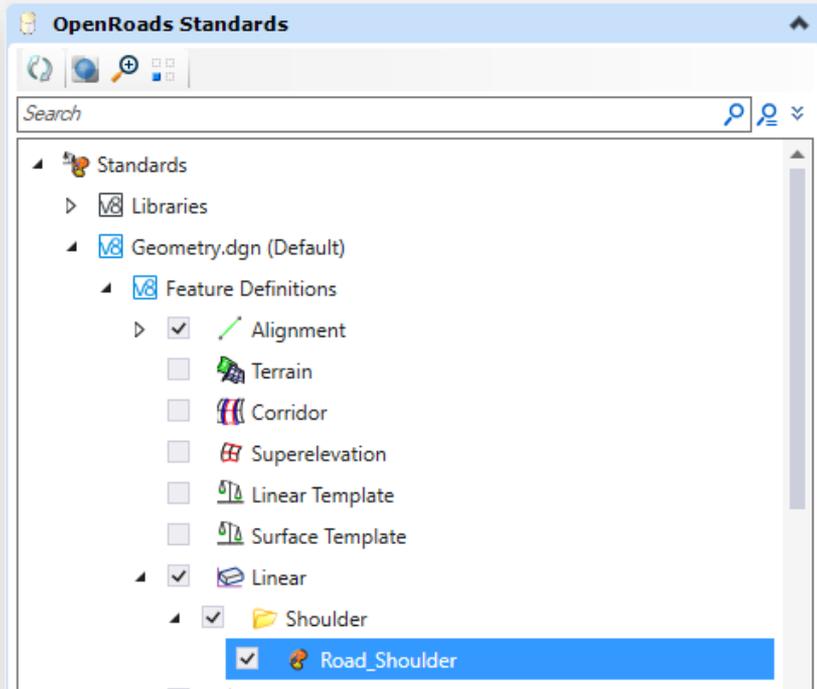
- More than just a Style with a Named Symbology



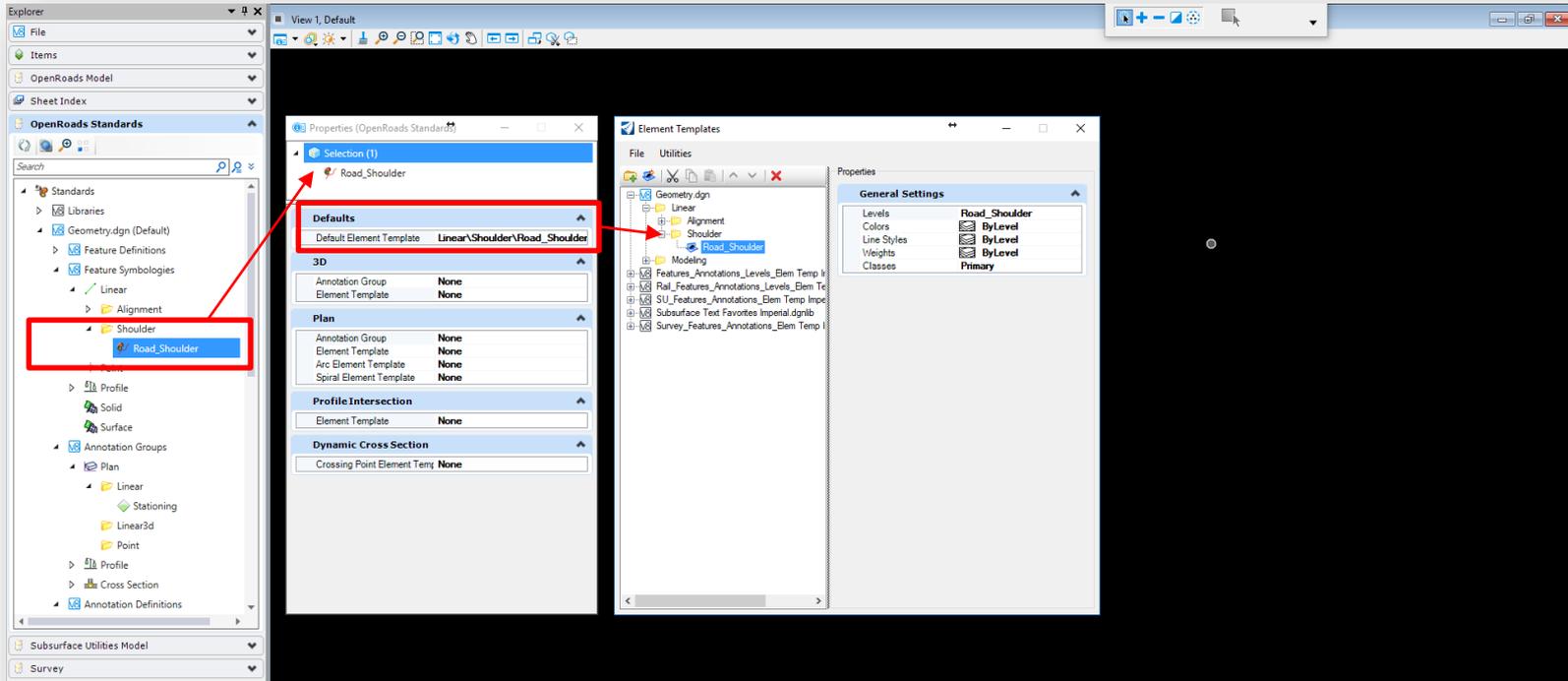
Feature Definition Hierarchy



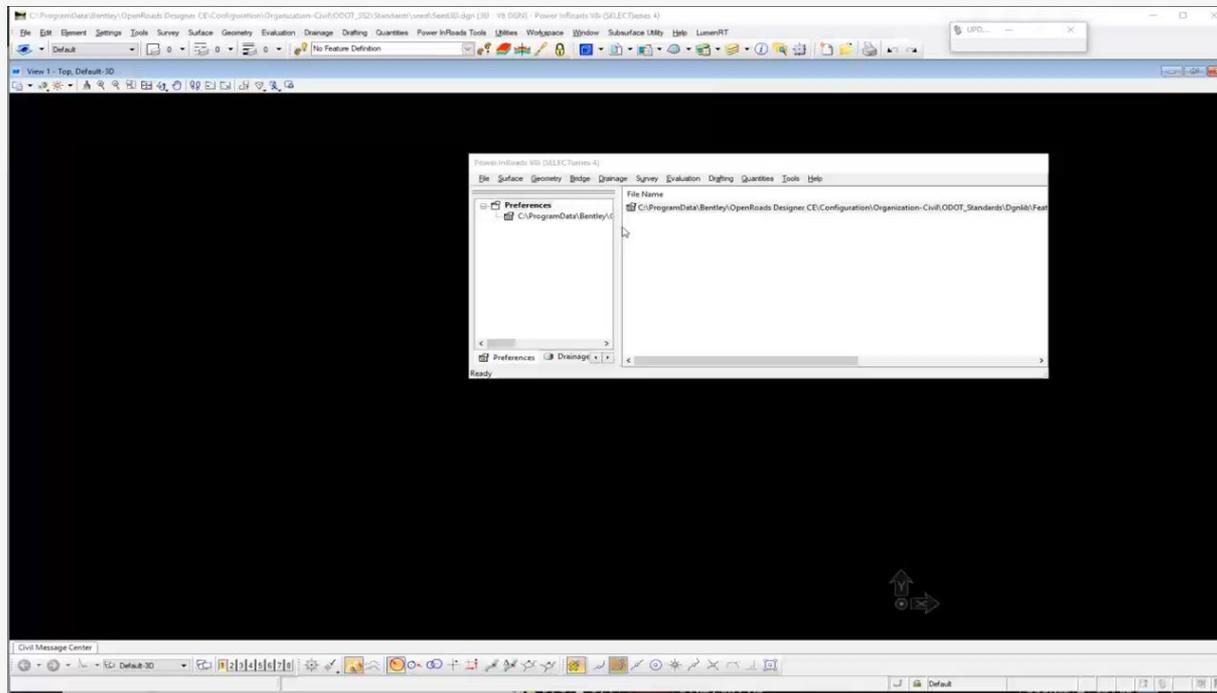
Feature Definitions



Feature Symbologies



XIN Extractor



XIN Extractor

- https://communities.bentley.com/products/road_site_design/w/road_and_site_design_wiki/40487/video-migrating-xin-to-feature-definitions-feature-symbologies-and-element-templates

7 Levels of CONNECT Edition Configuration

System

Application

Organization

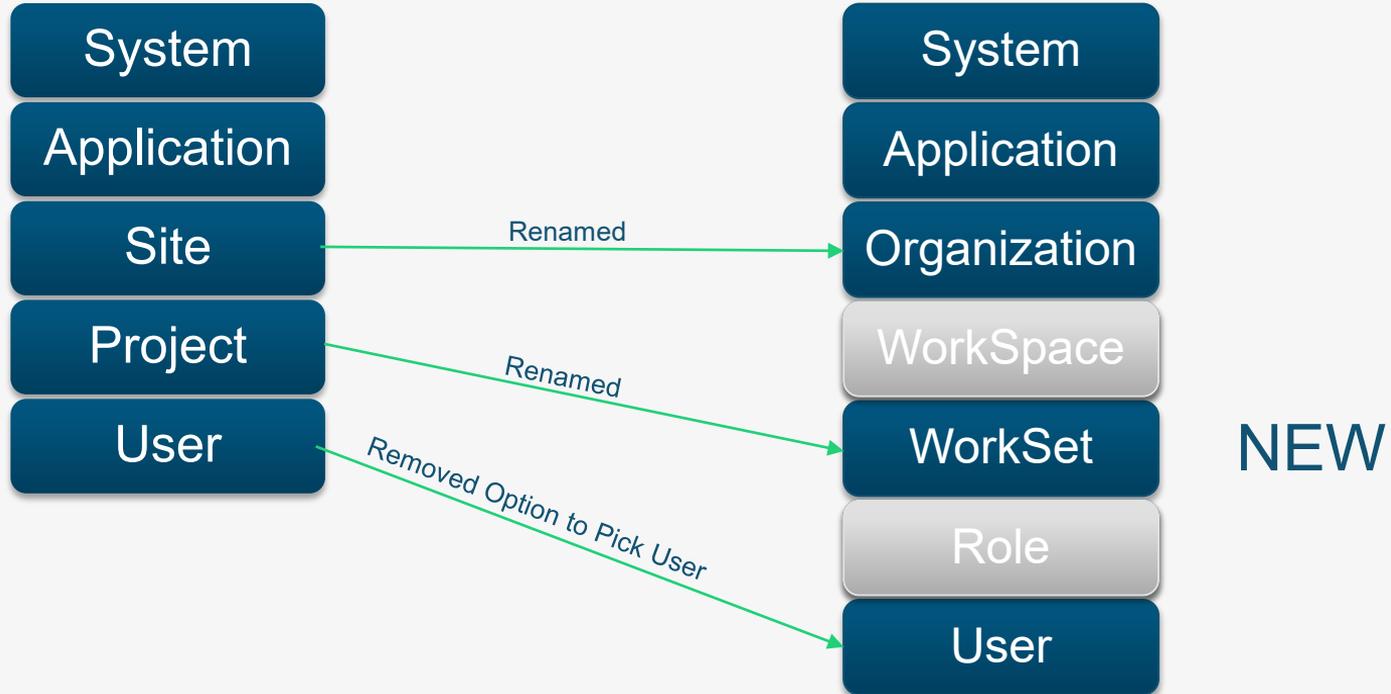
WorkSpace

WorkSet

Role

User

V8i Workspace vs CONNECT Edition Configuration



Launch OpenRoads Designer

System

- Allows the software to run on the PC
- Users/Admins should leave this alone

Application

- Loads application-specific files
- Users/Admins should leave this alone

Launch OpenRoads Designer

System

Application

ConfigurationSetup.cfg

WorkSpaceSetup.cfg

Organization

User Selects WorkSpace

WorkSpace

Client A

Client B

Client C

WorkSpace Populates WorkSet List

WorkSpace

Client A

WorkSet

Project 1

Project 2

Project 3

WorkSpace/WorkSet Loads Appropriate Resources

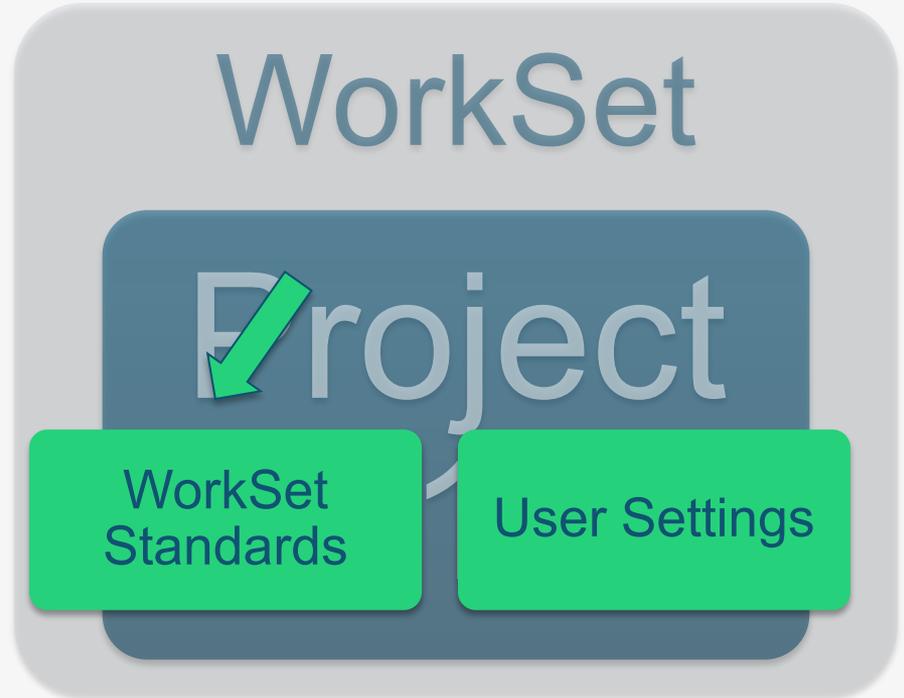
WorkSpace

Client A

WorkSet

Project
1

WorkSpace/WorkSet Loads Appropriate Resources



Project 1 directly for Client A

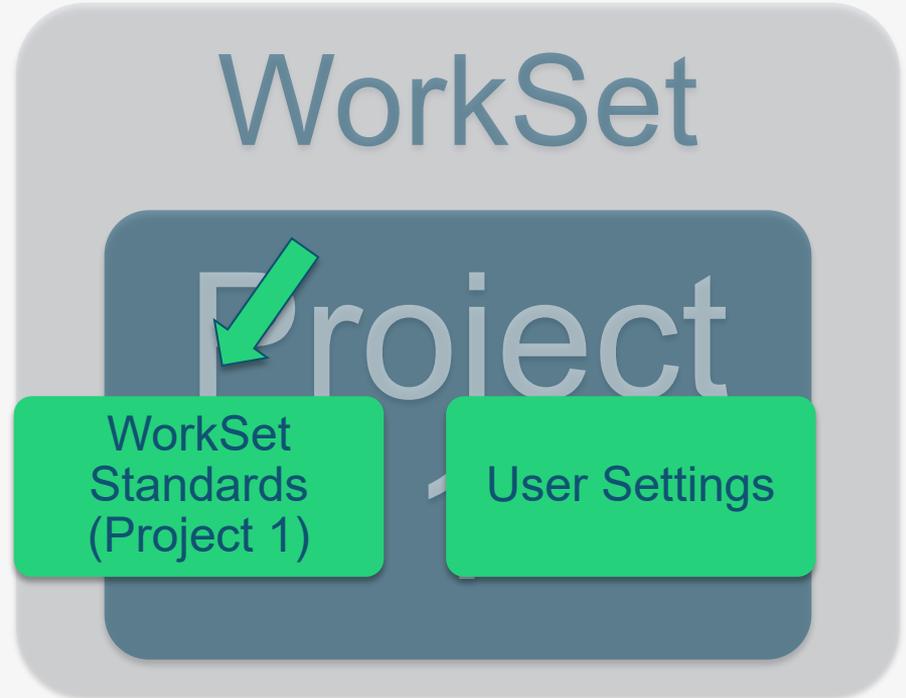
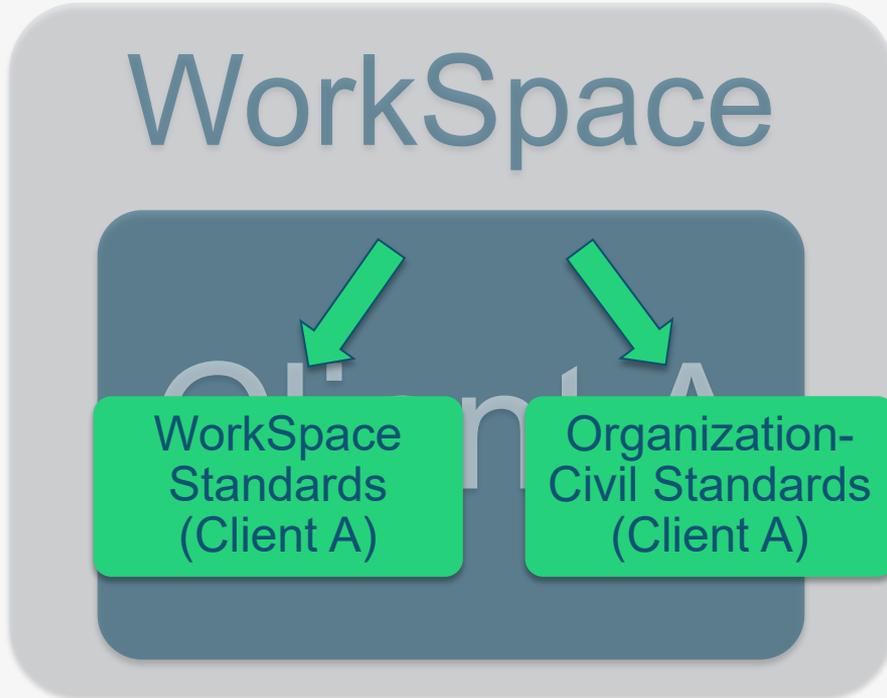
WorkSpace

Client A

WorkSet

Project
1

Project 1 directly for Client A



Sub to Client A for Project 2 (which is for Owner X)

WorkSpace

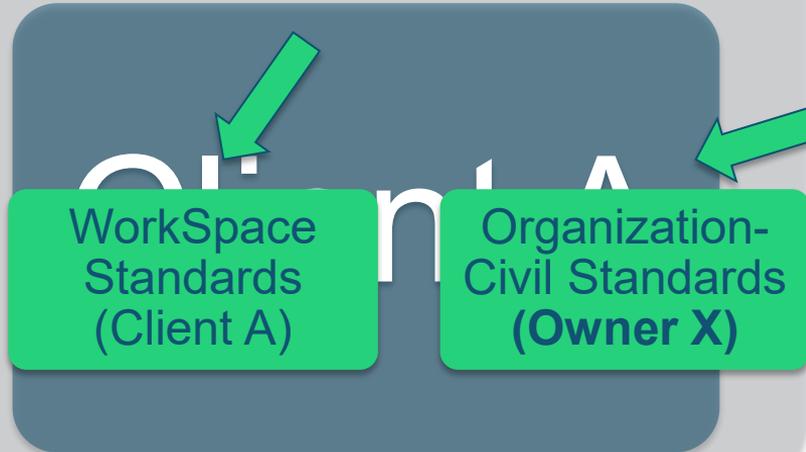
Client A

WorkSet

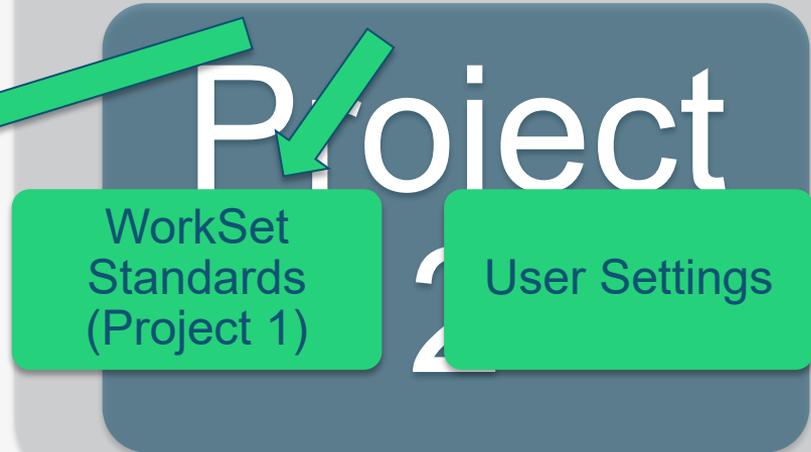
Project
2

Sub to Client A for Project 2 (which is for Owner X)

WorkSpace



WorkSet



Organization-Civil

Can be set at the WorkSpace or WorkSet level

Example – Set by the WorkSpace

- 3 Municipal clients all use DOT standards
- We want a WorkSpace for each Municipality
- But each WorkSpace points to DOT Organization-Civil standards

Example – Set by the WorkSet

- You are a sub to a prime who is working on multiple projects
- Those projects are for different owners/clients
- One WorkSpace for that one prime but multiple WorkSets
- Each WorkSet can point to a different Organization-Civil standard

User Settings

- By default, controlled by Windows user login
- Stored in Local App Data folder
- Customizations/Settings can include:
 - Personal.dgnlib
 - Keyboard Shortcuts
 - Function Key menu
 - Button Assignments
 - User Preferences

Remember our launch sequence?

System

Application

ConfigurationSetup.cfg

WorkSpaceSetup.cfg

Organization

WAIT! New Managed Configurations

System

Application

Configuration.xml

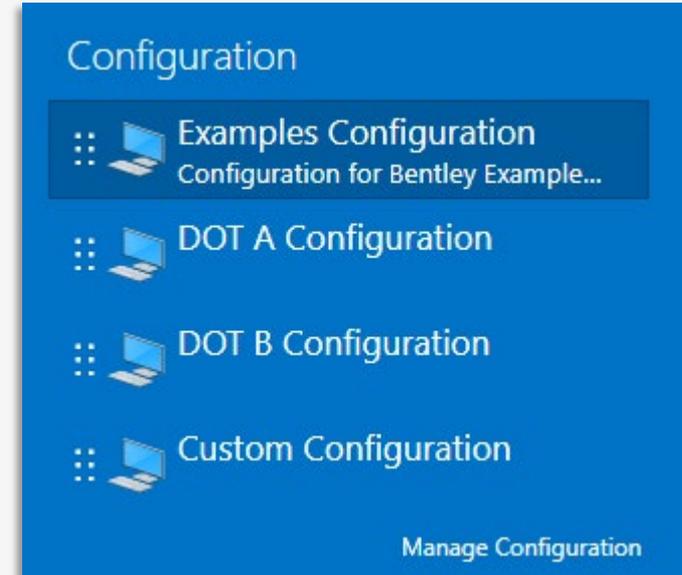
ConfigurationSetup.cfg

WorkSpaceSetup.cfg

Organization

Managed Configurations

- Allows redirect of entire Configuration folder
- Before ConfigurationSetup.cfg is ever read
- Currently stored in Local App Data folder
 - MicroStation 2023 platform will give ability to change this location via
MS_CONFIGURATIONXML_PATH
- Included with 2022 Release 1 (10.11)



Moving to OpenRoads Designer CE

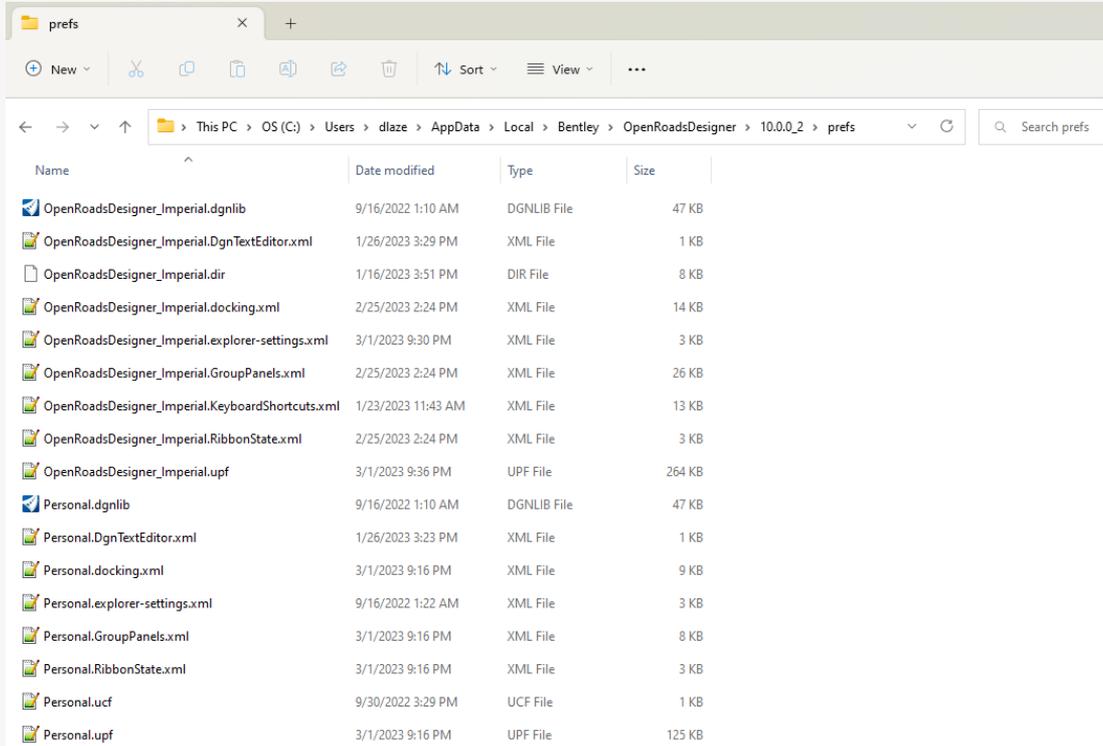


PEOPLE

Users

Licensing

User Settings

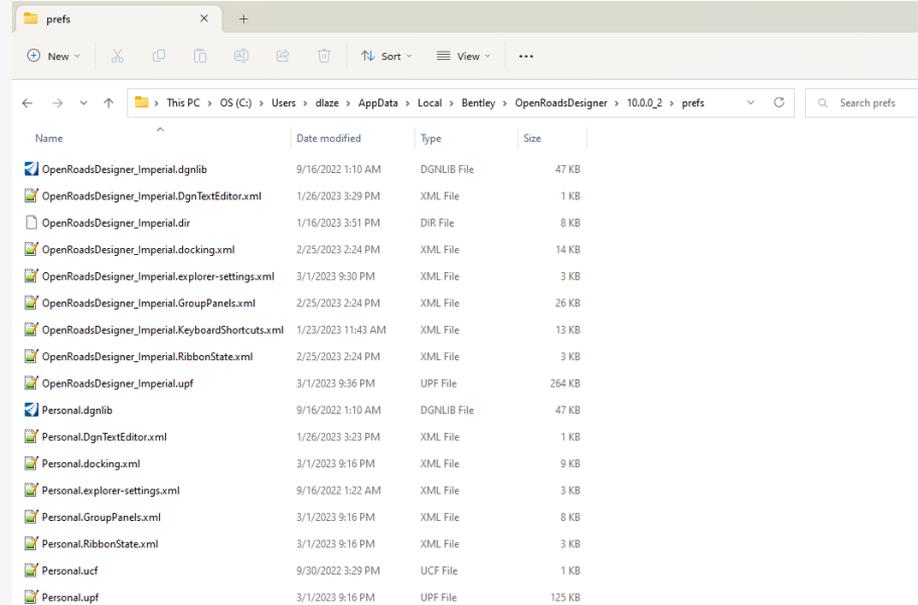


The screenshot shows a Windows File Explorer window titled 'prefs'. The address bar indicates the path: This PC > OS (C:) > Users > dlaze > AppData > Local > Bentley > OpenRoadsDesigner > 10.0.0_2 > prefs. The search bar contains 'Search prefs'. The main area displays a list of files and folders with columns for Name, Date modified, Type, and Size.

Name	Date modified	Type	Size
 OpenRoadsDesigner_Imperial.dgnlib	9/16/2022 1:10 AM	DGNLIB File	47 KB
 OpenRoadsDesigner_Imperial.DgnTextEditor.xml	1/26/2023 3:29 PM	XML File	1 KB
 OpenRoadsDesigner_Imperial.dir	1/16/2023 3:51 PM	DIR File	8 KB
 OpenRoadsDesigner_Imperial.docking.xml	2/25/2023 2:24 PM	XML File	14 KB
 OpenRoadsDesigner_Imperial.explorer-settings.xml	3/1/2023 9:30 PM	XML File	3 KB
 OpenRoadsDesigner_Imperial.GroupPanels.xml	2/25/2023 2:24 PM	XML File	26 KB
 OpenRoadsDesigner_Imperial.KeyboardShortcuts.xml	1/23/2023 11:43 AM	XML File	13 KB
 OpenRoadsDesigner_Imperial.RibbonState.xml	2/25/2023 2:24 PM	XML File	3 KB
 OpenRoadsDesigner_Imperial.upf	3/1/2023 9:36 PM	UPF File	264 KB
 Personal.dgnlib	9/16/2022 1:10 AM	DGNLIB File	47 KB
 Personal.DgnTextEditor.xml	1/26/2023 3:23 PM	XML File	1 KB
 Personal.docking.xml	3/1/2023 9:16 PM	XML File	9 KB
 Personal.explorer-settings.xml	9/16/2022 1:22 AM	XML File	3 KB
 Personal.GroupPanels.xml	3/1/2023 9:16 PM	XML File	8 KB
 Personal.RibbonState.xml	3/1/2023 9:16 PM	XML File	3 KB
 Personal.ucf	9/30/2022 3:29 PM	UCF File	1 KB
 Personal.upf	3/1/2023 9:16 PM	UPF File	125 KB

User Settings

- Initially controlled by Windows user
- Stored in Local App Data folder
- Customizations/Settings can include:
 - Personal.dgnlib
 - Keyboard Shortcuts
 - Function Key menu
 - Button Assignments
 - User Preferences



Licensing

SelectSERVER

Activation Key

Unmanaged license pool

No warning for overuse

Licenses assigned to computers

Subscription Entitlement Services (SES)

CONNECTION Client

User login – IT knows the user

Warnings for exceeding license cap

User only has access to entitled products

THANK YOU!

Danny Lazear

Senior Application Engineer

Danny@archwaysystems.com

714-374-0440

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