



Date: 6-25-2025

Workspace Configuration Version: CDOT.2022.R3-03

Software Versions:

- **OpenRoads Designer CE – 2022 Release 3 (10.12.02.4)**
- **ProjectWise Explorer CE (10.00.03.453)**

The CDOT ORD workspace standards have been developed and tested using OpenRoads Designer Connect Edition 2022 Release 3 (ORD 10.12). These standards are under continuous development and are subject to change in future updates.

A summary of the major enhancements for this WorkSpace release is included below.

Installation:

Local Installation Path:

- C:\ProgramData\Bentley\OpenRoads Designer CE 10.12\Configuration\

Table of Contents

- 1. Bentley Service Tickets**
- 2. Configuration**
- 3. Modifications to General Items**
- 4. Modifications to Survey configuration**
- 5. Modifications to Right of Way configuration**
- 6. Modifications to Drainage/Utility configuration**
- 7. Modifications to Traffic configuration**
- 8. Modifications to Bridge configuration**
- 9. Modifications to Road configuration**

1. Bentley Service Tickets

SR 7001224258 - Extract Does not Prompt for Surface
Defect #1125400
SR 7001224259 - Direct Utility Conflicts Not Detected
Defect #1125942 / #1125901
SR 7001291860 - Longitudinal Slope Wrong
Defect #1139138
SR 7001407189 - Element Template Settings Ignored
Defect #881012

2. Configuration

- **Bridge**
 - Updated OBM configuration file to include updated cell library names.
 - Update configuration variable MS_DGNLIBLIST_TEXTFAVORITES to include the new OpenBridge Text Favorites.
- **Misc**
 - Removed the UTSN_CAPABILITY variable for Color Tables
 - Add variable MS_REF_MAXNESTDEPTH=10

3. Modifications to General Items

- **Seed Files**
 - Update seed files to set the chamfer settings.
- **Cells:**
 - Updated the M&S Standards cell border.
 - Updated Logo cells to match the CDOT color scheme.
 - Added Logo cell for black and white only.
 - Updated Sheet Border cells to not be annotation cells.
 -
 - Updated Title Sheet Border cells to remove the PoDi information.
- **Dimension Styles**
 - Toggled on *Join When Text Outside* option for Extension Lines in dimension style for CDOT 3 and CDOT 4.
 - Set the text to place on BRDG_DIMENSION in dimension style for CDOT 3 and CDOT 4.
- **Text Styles**
 - Created Text Style for Monospace82 BT font.
- **Levels**
 - Added level for Reality Modeling.
- **Scales**
 - Add 1/2"=1' to drawing scales.
- **Printing**
 - Fixed the printing of the DRAFT_Matchline level.
- **GUI**

- Added Keyin to Set Subscale and Superscale to 70%.
- Added Keyin to revert Subscale and Superscale back to the default value (30%).
- Added a link to the FHWA Webpage.
- Added a link to the CDOT Training Webpage.
- **Item Types**
 - Updated Item Type CDOT Pay item lookup list.
 - Update the CDOT Bid List CSV file.
 - Added Item Type Libraries and Tabulation Reports for:
 - Clearing and Grubbing
 - Removals
 - Reset-Relay-Repair
 - Seeding
 - Mulching
 - Vegetation
 - Concrete Pavement
 - Drainage Structures
 - Inlets-Manholes-Vaults
 - Guardrail
 - Fence
 - Sidewalks
 - Curb and Gutter
 - Median Cover Material
 - Cattle Guards
 - Pavement Markings

4. Modifications to Survey configuration

- **Apps_VBA**
 - Added missing macro RotateCells.mvba
- **Element Templates**
 - Updated Contours calculated features to use None as the smoothing option for Element Templates in Terrains > Survey.
 - Added Priority = -100 to Element templates in Terrains > Survey and Terrains > Terrain Features.

5. Modifications to Right of Way configuration

- **Levels**
 - Removed Survey Monuments Level filter from CDOT_ROW-Levels_ElemTemp_Feat_TextFav_Annot.dgnlib
- **Reports**
 - Updated style sheets to adjust area read out to properly indicate area in square feet.
 - CDOT Air Rights Easement Description.xsl

- CDOT Fee Parcel Description.xsl
- CDOT Slope Easement Description.xsl
- CDOT Temporary Easement Description.xsl
- CDOT Utility Easement Description.xsl

6. Modifications to Drainage/Utility configuration

- **GUI**
 - Removed ribbon icon that accessed IDFConvert.mvba
 - Updated Hydraulics Drafting ribbon panel.
- **Macros / Apps / VBA**
 - Removed IDFConvert.mvba
- **Display Styles**
 - Added CDOT_DU-DisplayStyles.dgnlib with Display Styles and Display Rules for visual depiction of utility quality level.
 - SUE > QL-Colored
 - All
 - Communications
 - Electric
 - Gas
 - Sanitary
 - Storm
 - Water
 - SUE > QL-Shaded
 - All
 - Communications
 - Electric
 - Gas
 - Sanitary
 - Storm
 - Water
- **Catalog and Prototypes**
 - Created Prototype _Land Use Based – SCS
 - To be used for SCS curve-based calculations.
 - Runoff Method: Unit Hydrograph
 - Area Defined By: Land Cover Areas
 - SCS NC (Default) 70
 - Loss Method SCS CN
 - Drying Time (days): 7.0
 - Unit Hydrograph Method: SCS Unit Hydrograph
 - Tc Input Type: Composite
 - Tc Data Collection: SCS Lag
 - SCS Unit Hydrograph Method: Devault Curvilinear
- **Features (Definitions and Symbologies)**
 - Created _Land Use Based – SCS
 - Use FSs and ETs as used by _Land Use Base for the Rational Method

- Points to newly created _Land Use Based – SCS prototype.
 - Created existing utility content.
 - Feature Definitions
 - ELEC Pedestal Meter – Ex
 - *Replaces ELEC Pedestal - Ex*
 - ELEC Pedestal Round - Ex
 - ELEC Pedestal Square - Ex
 - TEL Pedestal Round - Ex
 - TEL Pedestal Square - Ex
 - TV Pedestal Round - Ex
 - TV Pedestal Square - Ex
 - Feature Symbolologies
 - ELEC PED Ex - Pnt
 - TEL PED Ex - Pnt
 - TV PED Ex - Pnt
 - ELEC PED MTR Ex - Sol
 - ELEC PED RND Ex - Sol
 - ELEC PED SQR Ex - Sol
 - TEL PED RND Ex - Sol
 - TEL PED SQR Ex - Sol
 - TV PED RND Ex - Sol
 - TV PED SQR Ex - Sol
 - Created existing utility content for “non-utility” nodes [UTIL] Test Hole and [UTIL] End of Investigation
 - TEL
 - TRAF
 - TV
 - ELEC
 - GAS
 - OIL
 - GEN (Test hole only)
 - CULV
 - STM
 - SAN
 - WTR
 - Created non-physical model nodes for the following elements.
 - Feature Definitions
 - ELEC Manhole Data - Ex
 - ELEC Pull Box Data - Ex
 - ELEC Pedestal Data - Ex
 - ELEC Vault Data - Ex
 - GAS Junction Box Data - Ex
 - GAS Manhole Data - Ex
 - GAS Vault Data - Ex
 - OIL Manhole Data - Ex
 - SAN Manhole Data - Ex
 - SAN Vault Data - Ex

- TEL Junction Box Data - Ex
 - TEL Manhole Data - Ex
 - TEL Pedestal Data - Ex
 - TEL Vault Data - Ex
 - TRAF Manhole Data - Ex
 - TRAF Pull Box Data - Ex
 - TV Manhole Data - Ex
 - TV Pedestal Data - Ex
 - TV Vault Data - Ex
 - WTR Manhole Data - Ex
 - WTR Vault Data - Ex
 - Feature Symbolologies
 - ELEC **[MH, PB, PED, VLT]** DAT Ex - **[Pnt, Sol]**
 - GAS **[JB, MH, VLT]** DAT Ex - **[Pnt, Sol]**
 - OIL MH DAT Ex - **[Pnt, Sol]**
 - SAN **[MH, VLT]** DAT Ex - **[Pnt, Sol]**
 - TEL **[JB, MH, PED, VLT]** DAT Ex - **[Pnt, Sol]**
 - TRAF **[MH, PB]** DAT Ex - **[Pnt, Sol]**
 - TV **[MH, PED, VLT]** DAT Ex - **[Pnt, Sol]**
 - WTR **[MH, VLT]** DAT Ex - **[Pnt, Sol]**
-
- **Element Templates**
 - Added Priority, Class and Transparency for all Element Templates to confirm proper properties at feature placement regardless of proceeding actions performed with attributes and element templates within a design session.
 - Created existing utility content.
 - ELEC PED Ex - Pln
 - ELEC PED **[MTR, RND, SQR]** Ex - **[Btm, Top]** x6
 - ELEC VLT DAT Ex - **[Btm, Top]**
 - TEL PED Ex - Pln
 - TEL PED **[RND, SQR]** Ex - **[Btm, Top]** x4
 - TV PED Ex - Pln
 - TV PED **[RND, SQR]** Ex - **[Btm, Top]** x4
 - Created existing utility content for “non-utility” nodes **[UTIL]** TST – **[Btm, Pln, Top]** and **[UTIL]** EOI **[Btm, Pln, Top]**
 - TEL
 - TRAF
 - TV
 - ELEC
 - GAS
 - OIL
 - GEN (TST)
 - CULV
 - STM
 - SAN
 - WAT
 - Removed ETs

- Void_TRAF CAIS 18-4 - Btm
 - Void_TRAF CAIS 36-15 – Btm
 - Added Element Templates for use with parametric cells for irregular modeling.
 - ELEC MH Ex - Mod
 - ELEC PB Ex - Mod
 - ELEC PED Ex - Mod
 - ELEC VLT Ex - Mod
 - GAS JB Ex - Mod
 - GAS MH Ex - Mod
 - GAS VLT Ex - Mod
 - OIL MH Ex - Mod
 - SAN MH Ex - Mod
 - SAN VLT Ex - Mod
 - TEL JB Ex - Mod
 - TEL MH Ex - Mod
 - TEL PED Ex - Mod
 - TEL VLT Ex - Mod
 - TRAF MH Ex - Mod
 - TRAF PB Ex - Mod
 - TV MH Ex - Mod
 - TV PED Ex - Mod
 - TV VLT Ex - Mod
 - WTR MH Ex - Mod
 - WTR VLT Ex – Mod
 - Created non-physical model nodes for the following elements.
 - ELEC [**MH, PB, PED, VLT**] DAT Ex - [**Btm, Pln, Top**]
 - GAS [**JB, MH, VLT**] DAT Ex - [**Btm, Pln, Top**]
 - OIL MH DAT Ex - [**Btm, Pln, Top**]
 - SAN [**MH, VLT**] DAT Ex - [**Btm, Pln, Top**]
 - TEL [**JB, MH, PED, VLT**] DAT Ex - [**Btm, Pln, Top**]
 - TRAF [**MH, PB**] DAT Ex - [**Btm, Pln, Top**]
 - TV [**MH, PED, VLT**] DAT Ex - [**Btm, Pln, Top**]
 - WTR [**MH, VLT**] DAT Ex - [**Btm, Pln, Top**]
- **Flex Tables**
 - Added FlexTables for Design, Review and Plan Development purposes.
 - Design
 - Catchment – Design Input
 - Headwall – Design Input
 - Headwall – Physical
 - Inlet – Design Input
 - Inlet – Physical
 - Manhole – Design Input
 - Pipe – Design Input
 - Pipe – Physical
 - Review
 - Catchments
 - Catchments – SCS

- Inlet – Capture Results
 - Inlet QC – Gutter and Capture #s
 - Inlet QC – Gutter Q at Inlet
 - Pipe 2Line report
 - Pipe – Design
 - Plan Development
 - Catchments Sheet Table – SCS
 - Inlets – Plan
 - Headwalls – Plan
 - Pipes – Plan
- **Cells**
 - Drainage-Utils - Utilities.cel
 - SU_CMN TST - Pln > Test Hole
 - SU_CMN EOI - Pln > End of Investigation
 - SU_CMN Pedestal - Btm
 - SU_CMN Pedestal - Top
 - SU_CMN Pedestal Rnd - Btm
 - SU_CMN Pedestal Rnd - Top
 - SU_CMN HH Rnd - Btm
 - SU_CMN HH Rnd - Top
 - Added Drainage-Utils - Parametric.cel with:
 - SU-MOD_CMN_Cabinet
 - SU-MOD_CMN_Pad
 - SU-MOD_CMN_Pad-Cabinet
 - SU-MOD_CMN_Vault
 - SU-MOD_CMN_Vault-Closed

7. Modifications to Traffic configuration

- **Cells**
 - Added the following Traffic Pavement Marking Cells:
 - STRIPE_Arrow-Left Curved
 - STRIPE_Arrow-Left Curved Barrier
 - STRIPE_Arrow-Left Right Curved
 - STRIPE_Arrow-Left Right Curved Barrier
 - STRIPE_Arrow-Straight Curved
 - STRIPE_Arrow-Straight Curved Barrier
 - STRIPE_Arrow-Left Right Curved Barrier
 - STRIPE_Arrow-Straight Left Curved
 - STRIPE_Arrow-Straight Left Curved Barrier
 - STRIPE_Arrow-Straight Left Right Curved
 - STRIPE_Arrow-Straight Left Right Curved Barrier
 - STRIPE_Arrow-Straight Right Curved

- **GUI**
 - Added a link to the Signing and Pavement Marking Webpage
 - Added a link to the Traffic Documents and Publications

8. Modifications to Bridge configuration

- **Seed Files**
 - Changed default prefixes for "label coordinates" to N, E, EL and change order to Y, X, Z in bridge seed files. Changed accuracy to 2 decimal places.
- **Feature Definitions**
 - Added Linear and Mesh Feature Definitions for Structure Excavation.
- **Levels**
 - Adjusted level mapping CSV to ensure all levels are remapped correctly.
 - Updated BRDG_CONSTRUCT level so that it will plot.
 - Add the following Levels:
 - BRDG_Outline-Diaphragm (COLOR - 138 - LINETYPE - 0 - WEIGHT - 2)
 - BRDG_Outline-Diaphragm-Hidden (COLOR - 5 - LINETYPE - 5 - WEIGHT - 1)
 - BRDG_Outline-Post Tensioning-Anchor (COLOR - 251 - LINETYPE - 0 - WEIGHT - 2)
 - BRDG_Outline-Post Tensioning-Equipment (COLOR - 4 - LINETYPE - 0 - WEIGHT - 2)
- **Linestyles**
 - Created linestyle for BRDG_Outline-Shoring level (1 ft thick solid line).
 - Created Welded Wire Fabric Linestyle (Solid line with small circles).
 - Updated BRDG_Sheet-Piling linestyle to match the PZ27 cell.
 - Removed BRDG_Steel-Piling Linestyle.
- **Cells**
 - Updated cell selectors per bridge requests.
 - Added transition 3Gs with end piece and existing bridge rail and curb cells.
 - Fixed and eliminated 3G & 3H cells.
 - Created cell selectors for type 10, type 9 & girder possibilities.
 - Reduced Arrows_break by half.
 - Created 3D Cells for:
 - Bridge Rail Type 10MASH
 - Bridge Rail Type 8RMASH
 - Bridge Rail Type 9
- **Detailing Symbols**
 - Updated Custom CDOT Bridge Detail Symbols per Bridge Group needs.
- **Template Library**
 - Created templates for CDOT Specific Walls (MSE, CIP)
- **Printing**
 - Updated pentables so that Text elements on specific text levels will print in Black all other text elements will follow the level settings.
- **GUI**

- Update Ribbon for Bridge Sheet Borders to include Bridge Inspection Sheet Long.
- Added Group Hole to Group menu in Bridge favorites.
- Added Polygon Tools to placement menu on Bridge Workflow
- Added the cut, copy and paste tools from the home tab to the Favorites tab.
- Added Place Note to the Text section in the Favorites Tab.
- Added csf menu selections for:
 - Bridgerail Type 9
 - Bridgerail Type 10
 - Old Bridgerail
 - Old Expansion
 - Old Girders
 - Old Guardrail
 - Flags

9. Modifications to Road configuration

- **Cells**
 - Updated 3D Guardrail End Anchorage cells to place correctly with the 3D Guardrail line.
 - Added XS Cable Barrier cell.
- **LineStyle:**
 - Created 3D Linestyles for Guardrail.
 - Type 3 Rubrail - Left/Right
 - Type 3 Thrie Beam - Left/Right
 - Type 3 Wood Beam - Left/Right/Median
 - Type 3 Steel Beam - Left/Right/Median
 - F Shape Barrier - Type 7 CD/CE/CL
 - Single Slope Barrier
- **GUI**
 - Add the Extract Contours tool to the Terrain Tab.
- **Element Templates:**
 - Add priorities to Text and Grid Element Templates.
 - Reorganized the Element Templates for Drawing Production.
 - Change contours calculated feature settings smoothing option to none. This improves the speed at which the view updates on large terrains with contours displayed.
- **Feature Definitions**
 - Changed Matchline to Corridor Matchline
 - Added Point Feature Definitions for Guardrail Type 7 F Shaped Barrier.
 - Added Point Feature Definition for XS Cable Barrier.
 - Added Item types to Guardrail Point Features Definitions.
 - Updated Point Feature Definitions and matching Feature Symbologies/Element Templates for Barriers and Guardrail End Treatments to be broken in categories by Type. This matches what was done for the Linear guardrail feature definitions.
- **Civil Labels**

- Updated XS > Slope Civil Label to use the tangent rotation option instead of inline.