



**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\

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## 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 Symbolologies)**
  - 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 Symbolologies/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.