OpenX 2024 Project Upgrade Procedures

March 2026

Purpose

This document provides step by step procedures for upgrading an existing NCDOT project to the OpenX 2024 Unified Workspace.

This document does not require projects to upgrade. It explains the process to follow if a project elects to upgrade and receives approval from the Project Manager to proceed.

Future guidance may identify projects that are required to upgrade.

Pre-Upgrade Considerations:

The CADD Manual provides more information on the latest NCDOT CADD Standards and Requirements.

NCDOT previously provided a WorkSpace structured by roles corresponding to NCDOT Design Units. This NCDOT Role-Based WorkSpace was refined and released with Bentley's OpenX versions 10.10, 10.12, and 2023. In March 2026, NCDOT released a new Unified WorkSpace for Bentley's 2024 versions of its OpenX Design Products (OpenX 2024). This Unified Workspace eliminates the previous role-based structure, enabling NCDOT to more efficiently adapt to future OpenX releases and advance its Digital Delivery objectives.

There are three major things that should be noted before upgrading an existing project into the Unified WorkSpace in OpenX 2024:

1. ProjectWise Reassociation:

    When upgrading to OpenX 2024, the ProjectWise Work Area must be reassociated to the OpenX 2024 Unified Managed WorkSpace and the appropriate software version. This reassociation can only be performed by the NCDOT internal ProjectWise Administrator team. The procedural steps are outlined below for reference; however, only the NCDOT ProjectWise Support Team has the permissions required to complete this action.

2. Fonts and Cells:

    Legacy custom MicroStation fonts and certain legacy cell libraries may not display exactly the same under the Unified Workspace. Each project must make a clear decision on how fonts and cells will be handled during the upgrade. The options described in this document are intended to allow existing projects to continue smoothly without disruption while future guidance is being developed. Future guidance will further standardize NCDOT CADD text standards and plan preparation requirements under the Unified Workspace. At that time, additional direction may be provided regarding fonts, cells, and overall plan presentation consistency. For existing projects, the current options provide flexibility to maintain continuity and minimize rework during active design.

3. Projects Hosted Outside of NCDOT ProjectWise:

   If a project is hosted outside NCDOT's ProjectWise environment, the external team is responsible for:
   - Updating Workspace configuration
   - Adjusting folder structure
   - Managing legacy resource loading

OpenX 2024 Project Upgrade Procedures for Project Teams

Upgrading a project should be a coordinated decision. Before initiating an upgrade:

1. The Project Manager should consult with:

   - The Division
   - The Project Discipline Leads

2. Together, they should determine:

   - Whether upgrading is beneficial at the current stage of the project
   - Whether the timing aligns with workload and project milestones
   - Whether all disciplines are in agreement

Upgrading should not occur without alignment across the project team. If further clarity or guidance is needed, Project teams are encouraged to contact CIT and the EDCS team to assist.

3. Once agreement is reached:

   - The Project Manager should email the NCDOT ProjectWise Support Team at: dot.pwsupport@ncdot.gov
   - The request should ask for:
       - Reassociation of the Work Area to the OpenX 2024 Unified Workspace
       - Update of application associations as needed. Further information below.

No existing projects are required to upgrade at this time.

4. The NCDOT ProjectWise Admin will do the following:
   a. Right click on the Work Area (project folder) in ProjectWise and choose Advanced Search > Document Search > OK > OK.
   b. For files requiring ORD, select the files, use the Modify command, and set the application to ORD 2024.

OpenBridge and OpenRail files may be configured to their respective applications. However, due to the unknown or project-specific nature of third-party application associations within OpenBridge and OpenRail, existing application associations will remain unchanged unless the NCDOT ProjectWise Administrator is specifically notified to associate them with a designated application.

Upgrade Responsibility Summary:

Project Manager

- Consults with Division and Discipline Leads
- Gains agreement to proceed
- Sends upgrade request to ProjectWise Support

Division and Discipline Leads

- Evaluate benefit and timing
- Confirm readiness and alignment

ProjectWise Support Team

- Reassociates Work Area
- Updates application associations
- Loads legacy resources if requested

Project Team

- Selects fonts and cells approach (see Font and Cell Decision section below)
- Upgrades files as work resumes
- Prioritizes controlling Civil files

Location and Surveys Unit

- Provides upgraded Final Survey file

Fonts and Cell Decision:

To maintain plan consistency, the project team must select one approach for fonts and cells on the Project. The selected approach should be consistent within each discipline and be documented in the initial email to ProjectWise Support Team. Two options are available:

Option A: Swap project fonts and cells to the 2024 Engineering Vert font and current standard libraries.

This approach:

- Fully aligns the project with current standards
- Removes legacy dependencies
- May require label adjustments

Option B: Retain Legacy Fonts and Cells. Load legacy fonts and cell libraries at the WorkSet level to minimize disruption to existing labeling and sheets.

This approach requires following steps by PW support team:

- Legacy custom MicroStation fonts () will be enabled. True Type fonts () such as Arial will function as expected when upgrading files. The NCDOT PW Support Team will:

1. Review the [TIP].cfg WorkSet configuration file to ensure it is current.
2. Drop the following into a newly created [Project]\Workset\Standards\Fonts folder:
   a. **NCDOT_MstnFontConfig.xml** from

      Configuration_**2024**\Organization-Civil\NCDOT\Fonts

   b. **ncdotFont.rsc** from

      Configuration_**2023**\Organization-Civil\NCDOT\Fonts

3. Drop legacy dgnlibs and .cel files into the WorkSet folder as needed to complete the project.

Reassociating the Work Area does not require upgrading all DGN files immediately.

A practical approach is recommended:

- Upgrade critical or controlling files first.
- Upgrade files that are actively being edited.
- **Files containing Civil dependencies, such as corridor models or files controlling reference relationships, should be prioritized early in resumed design work.**
- Designers should upgrade files as work resumes.
- Upgrade other files as they are opened for modification.
- Completed files do not need to be upgraded unless reopened for changes.
- ProjectWise Administrators should not batch upgrade all files unless specifically directed.

Final Survey Files with V8i Linework

Previous workflows for attaching Final Survey files that used V8i linework are no longer valid in OpenX 2024.

The project team must request an updated Final Survey file from NCDOT Location and Surveys. The request should include L&S team lead from the project and Hunter Canton hcanton@ncdot.gov the designated CADD Coordinator for L&S unit.

The project team must request an updated Final Survey file from NCDOT Location and Surveys.

Location and Surveys is responsible for:

- Archiving the original FS file.

- Adjusting linestyle scale within the V8i file. (see steps below)
- Preparing the file for OpenX 2024 use.

This process affects linestyle display only. Survey data is not altered. This action should only be performed by the NCDOT Location Survey unit. The procedural steps are outlined below for reference.

1. Archive an FS file so there is an original copy
2. Inside the V8i FS file, select all elements and set the linestyle scale to 1.
3. Open Level Manager, select all active levels, and set the scale factor under Properties>Styles>ByLevel Custom Linestyle> Set Scale Factor to 0.5.

When attaching the new FS File:

1. Use Global Linestyle Scale: Master
2. Use Active Annotation Scale: ON

Old Linestyles should scale appropriately to current scale factor.

CADD User Tips for Getting Started in OpenX 2024

While the changes to the WorkSpace are primarily in the background to improve standardization and maintenance, there are some things that the CADD user will want to consider when upgrading to the Unified WorkSpace.

1. There is no longer an option to choose a Role in the startup screen. This removes the need to close and reopen OpenRoads Designer to access other disciplines' WorkSpace resources.
2. NCDOT previously utilized WorkSets in OpenX primarily for folder structure template creation. WorkSets provide several benefits to drawing production that will be outlined in future CADD Manual releases. For now, it is important to create and choose the correct WorkSet to load legacy WorkSpace resources as discussed earlier in this document.
3. While workflows in OpenX rely heavily on features to automatically control symbology and levels when drawing, users may benefit from choosing the appropriate level filters to limit the number of levels visible in Level Display.

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