



MARYLAND DEPARTMENT  
OF TRANSPORTATION

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STATE HIGHWAY  
ADMINISTRATION

# **MDOT SHA ProjectWise-CAD Integration Troubleshooting**

Tuesday, March 24, 2020

# Requirements

- Installation of relevant CAD software, including but not limited to:
  - MicroStation 08.11.07 (V8i SS1)
  - MicroStation 08.11.09 (V8i SS3)
  - Power Inroads 08.11.07 (V8i SS2)
  - Power Inroads 08.11.09 (V8i SS4)
- Installation of (just one!) appropriate ProjectWise Explorer client, including but not limited to:
  - ProjectWise Explorer 08.11.11 (V8i SS4)
  - ProjectWise Explorer 10.00.02 (CONNECT)
  - ProjectWise Explorer 10.00.03 (CONNECT)
- Installation of [MDOT SHA Workspace 2.x](#).

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## Overview

Successful use of MicroStation/CAD with ProjectWise for SHA projects requires two things:

- iDesktop Integration
- MDOT SHA CAD Workspace Integration

InRoads SS2 and SS4 users may also like to review the section on [ALG Access Control](#) for instructions on how to configure their software for a multi-user project environment.

To be clear, the two main goals of **iDesktop Integration** and **CAD Workspace Integration** will be achieved by closely following the instructions laid out in the [MDOT SHA's ProjectWise Installation Guide](#) and the [MDOT SHA CAD Workspace Setup Instructions](#). No additional steps are needed.

This document is meant to provide supplemental information to explain and address the most common problems encountered during setup.

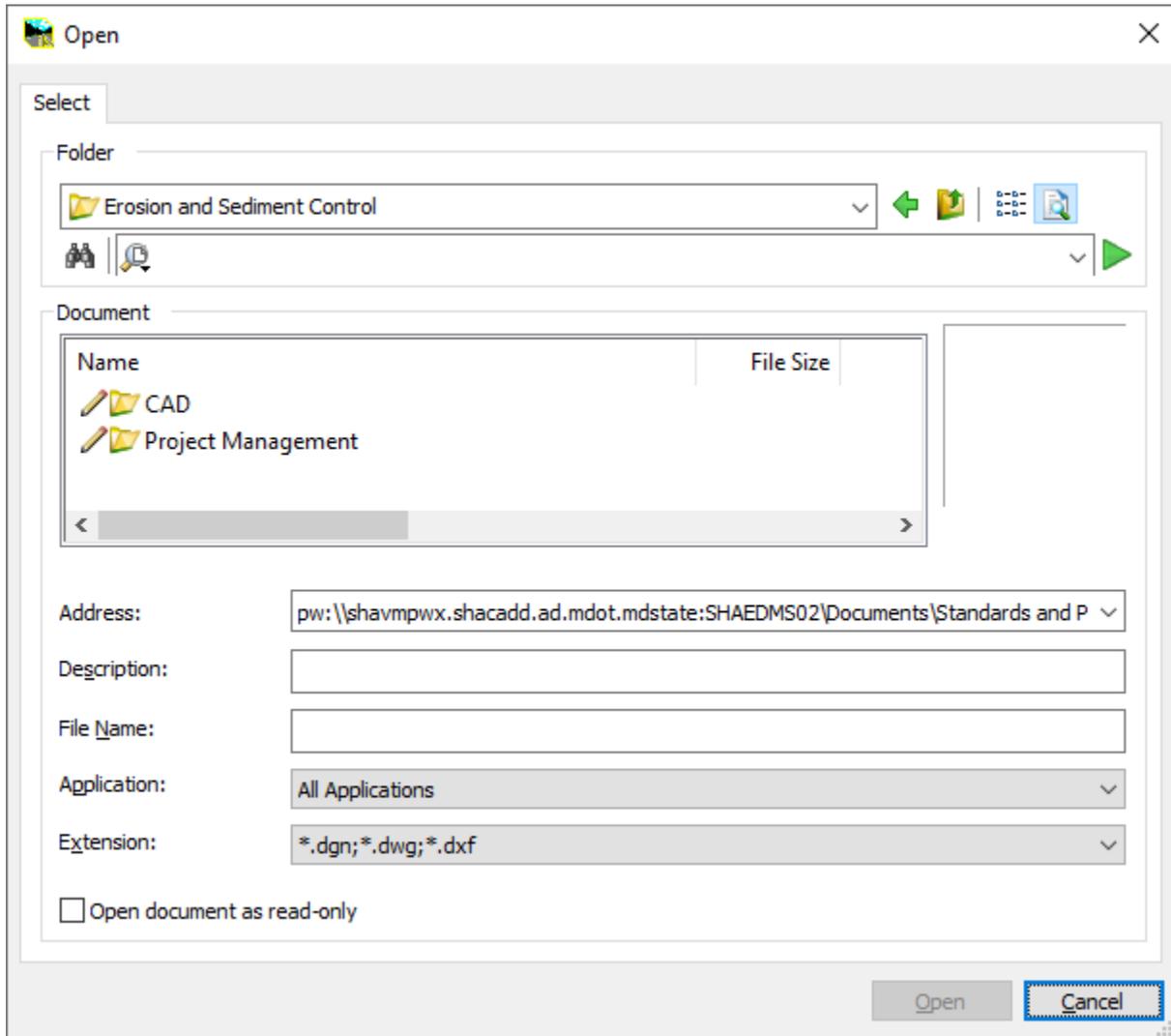
**iDesktop Integration** is Bentley's term for ensuring that your software, whether it is a CAD application or Microsoft Office, is able to browse the ProjectWise datasource (without using ProjectWise Explorer).

MDOT SHA does **not** typically enable integration for Microsoft Office products such as Word or Excel. However, enabling iDesktop Integration for Bentley applications is absolutely necessary for effective use of the software. Failure to do so not only affects the ability to browse for DGN files in your project directory, but also prevents the proper attachment and display of reference files.

**MDOT SHA CAD Workspace Integration** means that when you open a CAD file from ProjectWise, the software loads the appropriate workspace resources, including level libraries, custom lines styles, discipline-specific menus, etc. While the newer "managed" workspace will be loaded automatically, older projects using the legacy "workspace profile" may require some local configuration.

## Enabling iDesktop Integration

It will be immediately evident whether a software is integrated with ProjectWise if, when you select File > Open from within that application, a ProjectWise dialog box appears instead of a Windows dialog box.



iDesktop Integration should be enabled at the time ProjectWise is installed. Note the following screenshot adapted from page 2 of [MDOT SHA's ProjectWise Installation Guide](#):

## ProjectWise Explorer CONNECT Edition

Select feature to install

- ProjectWise Explorer
  - ProjectWise Explorer and Tools
    - ProjectWise 64-bit components
  - ProjectWise Explorer
    - Bentley Viewing, Printing and Markup
    - Messaging Services
    - Document Creation Wizard
  - iDesktop Integration**
    - Bentley Application Base Integration
    - Bentley Application Base Integration (x64)
    - ProjectWise Integration for Microsoft Office 2016 and 365
      - Microsoft Word
      - Microsoft Excel
      - Microsoft PowerPoint

Provides integration support for Bentley desktop applications and also third-party desktop applications.  
Size : 39.8 MB

Cancel

Modify

If iDesktop Integration was *not* enabled at the time of installation, or if the CAD software was installed *after* ProjectWise, it may be necessary to **Change** the installation options via **Control Panel > Programs and Features** (to ensure that iDesktop Integration is turned on). In some cases it may be necessary to uninstall and re-install the ProjectWise Explorer client.

## Disabling ProjectWise Login Popup

One of the consequences of enabling iDesktop Integration is the ProjectWise login that appears when you first load the software from a desktop shortcut:



Most users do not want to see the ProjectWise login popup when they are not actually using ProjectWise. Therefore, the MDOT SHA Workspace automatically disables this popup. The relevant configuration is contained in the mcm.user.cfg file:

```
#=====
# Disable ProjectWise Integration unless the ProjectWise V8i Explorer
# client is being used. i.e., the user won't be prompted to login to Pwise
#=====
%if !defined (_PWEXPLORER)
    PW_DISABLE_INTEGRATION = 1
%endif
```

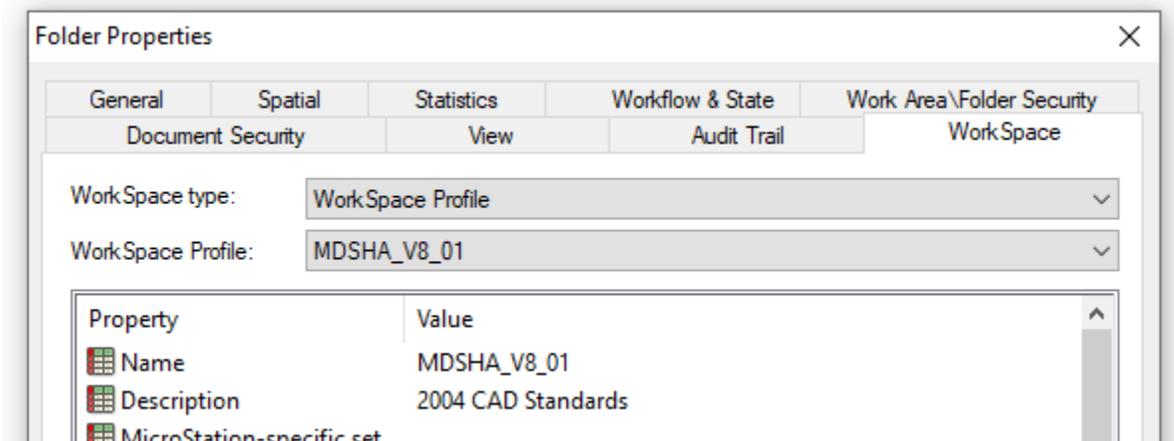
Again, users need only follow the standard [MDOT SHA Workspace Setup Instructions](#) in order to implement this.

Note that this configuration will continue to work for consultants whether or not they are using the MDOT SHA Workspace. For those who prefer to retain the login popup, “comment out” the three lines shown above by prepending each line with the “#” character:

```
# %if !defined (_PWEXPLORER)
#     PW_DISABLE_INTEGRATION = 1
# %endif
```

## Enabling MDOT SHA CAD Workspace Integration

Workspace integration is necessary to check out and work on CAD files that are *not* governed by the Managed Workspace. Such projects are configured in ProjectWise as follows:



MDOT SHA's workspace profiles utilize the following command line switch:

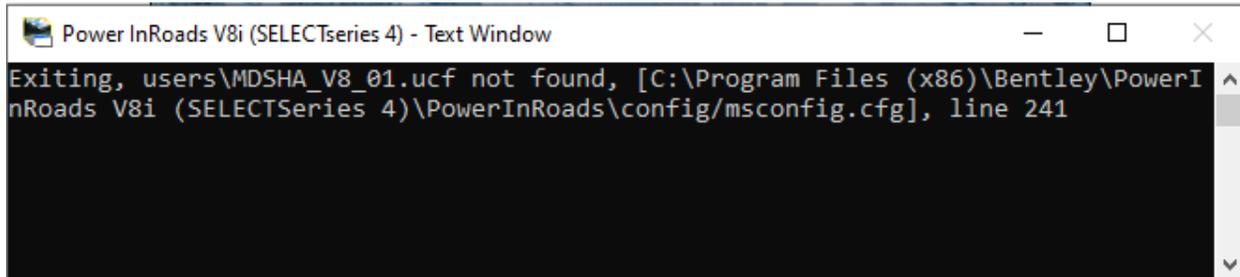
**-ws\_MDOT\_STANDARDNAME=SHA\_V8\_01**

This variable (`_MDOT_STANDARDNAME`) is used as a hook to load your local MDOT SHA workspace when a CAD file is opened through ProjectWise. The relevant configuration is found in the `mcm.user.cfg` file delivered with the MDOT SHA Workspace.

Note that the standard [setup instructions for MDOT SHA Workspace 2.x](#) automatically enable integration of your CAD workspace with MDOT SHA's ProjectWise datasource. **No additional configuration is needed.** Be sure to follow the instructions for ProjectWise users on pages 4 and 5.

## UCF Not Found Error

The most common integration error occurs when users try to open a DGN file from ProjectWise Explorer and receive the following error message (or slight variation):

A screenshot of a text window titled "Power InRoads V8i (SELECTseries 4) - Text Window". The window contains the following text: "Exiting, users\MDSHA\_V8\_01.ucf not found, [C:\Program Files (x86)\Bentley\PowerInRoads V8i (SELECTSeries 4)\PowerInRoads\config/msconfig.cfg], line 241".

```
Power InRoads V8i (SELECTseries 4) - Text Window
Exiting, users\MDSHA_V8_01.ucf not found, [C:\Program Files (x86)\Bentley\PowerInRoads V8i (SELECTSeries 4)\PowerInRoads\config/msconfig.cfg], line 241
```

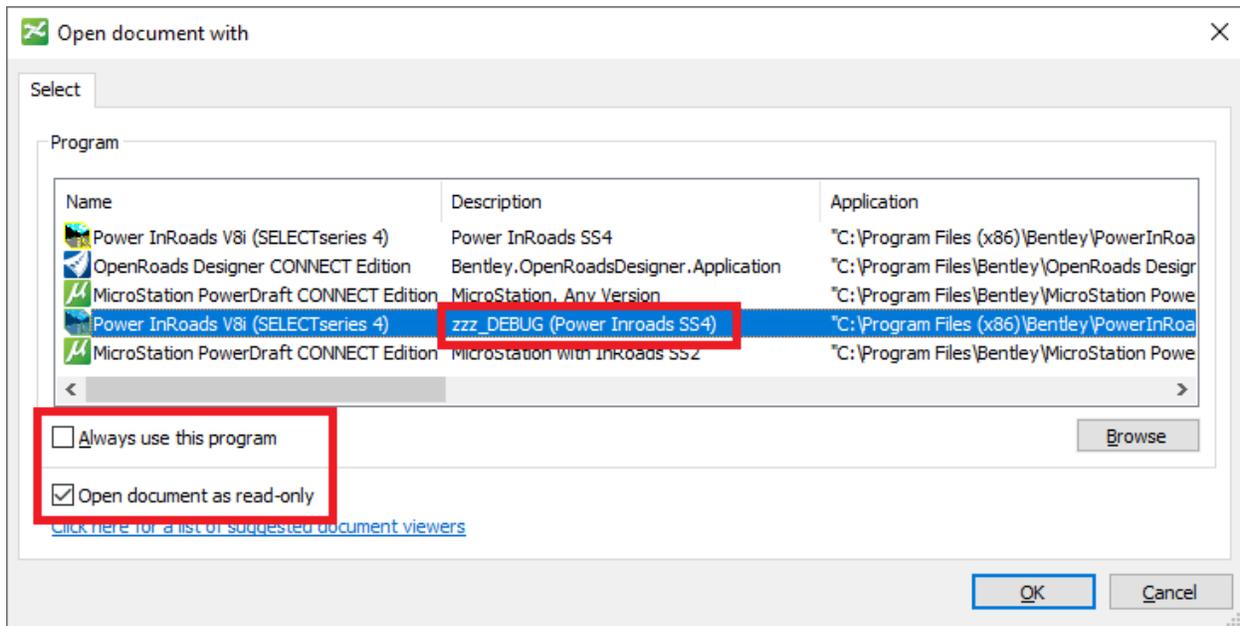
ProjectWise has failed to locate the workspace root directory. This is a clear sign that the workspace is not properly integrated. Please review the [workspace setup instructions](#), paying particular attention to the variable named `_MDOT_WORKSPACEROOT`.

If necessary, [generate a debug file](#) and send it to SHA CAD support.

## Requesting Support and Generating a Debug File

If necessary, generate a debug file to share with SHA's CAD support staff, as follows:

- Right-click the ProjectWise DGN file and select Open With...



- Select the option that has “zzz\_DEBUG” in the Description.
- **Uncheck** the option to “Always use this program” (**UN-check!**)
- **Check** the option to “Open document as read-only”
- Click **OK**.

A message window will appear with scrolling text. When the scrolling ends, the last line of the message will indicate the path location of the newly generated debug file. (If the debug process is interrupted before displaying the output path, search for a file named **msdebug.txt** it in your local User directory:

C:\Users\[username]\AppData\Local\Temp\msdebug.txt

Locate this file and send it as an email attachment to [ids@mdot.state.md.us](mailto:ids@mdot.state.md.us) along with a brief explanation of your problem.

## InRoads SS2 and SS4 ProjectWise Integration

Working with ALG files within **ProjectWise** is different from working with ALG files on a shared network drive. This is because **ProjectWise** copies files to a temporary local location. Additional steps are required to establish **Access Control** for a shared ALG file in a multi-user project environment.

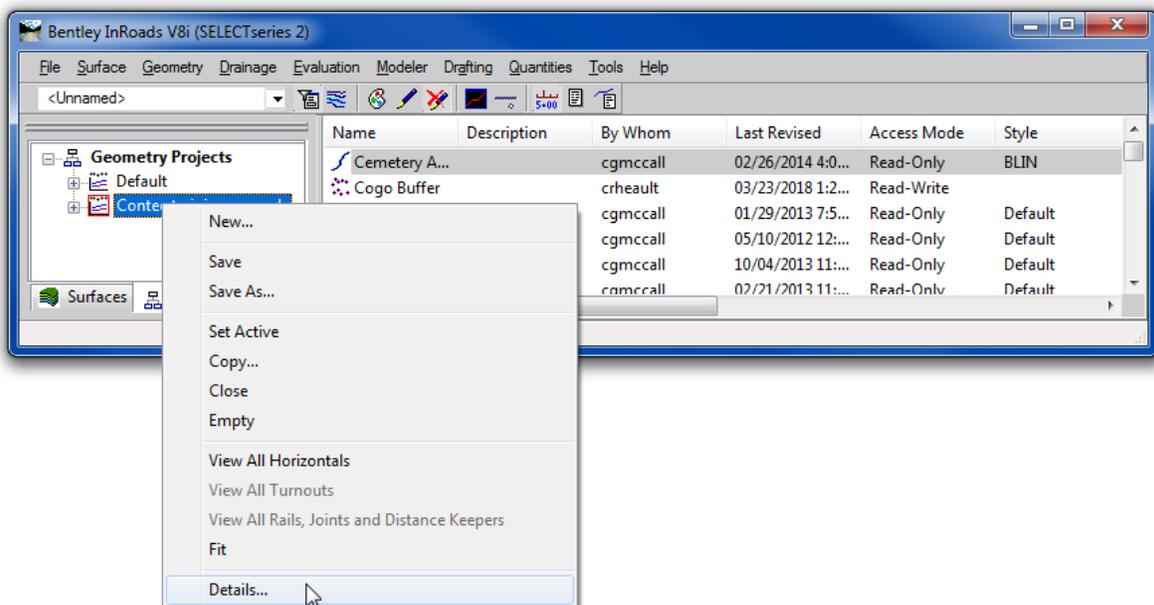
\*These instructions apply to the SS2 and SS4 versions of InRoads, and most likely the SS10 version (similar to SS4 but with CONNECT rather than SELECT licensing).

MDOT SHA does **not** support InRoads SS3.

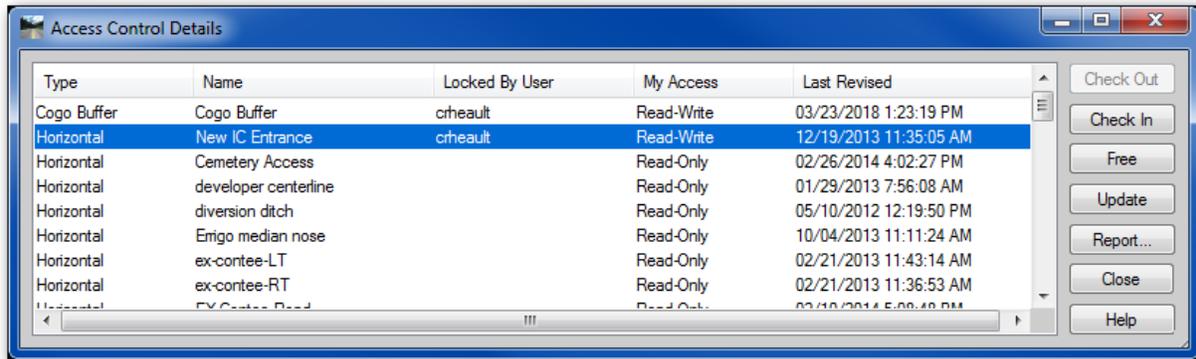
### InRoads ALG File: Access Control

While working on a shared network drive, **Access Control** allows users to share a single ALG file among a group of users. **InRoads** uses Read-Write and Read-Only flags to keep track of which alignments (and the Cogo buffer) are being edited by which, thus preventing conflicts and accidental overwrites. A special interface is provided to exchange access control between users accessing the ALG file.

To open the **Access Control Detail** dialog box, right-click on the **Geometry Project** name in the **InRoads Explorer** (either pane), and in the context menu that opens, select **Details**.



After selecting this menu item, the **Access Controls Details** dialog box will open.

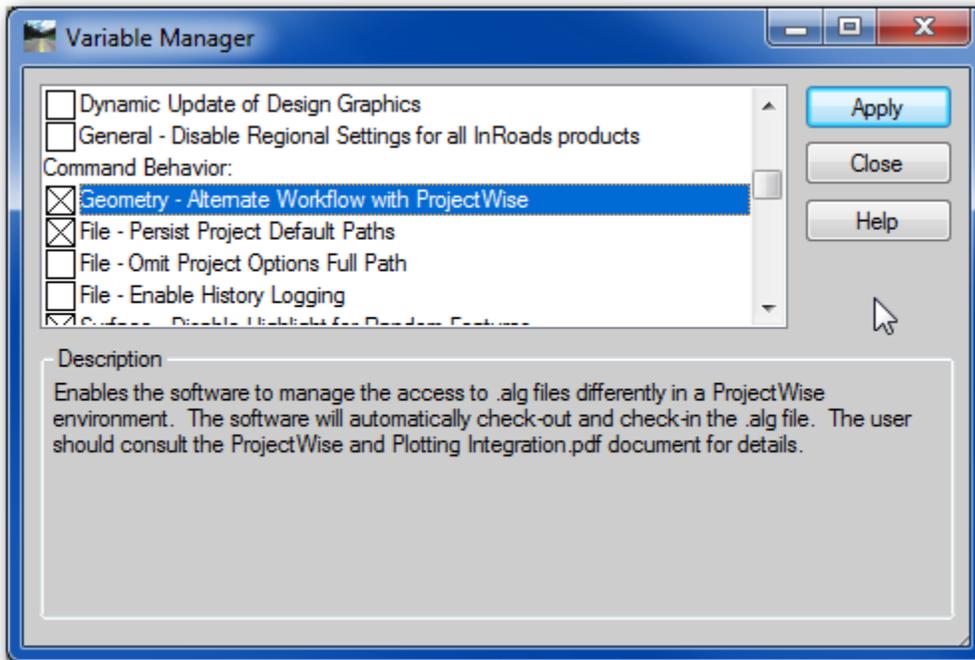


This dialog box has a selection list box and a row of buttons on the right-hand side of the dialog box. In the image shown, the **Cogo Buffer** and one **Horizontal** (alignment) are set to **Read-Write Access** and are shown as **Locked By (a) User**. Additionally, the **Horizontal** (alignment) is selected which enables all buttons, except for **Check Out**, since the alignment is already checked out.

There is a version of this dialog box that works in a very similar manner outside of **ProjectWise**, but to get the proper function within **ProjectWise**, several additional steps are necessary.

## Enable “Geometry – Alternate Workflow with ProjectWise” via Variable Manager

The following steps must be performed for any user that will be sharing access to ALG files. On the **InRoads Explorer**, select **Tools ▶ Variable Manager**. This will open the following dialog box.



Scroll down to the **Command Behavior:** group and check on the **Geometry – Alternate Workflow with ProjectWise**. Press the **Apply** and **Close** buttons.

With this accomplished, **ProjectWise** and **InRoads** are now set to manage the **Access Control** of ALG file for multiple Users.

Lastly, **Bentley** recommends changing the default settings for how **InRoads** opens ALG files. For this to work as intended, you must be in a **Preference (XIN)** file with **Read-Write Access**.

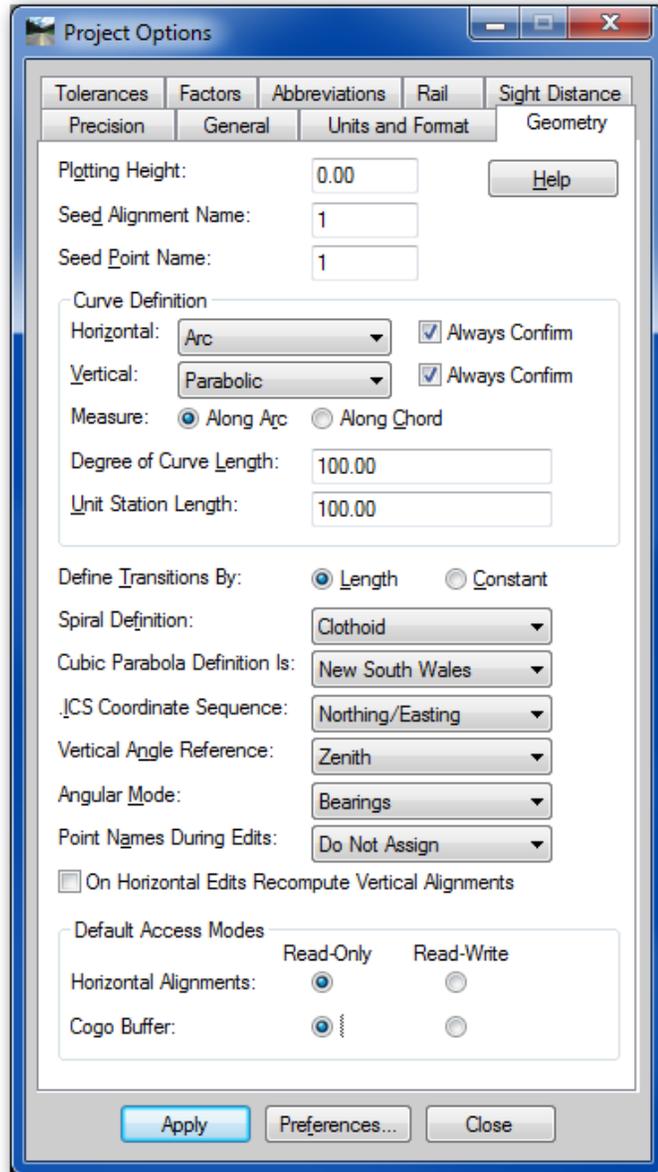
On the **InRoads Explorer**, select **File** ▶ **Options** ▶ **Geometry** and in the **Project Options** dialog box, select the **Geometry** tab.

At the bottom of that tab, change the **Default Access Mode** for **Horizontal Alignments** and **Cogo Buffer** to **Read-Only**.

Press the **Apply** button.

Next press the **Preferences** button. When the **Preferences** dialog box opens, press its **Save** and then its **Close** button. This will save the **Default Preference** that loads when **InRoads** is launched.

To complete the process, press the **Close** button on the **Project Options** dialog box.



## Additional Notes

**InRoads** uses the users **Windows ID** if possible, otherwise it defaults to the **ProjectWise ID**. When using the **ProjectWise ID**, inconsistent use of case in the ID may cause issues. For example, if a user connects to **ProjectWise** using all lower-case character in their ID and checks out an alignment, **InRoads** sees that users name as being all lower-case. If they save and exit without freeing the alignment and later log in to **ProjectWise** using a mixed case (or all upper case) ID, **InRoads** will see that user as a different user. As a result, that user will not automatically gain read-write access to that alignment.

In order to take ownership of that alignment, that user has two choices. They can log back out of **ProjectWise** and log back in using the same case as they originally logged in, or they can use the “universal” free command that **Bentley** built into **InRoads** when they changed how the ALG file manages **Access Control**. To free any alignment no matter who the user is, the user can hold down the **Ctrl** key while selecting the **Free** command.

If the user has read-write access to an alignment and saves the ALG but does not free the alignment, it remains checked out. This command behavior will frequently result in alignments being locked by a user when they are no longer in **InRoads** or even **ProjectWise**. It is therefore very important that users be made aware of this command behavior, but more importantly, how the **Ctrl+Free** command can free any locked alignment.

Some methods of loading other **InRoads** support files can result in them being **Copied Out** and not **Checked Out** of **ProjectWise**. This may result in users making edits to the local copy of the file but not being prompted to check them back in and even leaving them unable to push their changes back to **ProjectWise**. Additionally, if other users have checked out, edited and then checked in one of these files, should another user update the file with a different version, the other users’ edits will be lost.

It is therefore recommended that users verify that files are either checked out or opened read-only before deciding to begin making edits. If the file to be edited is not checked out, a user should manually check it out and then, any edits they make will be saved to the checked-out copy and other users will be unable to check out the document.

It is also recommended that users open the local document organizer whenever they exit an **InRoads** session to confirm that all checked out files are checked in or at the very least, the server copy has been updated.