

Adding Models to PLS-GRID

When **PLS-CADD**, **PLS-POLE** and **TOWER** models are added to **PLS-GRID** they must be free of file reference issues. This requirement ensures that all model data and reference files are transferred and saved to the **PLS-GRID** server. Once a model has been added to the **PLS-GRID** server then all updates to the model are tracked and documented. Violations in the project design reports, such as structure usage, cable usage, clearances, etc. are allowed in the model but errors due to missing reference files are not allowed.

Methods to Add Models

To add a model to **PLS-GRID**, open the model in **PLS-CADD**, **PLS-POLE** or **TOWER**. Then select **File/ PLS-GRID/ Add Project** or left click the **Add Project**  button on the **PLS-GRID** toolbar. During the process of adding the model to **PLS-GRID**, the software will automatically create a new model folder in your workspace and copy all the project files from their original locations into this new folder and then upload the model to **PLS-GRID**. Users will be prompted to enter a comment describing the revisions to the model in the dialog shown in Figure 1.

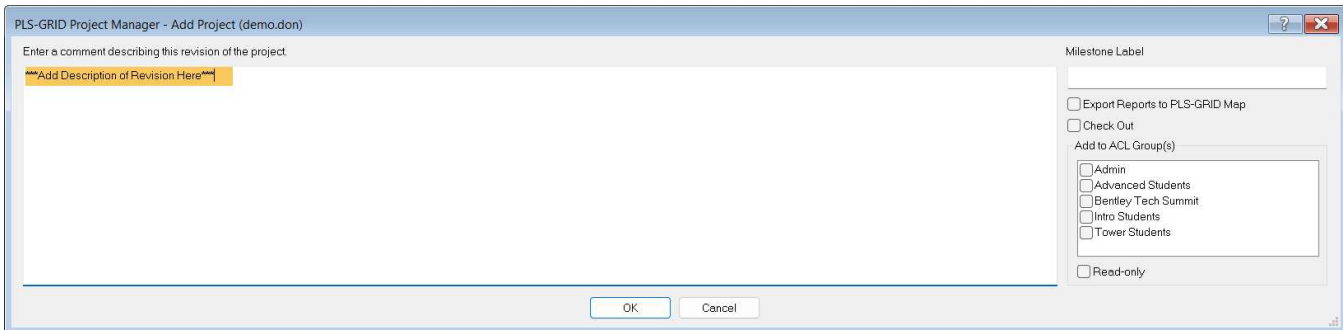


Figure 1: PLS-GRID Add Project Dialog

Models can also be added to **PLS-GRID** by importing a .bak file using the **File/ PLS-GRID/ Import Backup** command. This feature allows for multi-file selection to upload multiple models located in a common folder at the same time and avoids the need to restore each model individually. With this process, the software will restore the .bak file to a new folder in your workspace, verify it is free of file reference errors, and add it to **PLS-GRID**. Users can choose between Batch or Interactive mode when importing two or more .bak files. Batch mode is recommended for importing large numbers of .bak files and will import models with default settings. Interactive mode allows the opportunity to edit settings for each project selected. After importing, a report will be generated which lists which projects were successfully added to **PLS-GRID** and which projects encountered issues and were not added.

Users can also drag and drop .bak files into the **PLS-GRID** Project Manager Discovery dialog or the **PLS-GRID** Map view. However, this feature can only add .bak files to **PLS-GRID** using the program (**PLS-CADD**, **PLS-POLE**, or **TOWER**) currently being used to access **PLS-GRID**. For example, it's not possible to drag and drop a **PLS-CADD** .bak file with this method when using the **TOWER** program.

Project Workspace

All models that are enrolled in **PLS-GRID** are stored on a **PLS-GRID** server. When a model is accessed by a user, the model will be copied from the **PLS-GRID** server to the user's local machine and placed in a new folder in the user's Workspace directory. It is important to consider the location of the Workspace directory to ensure that it has sufficient storage and network connectivity with the **PLS-GRID** server. The Workspace directory is recommended to be local to the user's machine or on a shared drive with sufficient network speed.

The location of the Workspace directory is defined in row 3 in the **File/ Preferences** dialog shown in Figure 2.

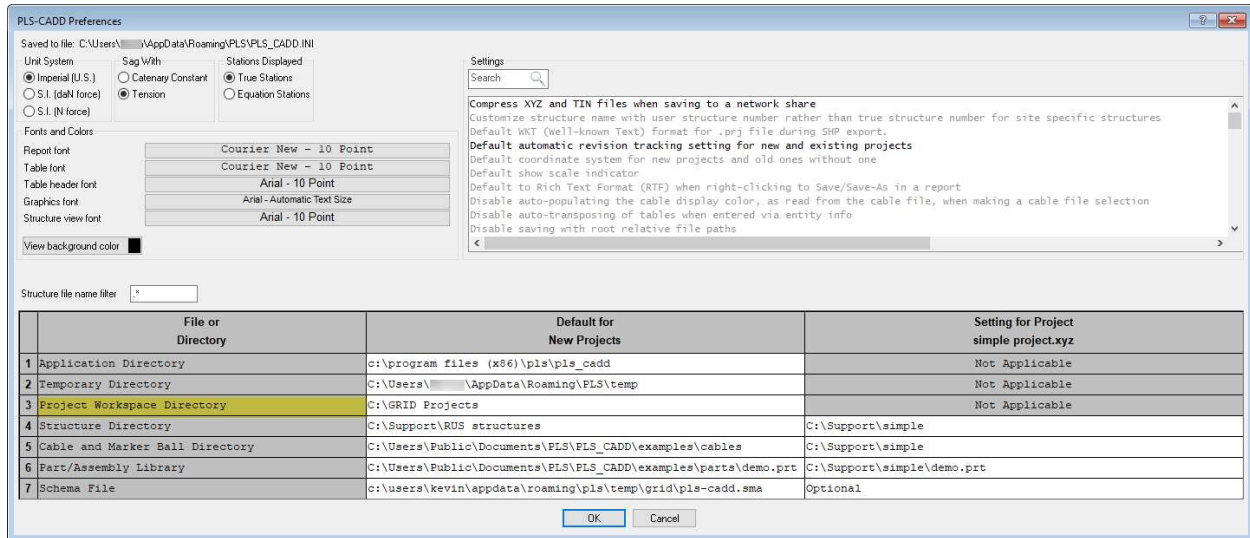


Figure 2: Project Workspace Directory in File/Preferences Dialog

Another way to define the location of the Workspace directory is using the menu command **File/ PLS-GRID/ Server Settings** and selecting the *Workspace Directory* button as shown in the figure below. This button will define the location for the workspace that is specific to the server selected. **PLS-GRID** supports separate workspace directories per **PLS-GRID** server, if working with multiple **PLS-GRID** servers. Using this selection will override the location defined in row 3 within the **File/ Preferences** dialog.

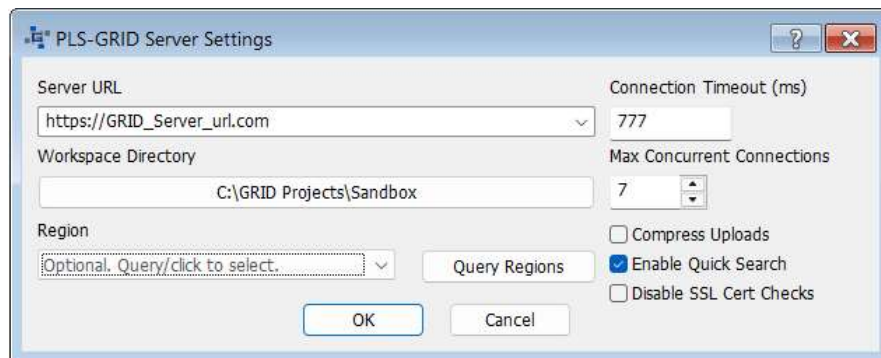


Figure 3: Project Workspace Directory in PLS-GRID Server Settings Dialog

The Workspace directory can be defined in either the **PLS-CADD**, **PLS-POLE**, or **TOWER** programs and once defined in one program, the other two programs will utilize the same Workspace directory. Its not possible to define different Workspace folders for each program for the same **PLS-GRID** server.

Identifying File Reference Errors

All models which are added to or checked into **PLS-GRID** must be free from file reference errors. The PLS software will show the user any file reference errors which are present in the model and these errors need to be resolved before the model can be added to the **PLS-GRID** server.

In **PLS-CADD**, the most useful feature to identify any file reference errors is the **Lines/ File Reference Check** command. This command will generate a report with a list of all missing reference files in the **PLS-CADD** model, including any files referenced in method 4 structure files included in the **PLS-CADD** model. This command is not available in **PLS-POLE** or **TOWER**.

When attempting to add a **PLS-CADD** model to **PLS-GRID** using **Add Project**  button, if there are any file reference errors identified, the model cannot be added to **PLS-GRID** and the user will be presented with a warning message and an Error Log listing the file reference issues. The user must then resolve the file reference errors using the methods and tools discussed later in this document.

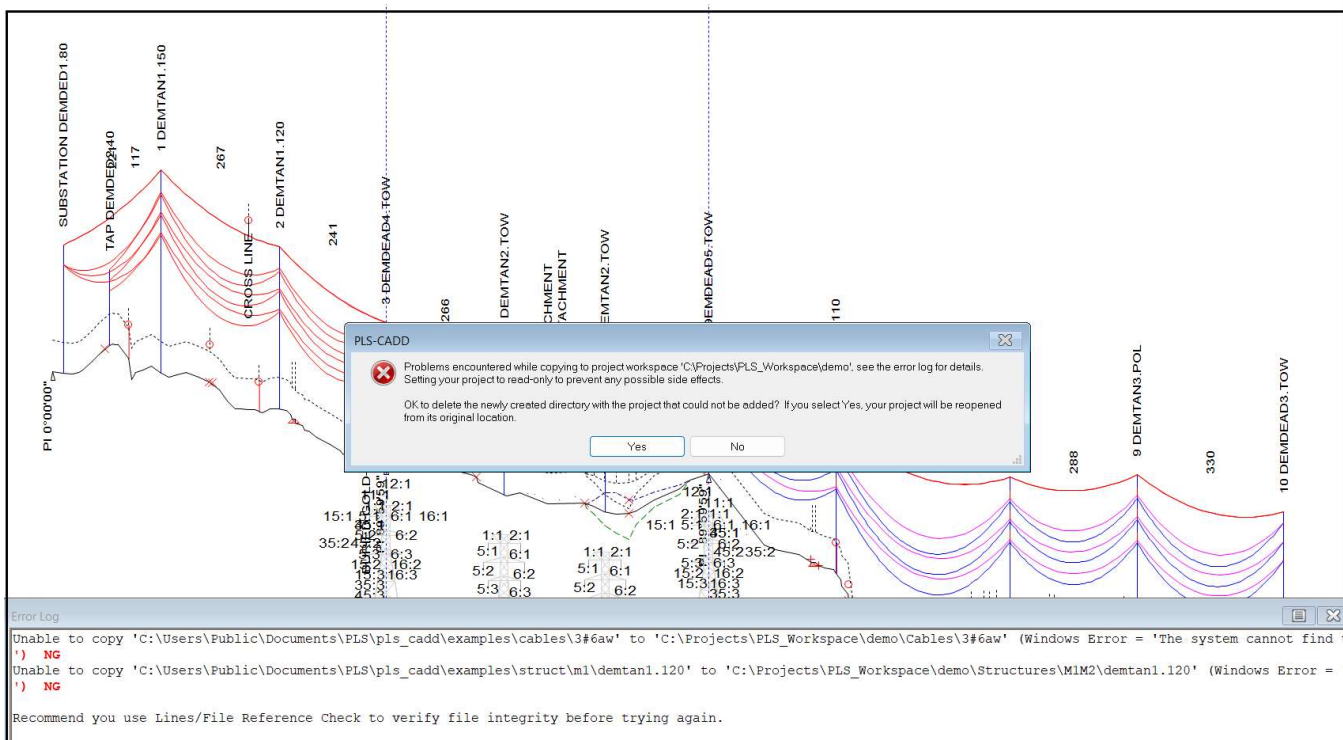


Figure 4: File Reference Errors Preventing Upload to PLS-GRID

The Project Repair Wizard is a feature in **PLS-CADD**, **PLS-POLE**, and **TOWER** that can help users identify and resolve file reference issues. The Project Repair Wizard is typically presented to the user if the software detects missing reference files 1) when the model is first opened, 2) when creating a .bak file, 3) when checking or editing a method 4 structure, or 4) when adding the model to **PLS-GRID**. The Project Repair Wizard dialog is shown in Figure 5.

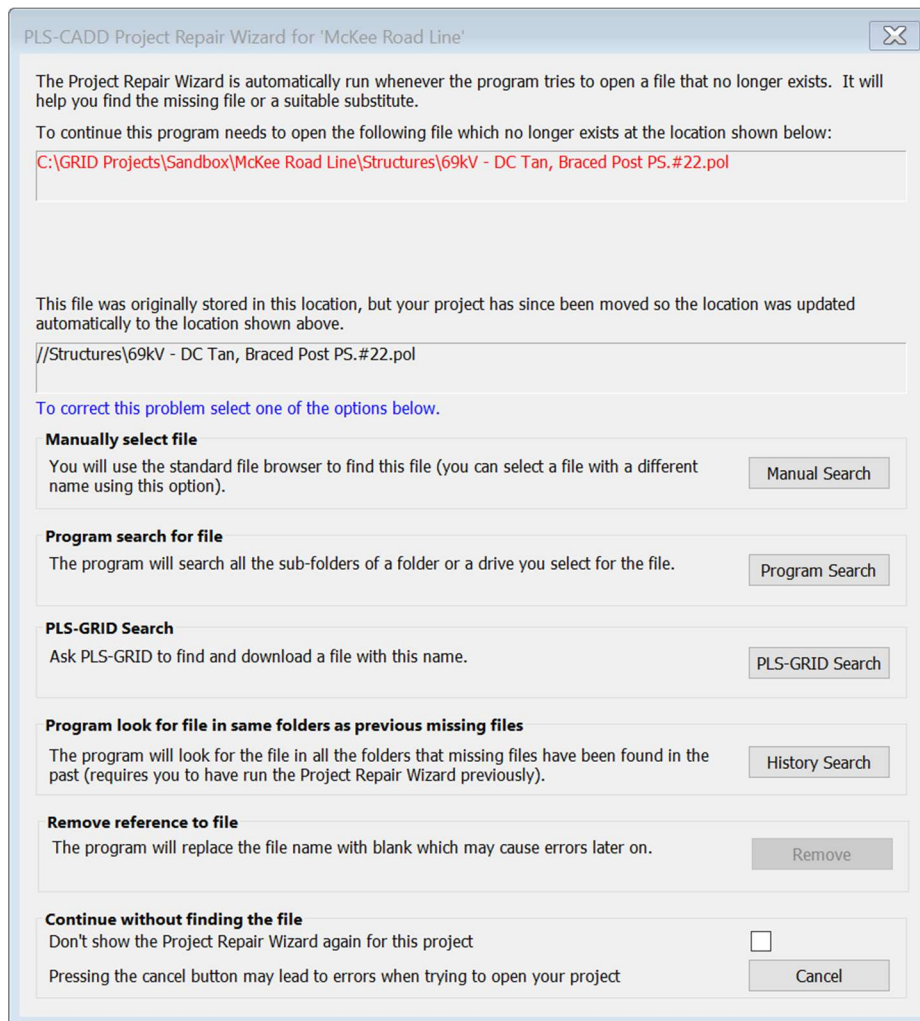


Figure 5: Project Repair Wizard Dialog

At the top of the Project Repair Wizard the file reference error identified is shown in red. Below that the dialog may also display where the file was originally referenced at. This can be helpful in locating which file is the cause of this error.

The Project Repair Wizard dialog provides several options to allow the user to fix these issues or ignore them. Note that if the Project Repair Wizard appears when adding the model to **PLS-GRID**, the model will not be added to **PLS-GRID** if the error is ignored. The Project Repair Wizard options are described below.

- *Manually select file* will allow a user to point the software to the location of this file. The user can select a file with a different name and the Project Repair Wizard will replace the missing file with the selected one.
- *Program search for file* will allow the PLS software to search a folder and all sub folders of a selected file or drive for the missing file and correct the file path if it finds the missing reference file.

- *PLS-GRID Search* searches the Project Manager database and downloads the first file that it finds with a matching name and references it in the model.
- *Program look for file in same folders as previous missing files* is a History Search option where the program looks for the missing reference file in other folders it has found missing files.
- *Remove reference to file* is an option that tries to remove this reference. This option isn't always available and may not always remove the reference.
- *Continue without finding the file* is an option that occurs by hitting the Cancel button. This will ignore the file reference issue and may lead to continued errors. This does not attempt to fix any file reference issues and will not allow the model to be added or checked into **PLS-GRID**.

Common Types of File Reference Errors and How to Fix Them

The following are the most common types of file reference errors encountered in **PLS-CADD**, **PLS-POLE**, and **TOWER** models and tips on how to fix the errors.

- Missing files in the Attachment Manager or Reference Manager dialogs
 - Often there are vector or raster files referenced in the Attachment Manager or Reference Manager dialog which no longer exist at their referenced location. Figure 6 shows an example of a typical warning message.

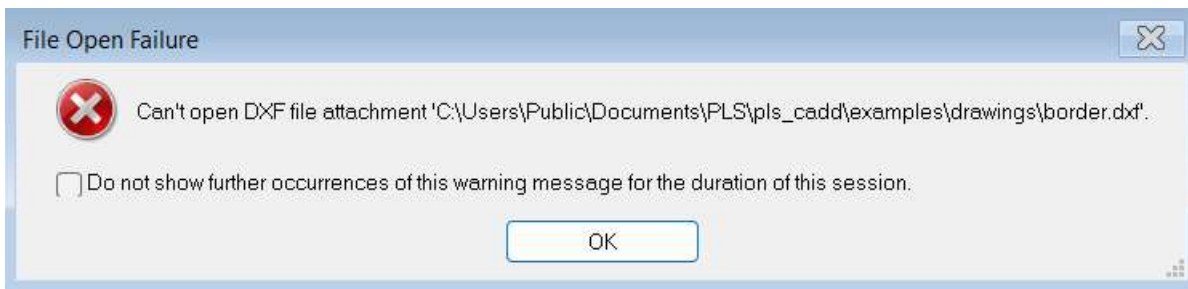


Figure 6: Example Missing File Attachment Warning

- The Project Repair Wizard (Figure 5) is a great tool to resolve these types of issues. If you know the location of the missing reference files, then users can select the *Manually select file* option and browse for the files in a specific directory. If you don't know the exact location of the missing files but believe they exist somewhere, the *Program search for file* or the *PLS-GRID Search* options can be used to search through multiple directories for the missing reference files. If the missing reference files are located, then the issue will be resolved. Selecting the Continue without finding the file option will close the Project Repair Wizard (Figure 5) but will not resolve the file reference issue.

```

Checking all files referenced by 5 Method 4 structures
Checking 3 attachments
Attachment does not exist NG C:\Users\Public\Documents\PLS\pls_cadd\examples\drawings\border.dxf
Attachment does not exist NG C:\Users\Public\Documents\PLS\pls_cadd\examples\drawings\power.tif

2 missing files NG

```

Figure 7: Missing Attachments in File Reference Check Report

- The *Remove references to file* option can be selected if there is no need for the reference file to be included in the **PLS-CADD** model but this option typically does not work with raster or vector files in the Attachment Manager. In this case, the user should open the model and run the **Lines/ File Reference Check** report. Make note of the attachment errors, shown in red in Figure 7, and manually remove the reference to the file or change the reference file location to the correct location.
 - Common locations in **PLS-CADD** of these types of missing reference files are in the **Drafting/ Attachments/ Attachment Manager, Lines/ Reference Manager, or Structures/ Staking Table** (in structure comment rows).
- Invalid or missing references to structures in the Available Structure List
 - The Available Structure List (**Structures/ Available Structure List/ Add or Delete Structure...**) includes references to every structure which is part of the **PLS-CADD** model. The list includes every M1 and M4 structure which is used in the model in addition to other structures which are not used in the current model but will be saved with the model. If a structure file in the list is deleted, moved or in a location no longer accessible, a file reference error will occur.
 - When first opening a **PLS-CADD** model or when adding a model to **PLS-GRID**, the Project Repair Wizard (Figure 5) will appear and provides the user with a chance to fix the issues. The *Manually select file*, *Program search for file*, or the *PLS-GRID Search* options are good options to resolve the issues. If the structure files no longer need to be saved with the project, the *Remove references to file* option can be used to remove the file from the Available Structure List, as long as the structure file is not used in one of the line models.
 - Another approach is for the user to open the model and run the **Lines/ File Reference Check** report. Make note of the missing structure files, shown in red in Figure 8, and manually delete the structure files from the Available Structure List or change the reference file location to the correct location.

```

Checking 15 structure files from the Available Structure List
Structure does not exist NG C:\Users\Public\Documents\PLS\pls_cadd\examples\struct\m4_demo\poles\deadend_pole_52a.pol
Structure does not exist NG C:\Users\Public\Documents\PLS\pls_cadd\examples\struct\m4_demo\poles\deadend_pole_52b.pol
Structure does not exist NG C:\Users\Public\Documents\PLS\pls_cadd\examples\struct\m4_demo\poles\substation.pol

```

Figure 8: Missing Structure Files in File Reference Check Report

- Missing LCA file from an M4 structure model
 - Method 4 structure files may have a load case file (*.lca) referenced in the structure model but was not saved in the model. This could occur if the .lca file was deleted or moved from its referenced location. When adding a model to **PLS-GRID**, **PLS-POLE** or **TOWER** will warn the user about this as shown in Figure 9.
 - One way to resolve the issue is to open the structure file and use the **Loads/ Remove LCA/LIC/EIA File References** command. If there are multiple structures with this issue then the **File/ Batch Modify** command can be used to remove the lca file reference across multiple structures.

- Another way to resolve the issue is to use one of the file search options or the *Remove reference to file* option in the Project Repair Wizard (Figure 9).

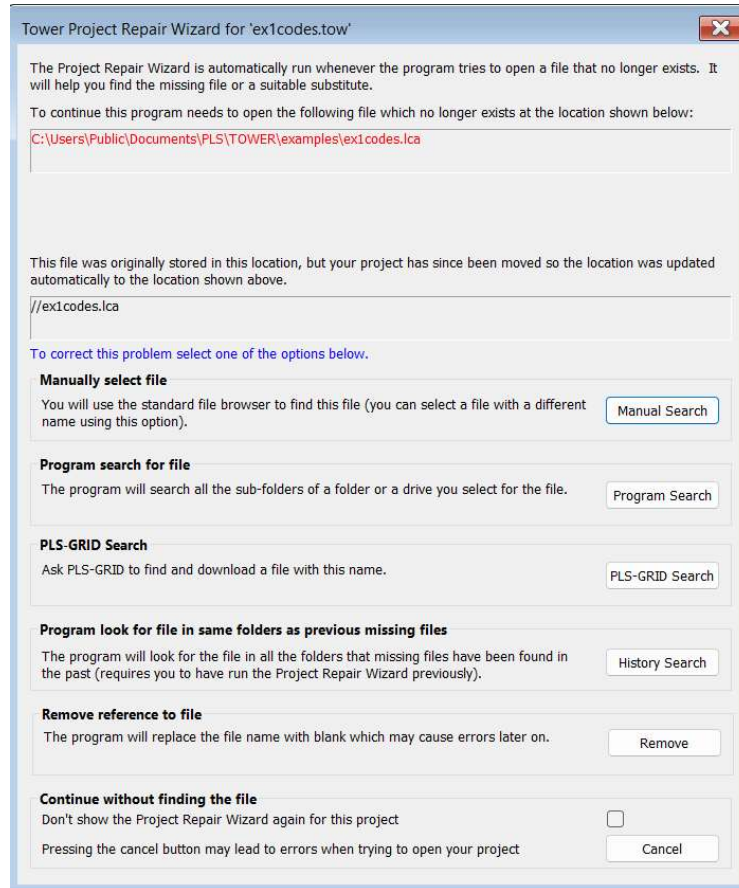


Figure 9: Missing LCA file notification in Project Repair Wizard

- Site specific structure files with missing base files
 - M1 and M4 site specific structures in **PLS-CADD** contain an embedded reference to the parent structure model it was derived from. When opening a **PLS-CADD** model, creating a backup (*.bak) of a **PLS-CADD** model or when adding a model to **PLS-GRID**, the program will scan all the structure files and notify the user if the parent model of a site specific no longer exists. The typical warning message is shown in Figure 10. This message gives the user the option to remove the reference to the parent structure file but still keep the structure as site specific.

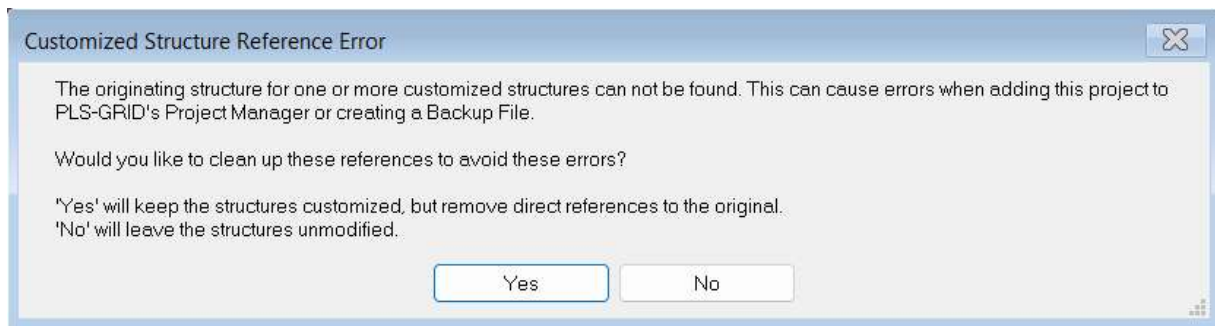


Figure 10: Site specific structure parent structure reference warning

- If you select 'No' in the dialog, then the structure will not be modified, and the user will need to resolve the issue in a different manner. The **Structures/ Customize Structure/ Clear Site Specific Flag for Structure Range** command in **PLS-CADD** can be used to reset site specific structures back to regular structures, remove the site specific flag for each structure, and remove references to the parent structure file.
- Another option to remove missing references to parent structure files is in the Project Repair Wizard select the *Remove reference to file* option shown in Figure 11.

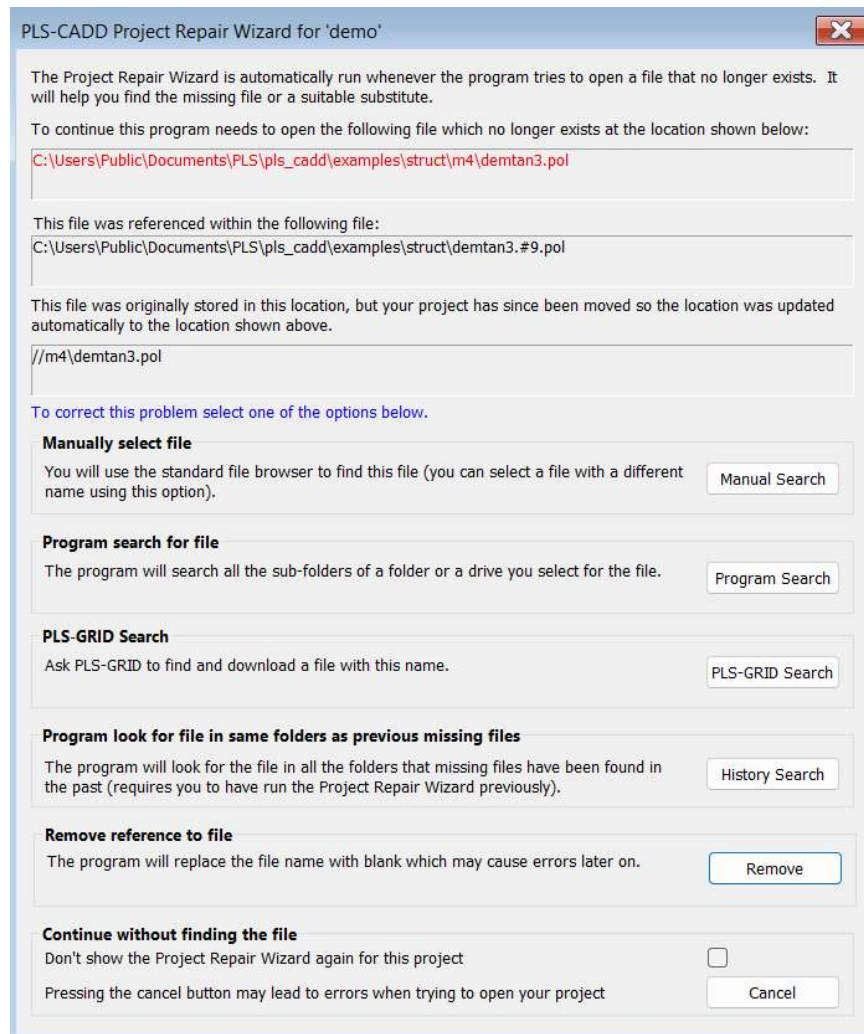


Figure 11: Missing parent structure file reference in Project Repair Wizard

These file reference errors are the most common errors encountered when adding models to **PLS-GRID**. Users may encounter other types of file reference errors and some of the features and tools discussed here could also be used to resolve other reference file errors.