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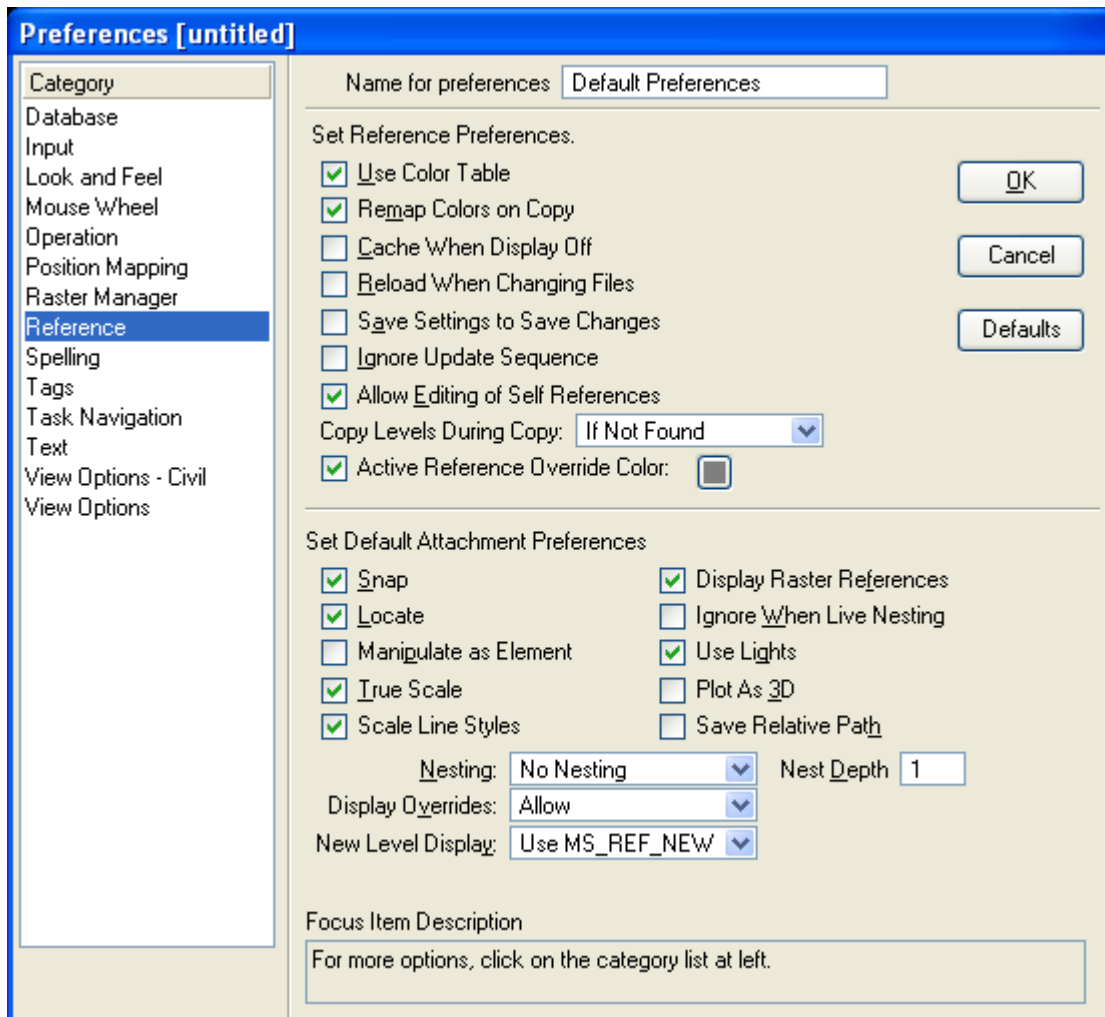
CHAPTER 9 – REFERENCE FILES

9.1 – Introduction to Reference Files

A **reference** attachment is a model, or a MicroStation file (.dgn) attached to and displayed with the active model for plotting or construction purposes. You can attach, as a reference, a model that resides in either the open DGN file, some other DGN file, or a DWG file. A reference cannot be modified with default attachment settings. However, it is now possible in V8i to “activate” a reference file, make edits, “deactivate” the file, and return to original file session. This chapter covers some of the key features for reference files and what is the preferred method or “standard practice” is for using these features on EFLHD projects.

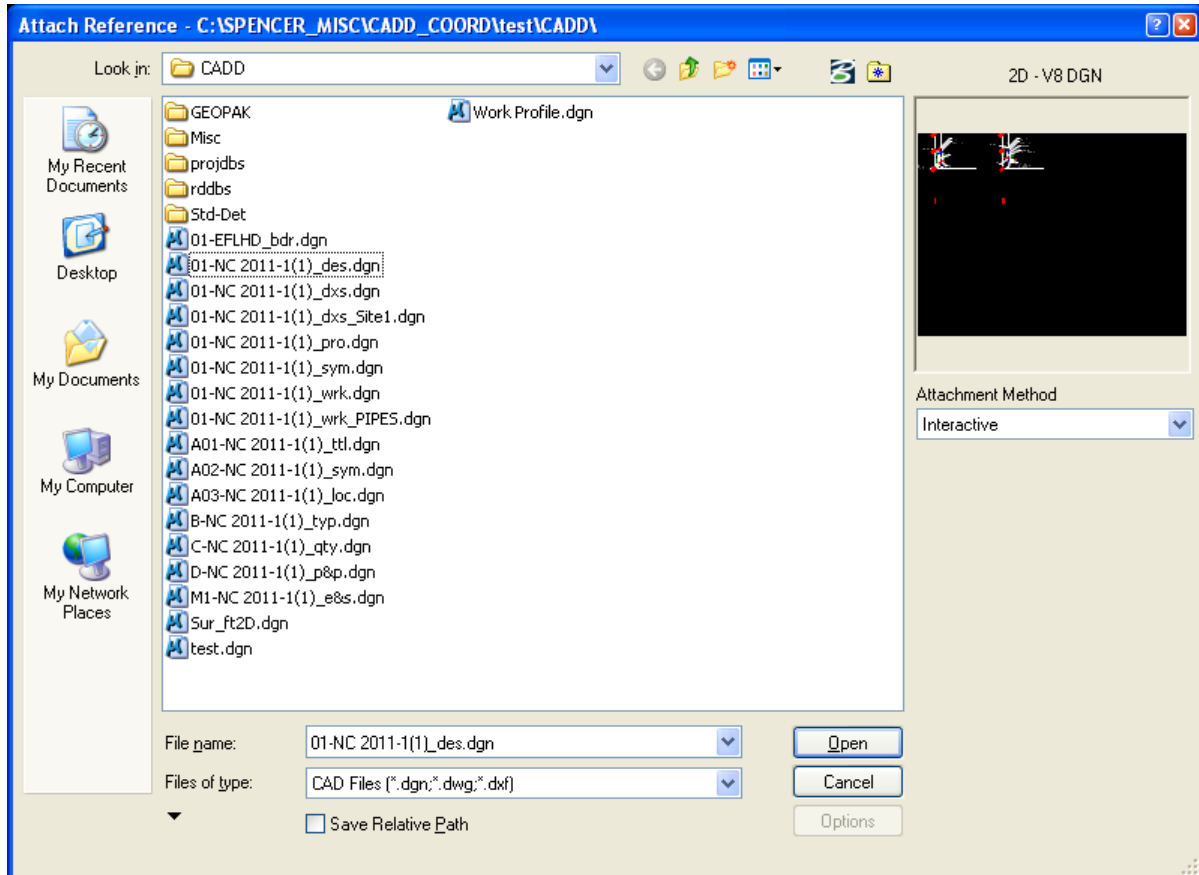
9.2 – Reference Preferences

There are user preferences that affect reference file operations. These can be found from the MicroStation main menu, under **Workspace > Preferences**. The figure below shows the default EFLHD settings. These default settings do not dictate what the standard practice is, but do allow the user control of reference operations.



9.3 – Attachment Properties

When the attach command is selected within the Reference dialog, a new Attach Reference dialog appears. From this dialog a user can select a file for attachment and specific properties on how that file is attached.



9.3.1 – Attachment Method

The Attachment Method sets the view of the model being attached. Each method has an effect on how and where the model is placed into the active drawing.

- **Interactive** — Opens the Reference Attachment Settings dialog box for each file selected. This method allows placement of a model that is not geographically located with the active file. An example of use with the Interactive model would be when attaching a profile drawing to a plan and profile sheet.
- **Coincident** — Aligns the references with regard to design plane coordinates only.
- **Coincident World** — Aligns the references with the active model with regard to both Global Origin and design plane coordinates. (This method is recommended for most attachments, especially when attaching overall design or survey files.)

- **Top** (3D files: Right, Front, Isometric, Bottom, Back, Left, Right Isometric) — Sets the views used to attach the reference. If the file being attached is 2D, you can choose only the Top view.

It is necessary to use either Coincident or Coincident



World methods when developing design which may be used for control, staking, coordinates, stationing or offsets, etc.

Scaling, rotating or moving referenced files removes the ability to obtain accurate control and/or quantities from design files and is not recommended.

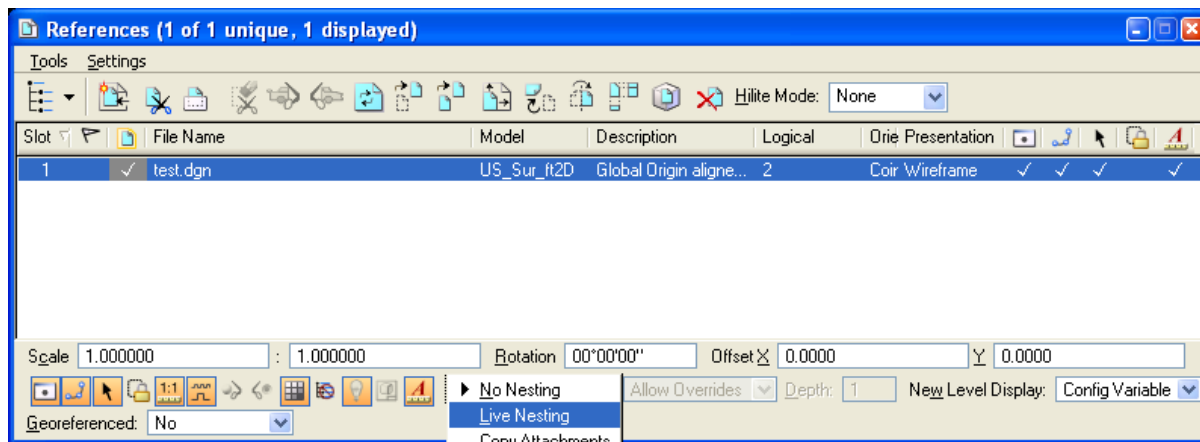
9.3.2 – Relative Path

For Architect-Engineer (A/E) consultants, saving the relative path when attaching a reference file is particularly important. If this setting is on, the relative path to the DGN file that contains the model/file to attach is saved in the attachment data. This is recommended if you do not expect the internal directory structure of your workspace's project component to change, but the overall location of the file does change. This is the case when final electronic files are delivered to EFLHD and put on their CADD server. EFLHD recommends that all files are attached with the "Save Relative Path" toggled on. Additionally, this is another reason why following the directory structure for EFLHD projects is mandatory.

9.3.3 – Nesting Depth

When a MicroStation design file used as a reference has its own attachments, they become nested references. The links between these files can be maintained through many levels (depths) of nesting, so that if you open only one file, you can view the contents of many files. The individual references can be updated, and the changes will be shown in the master (or parent) file. When you attach a parent reference to your model and turn on live nesting, you can also control how many levels of nested references are attached to the model.

Once a model/file is referenced, it can be highlighted and then the nesting properties changed. This can also be done when attaching a model with the Interactive Method.



The V8i CPG does not control the use of nesting. If properly used, nesting can be a good solution. However, if used incorrectly nesting can create errors within a MicroStation file. If nesting is used, EFLHD recommends maintaining a simple use of the feature. Levels of nesting should normally not exceed 2. Additionally, do not use nesting when the parent file references itself. Doing this may cause nested loops, which can make a file inoperable.



EFLHD does not recommend using nesting levels that exceed 2.

Additionally, loops or complexity can be a result when a file references itself and nesting is used and therefore is not recommended.

9.4 – Motif Files

A “Motif” is a MicroStation file that establishes “Settings” for reference file attachments. Reference file displays and level displays can be fixed to be used in the production of grouped plans (i.e. Erosion Control Plans, or P&P sheets). Motif files can be an enormous aid in plan production because the user can manipulate a single file that affects the appearance of multiple sheets all at once.

The standard practice for creating Motif files is to have one file without containing any active elements. All reference files that are needed for plan production are attached. Then, all level and display settings are made to those references. Once this Motif file is referenced with Live Nesting = 1, all desired files and levels are correctly viewed.

It is highly recommended to not use a design file for the purpose of a Motif. In a design file, changes occur regularly and this can change plans sheets to be incorrect. Once a Motif file is created and properly set, no additional modifications are needed.

9.5 - True Scale

The most common way to attach a reference is to attach it coincidentally, which means that the coordinates of the referenced model's design plane, and optionally its Global Origin, are aligned with those of the active model, without any rotation, **scaling**, or offset.

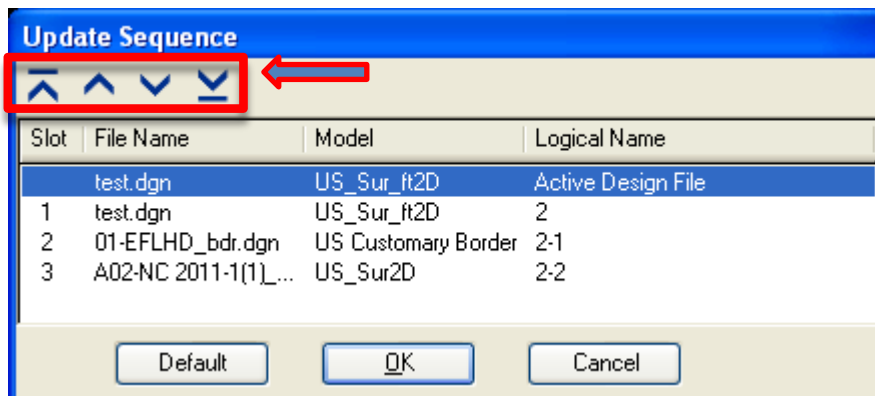
EFLHD recommends that a user turns on True Scale to set the units in the active model to align one to one with units in the reference. Understandably, this will not always be the wanted result. Sometimes scaling a reference file is needed. An example is when referencing a model within a detail or when attaching a border sheet.

9.6 – Update Sequence

When updating a view, MicroStation follows the following update sequence by default: the active model, and then the references in their attachment order. A user can customize the update sequence used with the active model using the Update Sequence dialog box. The customization capability is used to prioritize the display of overlapping elements. The importance of this feature mostly is exercised when a design or plan sheet has a shape or area type element.

An example of its use would be on a construction phasing detail where a shaded shape was placed to designate a specific phase during construction. The shape would be placed on the bottom of the sequence where the design line work and text were above and on top of the shape to be displayed.

The sequence for reference file updates can be modified from the References dialog by choosing **Update Sequence**.

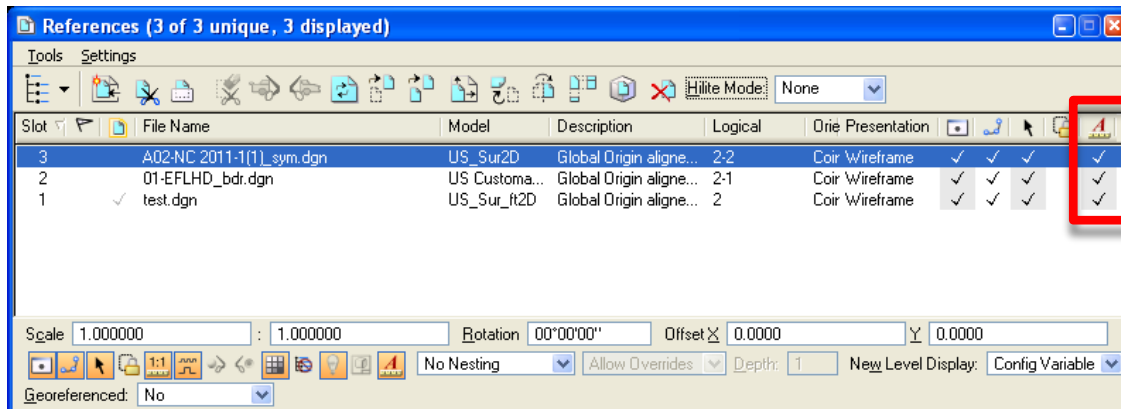


9.7 – Annotation Scale in References

EFLHD highly recommends the use of Annotation Scale when placing text, notes, and dimensions. Using this ensures the correct styles and scales. The reference file support of Annotation Scale is new in MicroStation V8i.

Now the active model's annotation scale applies to annotations in references, too. If you change the scale of the annotations on the sheet, the scale of the annotations in the references changes as well. To make a reference's annotations use the active model's annotation scale, the option must be turned on.

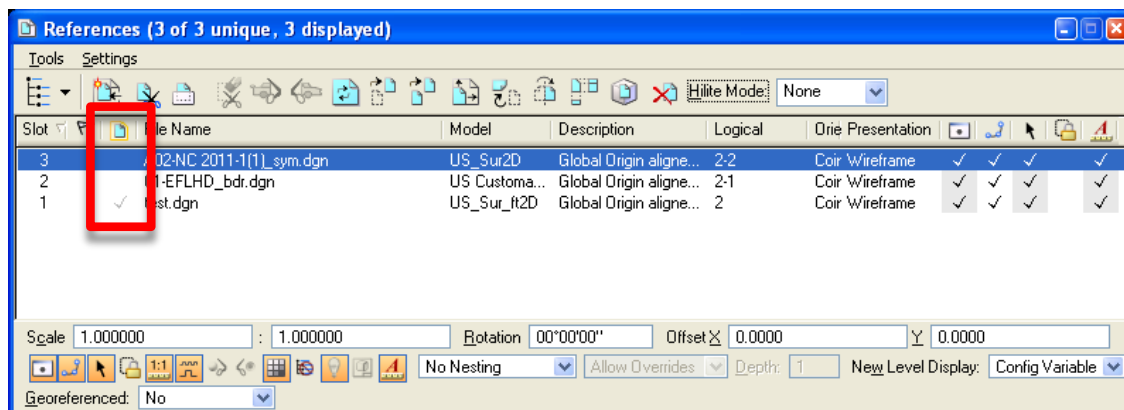
In the References dialog there is a new column named Use Active Annotation Scale. If the setting for annotation scale is not visible, “Right-click” in the column headings and turn it on. To turn on this option for a reference, click in this column to make a check mark appear.



9.8 – Activate References for Manipulation

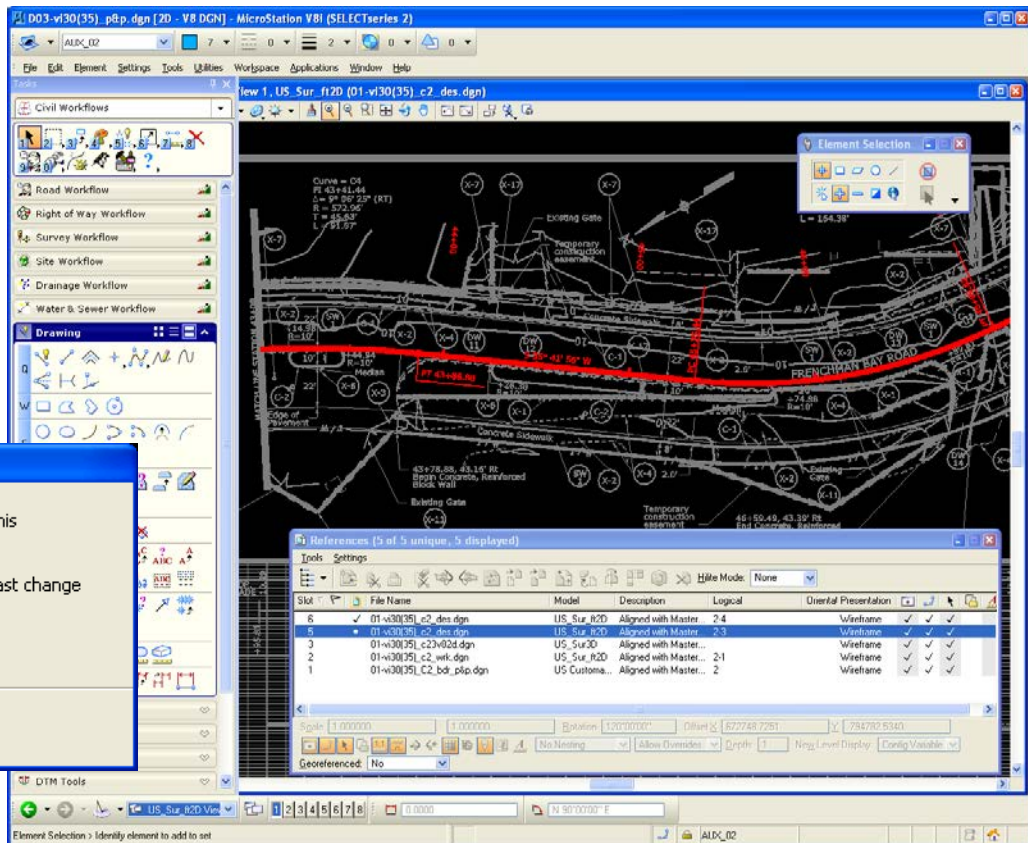
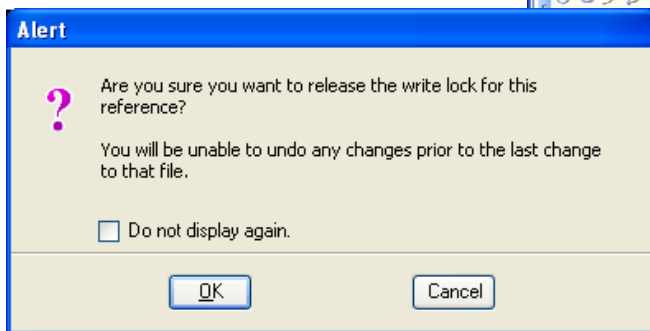
This will allow you activate an attached reference file (dgn) to make changes to that reference. This is done without opening the reference file.

1. Open the **References** tool.
You will see a list of all attached references.



2. The third column in the tool box is the **Activate Status** setting.
Highlight the reference file you want to activate.

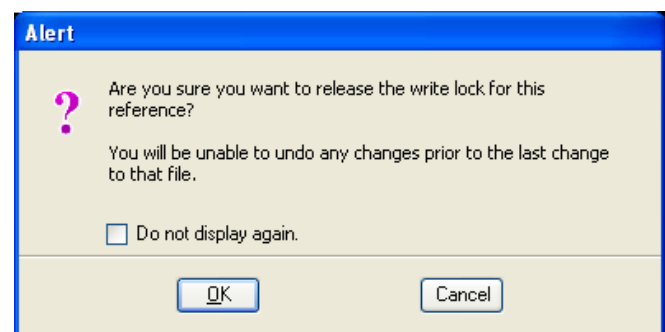
- Double-click the highlighted file in the Activate Status column.
(all other references become grayed out)
Elements in the activated reference file can now be modified, as if you had opened that file.
- When finished, double-click the Activate Status column again to release the reference file.
You will be asked if you are sure you want to release the file;



Note that you will be unable to undo the changes you just made to the reference file.

These changes are reflected in the activated reference attached and any other files with this file attached.

If you do not “release” the activated reference file when exiting your file, the activated reference is considered to be an open dgn file.



This would mean, the file would be read-only when you attempt to open the reference file directly.

- Hit **OK** to release the file.