

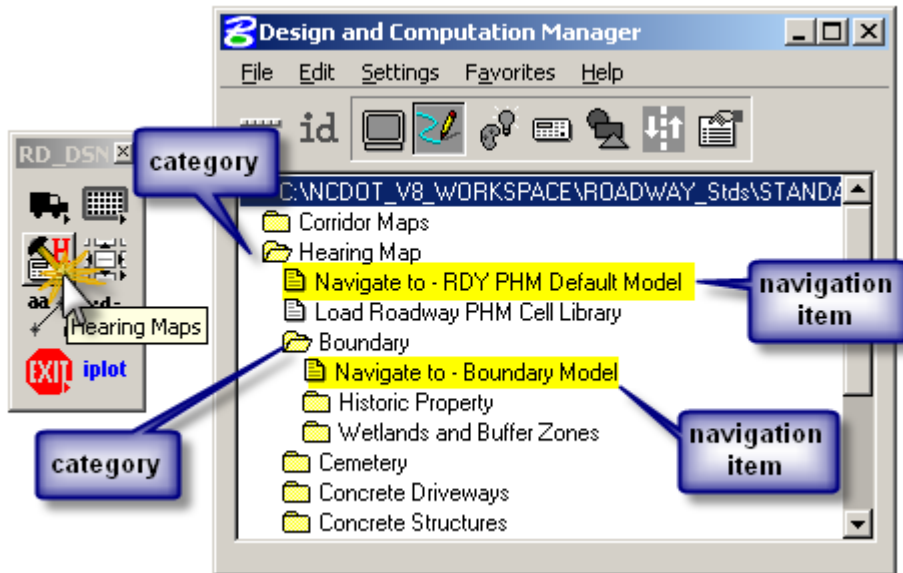
NCDOT ROADWAY DESIGN PUBLIC HEARING MAP

CHAPTER 3: HEARING MAP COMMON CADD PROCEDURE

Navigating Through File Models

Hearing Map D&C Manager

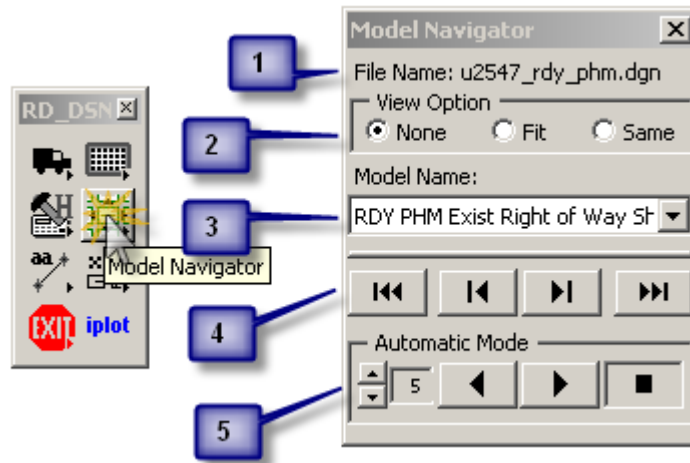
Roadway Designers can use the hearing map D&C Manager to navigate through the various file models. The navigation item can be commonly found under each main category heading. Double click on the navigation item that is in each file model folder.



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Roadway Model Navigator

Roadway Designers can use the Roadway Model Navigator to navigate through the various file models. This VBA program can be found in the **RD_DSN** tool frame.



1. Active File Name
2. View Option
 - **None** - With the next model opened, no view intervention is applied. That view will be the last view area of the model.
 - **Fit** - With the next model opened, that view will be "fitted" to screen of all graphical elements displayed. An example application of this view option is when navigating through cross section sheets (XPL).
 - **Same** - With the next model opened, that view will be same as the previous model view. An example application of this view option is if the DSN file is composed of many models, right of way, horizontal alignment, and slope stake. Navigating through these models will have the same view area as the previous model view. Similar to RD_AutoXD.
3. Active File Model Name. The drop down box can be used to navigate to other file models.
4. File Model Navigation Buttons. From left to right, the buttons are first, previous, next, and last file model.
5. Under Automatic Mode, each adjacent file model can be access automatically in a timed rate. The lower the number the faster access time. Valid rate ranges from 1 to 10 seconds.

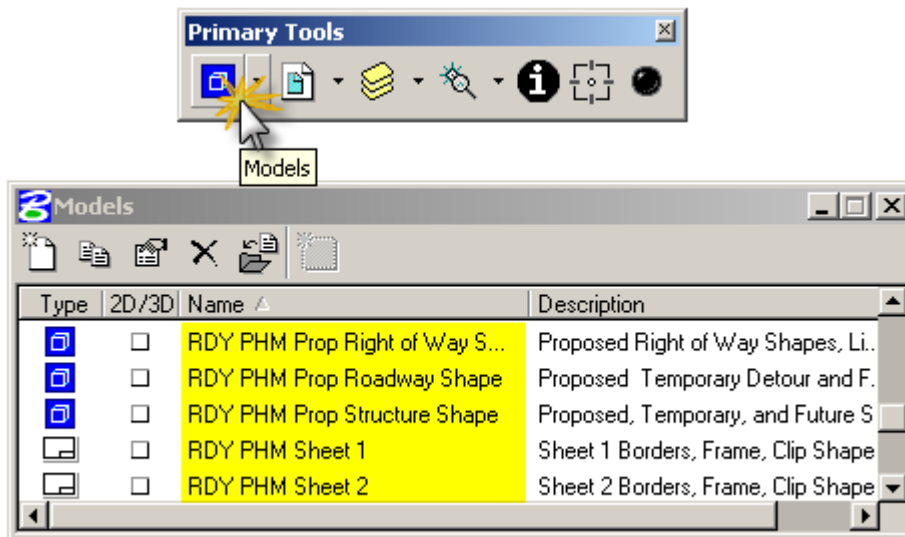
Warning:

Currently, while the Model Navigator dialog box is active and if another file model is navigated to or made active by another program, e.g. D&C Manager of Bentley Models dialog box, then Model Navigator will not update to the new active file model. To resolve this issue, close the Model Navigator and reload it. This will update the active file model in the Model Navigator file model name field.

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Bentley Models Dialog Box

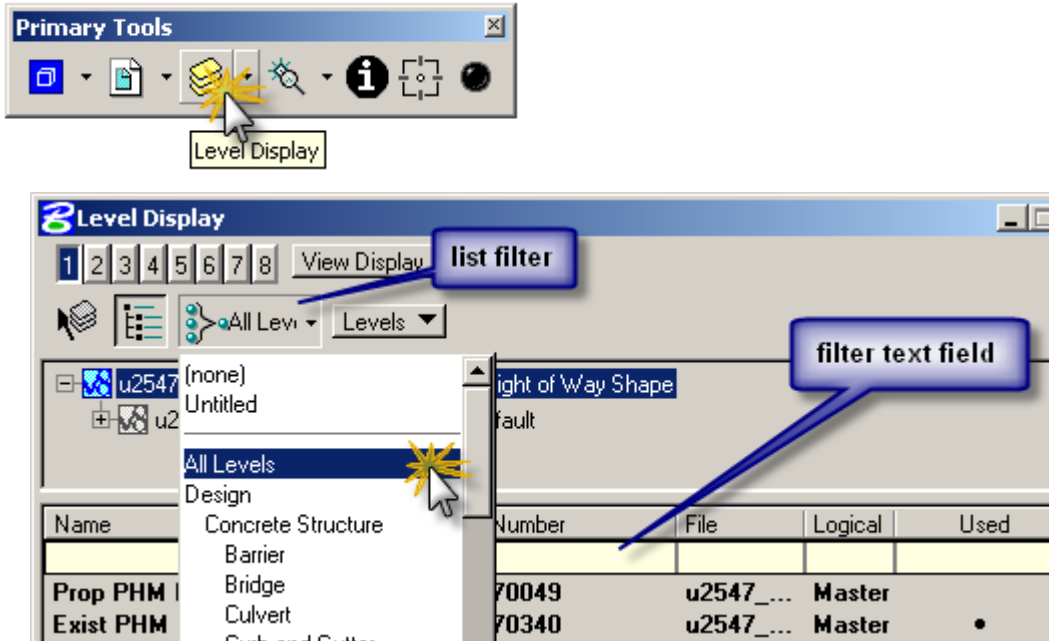
Roadway Designers can use the Models dialog box to navigate through the various file models. This Bentley toolbox can be found in the **Primary Tools** tool frame. Double-click on the file model name to navigate to that file model.



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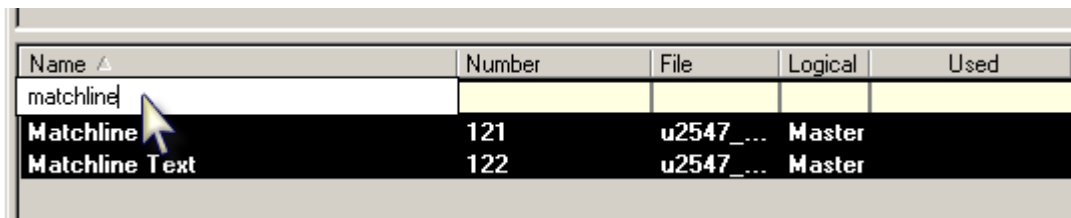
On-the-Fly Filters

On-the-Fly filters can be enabled in the **Level Display** dialog box. By selecting any listed filter, except “(none)”, multiple columns of yellow text field fields will appear in the level list area.

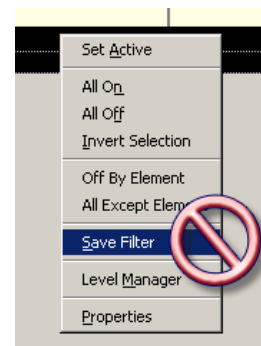


Even though any aspect of a level's attribute can be filtered, e.g. level number, description, file model usage, file model referenced logical name, etc., the level name is commonly used to filter out of other level names to be displayed.

Key-in the key word or phrase of a level name in the level name filter text field and depress the **ENTER** key on the keyboard to filter out all level names except for what is keyed-in.



It is not recommended that on-fly-filters be saved. On-fly-filters are saved with the file and other Unit's Designers can load up the save filters. Right clicking on the level list area and selecting **Save Filter** can accidentally save on-the-fly filters. DO NOT DO THIS.

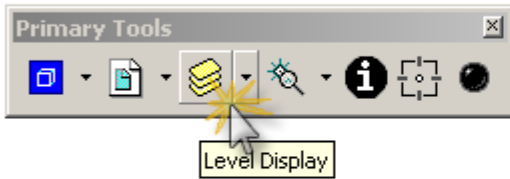


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Turning Levels On or Off in Nested Referenced File Models

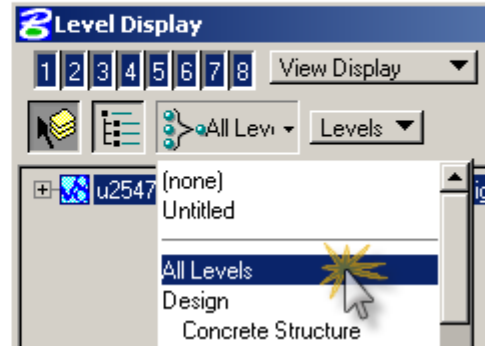
Step 1.

Invoke the **Level Display** tool.



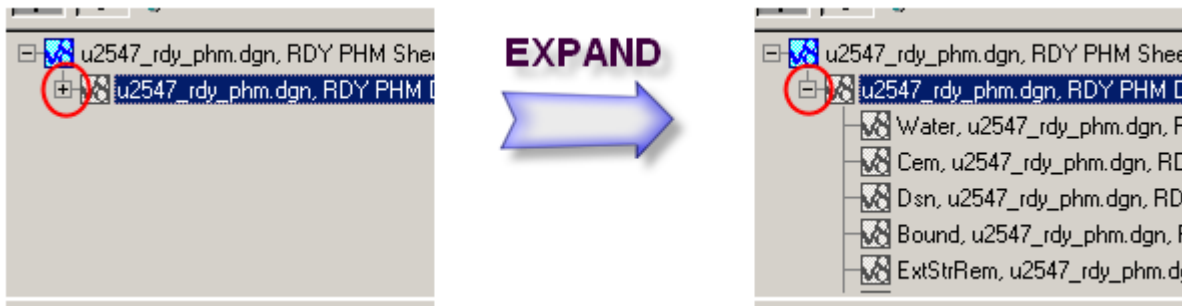
Step 2.

Change level filters to **All Levels**.



Step 3.

If individual referenced file models are to be displayed and selected, expand the reference hierarchy to display the nested referenced file models by clicking on the positive "+" sign and changing it to a negative "-" sign. Select the reference file model(s) to turn levels on or off.



If all referenced file models are to be displayed and selected, collapse the reference hierarchy to display the previous primary depth of the nested referenced file models by clicking on the negative "-" sign and changing it to a positive "+" sign. This process indicates that all nested file model levels are effected to be turned off or on in the next step (not just one or some particular referenced file models levels).



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Step 4.

Last, turn off or on the level(s) for display by selecting the levels in the level list. A light gray line on the level row means the level is turned off for display. Below is an example showing all levels in the selected referenced file model(s) are turned on to be displayed except level “Prop SS Fill Line” is turned **OFF** for displayed (not displayed).

Name	Number	File	Used
Prop SS Transition Line	712	u2547_rdy_phm.dgn	•
Prop SS Misc	711	u2547_rdy_phm.dgn	•
Prop SS Fill Line	710	u2547_rdy_phm.dgn	•
Prop SS Cut Line	709	u2547_rdy_phm.dgn	•
Prop PHM White Shape	70433	u2547_rdy_phm.dgn	•

A black line on the level row means the level is turned on for display. Below is an example showing all levels in the selected referenced file model(s) are turned off for displayed (not displayed) except level “Prop SS Fill Line” is turned **ON** to be displayed.

Name	Number	File	Used
Prop SS Transition Line	712	u2547_rdy_phm.dgn	•
Prop SS Misc	711	u2547_rdy_phm.dgn	•
Prop SS Fill Line	710	u2547_rdy_phm.dgn	•
Prop SS Cut Line	709	u2547_rdy_phm.dgn	•
Prop PHM White Shape	70433	u2547_rdy_phm.dgn	•

Note that multiple referenced file models and levels can be selected by holding down the **Ctrl** button and left mouse click.



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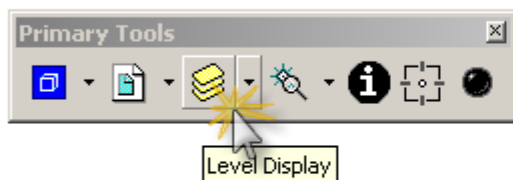
Turning Off All Levels Except

What is the problem with the current **All Except Element** command?

In the current version of Microstation, the **All Except Element** command is limited to turning all levels off except for the selected element in a single file model. While the **All Off** and the **All On** command will work for all or multiple file models selected. The following procedure will extensively guide you through the proper step in completing this task.

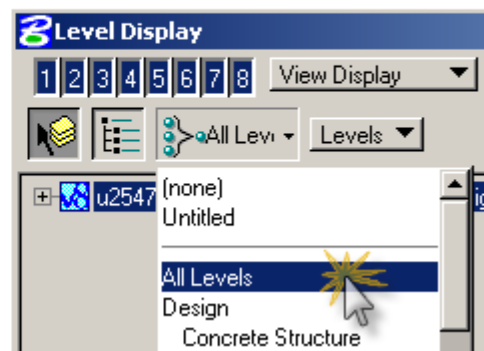
Step 1.

Invoke the **Level Display** tool.



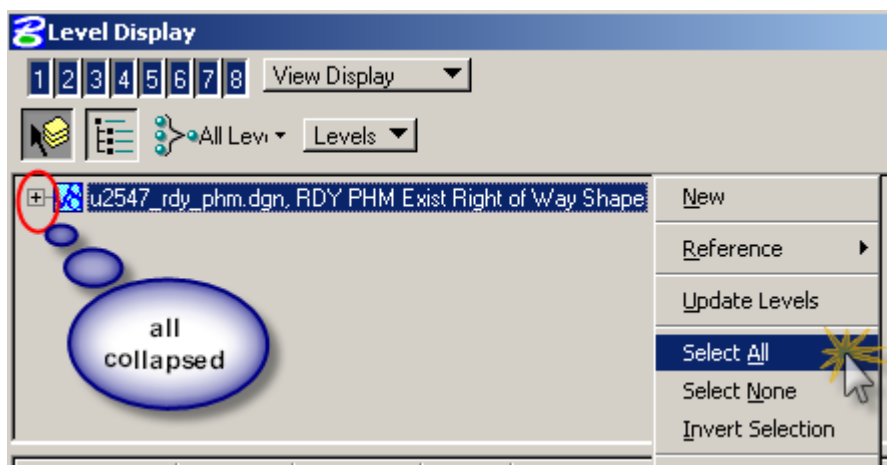
Step 2.

Change level filters to **All Levels**.



Step 3.

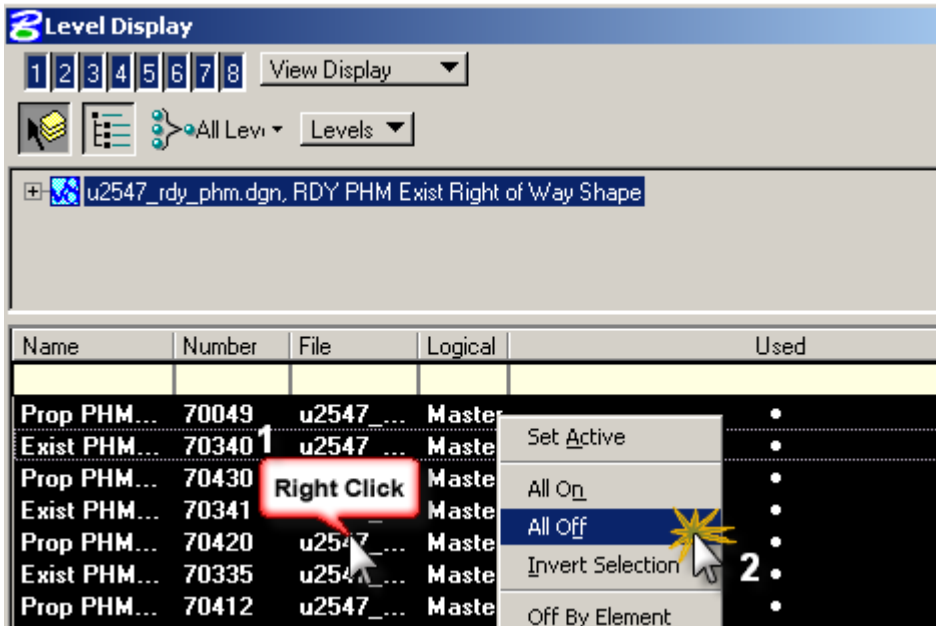
While having all referenced file models collapse (indicated by the '+' (positive) sign), right mouse click on the active file model and select **Select All**.



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Step 4.

Right mouse click (1) on the level list area and select (2) **All Off**. This step turns all levels in all file models off.



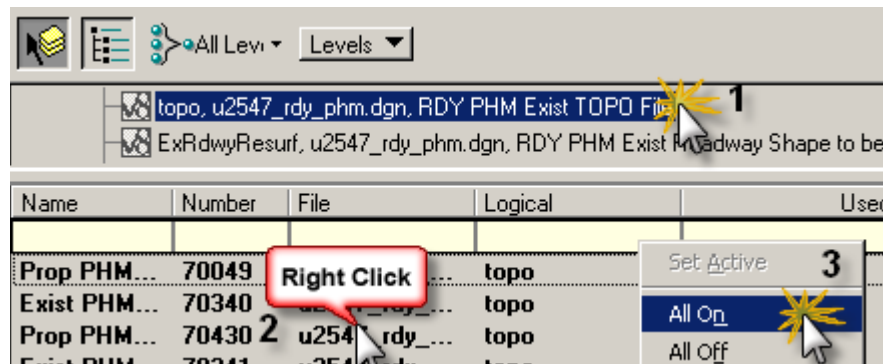
Step 5.

Expand all referenced file models. This is indicated with the '-' (negative) sign.



Step 6.

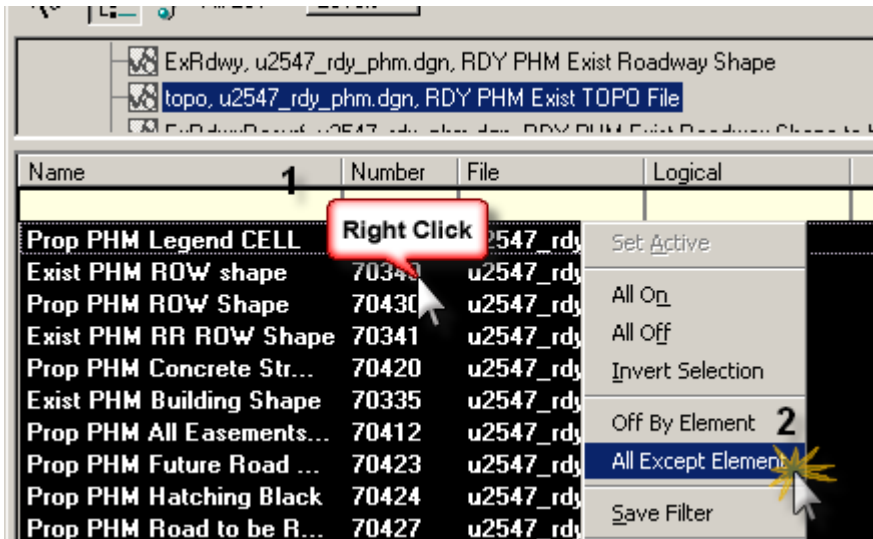
Select (1) just the appropriate model and right mouse click (2) on the level list area and select (3) **All On**. This will turn on all levels in just the selected file model.



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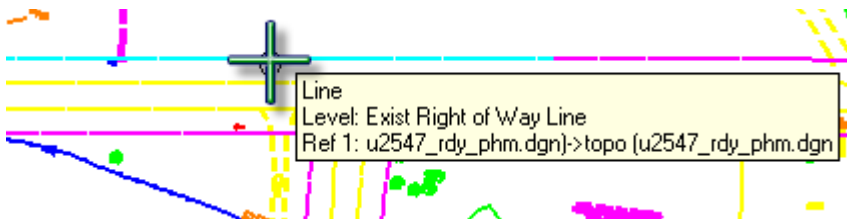
Step 7.

Right mouse-click (1) on the level list area and select (2) **All Except Element**.



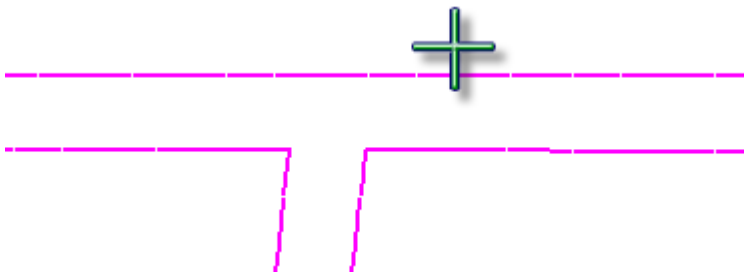
Step 8.

Select the element to remain on while the rest of the other levels are to be turn off.



Step 9.

Last, data point to anywhere on the screen again to accept. This step will turn off all levels in the selected model off **EXCEPT** the selected element level.



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Copying Individual Level from a Referenced File Model

Step 1.

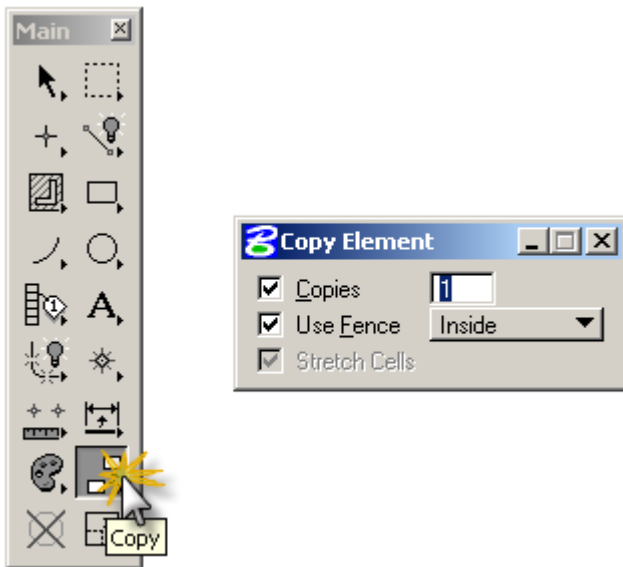
Turn off all levels in the active file model.

Step 2.

After the desired level(s) from a referenced file model is displayed and all undesired referenced file model levels are turned off, place a fence around the area to copy into the active file model.

Step 3.

Click on the **Copy** tool and data point to anywhere on the screen.



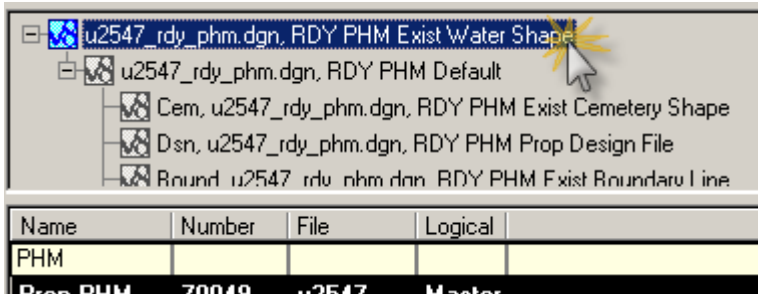
Step 4.

Click on the **DP to Same Location** toolbox to copy the entire content inside the fence to the active file model.



Step 5.

Lastly, select the active model (top-most), do not double-click or collapse, and turn on all levels in just the active file model selected to verify that the process has been successfully completed.



Copy vs. Merge Into Master

For referenced file model elements the main difference between copying and merging the referenced elements is that merging will detach or loses the reference attachment. Whereas copying the elements will still leave the original referenced file model attached.

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Hands on Review

1. User MapDrive to connect to U2547 as R:\ Drive.
2. Open **U2547_RDY_PHM_FINISH.DGN** file in the **R:\Roadway\HearingMap** folder.
3. Navigate to the **RDY PHM Default** file model.
4. Go through the steps to turn off all levels except the buildings level for display.

HINT: The referenced file model the buildings level is located in the referenced **TOPO** file model.

5. **Undo All** once this task has been completed and exit out this file.

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Accelerating Productivity with Hearing Map File Models

Generally speaking, we are still limited to one session of Microstation opened for editing per Microstation file as in the past. However, since hearing maps are now created with Microstation models, some of many benefits of Microstation models and with a well coordinated strategy, multiple Designers can work on individual set of models in different files. This can result in a faster turnaround time for completing the overall project.

Step 1.

Create a hearing map file from the hearing seed file.

Step 2.

Complete the tasking for merging TOPO files into the TOPO model.

Step 3.

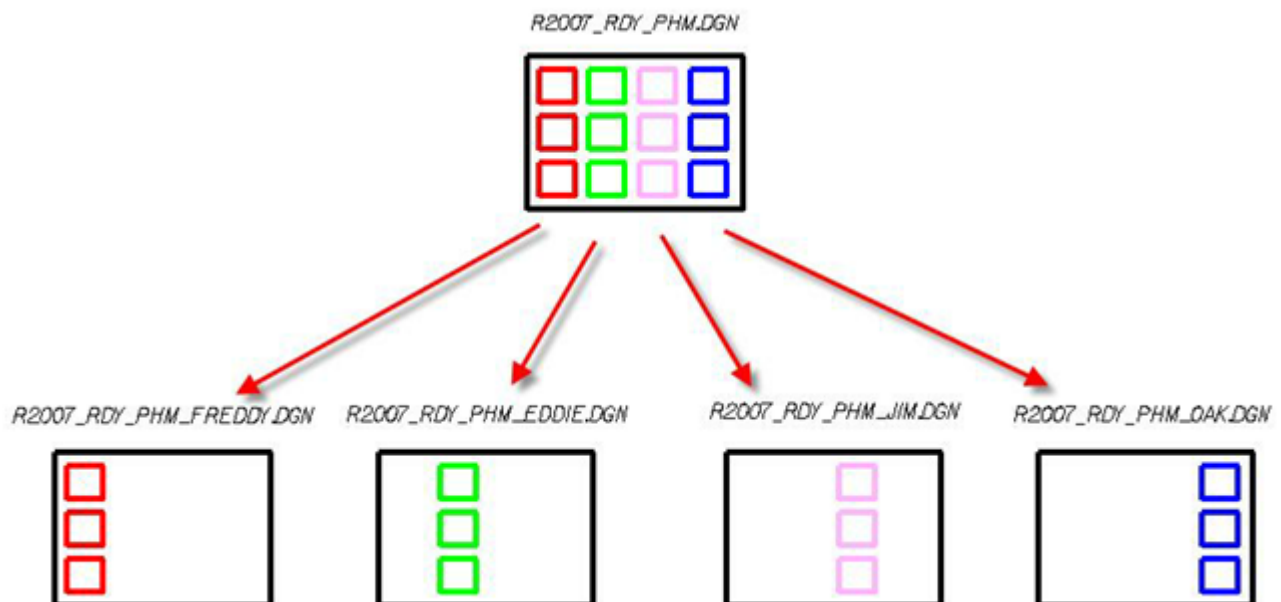
Complete the tasking for what is required in the Horizontal Design model.

Step 4.

Spawn this original hearing map file by the number of Designers who's going to work hearing map. Rename the cloned files to some form of scheme in the file name description field. One example schema that can use is the Designer's name.

Step 5.

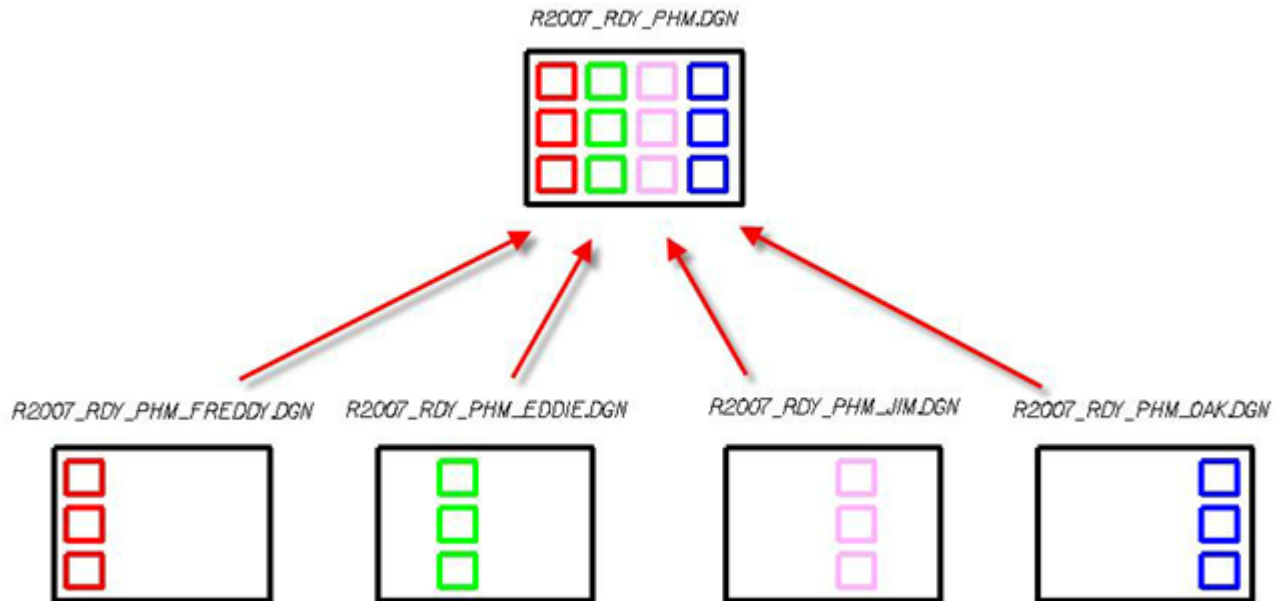
Optional. For the cloned files, NOT the original hearing map file, delete the models that Designer will not be working on for that specific file. See sketch below. The color-coded containers represent set of like-feature models in a Microstation DGN file.



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Step 6.

Once the task for each model or set of models has been completed in the cloned files, merge the updated models back into the original hearing map files. The referenced models merging process is outlined in the PHM class manual. At this stage it is important to note that since the file name can be different, the model names are all the same. Merge identical model from the referenced cloned files back to same model name in the original hearing map file. For example, merge model RDY PHM Exist Structure Shape from R2007_RDY_PHM_JIM.DGN (cloned file) to the same model RDY PHM Exist Structure Shape in R2007_RDY_PHM.DGN (original file).



Step 7.

Lastly, any additional changes to the hearing maps should be done in the cloned files. Once completed in the cloned files, delete all elements in the original file model first. Then update the original file model by merging in the same model name from the clone file.