

MicroStation V8i - Levels

8.0 Levels

Levels within MicroStation are very much like a series of transparent overlays. These levels can be used to organize information within the design file. They also allow the user to interact with the design file more efficiently through the ability to turn on and off levels of information to enhance viewing and working within that file.

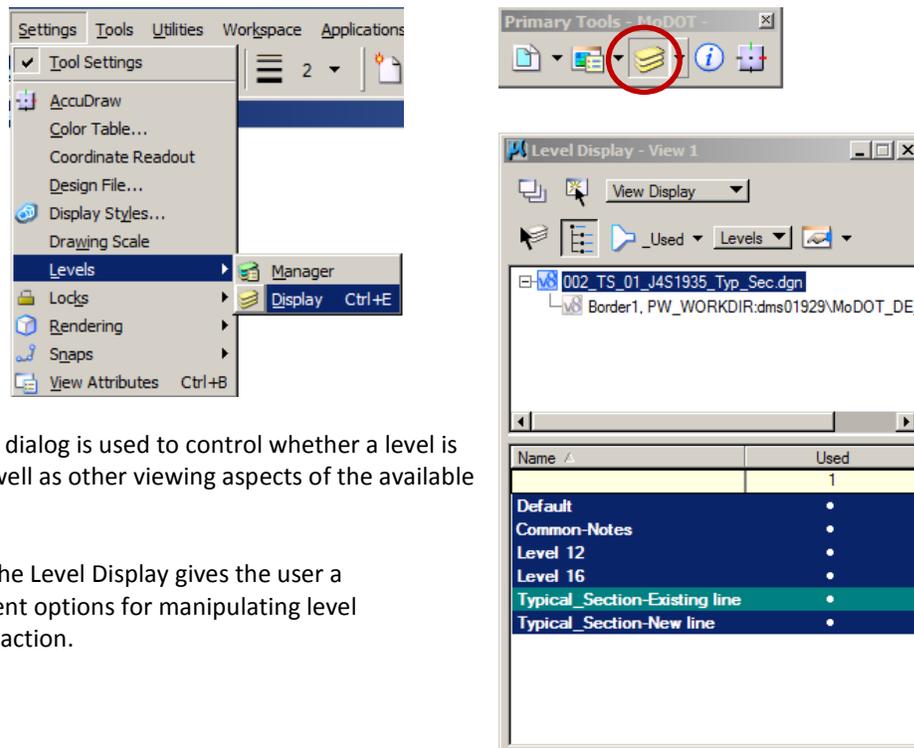
MicroStation V8i employs a “named” level system rather than a numbered level system used in older versions such as MicroStation J. MicroStation V8i is also not restricted to the 63 levels used in the previous versions. At the date of this publication, MoDOT has over 600 levels in use.

MoDOT will utilize a series of levels with names reflecting the type of elements that our different offices work within their files. The first 63 levels in MoDOT’s new level system correspond to the old numbered system from MicroStation J.

8.1 Level Display

Used to turn on and turn off levels in a model. Also used to apply filters created in the Level Manager dialog to a model.

Opens when the *Level Display* icon in the Primary Tools toolbox is selected, when Levels > Display is chosen from the Settings menu, or when Level Display is chosen from a view window control menu.



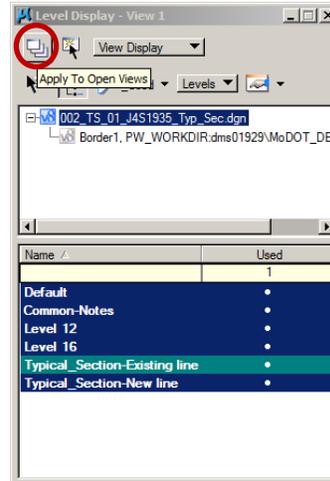
The Level Display dialog is used to control whether a level is visible or not as well as other viewing aspects of the available levels.

Once activated, the Level Display gives the user a number of different options for manipulating level viewing and interaction.

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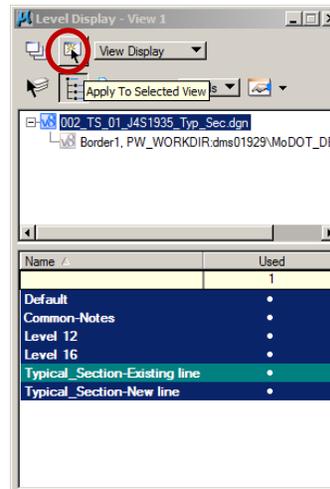
Apply To Open Views

If on, targets the open views for level display settings adjustment.



Apply To Selected View

If on, targets the selected view for level display settings adjustment.



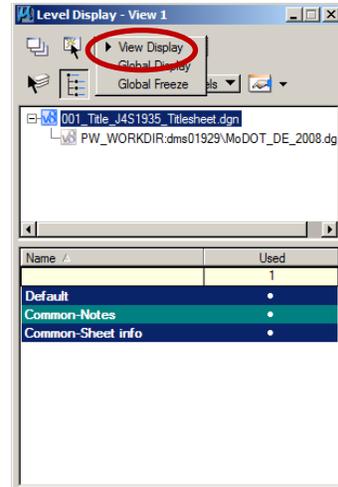
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Mode (option menu)

Sets the operating mode for this dialog.

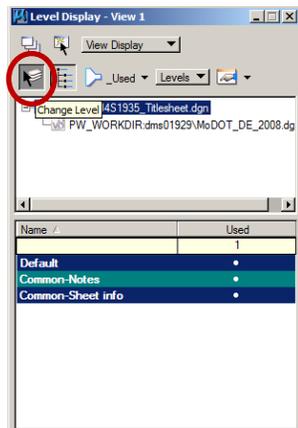
Turning on/off View Display, Global Display, or Global Freeze is basically the same as thawing/freezing levels, with one difference. When a level is frozen, any cells or references placed on that level will not be displayed, regardless of how levels are used in the elements that make up the cell or reference.

- View Display — Changes in the level display affect the chosen view in the active model or the level.
- Global Freeze — Indicates whether the level is frozen. If frozen, elements on the level are not displayed and cannot be printed. When a level is frozen, all component elements contained in shared cell instances or references placed on that level are not displayed. If a reference is assigned to a level, and the level is frozen, it does not display.
- Global Display — Changes in the level display affect all views in all models in the open file.



Change Level

Opens the Change Level tool, which is used to toggle the display or locked status of a level.



Tool Settings	Effect
Level	<p>Sets the mode of the change.</p> <ul style="list-style-type: none"> • Display Only — Turn on the display the selected level(s) only. • Display Off — Turn off the display of the selected level(s). • Lock — Lock the display of the selected level(s) in the current state. • Unlock — Unlock the display of the selected level(s). • Set Target — Set the target level for the display of the selected level(s). • Set Active — Set the active level for the display of the selected level(s).

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To display elements on the selected level only

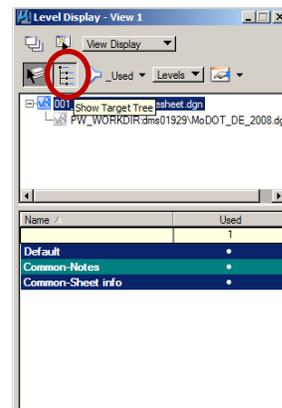
1. From the Level Display dialog, click the Change Level icon. The Change Level tool settings box opens.
2. Choose Display Only.
3. Identify an element on the level to be display
4. Accept the change
Only elements on that level display.

To turn off the display of a level(s)

1. From the Level Display dialog, click the Change Level icon. The Change Level tool settings box opens.
2. Choose Display Off.
3. Identify an element on the level to be turned off.
4. Accept the change
The display of the selected level is turned off.

Show Target Tree

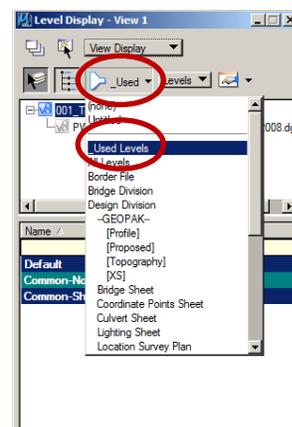
Toggles the display of the target tree, which is used to set the target model for level display settings changes or sets the model as a target.



List filter (option menu)

If the mode option menu is set to Levels, sets the Filter — named or defined on-the-fly— applied to level display

We normally keep this set to USED so that we can see any levels that are available in the file.



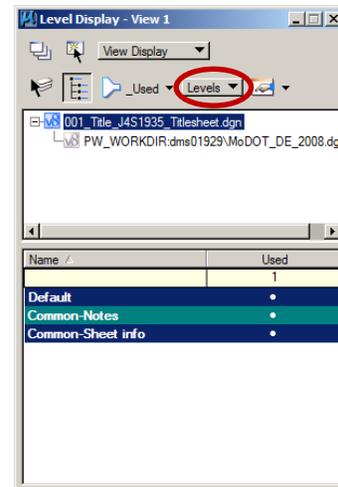
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Show level names or filters (option menu)

Determines the contents of the list box.

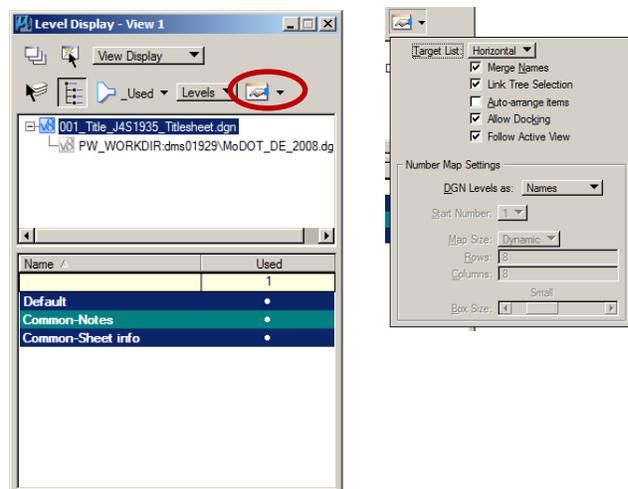
- Filters — Lists level filters defined in the open file (and in reference attachments if they are included in the target tree).
- Levels — Lists the levels in the open file (and in reference attachments if they are selected in the target tree).

At MoDOT, we normally leave this set to LEVELS.



Dialog Properties

Pops up the Level Display Properties dialog, which is used to set the properties of the Level Display dialog.



Target List

Sets the orientation of the Level Display dialog.

- Horizontal — Sets the Level Display dialog to display the Target Tree above the list box.
- Vertical — Sets the Level Display dialog to display the Target Tree on the left and the list box on the right side.

Merge Names

When multiple targets are selected, only unique level names are displayed. For example, if 10 instance of the same level name exists that level name will only appear once.

Link Tree Selection

Links the actions of the Level Manager and the Level Display dialog. When turned on, any target file(s) selected in the tree in Level Manager are selected in Level Display and vice versa..

Auto-arrange items

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If on, icons in the tool bar wrap when the dialog is resized.

Allow Docking

If on, the next time you open the Level Display dialog, it will be available for docking.

DGN Levels as:

Sets the interface of the Level Display dialog to display Names or Number Map.

- Names — Sets the Level Display dialog to display a list of levels by name.
- Number Map — Sets the Level Display dialog to display levels by a matrix of numbers and makes the following options available.

Start Number

If DGN Levels is set to Number Map, defines 0 or 1 as the first level displayed.

- 0 — Displays zero as the first level.
- 1 — Displays one as the first level.

Map Size

If DGN Levels is set to Number Map, sets the map size as either Fixed or Dynamic.

- Dynamic — Dynamically changes the number of rows and columns in the Number Map when the dialog is resized.
- Fixed — Sets the map size display as fixed.

Rows

If Map Size is set to Fixed, sets the number of rows in the Number Map.

Columns

If Map Size is set to Fixed, sets the number of columns in the Number Map.

Box Size

Sets the size of the boxes in the Number Map. Options are:

- Smallest
- Small
- Medium
- Large
- Largest

Target Tree

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Used to select the target model for level display settings changes. This tree control enables selection of the active model, another model in the open DGN file, or an attached reference in the open file or another file, as the target.

Right-clicking in the target tree area opens up a pop-up menu with the following options:

- Reference — opens the References dialog or Attach Reference dialog.
- Update Levels
- Select All
- Select None
- Invert Selection
- Cut
- Copy
- Paste
- Properties

A dimmed entry in the tree indicates that the display of that reference is turned off.

Levels (list box)

Lists the levels (or filters if Mode is set to Filters) in the target model.

Right-clicking the title of the list box brings up a pop-up menu with the following options:

- Save Layout
- Name – displays the name of the level.
- Library — shows whether the level was imported from a library.
- Number
- Description
- File in which it resides
- Logical — either Master (for the open DGN file) or the reference Logical name.
- Color – indicates either the ByLevel or Override color, depending on the value of the symbology in the Level Manager dialog.
- Style – indicates either the ByLevel or Override style, depending on the value of the symbology in the Level Manager dialog.
- Weight – indicates either the ByLevel or Override weight, depending on the value of the symbology in the Level Manager dialog.
- Material – indicates either the ByLevel or Override material, depending on the value of the symbology in the Level Manager dialog.
- Lock — indicates whether the level is locked. If locked, you cannot manipulate or modify its existing elements. However, you can copy elements on locked levels. You can click in the Lock column to change the level's Lock setting.
- Plot — indicates whether elements on the level can be printed.
- Used — shows whether the level is used in its references.
- Elements — lists the number of elements on the level.
- New Level— indicates whether the specified level is new.
- Show All
- List – opens the Show/Hide Tools option box, which allows you to turn display options on and off.
- Restore Defaults

Right-clicking on a level in the list box, pops up the following options.

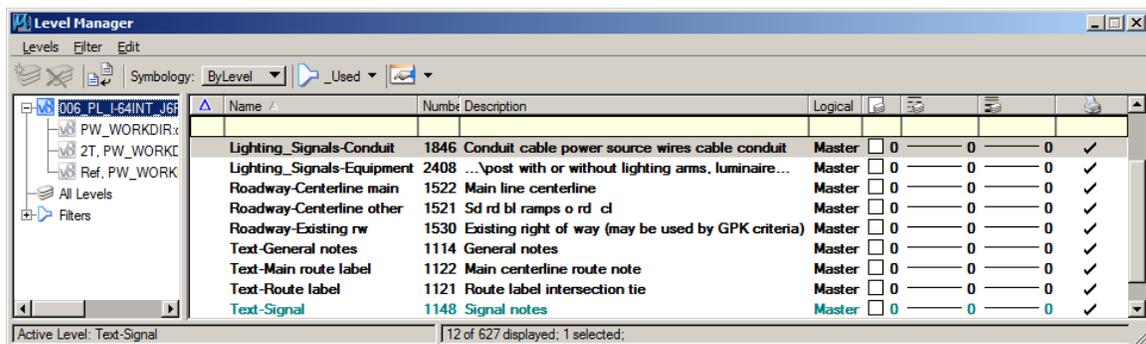
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Menu Item	Description
Set Active	Sets the selected (highlighted) level to the active level in the active model.
Jump To Active Level	Takes you to the active level.
Create Display Set	Creates a display set.
All On	Turns on all levels in the file (and attached references if they are included in the Target field).
All Off	Turns off all levels in the file (and attached references if they are included in the Target field).
Invert On/Off	Selects all unselected and deselects all selected levels listed in the dialog.
Off By Element	Opens the Change Level tool in Display Off mode.
All Except Element	Opens the Change Level tool in Display Only mode.
Save Filter	If the Mode is Levels and Untitled, All Levels or a filter is select from the Filter List, the filter row appears allowing you to create an on-the-fly filter. Clicking Save Filter opens the Save Filter dialog for saving and naming the filter.
Level Manager	Opens the Level Manager dialog.

8.2 Level Manager

The Level manager displays information about levels and filters for the active design file and all available reference files. The Level manager also allows you to attach and detach reference files.

The Level Manager can be launched by choosing the Level > Manager option from the Settings menu at the top of the MicroStation screen. It can also be accessed from the context menu when right-clicking within the Levels List Box in the Level Display dialog box.

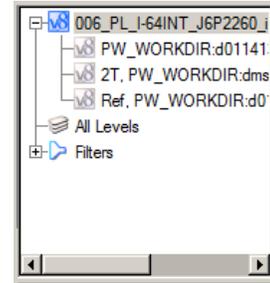


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Files, Levels, and Filter List

Displays the models, levels, and filters for the file.

- The current model is listed. You can expand (+) or contract (-) it to show or hide attached references. The levels for the model or selected reference are displayed in the detail section on the right.
- All Levels shows level information within all models in the open file.
- The Filters list can be expanded (+) or contracted (-) to show or hide named filters. These filters customize the level displays based on user-defined search criteria. When you select Filters, a list of all filters and their search criteria appears in the detail section. When you select a named filter, the search criteria are applied to the levels for the model.



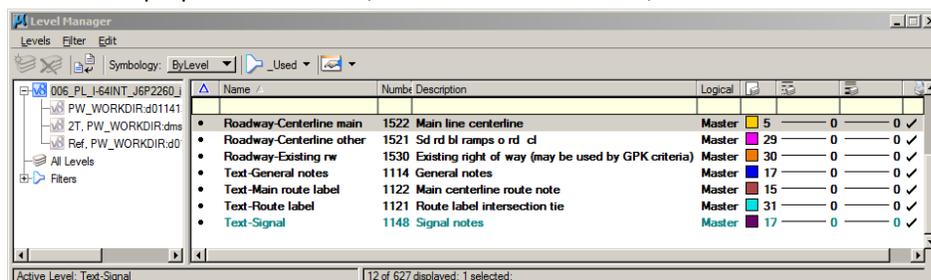
If you select a named filter and right-click, you have the following options:

Menu Item	Usage
New	Creates a new filter.
Level Group	Opens the Level Groups dialog, which lets you select a list of levels for the filter.
Filter Group	Opens the Filter Groups dialog, which lets you use existing filters with set operations to define a new filter.
Cut	Cuts a filter from its present location on the filter list to be placed in a different location. If a filter is moved under another filter, it inherits the top-level filter settings.
Copy	Copies a filter from its present location on the filter list to a different location. If a filter is moved under another filter, it inherits the top-level filter settings.
Paste	Places a filter in the selected location on the filter list. If a filter is moved under another filter, it inherits the top-level filter settings.
Move	Moves a filter from its present location on the filter list to a different location. If a filter is moved under another filter, it inherits the top-level filter settings.
Delete	Removes a filter from the filter list.
Rename	Lets you enter a new name for the filter.
Properties	Opens the Level Properties dialog, which is used to set the preferences of the filter.

Levels list

Shows the attributes and properties of individual levels for the selected file or reference. You can filter this list using the dialog's Filter option. The list entry for the Active Level is displayed in the color cyan.

To modify attributes and properties for a level, select the level in the list, and click in a column.



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A level's list entry shows:

- **Modified** – The field is populated if one or more of the level attributes or properties differs from the source. The source could be either a library or reference level. With respect to reference levels, Modified is always in the context of the reference source regardless of whether the reference level is also a library level.

A tool tip listing the out-of-sync attribute or property displays when the cursor is over the modified icon.

- **Name** – displays the name of the level.
- **Library** – shows whether the level was imported from a library.
- **Number**
- **Description**
- **File in which it resides**
- **Logical** – either Master (for the open DGN file) or the reference Logical name.
- **Color**
- **Style**
- **Weight**
- **Material** – allows additional, global control of material specifications.
- **Global Display** – indicates whether elements on the level are displayed. You can click the Global Display column to change the level's Display setting for all views in all models in the open DGN file.
- **Global Freeze** – indicates whether the level is frozen. If frozen, elements on the level are not displayed and cannot be printed. When a level is frozen, all component elements contained in shared cell instances or references placed on that level are not displayed.

You can click in the Global Freeze column to change the level's Global Freeze setting for all views in all models in the open DGN file.

- **Lock** – indicates whether the level is locked. If locked, you cannot manipulate or modify its existing elements. However, you can copy elements on locked levels. You can click in the Lock column to change the level's Lock setting.
- **Plot** – indicates whether elements on the level can be printed.
- **Used** – shows whether the level is used in its references.
- **Elements** – list the number of elements on the level.
- **Priority** – (2D models only) identifies the level display priority value. A level with the highest priority value displays in front, while a level with the lowest priority value displays in back. Reference and element priority values also affect the display.
- **Transparency** – identifies the level transparency value. A value of 0 indicates no transparency and a value of 100% indicates almost complete transparency.
- **Show All**
- **List** – opens the Show/Hide Tools option box, which allows you to turn display options on and off.

If you select one or more levels and right-click, a pop-up menu provides options for managing levels.

These options are also available on the Level, Filters, and Edit menus and the toolbar. In addition, you can choose:

- **Jump to Active Level** – Takes you to the active level.
- **Remap Elements** – Opens the Remap Elements to Level dialog.

A level displays as bold when it is used in a model, cell definition or dimension style.

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