

Bentley Standard Checker

Overview

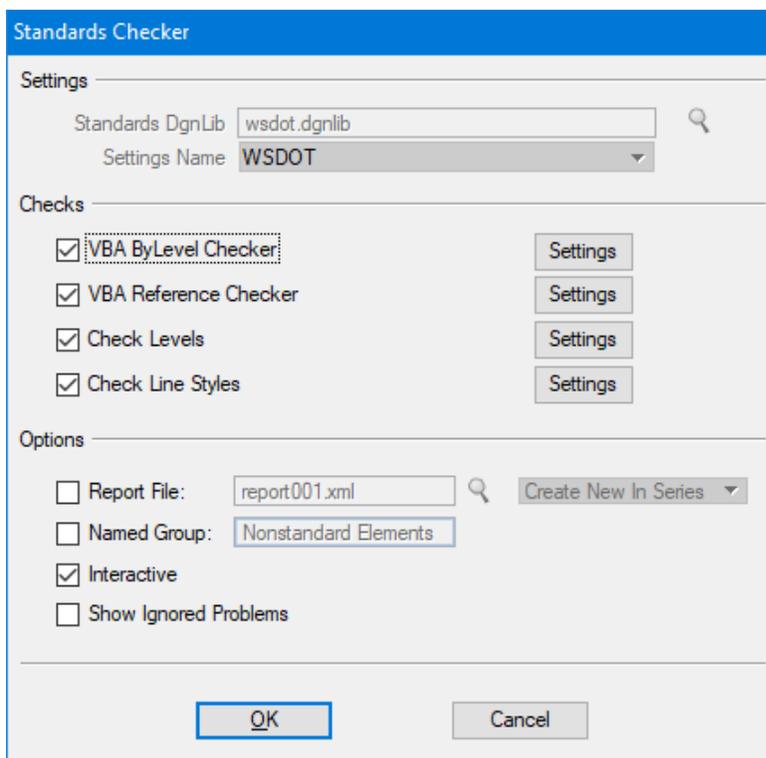
The Bentley Standard Checker is used to run checks that compare the information in a DGN file against standards in the WSDOT.dgnlib and output an XML report file.

For projects that may have symbology standards different than the WSDOT.dgnlib contact CAE for assistance to modify the Standard Checker settings to include project specific DGNLIB.

When using the interactive mode, the Standards Checker opens a window that displays the status of the checking process. When the Standards Checker finds a difference from the standard, it displays a message that explains the difference between the values found and the standard values. For each difference, you can choose to fix, ignore, or skip the problem.

When using the non-interactive mode, the utility will fix non-compliant symbology issues automatically. If a non-standard level is encountered, the checker will automatically assign the level name to the first available level in the DGNLIB

Once the Standard Checker finishes its process the Standard Check Complete dialog opens confirming how many problems were found, fixed or ignored. If you select Yes on the Standard Check Complete dialog an XML report file will be created. Open the xml file in Internet Explorer with Active X control enabled and internet access available. Internet Explorer will open the XML file and display the report using the Bentley style sheet.



The screenshot shows the 'Standards Checker' dialog box with the following settings:

- Settings:**
 - Standards DgnLib: wsdot.dgnlib
 - Settings Name: WSDOT
- Checks:**
 - VBA ByLevel Checker (Settings button)
 - VBA Reference Checker (Settings button)
 - Check Levels (Settings button)
 - Check Line Styles (Settings button)
- Options:**
 - Report File: report001.xml (Create New In Series dropdown)
 - Named Group: Nonstandard Elements
 - Interactive
 - Show Ignored Problems

Buttons: OK, Cancel

Workflow

To ensure that the MicroStation file is compliant with the current WSDOT.dgnlib for level and level symbology and prepared for delivery, the following steps need to be considered.

- Back up DGN
- Delete Duplicates
- Update Level
- Attach Color Table
- Compress DGN
- Run the Bentley Standard Checker
- Review Report
- Run the Bentley Standard Checker – Batch Process

Back Up DGN

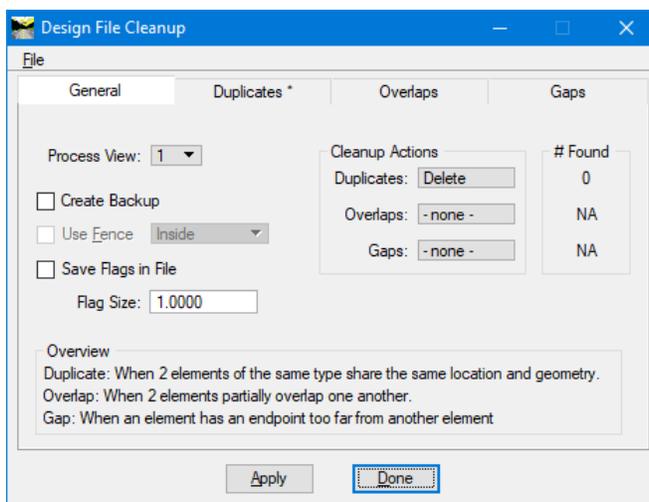
It is always recommended to back up the DGN files prior to effecting global changes that may impact production data.

After the process has been completed and the data reviewed for correctness, the backup should be removed to minimize confusion and free up drive space.

Delete Duplicates

Delete duplicates will remove one element when two elements of the same type share the same location and geometry.

1. To run the Design File Cleanup go to *Utilities > Data Cleanup*
2. On **General** tab in the *Cleanup Actions* area set *Duplicates:* to **Delete**
3. Select **Apply**



4. Select **Done**

Update Levels

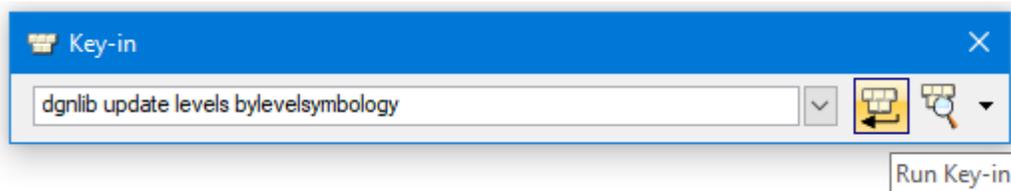
Addressing ByLevel settings and overrides prior to running the Bentley Standard Checker will provide the user knowledge as to what issues may need to be fixed or ignored when running the Standard Checker in the interactive mode.

Level Overrides – Optional Step

When using the Level Manager to update levels the overrides that have previously been set will be cleared. In cases where only simple overrides are in place where few levels are set or all levels set the same, it is best to update levels with Level Manager and then to set the overrides again.

With a complex system of overrides, resetting the overrides may be impractical. In this case, using a key-in to synchronize the ByLevel color, style, and weight attributes with the WSDOT.dgnlib may be preferred.

1. Open Key-in window go to *Utility > Key-in*
2. Enter `dgnlib update levels bylevelsymbology`



3. Select the **Enter** key or select the **Run Key-in** icon

Level Manager – Update Levels

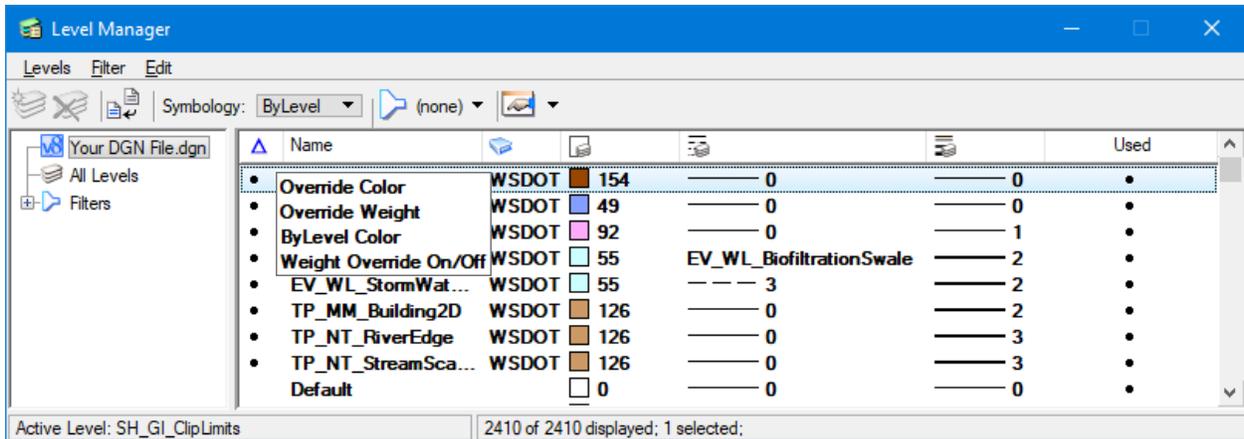
Update Levels from Library synchronizes the properties of levels in the open DGN file and in DGN files that contain referenced models, with the properties of the corresponding source levels in the attached level library.

Open the Level Manager go to *Settings > Levels > Manager*

1. Select the **Modify** Column  to sort the modified levels to top of list. A symbol will display in the Modify column if the level has been modified. If no levels were modified skip this section.

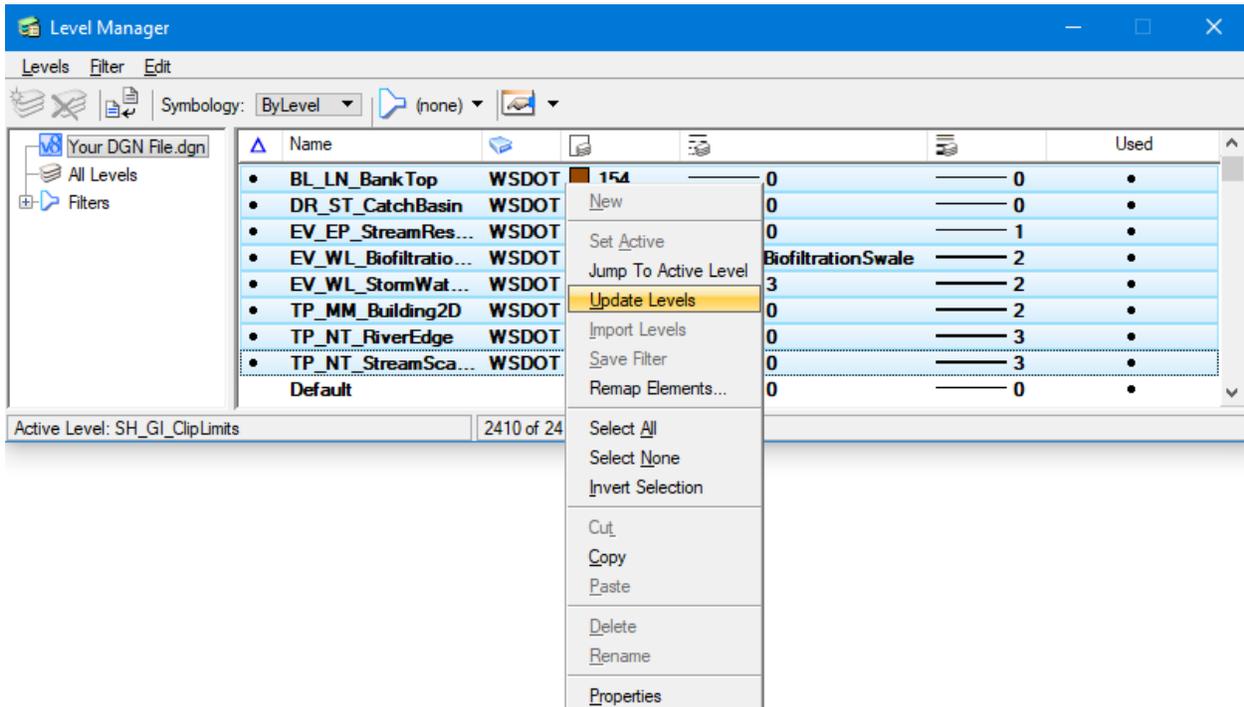
Name	WSDOT	Color	Weight	Style	Used
BL_LN_BankTop	WSDOT	154	0	0	•
DR_ST_CatchBasin	WSDOT	49	0	0	•
EV_EP_StreamRes...	WSDOT	92	0	1	•
EV_WL_Biofiltratio...	WSDOT	55	EV_WL_BiofiltrationSwale	2	•
EV_WL_StormWat...	WSDOT	55	---	3	•
TP_MM_Building2D	WSDOT	126	0	2	•
TP_NT_RiverEdge	WSDOT	126	0	3	•

2. Hover the cursor on the modified symbol. A popup window will display the level modification(s).



Select all modified levels and then right click and select *Update Levels*.

After the level is updated and it still is listed as modify check Global Display, Global Freeze, Lock and Plot.



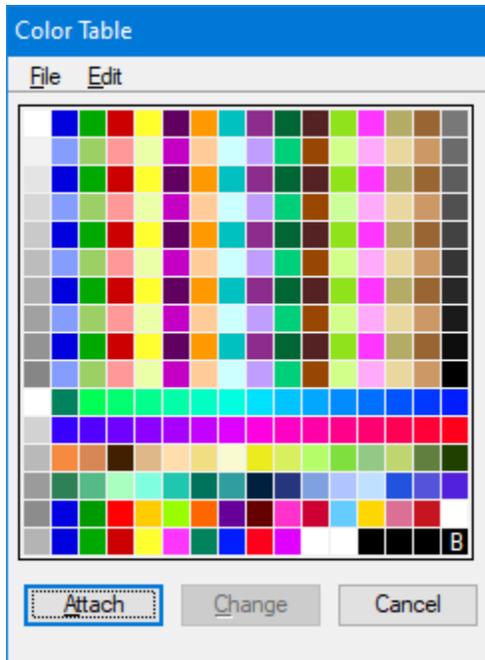
Attach Color Table

The DGN file being checked may have an older color table attached and will create problem in the Standard Checker report due to the different RGB values when compared to the current WSDOT color.tbl file. The report will show the Expected and Actual color properties are the same as the below example.

#	Model	Standard	Property	Expected	Actual	Description	
1	Default	Level	TR_SG_ElectServiceCabinet	Color	54	54	Properties do not match

To correct the problem, open the DGN and attach the WSDOT color.tbl file.

1. Go to *Settings > Color Table*.
2. In the Color Table dialog select *File > Open*
3. Navigate to *C:\Users\Public\CAE\Standards\WSDOT\symb* folder and select the **color.tbl**.

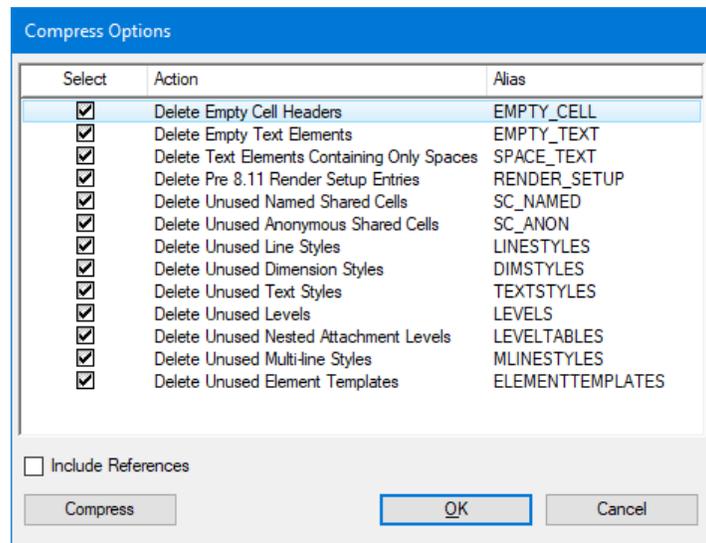


4. Select **Attach**

Compress File

Compressing a DGN file reduces its size and clears the undo buffer. DGN files should be compressed regularly to enhance file performance.

1. Go to *File > Compress > Options*
2. Select All Actions
3. Select **Compress**

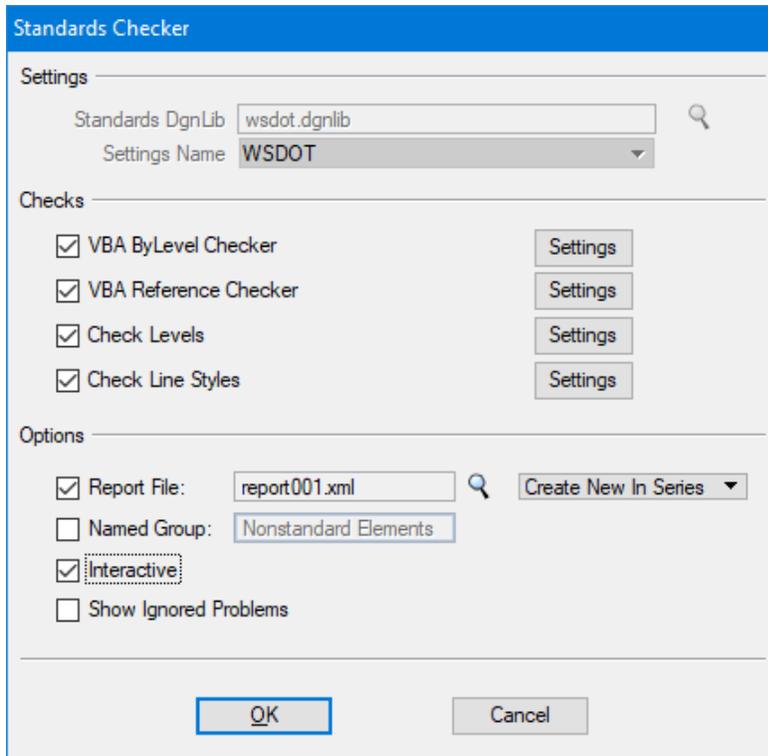


Run Standard Checker

The Bentley Standard Checker can be run interactively or non-interactively, it can also be used with Bentley Batch Process command.

For more information on the Standard Checker see [Getting Started With The Standards Checker - Bentley Communities](#) Part 2.

1. To open Standards Checker go to *Utilities > Standard Checker > Check*



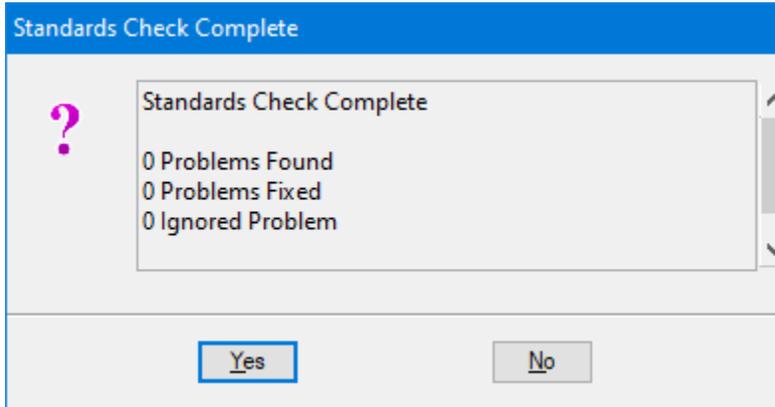
2. Enable **Report File:**
3. Select  browse for file location and define file name for the xml output file
4. Use the drop down to set if document is Created New In Series, Overwrite or Append
5. Enable or Disable **Interactive?**

Note: For Interactive enabled, once you click OK on the Standards Checker dialog, the interactive checking window opens. When the Standards Checker finds a difference from the standard, it displays a message that explains the difference between the values found and the standard values. For each difference, you can choose to fix, ignore, or skip the problem. If you choose to ignore a problem, the Standards Checker records the fact that the problem is ignored.

For Interactive disabled, the Standard Checker will fix problems with no user interaction.

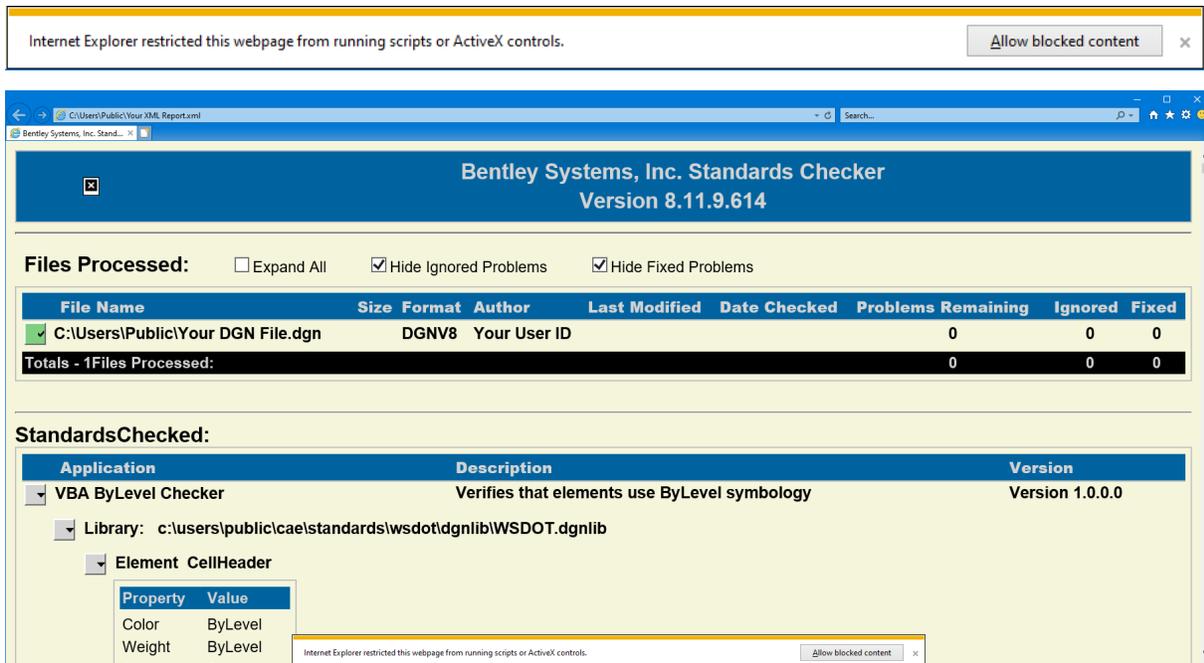
6. Select **OK**

Once completed the Standards Check Complete dialog opens, showing the number of problems found, fixed, and ignored.



7. Select **Yes** to open the XML report.

Note: If prompted to select an application to open the XML file select Internet Explorer. Once Internet Explorer opens the report, you may have to select Allow blocked content to use the ActiveX control that are used in the report for the drop-down controls.



If all issues are fixed a green drop-down arrow will appear with the file name and the Problems Remaining, Ignored and Fixed will be zero.

If there are still standard problems with the DGN after running the Standard Checker, the file drop down will be pink and the Problems Remaining, Ignored and Fixed may show a number of issues remaining.

Bentley Systems, Inc. Standards Checker
Version 8.11.9.614

Files Processed: Expand All Hide Ignored Problems Hide Fixed Problems

File Name	Size	Format	Author	Last Modified	Date Checked	Problems Remaining	Ignored	Fixed
C:\Users\Public\Your DGN File.dgn	315kb	DGNV8	Your User ID	2022/12/29 14:35:42	2022/12/29 14:55:07	8	0	0
Totals - 1Files Processed:						8	0	0

StandardsChecked:

Application	Description	Version
VBA ByLevel Checker	Verifies that elements use ByLevel symbology	Version 1.0.0.0
VBA Reference Checker	Verifies that all reference files are found	Version 1.0.0.0
Bentley Systems, Inc. Level Checker	Checks level properties against standard levels	Version 8.11.9.614
Bentley Systems, Inc. Line Style Checker	Checks Line Style properties against standard Line Styles	Version 8.11.9.614

8. Select the  to expand the remaining problems

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<table border="1"> <thead> <tr> <th>#</th> <th>Model</th> <th>Standard</th> <th>Property</th> <th>Expected</th> <th>Actual</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Default</td> <td>Level</td> <td>Level 1</td> <td></td> <td></td> <td>Level name does not match any standard level</td> </tr> <tr> <td>2</td> <td>Default</td> <td>Level</td> <td>Level 15 - added</td> <td></td> <td></td> <td>Level name does not match any standard level</td> </tr> <tr> <td>3</td> <td>Default</td> <td>Level</td> <td>TPA Fee Acquisition</td> <td></td> <td></td> <td>Level name does not match any standard level</td> </tr> <tr> <td>4</td> <td>Default</td> <td>Level</td> <td>TPA Drainage Easements</td> <td></td> <td></td> <td>Level name does not match any standard level</td> </tr> <tr> <td>5</td> <td>Default</td> <td>Level</td> <td>TPA Subterranean Easements</td> <td></td> <td></td> <td>Level name does not match any standard level</td> </tr> <tr> <td>6</td> <td>Default</td> <td>Level</td> <td>Level 25</td> <td></td> <td></td> <td>Level name does not match any standard level</td> </tr> <tr> <td>7</td> <td>Default</td> <td>Level</td> <td>Working_WVD</td> <td></td> <td></td> <td>Level name does not match any standard level</td> </tr> <tr> <td>8</td> <td>Default</td> <td>Line Style</td> <td>CENTER</td> <td></td> <td></td> <td>Line Style name does not match any standard Line Style</td> </tr> </tbody> </table>									#	Model	Standard	Property	Expected	Actual	Description	1	Default	Level	Level 1			Level name does not match any standard level	2	Default	Level	Level 15 - added			Level name does not match any standard level	3	Default	Level	TPA Fee Acquisition			Level name does not match any standard level	4	Default	Level	TPA Drainage Easements			Level name does not match any standard level	5	Default	Level	TPA Subterranean Easements			Level name does not match any standard level	6	Default	Level	Level 25			Level name does not match any standard level	7	Default	Level	Working_WVD			Level name does not match any standard level	8	Default	Line Style	CENTER			Line Style name does not match any standard Line Style
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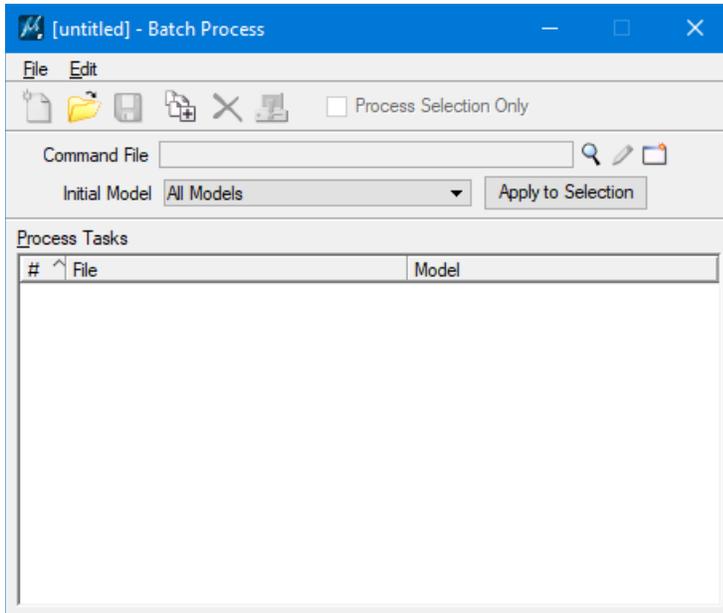
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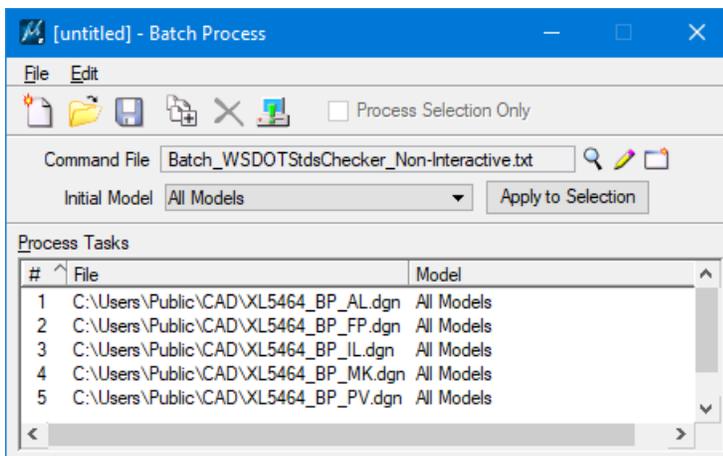
Run Standard Checker – Batch Process

To run the Standard Checker on multiple files, use the Batch Process, WSDOT CAE has provided two command files that will run the Standard Checker Interactively and Non- Interactively.

1. To open the Batch Process, go to *Utilities > Batch Process*



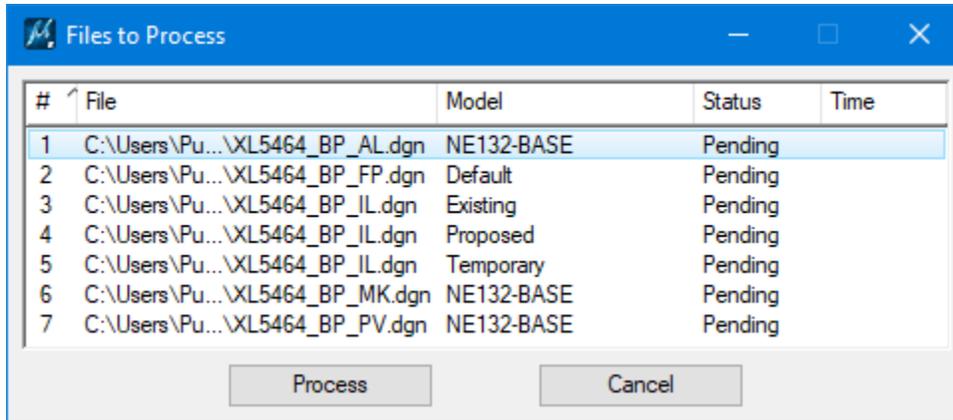
2. Select  for the *Command File*
3. Navigate to C:\Users\Public\CAE\Standards\WSDOT\data
4. Select the **Batch_WSDOTStdsChecker_Interactive.txt** or **Batch_WSDOTStdsChecker_Non-Interactive.txt**
5. Select the  to *Select Files and Directories to Process*
6. Navigate to a directory with the DGN to Process and select the DGN files to be processed.



7. Select the  to *Save Batch Process Job File*
8. Navigate to the folder and save the **batch process job file *.bprc**

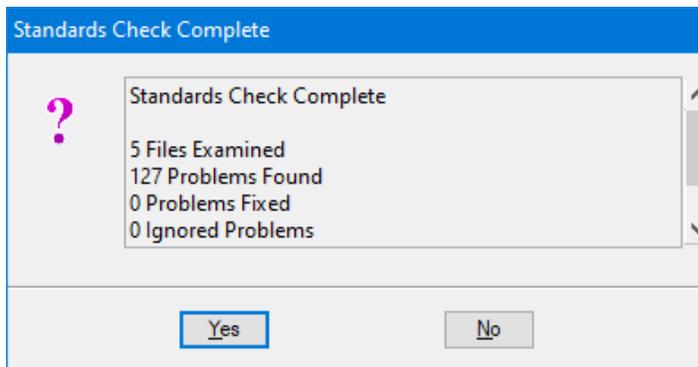
Note: If you plan to reuse the job setup in future jobs, you should save it to a batch process job file. This text file is similar to a Windows initialization file. It contains the log file name, the list of files to process, and the command file name. You can edit it in a text editor if desired.

9. Select the  to process Batch Process Job and open the Files to Process



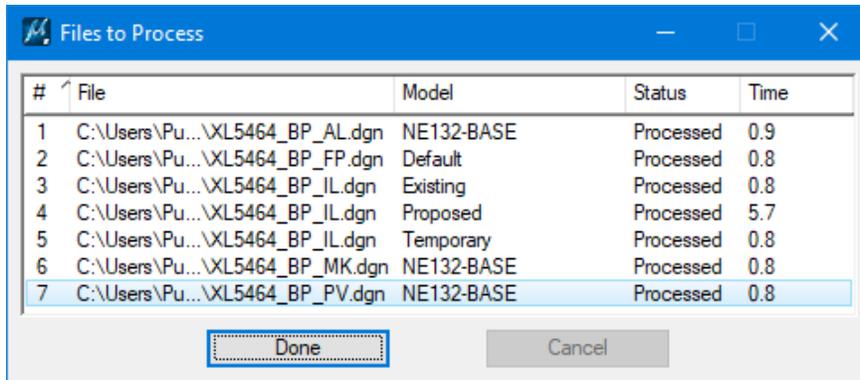
10. Select Process

After files are processed the Standards Check Complete dialog will open.

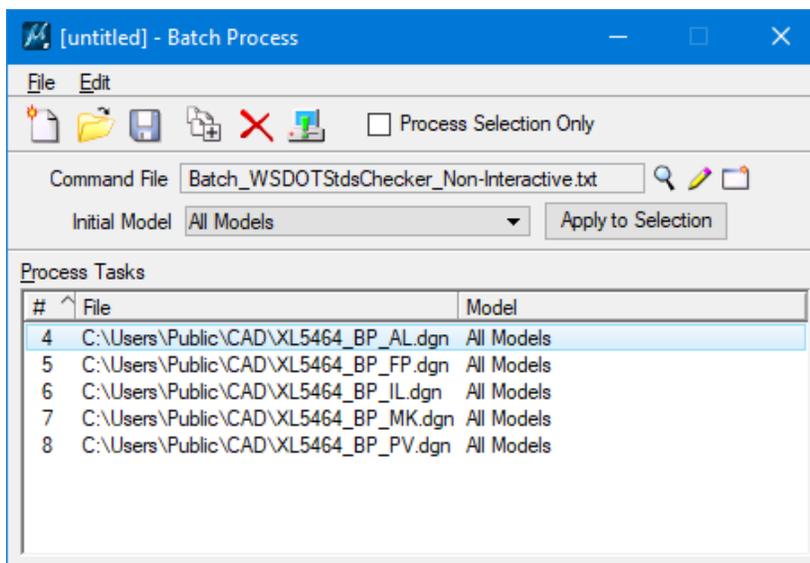


11. Select **Yes** to open the XML report.
12. Open the report in Internet Explorer and Allow blocked content.

In MicroStation the *Files to Process* dialog provide status and time for each file to be processed.



13. Select **Done** to close the File Process dialog



14. **Close** the Batch Process dialog

For questions or comments on this tech note, contact your regional CAE Support Coordinator or the [WSDOT CAE Help Desk](#).