

Appendix A: 3D Engineered Model Review Checklist

Directions for Completing the Checklist

- This checklist indicates elements that shall be checked by both the designer and the 3D project file reviewer on a project to verify consistency between the plans and the 3D project files.
- This form shall be completed by the designer and submitted with the 3D project files to the designated 3D project file reviewer for the project.
- The form submitted by the designer shall then be used by the designated 3D project file reviewer to review the elements in the checklist for consistency between the plans and the 3D project files.
- This completed checklist will be provided back to the designer along with comments generated during the 3D project file review.
- Additional verification and review items may be requested for some projects. In these cases, the DeIDOT Project Manager should communicate what additional items are to be reviewed. Similarly, some projects may not require certain elements to be reviewed by the 3D project file reviewer.

Project Information	
Contract Number:	
Contract Name:	
Maintenance Road No(s):	
Designer / Engineer of Record:	
Project Manager:	
Location of Files: **	

** **Location of Files** – All files necessary for the 3D Model review task shall be placed under the current project directory on the Y-Drive, in a folder labeled “Model Review Files”.

Review Information		
Submission	Initial Review Submission	Final Review Submission
Submission Date:		
Review Completed Date:		
Reviewer:		

- “**Initial Review Submission**” shall be made when all Preliminary Construction Plan review comments have been addressed. This typically occurs between the Department wide Preliminary Plan submission and Semi-Final Plan submission phases, and must include the appropriate grades and geometrics information that is required for the Semi-Final Construction Plan submission.
- “**Final Review Submission**” shall be concurrent with the Pre-PS&E Construction Plan review submission.

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Items to be Submitted for Review				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
3D_Review.dgn – This file is generated by the designer and will be the master 3D review file with the following project files referenced into the file: <ul style="list-style-type: none"> ▪ Original Ground Terrain (fs.dgn) ▪ Alignments (al.dgn and/or hv.dgn) ▪ Right-of-Way (rw.dgn) ▪ Construction Plans (cp.dgn) ▪ Proposed Construction (pc.dgn) ▪ Grades and Geometrics (gg.dgn) ▪ Lighting Plans (li.dgn) ▪ Utilities/Relocations Plans (ut.dgn) ▪ Sign Structures (xx.dgn) ▪ 3D Features of Proposed Top Surface(s) (md.dgn) 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Original Ground DTM (fs.dtm) - InRoads SS10 projects only.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Geometry File (.ALG) containing all the required COGO points, alignments, and essential data - InRoads SS10 project only.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ASCII exports for all alignments, both horizontal and vertical, utilized along the project corridors.			<input type="checkbox"/>	<input type="checkbox"/>
ASCII exports for the proposed grades and geometrics data contained within the Grades and Geometrics sheets.			<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				

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General Model Review Items				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
Project design files utilize the correct Geographical Coordinate System (GCS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project Plans (PDF) files utilize the correct Geographical Coordinate System (GCS). (Georeferenced PDF files)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All guidelines discussed in the “Development and Review of 3D Engineered Models for Construction” document were followed. (Features, Intervals, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project files utilize the latest CADD Standards for both the Plans and 3D Model.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Review of model for completeness (Visual Checks) <ul style="list-style-type: none"> ▪ No significant gaps along the model ▪ Spikes or depressions along seam lines ▪ Overlapping modeling components ▪ 3D model ties into the Original Grade surface 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vertical clearance clash detection – Interference Checking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				

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Typical Sections Review				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
3D Model feature widths match what is shown on the Typical Sections. (Lane Widths, Shoulder Widths, Ditch Sections...)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model pavement material depths match what is shown on the Typical Sections.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model pavement cross slopes match what is shown on the Typical Sections, including superelevation sections.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model side slope grading matches what is shown in the Typical Sections.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				

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Horizontal and Vertical Control Review				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
Horizontal and Vertical Control ASCII data matches what is shown on the Horizontal and Vertical Control sheets.			<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				

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Construction Plan Review				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
3D Model break lines match what is shown on the Construction Plans (Lane Widths, Shoulder Widths, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model features match what is shown on the Construction Plans (Curb Lines, Guardrails, Islands, Slope Tie-Ins, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model pavement tapers and transitions match what is shown on the Construction Plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model roadside ditches, berms, etc. match what is shown on the Construction Plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				

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Profiles Review				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
Verification of vertical alignment used in the creation of the 3D Model matches what is shown in the Profile sheets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				

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Grades and Geometrics Review				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
Grades and Geometrics ASCII data matches what is shown on the Grades and Geometrics sheets.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model pavement break lines match what is shown on the Grades and Geometrics sheets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model pavement tapers and transitions match what is shown on the Grades and Geometrics sheets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model radii at intersections, entrances, and driveways match what is shown in Grades and Geometrics sheets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model cross slopes match what is shown on the Grades and Geometrics sheets. (Lane, Shoulder, Sidewalk, Side Slopes, Median Crossovers, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model superelevation cross slopes and transitions match what is shown on the Grades and Geometrics sheets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model grades match the grades shown on the Grades and Geometrics sheets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3D Model roadside Ditches, Berms, etc. match what is shown on the Grades and Geometrics sheets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				

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Construction Details Review				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
Verify any elements that are included in the Construction Details sheets which require the generation of 3D data, is complete and consistent with the 3D Model. These elements could include features in the 3D Model or points to be provided in an ASCII file.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				

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Stormwater Management Review				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
Verify any elements that are included in the Stormwater Management Plan sheets which require the generation of 3D data, is complete and consistent with the 3D model. These elements could include features in the 3D model or points to be provided in an ASCII file.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				

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Lighting Plan Review				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
Verify any elements that are included in the Lighting Plan sheets which require the generation of 3D data, is complete and consistent with the 3D model. These elements could include features in the 3D model or points to be provided in an ASCII file.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				

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Utility Relocation Plans Review				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
If 3D Model includes utility relocation information, verify that the information matches what is shown on the Utility Relocation Plan sheets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				

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Sign Structure Review				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
Verify any elements that are included in the Sign Structure sheets which require the generation of 3D data, is complete and consistent with the 3D model. These elements could include features in the 3D model or points to be provided in an ASCII file.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				

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Cross Section Review				
Description of Item Being Reviewed	Initial Review		Final Review	
	Designer	Reviewer	Designer	Reviewer
Verify the following items within the 3D model match what is shown on the Cross Section sheets:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pavement break line widths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pavement cross slopes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pavement material depths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Side slope widths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Side slope cross slopes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drainage feature widths, depths and side slopes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drainage and utility infrastructure sizes and locations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initial Review Comments:				
Final Review Comments:				