



Florida Department
of Transportation

Rapid 3D Templates Guidance

For Autodesk InRoads

Prepared for:
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1 Introduction

This guidance document was developed as a complementary resource to the “[Guidance for Using 3D Technology in PD&E Projects](#)” (also known as the 3D in PD&E Guidebook) guidance document published on the FDOT website. Please use this resource in conjunction with the recommendations and workflows identified therein.

1.1 Background and Purpose

Section 7 of the 3D in PD&E Guidebook identified five “Potential Future Process Improvements” as the guidebook was only the first step toward 3D in PD&E workflow enhancement. One such future recommendation was the creation of custom FDOT Templates for Rapid 3D Modeling Tools. This document and accompanying templates were created as a response to that recommendation to support and ease the adoption of these tools into design workflows.

1.2 Intended Use

This guidance document is intended for use by PD&E Engineers, Designers, Planners and other practitioners (FDOT staff and consultants) responsible for the preparation of PD&E study materials. This document supplements the requirements for CADD in PD&E outlined by the FDOT in the CADD Manual (Refer to the [CADD Manual](#) for the latest requirements).

1.3 Standards and Software

Unless otherwise noted, the following standards and software versions were used in the development of this guidance document.

- 2022 FDOT Design Manual (FDM)
- FDOT Standard Plans FY 2022-23
- Autodesk Infracore 360 (2022)

1.4 Required Files

Please make sure that the following file provided by FDOT to accompany this guidebook is available and accessible. This file is specific to the tool covered in this guidebook.

- Component.style.json

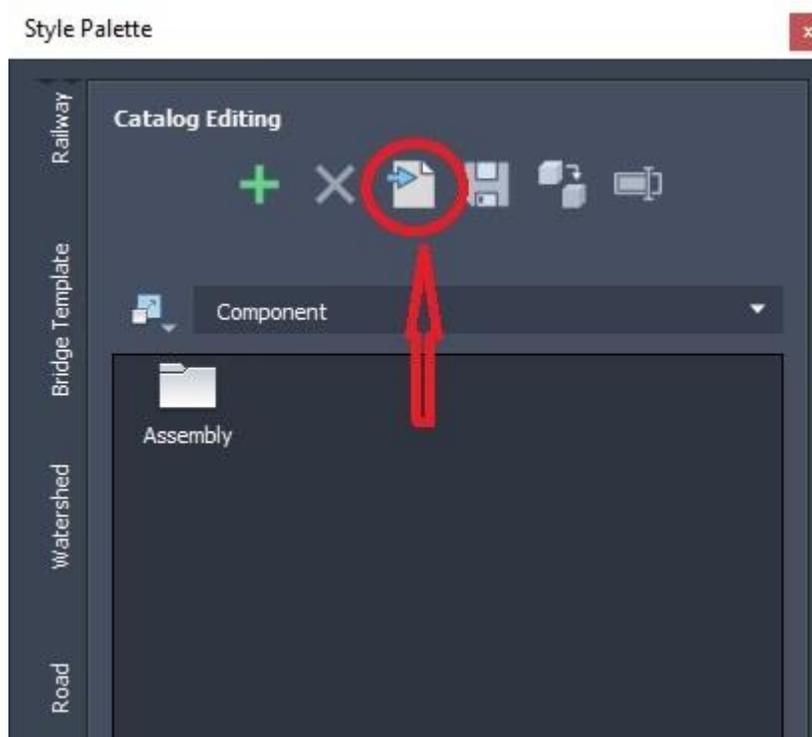
2 How to install templates:

Step 1: The Templates will be provided as a “style.json” file, named as: **“Component_FDOT.styles.json”** save it on your C Drive.

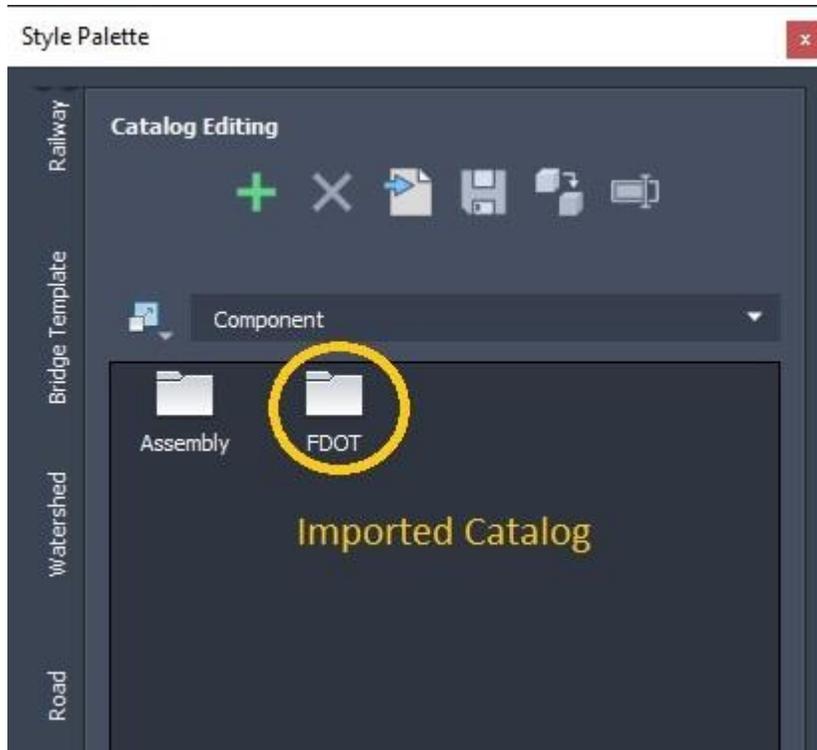
Step 2: To access the Style Palette, click Manage > Content > (Style Palette).

Step 3: On the left of the Style Palette window there are Category tabs, scroll down to component category.

Step 4: Click on (Import an existing style Catalog) the third Icon from the left on the top of the window under Catalog editing.



Step 5: Browse to the location of the saved Component_Custom.style.json, select and open, when the import process finished a folder named FDOT will appear next to the Assembly folder in the Component Category.

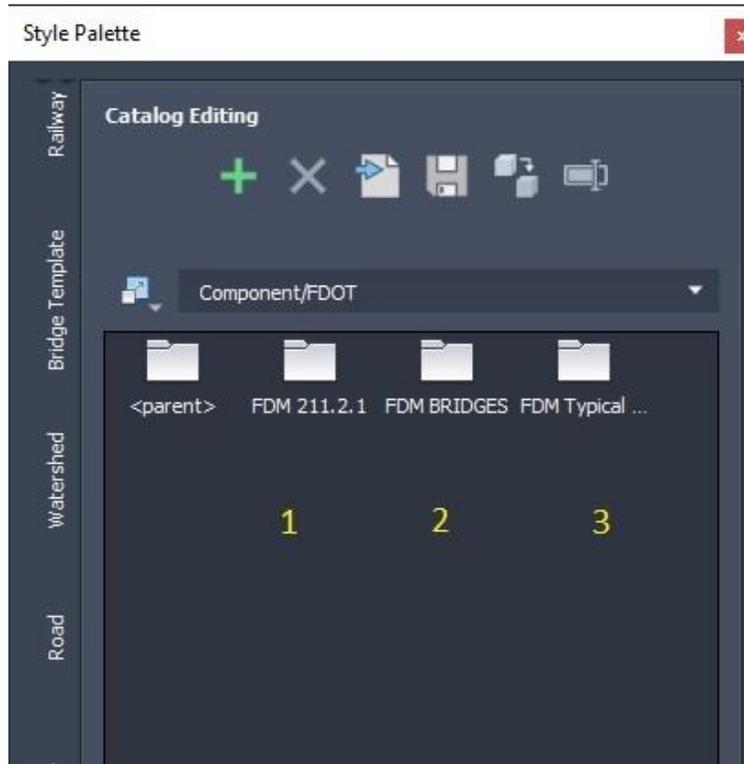


In the next section we will show what is inside each of these template folders.

3 Description and graphics of template folder structure:

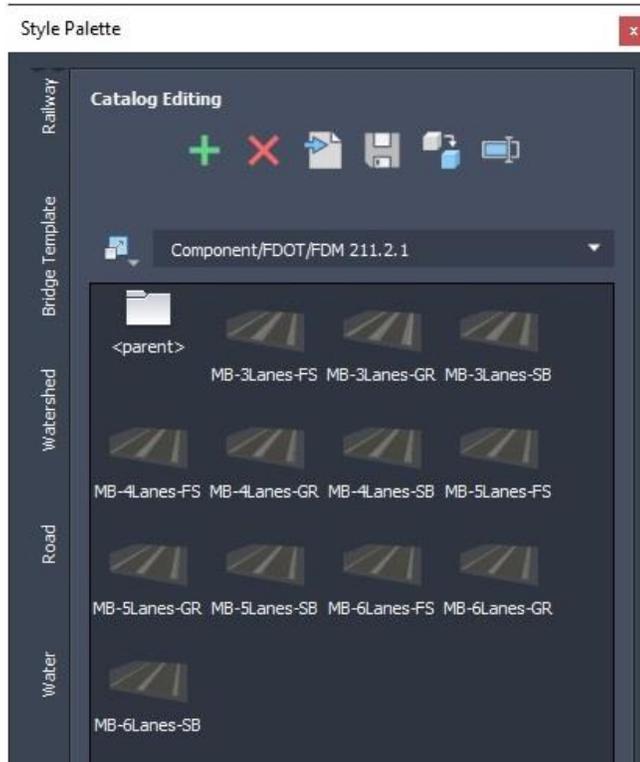
Template Folder: **FDOT**

The FDOT Template Folder contains 3 Sub-Folders.



Inside the 3 FDOT Sub-Folders will be the templates associated with the folder name.

3.1 FDOT Template Sub-Folder: FDM 211.2.1



3.1.1 FDM 211.2.1

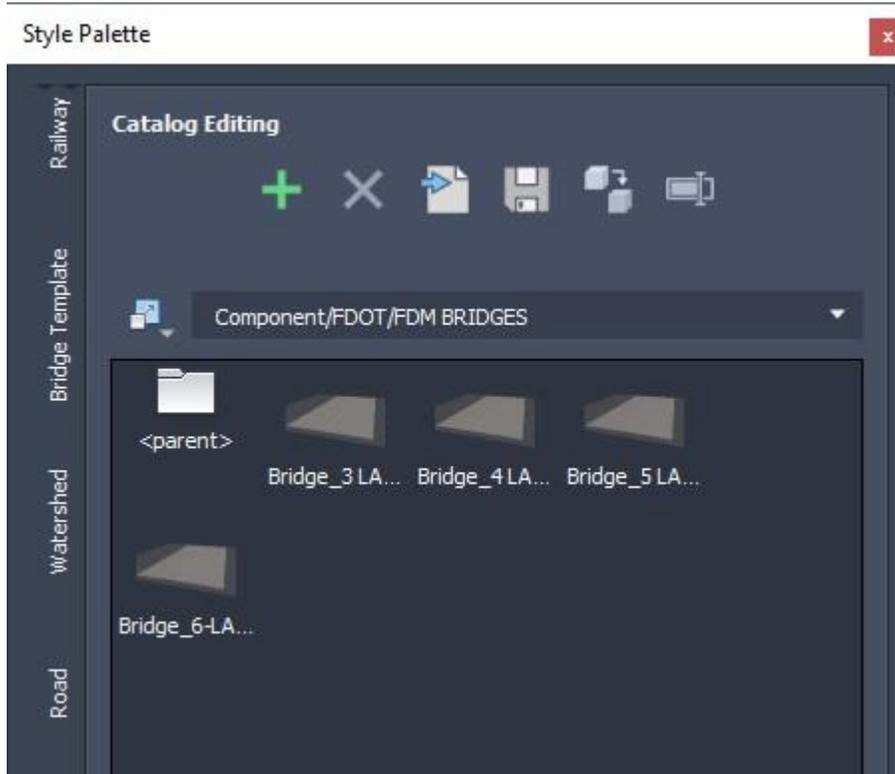
Template Name:

- MB-3Lanes-FS
- MB-3Lanes-GR
- MB-3Lanes-SB
- MB-4Lanes-FS
- MB-4Lanes-GR
- MB-4Lanes-SB
- MB-4Lanes-MSE
- MB-5Lanes-FS
- MB-5Lanes-GR
- MB-5Lanes-SB
- MB-6Lanes-FS
- MB-6Lanes-GR
- MB-6Lanes-SB

Template Description:

- 3 Lane Median Barrier w/Outside Flush Shoulder
- 3 Lane Median Barrier w/Outside Guardrail
- 3 Lane Median Barrier w/Outside Shoulder Barrier
- 4 Lane Median Barrier w/Outside Flush Shoulder
- 4 Lane Median Barrier w/Outside Guardrail
- 4 Lane Median Barrier w/Outside Shoulder Barrier
- 4 Lane Median Barrier w/Outside Barrier Wall Over MSE
- 5 Lane Median Barrier w/Outside Flush Shoulder
- 5 Lane Median Barrier w/Outside Guardrail
- 5 Lane Median Barrier w/Outside Shoulder Barrier
- 6 Lane Median Barrier w/Outside Flush Shoulder
- 6 Lane Median Barrier w/Outside Guardrail
- 6 Lane Median Barrier w/Outside Shoulder Barrier

3.2 FDOT Template Sub-Folder: FDM Bridges



3.2.1 FDM Bridges

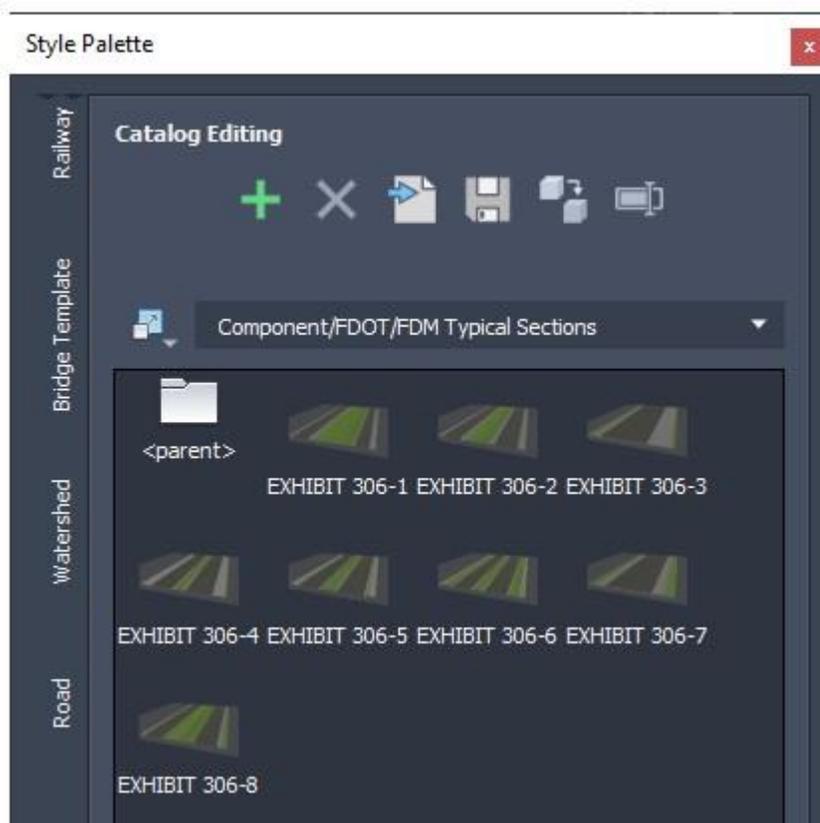
Template Name:

- Bridge_3Lanes
- Bridge_4Lanes
- Bridge_5Lanes
- Bridge_6Lanes

Template Description:

- 3 Lane Bridge Median Barrier w/bridge barrier
- 4 Lane Bridge Median Barrier w/bridge barrier
- 5 Lane Bridge Median Barrier w/bridge barrier
- 6 Lane Bridge Median Barrier w/bridge barrier

3.3 FDOT Template Sub-Folder: FDM Typical Sections



3.3.1 FDM Typical Sections

Template Name:

- Exhibit 306-1
- Exhibit 306-2
- Exhibit 306-3
- Exhibit 306-4
- Exhibit 306-5
- Exhibit 306-6
- Exhibit 306-7
- Exhibit 306-8

Template Description:

- Limited Access Facility
- 6-Lane Limited Access Facility
- Ramp
- 4-Lane Curbed
- 4-Lane Curbed
- 4-Lane High Speed Curbed
- 2-Lane Flush Shoulder
- 4-Lane Flush Shoulder

4 Best Practices:

Using the FDOT Templates on projects...

4.1 FDOT Template Information:

Be sure to copy the FDOT 3D Template file (Component_Custom_style.json) someplace for safe keeping and make a copy to your C Drive before making any edits to templates. The Templates will be provided as a “style.json” file.

The components within each FDOT template may be edited (widths, slopes and heights etc.) as needed per the project. There are some components that cannot be edited for a height such as the end components and sod.

4.2 Getting started with Infracworks:

For creating new file and model refer to these videos:

[Help | InfracWorks Home | Autodesk](#)

[Help | To create a model manually | Autodesk](#)

[Help | Model Builder | Autodesk](#)

4.3 Software limitations:

- Could not create templates using the Planning Road template. No option for curb and gutter.
- Cannot add striping on edges of pavement.
- Only one barrier type available (Jersey Barrier).
- Could not create 4 Lane Median Barrier w/Outside Barrier Wall Over MSE, due to software limitation

4.4 Training Content for Infracworks:

This video provides a tour of the main areas of the user interface:

[Help | Video: User Interface Tour | Autodesk](#)

This video will introduce Infracworks 360 and walk through the creation of a conceptual road model:

[InfracWorks 360 Introduction - YouTube](#)

5 Description and graphics of template types and groups:

5.1 FDOT Sub-Folders:

5.1.1 FDM 211.2.1

- MB-3Lanes-FS (3 Lane Median Barrier w/Outside Flush Shoulder).



3-Lane Median Barrier w/10' inside shoulder, and 12' outside Flush shoulder (10' Paved).

➤ **FDM 211.2.1**

- MB-3Lanes-GR (3 Lane Median Barrier w/Outside Guardrail).



3-Lane Median Barrier w/10' inside shoulder, and 12' outside shoulder (10' Paved) w/GR and 4.5' Misc. Pavement.

➤ **FDM 211.2.1**

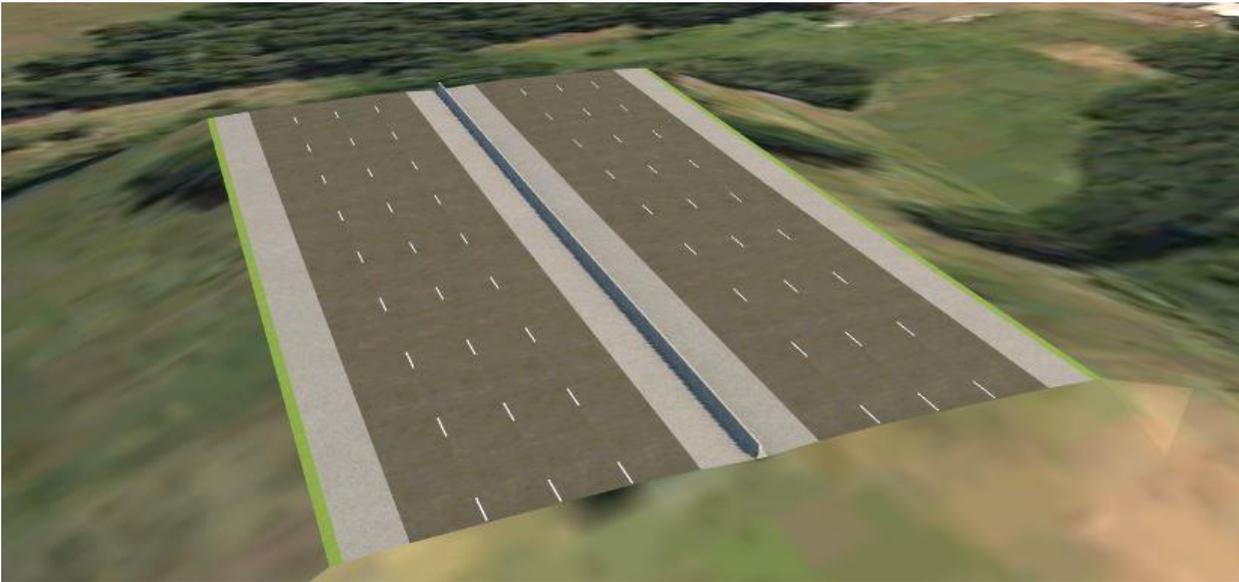
- MB-3Lanes-SB (3 Lane Median Barrier w/Outside Shoulder Barrier)



3-Lane Median Barrier w/10' inside shoulder, and 10' Paved shoulder w/ Shoulder Barrier and 2' set back sod.

➤ **FDM 211.2.1**

- MB-4Lanes-FS (4 Lane Median Barrier w/Outside Flush Shoulder)



4-Lane Median Barrier w/10' inside shoulder, and 12' outside Flush shoulder (10' Paved).

➤ **FDM 211.2.1**

- MB-4Lanes-GR (4 Lane Median Barrier w/Outside Guardrail).



4-Lane Median Barrier w/10' inside shoulder, and 12' outside shoulder (10' Paved) w/GR and 4.5' Misc. Pavement.

➤ **FDM 211.2.1**

- MB-4Lanes-SB (4 Lane Median Barrier w/Outside Shoulder Barrier)



4-Lane Median Barrier w/10' inside shoulder, and 10' Paved shoulder w/ Shoulder Barrier and 2' set back sod.

➤ **FDM 211.2.1**

- MB-4Lanes-MSE (4 Lane Median Barrier w/Outside Barrier Wall Over MSE)

➤ **FDM 211.2.1**

- MB-5Lanes-FS (5 Lane Median Barrier w/Outside Flush Shoulder)



5-Lane Median Barrier w/10' inside shoulder, and 12' outside Flush shoulder (10' Paved).

➤ **FDM 211.2.1**

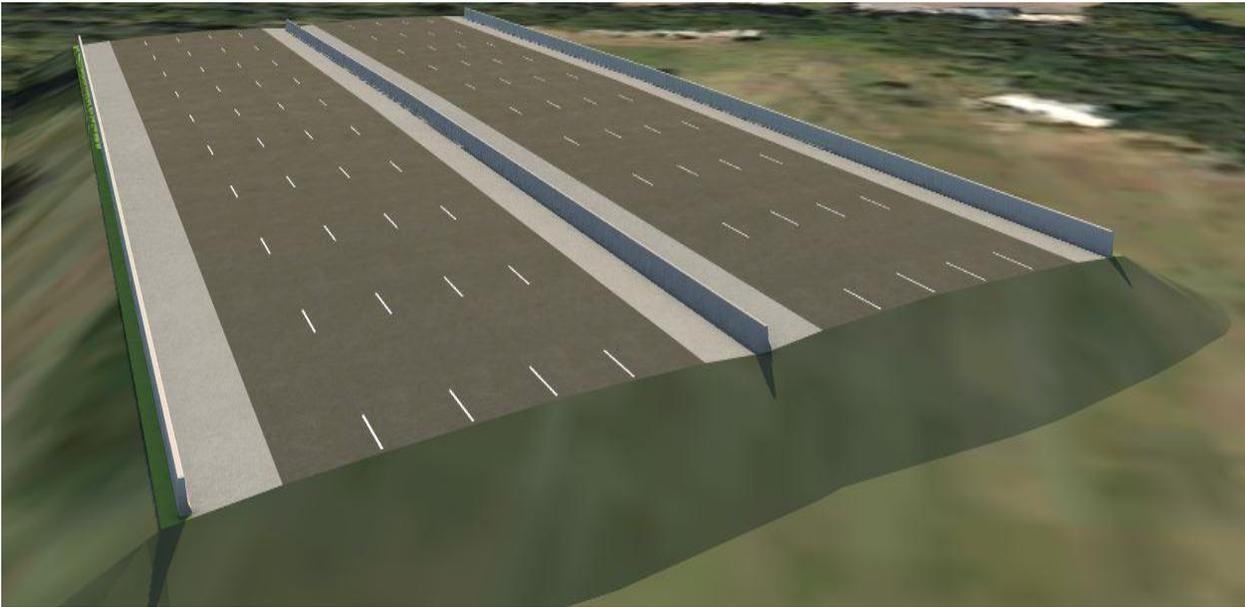
- MB-5Lanes-GR (5 Lane Median Barrier w/Outside Guardrail).



5-Lane Median Barrier w/10' inside shoulder, and 12' outside shoulder (10' Paved) w/GR and 4.5' Misc. Pavement.

➤ **FDM 211.2.1**

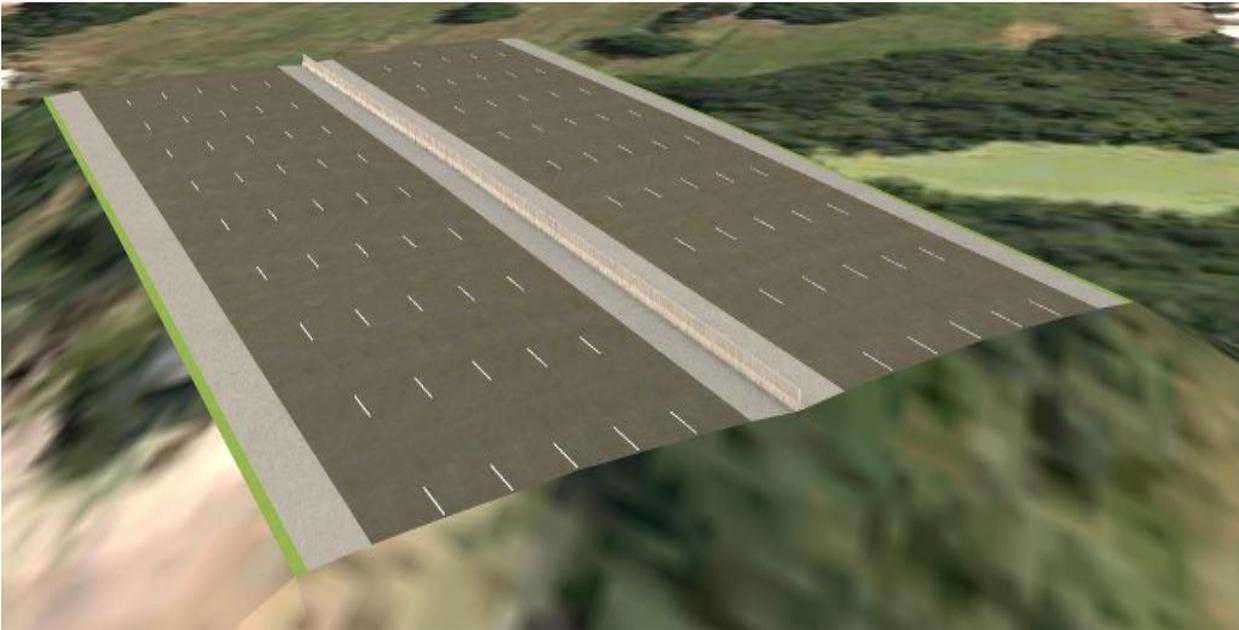
- MB-5Lanes-SB (5 Lane Median Barrier w/Outside Shoulder Barrier)



5-Lane Median Barrier w/10' inside shoulder, and 10' Paved shoulder w/ Shoulder Barrier and 2' set back sod.

➤ **FDM 211.2.1**

- MB-6Lanes-FS (6 Lane Median Barrier w/Outside Flush Shoulder)



6-Lane Median Barrier w/10' inside shoulder, and 12' outside Flush shoulder (10' Paved).

➤ **FDM 211.2.1**

- MB-6Lanes-GR (6 Lane Median Barrier w/Outside Guardrail).



6-Lane Median Barrier w/10' inside shoulder, and 12' outside shoulder (10' Paved) w/GR and 4.5' Misc. Pavement.

➤ **FDM 211.2.1**

- MB-6Lanes-SB (6 Lane Median Barrier w/Outside Shoulder Barrier)



6-Lane Median Barrier w/10' inside shoulder, and 10' Paved shoulder w/ Shoulder Barrier and 2' set back sod.

5.1.2 FDM Bridges

- Bridge_3Lanes



3-lane Median Barrier Bridge w/10' inside shoulder and 10' outside Shoulder.

➤ **FDM Bridges**

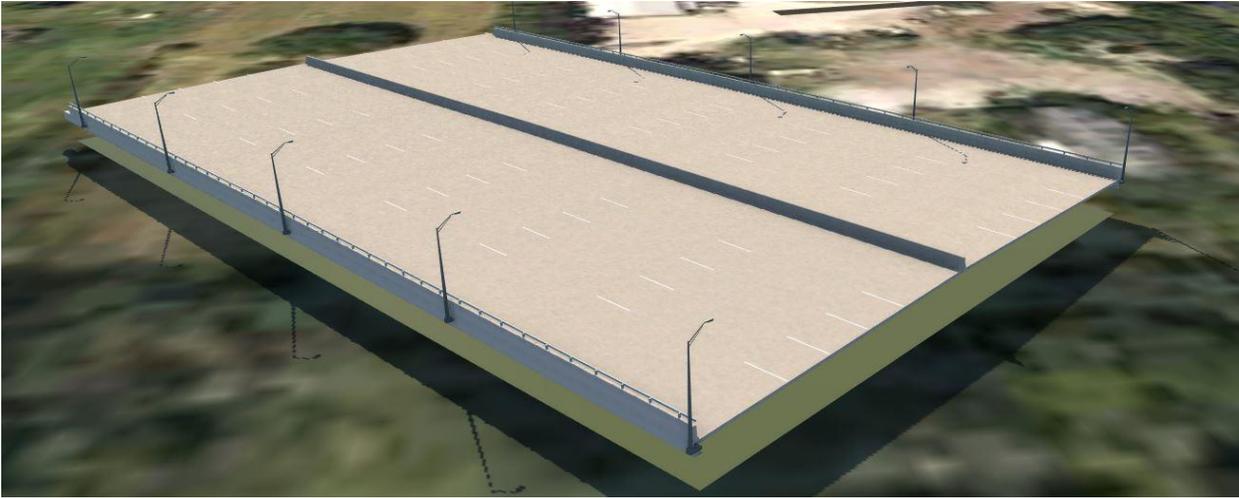
- Bridge_4Lanes



4-lane Median Barrier Bridge w/10' inside shoulder and 10' outside Shoulder.

➤ **FDM Bridges**

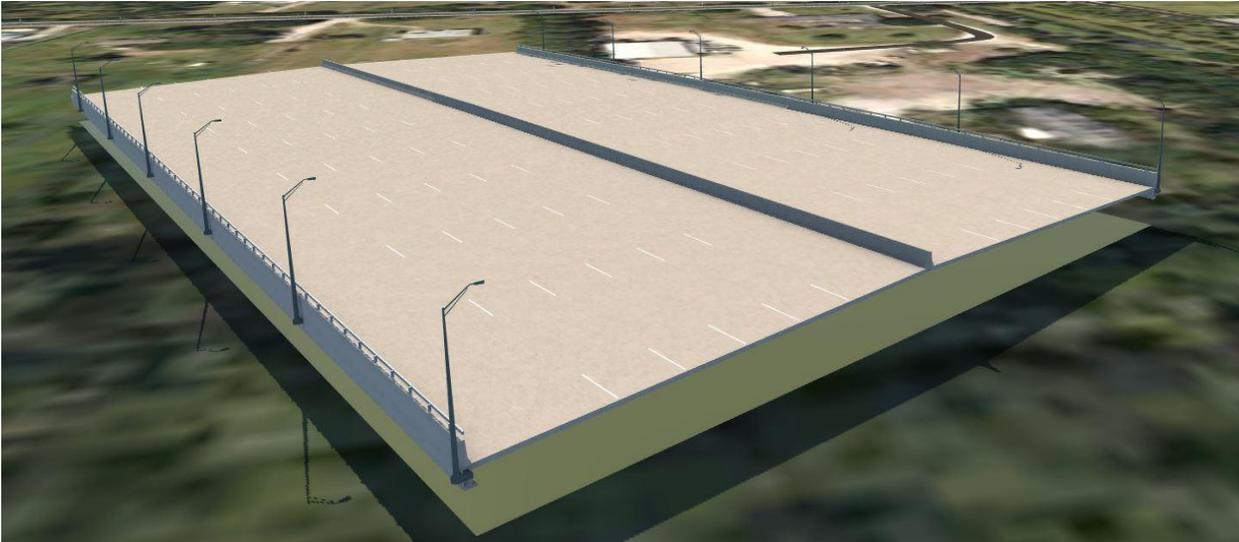
- Bridge_5Lanes



5-lane Median Barrier Bridge w/10' inside shoulder and 10' outside Shoulder.

➤ **FDM Bridges**

- Bridge_6Lanes



6-lane Median Barrier Bridge w/10' inside shoulder and 10' outside Shoulder.

5.1.3 FDM Typical Sections

- Exhibit 306-1 (Limited Access Facility)



➤ **FDM Typical Sections**

- Exhibit 306-2 (6-Lane Limited Access Facility)



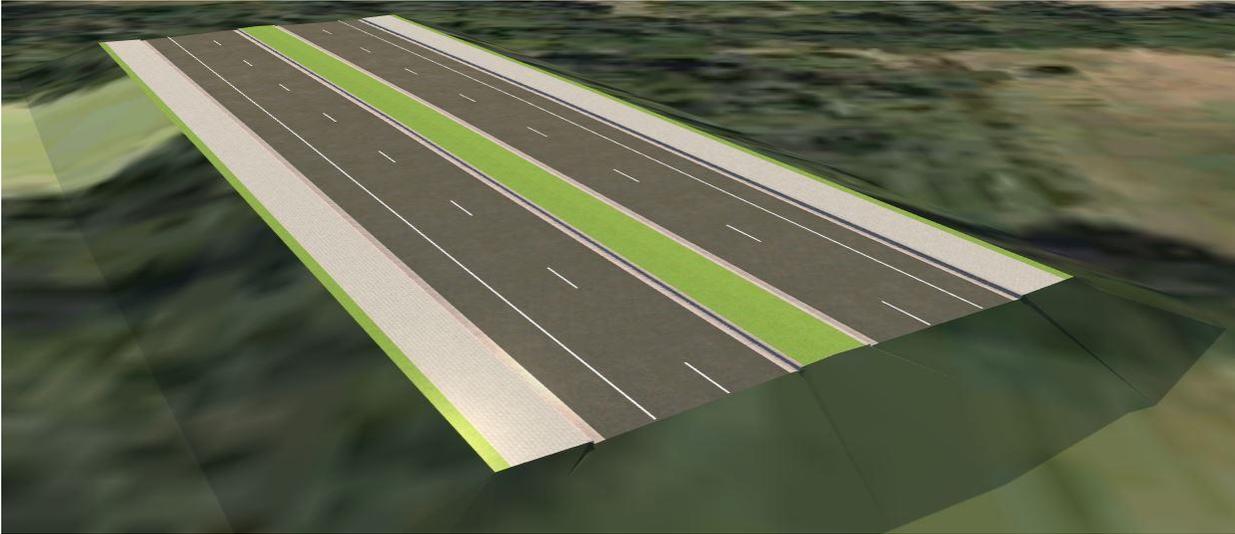
➤ **FDM Typical Sections**

- Exhibit 306-3 (Ramp)



➤ **FDM Typical Sections**

- Exhibit 306-4 (4-Lane Curbed)



➤ **FDM Typical Sections**

- Exhibit 306-5 (4-Lane Curbed)



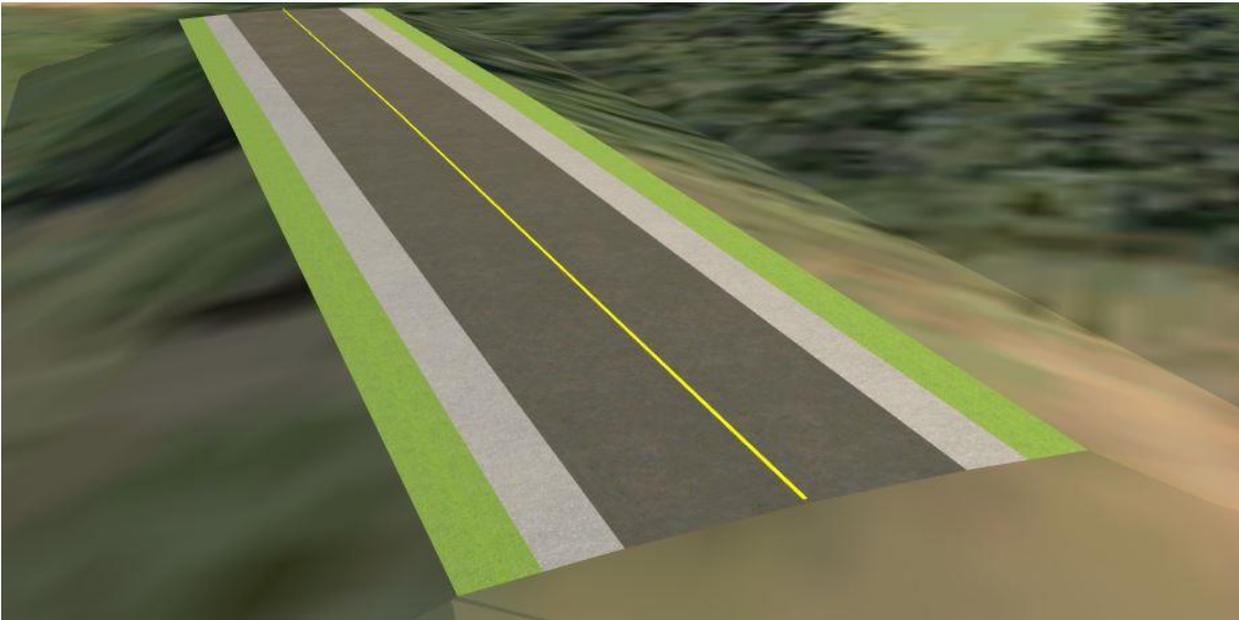
➤ **FDM Typical Sections**

- Exhibit 306-6 (4-Lane High Speed Curbed)



➤ **FDM Typical Sections**

- Exhibit 306-7 (2-Lane Flush Shoulder)



➤ **FDM Typical Sections**

- Exhibit 306-8 (4-Lane Flush Shoulder)

