ORIGINATION FORM

Proposed Revisions to a Standard Plans Index

(Please provide all information — Incomplete forms will be returned)

Contact Information:

Date: January 27, 2021

Originator: Ben Gerrell

Phone: (850) 414-4318

Email: benjamin.gerrell@dot.state.fl.us

Standard Plans:

Index Number: 000-510

Sheet Number (s): 1 and 2

Index Title: Superelevation Transitions - High Speed Roadways

Summary of the changes:

Sheet 1: Added directional arrows to SECTION AA; Updated the Table to match FDM; added 2-Lane option to pavement with median to be consistent with FDM.

Commentary / Background:

These revisions to the Superelevation Transition Indexes are proposed to make the Standard Plans more consistent with the FDOT Design Manual and Table 210.9.3. Added arrows to SECTION AA to be consistent with the arrows included in Standard Plans Index 000-511.

Other Affected Offices / Documents: (Provide name of person contacted)

Yes	No	
☑	☐	Other Standard Plans – Rick Jenkins
☑	☐	FDOT Design Manual – Ben Gerrell
☐	☑	Basis of Estimates Manual –
☐	☑	Standard Specifications –
☐	☑	Approved Product List –
☐	☑	Construction –
☐	☑	Maintenance –

Origination Package Includes:

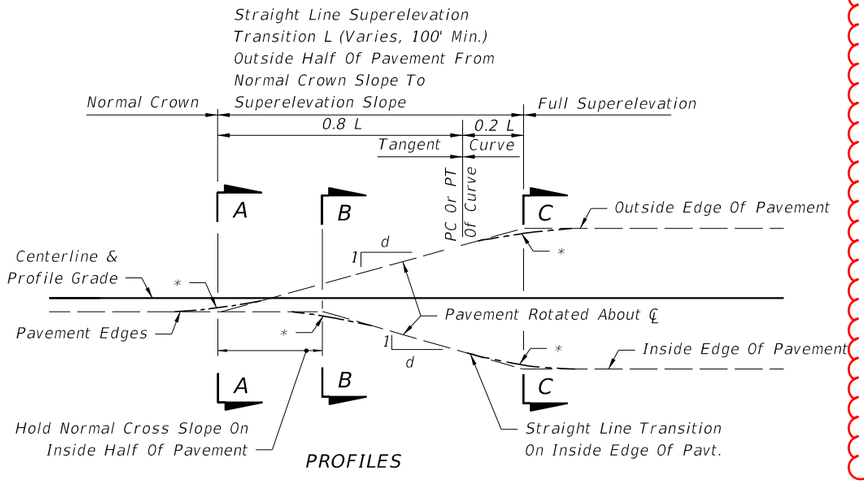
(Email or hand deliver package to Rick Jenkins)

Yes	N/A	
☑	☐	Redline Mark-ups
☐	☐	Proposed Standard Plan Instruction (SPI)
☐	☐	Revised SPI
☐	☐	Other Support Documents

Implementation:

- ☐ Design Bulletin (Interim)
- ☐ DCE Memo
- ☐ Program Mgmt. Bulletin
- ☑ FY-Standard Plans (Next Release)

Contact the Roadway Design Office for assistance in completing this form

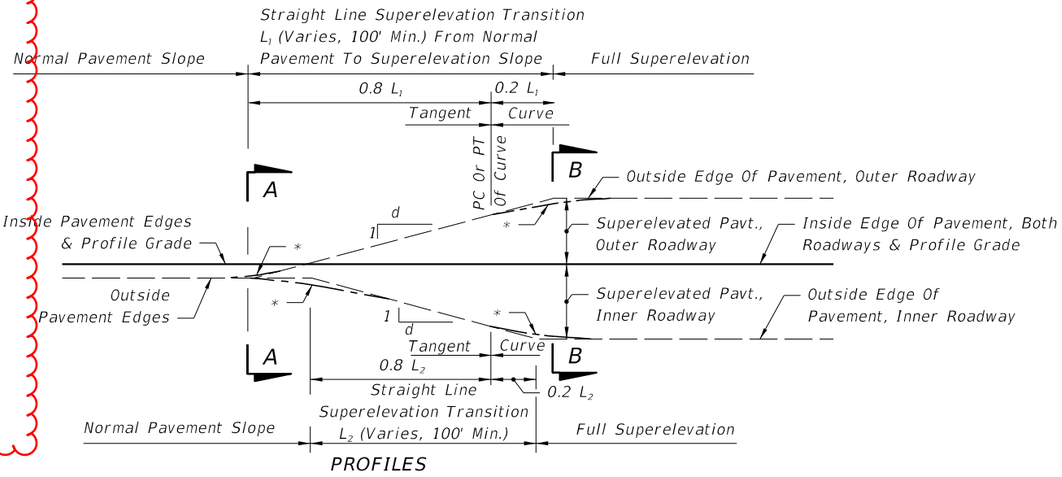


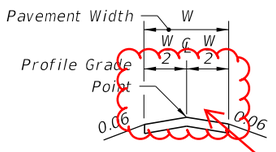
SLOPE RATIOS FOR SUPERELEVATION TRANSITIONS			
SECTION	DESIGN SPEED, MPH		
	45-50	55-60	65-70
	1 : d		
2 Lane & 4 Lane	1:200	1:225	1:250
6 Lane	1:160	1:180	1:200
8 Lane	1:150	1:170	1:190

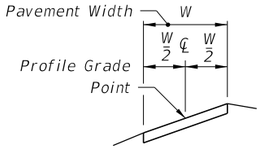
The length of superelevation transition is to be determined by the relative slope between the travel way edge of pavement and the profile grade, except that the minimum length of transition shall be 100 ft.

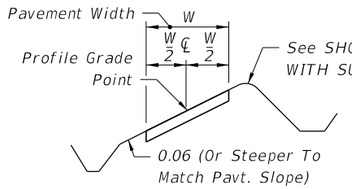
* Short Vertical Curves Are To Be Used On Construction To Avoid Angular Breaks In Edge Profiles

UPDATED TABLE





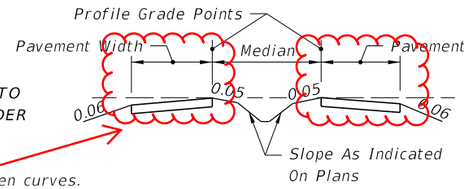


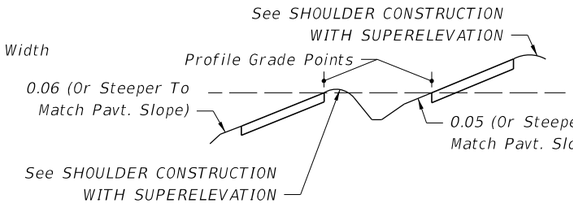


THESE TRANSITION DETAILS ARE TO APPLY IN ALL CASES, EXCEPT UNDER THE FOLLOWING CONDITIONS:

1. Curves of insufficient length.
2. Insufficient tangent length between curves.
3. Deficient transition distance between a curve and other control point(s).
4. At PCC's or PRC's (Runoff rates are applicable).

Transitions for these exceptions are to be as detailed in the plans.





2-LANE, 4-LANE OR 6-LANE PAVEMENT, NO MEDIAN

2-LANE, 4-LANE OR 6-LANE PAVEMENT WITH MEDIAN

ADDED: Direction Arrows

SUPERELEVATION TRANSITIONS

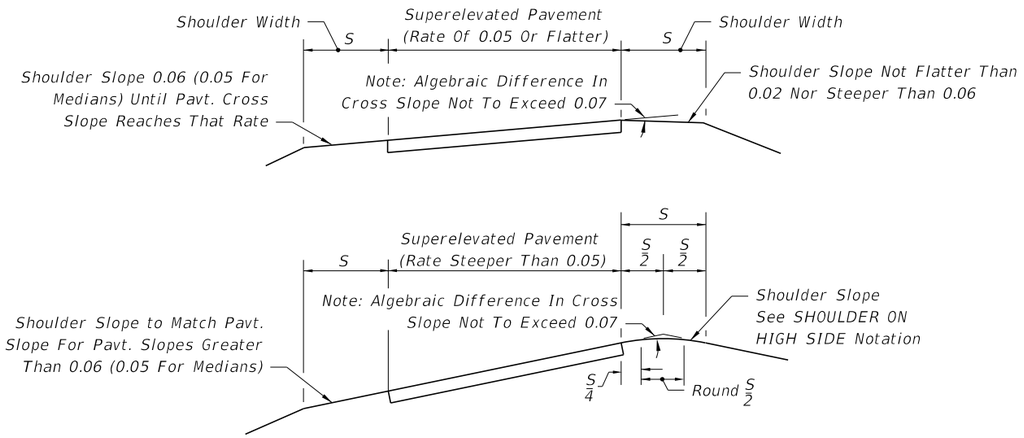
UPDATED TITLE

NOTES:

1. These details apply to both paved and grassed shoulders. For median shoulders use 0.05 in lieu of 0.06.

2. SHOULDER ON HIGH SIDE: A shoulder slope of 0.06 downward from the edge of travel way will be maintained until a 0.07 break in slope at the pavement edge is reached due to superelevation of the pavement. As the pavement superelevation increases, the 0.07 break in slope will be maintained and the shoulder flattened until the shoulder slope reaches the minimum of 0.02 downward from the edge of travel way. Any further increase in pavement superelevation will necessitate sloping the inside half of the shoulder toward the travel way and the outer half outward, both at 0.02 for superelevations 0.06–0.09 and both at 0.03 for superelevation 0.10. For shoulders with paved widths 5 feet or less see Special Shoulder Break Over Details on Sheet 2 of 2.

3. SHOULDER ON LOW SIDE: Maintain 0.06 cross slope across shoulder until pavement cross slope reaches 0.06. For pavement cross slopes greater than 0.06, shoulder to have same slope as pavement. See SHOULDER SLOPES ON SUPERELEVATION SECTION (Sheet 2).

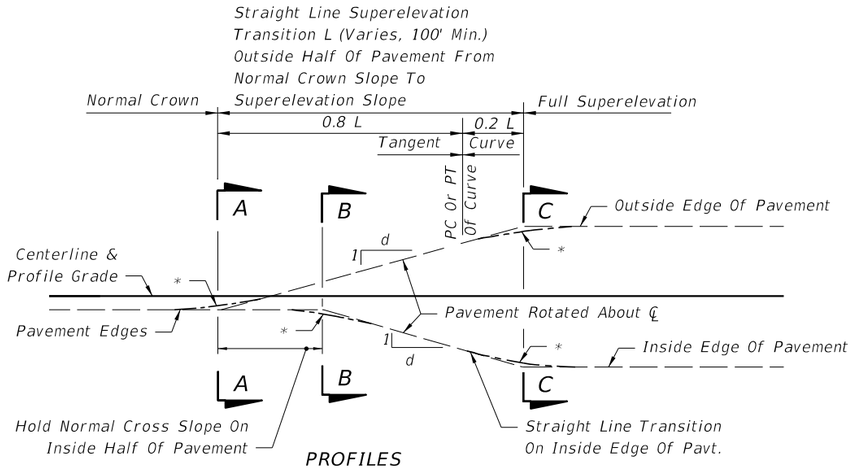


SHOULDER CONSTRUCTION WITH SUPERELEVATION

11/01/21

10/9/2020 1:07:10 PM

LAST REVISION	REVISION	DESCRIPTION:				
~~11/01/18~~			FDOT FY 2021-22 STANDARD PLANS	SUPERELEVATION TRANSITIONS - HIGH SPEED ROADWAYS	INDEX 000-510	SHEET 1 of 2

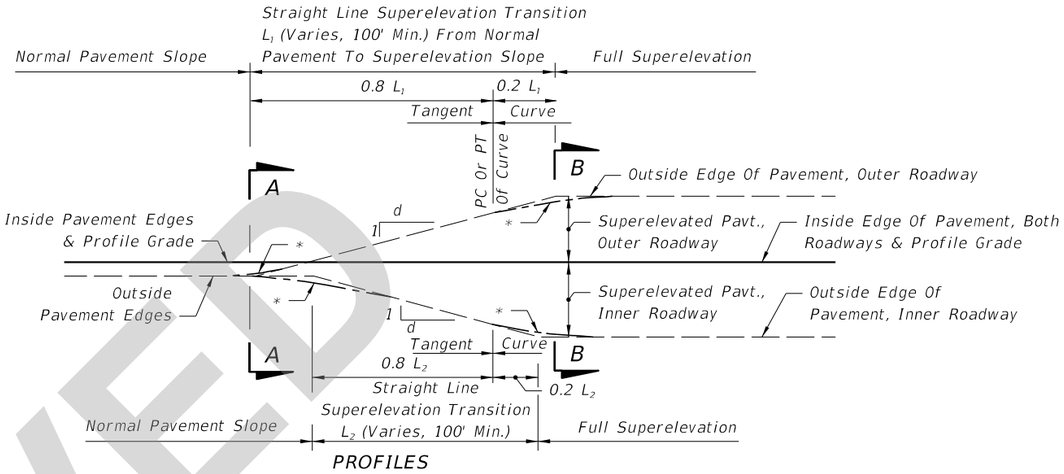


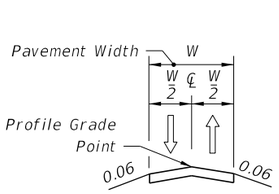
SLOPE RATIOS FOR SUPERELEVATION TRANSITIONS

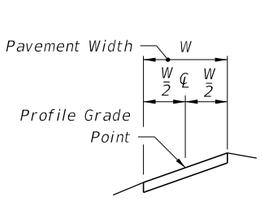
NUMBER OF LANES IN ONE DIRECTION	DESIGN SPEED, MPH			
	25-40	45-50	55-60	65-70
	1 : d			
1 Lane & 2 Lane	1:175	1:200	1:225	1:250
3 Lane	--	1:160	1:180	1:200
4 Lane or More	--	1:170	1:170	1:190

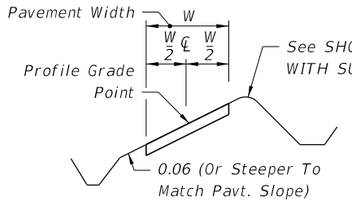
The length of superelevation transition is to be determined by the relative slope between the travel way edge of pavement and the profile grade, except that the minimum length of transition shall be 100 ft.

* Short Vertical Curves Are To Be Used On Construction To Avoid Angular Breaks In Edge Profiles





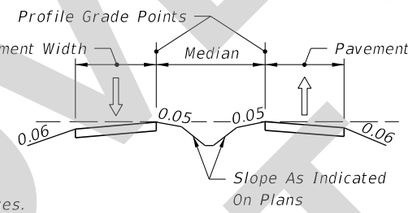


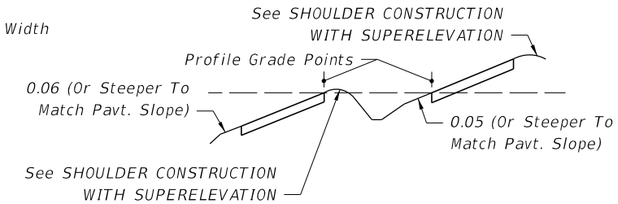


THESE TRANSITION DETAILS ARE TO APPLY IN ALL CASES, EXCEPT UNDER THE FOLLOWING CONDITIONS:

1. Curves of insufficient length.
2. Insufficient tangent length between curves.
3. Deficient transition distance between a curve and other control point(s).
4. At PCC's or PRC's (Runoff rates are applicable).

Transitions for these exceptions are to be as detailed in the plans.





2-LANE, 4-LANE OR 6-LANE PAVEMENT, NO MEDIAN

2-LANE, 4-LANE OR 6-LANE PAVEMENT WITH MEDIAN

SUPERELEVATION TRANSITIONS

SYMBOL:

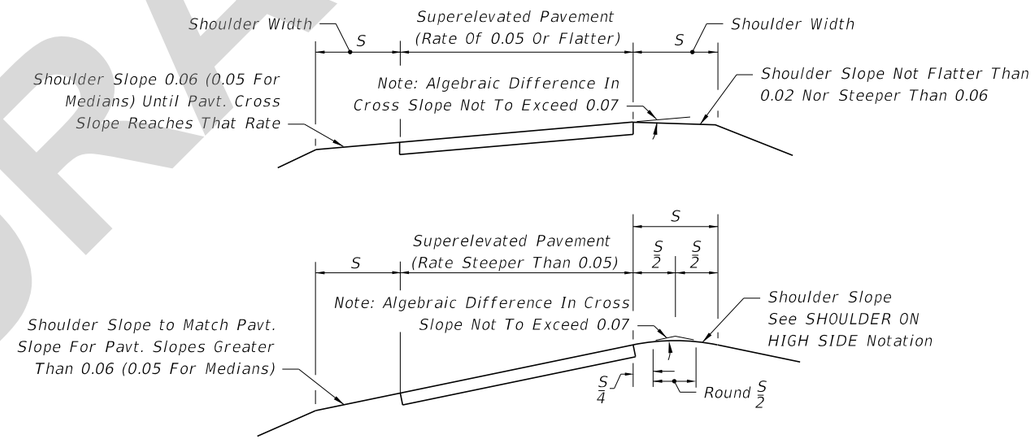
⇨ *Direction of Traffic*

NOTES:

1. These details apply to both paved and grassed shoulders. For median shoulders use 0.05 in lieu of 0.06.

2. SHOULDER ON HIGH SIDE: A shoulder slope of 0.06 downward from the edge of travel way will be maintained until a 0.07 break in slope at the pavement edge is reached due to superelevation of the pavement. As the pavement superelevation increases, the 0.07 break in slope will be maintained and the shoulder flattened until the shoulder slope reaches the minimum of 0.02 downward from the edge of travel way. Any further increase in pavement superelevation will necessitate sloping the inside half of the shoulder toward the travel way and the outer half outward, both at 0.02 for superelevations 0.06–0.09 and both at 0.03 for superelevation 0.10. For shoulders with paved widths 5 feet or less see Special Shoulder Break Over Details on Sheet 2 of 2.

3. SHOULDER ON LOW SIDE: Maintain 0.06 cross slope across shoulder until pavement cross slope reaches 0.06. For pavement cross slopes greater than 0.06, shoulder to have same slope as pavement. See SHOULDER SLOPES ON SUPERELEVATION SECTION (Sheet 2).



5/3/2021 9:59:33 AM

LAST REVISION	REVISION	DESCRIPTION:				
11/01/21			FDOT FY 2022-23 STANDARD PLANS	SUPERELEVATION TRANSITIONS - HIGH SPEED ROADWAYS	INDEX 000-510	SHEET 1 of 2