



INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

Design Memorandum No. 16-26 Technical Advisory

July 1, 2016

TO: All Design, Operations, and District Personnel, and Consultants

FROM: /s/Elizabeth W. Phillips
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SUBJECT: Underdrain Outlet Protectors

REVISES: *Indiana Design Manual Figure 304-18A*

EFFECTIVE: Lettings on or after July 1, 2016 and as noted

RSP 718-R-639, Underdrain Outlets, and RPD 718-R639d, Underdrain Details, address field issues with underdrain video inspection and outlet pipe cover. Revisions include

- Moving the location of a reducer fitting 2 ft from the elbow fitting where the outlet pipe and underdrain pipe are different sizes.
- Adjusting the location of the pipe outlet for the Type 1 outlet protector from the centerline to the one third point from the low end of the protector.

The RSP and RPD are effective for contracts letting on or after July 1, 2016.

Plan Revisions

Slope limits shown in the referenced *Indiana Design Manual* figure have also been revised for Outlet Protector Type 2 and Type 3 to provide for additional cover. The figure is an attachment to the memo. The use of the revised slopes for determining the appropriate protector type is effective with Stage 3 submittals on or after September 1, 2016.

Outlet Protector Type	Outside		Median	
	Flattest	Steepest	Flattest	Steepest
1 (large)	10:1	2:1	10:1	4:1
2 (medium)	4:1	1:1	4:1	3:1
3 (small)	2:1	1:1	2:1	1:1

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OUTLET PROTECTOR SLOPE LIMITS

Figure 304-18A