



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
CENTRAL OFFICE
Manila

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DEPARTMENT ORDER)
No. **112**)
Series of 2019)

**SUBJECT: REVISED DESIGN STANDARDS FOR TOURISM
AND FARM TO MARKET ROADS**


In line with the mandate of the Department to ensure the quality and safety of road infrastructure, hereunder are the prescribed minimum design standards for tourism and farm to market road projects, for the guidance and compliance of all concerned.

Design Element	Requirements	
	Tourism Roads (Figure 1)	Farm to Market Roads (Figure 2 & 3)
Pavement Type	Portland Cement Concrete Pavement (PCCP)	PCCP
Pavement Width	Minimum of 6.1 m for two lanes	Fig. 2: Minimum of 5.0m for two-lanes • Average daily traffic less than 200 Fig. 3: Minimum of 6.1m for two-lanes • Average daily traffic between 200-400
Pavement Thickness	Minimum of 230mm (9 inches) (Higher Thickness of pavement may be adopted but shall be verified from pavement design analysis using AASHTO method as contained in the DPWH Design Guidelines Criteria and Standards considering the latest Annual Average Daily Traffic and Axle Loading).	Minimum of 200mm (8 inches) (Higher Thickness of pavement may be adopted but shall be verified from pavement design analysis using AASHTO method as contained in the DPWH Design Guidelines Criteria and Standards considering the latest Annual Average Daily Traffic and Axle Loading).
Shoulder • Width • Material	• Minimum of 1.5m • Minimum of gravel surfacing	• Minimum of 1.5m • Minimum of gravel surfacing
Roadway Cross Slope	1.50 % for PCCP	1.50 % for PCCP
Shoulder Cross Slope	3.0 % for Gravel Surfacing	3.0 % for Gravel Surfacing
Radius of Horizontal Curve	Minimum of 50m	Minimum of 30m
Length of Tangent between reverse Curves	Minimum length of 30m	Minimum length of 30m
	Tourism Roads (Figure 1)	Farm to Market Roads (Figure 2 & 3)
Length of Vertical Curve	Minimum length of 60m	Minimum length of 60m

Design Speed	<ul style="list-style-type: none"> 60 km/hr for flat terrain 40 km/hr for rolling terrain 30 km/hr for mountainous terrain 	30 km/hr for all terrain type
Longitudinal Grade	Minimum of 0.50% on cut section and maximum of 12% on cut/fill section	Minimum of 0.50% on cut section and maximum of 12% on cut/fill section
Side Slope Ratio (H:V)	<ul style="list-style-type: none"> Cut slope of 1.5:1 to 1:1 for common materials Cut slope of 0.5:1 to 1:1 for rippable rock Cut slope of 0.25:1 to 0.5:1 for hard/solid rock Maximum fill slope of 1.5:1 	<ul style="list-style-type: none"> Cut slope of 1.5:1 to 1:1 for common materials Cut slope of 0.5:1 to 1:1 for rippable rock Cut slope of 0.25:1 to 0.5:1 for hard/solid rock Maximum fill slope of 1.5:1
Road Drainage	<ul style="list-style-type: none"> Box Culvert: 25 – year flood with sufficient freeboard to contain the 50 – year flood Pipe Culvert: 15 – year flood with sufficient freeboard to contain the 25 – year flood Minimum size of 910 mm in diameter 	<ul style="list-style-type: none"> Box Culvert: 25 – year flood with sufficient freeboard to contain the 50 – year flood Pipe Culvert: 15 – year flood with sufficient freeboard to contain the 25 – year flood Minimum size of 910 mm in diameter
Slope Protection	As Needed	As Needed
Road Safety Devices including Pavement Markings	Refer to DPWH Highway Safety Design Standards, Part 2 (May 2012)	Refer to DPWH Highway Safety Design Standards, Part 2 (May 2012)
Accessibility Requirements for Persons with Disability	As Needed	As Needed
Bridges	<ul style="list-style-type: none"> Permanent structures (concrete or steel) Structural design based on AASHTO HS20-44, using 0.4g ground acceleration coefficient for seismic analysis and 50 – year flood frequency for hydraulic analysis. Carriageway Width = 6.70m 	<ul style="list-style-type: none"> Permanent structures (concrete or steel) Structural design based on AASHTO HS15-44, using 0.4g ground acceleration coefficient for seismic analysis and 50 – year flood frequency for hydraulic analysis. Carriageway Width: <ul style="list-style-type: none"> 4.60m (for 4.0m roadway width Fig. 2) 5.60m (for 5.0m roadway width Fig. 3)

This order shall amend /modify Department Order No. 11, s. 2014 and other previous issuances inconsistent herewith and shall take effect immediately.


MARK A. VILLAR
Secretary

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