

## Pavement Design Guidelines

A pavement design is required and the following guidelines shall be used for residential streets under the jurisdiction of the Monroe County Road Commission. The pavement design shall be submitted along with the Construction Plan set.

Minimum Requirements: 4-inches of asphalt pavement, placed in 2 layers (typically 1½" 36A on 2½" 13A), over based 8-inches of aggregate base. The minimum Structural Number of the section based on the coefficients outlined below must be 2.80.

Required Structural Numbers (SN) should be determined using AASHTO design parameters and using the Weighted SN with the following parameters:

Soil Support Value, SSV <sup>(1)</sup> :	2.5 for a Clay to Silty Clay 4.6 for a Silty Sand to Sand
Regional Factor, R:	2.0
Terminal Serviceability Index, P <sub>t</sub> :	2.5

Use the attached *Design Chart for Flexible Pavements* for determining the Weighted SN.

Design volumes based on proposed development traffic shall be calculated using a design volume of 10 trips per day per residential lot for a 25 year design life with no directional traffic factor. Truck volumes should be calculated as 4-percent of the total traffic volume broken down as 1-percent Type B, and 3-percent Type C. The conversion factor to be used for Type B and Type C truck volumes are 1.068 and 0.311, respectively for flexible pavement design. A single pavement section is not required for an entire project. Two (2) or more pavement sections may be proposed for roads of different traffic volumes and lower pavement demands

The following values should be used as coefficients per inch of material thickness.

Asphalt Mixes:	MDOT	13A	0.35
		36A	0.38
	ODOT <sup>(2)</sup>	301	0.35
		402	0.35
		404	0.35
Aggregate Base	MDOT	21AA	0.18
		21A	0.14
	ODOT <sup>(2)</sup>	304	0.14
Sand Subbase	MDOT	Class II	0.11
	ODOT <sup>(2)</sup>	310	0.11

Note 1: Documentation of the existing Subgrade materials must be completed by a registered Professional Engineer. This documentation must be submitted along with the Pavement Design. If a CBR test is completed on the subgrade materials, the actual SSV value can be determined using the attached *Correlation Chart for Subgrade Strengths*. The CBR value should be determined based on a Standard Proctor compacted to 98-percent of the materials maximum density.

Note 2: ODOT materials will only be allowed when provided my pre-approved plants with a history of manufacturing ODOT materials and mixes.