

# **Appendix C**

## **Simplified Pavement Design for Short Projects**

# Simplified Pavement Designs for Short Projects

Many projects, such as bridge replacement projects, include a short stretch of new pavement or pavement replacement. For projects in which the total length of new pavement or pavement replacement is less than 300 feet (100 m), the chart on the following page may be used in lieu of a complete pavement design according to Sections 200, 300 and 400 of this Manual. The buildups given on the chart are conservative and based on the amount of truck traffic expected for the opening day. The following procedures and precautions should be recognized:

1. The length of pavement replacement is exclusive of bridge length, where applicable.
2. The buildups given here are in accordance with the small quantity guidelines Section 410.
3. The designer should first evaluate the buildup of the existing pavement. If the structural buildup or thickness of the existing pavement exceeds the chart value, then the existing design should be perpetuated.
4. Where opening day truck traffic exceeds 800, this chart is not to be used and the procedures described in Sections 200, 300 and 400 of this Manual are to be followed.
5. If it is known in advance that poor soils may be encountered at subgrade level or if the designer is unsure of proper subgrade or slope treatments, review by the Office of Geotechnical Engineering is recommended.
6. The designer is always welcome to do a complete design according to Sections 200, 300 and 400 rather than using the chart.

<b>Simplified Pavement Designs for Short* Projects</b>															
<b>Pavement Composition</b>	<b>Pavement Course Thicknesses</b>														
	<b>Number of Trucks in Opening Day ADT (ADT x T24)</b>														
	<b>&lt;=10</b>		<b>11-25</b>		<b>26-50</b>		<b>51-100</b>		<b>101-200</b>		<b>201-400</b>		<b>401-800</b>		<b>&gt;800</b>
	<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>	<b>in</b>	<b>mm</b>	
<b>Flexible Design</b>															
441 AC Surface, Type 1, (448), PG64-22**	<b>1.25</b>	32	<b>3</b>	75	<b>3</b>	75	<b>3</b>	75	<b>3</b>	75	<b>3</b>	75	<b>3</b>	75	n/a
301 Bituminous Aggregate Base	<b>4</b>	100	<b>4</b>	100	<b>5</b>	125	<b>6</b>	150	<b>7</b>	180	<b>8</b>	200	<b>9</b>	230	n/a
304 Aggregate Base	<b>6</b>	150	<b>6</b>	150	<b>6</b>	150	<b>6</b>	150	<b>6</b>	150	<b>6</b>	150	<b>6</b>	150	n/a
<b>Alternate Flexible Design</b>															
441 AC Surface, Type 1, (448), PG64-22**	<b>3</b>	75	-	-	-	-	-	-	-	-	-	-	-	-	n/a
304 Aggregate Base	<b>12</b>	300	-	-	-	-	-	-	-	-	-	-	-	-	n/a
<b>Rigid Design</b>															
452 Plain Concrete Pavement	<b>7***</b>	180	<b>7***</b>	180	<b>7***</b>	180	<b>7***</b>	180	<b>8</b>	210	<b>9</b>	230	<b>10</b>	260	n/a
304 Aggregate Base	<b>6</b>	150	<b>6</b>	150	<b>6</b>	150	<b>6</b>	150	<b>6</b>	150	<b>6</b>	150	<b>6</b>	150	n/a

\* Less than 300 linear feet (100 m) of total pavement replacement.

\*\* Include a plan note restricting the 441 to 2-inch (50 mm) maximum lift thickness.

\*\*\* 7-inch (180 mm) concrete is allowed for short projects only. All other projects require 8-inch (200 mm) minimum in accordance with Section 302.