APPENDIX A
FOUNDATION DESIGN CONCEPT SELECTION

A-100. GENERAL. The foundation systems presented in this section were condensed from over 40 systems submitted by the manufactured housing industry. When a number of systems were similar in their detailing and the way they distributed loads, the system that was most representative of that group was selected for presentation in this section. Many variations from the detailing shown here are possible.

Some of the original systems are not included. The most common reason for rejecting a foundation system was lack of positive vertical anchorage. The superstructures of manufactured homes are too light to rely upon their mass to provide all resistance to overturning and uplift and must rely on the assist of their foundation to achieve adequate resistance.

A-100.1. IDENTIFICATION OF ACCEPTABLE FOUNDATION DESIGN CONCEPTS. The foundation systems are organized by the pattern of superstructure support and vertical anchorage. These two issues have been used to characterize the types of systems used in the Foundation tables: Types C, E, and I. There are no Type I systems presented in this chapter only because none were submitted by the industry for consideration. Type I systems were included in the Foundation Design tables due to their potential use. Their absence is not intended to imply that such systems are not viable, only that none are currently in use.

A-100.2. DELETIONS FROM THE FIRST EDITION. Concept E2 was deleted from this revision. It does not meet the permanent foundation criteria outlined in section 100-1.C. Specifically concrete footings are required for all foundation systems. It has been left in this Appendix but crossed out as a reminder to field officers of its inability to perform to the standard of this document.

A-100.3. LOADS THAT GOVERN. In many cases, the wind forces govern over seismic inertia forces in the design of foundation systems for manufactured homes. However, there are high seismic activity areas where seismic inertia forces control over wind. The detailing of some systems is better suited to regions with such high seismic activity. The selection of systems suitable for use in high seismic regions is based upon complete continuity in the connections between the superstructure and the foundation (and all its parts).

A-100.4. ECONOMIC FACTORS. Economics are not addressed in identifying the regional applicability of the different systems. Some systems would become economically unfeasible in regions with higher wind loads due to the size and depth required for their elements to provide anchorage. It is assumed that those who use this handbook as a design tool will discover the economic limitations of specific foundation systems on a case by case basis.

A-100.5. SELECTION TABLE. The table immediately following can be used to select appropriate foundation types for sites with special requirements.

Table A - 1

FOUNDATION SELECTION TABLE

Foundation Type	High Wind Zone			Engineering Design Required			Seismic Zone			Frost Zone
	All	Some	None	Yes	No	Maybe	All	Some	None	
C1 Reinforced masonry piers w/wire tie-downs & diagonal tie		**X**				**X**		**X**		
C2 Reinforced masonry or concrete piers	**X**				**X**		**X**			**X**
C3 Isolated deep piers	**X**			**X**			**X**			**X**
C4 Mat slab w/isolated piers	**X**			**X**			**X**			**X**
E1 Reinforced perimeter wall, unreinforced piers at chassis			**X**		**X**			**X**		**X**
~~**E2** Treated wood perimeter wall on gravel, unanchored metal piers~~		**DELETED** See E8	**X**		**X**			**X**		**X**
E3 Reinforced masonry or concrete perimeter walls & piers	**X**				**X**		**X**			**X**
E4										

Foundation Type	High Wind Zone			Engineering Design Required			Seismic Zone			Frost Zone
	All	Some	None	Yes	No	Maybe	All	Some	None	
Reinforced perimeter walls & piers w/transverse footings	**X**					**X**	**X**			**X**
E5 Reinforced perimeter basement wall w/transverse steel girders	**X**					**X**	**X**			**X**
E6 Perimeter grade beam on deep piers w/transverse steel girders	**X**			**X**			**X**			**X**
E7 Reinforced concrete perimeter wall w/transverse steel girders	**X**					**X**	**X**			**X**
E8 Treated wood perimeter wall on concrete footing w/unanchored metal pier			**X**			**X**		**X**		**X**