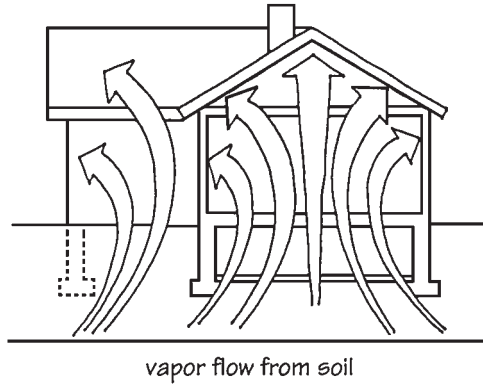


Figure 13-14 Alternative waterproofing and drainage strategies for masonry basement walls. (From NCMA TEK Bulletin 1.)

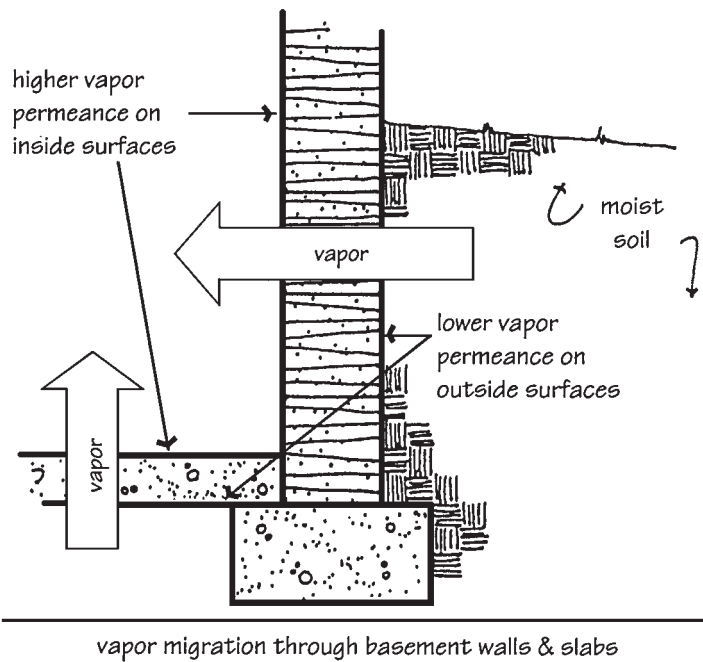
content. In climates subject to freezing, a waterproof membrane can prevent the potentially destructive action of freeze-thaw cycles when moisture is present in the units.

13.3.5 Segmental Retaining Walls

One of the newest developments in the concrete masonry industry is the dry-stacked, interlocking concrete block retaining wall. Sometimes referred to as segmental retaining walls (SRWs), a variety of proprietary units and systems are available (refer to Chapter 4). The units are stepped back



(From W.R. Meadows, Inc., The Hydrologic Cycle and Moisture Migration)



(From Beall, Thermal and Moisture Protection Manual, McGraw-Hill, 1999)

Figure 13-15 Soil moisture vapor.

slightly in each course, or battered, toward the embankment. Some units interlock simply by their shape, while others use pins or dowels to connect successive courses. Because they are dry-stacked without mortar, interlocking retaining wall systems are simple and fast to install. The open joints allow free drainage of soil moisture, and the stepped-back designs reduce overturning stresses.

The National Concrete Masonry Association has published the *Design Manual for Segmental Retaining Walls*, which presents a thorough engineering methodology, guide specifications, test methods, and design tables for two types of retaining walls. *Conventional SRWs* are structures that resist external destabilizing forces from the retained soils solely through self-