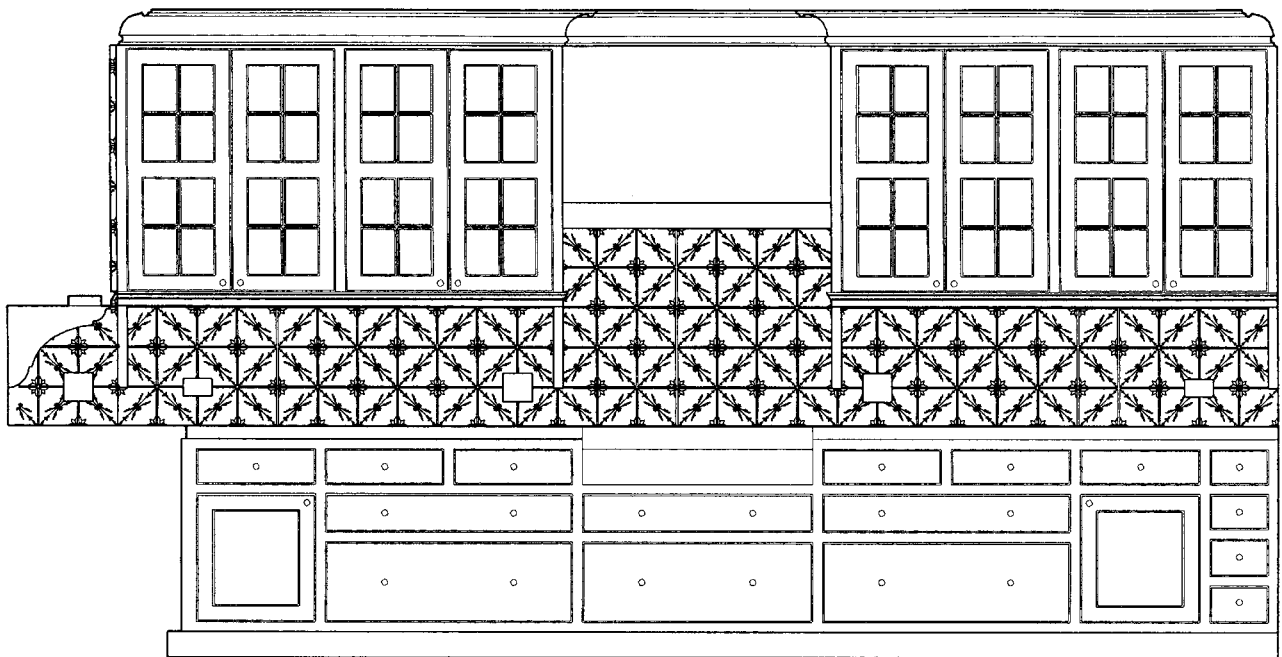


With the main features of the interiors approved based on perspective sketches, development can proceed. On the computer, each interior elevation is laid out from the plan. The perspective sketches, plus information already established, are used as the basis for this step. Here, because each line drawn represents a corner, the edge of a surface, or a joint between materials, typical finishing details can be solved in a new layer within the floor plans which were already drawn on the computer. These are conditions that are unlikely to change, and this allows the interior elevations which are drawn and refined as a part of the work of design development to be converted directly into working drawings after any client-directed changes have been incorporated. For us the final step is to model the main spaces in three dimensions. These models, while they are great presentation tools for our clients, are also design tools for us. They allow us to see visual adjacencies and potential relationships between interior elements that cannot be imagined looking at plan or elevation drawings and which might be missed in 3-D computer models and in animated walk-throughs. For the time being we are biased toward the construction of real physical objects, although as more powerful 3-D programs become available this could change.

The models we make are constructed rapidly by printing floor plans and interior elevations from the computer at one-half-inch equals one-foot scale. These are glued down to foamcore board, cut out and quickly assembled. They can be rapidly modified based on client comments or visual problems with the design identified by studying the model. Like all the other materials prepared during the design process, they serve the purpose of showing us what our ideas will look like when constructed. They are interactive tools which we can alter, correct, and improve until the information they present to us convinces us that our designs will look good when actually built. At one-half-inch scale the models are doll-house-like in their ability to engage a client's attention. We encourage our clients to handle them, to hold them up to eye level, to look into them from different angles, and to use them the way we do, as aids to visualization.

The model then becomes the primary frame of reference in subsequent client meetings when materials are presented and chosen. These are referenced back to the appropriate surface or location in the model. While a client may not really understand issues of continuity between adjacent surfaces, these are easy to see and explain in a model. Often we will make sample boards; however, presenting materials is usually less formal. We will lay out wood, tile, and

stone samples on our conference room table along with catalogue sheets for lighting fixtures, plumbing fixtures and fittings, and hardware. While we try to get our clients to make all of these decisions during design development, many may be put off into the working drawing phase. Although the difference between natural wood and painted cabinetry is enormous in its visual impact, rarely does a construction detail change when one is selected over the other. However, changing tile or stone thickness or tile size can necessitate the redrawing and redesign of detail conditions. So we are always uncomfortable when these decisions are put off until later in the project. We have redrawn and redimensioned entire residential kitchens when a client decided they wanted to use Delft picture tiles or some other patterned tile that cannot just be cut at any point along its dimension. I can still remember spending days as a young intern architect working out the tile layout and bonding for floor and wall tiles in the public toilets in Philip Johnson's IDS Center in Minneapolis. This was done so all the tile joints on the floors and walls would align. We now do this by computer, including scanning the patterns on picture tiles (Figure 30-2).



**FIGURE 30-2**  
Kitchen Tile Layout  
(Cohen & Hacker  
Architects).