



Article #1401 -

Site Planning - Lot Orientation

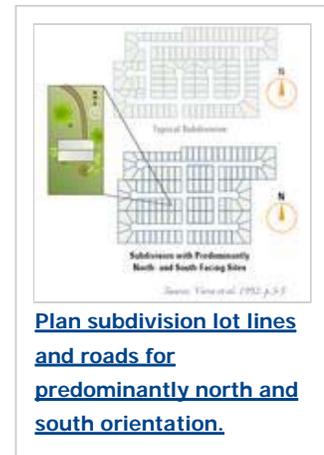
The sun is the main source of heat in all homes. By looking at how houses receive sunlight, site planners can help optimize how much solar energy is available to heat a house, and how much heat must be removed with air conditioning. In hot climates, site planners should use lot orientation to avoid solar gains in the summer.

As planners map out lots and roads, the relationship between buildings and the sun should be key. Just as you lay out roads to allow houses to take advantages of great views, or to work around hillsides and other landscape features, also consider how road design, lot lines, and orientation will influence the way that houses face the sun.

Lot lines and roads should be situated to minimize home exposure to east and west. These orientations provide the greatest solar heat gains. Subdivisions should be planned so that the longer sides of the houses face north and south. Single-family homes tend to have longer fronts and backs and narrower sides, so lots facing north or south are preferred. Streets should be positioned in an east-west direction. With proper planning, there may be no added costs to the builder for good orientation.

Lot orientation is especially important if solar heating or electric generation systems are planned. Inexpensive tools can help assess how much solar energy will be blocked by obstacles on a particular site.

In addition, some above code programs such as ENERGY STAR require Home Energy Ratings Systems (HERS) be used. Technical information on the home (including orientation and shading area) is entered into a computer simulation program that generates a HERS score for the home.



Additional Information

[Energy Star Qualified New Homes](#) 

This article is an excerpt from the [Building America Best Practice Series, Volume 1: Hot-Humid Climate](#) .

Last Modified: 2009-05-13