How to Approach a Complex Roof using the Roofs Application in ArrisCAD or BuildersCAD

The tools available in the Roofs Application found in BuildersCAD or ArrisCAD enable you to generate roofs that are simple or extremely complicated. This can be a confusing process for new or experienced users.

This seminar presents an overview to the process of developing a complex roof. We will focus on the planning and process rather than the button-by-button use of the tools in the Roofs Application.

We will also look at some potential problems, and how to work around these problems, such as:
1. Looking specifically at what to do if you are unable to remake a plane after editing;
2. And, how double precision, which is by default turned OFF in BuildersCAD, can affect generation of roof planes. (In ARRIS, it is defaulted to ON.)

An Example Roof

Roof geometry can offer many complexities including: multi-slope roof planes; 1st floor roofs that connect to 2nd floor roofs; etc. The example we have chosen offers many of those complexities.

To develop a complex roof you need to: evaluate the structure; break the roof into sub-roofs; outline sub-roofs; assign markers (that determine roof slope) to sub-roofs; and edit the sub-roof planes into one roof plane system.

We will go step-by-step through the process of developing the roof shown below:
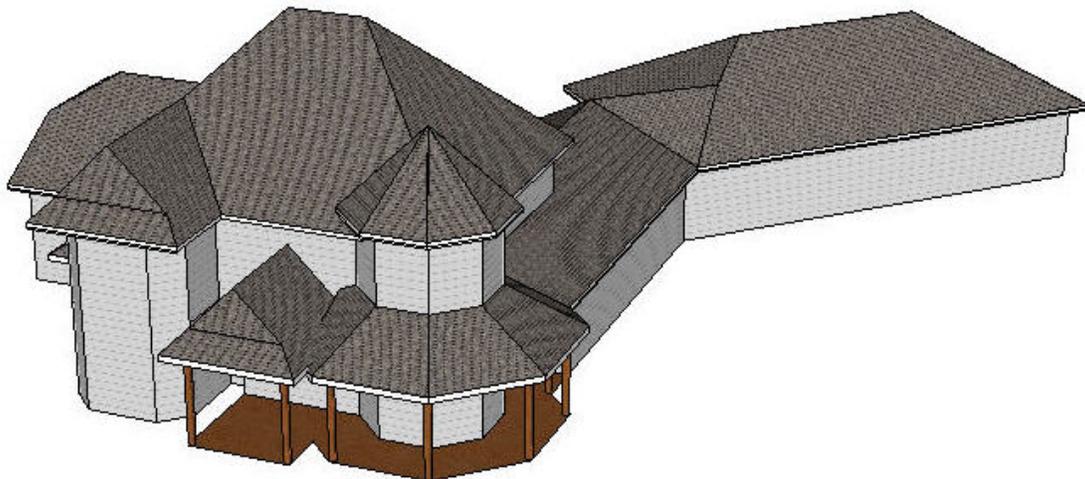
The process:

a) What to consider when you evaluate the structure
   1. wall layout
   2. number of levels
   3. thickness of floor system(s)
   4. wall height
   5. covered porches or patios

b) What to consider when you break the roof system into sub-roofs
   1. wall configuration
   2. wall height
   3. how will the roof over a given area tie into the main roof

c) Outline sub-roofs
   1. Outline edge tools available
   2. Possible edits to the outline edges

d) Assign markers to determine roof slope and overhang
   1. What the marker does
   2. Assignment methods

e) Generate the 3D roof planes for all or specific sub-roofs

f) Edit all sub-roof planes into a single roof plane system
   1. Trim and extend planes
   2. Redefine a plane by adding or deleting plane edges
   3. Remake roof planes

Potential problems:

When remake of a plane fails:
   1. Remake and verify each edge
   2. Review the plane in Iso View
   3. Use "move point" or "move area" commands to close small gaps

The double-precision issue in BuildersCAD:
   1. To check the current floating point setting use: **!$getvar(#vfltdelta)**

   2. The floating point variable settings are:
      0 - off
      1 - floating point (double precision) turned on for database points only
      2- floating point (double precision) turned on for db and dl points

   3. To modify the setting use: **!$setvar(#vfltdelta, 1)** to turn on double precision in BuildersCAD

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Roofs Application Training Videos on CD

BCAD Services is now offering a 2-CD set training course on the use of the Roofs Application in ArrisCAD or BuildersCAD.

The first CD covers each tool -- button-by-button -- available to generate a roof. The second CD takes you through the process of generating a complex roof with the Roofs Application (the same roof we will cover in this seminar).

The 2-CD set may be ordered from BCAD Services at the conference. Please see Ed Gilmore or Kat Gilmore for details, or call us after the conference at: 706-797-3119.

IABC conference attendees can order the training CDs at the special price of $75 (plus a $10 shipping/handling charge) through Friday, March 10, 2006.

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