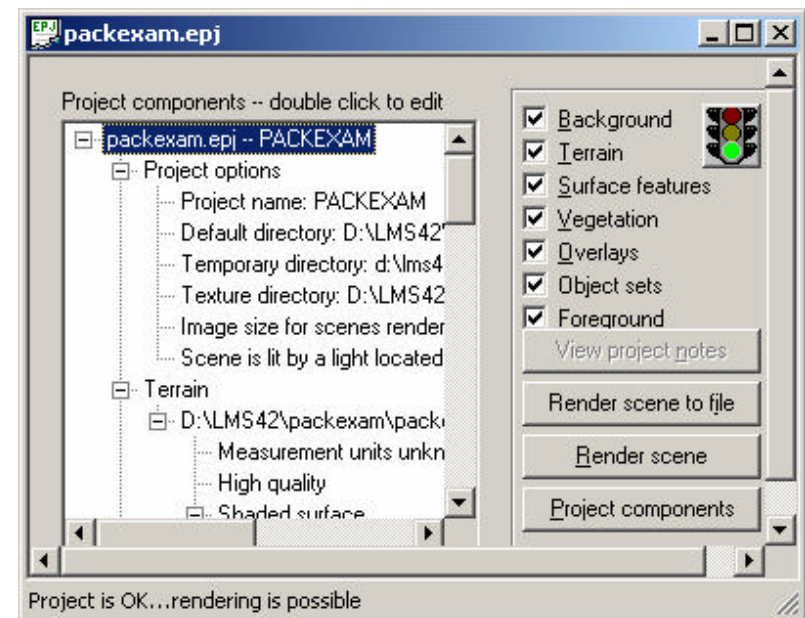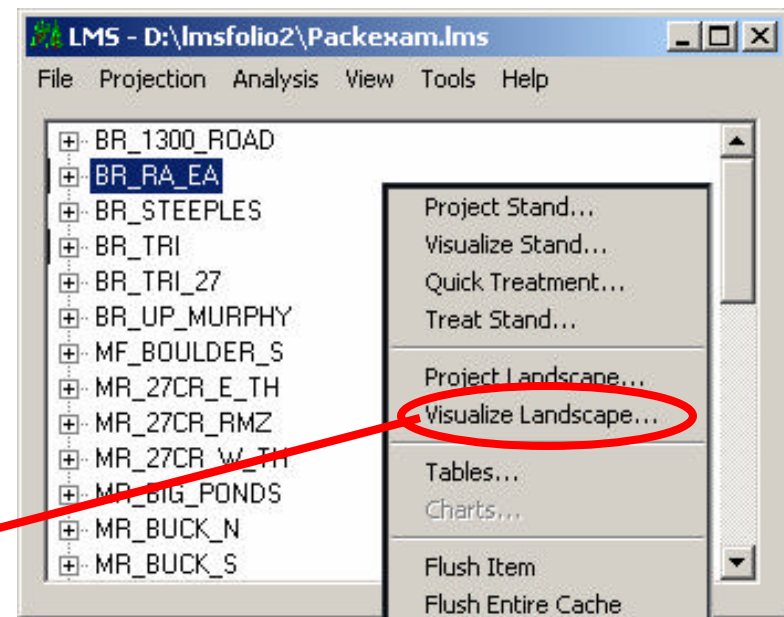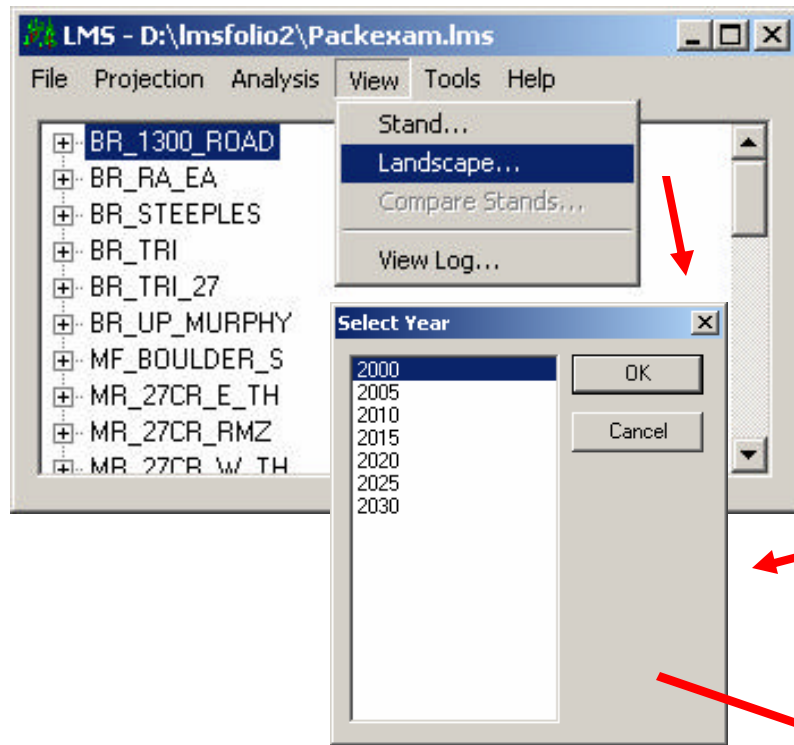# Landscape Visualization (Envision)

Figure 9.1 There are two procedures to viewing the landscape in **EnVision**. The first way is through the **View** drop down menu. Click **View/Landscape**. Select the **year** then click **OK**. The other way is to right click in the Main Window, click **Visualize Landscape**, select year, and then click **OK**. The EnVision window will open.

PACKEXAM.epj

Project components -- double click to edit

- PACKEXAM.epj -- PACKEXAM
  - Project options
    - Project name: PACKEXAM
    - Default directory: C:\lms2\\ENVISION\
    - Temporary directory: C:\lms2\\ENVISION\temp\
    - Texture directory: C:\lms2\\ENVISION\textures\
    - Color for unused portions of OpenGL windows: Red: 0 Green: 0 Blue: 0
    - Image size for scenes rendered to file: 512 wide by 512 high
    - Scene is lit by a light located at viewpoint
  - Terrain
    - C:\lmsfolio\packexam\packexam.dtm
      - Measurement units unknown at this time
      - High quality
      - Shaded surface

Project is OK...rendering is possible

☑ Background
☑ Terrain
☑ Surface features
☑ Vegetation
☑ Overlays
☑ Foreground

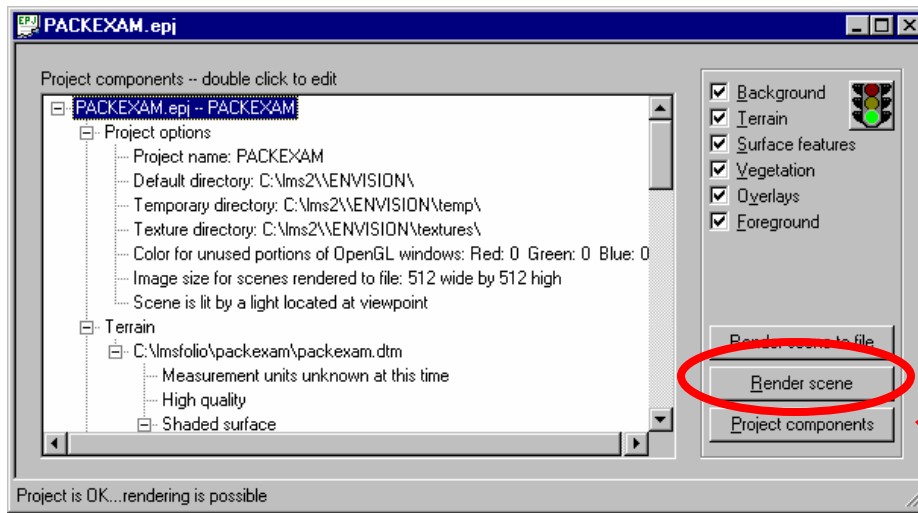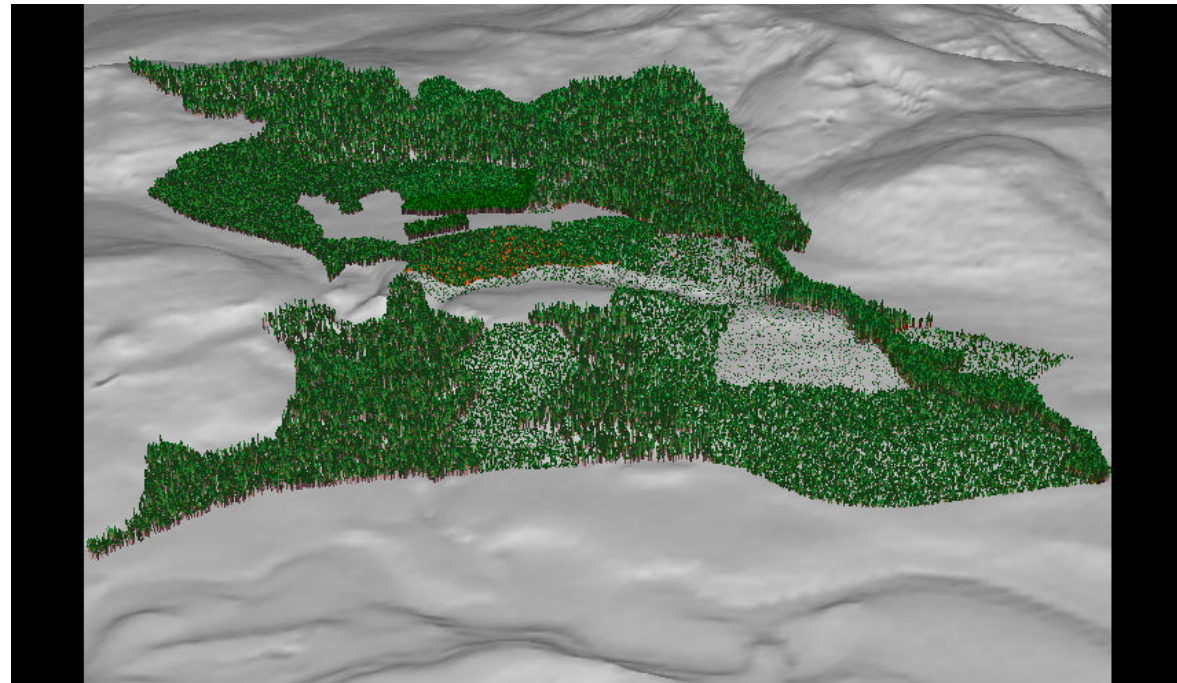Render scene to file
Render scene
Project components

Figure 9.2 Click on **Render scene** and the landscape will be drawn in a three dimensional presentation. Representations of the forest inventory records are draped over the landscape in appropriate locations.
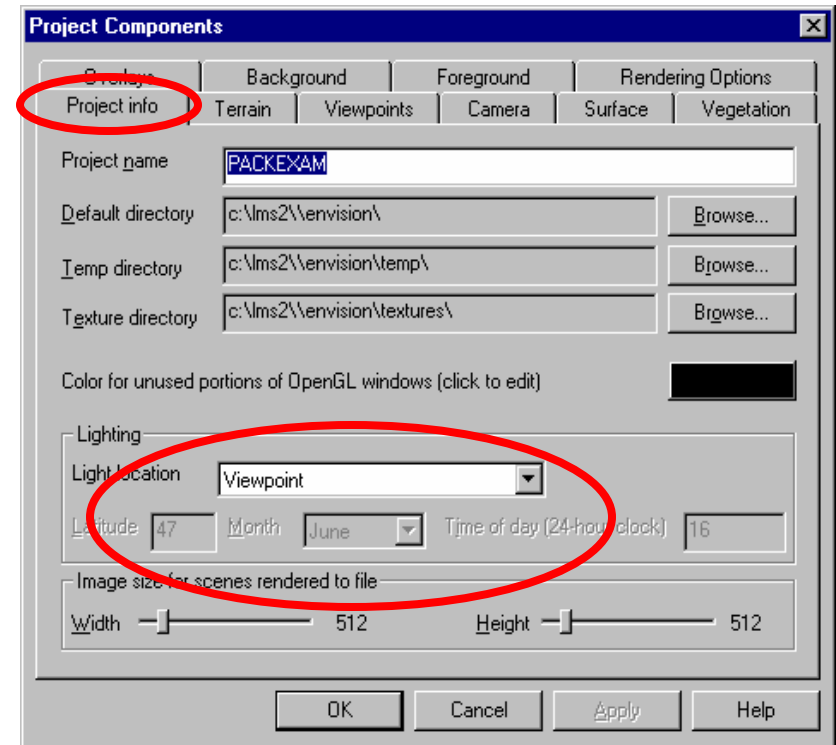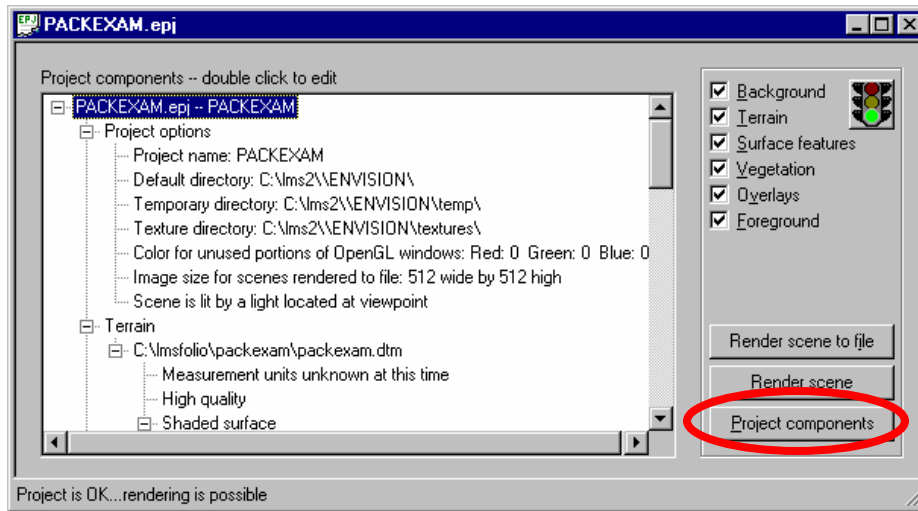
3

Figure 9.3 The landscape view can be altered by clicking on **Project components**. Several tabs are available which allow the user to change various aspects of the landscape view. The **Project info** tab lists basic information of the project being viewed. The light location can also be changed in the Project info tab. This will create different shadow effects on the landscape view.
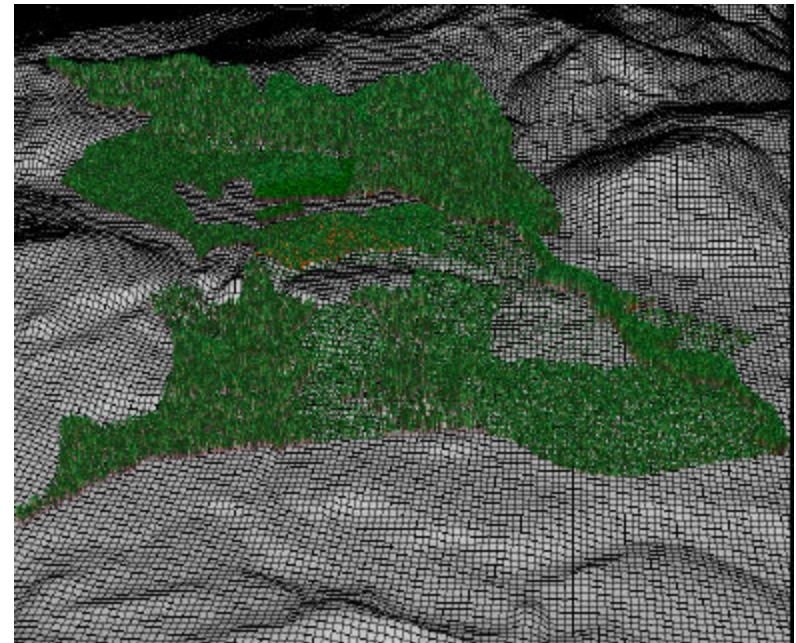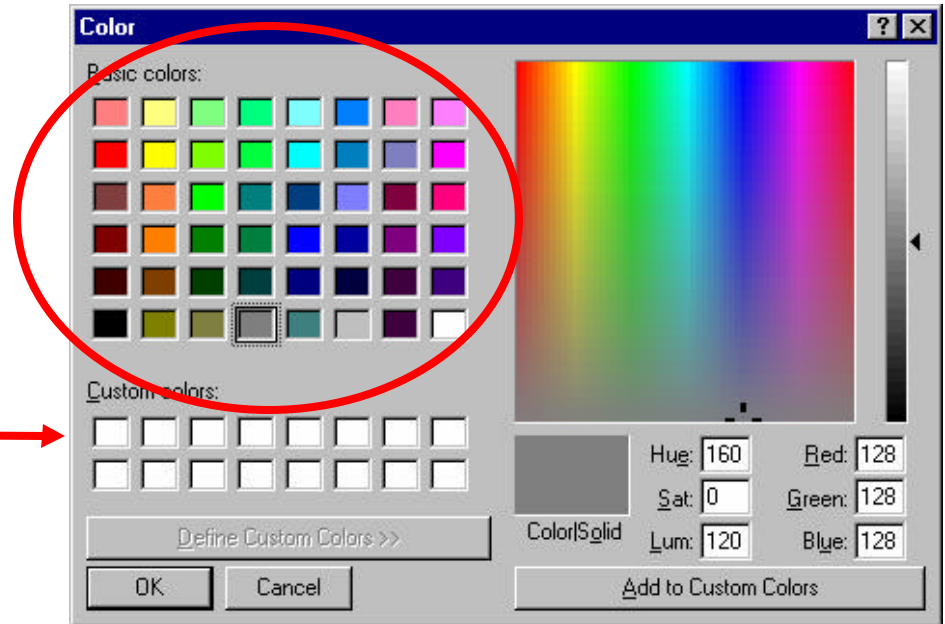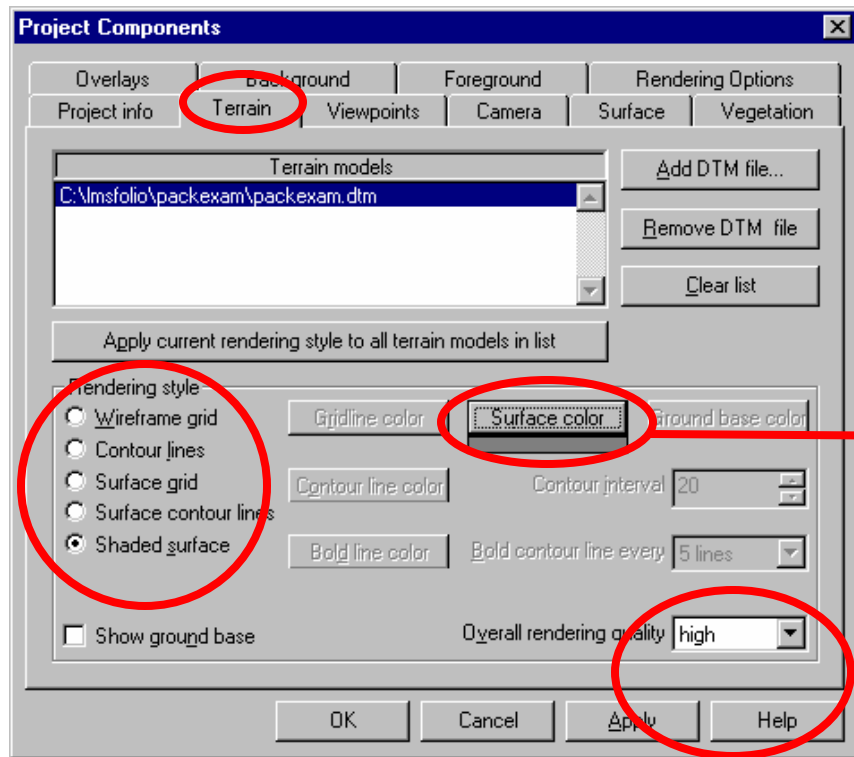
Figure 9.4 The **Terrain** tab allows the user to change the view of the ground that the stands are to be drawn on. The different styles are under the Rendering style section. The colors of each style component can be changed by a click on its color button. A color chart appears in which any color may be chosen by a click on any of the basic colors and then by clicking **OK**. The quality of the terrain can be changed by clicking on the **Overall rendering quality** drop down. The higher the quality, the longer it will take EnVision to draw the terrain. In the image to the right, the landscape is drawn with a surface grid.
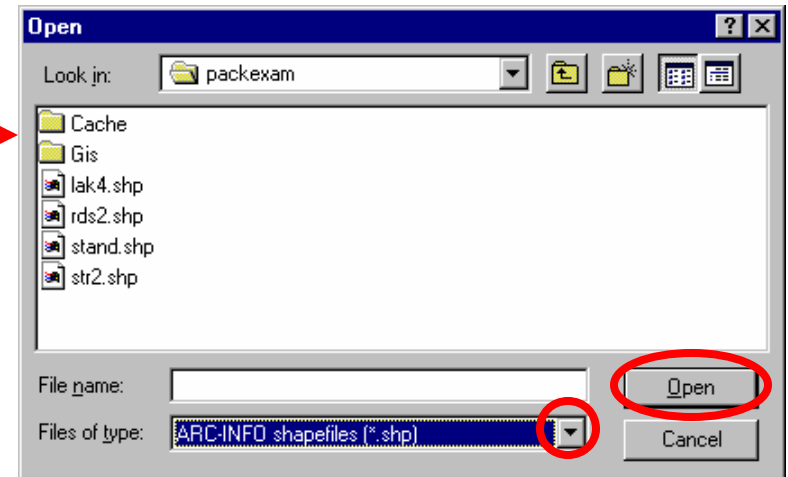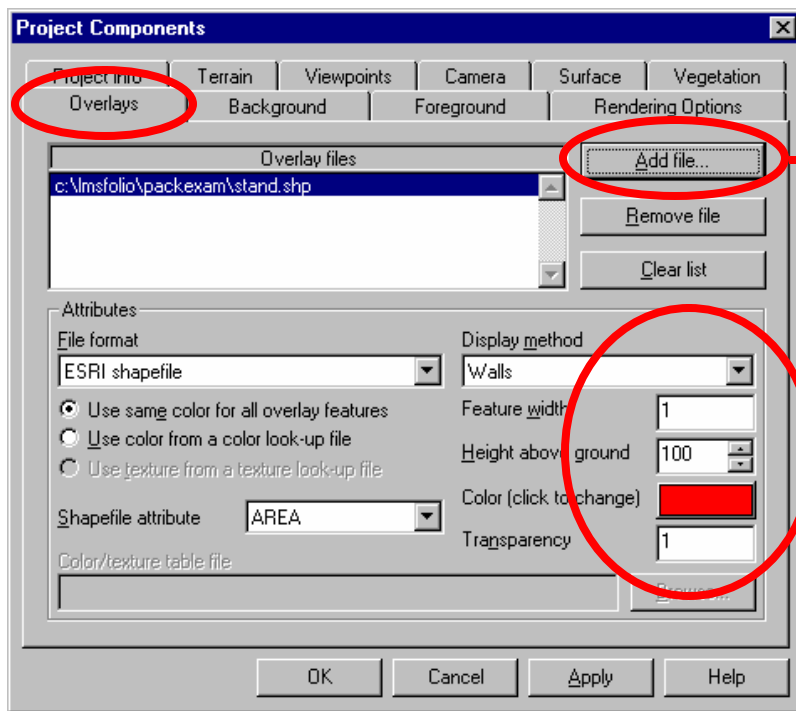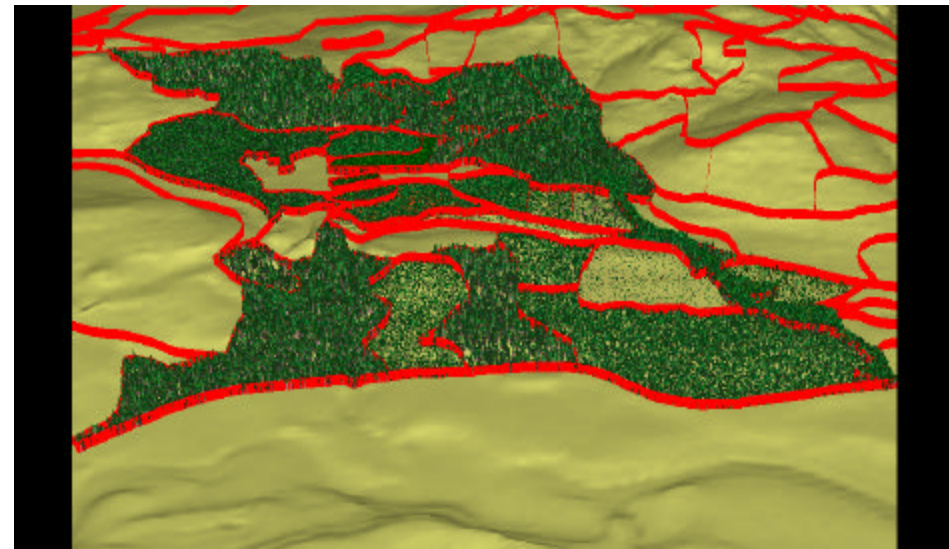
Figure 9.5   Different overlays may be added to the landscape view under the **Overlays** tab. A common overlay is an Arc-Info shape file, such as stand boundaries, streams and roads. To add a Arc-info shape file click **Add file**, click on **Files of type** drop down and choose Arc-Info shapefiles (*.shp). Click on desired shapefile (i.e. stand.shp) and click **Open**. The presentation of the overlay may be changed through changing its color, height above ground, feature width, or display method. The landscape view to the right is one with the stand shapefile overlay presented as red walls.
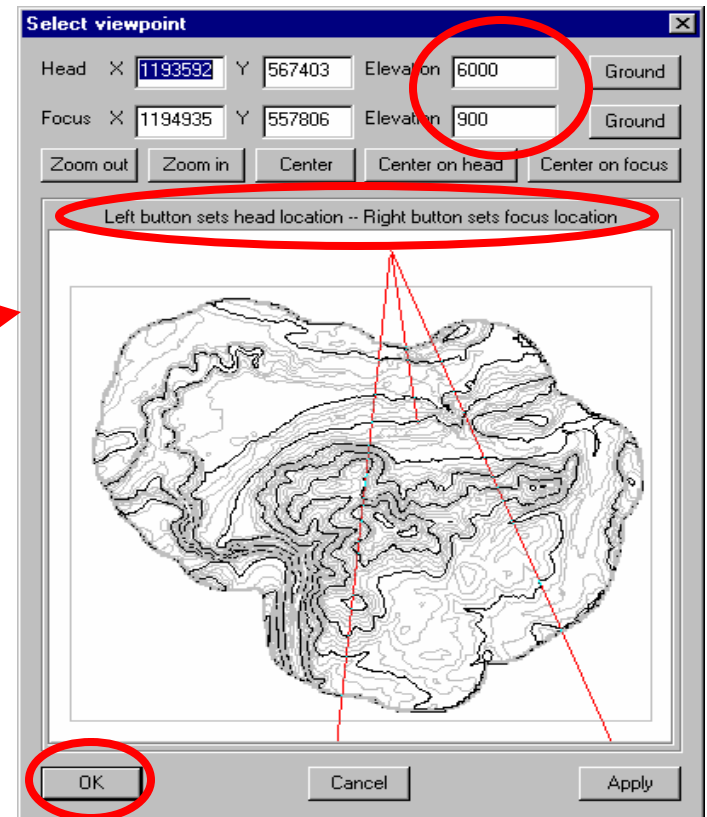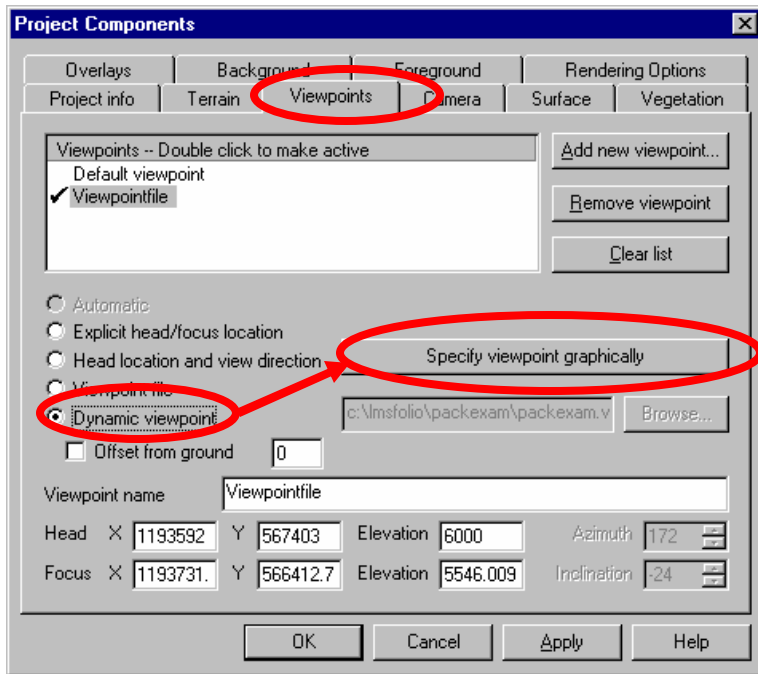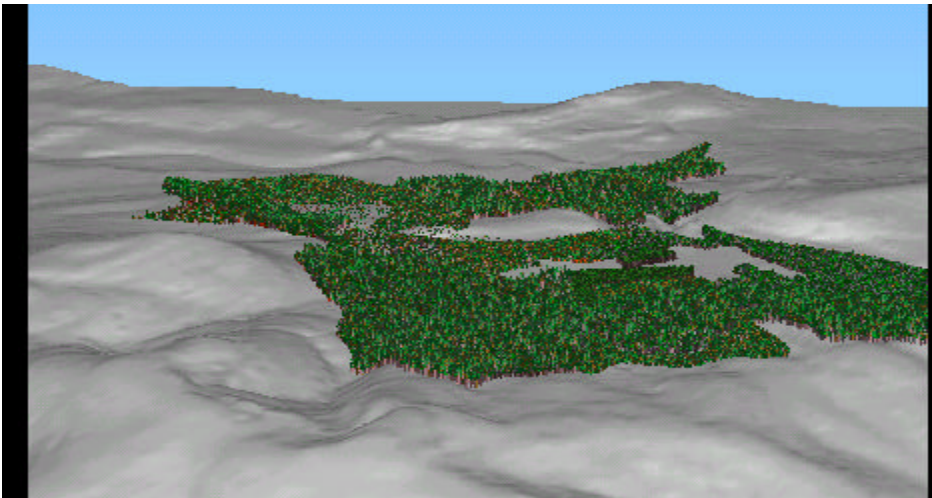
6

Figure 9.6 The landscape can be viewed from different perspectives under the **Viewpoints** tab. To change the viewpoint click on **Dynamic viewpoint** then click **Specify viewpoint graphically**. Click the left mouse button to set the head location or location from which the landscape is viewed. Clicking the right mouse button sets focus location or from what direction the landscape will be viewed. The elevation of the head and focus may also be changed to give the landscape a different view. In the example landscape visualization to the right, the head was rotated 180 [o] from the previous position in the default.
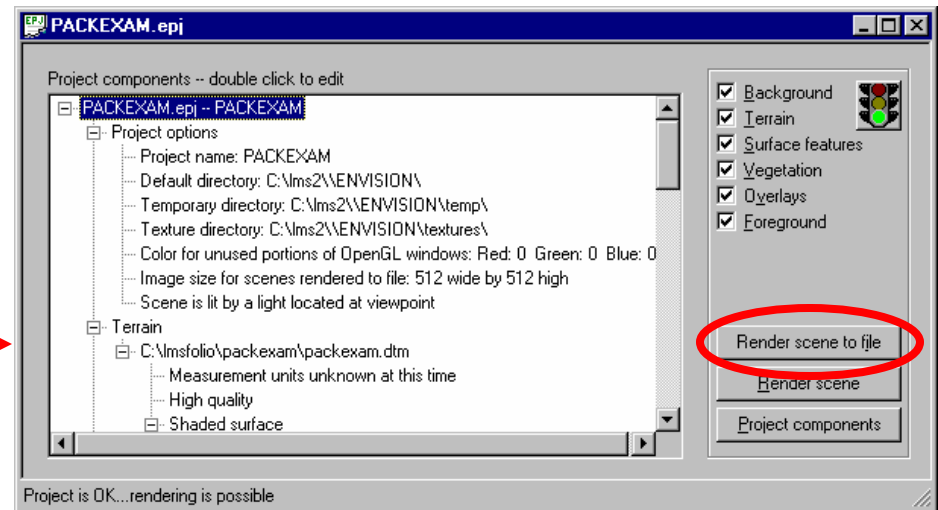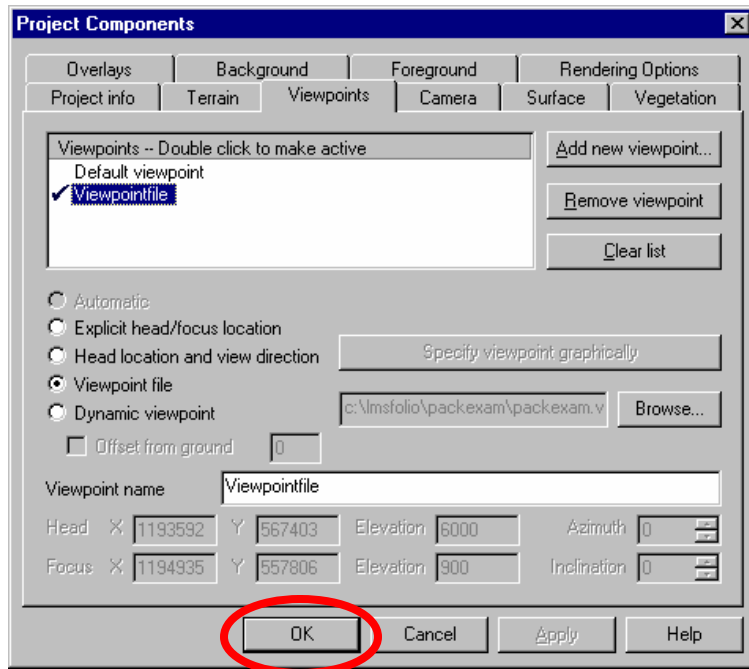
Figure 9.7 Once all the desired changes are made to the landscape, click OK. Then click Render scene. The landscape will then be drawn with whatever changes have been made.
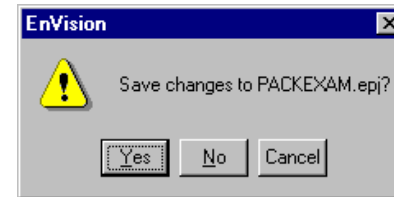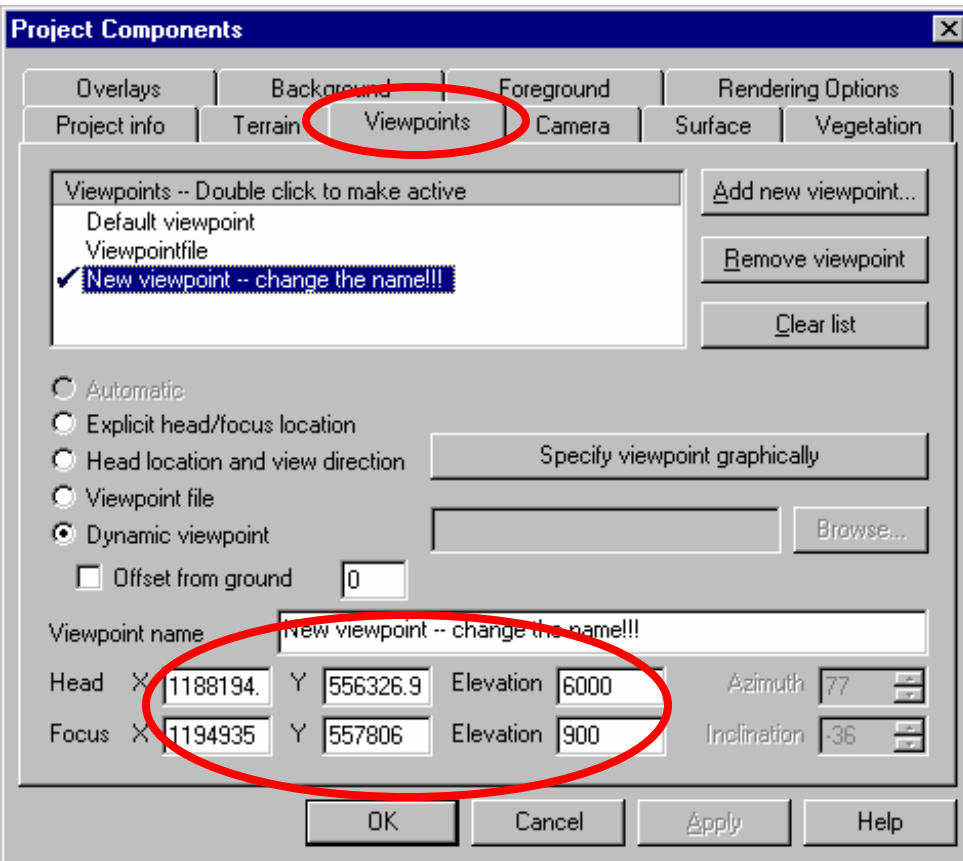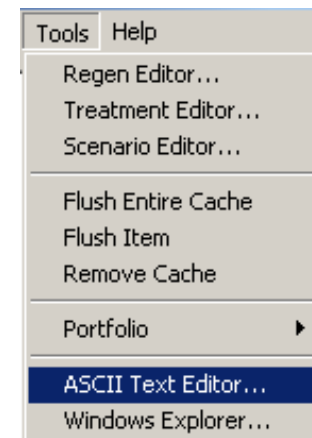
8

Figure 9.8 To place a landscape image into PowerPoint, click on the **Edit/Copy** image to clipboard. Go to PowerPoint and on a blank slide click **Edit/Paste** from the drop down menu.   9
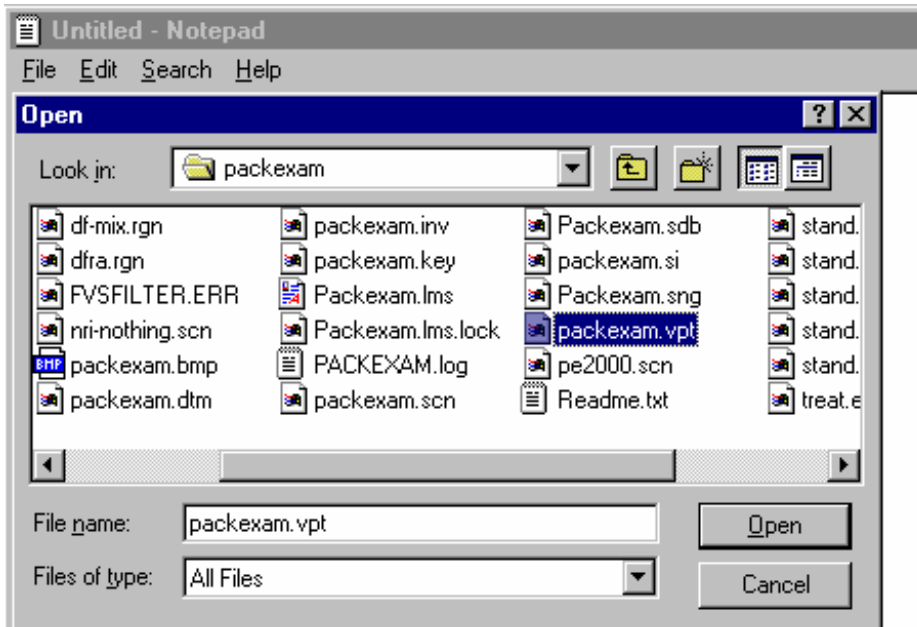
Saving a default viewpoint for Landscape Visualization

Viewpoints created in the project components dialog of Envision can be saved for future use. They will be preserved as long as a Flush Cache has not been done in LMS. To establish a default viewpoint for the portfolio currently requires some hand editing of a file.
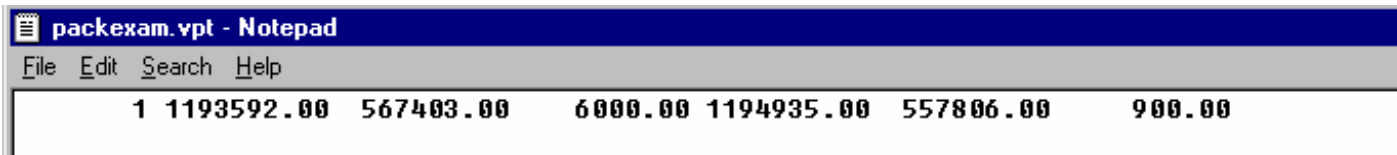
The viewpoint file for the portfolio stores coordinates for the head and focus locations in a text file. These numbers can be found in the Project Components dialog in Envision. Go to the Viewpoints tab, the numbers will be displayed on the dialog. These numbers need to be entered into a text file. For the Packexam portfolio this file is Packexam.vpt. You can edit this file by using the **Tools/ASCII Text Editor** menu command in LMS.
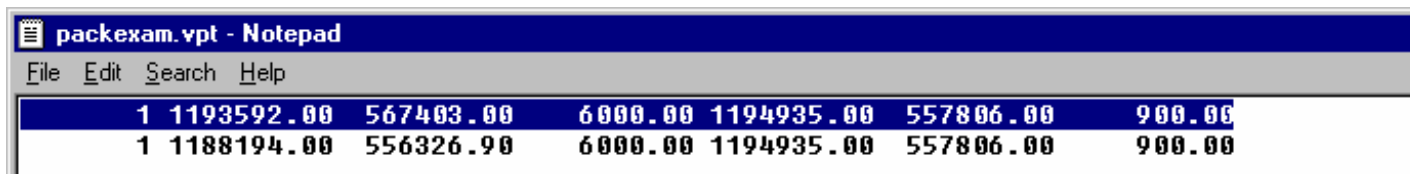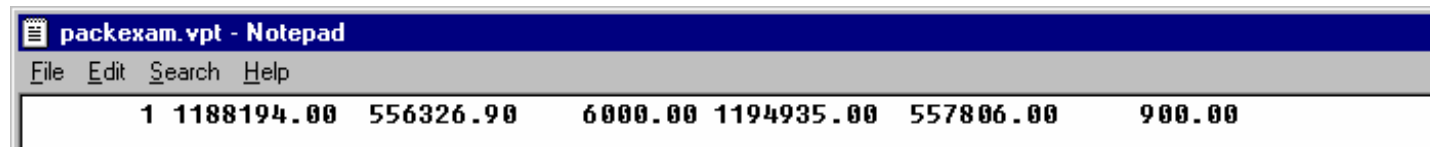
Locate the packexam.vpt file (change Files of Type to All Files) and open the file. The file contains 7 numbers: viewpoint number, head x coordinate, head y, head elevation, focus x, focus y, and focus elevation.

Enter the new numbers below the original line so that the decimal places line up...

...then highlight and delete the original line...

Save the file and the next time Envision is run this new default viewpoint will be used.

Exercise

- **View the designated landscape (save to ppt file)**

- **Change & save the viewpoint**
- **Add stand boundaries, roads, & streams**
- **Change the ground color**
- **Review & save as ppt file**