

NOTES ON LANDWORKS' VISUAL SIMULATION TECHNIQUE:

Step 1) Data Gathering

A. Site Visit

Site information is recorded including, but not limited to: view location, date, time and weather. Reference points, both manmade and natural, are documented via GPS.

B. Site Photography

Site photographs are taken for use in simulation. Camera type, film, focal length (50-55mm), camera elevation, direction of view, and horizontal angle of view are noted. Resulting film is scanned at high resolution, producing an high quality digital photograph to be used as the original existing conditions.

Step 2) Model Creation

A. Basemap & Terrain Model

A digital basemap is created of the project and view areas. GIS data acquired from VGSI; Aerial photographs and USGS maps used as needed. Utilizing the basemap and GIS data, a 3D digital terrain model is created.

B. Turbine Model

Using data and drawings obtained from the turbine manufacturer, a 3D digital model is created of the turbine. This model is then merged with the terrain model, placing the turbines at their appropriate proposed locations and elevations.

C. View Setting

The existing conditions photograph is imported into the terrain model. The data gathered from the site visit is then input into the modeling program, and a "camera view" matching the original site conditions is created. A digital image of this view is exported for use in the next step.

Step 3) Simulation Rendering

A. Conditions Overlay

Using a photo editing and rendering program, the exported digital image of the perspective view is precisely overlaid and registered to the original existing conditions photograph.

B. Turbine Placement

High resolution images of the turbine model are placed at proper locations, scale and perspective to match the exported view image.

C. Final Rendering

Turbines are adjusted to mimic quality of light, distance and detail in site photograph. Vegetation and other visual obstructions are accounted for.

Software used:

ArcView (GIS), VectorWorks (CAD), SketchUp (CAD),

Adobe Photoshop (photo editing & rendering), TerraSync (GPS)

