Plotting Information

- Find the smallest rectangular box that encompasses all of the emitting sources on the livestock production site. The Southwest corner is the site reference point (SRP).
- Enter the SRP's latitude and longitude in decimal format (-86.536723 for example).
- Enter radius (ft) of optional circle around the odor weighted center of site.

Source Locations and Dimensions

- Identify each of up to 10 emission sources on the site.
- Enter a source name in the SOURCE column ("Barn 1" for example).
- Enter the source shape using pull-down menu in the SHAPE column.
- Define locations of the emission source reference points or ESRPs (southwest corner of rectangular sources, center of circular sources) in terms of distance (in feet) from the SRP. Enter the number of feet north and east of the SRP in the third and fourth columns.
- Use the pull-down menu of the ORIENTATION column to enter the source's orientation.
- Enter the dimensions of rectangular sources in the LENGTH and WIDTH columns.
- Enter the radius of circular sources in the RADIUS column.

Source Characteristics

- The source names are populated into the first column automatically.
- Select the types of livestock from cell menus in the SPECIES column.
- Select source type cell menus in the EMISSION SOURCE column. Cells turn red for incorrect or no entries.
- Enter number of animals in barn sources in the NUMBER OR AU column.
- Enter the number of Animal Units representing livestock that affect a manure storage.
  - Use worksheet "AU Calc" to calculate the number of Animal Units.
  - Animal Units entries apply only to manure storages.
- Select manure management parameters from the cell menus in the REMOVAL FREQUENCY and DILUTION/DRYING/COLLECTION columns. Cells turn red for incorrect or no entries. Selections are species dependent.

Odor Abatement

- The source names are populated into the first column automatically.
- Select up to three odor abatement methods from the cell menus (TECHNIQUES 1-3).
- For technologies not available in the cell menus, or for a fourth abatement option, enter the removal efficiency (in %) in the "Other (%)" column.

Uniform or Preselected Directional Setback Factors

- Select whether the terrain is the same in all directions around the site.
  - If Yes, select the terrain type in the UNIFORM TERRAIN column.
  - If No, then directional selections in the next section will be used.
- Select whether the downwind exposure is the same in all directions around the site.
  - If Yes, select the exposure level in the UNIFORM EXPOSURE column.
  - See EXPOSURE RECOMMENDATIONS for guidance on odor-free percentage.
  - If No, then directional selections in the next section will be used.
- Select whether the wind frequencies will come from the nearest weather station or not.
  - If Yes, select the state and city in the STATE and STATION columns. STATION cell turns red for incorrect or no entry. Frequencies automatically appear below.
  - If No, then directional selections in the next section will be used.

Non-Uniform or Manually Entered Directional Setback Factors

- Select terrain type from menu for each direction under DIRECTIONAL TERRAIN.
- Select odor-free % from menu for each direction under DIRECTIONAL EXPOSURE
- Select/enter wind direction frequencies under UESR ENTRY OF WIND FREQUENCIES.
  - Enter frequencies as they are provided by the weather stations (blowing from).

Inputs Worksheet

- Review inputs and intermediate calculations on the “Inputs” tab which show:
  - Source ID which is a number of the source from 1 to 10.
  - Calculated baseline, adjusted, and abated emission rates per source and per site.
  - Numerical factors, based on inputs, which are used in the setback equations.
  - Wind frequency converted from “blowing from” in 16 classes to “blowing to” in 8 classes.

Setback Worksheet

- The setback distances (ft) of each source is listed, if it was the only source at the site..
- The site setback distance is given in feet, meters, yards, miles and kilometers.
- This can be printed as a tabular output of the Purdue Setback Model.

Plots Worksheet

- The first plot shows the layout of only the individual emissions sources.
  - Not to scale, thus shapes may be distorted.
- The second plot shows the setback distances
  - The dashed reference circle is plotted if it was selected on the Model page.
  - Source setbacks (if selected for plotting) are measured from source perimeters.
  - The legend labels are colored to help identify the sources and their respective setbacks.
  - The dotted line around the site is the site setback measured from the site perimeter.
  - Not to scale. Adjust chart aspect until reference circle appears circular and nondistorted.
  - All setbacks and reference circle are optional and can be removed from the Model page.

Maps Worksheet

- Overlays scaled setback plot on an aerial map of the site.
- Enter name of the GPS data file to be linked to mapping software
- Press “Click Here” to save the GPS data file to the filename
    - The file will be saved to your computer’s default directory
    - You will need to find the file on your computer so you can browse to it.
- Web tools for plotting optional reference circle, site setback, and overall site boundary.
- Earth Point (a Google Earth tool)
    - Use Firefox, Chrome, or Opera as default internet browser. IE does not work.
    - Press the Earth Point button to go to the web site (must be internet connected).
    - Site is blue, circle is red and setback is yellow, with lines connecting markers.
- GPS Visualizer
    - Press the GPS Visualizer button to go to the web site (must be internet connected).
    - Site is blue, circle is red and setback is yellow. No lines. Only markers.

AU Calc Worksheet

- Enter number of animals in the 2nd column.
- The number of animal units are shown in the third column.

Scratch Worksheet

- This blank worksheet is available for the user.

Links Worksheet

- This worksheet contains links to related organizations.