Data Specific to this Run

Overview:

The principal ELM data that vary among different managment alternatives are those related to water (and associated nutrient) management: the location and attributes of canals, levees, and water control structures.
Canals in the ELM are represented by vector data superimposed over a raster grid, with precise integration of the vector and raster data. Each canal is represented by one or more reaches that are usually defined by upstream and downstream water control structures. Water control structures are of two basic types: those that are driven by historical or SFWMM-output data, and those that are calculated by the ELM. The latter are "virtual" structures that may either partition a long canal into separate reaches, or drain borrow canals along the boundaries of the ELM to maintain the stage in that borrow.

Water Management Network:

The ELM has two databases that define the water management network:

- The **Canals/structures map** is output from the GIS coverage that contains the exact canal vector geometries, canal/levee attributes, and water control structure locations. For a Project Alternative, spatial changes to the water management infrastructure are codified in this data file for input to the ELM simulation. *(Note: the graphic includes ONLY those canal reaches and water control structures that are used in this Project Alternative).*
- The **Structure info** is a snapshot of a query from the water control structure database. For a Project Alternative, changes to the water control structure attributes are codified in this data file for input to the ELM simulation. The database maintains attributes including: the ELM-SFWMM structure name; the basins involved in the flow direction; the phosphorus (TP) concentration to apply if using fixed concentration, or a filename flag if time-varying concentrations are applied; the ELM cell (row,column) and/or canal reach ID involved in the flow direction; the model run (project alternative name) in which the structure is used; the structure's geographic location (UTM, NAD27); comments on the structure operation etc. *(Note: the graphic includes ONLY those structures that are used in this Project Alternative).*

SFWMM water control structure flows:

A (DSS) database stores SFWMM output of the daily flows through all water control structures for each Project Alternative run. When running a Project Alternative, the ELM inputs those SFWMM flows for all (except ELM "virtual") water control structures (with appropriate consistency checks to ensure adequate availability of water in the headwater canal/cell).