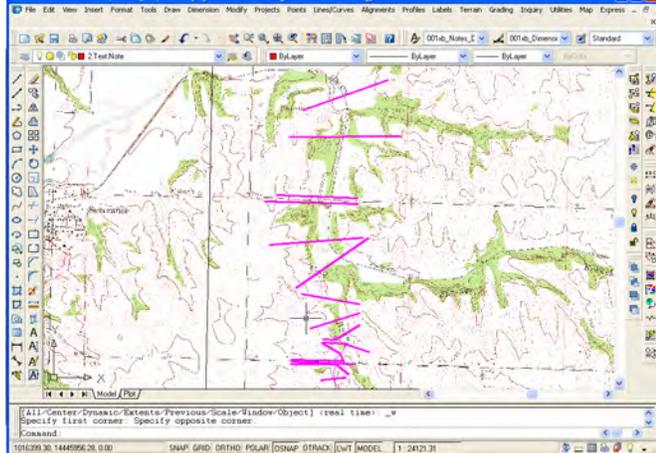


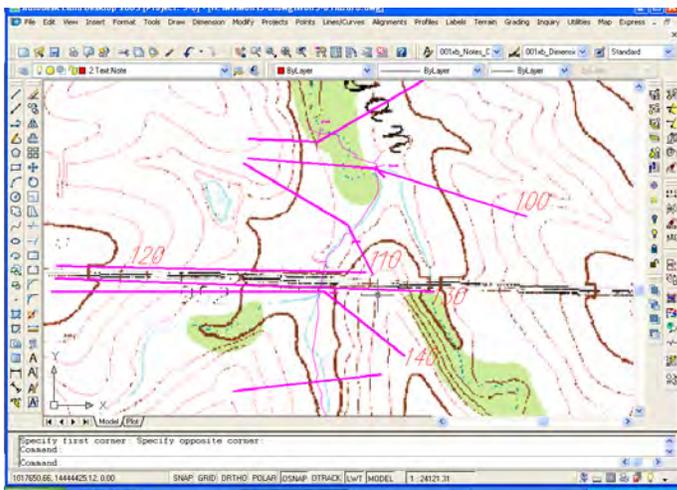
EXPORTING LAND DESKTOP DATA INTO HEC-RAS

Geometric data can be taken from Land Desktop and exported to a text file which can be loaded directly into the Hydrologic Engineering Center – River Analysis System (HEC-RAS). You must have a terrain model set up that the program will use to extract data. From that, it will be sent to HEC-RAS. The terrain model can use data from detailed topographic surveys, Digital Elevation Models (DEM), or manually digitized contours.

1. The first step is to define the locations of the sections that will be exported into HEC-RAS. Sections can be drawn using lines or 2-D polylines with a maximum of three vertices (one change in direction). In this example, the section lines are drawn on top of a United States Geological Survey (USGS) raster image to help orient where the sections should go. The raster image lines up with a DEM file which will be used to obtain geometric information which will be exported to HEC-RAS.



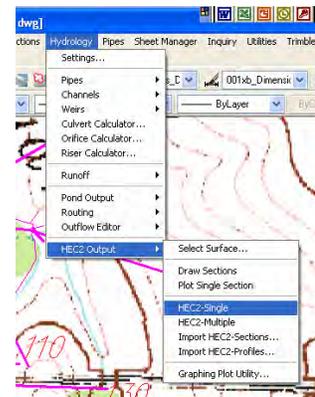
Keep in mind that HEC-RAS geometric information is entered from left to right when looking downstream. This is important when defining sections using polylines because the end on which you start your polyline will be the side that Land Desktop will use to begin the section. This means that if you draw your polyline from right to left instead of left to right, your section will import into HEC-RAS backward. This is less important with lines because Land Desktop will start the section on the end of the line nearest to where you select it, without regard to which direction the line was drawn.



If you are working in an area where the channel geometry does not make it possible to line up a section perpendicular to the stream channel, you can place one intermediate vertex in your section line such as with section 110 on the left.

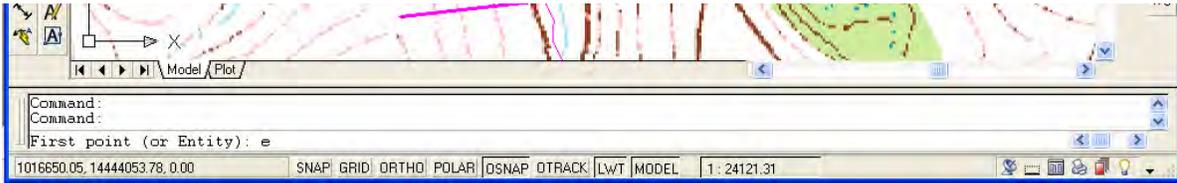
2. After you have drawn in the locations of the sections that you want to export, go to HEC2 Output, HEC2 Single, under the Hydrology drop-down menu. You may need to change to the Civil menu palette to find the Hydrology drop-down menu.

Note: A window may appear asking you to select a surface to sample from is a surface is not currently set current.

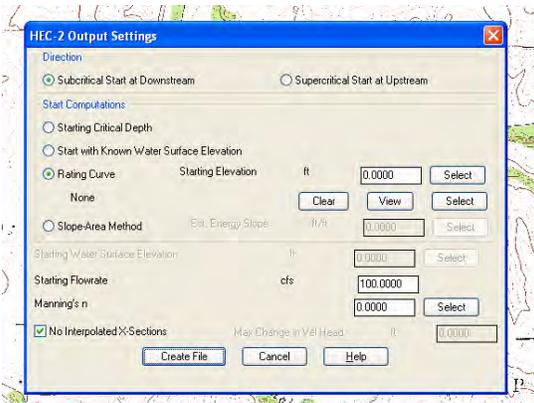


EXPORTING LAND DESKTOP DATA INTO HEC-RAS

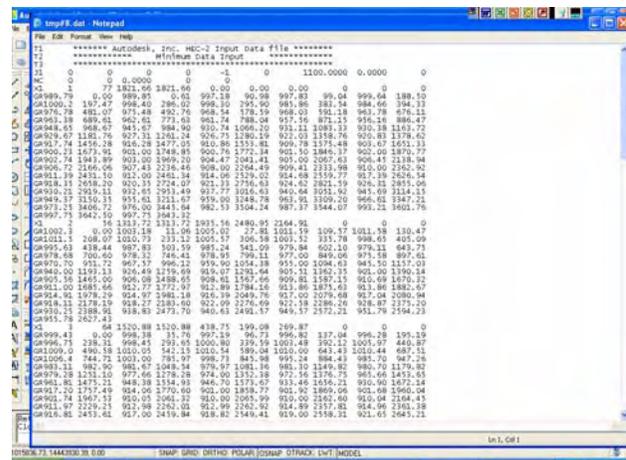
- At the command line, you will be prompted to select entity or points. Type in "e" and hit return to be sure that the entity selection option is selected.



- Begin selecting section lines, starting with the furthest section downstream and progressing upstream. Remember, if you have used lines to define your section lines, you must select the line on the left end, looking in the downstream direction, in order for your section to be correctly imported into HEC-RAS. If you are using polylines, it does not matter which end you click on. As each object is selected, a message should appear at the command line informing you that the object has been added successfully. When you are finished selecting sections, hit enter or right click on the mouse to bring up the HEC-2 Output Settings window.
- The HEC-2 Output Settings window provides you with some variables that can be modified in the output file that will be brought in to HEC-RAS. The values can be left at their default values with the exception of the starting flowrate. Once you have changed or verified the settings in this window, click on the Create File button to create your output file.

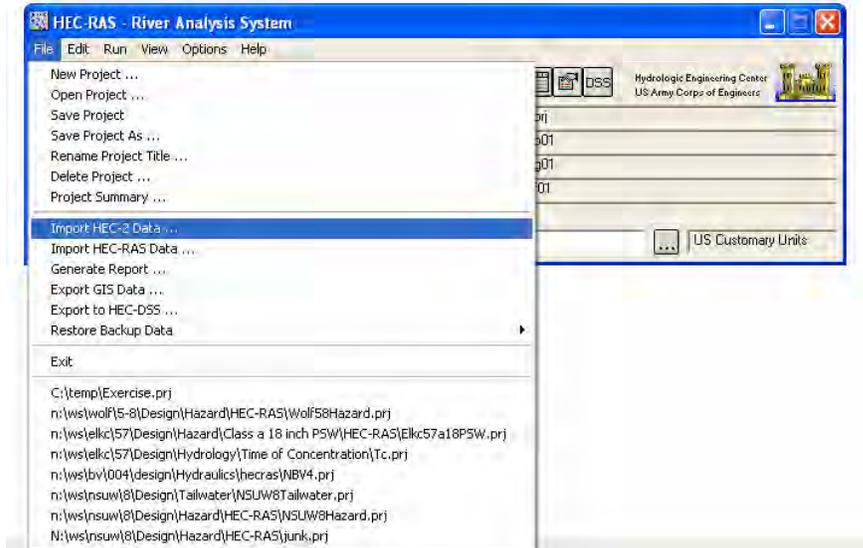


- A text editor window will now appear which displays the HEC-RAS geometry file. The default storage location is the hd folder in the directory for the project you are working in, or you can save this text file to a different location.

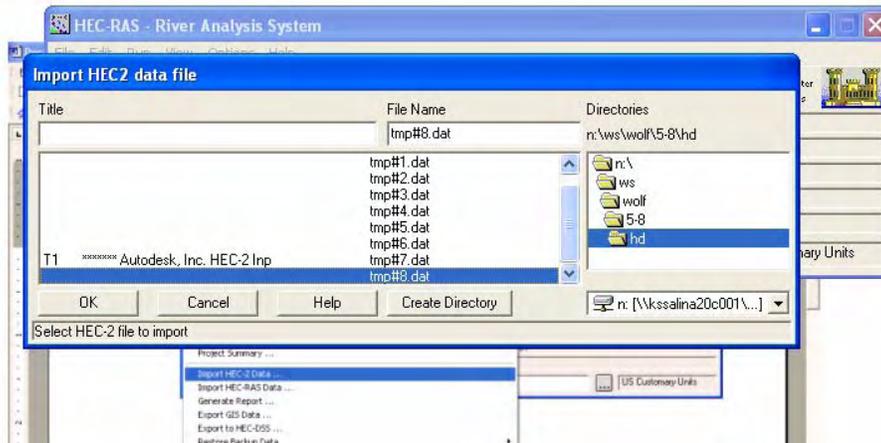


EXPORTING LAND DESKTOP DATA INTO HEC-RAS

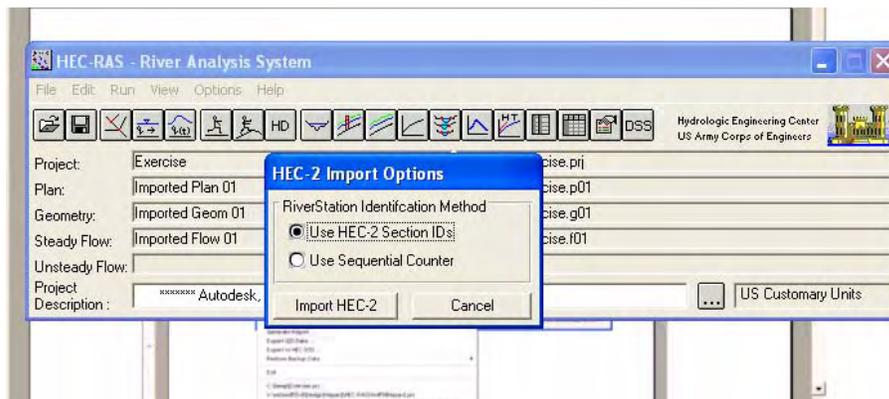
- Now that the geometry file has been created, it can be imported into HEC-RAS. Go to Import HEC-2 Data under the File drop-down menu.



- In the next window, select the geometry file that was created in Step 6 above and click on the OK button.



- A window will now appear which will give you the option to Use HEC-2 Section IDs or to Use Sequential Counter. Select one of the options and click on the Import HEC-2 button.



EXPORTING LAND DESKTOP DATA INTO HEC-RAS

10. The geometry data should now be imported from the text file into HEC-RAS. The Manning's n values may need to be specified if a default value was not provided in the HEC-2 Output Settings in Step 5. Also, the accuracy of the reach lengths and main channel bank stations will need to be checked.

