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Chapter 13: Project Manager

Introduction

The GEOPAK Project Manager is a tool which associates the COGO job number, users, project files, working directories, and various user preferences (such as whether to use Metric or English units) with a specific project. Within the project, Project Manager keeps track of all the numerous bits of information for each working alignment (whether one alignment or several) that GEOPAK needs to "fill in" the dialog boxes for all its various procedures. This includes things such as: dgn file name and directory path where the pattern lines and superelevation shapes are drawn; level symbology for the pattern lines and shapes; existing and design profile names, dgn file name, directory path, grid origin, and scale for the profiles; etc. Project Manager "remembers" all this information and automatically shares it among the various GEOPAK procedures as needed, thus eliminating the need for the designer to retype the same information into several GEOPAK dialog boxes. Project Manager also provides the user with an easy to follow on-screen flowchart diagram showing the GEOPAK workflow. All of the various GEOPAK procedures (e.g., cutting existing ground cross-sections, laying out the design profile, drawing pattern lines, etc.) can be accessed by clicking on the buttons in the flowchart, shown later in this chapter. In addition to the storage of information based on the overall project and working alignments, Project Manager also allows for the storage of information related to each process (e.g., creating superelevation autoslopes or processing earthwork) for a working alignment in a GEOPAK "run". For example, the information needed to generate earthwork along the mainline could be stored in a run called MAINLINE. Information specific to the run such as attributes of the existing and proposed ground, suitable and unsuitable material, etc. is stored within the run. Changes made to the proposed profile, pavement width, etc., causing the need to rerun earthwork will now be a painless process. By selecting the run MAINLINE and clicking on the process button, new earthwork totals will be generated without having to re-enter any of the defined information.

The use of Project Manager within CFLHD is encouraged but not required. However, Project Manager users should be aware that the preferred method for creating proposed cross-sections at CFLHD is still the input file method rather than going through Project Manager. A/E contractors working on CFLHD projects may use Project Manager or not, at their discretion.

Workflow 1: New Project Creation

1. *Select Applications>GEOPAK ROAD>Project Manager, or select the project manager icon from the GEOPAK Road toolbar.*
2. *From the Directories section of the Project Manager dialog box, middle right side, path to the directory desired to create the project. This should be the project\roadway\GEOPAK directory.*



3. *From the Projects pull down menu, select New.*
4. *Fill in the desired project name, working directory, and job number.*



The Project Name specified is combined with a ".prj" extension to create the main Project Manager setup file in the working directory. Therefore, the name specified must be a valid Windows file name (i.e., it cannot contain the special characters \ / : * ? " < > |) Although there is no standard naming convention used for .prj files in CFLHD, it's good practice to use a name that relates to the project's route designation because the Project Name specified here is used to access the Project Manager setup for the project in subsequent sessions.

For CFLHD roadway designers the Working Directory selected should always be the **..\Roadway\geopak** subdirectory under the main project directory on the N: drive.

A/E Contractors should get GEOPAK job numbers from their CFLHD Project Manager. CFLHD roadway designers should get GEOPAK job numbers from their Highway Design Manager.

If the user is creating a new project definition that does not have an existing .gpk file then the GEOPAK job number should be keyed into the Job Number field. This is how a new .gpk file is created within Project Manager. If the user is creating a new project that has an existing .gpk file, click on the Select button and select the existing .gpk file. If the existing .gpk file isn't visible in the selection window then either the Working Directory is incorrect or the existing .gpk file is not in the Working Directory.

5. *The project description section may be filled out if desired; this is encouraged, but not required.*

Create New Project

Project Name: FHWA

Working Directory: c:\bsi\fhwa

Job Number: 101

Project Description:
FHWA project for Project Manager chapter.

Figure 13-1: Create New Project

6. *Select the Preferences button, and set the desired project related preferences. (See the chapter on GEOPAK Preferences, for information related to the preferences dialog box.) Unit specific preferences are shown in the dialog boxes below.*

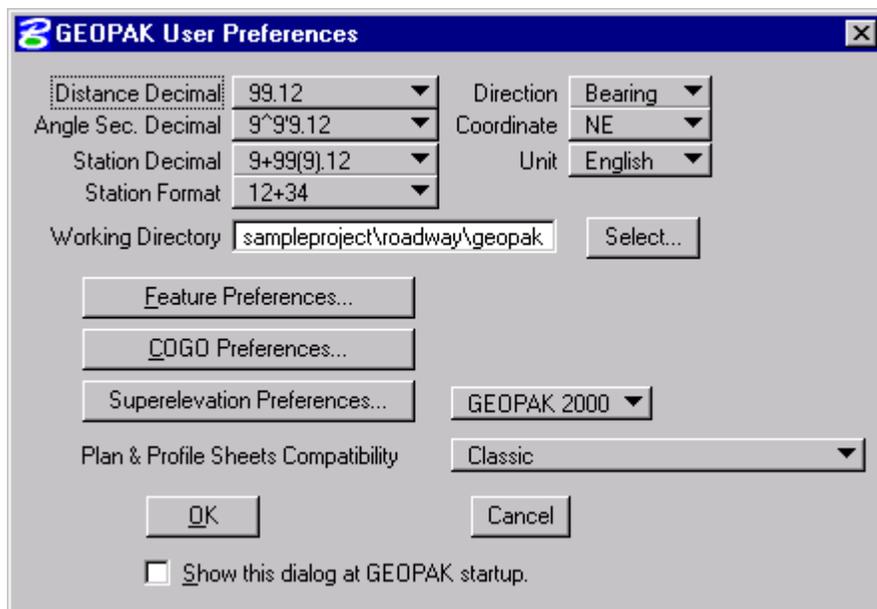


Figure 13-2: English preferences

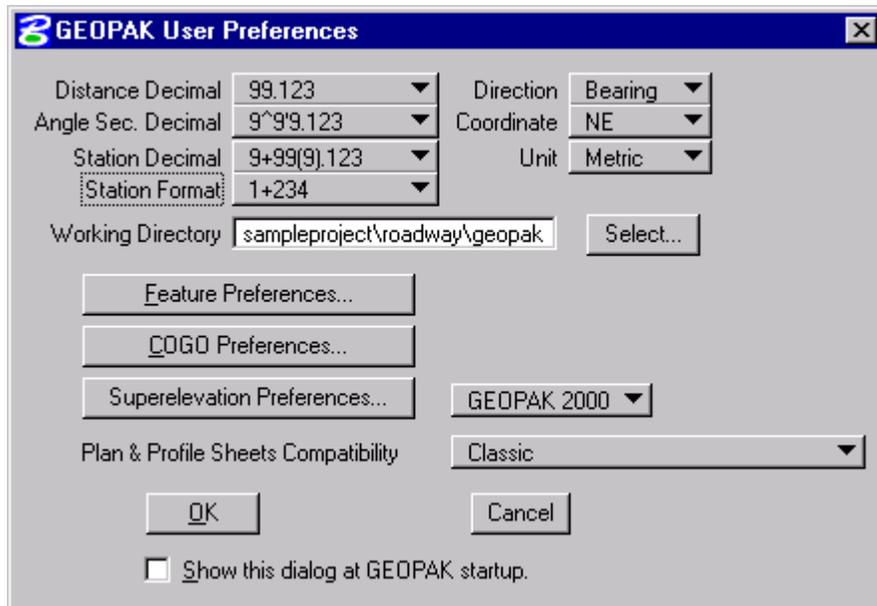


Figure 13-3: Metric preferences

7. *Click on the COGO Preferences button. Set the Job open mode to Query.*

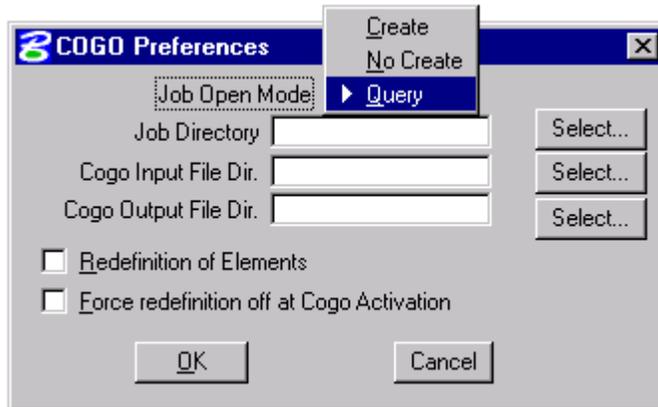


Figure 13-4:

8. Click OK to return to the User Preferences dialog.
9. Click the OK button in the User Preferences dialog to exit and accept the preferences.
10. Click the OK button on the Create New Project dialog box to finish creation of the new project. (If the .GPK file, corresponding to the job number, does not exist the user will receive an alert stating that the job number does not exist and asking if the job should be created in the working directory.)

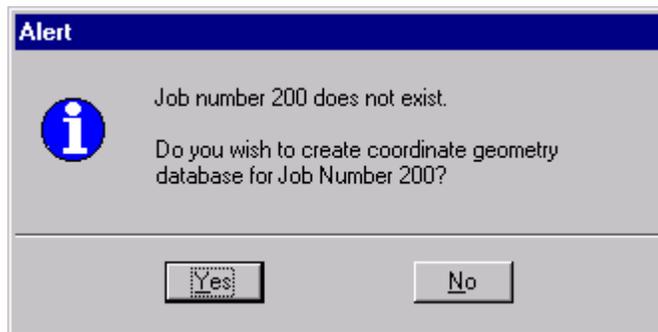


Figure 13-5: .GPK File Alert



At this point, if the job number exists and the user gets the above alert then the existing .gpk file does not reside in the Working Directory that was specified in the GEOPAK User Preferences dialog (See step 6 above). The user should always click the No button. Clicking Yes here will create a new empty job200.gpk, leaving the user with 2 different .gpk files of the same name in different locations. Fix this problem either by moving the .gpk file to the specified Working Directory, or by changing the Working Directory to point to the directory where the .gpk file resides, whichever is appropriate. Then repeat steps 6-10.



11. After clicking OK on the Create New Project dialog box, the user is taken back to the original Project Manager dialog box to select the desired project. In the case of a newly created project, the name will now be in the projects window ready for selection.



Once you are finished, users must be created within each project. At least one user must be created for each project. Continue to workflow 3 for user creation.



Users should create only one .prj, project, file per project, and only one .gpk file per .prj file, unless special circumstances exist.

Workflow 2: Selecting an Existing Project

1. Click on the Project Manager icon, or select Applications>GEOPAK ROAD>Project Manager.
2. From the Project Manager dialog box, existing projects are listed in the middle left window labeled, Projects:
3. Select the desired existing project and click OK. This will take you to the Project Users dialog box.

Workflow 3: New User Creation

1. Once the project has been selected, as in workflow 1, step 11, or Workflow 2, step 3, the Project Users dialog box will be activated. Select an existing user from the list or create a new user with the following steps.
2. Select Users>New from the Project Users pull down menu.

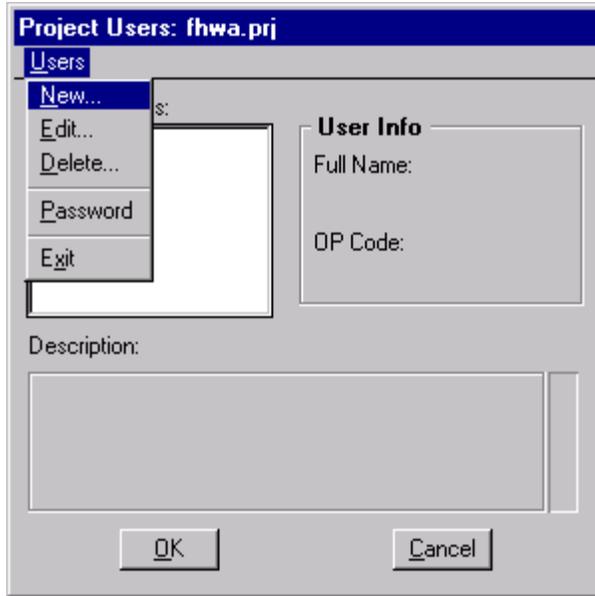


Figure 13-6: Project Manager Users

3. From the New Users dialog, shown below, fill in the Name, Full Name, OP Code, and, if desired, the Description fields.

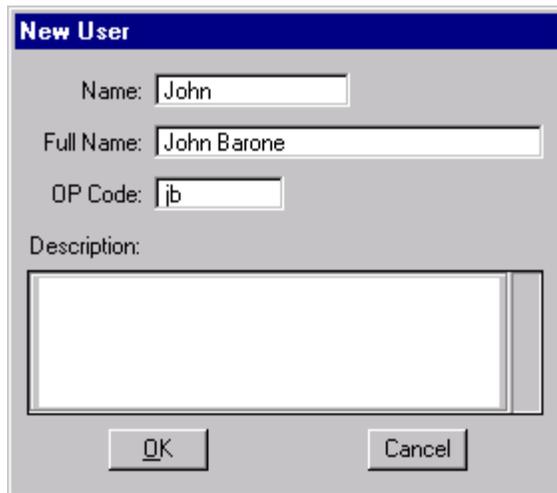


Figure 13-7: Create New User

For CFLHD projects, the following standards apply for filling in the New User dialog box:



Name: Users first name
Full Name: Users first and last name
OP code: Users first and last initials

4. Click the OK button once the information is correct.

5. Once the OK button is picked, GEOPAK will activate an alert box asking if you wish to define a password for this user. Click on the No button.

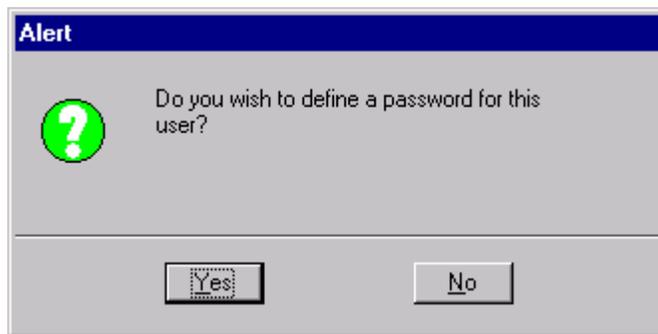


Figure 13-8: User Password

6. When finished you will be returned to the Project Users dialog box and the newly created user will be seen in the pick box on the left side of the dialog box. Select the user by double-clicking on the users name, or by highlighting the user and clicking the OK button.
7. Selecting the OK button will activate a dialog allowing the user to select the GEOPAK Project Manager for either Road or Survey. As we are dealing with roadway design at this point, select the ROAD button.



Figure 13-9: Project Manager Workflow Selection

8. This will activate the roadway design Project Manager dialog, as shown below.

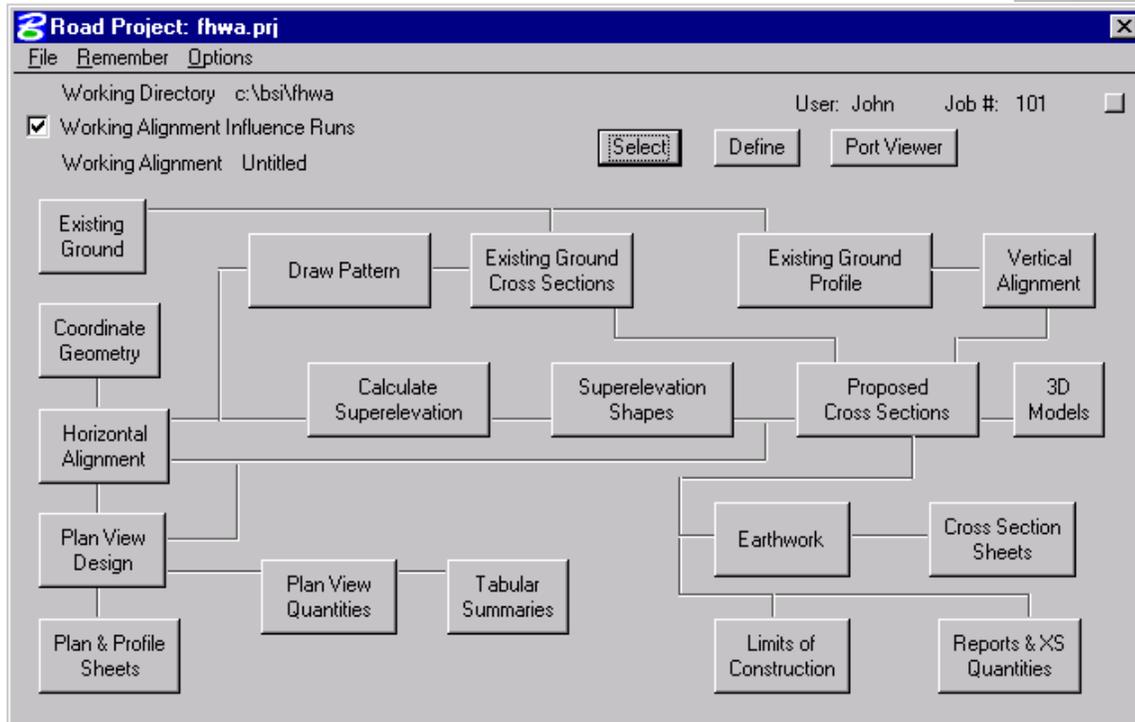


Figure 13-10: Project Manager Roadway Flow Chart

You have now completed the preliminary setup for Project Manager. The dialog above will be the starting point for many of the GEOPAK functions that have previously been accessed through GEOPAK pull-down menus or icons. The bottom sections of the project manager dialog, commonly referred to as the flowchart, will take you to the tools you have already been using. We will get into these tools in more depth in future chapters.

The title bar of the roadway design project manager dialog displays the name of the project. In the example above, the name of the project is **fhwa.prj**. The following section has three pull-down menus; File, Remember, and Options. For details of these menu's, see the GEOPAK help documentation. (Remember is shown below, as it can be a time saver that many users do not use.)

Remember: There are three options under the Remember menu: Project, User, and Road. Checking any or all of these options will allow Project Manager to skip certain steps. For example, checking Project will take the user directly to the Project Users dialog immediately upon accessing Project Manager the next time, remembering the current project. If a user works on only one project for the majority of the time this will save time. Likewise checking on User and Road will remember these settings as well. If there is typically only one user working on the project (As stated earlier, there should be only one .prj file per project located on wheels. Therefore this setting is machine



independent), it is beneficial to skip the Project Users dialog box, remembering this user each time. Road is the most used of these toggles, as many roadway designers rarely use the Project Manager Survey dialog box.



It is advisable to check all three of these options on. It is very easy to check them off when a switch to another project is necessary. Checking all three on will take the user directly to the main Road Project Manager dialog when Project Manager is accessed.

The next row down on the project manager dialog shows the working directory on the left and the user and job number on the right. This is for information only.

Next is the section on working alignment and runs. Below is a definition of each of these new concepts.

Working Alignment: A working alignment is a user-defined group of the basic design components (e.g. horizontal alignment, the design profile, the roadway template, cross-sections, etc.) that make up a single roadway design. The purpose of a working alignment is to allow Project Manager to “remember” and automatically fill in these components in the dialog boxes for the various GEOPAK procedures. Creating working alignments allows the user to organize data specific to the project or to specific alignments within the project. Many projects will have only one working alignment, while others may have many, depending on the complexity of the job. Project details such as the level and color of the existing ground, the location and attributes of the pattern lines and superelevation shapes, and the location of the plan view file and the chain name, are associated with the working alignment. Defining this information within a working alignment greatly reduces time by not having to re-enter this information each time a different GEOPAK tool is accessed. For example: If all the information about the cross-sections is defined the user will not have to input the attributes associated with existing and proposed ground when calculating earthwork.

Run: Each time a tool is selected the user will create a **run** or select an existing run. The data associated with the use of a tool, for a particular purpose will be saved in the run. This allows the user to redo work without re-inputting information. For example: Creating an existing ground profile requires inputting profile name, chain, beginning and ending station, how to cut, and the tin file name. With all of this information stored in a run, no inputting of information will be required for each additional time the profile may need to be re-cut.

There are three buttons to the right of the working alignment information; Select, Define, and Port Viewer. These are discussed below.

Select: Allows the user to select or create a working alignment.

Define: The Define button allows the user to define information specific to the working alignment.

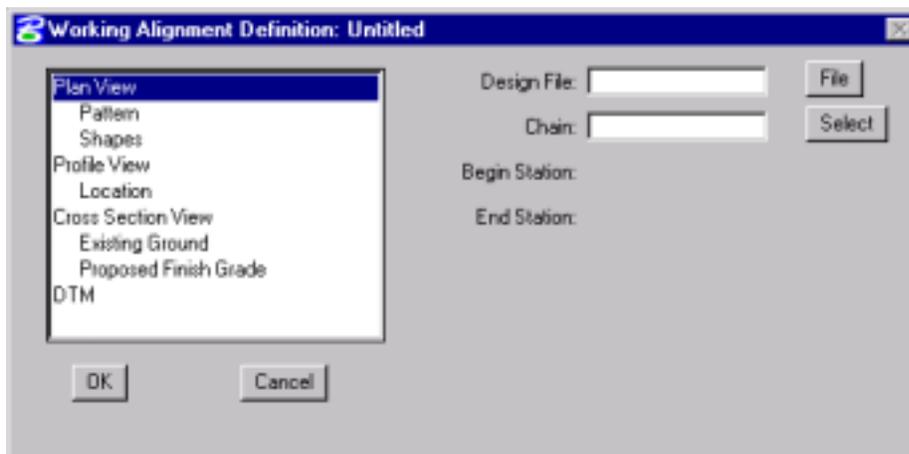


Figure 13-11: Working Alignment Definitions

For each selection on the left, the dialog changes on the right to accommodate the selection. For example: For Plan View, Profile View, and Cross Section View GEOPAK is looking for a file name, and a chain or profile name. For Pattern and Shapes, GEOPAK needs a file name and attributes of these elements.

Workflow 4: Creating a Working Alignment



Be sure the Working Alignment Influence Runs box is checked before continuing with this workflow. When checked, all information defined will be attributed to the current working alignment. You may create multiple alignments as needed.

1. From the Road Project Manager dialog box, click on the select button.

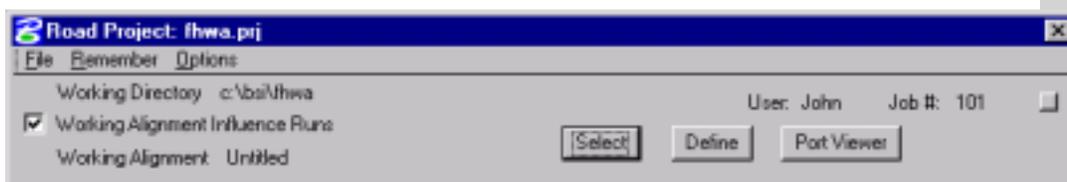


Figure 13-12: Select Working alignment

2. *The Select Working Alignment dialog will be activated. Select Run>New from the pull down menu.*

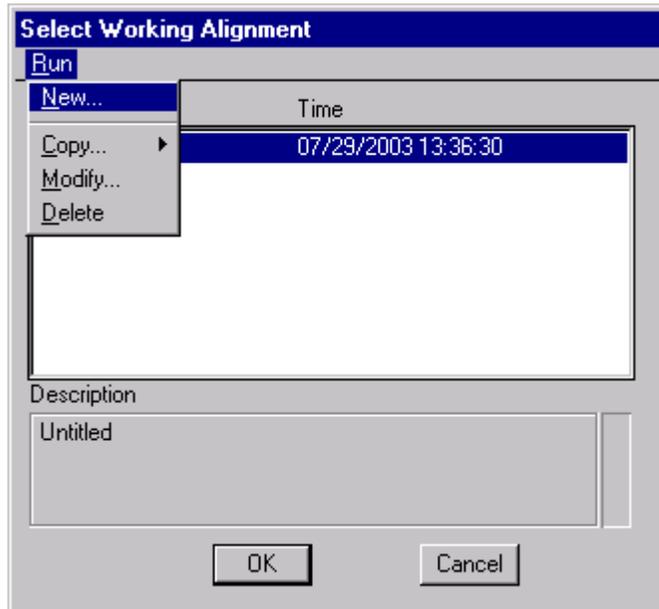


Figure 13-13: Create New Working Alignment

3. *Fill in the Run Name box and, if desired, fill in the description box. Click the OK box to finish.*

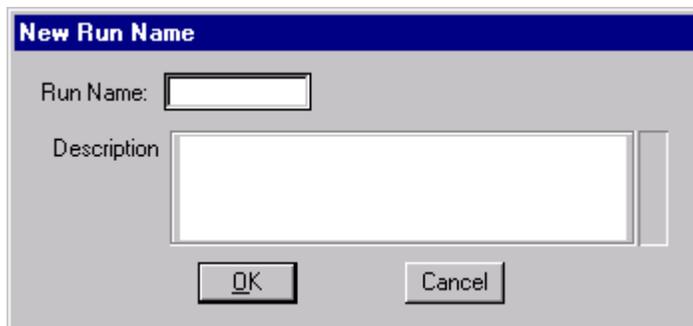


Figure 13-14: Create New Working Alignment Run

4. *The newly created working alignment run has been created and will now be displayed in the select working alignment dialog box. Highlight the desired working alignment and click the Ok button.*

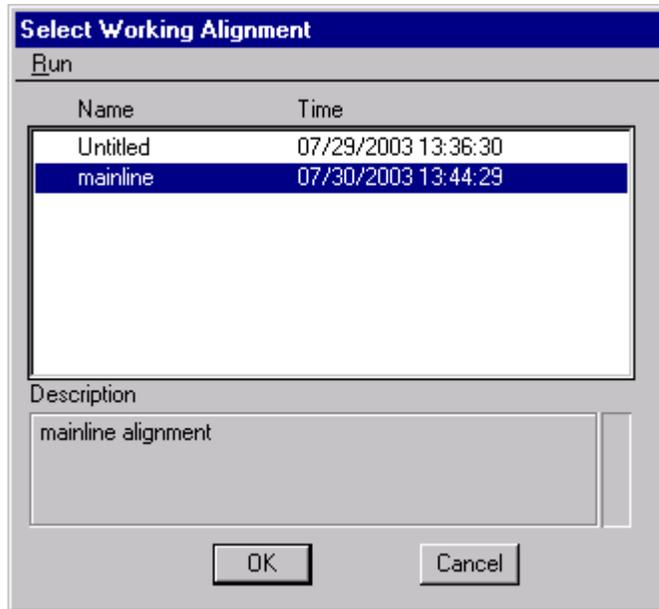


Figure 13-15: Select Working Alignment

5. *The new working alignment name is now displayed on the Road Project Manager dialog box and the user is now ready to begin project work.*

The workflow outlined above merely creates the empty shell of the working alignment. At this point, or as the project progresses, select the define button and fill in the information, as it becomes available, to complete the working alignment definition. All information defined will be attributed to the selected working alignment.

Workflow 5: Port Viewer

The Port Viewer is a handy tool for simultaneously viewing and editing each of the three main elements of a road design: plan, profile, and cross-section. Before invoking the Port Viewer, the user must have the plan view, profile view, and cross-section view, defined in the working alignment definitions, as detailed above.

Once these files have been defined, the Port Viewer will open three additional MicroStation view windows containing the three files listed above.

Workflow 5: Port Viewer

1. Begin by accessing the Working Alignment Definitions dialog box from the main Project Manager dialog.

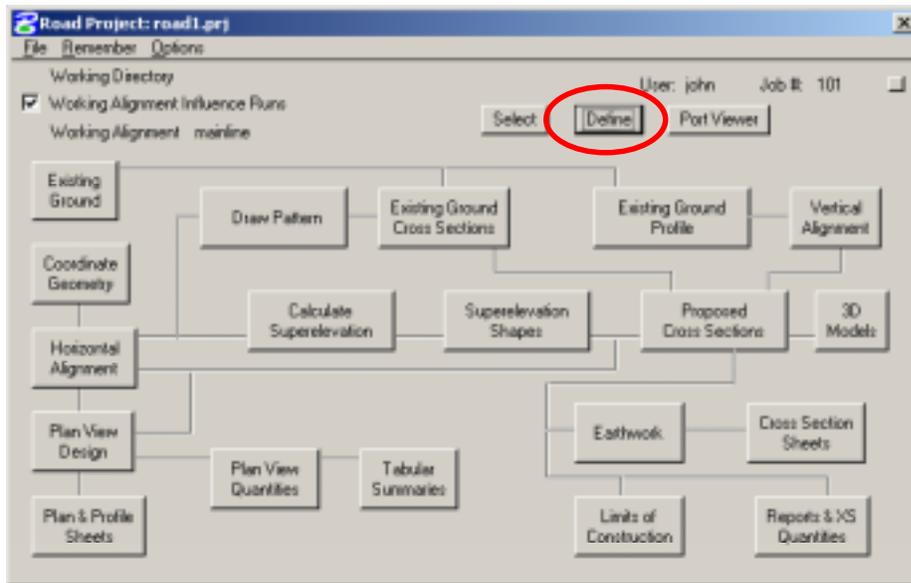


Figure 13-16: Access Working Alignment Definitions

2. From the Working Alignment Definition dialog box, shown below, complete the information on the right side of the dialog box. The information, including Design File names, chains, origin and scale of the profile, etc., must be defined so that the Port Viewer can find the desired files.

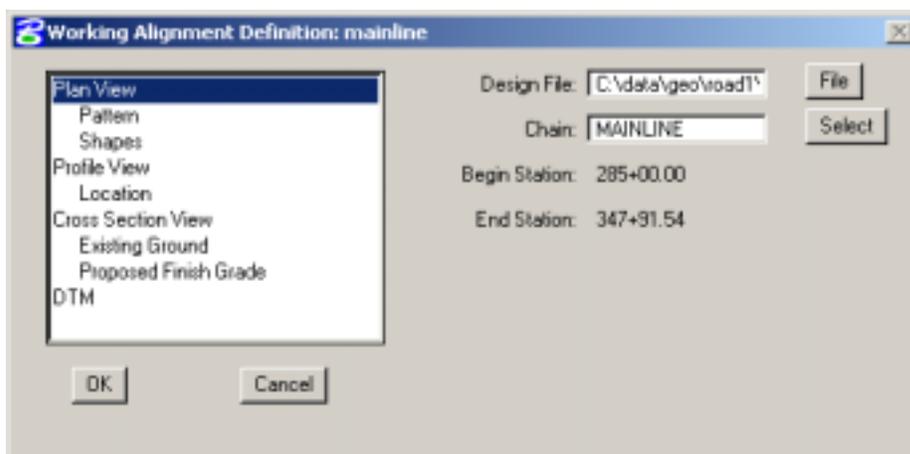


Figure 13-17: Working Alignment Definitions

3. Once the Working Alignment information has been defined, the port viewer can be accessed. From the main Project Manager dialog, select the Port Viewer button.

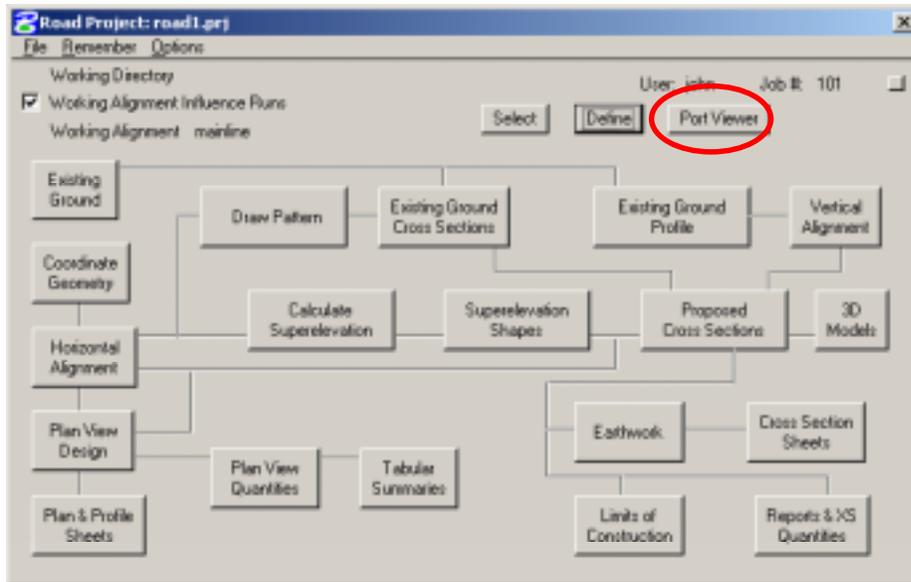


Figure 13-18: Accessing Port Viewer

4. The three views should now be visible, along with the Port Viewer tool menu.

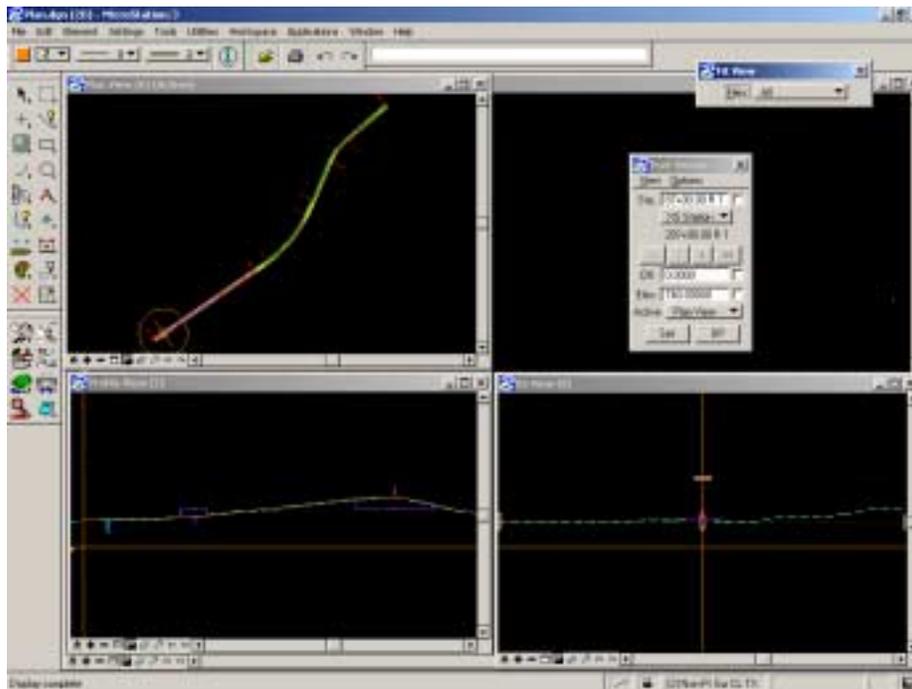


Figure 13-19: Port Viewer

5. As shown above, the Port Viewer allows simultaneous viewing of each element. Also, the port viewer provides index lines for easy locating of stations along the alignment. Shown as a line perpendicular to the centerline in the plan view, a vertical line in profile, and cross hairs in cross-section, the index lines allow the user to see where, for example, a problem in profile falls in the

plan view. Move through stations by selecting the greater than and less than symbols in the center of the Port Viewer dialog box.

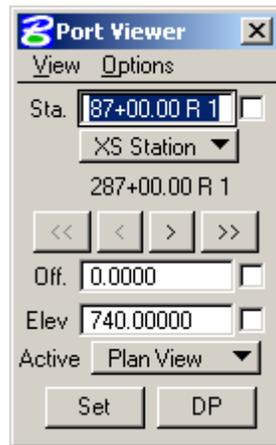


Figure 13-20: Port Viewer Tools

6. *From the view pull down, the user can fit each of the views or set any of the views as the active view.*

The Port Viewer can be a powerful timesaving tool, as opposed to switching back and forth from the different drawings, during the design process. For more information on the Port Viewer, access the GEOPAK help from the GEOPAK pull down menu.