# Getting Started

2.1   Invoking GeoTerrain

GeoTerrain is invoked from within a MicroStation 3D file. At the MicroStation menu bar, select **Applications > GEOPAK GeoTerrain**, then select the desired tool. Options include:

- GeoTerrain tools
- User Preferences
- GeoTerrain Settings
- Help
- About GeoTerrain
- About GEOPAK

Each of the pulldown options is discussed in more detail.

2.2   User Preferences

When **Applications > GEOPAK GEOTERRAIN > User Preferences** is selected, the dialog depicted below is displayed.
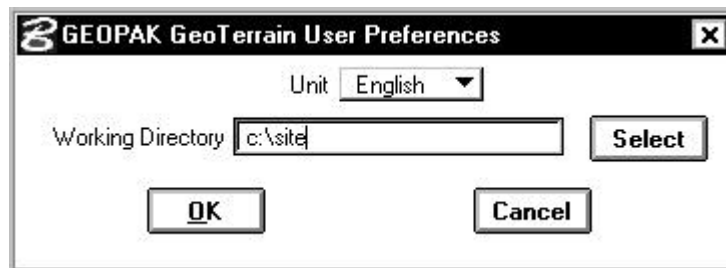
In this dialog, the Unit is selected, either **English** or **Metric**. The **Working Directory**, which is utilized as the initial directory in all File Selection dialogs, can be typed in. In lieu of typing, pressing the **Select** button invokes the Select Directory as depicted below.

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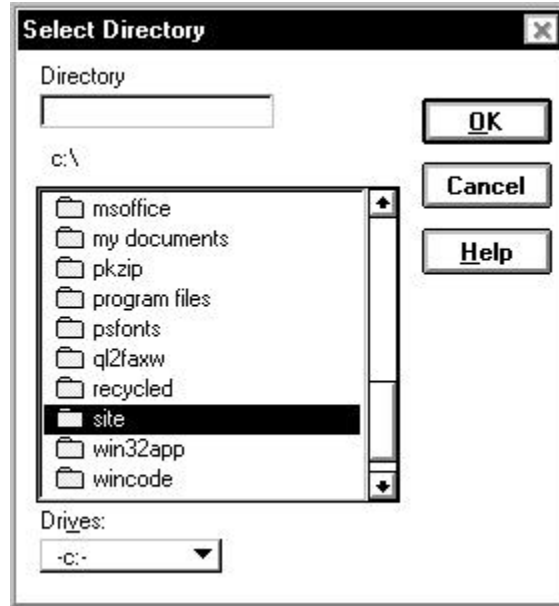
The desired directory may be keyed in at the top of the dialog or selected by double-clicking on the directory in the list box, which displays the directory just above the list box. Drive options are displayed at the bottom of the dialog. Once the selection has been made, pressing the **OK** button automatically closes the dialog and returns the user to the User Preferences dialog. Pressing the **Cancel** button closes the dialog with no directory selection occurring. Pressing the **Help** button invokes the MicroStation Help for generic Select Directory dialogs.

Note if the Working Directory field is blank, the directory wherein the active design file is located is utilized.

The settings in the User Preferences are "remembered" in subsequent sessions. Therefore, selection is only needed at the initialization of a project and/or if changes in the fields are required.

2.3 GeoTerrain Settings

When **Applications > GEOPAK GEOTERRAIN > Settings** is selected, the dialog depicted below is displayed.
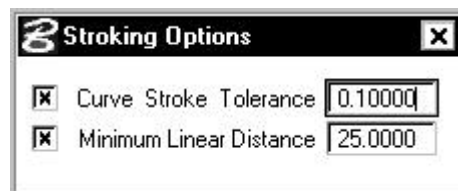
The Stroking Options are utilized when extracting data and densify the models.

2.4 GeoTerrain Help

When **Applications > GEOPAK GEOTERRAIN > Help** is selected, a comprehensive Windows help file is displayed. Standard Windows features, such as Searching, Indexing, etc. are supported. In lieu of the menu selection, the file can be invoked outside MicroStation from any File Manager or Explorer type window by double clicking on ….win32app/geopak/help/geot.hlp.

2.5 About GeoTerrain

Select **Applications > GEOPAK GEOTERRAIN > About GeoTerrain**. After GeoTerrain scans the software, the following informational window appears.
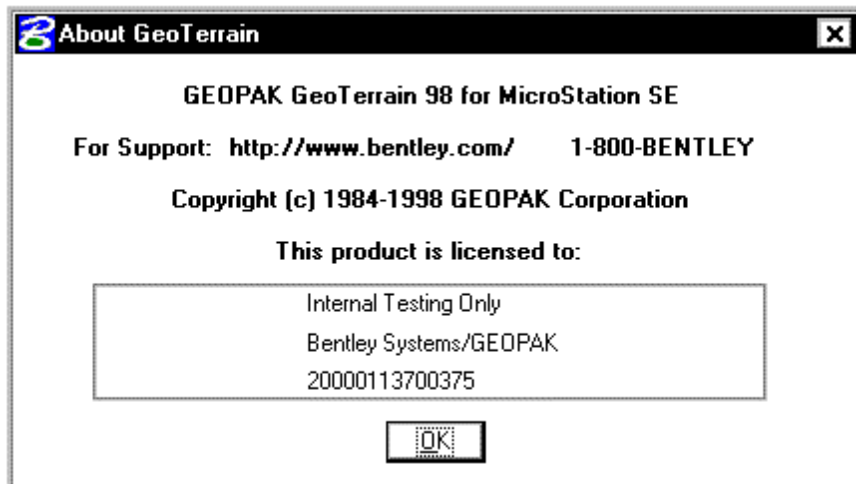
Information displayed includes Version, platform and licensing. Pressing the **OK** button closes the dialog.

2.6 About GEOPAK

Select **Applications > GEOPAK GEOTERRAIN > About GEOPAK**. After GEOPAK scans the software, the following informational window appears.

The dialog contains the GEOPAK version, the platform on which the software is designed to run, the name, address, and telephone number of GEOPAK Corporation, and security information.

This information will be requested if you require telephone support. If your organization has multiple platforms, this is a quick check to verify that the correct software for each particular platform is loaded.

2.7 GeoTerrain or DTM Tools

All DTM functions are processed from either the GeoTerrain DTM tools or the DTM menu bar. To begin, access any MicroStation 3D or 2D file. The DTM menu bar is accessed via the DTM tool frames.

Tool frames and tool boxes are supported within GEOPAK in addition to the menu bar options invoking various GEOPAK tools. The tool frame (as depicted below) is similar to the MicroStation main tool frame, is 2x5, not resizable, but dockable.

Each icon in the toolframe is a tool box that one can "tear off" to become a "tool box." The individual tool boxes can be docked and resized. There are ten tool boxes, with the following titles (order down first column, then down second column):

- DTM Menu
- Extract
- Edit
- Load
- Analysis
- Stroking Options
- Build
- Drape
- Reports
- Utilities

Each tool box is discussed in subsequent subsections. If the function of an icon is not apparent to the user, position the cursor on the icon. A detailed description is displayed in the status bar and a tool tip appears, as depicted in the graphic below.
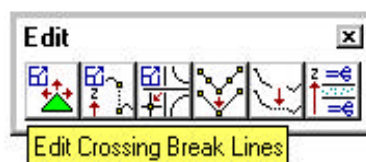
These tools remain and reopen automatically even if you exit Microstation, then re-enter later.

2.7.1 Menu Bar

The DTM Menu tool box (first column, top box) is depicted above and is a single icon, which invokes the GEOPAK DTM menu bar as depicted below.
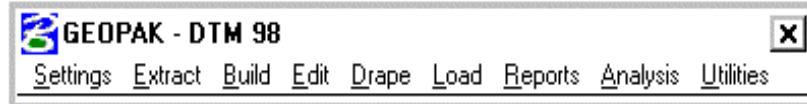

2.7.2 Extract
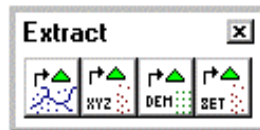
The Extract tool box (first column, second box) is depicted above and contains four tools. These include (from left to right):

- Extract DGN Data
- Extract XYZ Data
- Extract DEM Data
- Extract Set Format

2.7.3 Edit

The Edit Tools tool box (first column, third box) is depicted above and contains six tools. These include (from left to right):

- Edit Triangles
- Edit Duplicate Points
- Edit Crossing Break Lines
- Filter Vertices
- Join Linear Features
- Z Range Clip

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2.7.4 Load

The Load tool box (first column, fourth box) is depicted above and contains a single tool, Load DTM Features.

2.7.5 Analysis

The Analysis tool box (first column, fifth box) is depicted above and contains seven tools. These include (from left to right):

- Height Query
- View Profile
- Volumes
- Elevation Difference
- Slope Area
- Themes
- Drainage Tools

2.7.6 Stroking Options

The Stroking Options tool box (second column, first box) is depicted above and contains a single tool, Stroking Options.

2.7.7 Build
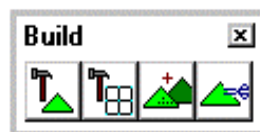
The Build Tools tool box (second column, second box) is depicted above and contains four tools. These include (from left to right):

- Build Triangles

- Build Lattice
- Merge TINs
- Clip TIN

2.7.8 Drape
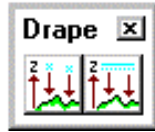
The Drape tool box (second column, third box) is depicted above and contains two tools. These include (from left to right):

- Drape Vertices
- Drape Vectors

2.7.9 Reports
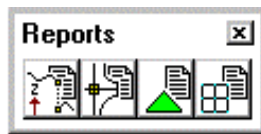
The Reports tool box (second column, fourth box) is depicted above and contains four tools. These include (from left to right):

- Duplicate Point Report
- Crossing Break Line Report
- TIN Statistics Report
- Lattice Statistics Report
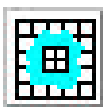
2.7.10 Utilities
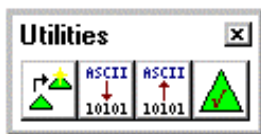
The Utilities tool box (second column, fifth box) is depicted above and contains four tools. These include (from left to right):

- Convert TIN
- ASCII to Binary
- Binary to ASCII
- Check Triangulation

2.8 Tool Summary

DTM Menu	**Edit TIN**	**Edit Dup. Points**	**Edit Break Lines**
Filter Vertices	**Join Features**	**Z Range Clip**	**Drape Vertices**
Drape Vectors	**Dup. Point Report**	**Crossing Break Line Report**	**Lattice Statistics**
TIN Statistics	**Elev. Difference**	**Slope Area**	**Volumes**
Extract DEM	**Extract Graphics**	**Extract Set Format**	**Extract XYZ**
Convert TIN	**ASCII To Binary**	**Binary to ASCII**	**Check Triangulation**
Build Triangles	**Build Lattice**	**Clip TIN**	**Merge Tins**
Load Features	**Themes**	**View Profiles**	**Drainage Tools**

 Height Query			