# Merging and Clipping TINs

10.1   Overview

Several Build options are supported including merging and clipping. All options create new models, leaving the integrity of the original model intact.

10.2   Merging Triangulated Models

| Feature / Function	Merging two TIN models to produce a third TIN model.
Tool	
DTM Menu Bar	Build > Merge TINs

Any two triangulated models can be merged together as long as one model overlaps the other triangulated model in at least one point. As can be seen on the Build Merge dialog below, input requirements are quite simple.
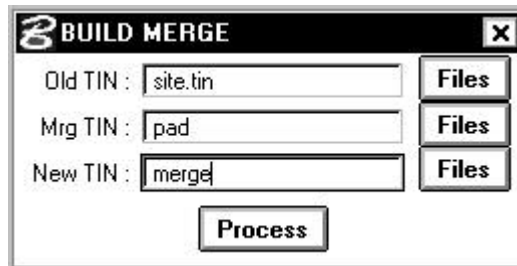

The **Old TIN** is the triangulated model into which the **Mrg TIN** will be merged. The name of the new, merged model created by this process is defined in the **New TIN** field.   In lieu of typing in the file names, pressing the **Files** button will invoke the File Manager, wherein the desired TIN file may be selected.   The order of the TIN file names is significant.   The hull of the Mrg TIN is "cut" into the Old TIN, and the data within the Mrg TIN supersedes the data from the Old TIN.   In the graphic below, the hull of two TIN files (old and mrg) are drawn.
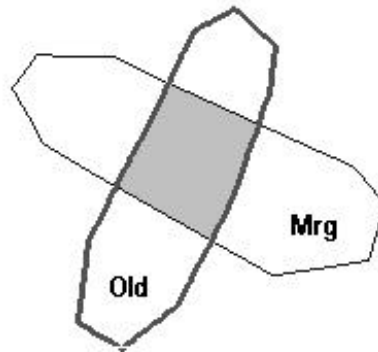
The heavier weight hull is old.tin, the original TIN, while mrg.tin is the TIN to be merged. In the shaded area (which both TINs have in common), the data from mrg.tin is utilized, and retriangulated around the common edges. The data within the shaded area from the original TIN, old.tin is discarded. The hull of the new, merged TIN is depicted below.
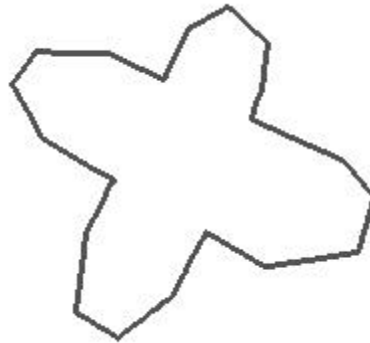
Once the three triangulated models have been identified on the Build Merge dialog, press the **Process** push button. The area of overlap between the two triangulation files is replaced with the merged triangulation. This model can then be displayed, contoured, used as a basis for developing a lattice model, etc. For example, the image below is an isometric view of a merged model, where a pad TIN was merged with an existing ground TIN.
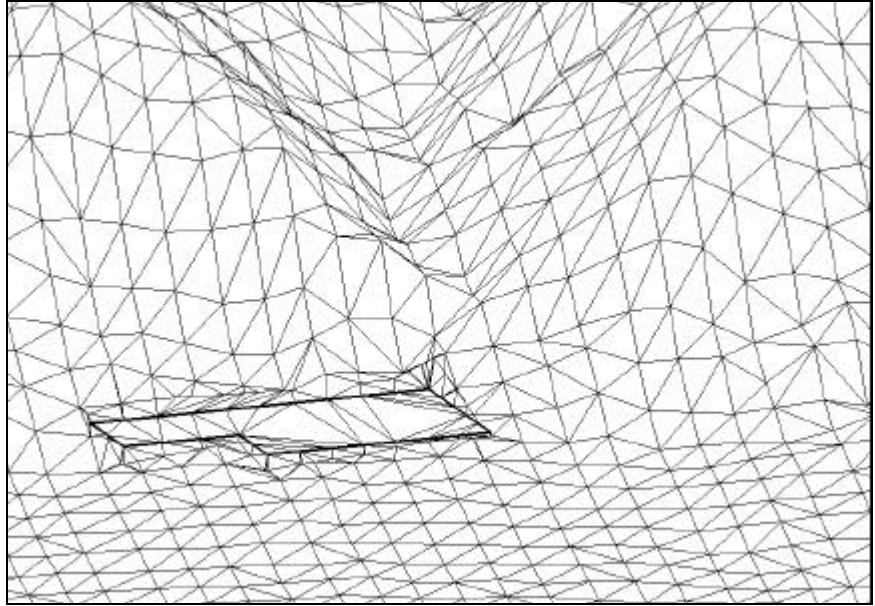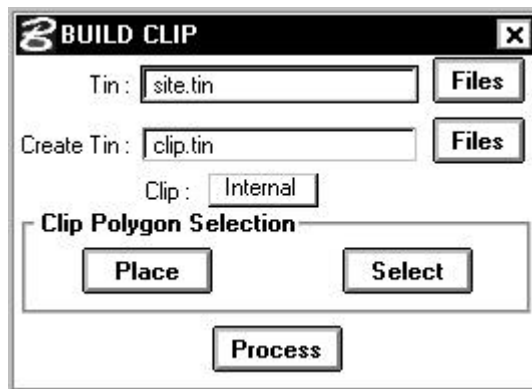
The image below depicts a lattice derivation from the merged model.
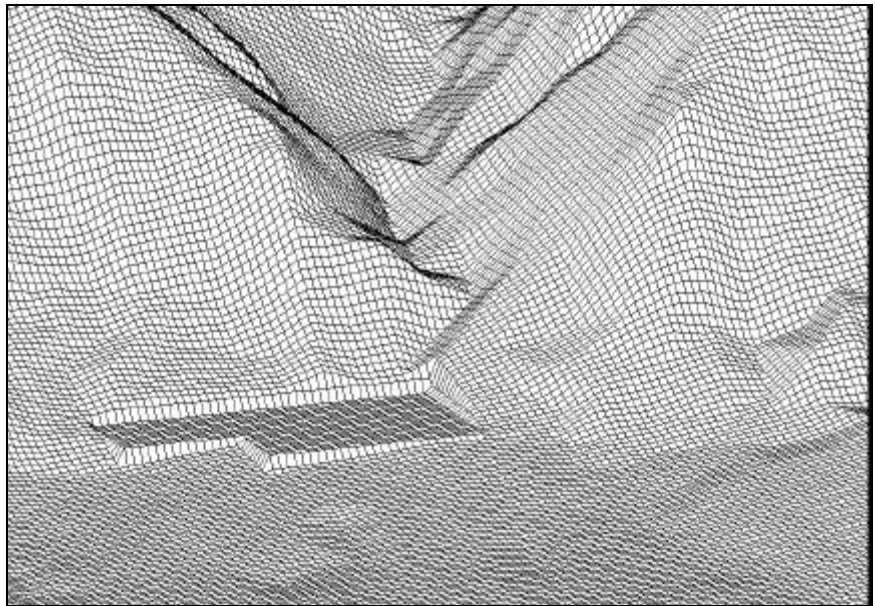
10.3   Clipping Models

|	
Feature / Function	Clipping a TIN model to produce a unique TIN model, which is a subset of the original model.
Tool	
DTM Menu Bar	Build > Clip TIN

As can be seen on the Build Clip dialog below, input requirements are quite simple.

The **TIN** is the original triangulated model, while **Create Tin** is the clipped model. In lieu of typing in the file names, pressing the **Files** button will invoke the File Manager, wherein the desired TIN file may be selected. Two methods of clipping are supported, as depicted in the exploded view below: **Internal** and **External**.
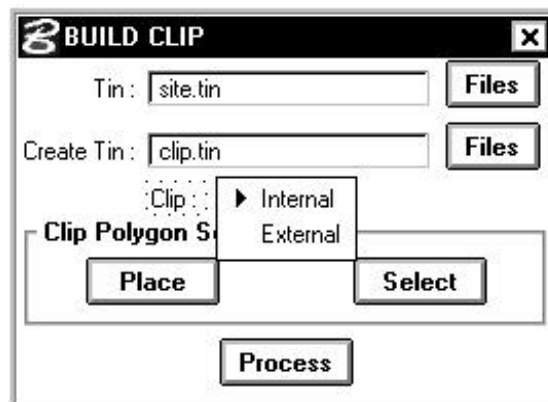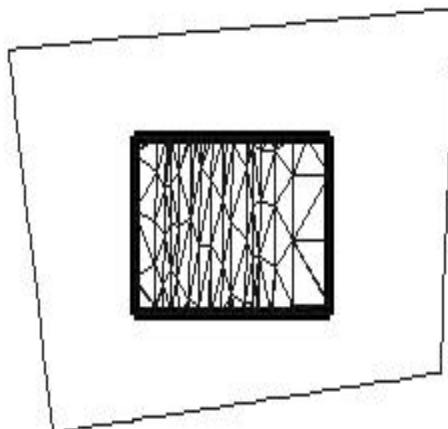

The first graphic below depicts the original mode, site.tin, with its associated hull. In the middle of the model, we have placed a polygon, denoted with heavy black lines.
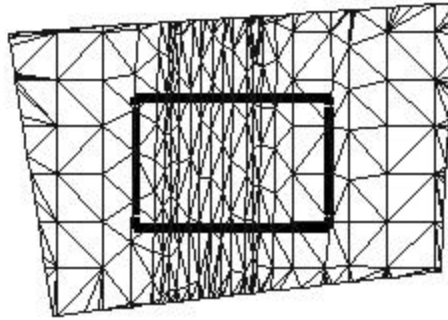
When the Clip mode is set to **Internal**, the graphic below depicts the resultant clip.tin.
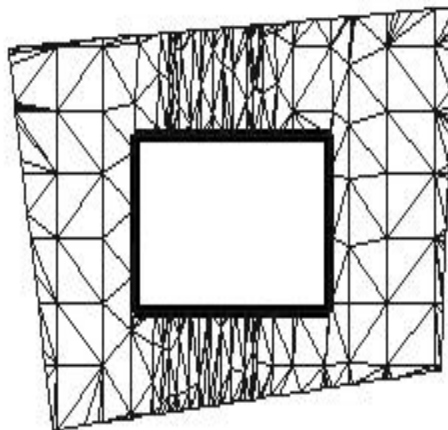
When the Clip mode is set to **External**, the graphic below depicts the resultant clip.tin.

Within the Clip Polygon Selection group box, two options are supported: **Place** or **Select**. If you select **Place**, interactively draw a polygon representing the extent of the clipping. In top view, define a number of **data points** constituting the outline of the polygon. The

polygon is then closed by selecting the **Reset** button on your cursor. This differs from the MicroStation **Place Shape** command in that the polygon is closed by selecting a **Reset** rather than placing the final data point coincident with the initial data point. If **Select** was pressed, identify and accept the previously placed MicroStation shape or complex shape element defining the boundary of the clipping.

Press the **Process** push button to generate the clipped model. The clipped model can be utilized as any triangulated model and can be edited or merged. All Build processes can also be performed on the clipped model.