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ARCHITECTURAL MODELING USING REVIT

SITE CREATION

CREATING TOPOSURFACE

CREATING TOPOSURFACE

Create a topo surface by placing points, by using imported 3D contour data, or by using a points file.

1. Open a 3D view or a site plan view.
2. Click Massing & Site tab ➤ Model Site panel ➤ (Toposurface).

To create the topo surface by placing points

1. By default, the Place Point tool on the ribbon is active. On the Options Bar, set a value for Elevation.

   The points and their elevations are used to create the surface.
2. Next to the Elevation text box, select one of the following:
   - Absolute Elevation. Points display at the specified elevation (from the Project Base Point). You can place points anywhere in the active drawing area.
   - Relative to Surface. Allows you to edit an existing toposurface by placing points on it at the elevation you specify. To use this option effectively, you may want to work in a shaded 3D view.
3. Click in the drawing area to place points. If needed, change the elevation on the Options Bar as you place additional points.

ADD SITE COMPONENTS

You can place site-specific components, such as trees, utility poles, and fire hydrants, in a site plan.

If no site components are loaded into your project, a message indicates that no appropriate families are loaded.

To add site components

1. Open a view that displays the toposurface to modify.
2. Click Massing & Site tab ➤ Model Site panel ➤ (Site Component).
3. Select the desired component from the Type Selector.
4. Click in the drawing area to add one or more components.

ADD PARKING COMPONENTS

You can add parking spaces to a toposurface and define the toposurface as the parking component's host.

To add parking components

1. Open a view that displays the toposurface to modify.

2. Click Massing & Site tab ➤ Model Site panel ➤ (Parking Component).
3. Place the cursor on the toposurface and click to place the component. Place as many components as desired.
   You can create an array of parking components.

To rehost parking components

1. Select the parking components.
2. Click Modify | Parking tab ➤ Host panel ➤ (Pick New Host).
3. Select the toposurface.
   When you use the Pick Host tool, you are deliberately setting the parking component on top of the toposurface. If you move the parking component around on the toposurface, it remains attached to the toposurface.

ADD BUILDING PADS

Add a building pad by sketching a closed loop on a toposurface.

1. Open a site plan view.
2. Click Massing & Site tab ➤ Model Site panel ➤ (Building Pad).
3. Use the drawing tools to sketch the building pad as a closed loop.
4. On the Properties palette, set the Height Offset From Level and other building pad properties as needed.

Tip: To see the building pad in a floor plan view, set the building pad offset to a value higher than Level One, or adjust the view range.

Modify Building Pad

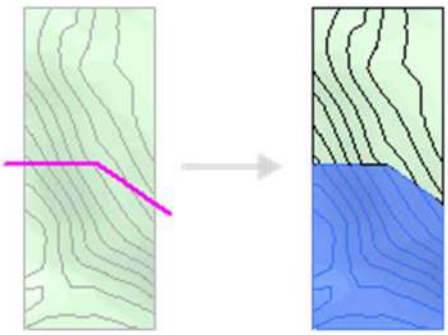
did the building pad boundary and define a slope for the building pad, if required.

1. Open the site plan that contains the building pad.
2. Select the building pad
3. Note: Use Tab to cycle through the selection options. Selection options are displayed on the left side of the status bar.
4. Click Modify | Pads tab ➤ Mode panel ➤ (Edit Boundary).
5. Click Modify | Pads ➤ Edit Boundary tab ➤ Draw panel ➤ (Boundary Line, and use the sketch tools to make the necessary changes.
6. To slope the building pad, use a slope arrow.
7. Click (Finish Edit Mode).

SPLIT A TOPOSURFACE

You can split a toposurface into 2 distinct surfaces and then edit those surfaces independently.

Note: To create distinct areas on a toposurface and assign different properties to each area (such as material) without dividing the toposurface into separate pieces, use the Toposurface Subregion tool. To split a toposurface into more than 2 surfaces, use the Split Surface tool multiple times, further subdividing each piece of the toposurface as needed.



After splitting a surface, you can assign different materials to these surfaces to depict roads, lakes, plazas, or hills.

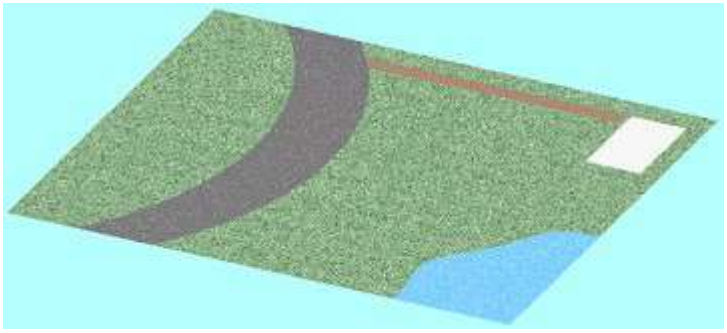
You can also delete entire portions of the toposurface. For example, you can use the Split Surface tool to remove unwanted portions of a toposurface generated by an imported file, when the imported file fills unsurveyed areas with unwanted artifacts.

Note: If the Phase Demolished property of the toposurface is set to a value other than None and you then split the toposurface, this value is change to None for one of the resulting surfaces.

To split a toposurface

1. Open a site plan or 3D view.
2. Click Site tab ➤ Modify Site panel ➤ (Split Surface).
3. In the drawing area, select the toposurface to split.
   Revit LT enters sketch mode.
4. Click Modify | Split Surface tab ➤ Draw panel ➤ (Pick Lines), or use other sketch tools to split the toposurface.
   You cannot pick toposurface lines with the Pick Lines tool. You can pick other valid lines, such as walls.
5. Sketch a single closed loop that does not touch boundaries of the surface, or sketch a single open loop. Both ends of an open loop must lay on the boundary of the surface. No part of the open loop can intersect or be coincident with the boundary of the surface.
6. Click (Finish Edit Mode).

Example



MERGE TOPOSURFACES

You can merge 2 separate toposurfaces into one surface.

This tool is useful to rejoin a split surface. The surfaces to be merged must overlap or share a common edge.

1. Click Massing & Site tab ➤ Modify Site panel ➤ (Merge Surfaces).
2. (Optional) On the Options Bar, clear Remove points on common edges. This option removes excess points that were inserted after a surface was split. The option is selected by default.
3. Select one toposurface to merge.
4. Select another toposurface.
   The 2 surfaces merge into one.

CREATE TOPOSURFACE SUBREGIONS

Toposurface subregions are areas that you sketch inside existing toposurfaces.

For example, you can use subregions to draw parking lots on a graded surface, roads, or islands. Creating a subregion does not result in separate surfaces. It merely defines an area of the surface where you can apply a different set of properties, such as material.

To create a subregion

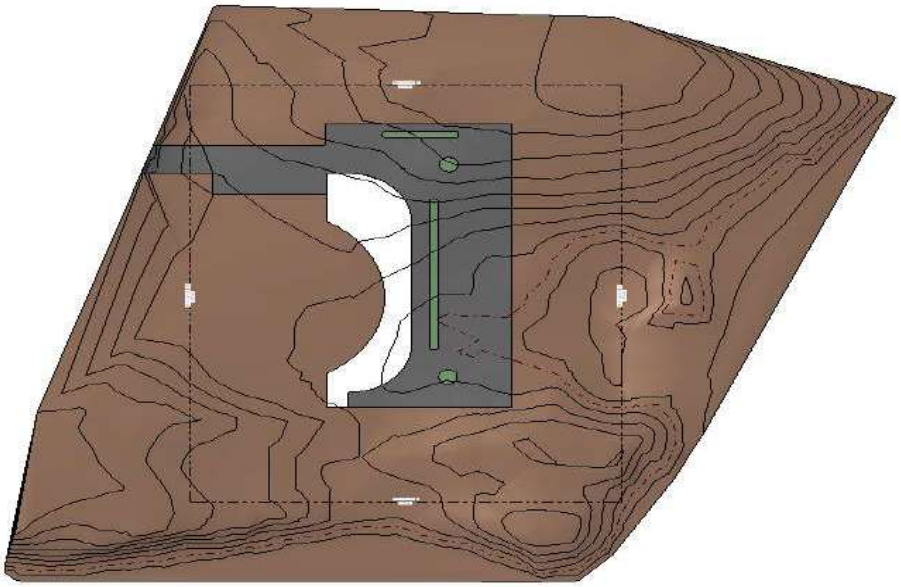
1. Open a site plan that displays a toposurface.
2. Click Site tab ➤ Model Site panel ➤ (Subregion).
   Revit LT enters sketch mode.
3. Click (Pick Lines) or use other sketch tools to create a subregion on the toposurface.
   Note: Use a single closed loop to create a toposurface subregion. If you create multiple closed loops, only the first loop is used to create the subregion; the remaining loops are ignored.

To modify subregion boundaries

1. Select the subregion.
2. Click Modify | Topography tab ➤ Subregion panel ➤ (Edit Boundary).
3. Click (Pick Lines) or use other sketch tools to modify the subregion on the toposurface.

Example

The following image shows a toposurface that has a subregion, shown in gray.



Tip: You can use subregions to add road elements like parking, turn arrows and disabled markings. To simplify the process, use a detail component as a template and use the Pick Lines tool in the subregion editor. If desired, you can lock boundaries of the subregion to the picked lines of the detail component. When you move the detail component, the subregion adjusts automatically.