Terrain Add-on 21

Release version AC21.02

User Guide

United Kingdom & Ireland

Printable PDF version

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Terrain Add-on 21 User Guide

Graphisoft UK would like to thank all participants for their valuable contributions to this add-on release. Special thanks go to Ralph Schwaiger (Service Manager for Germany and Austria).

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Product and Technical Manager for UK and Ireland

Trademarks

Contents

Introduction

To assist our customers Graphisoft have developed a new ARCHICAD add-on that simplifies and streamlines existing ARCHICAD Terrain Tool as well as it introduces new functionality in following areas:

- Simplified creation of excavation works
- Parametric control of earthwork edge sloping ratios
- Parametric control of multiple levelled areas
- Easy design and calculation of earthwork volumes in Cut and Fill scenarios including a definition of Topsoil layer
- Automatic creation of terrain contours and their parametric control
- Graphic visualisation of excavation work components in 2D and 3D.

Add-on Installation and Content

Installation

- Unzip the downloaded file.
- Close all ARCHICAD instanced
- Copy the add-on in the ARCHICAD Add-ons folder (*applications > ARCHICAD ... > Add-Ons*)
- Start ARCHICAD
- You will find the new toolbar with additional command in *Design > Design Extras > Show Terrain Tool*
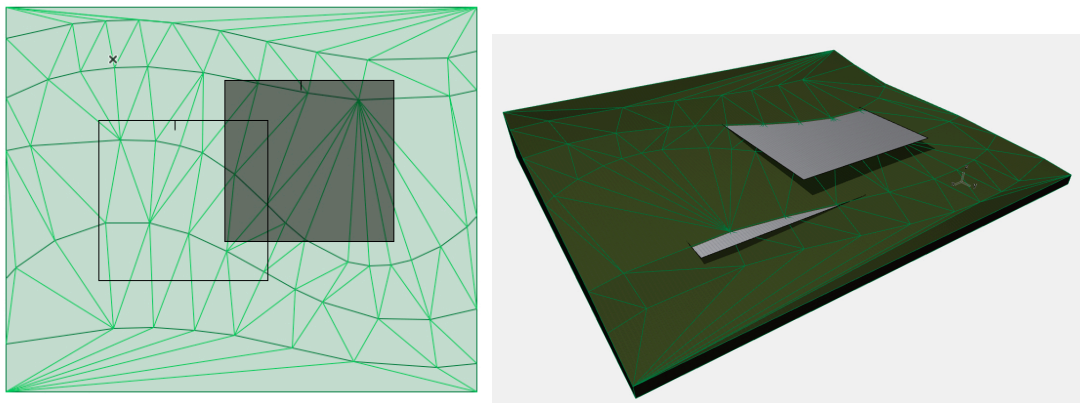
Features

Toolbar

The Terrain add-on toolbar contains 8 tools and Quick Help (left to right):

1. Create Levelled Area
2. Refresh Terrain in 2D/3D
3. Levelled Area Settings
4. Levelled Area Edge Settings
5. Terrain Settings
6. General settings
7. Cut and Fill Calculations
8. Release All Terrain elements (in Teamwork)
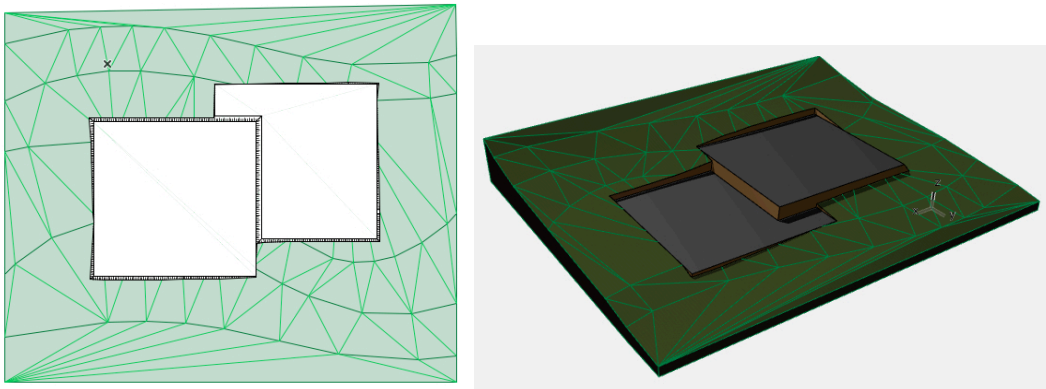9. Quick Help

Initial design

Define or create a mesh using ARCHICAD Mesh Tool.

Create a leveled area of any shape using ARCHICAD Roof Tool with zero thickness on the same storey as your mesh. The roof shape must not contain any holes.

Position created roof elements in place on plan and at desired level along the Z axis.
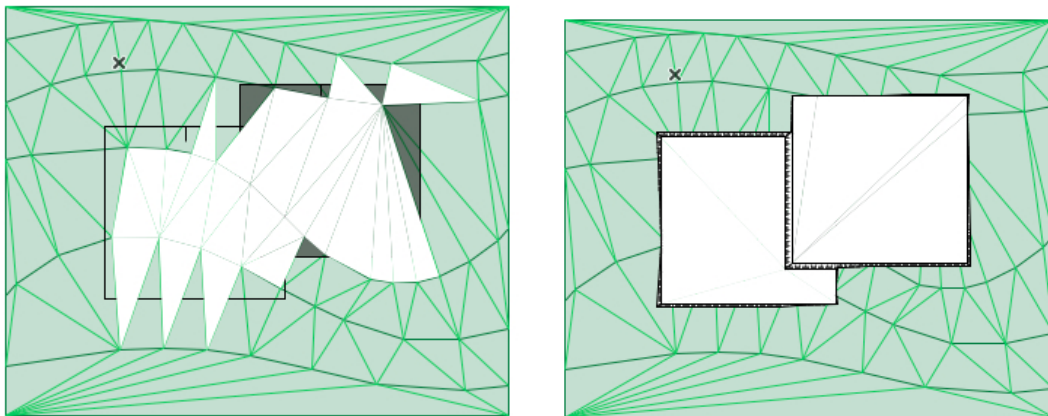
⊞⊕ Create Levelled Area

Select the mesh together with the roofs and click on the command *Create Levelled Area*

The dialog prompt will ask you whether you would like to keep the roof elements. It is possible to create the leveled area without roof elements however in some cases it might be useful to keep roof elements for further required changes.
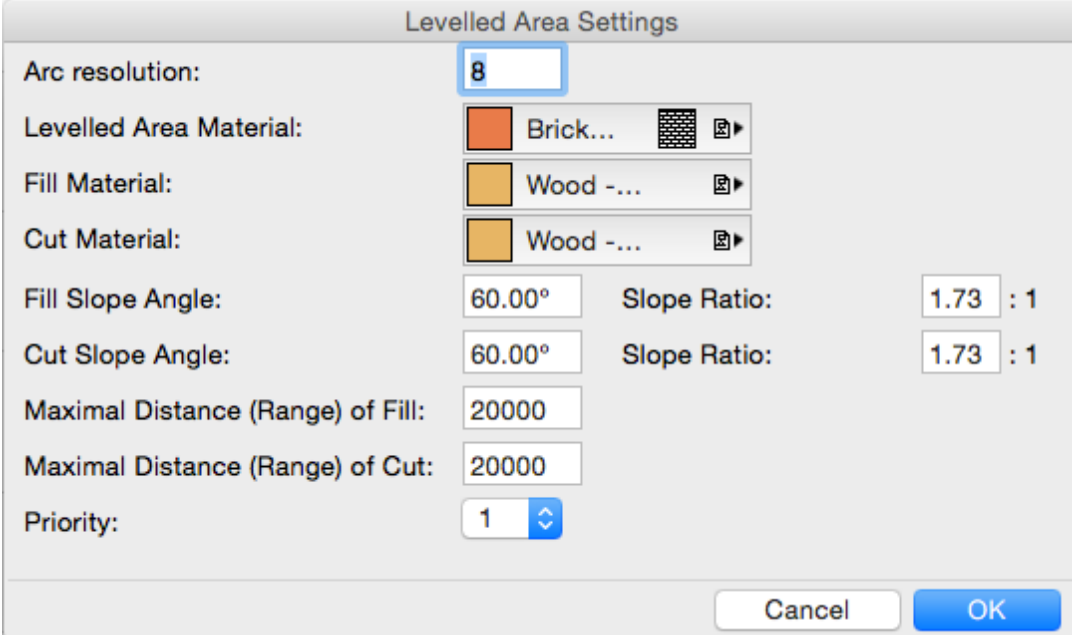
⊞↻ Refresh Terrain in 2D/3D

If the symbolic plan representation seems to be incorrect use the *Refresh Terrain* command.

Levelled Area Settings

Levelled Area Settings	
Arc resolution:	8
Levelled Area Material:	Brick...
Fill Material:	Wood -...
Cut Material:	Wood -...
Fill Slope Angle:	60.00° Slope Ratio: 1.73 : 1
Cut Slope Angle:	60.00° Slope Ratio: 1.73 : 1
Maximal Distance (Range) of Fill:	20000
Maximal Distance (Range) of Cut:	20000
Priority:	1
	Cancel OK

You can change levelled area(s) settings by selecting particular levelled area in Plan Window (hover your mouse pointer over a levelled area edge) and clicking on *Levelled Area Settings*.
Please note that any changes in this dialog will affect all surfaces and edges. If you would like to change the setting of an individual levelled area edge use *Levelled Area Edge Settings* command.
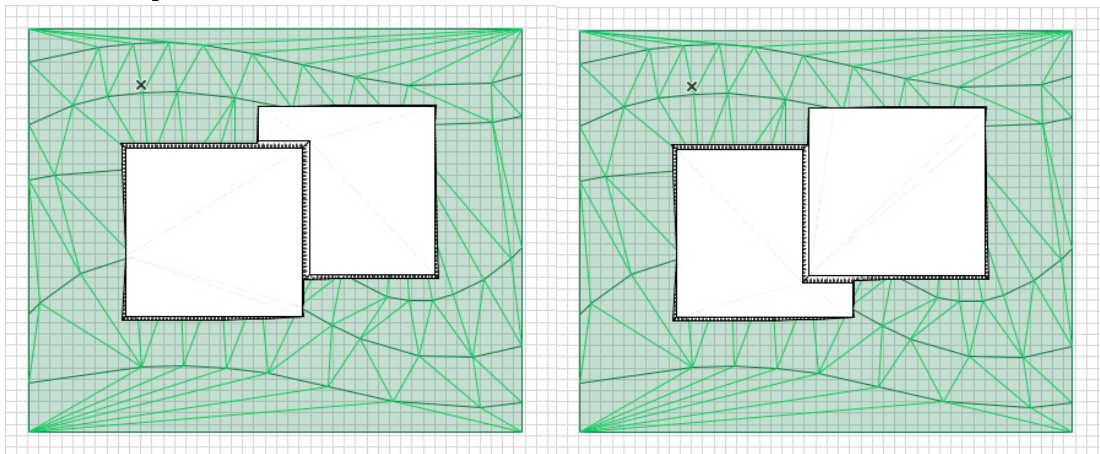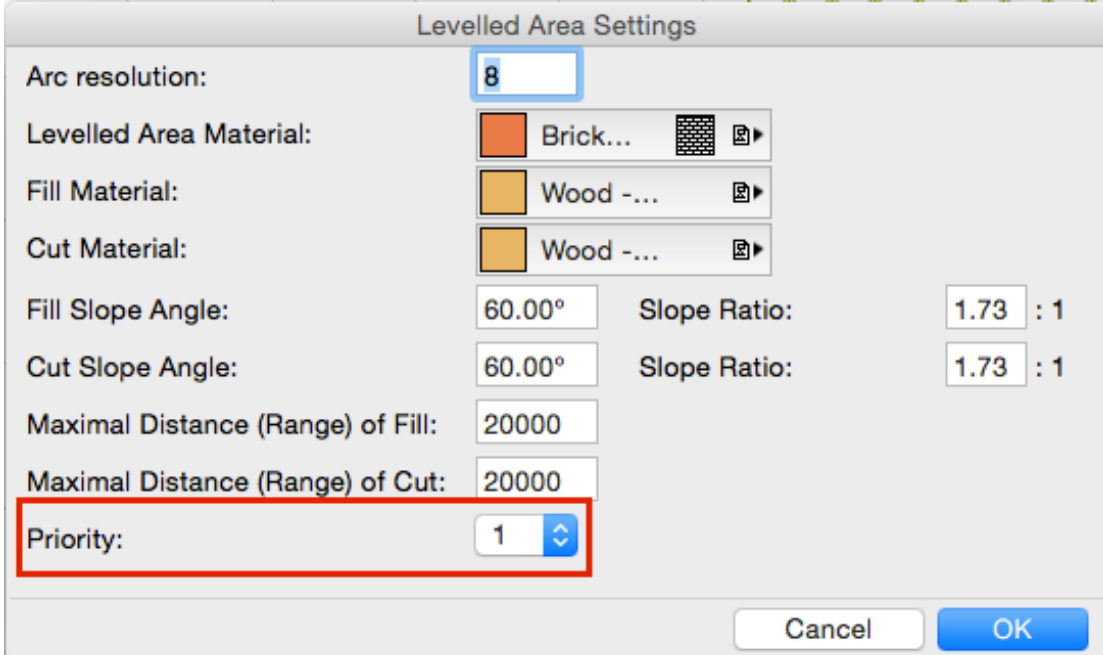
Levelled Area Edge Settings
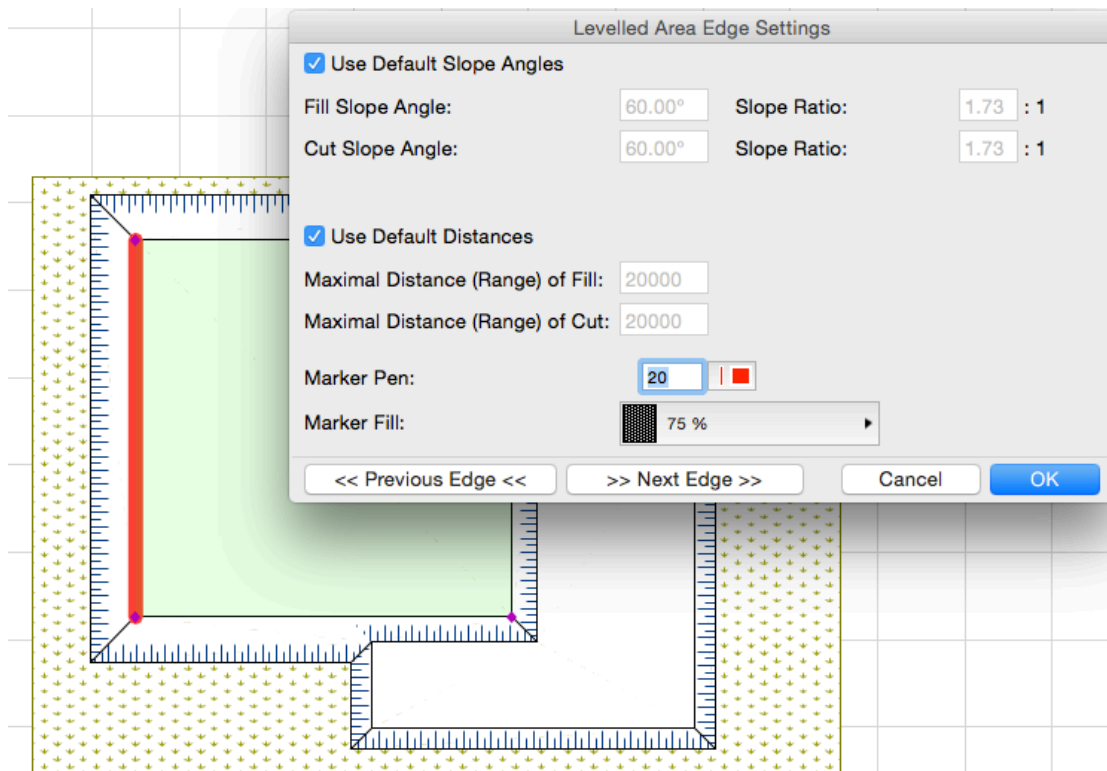
In order to change an individual levelled area edge select the levelled area and use *Levelled Area Edge Settings* command. The active edge will be highlighted red on plan.

To simplify the edge selection navigation use *Previous Edge* or *Next Edge* buttons that will cycle edge selections along the levelled area perimeter.

Priority

It is possible to define multiple overlapping levelled areas with different elevations. In some complex cases Terrain add-on can misinterpret their order so it is necessary to define their priority and establish their correct relationship manually.

In this case select the levelled area, open *Levelled area settings* and change its *Priority* to a higher number. The mesh and the levelled areas will be rebuilt to the new priority settings.

Terrain Settings

Terrain symbolic plan representation settings can be adjusted on *Levelled Areas tab*

Contour Lines settings control the definition, appearance and calculation of terrain contour lines.

Calculations tab defines the top soil thickness that will be used for the earthworks calculations.

⬙🗐 General Settings

Cut and Fill Calculations
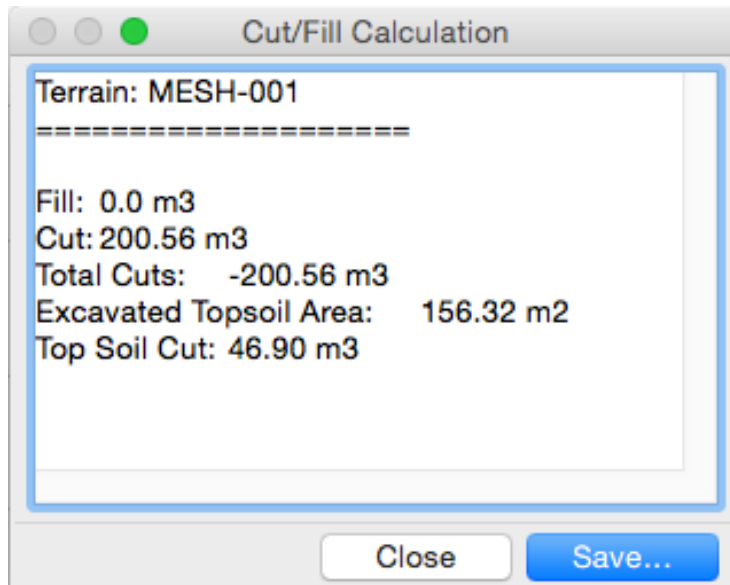

The calculations will provide data about Cut/Fill volumes as well as Topsoil volume and area based on Topsoil thickness defined in *Terrain Settings/Calculation tab*.

Release All Terrain Elements

Relevant for Teamwork projects only.
Terrain Add-on is using hidden operator elements so in order to release modified terrain to other Teamwork users it is necessary to use this command. Releasing just the terrain itself (using standard Teamwork 'Release' command) will not allow other Teamwork users to reserve it.

Quick Help

A quick explanation of Terrain tool functionality.