GRAPHISOFT WORKFLOW GUIDE SERIES

Site Plan Creation

Workflow Guide 2019/5

Customer Support Services Department

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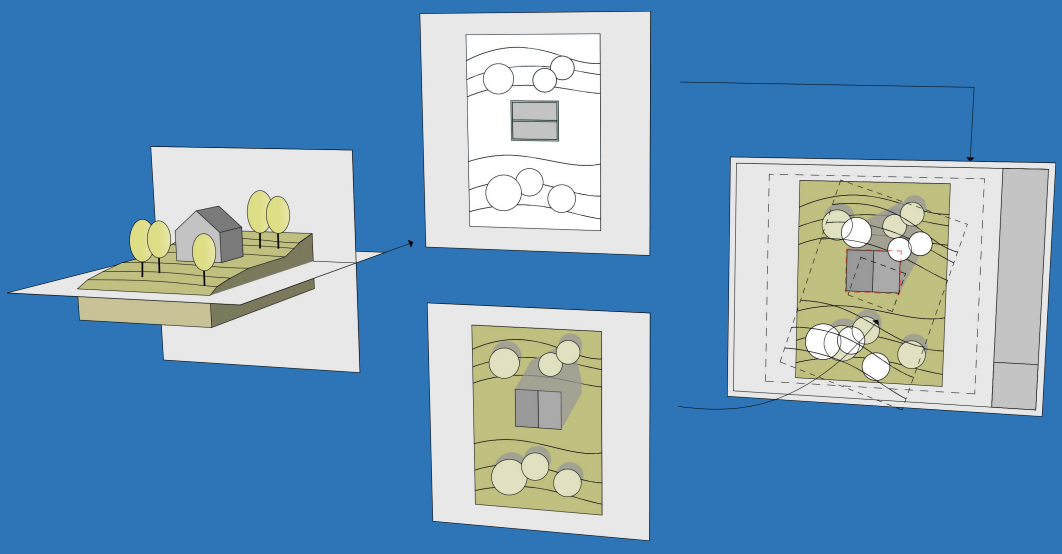

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The Workflow Guide Series are know-how documents providing solutions recommended for BIM workflows and project management related challenges.

The Site Plan Creation guide is offering an overview of the different data types and methods in ARCHICAD to create a site plan drawing as per the required documentation package.

This document was created with the aim to support the efficiency of your work. If you have any feedback, please send it to helpcenter@graphisoft.com.

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Workflow Guide Series

Site Plan Creation

(International English Version)

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The Landscape Architectural Industry is currently in a long-term process of changing from 2D CAD drawings to creating and coordinating the project in a digital model of the landscape. The progression from CAD to BIM is based on the technological progression and the requirements from the local, state and federal agencies or private clients. The purpose of this workflow guide is to offer methods for creating site plan drawings using the available tools and document the creation workflow, considering the lack of a dedicated view for creating site plan drawings in ARCHICAD.

1. Site planning

A site plan is a landscape architectural plan and a detailed engineering drawing of proposed improvements of a building plot. A site plan generally shows the planned location of the building and a design of the outdoor space. A site plan contains the building footprint, landform, roads and access points, parking, drainage facilities, paving, planting, water, and other landscape-related content in order to fully support the building construction. The exact content of the site plan depends on local regulations, location and project requirements.

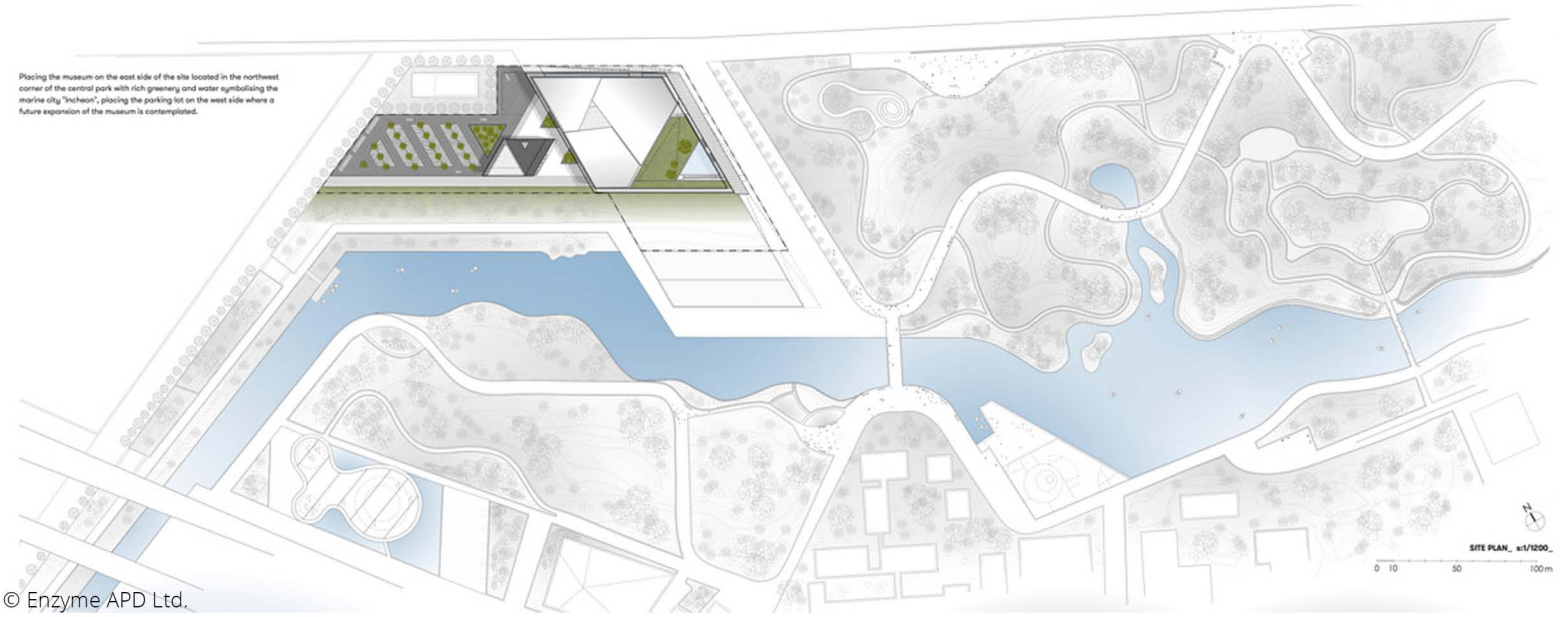


Image 1 – Site Plan, NWW Museum by Enzyme

2. Site plan data types

The first question that arises is the initial data needed for site planning. Typically, we get them from the surveyors (e.g.: record drawings, record model, recent survey, topographical map etc.), although digital maps and model databases are increasingly available. Basically, we differentiate 2D and 3D data formats.

2.1 2D Site plan

Although the building project is generally BIM-based, the site plan is still most often provided in a 2D format. The 2D site data usually come from **surveyors** or can be a ready-made **Site Plan**. These data types originate from an external discipline (surveyors or landscape architectural designers), and architects do not own these data types. The most frequently used file formats are .dwg, .dxf and .pln.

Landscape architects traditionally compose their designs as a combination of 2D elements. The site plan can also be a native ARCHICAD file. To complete the design concept and satisfy the project requirements, we might need to further develop these plans by creating additional elements.

Unless we are using a ready-made site plan, we need the surveyor data as a base for the site plan creation. The survey plan is usually a .dwg/.dxf file containing a topographic map of the site, plot and the building boundaries and other landscape information necessary for a project (e.g. OS map[1], GeoInfo map[2]).

These drawings can be used as internal or external contents in ARCHICAD. Read more in section Importing content into ARCHICAD.

2D data are the most frequently used as a starting point to model a site using the ARCHICAD tools or through the Rhino-Grasshopper connection.

2.2 3D site model

3D site data can be a full model of the terrain and/or surroundings or point-based data types that we can use as a reference or to create the landscape.

In general the base of the 3D site either comes from the **surveyor data** (.xyz, .dwg data formats) or can be a ready-made **site-model** (.pln, .gsm, .e57, .ifc, .skp data formats).

Creating a site plan based on a 3D site model is mostly used for visualization purposes. Furthermore, a 3D site model in ARCHICAD can be used for schedules (quantity, material takeoffs), presentation, environmental analysis, construction management and site logistics even in the early phases of the design process. As an example, a BIM-based site plan can contain all the necessary information to position a tree (condition, positioning, height, sun requirements) or drainage (slopes, orientation, routing, dimensioning).

1 Ordnance Survey Mapping and Data - https://www.ukmapcentre.com/index.html
2 Hong Kong geospatial information service - https://www.map.gov.hk/gm/

Unless we have a ready-made 3D site model, the developement process usually starts with the creation of the site terrain. We can use the surveyor's data file to easily create an ARCHICAD mesh. Based on the .txt, .xyz files in ARCHICAD we can create the landscape mesh using the 'Place Mesh from Surveyors Data' command in the File/Interoperability menu. From .dwg data we can create a mesh with the ARCHICAD Mesh tool or using the Rhino-Grasshopper connection.

A ready-made 3D model of our site plan usually comes from landscape architectural designers. Additionally there are companies who provide detailed 3D city models as a service mainly in .skp, .3ds file formats or free online sources (Google Earth[3], CADMAPPER[4]). These models are mainly used in the early stages of project development for visualizations, conceptual drawings or presentation purposes only, due to their low level of accuracy. In some cases, ready-made site models might need to be developed further with additional elements to complete the design concept and satisfy the project requirements.

These models can be used as internal or external contents. Although it is handy to have these site model elements in the project file, due to potential file size growth and unneccesary imported attributes, it is recommended to place them in a separate instance of ARCHICAD instead, and hotlink it to the original host file.

Apart from the 3D model formats mentionned above, we can use Point Cloud (.xyz, .e57) as a reference model in the conceptual phase in our project. Point Cloud is a collection of dots produced by a 3D scanner or created from a series of photos taken from the site with a drone. A Point Cloud can be imported as a reference model for modeling existing buildings or surroundings before creating a new building, or to model the as-built building to detect deviations from the planned state. It is important to know that Point Clouds are not visible on any published 3D output.

Read Help Center article [1] Import Point Clouds

[3] https://www.google.com/earth/

[4] https://cadmapper.com/

3. Site Plan presentation types

Depending on the project documentation requirements, we have two options for presenting a site plan: with the Ground Floor view or with the Roof Plan view of the building.

3.1 Ground Floor Plan

This site plan type shows the ground floor of the building in a simplified way. The building elements are filtered to load-bearing elements only, grid lines, and simplified openings. Sometimes, windows and furniture are hidden. The display of the building elements is set in a way that construction elements (walls, columns) use monochrome colors and solid fills; stairs, railings, windows, doors are shown with schematic detail; roof is shown with outlines only. In addition, we have to mark entrances, levels, stair and communication positions, building plot, property boundaries, building footprint.

To show the ground floor of a building along with the site plan, the most common ways are to either create a Floor Plan view or a 3D Document from the ground floor plan.

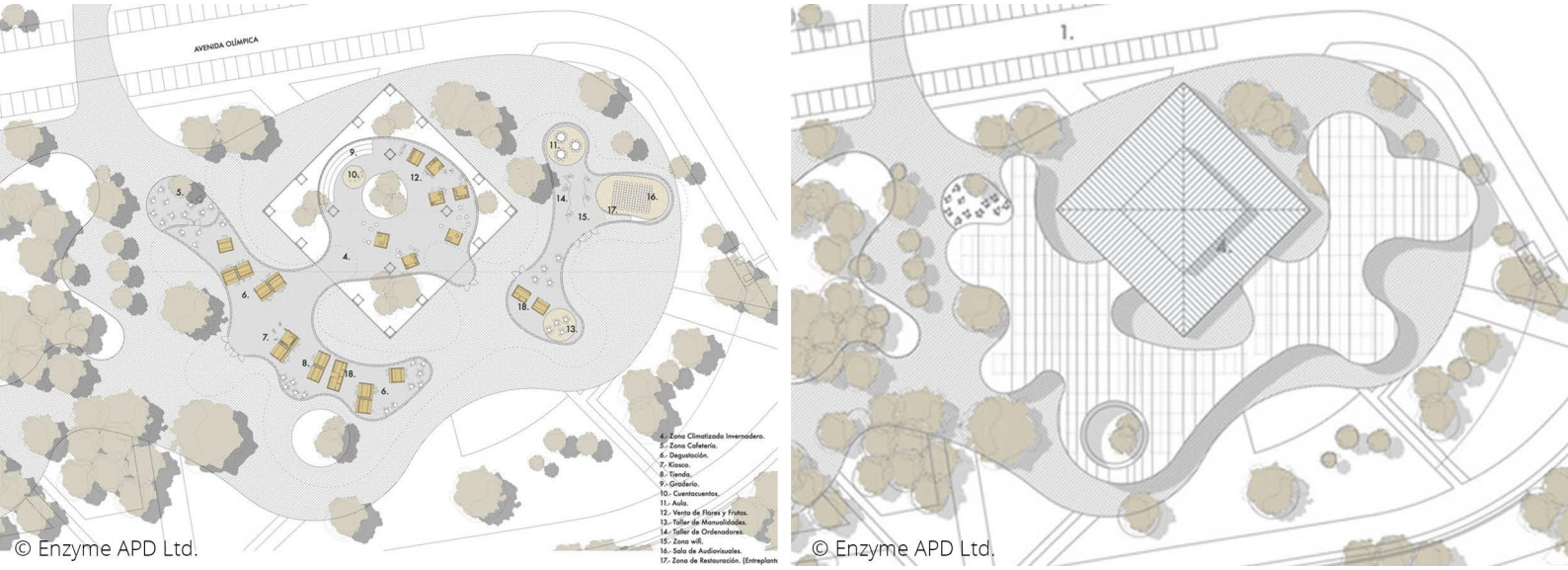


Image 2 - a) Ground Floor Plan, b) Roof Floor Plan by Enzyme

3.2 Roof Plan

To show the roof plan of a building, besides the site and grid elements, we should display elements that relate to the top of the building: roof planes, gutters, ridges, valleys and hips and roof boundaries. We have to mark levels, dimensions, slopes and slope angles, exterior stairs and communication positions, entrances, building plot, property boundaries, building footprint outline.

To show the roof plan of the buildings on a site plan, we can either overlap a floor plan view and a roof plan view on a layout or create a 3D Document from the roof floor plan. We can even overlap the site plan–floor plan with a 3D Document or a top axonometry view.

4. Site Plan creation methods

Defining whether the site plan should display the ground floor or the roof plan of the building determines the workflow for the site plan creation. The workflow also depends on whether we have 2D data or the model of the surrounding. The following **decision chart** can help find the best workflow for the required output based on the provided data type.

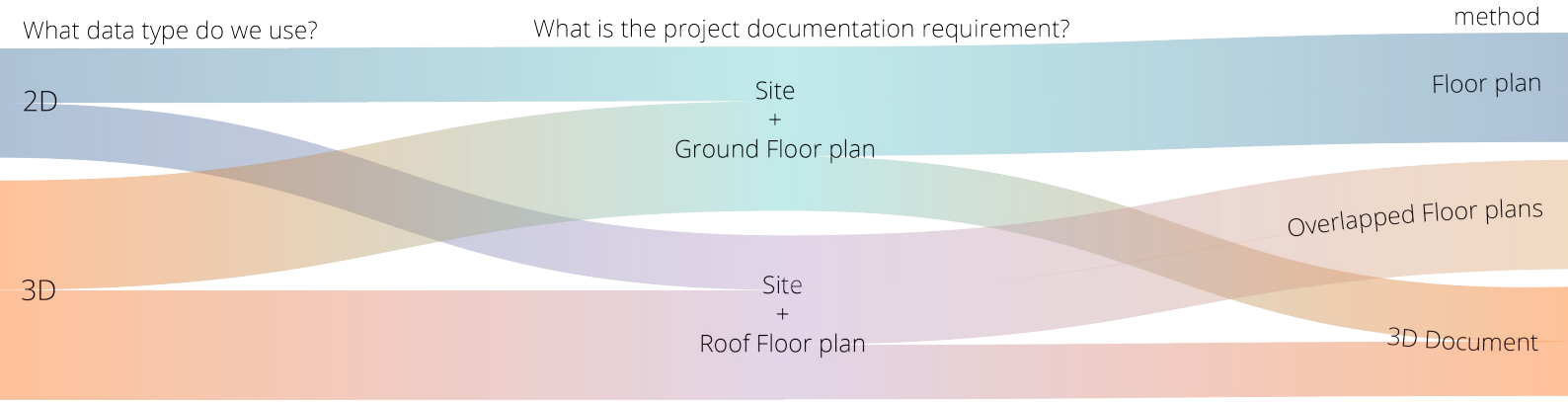


Image 3 - Site plan creation decision chart

4.1 Floor plan

If project documentation requires that we show the Ground Floor plan and the Site plan, the easiest way is to create a dedicated Ground Floor plan view which we place on a layout as a site plan documentation deliverable. This method can be used with both 2D and 3D surveyor data we received at the start.

Before creating a site plan-floor plan view, set the view filtering options.

Each element type in ARCHICAD has different 'Floor Plan Display' options which means we might need to use different settings to display every element in a desired way on the floor plan. This might cause difficulties to show the elements of the site plan properly, especially if we have a landscape model across a range of stories.

The general advantage of this method is that floor plan views placed on the layout are automatically updated based on our modifications.

Floor plan view cannot display shadows. However, there is an option to copy shadow polygons from a 3D view to a floor plan. Read more in Sun shadows.

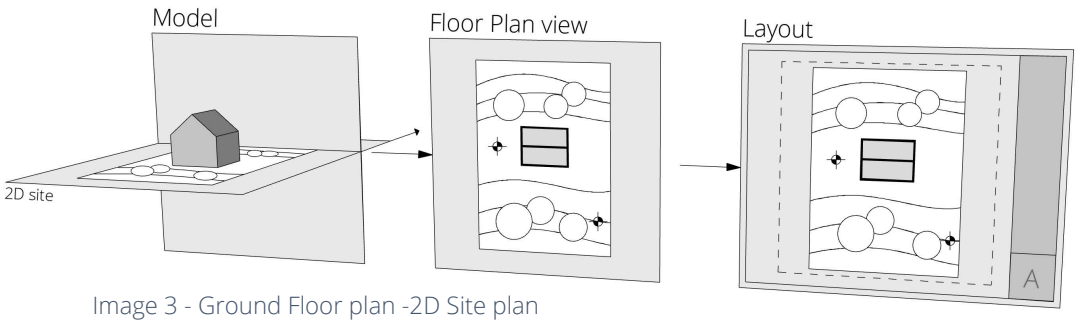
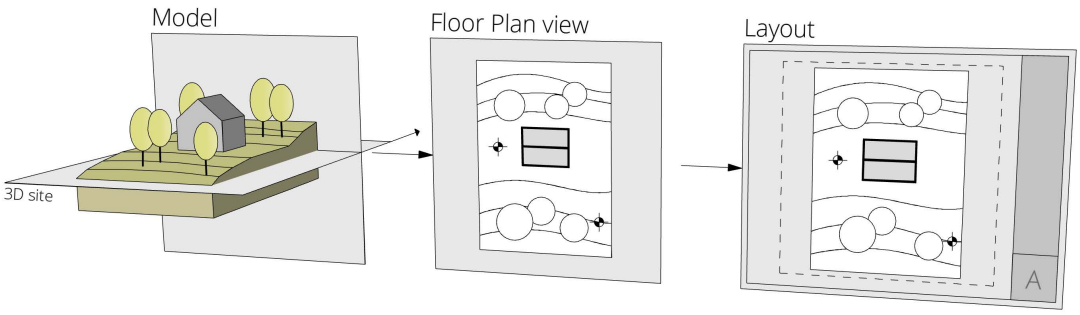


Image 3 - Ground Floor plan -2D Site plan

1 - Set the general View settings
2 - Create a Floor plan view
3 - Place the view on a Layout



1 - Set the general View settings
2 - Create a Floor plan view
3 - Place the view on a Layout

Image 4 - Ground Floor plan -3D Site plan

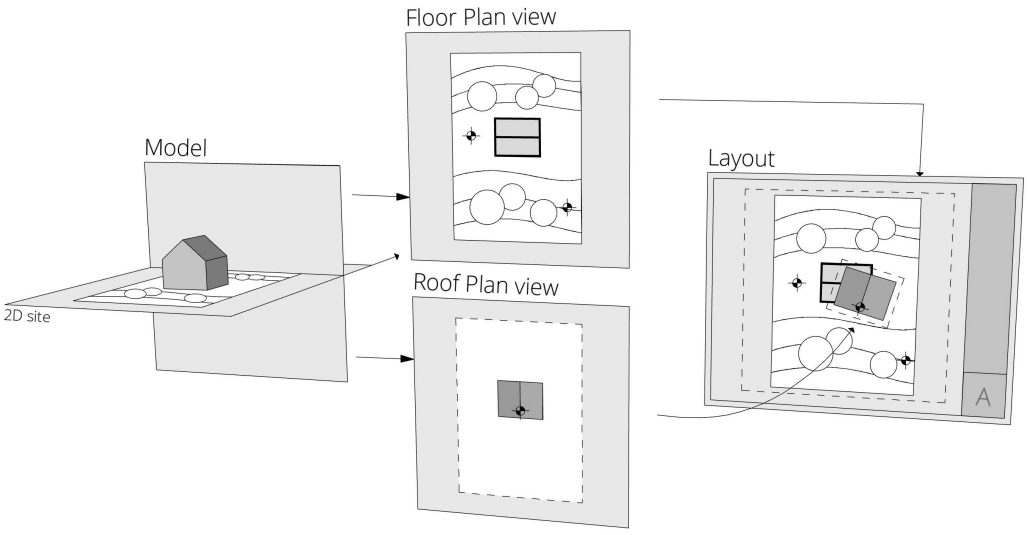
The scale of the site plan-floor plan view is defined by local regulations and project documentation requirements. Usually there are several site plan deliverables at different scales. It is recommended to create separate floor plan views, as display settings are different for each plan scale.

4.2 Overlapped Floor plans

If the project documentation requires us showing the Roof Plan and the Site Plan, we should create two floor plan views: a floor plan for displaying the site, and a roof plan, which we overlap on the same layout to achieve the required site plan deliverable.

This method can be used with both 2D and 3D surveyor data we get at the start. If we have a 3D landscape model, we can also use a 3D Document or a Top Axonometry view instead of a roof plan.

Before creating the views in a View map, set the view filtering options accordingly. Set the scale of the plan views as per the local regulations and project documentation requirements. As mentioned in a previous method, for various site plan scale deliverables, we should create additional dedicated views.



1 - Set the general View settings
2 - Create a Floor plan view
3 - Create a roof plan view
4 - Place both plans on a Layout
5 - Resize Roof plan drawing outline to match roof boundary

Image 5 - Roof plan - 2D Site plan

The main trick of this method is that we have to manually overlap the views on the layout, but they are automatically updated in case of any further changes.

To position the views accurately on the layout, choose a reference point at the same location on both views and combine them on a layout based on that reference point. A good example is to use a grid intersection point as a reference point, especially the intersection point of the first grid lines (A,1).

If needed adjust the boundaries of the roof plan drawing placed on the layout to correspond to the roof outline.

As mentioned, we can combine the site plan-floor plan view with a 3D Document from the roof plan or with a Parallel Axonometric Top projection (3D view). It combines the advantages of both view types: symbolic display of the floor plan view and projected nature of the 3D view.

Read Help Center article [2] Paralell Projection Settings

As opposed to the 3D Document, the Top Axonometry view doesn't have snap points to place it precisely onto the floor plan. The building footprint outline can serve as a guide for properly positioning the view on the layout.

1 - Set the general View settings
2 - Create a Floor plan view
3 - Create a 3D Document from Roof plan or a Top Axonometry
4 - Place both plans on a Layout
5 - Cut out Floor plan drawing along the building footprint before overlapping them

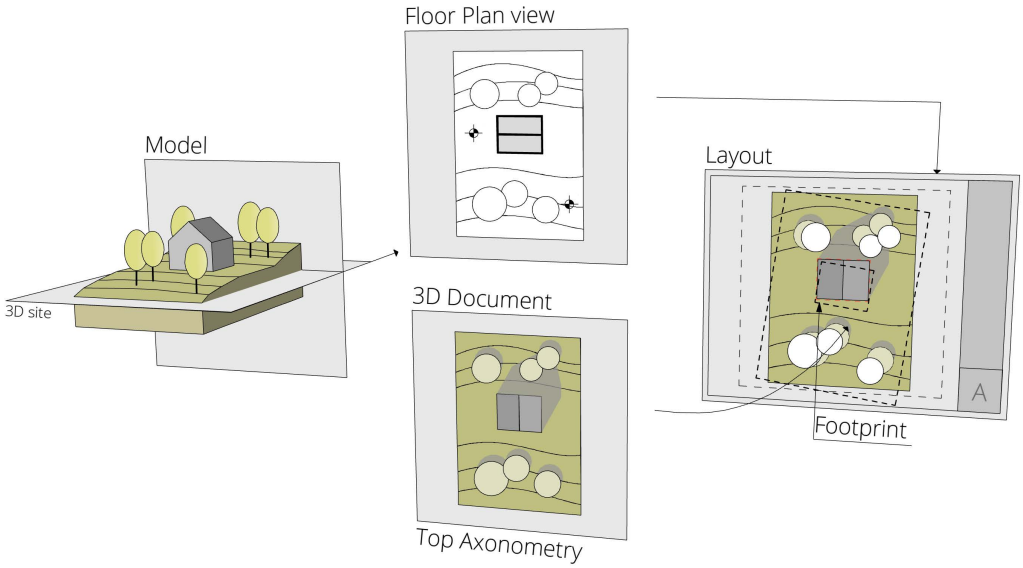


Image 6 - Roof plan -3D Site plan

This method can also be used to show the ground floor of the building together with the 3D Document. If needed, make a cut out of the building from the 3D Document along the edge of the roof.

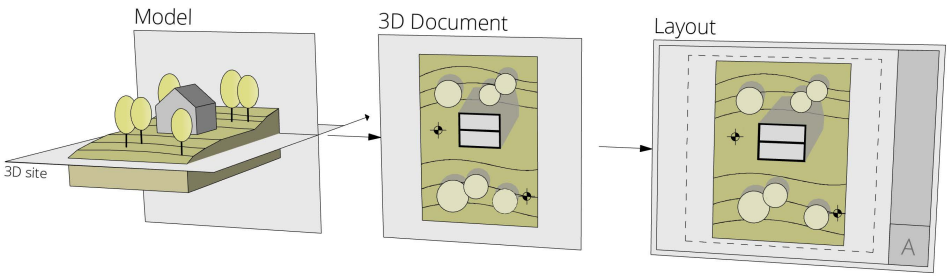
4.3 3D Document

Using the 3D Document is a good solution if we have a model of the surroundings of the building. Besides the surroundings, we can show either the Ground Floor or the Roof Floor plan of the building in a 3D Document. The main advantage, compared to the previous

methods which use Floor Plan views, is that the 3D Document is a projected view and it is capable of showing shadows.

To create the 3D Document for our site plan, we should use the Floor Plan projection. We have to define the 'Cut Plane' height and set the projection direction to downwards, choosing the 'Floor plan' option. By adjusting the 'Cut Plane' height and the projection offset, we can set the 3D Document display range. The 3D Document can be also used to create shaded views by turning on the Sun Shadows. It is useful for creating presentations or static sun studies (shadows cast with different sun positions). In some countries it is a project requirement to show sun shadows on the site plans.

Symbolic display of elements is not available in 3D Documents. This limits the available display options for openings, greenery and site-specific objects. However, annotations, 2D elements and objects from the library can be placed in a 3D Document. If we place an object in the 3D Document, only its 2D symbol is shown, with no 3D model. If there are any changes in the project, the 3D Document can be rebuilt from the model at any point.



1 - Set the general View settings
2 - Create a 3D Document from Floor plan
3 - Place the view on a Layout

Image 7 - Ground Floor - 3D Site plan

Before creating the views in the View map, set the view filtering options accordingly. Model View Options only affect the 3D display detail level of elements (doors, windows, curtain walls, skylights, stairs, railings and some object parts). Set the scale of the plan view as per the local regulations and project documentation requirements.

In a 3D Document, uncut surfaces of elements get their settings from the elements' surfaces. Vectorial hatching stored with surfaces can be turned on. Cut surfaces can keep their cut fill display settings. If we have an uneven or steep terrain, or multiple buildings on site, it might be worthwhile to combine 3D Documents with different view ranges on a layout.

1 - Set the general View settings
2 - Create a 3D Document from Floor plan
3 - Place the view on a Layout

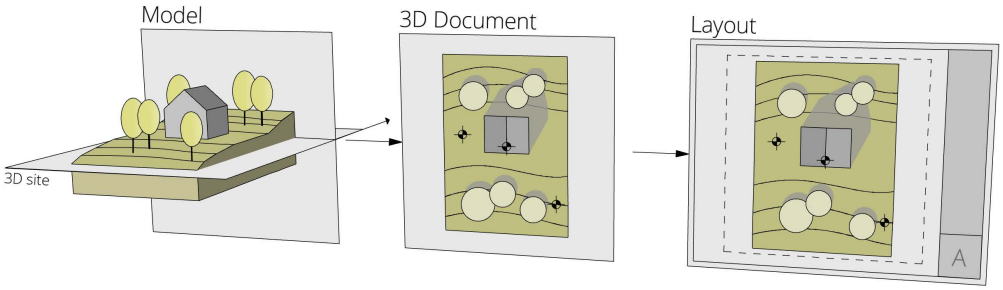


Image 8 - Roof Plan - 3D Site plan

5. Special considerations

5.1. Project related settings to check

In this section of the workflow guide, we highlight the project settings you should use in site plans before publishing the output.

Some elements are shown on the site plan alone, for example: drainage, access paths, greenery. Other elements, which are part of the building model, should be hidden or displayed in simplified mode on a site plan, for example: interior furniture, interior dimensions, partition walls. Thus, in most cases the site display requires special settings and even attributes. These filtering options can be used in 3D views for landscape visualization as well. We listed the view settings important for the site plan creation.

Landscape plans require layer combinations based on their functions and types to display the drawing *(e.g.: Building only, Building & Site Plan, Groundworks, Drainage, Site Analysis, Site Plan variations etc.*) and the 3D model for visualization purposes (e.g.: *Building only, Building & Site Plan etc.).*

Read Help Center article [3] Layer Combinations

Use the 'Filter and Cut elements in 3D...' option to show or hide elements by type in a 3D view. When placing a marquee tool on a floor plan, we determine the boundaries of the model display in a 3D window. Marquee Effect settings are part of the 'Filter and Cut elements in 3D...' settings dialogue. We can set a story range to limit the model visibility along the Z coordinate in a 3D window. These options are useful for 3D-based documentation plans and they have no effect on 2D views.

In general, Renovation is used in the renovation or reconstruction projects to filter elements by status: existing, to be demolished, or new. On a Site Plan, the Renovation Filter can be used for Quantity/Excavation plans and takeoffs. We can set the renovation status of the soil to be excavated as 'To Be Demolished', and use this as a filtering option to make excavation plans and schedules. Renovation filtering can hide or override the display of any element in both 2D and 3D views, so it can be used not only for renovation projects but for filtering elements in general.

Design elements are displayed differently on the site plan than on architectural plans. On the site plan, doors, windows, walls, beams etc. are shown in a simplified way or, in some cases, not shown at all. Use Model View Option combinations to control the display of the elements on all 2D and 3D views.

Read Help Center article [4] Model View Options

Options for displaying Openings on floor plan include simplified, openings only (without markers, without carpentry), or hidden. In 3D views, Model View Options for openings include full, simplified or schematic, but cannot be hidden. The column symbol, beam contour and axis, and zone stamp visibility are set in the Construction Element Options

(also in the Model View Options dialog). If shown, Stairs, Railings and Curtain Walls are displayed in a schematic way on a site plan. The Model View Option dialogue has separate display settings for each of these element types. We can control the display complexity of the objects in 2D and 3D views as well.

Read Help Center article [5] How to Display Individual Elements on the Floor Plan

Read Help Center article [6] Model filtering (Basics of IFC based model exchange – Export)

Line type display options across stories for slabs, meshes and some objects are set in the Legacy Preferences.

Read Help Center article [7] Legacy Preferences

Partial Structure Display provides a quick way to hide non-load bearing elements, but it shows only the core parts of the composite elements like walls, columns, etc. This option can simplify the architectural plan display but might affect the building footprint outline as it doesn't show composite finishes.

The settings for the display of the cover fills and cut fills of certain elements such as slabs, zones, roofs etc. used to belong to the Model View Options. Since ARCHICAD 20, these settings are controlled by applying Graphic Override combinations. Rules can be created for pens, lines, fills and surfaces of any element based on the output requirements.

Read Help Center article [8] Graphic Override

5.2. Sun shadows on floor plans

In many countries, it is required to display sun shadows on the site plan or even to create a sun study. ARCHICAD's 3D Document can display sun shadows by default, but there is also an alternative method to show shadows on the floor plan.

From the axonometry view, open the '3D Projection Settings' and choose the top view from the custom axonometry options. We can set the camera angle and sun position from this dialog. In the 3D Style settings of the 3D view window, change 3D Engine to 'Vectorial Engine' and turn on the sun shadows. Use the marquee tool to mark the site area from which we want to copy the shadow polygons. In the 'Copy...' dialog that will appear after copy

Image 9 - Sun shadows on the Floor plan

command, we can choose to copy edges, polygons or both, for construction elements and shadows separately. To filter the shadows, select only the polygons of shadows. Pasting the shadow polygons as fills onto the desired floor plan view, will position them on the correct spot.

These sun shadow polygons can also be saved in a file format called ARCHICAD 2D lines (.2dl) which can be saved from an axonometry 3D view. This file format can be merged onto any view in ARCHICAD.

To produce a sun study with multiple shadows of different sun positions, change the sun position in the '3D Projection Settings' and repeat the copy/paste steps as needed. The sun position can be defined based on the project location at a given time or defined by altitude and azimuth angles.

The recommendation is to keep these shadow fills on dedicated layers for easier management.

5.3. Importing content into ARCHICAD

ARCHICAD can import various external file types. Two most common ways to import them are internally into a project file, and externally into a separate ARCHICAD file.

Internal: We can place a .dwg/.dxf file as an internal drawing onto a Worksheet or Floor plan and use it as a reference drawing without needing to modify it. In this case, the ARCHICAD project file size will increase. Although it seems handy to explode these files into the project file, the file size might grow due to the large number of exploded 2D lines and fills. Another side effect of importing .dwg files is that it might create unused and unnecessary attributes in ARCHICAD.

Use separate layers when importing any 3D content into a project file.

External: The recommended method is to place the external (.dwg, .ifc, .skp, etc.) file in a separate ARCHICAD instance and use native ARCHICAD formats (.pln, .mod) to hotlink modules into the original host file. This is particularly useful if we need modifications on the external source, because managing imported elements and attributes is easier in a separate ARCHICAD file. On the other hand, these drawings are secured in a way that they cannot be edited in the host file.

Read more about hotlinks in the Hotlink Management Workflow Guide.

Importing any kind of .dwg/.dxf file type needs a configured DXF-DWG Translator with conversion rules to define how to interpret the elements/attributes from the external source.

Read Help Center article [9] Working with DWG/DXF Files

Read Help Center article [10] Open Options (DXF/DWG Translation Setup)

5.4. Creating a mesh from Surveyor Data

In the process of design development and coordination we often need to use the absolute coordinates from the surveyor's plan that comes in .txt or .xyz format. By using the surveyor data, ARCHICAD is capable of creating a mesh element automatically.

If the surveyor data come in a .dwg file, follow the instructions below to create a .txt or .xyz file.

Read AsiaBIM article [11] Creating Topography in ARCHICAD from AutoCAD Survey Data.

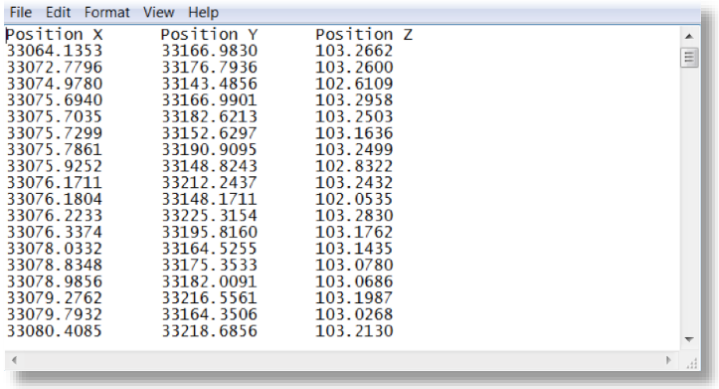


Image 10 - Example of .xyz / .txt surveyor data

The input file format must consist of rows of data, with each row containing three numerical entries. Use white space as a separator between the data entries. If the data in the text file is entered in an inconsistent format, a warning will appear that the file format cannot be read.

In ARCHICAD click 'File/Interoperability/Place Mesh from Surveyors Data' to create a mesh from the .txt/.xyz file.

After setting up the surveyor's measurement unit, there are two ways to place the mesh: define its location graphically or use the coordinates of the data file. In this case, the mesh will be placed according to the zero-point as defined in the surveyor data. Also enter the elevation of your Project Zero above Sea Level: ARCHICAD will take this into account when converting the Z-values of the surveyor data.

Read Help Center article [12] Other Formats Opened by ARCHICAD

From the .dwg surveyor file, we can create a terrain in ARCHICAD with the help of the Mesh tool and the 'Outline Polygon with Magic Wand' function.

Read Help Center article [13] How to Create a Terrain with the Mesh Tool Based on a 2D Linework

Meshes created this way in ARCHICAD can be complex elements due to the large number of polygons. Therefore, it is advised to optimize the mesh before using it in the project file.

Read Help Center article [14] Optimizing Mesh Performance

5.5. Importing a Google Earth snapshot through SketchUp Pro

We can use topography data provided by Google Earth[5] to create the site terrain through SketchUp[6] Pro. Follow these steps:

1 - Open SketchUp Pro and use the 'Add location' command to set the requested area (1km^2).
2 - Select the region and click 'Grab'.
3 - Use the 'Show terrain' command to have the site shown in 3D and save an .skp file from the SketchUp model.
4 - Use the 'File special' – 'Merge' command or drag and drop the .skp into the working space to place the site model into ARCHICAD.

The terrain is imported as an object into ARCHICAD. It can be converted into a morph or used as an 'Operator element' (in a Solid Element Operation) to subtract the upward part of a simple mesh created in ARCHICAD.

Read Help Center article [15] Merging Files to ARCHICAD

5.6. Creating the terrain using ARCHICAD-Rhino-Grasshopper Live connection

It is possible to easily generate ARCHICAD meshes from 3D DWGs that contain site elevation lines. With the help of the Rhino-Grasshopper-ARCHICAD Live connection, we can create mesh points based on the site's elevation line and adjust the smoothness of the terrain.

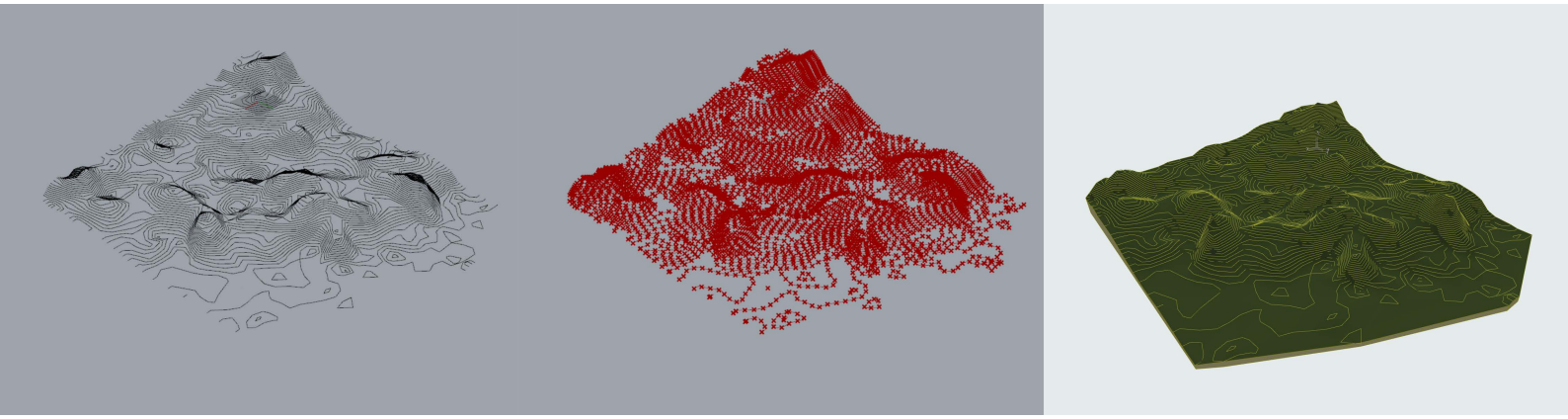


Image 11 - Creating terrain using 3D .dwg data

The steps of the workflow are:

1 - Open 3D DWG in Rhino
2 - Reference elevation lines into Grasshopper
3 - Divide the elevation lines into points
4 - Use the Points to generate an ARCHICAD Mesh

[5] https://www.google.com/earth/

[6] https://www.sketchup.com/plans-and-pricing/sketchup-pro

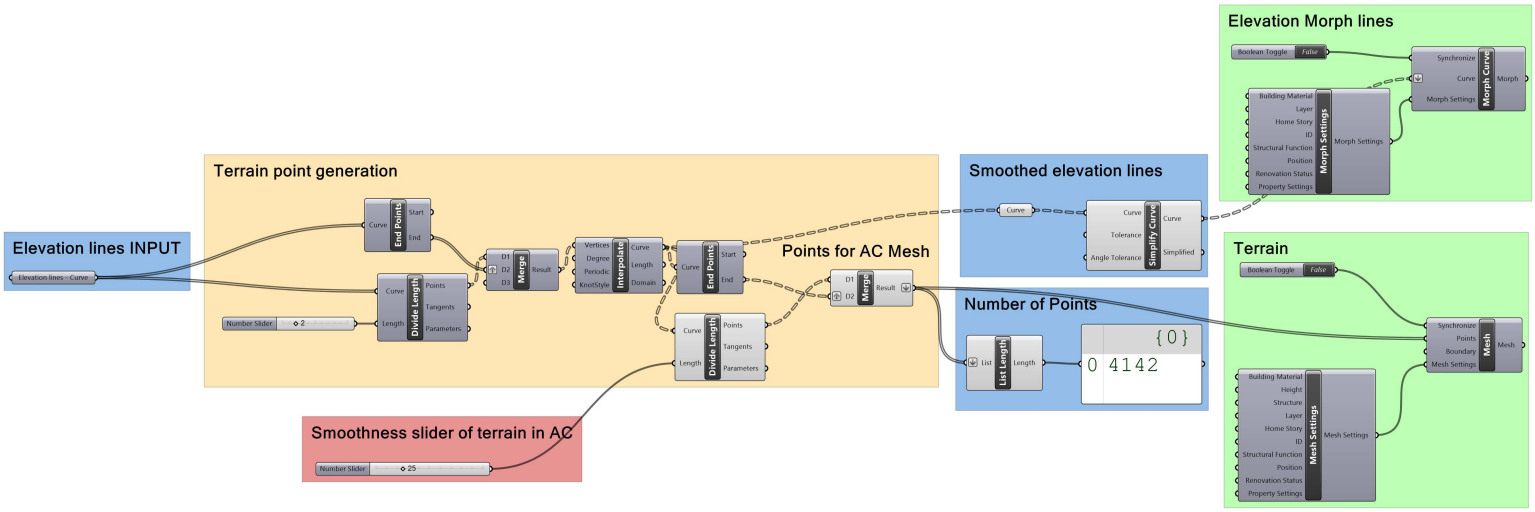


Image 12 - Grasshopper code for creating an ARCHICAD mesh from 3D .dwg file source

5.7. Site model with an Aerial Photo-Surface

We can use a Google Earth or any other aerial photo to create a surface for the site mesh in ARCHICAD. To do so, we will use the aerial photo to create an image fill for a mesh cover fill on 2D and a surface for a 3D view. Follow detailed steps in the following Help Center article.

Read Help Center article [16] Site Modeling with an Aerial Photo-Surface in ARCHICAD

5.8. Exporting a .dwg file from the site plan

If we have to export the site plan in a .dwg file format, and especially in cases when we can use a ready-made survey plan, it is recommended to follow the instructions below to achieve clean layer system and 2D-based communication. The steps of this workflow are:

1 - Create a custom 'Publisher Set' for exporting .pmk files,
2 - Export a .pmk file from the prepared view (floor plan, roof plan or 3D Document),
3 - Create a dedicated Worksheet for the site plan export
4 - Place the previously created .pmk file and a survey plan onto the worksheet
5 - Save a .dwg file from the Worksheet using appropriate DXF-DWG translator or Publisher Set

The worksheet can be part of the office template, to be used if we need to export .dwg in real world coordinates.

5.9. Real World Coordinates

It is often a requirement to provide project exchange files in Real World Coordinates. However, working in Real World Coordinates inside ARCHICAD might cause difficulties when these coordinates are distant from the ARCHICAD Project origin. Besides dealing with large values in the Tracker while modeling, loss of precision or malfunction can be experienced if the project elements are located very far from the Project Origin or from each other. Therefore, it is more convenient to model orthogonally close to the ARCHICAD

origin and use a hotlinking method to place a model using real world coordinates into a separate ARCHICAD instance. This separate file usually contains the surveyor's site plan file at the original location. This method is suitable for IFC, .DWG and .BCF exports. The steps for exporting the model using hotlinking method are:

1 - Set up a new empty ARCHICAD file. Set up the stories' Elevation values to the real world Z coordinate
2 - Place the surveyor's site data at the right position
3 - Hotlink the original project model created close to the project origin
4 - Drag the hotlinked model to the right X, Y position.
5 - Rotate the hotlink module to the correct orientation (Angle to True North)
6 - Use a Publisher Set to export requested file formats

If we are saving an .ifc file format, set the IFC Site location to match 'ARCHICAD Project Origin'.

If we only have to export .dwg in real world coordinates, using a worksheet with the site plan and .pmk file created from the project model is the preferred option.

5.10. Export of .kmz file to Google Earth

We can export an ARCHICAD model to Google Earth. There are two ways:

1 - Use 'File/Interoperability/Send Model to Google Earth'. The 'Set Altitude as' control in the 3D Model Export Options of Google Options determines how our ARCHICAD model will be placed into Google Earth.
2 - From the 3D window, use 'File/Save as' to save the ARCHICAD model in .kmz format. In the Save as dialog box, click 'Options' to see the export options specific to the .kmz format. We can set the altitude as 'Absolute' or 'Clamped to Ground'.

Read Help Center article [17] Model/3D Formats Saved by ARCHICAD

6. Best practices

- Before creating an ARCHICAD mesh using the Magic Wand tool, optimize the segmentation in the 'Design/Magic Wand Settings' to avoid possible performance issues caused by a high polygon count.
- Use separate surveyor data files for terrain and roads to create separate meshes in ARCHICAD, especially when using 'Place Mesh from Surveyors Data', to streamline element management and modifications.
- Avoid using objects and elements with high polygon counts. Greenery and vegetation objects often have large number of polygons. For better performance it is recommended to simplify the 2D and 3D presentation of these objects if possible.
- Keep the 2D surveyor data on a worksheet or store it in a separate ARCHICAD file to avoid unnecessary modifications and attribute management.

Appendix

Help Center links

[1] Import Point Clouds - https://helpcenter.graphisoft.com/user-guide/77273/

[2] Paralell Projection Settings - https://helpcenter.graphisoft.com/user-guide/77416/

[3] Layer Combinations - https://helpcenter.graphisoft.com/user-guide/64843/

[4] Model View Options - https://helpcenter.graphisoft.com/user-guide/65437/

[5] How to Display Individual Elements on the Floor Plan - https://helpcenter.graphisoft.com/user-guide/65323/

[6] Model filtering (Basics of IFC based model exchange – Export) - https://helpcenter.graphisoft.com/knowledgebase/85399/

[7] Legacy Preferences - https://helpcenter.graphisoft.com/user-guide/77389/

[8] Graphic Override - https://helpcenter.graphisoft.com/knowledgebase/84694/

[9] Working with DWG/DXF Files - https://helpcenter.graphisoft.com/user-guide/77265/

[10] Open Options (DXF/DWG Translation Setup) – https://helpcenter.graphisoft.com/user-guide/77453/

[11] Creating Topography in ARCHICAD from AutoCAD Survey Data - https://asiabim.wordpress.com/2016/03/15/creating-topography-in-archicad-from-autocad-survey-data/

[12] Other Formats Opened by ARCHICAD – https://helpcenter.graphisoft.com/user-guide/77250/

[13] How to Create a Terrain with the Mesh Tool Based on a 2D Linework - https://helpcenter.graphisoft.com/knowledgebase/86593/

[14] Optimizing Mesh Performance - https://helpcenter.graphisoft.com/knowledgebase/85810/

[15] Merging Files to ARCHICAD - https://helpcenter.graphisoft.com/user-guide/77257/

[16] Site Modeling with an Aerial Photo Surface in ARCHICAD - https://helpcenter.graphisoft.com/knowledgebase/76090/

[17] Model/3D Formats Saved by ARCHICAD - https://helpcenter.graphisoft.com/user-guide/77255/

Keywords

Site, Site Plan, Surveyor Data, Terrain, Mesh

Floor Plan, Roof Plan, 3D Document, ARCHICAD