ETH zürich
HYTAC
Hybrid Techniques for Architecture Design
www.hytac.arch.ethz.ch
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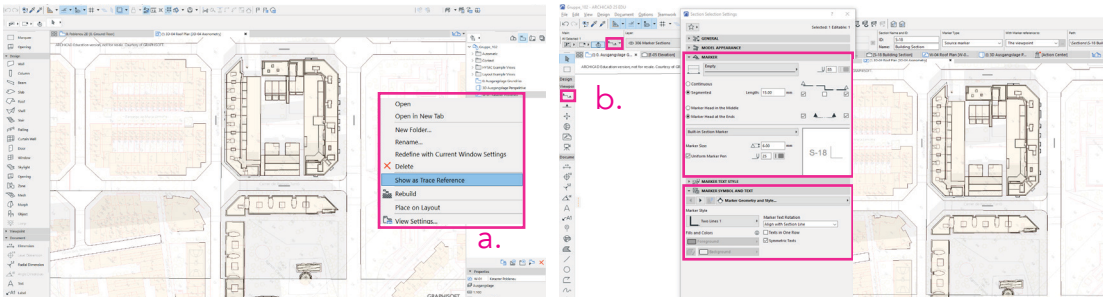
Before this Workflow take the **3DJony** Course **W-1c:** 3D Based CADing for Architecture Design & **W-1e:** 3D Documentation from 3D Model for Architecture Design

HYTAC Basics SS 23 _ Workflows

05_Section

1



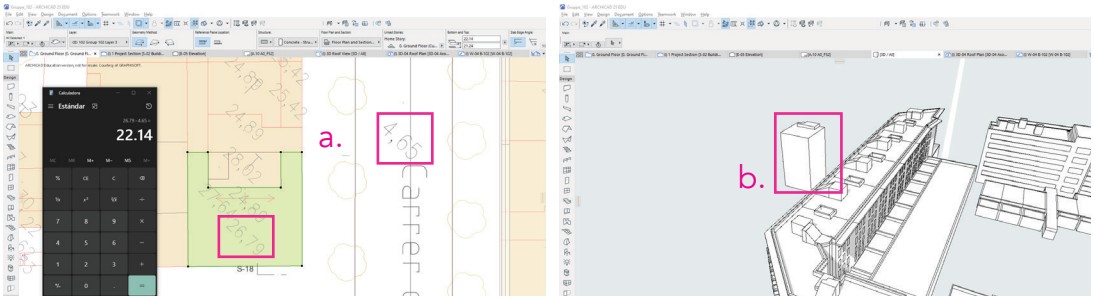
a. Go to the "**SitePlan**" View, the one you created in the previous workflow. Right-click on the View "**W-01 Kataster Pobleneu**", and select "**Show as Trace Reference**".

b. Click on the Toolbar/Viewpoint/**Section Tool.** Go to the Section Settings, set the name in the **General** field and adjust the **Properties:**

Marker > Segmented - Empty, **Marker Symbol and Text >** Two Lines 1.

Press "**OK**" and draw the section line on tha plan.

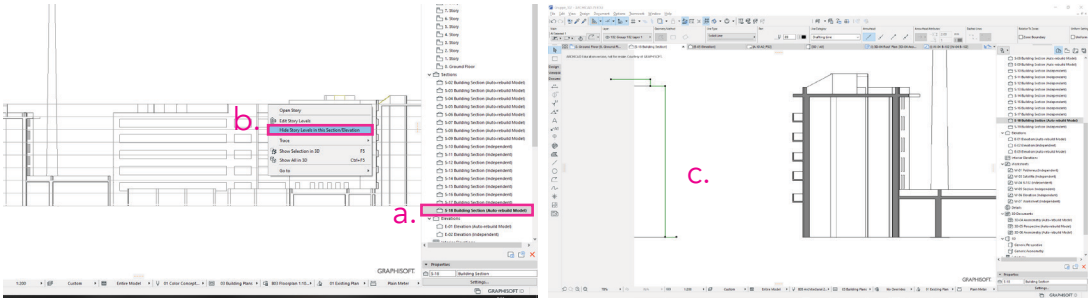
2



a. In order to visualize the buildings of the surrounding blocks in the section, zoom-in to check which buildings are cut from the section. Using the **Slab Tool**, create a slab on the boundaries of this building and **set the height** according to the information provided on the plan.(building height - street height).

b. In the 3D view, the slabs should look like on the screenshot above.

3



a. In the **Project Map**, find the section you named before and open the **View**.

b. Right click over the automatic levels(horizontal lines) to **hide them**.

c. Use the **Polyline Tool**, in "**XXX Group XXX Layer 1**" and draw the buildings of the surrounding blocks, using as reference the slabs you created before. When you have drawn everything, select the slabs and **DELETE** them.

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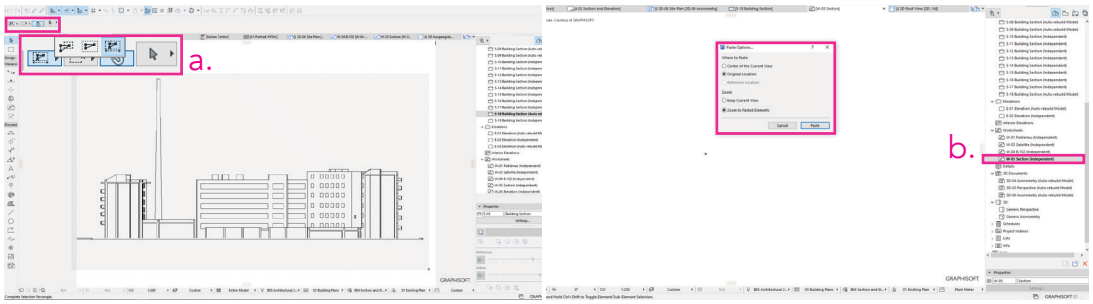
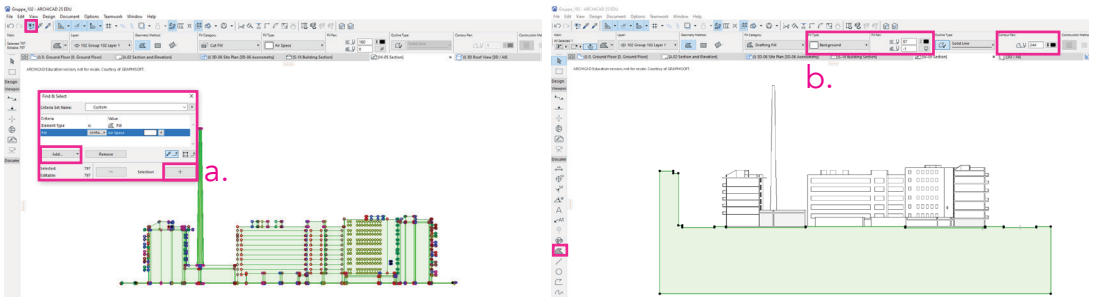


a. Select all the Section model lines and **copy** them. To select all the elements that are included in the frame, activate the **Selection Mode** that is shown on the screenshot above and make the selection from **right to left**.

b. Create a new Worksheet, name it as "Section"and **paste** the information you copied before. In the "**Paste options**" select "**Original Location**" and "**Zoom to pasted Elements**".

5

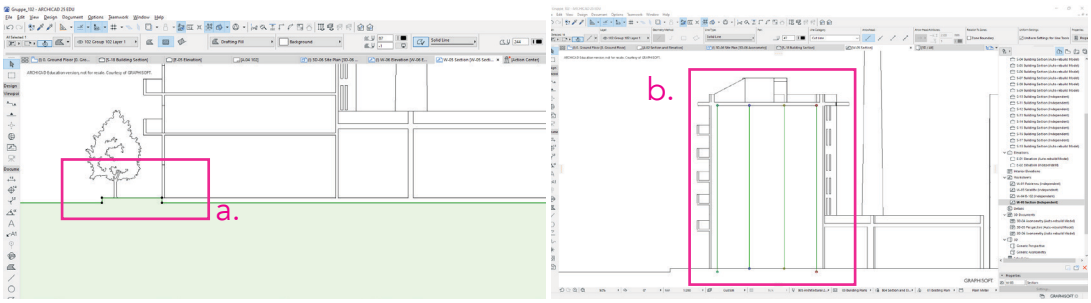


a. To erase all the unnecessary fills, use the **Find & Select tool**, Add the Fill parameter, click on "**+**" to make the selection and delete all the fills.

b. Draw the Ground using the **Fill tool** from the toolbar (Window/Toolbars/Tools-Documenting) . In the properties, assign the layer, set Fill type as **Background** and the **Contour Pen** to 244 (0.2mm) and create the base of your drawing.

In this **Fill** you can also include the surrounding buildings.

6



a. Shape your **Ground Fill** to define the streets, the pavement of your block and the Ground - Slab of the buildings.

b. Clean your model of leftovers and extra lines. The walls that are cut by the section should have the second thickest **Contour Pen (243 or 47)**.

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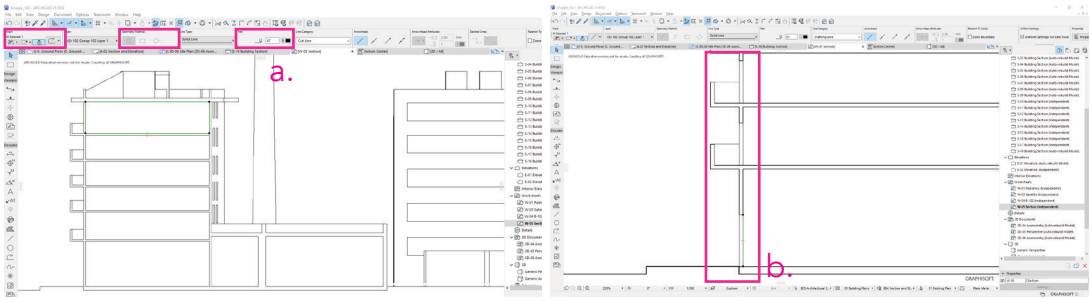
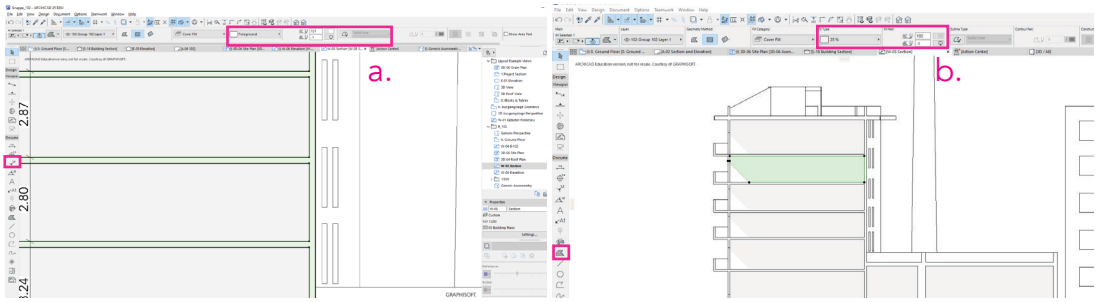


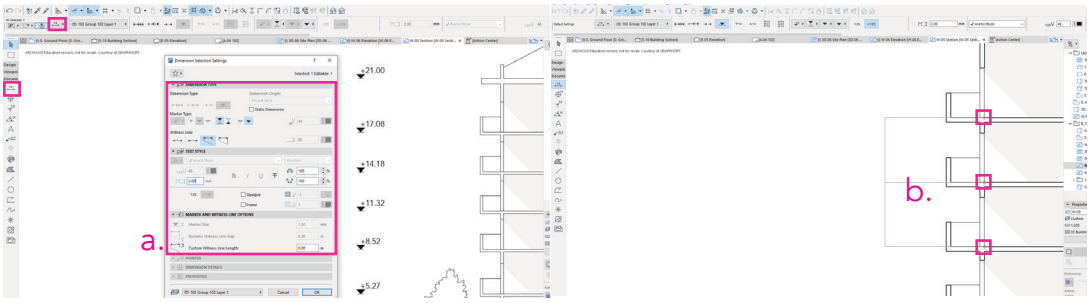
a. Draw **polylines** to define the inside space of the building and to shape the floor-slabs.
b. Create details for your openings, windows and doors using line thicknesses **0,18** for walls and **0,09** for openings (Pens number: **87** and **47**).

8



a. Select the **Fill Tool** (Toolbar/Document/Fill Tool) and draw the **White Fill** for the cutted walls and slabs. You can use the **Magic Wand** (Pressing **Space** with the **Fill Tool** activated) to automatically trace the Fill inside the boundaries of the walls and slabs.
b. For more detail, you can add shadows in your drawing. Following the same process as before, use 25% **Fill** and the Pen "102" as **Fill Pattern Pen**.

9



a. Add Level Markers using the **Dimension Tool** (Toolbar/Document/ Dimension Tool). Change the following properties of the **Dimension Settings**.
Dimension Type: Elevation Dimension
Marker Type: Elevation Marker Dimensions / Direction / Solid Marker
Witness Line: Sized Height
Text Style: Avenir Book - Size 1.50mm
b. Click on all the **points** you want to measure and double click to complete the process.

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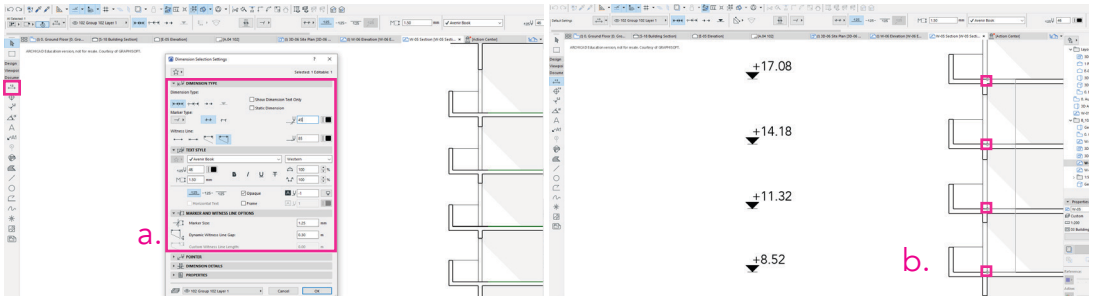


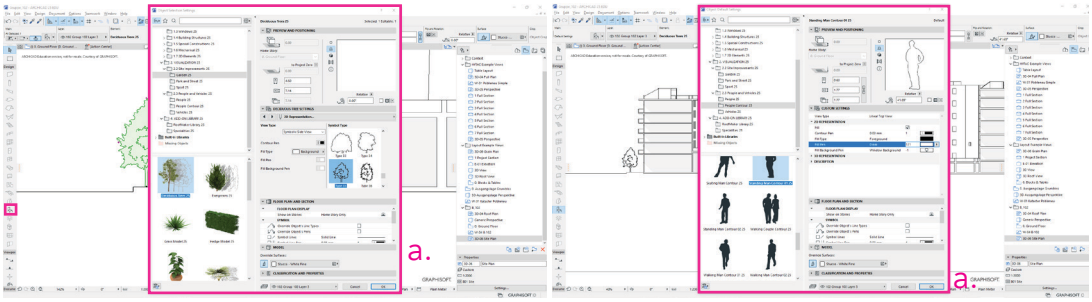
a. Add Dimensions using the **Dimension Tool** (Toolbar/Document/ Dimension Tool) Change the following properties in the **Dimension Settings**.

Dimension Type: Linear Method **Marker Type:** Extend Witness Lines

Witness Line: Sized Height **Text Style:** Avenir Book - Size 1.50mm

b. Click on all the **points** you want to measure and double click to complete the process.

11

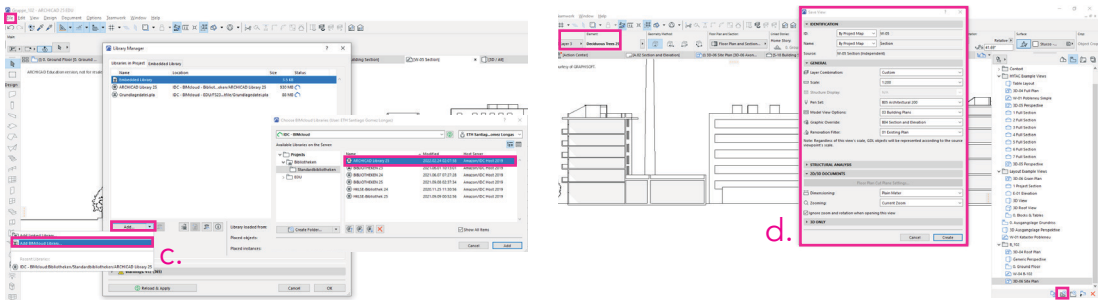


a. Add extra details as trees or human figures. Using the **Object Tool** (Toolbar/Design/ Object Tool), you can find the trees in

>>2. VISUALIZATION/2.2 Site Improvements 25/Garden 25/ Decidiuous Trees 25.

and the figures in >>2. VISUALIZATION/2.3 People and Vehicles 25/People Contour 25.

Edit the **2D Representation** and place them in the Section.



c. If you can't find the Library you can check the **Library Manager** (File/Library and Objects/Library Manager), and add a Library from the BIMcloud Library.

d. Create and Save the View from the "View Map/**Save Current View...**",

and set the scale to 1:200 . Move the View in your Drawings Folder.