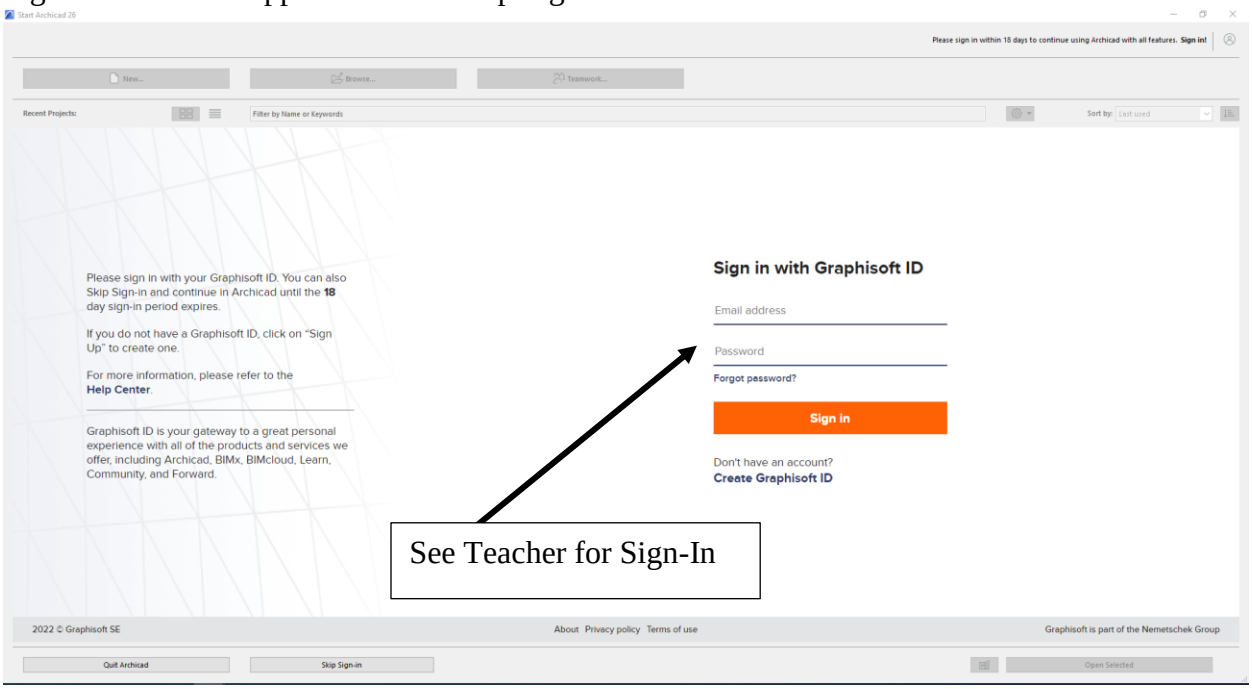
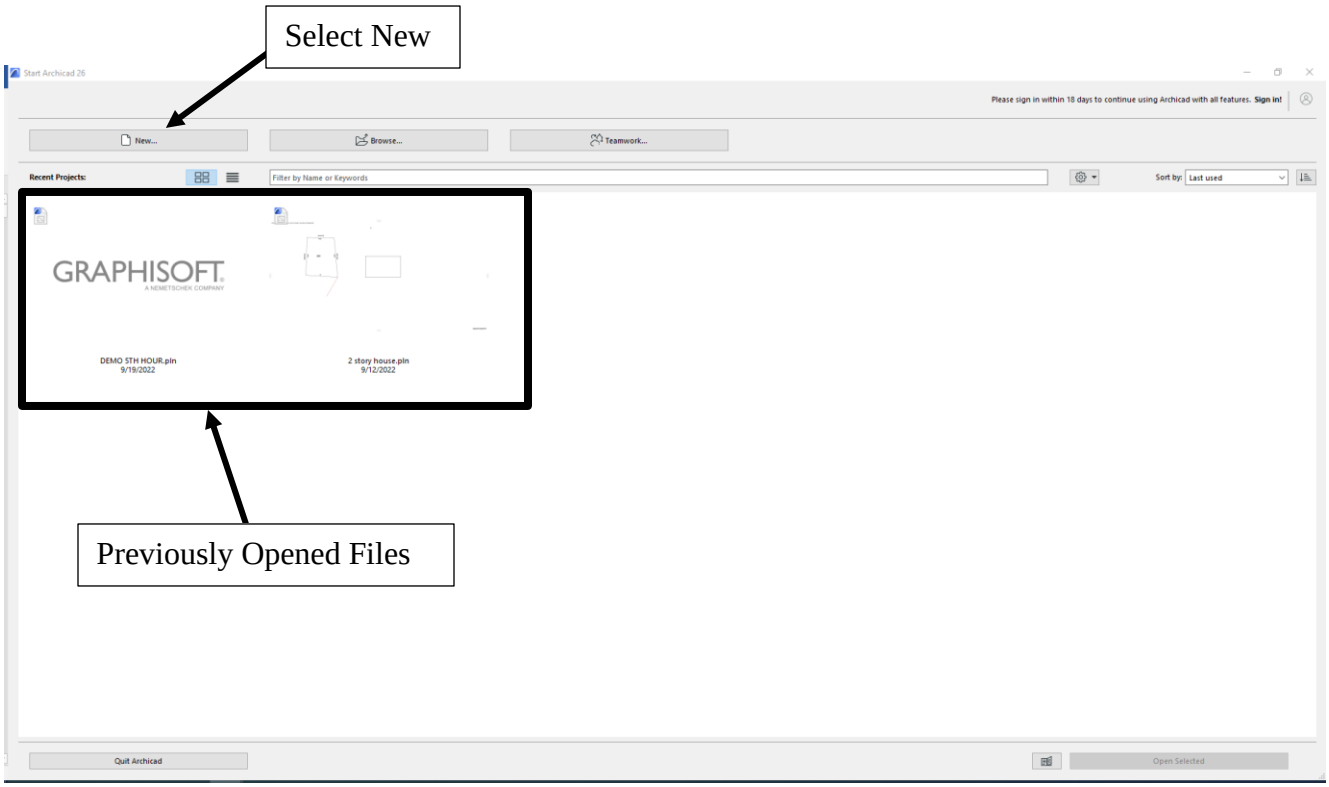
ARCHICAD Introduction Tutorial

Starting a New Project

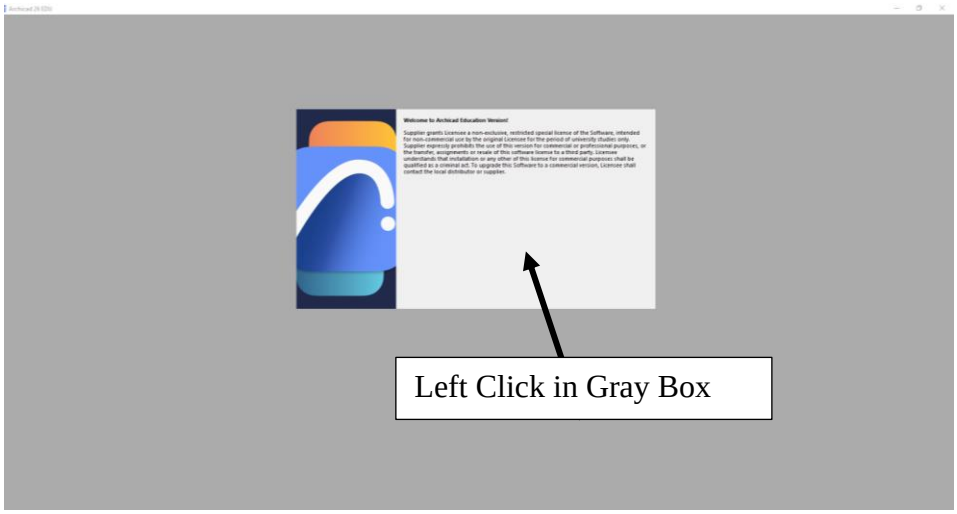
1. Double-click the Archicad Icon from the desktop
2. Sign in screen will appear > Select Skip Sign in at the bottom



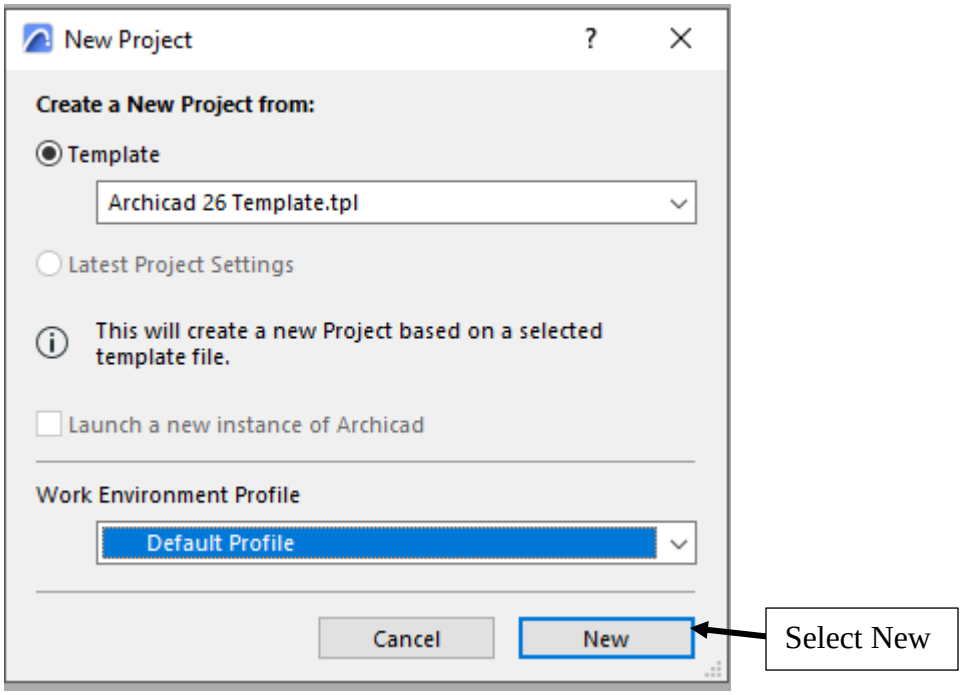
3. New/Browse File Screen will Appear. This will show all previously created/opened files > Select New



4. Left Click on the Grey Warning/Information box when it appears on the screen.

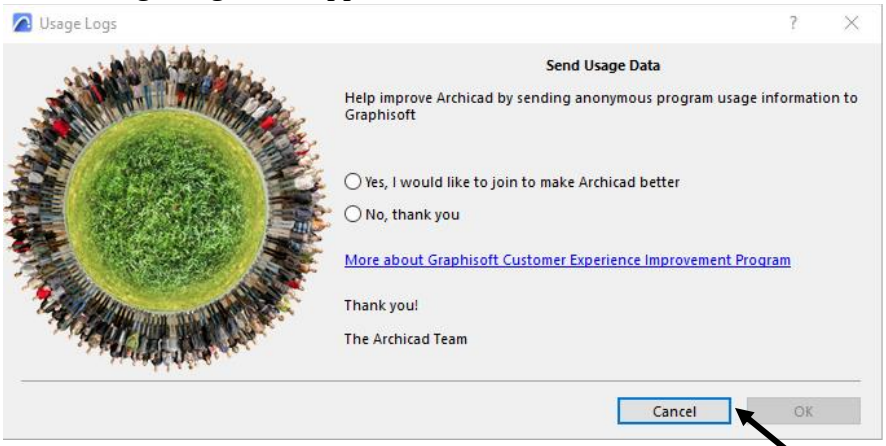


5. Click **New**
   NOTE: Work Environment Profile: There is an option to select Last Profile Used, which will use all of the previously set values that the user has set from any file. Recommended for beginners to choose Default Profile when creating new projects.



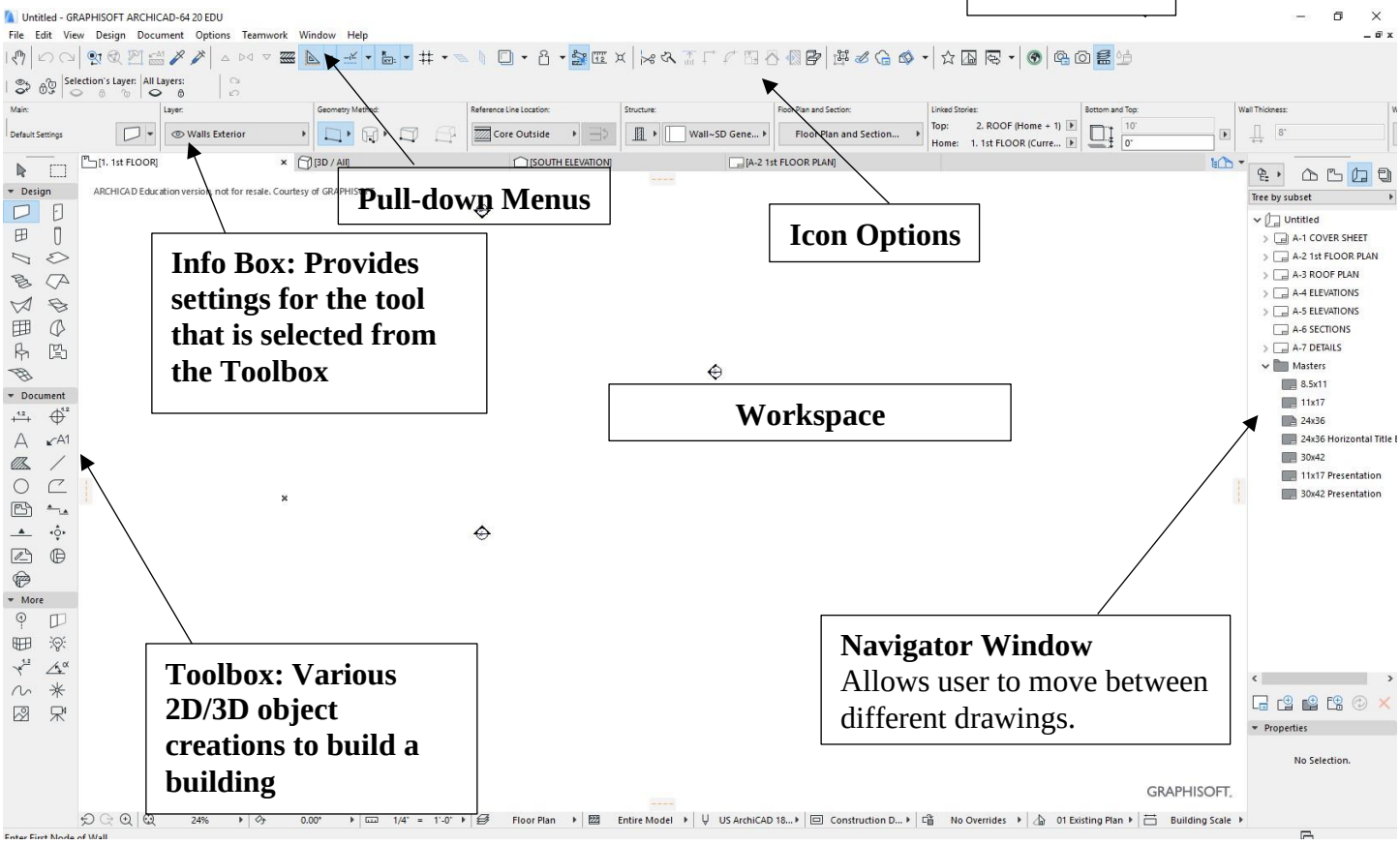
Note: Each new project will create two files in the directory. One is the main file extension (.pln) and the other is the backup file (.bpn). Both of these files must remain together at all times. If they are separated, neither file will be able to open in the program.

6. Pop-Up Screw Usage Logs will Appear > Select Cancel to close window



Select Cancel

Screen Setup



Step 1: Setting the Scale

It is very important to set your drawing scale. In the area of architectural drafting, there are two standard drawing scales that are used when creating a floor plan: Residential: ¼”=1’0”

Commercial: 1/8”= 1’-0”

Plot Plans: Varies (I.E 1” = 10’, 1” = 5’)

Elevations: Varies (3/16” = 1’-0”)

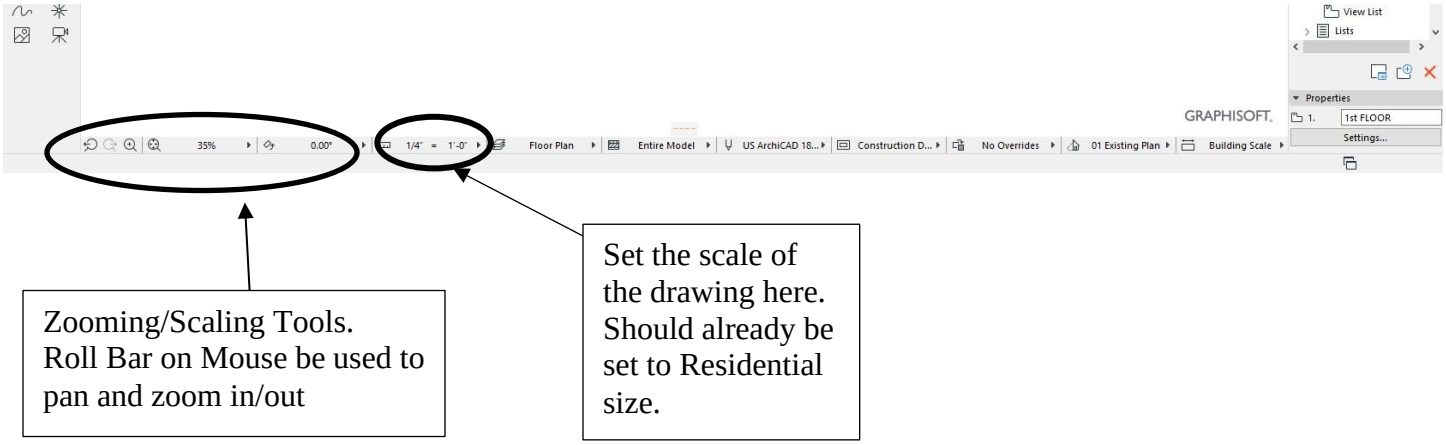
To set the scale of your drawing, click on the scale indicator at the bottom of the Archicad window and select the desired scale. The software, by default, is set to the residential scale. See sample workspace below.

Step 2: Setting Up the Workspace

1. Click the **Arrow Tool at the top of the Toolbox.**
2. Select the four elevation markers on the workspace. You can click them one at a time or hold the shift key while clicking to select all of them.

   The elevation markers look like this: 
3. Hit **Delete.**
4. Click **Delete Viewpoint.**
5. Click on **Delete Anyway.**

Your workspace should now look like the one below.



Step 3: Layer Settings/Layers

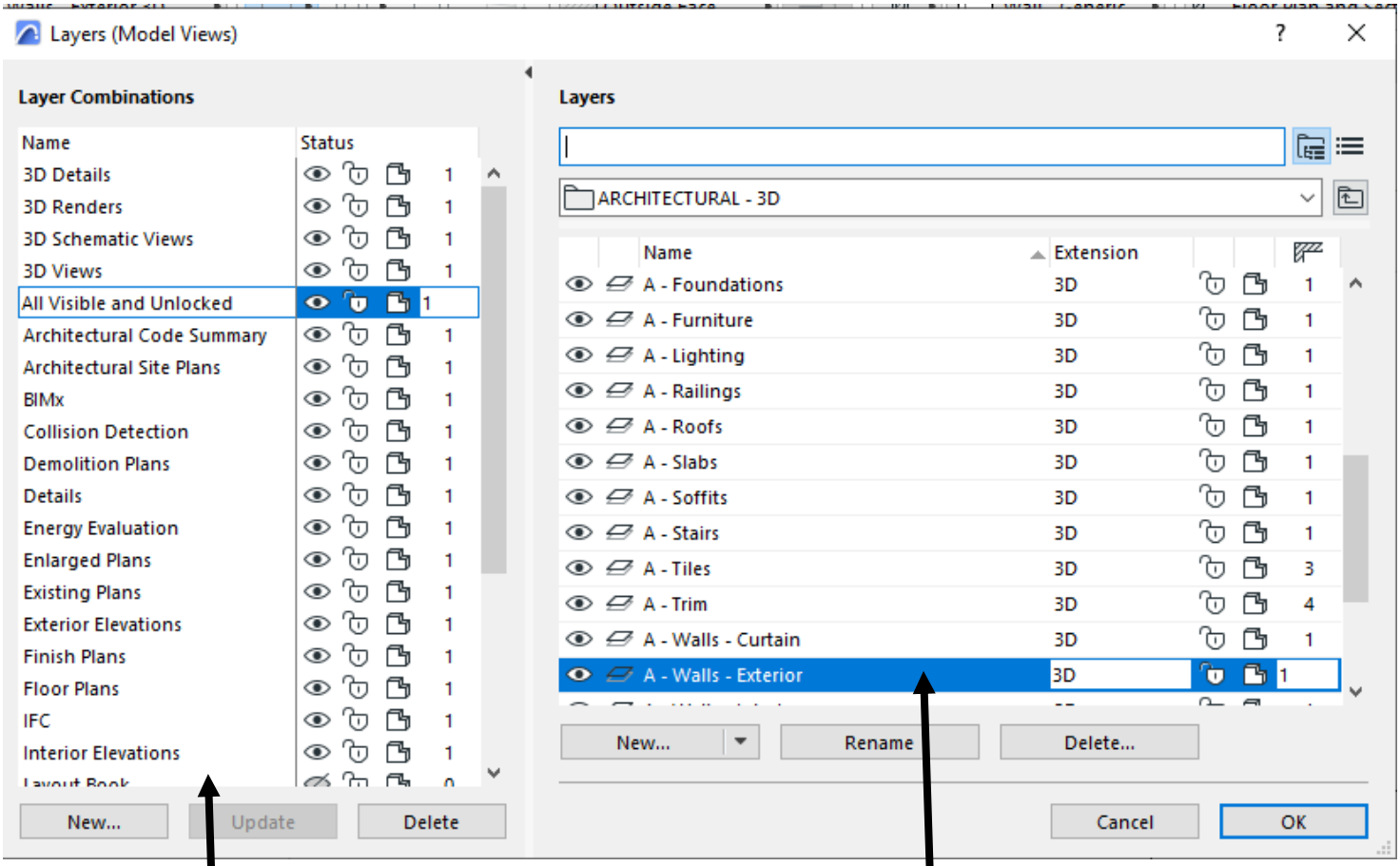
Layer settings allow you to add features (doors, walls, windows, cabinets, etc.) to a specific layer. You can turn layers off, which essentially hides its elements from the screen, and back on again to show them. This helps you keep the screen clean and orderly, as well as creating different types of drawings with different information.

There are two ways to access the layer settings.

Option 1: **CTRL-L**

Option 2: Select the Document Menu > Layers > Layer Settings.

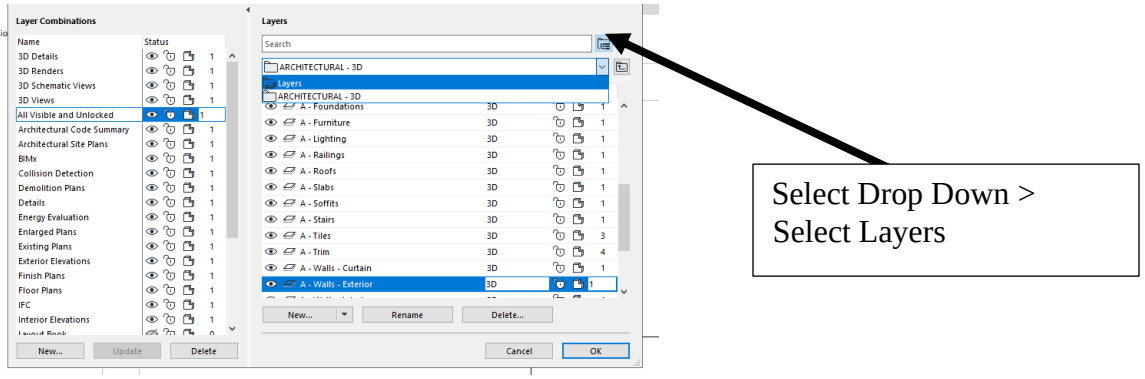
The following menu will appear. What you see in this menu are the software's default Layer Combinations and Individual Layers. You need to **delete all Layer Combinations and Layers.**



Layer Combinations: Groupings of Layer(s) to form a working drawing (i.e. Floor Plan, Foundation Plan, etc.

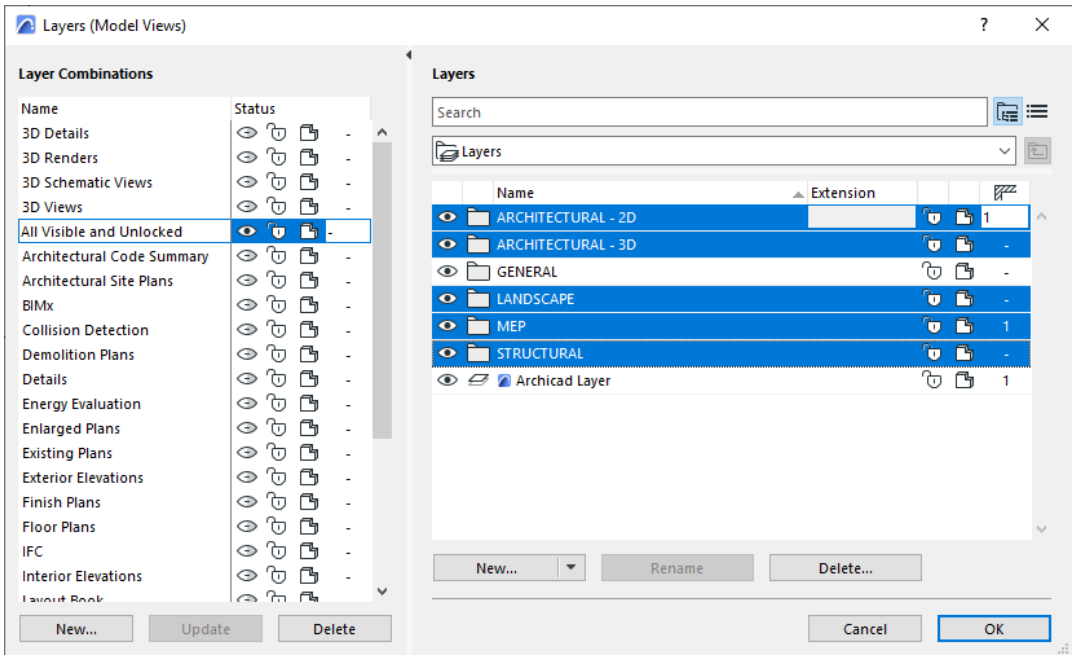
Individual Layers of Construction Components

1. Delete Layers
   a. Select Layers from the Layer Folder Group

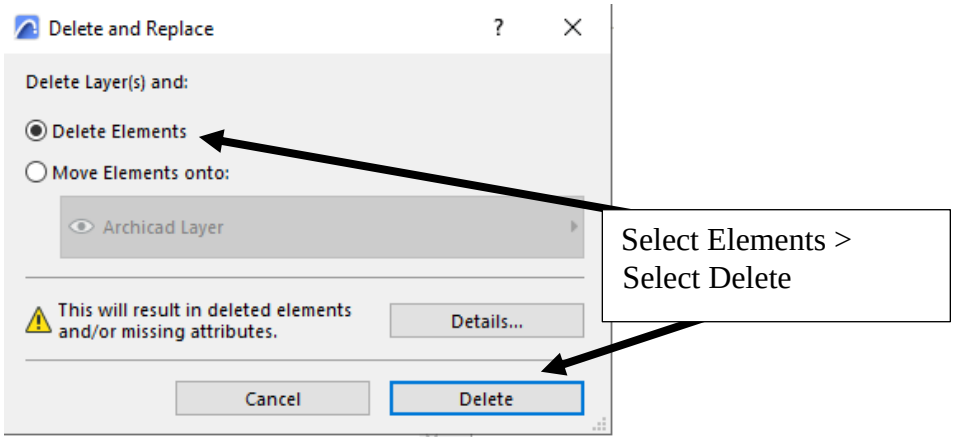


   b. Select First Layer Group: Architectural-2D > Hold Control Key > Select all Layer Groups **EXCEPT FOR GENERAL**

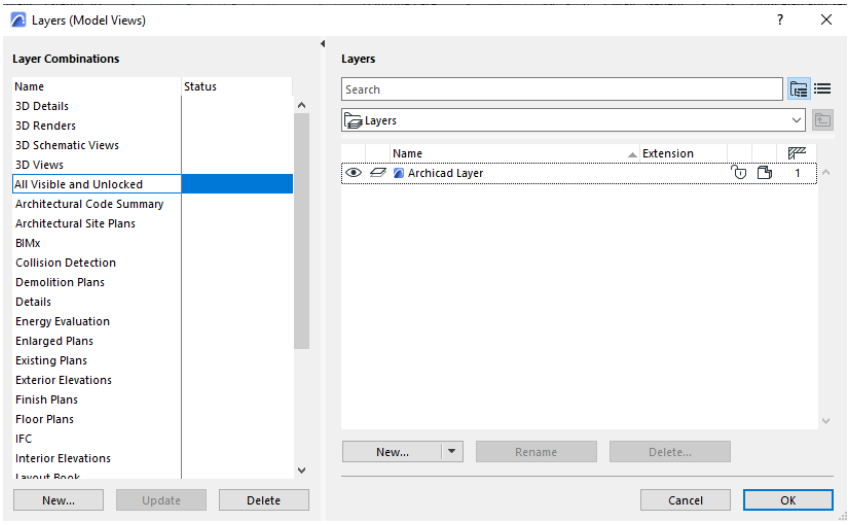
Note: User cannot delete the Archicad Layer. This is catch all layer for any unassigned structural members



   c. Error Message will Appear: Select Delete Elements > Select Delete

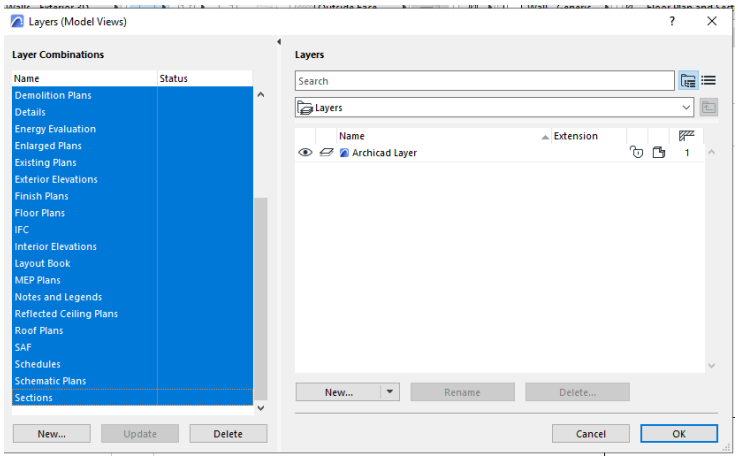


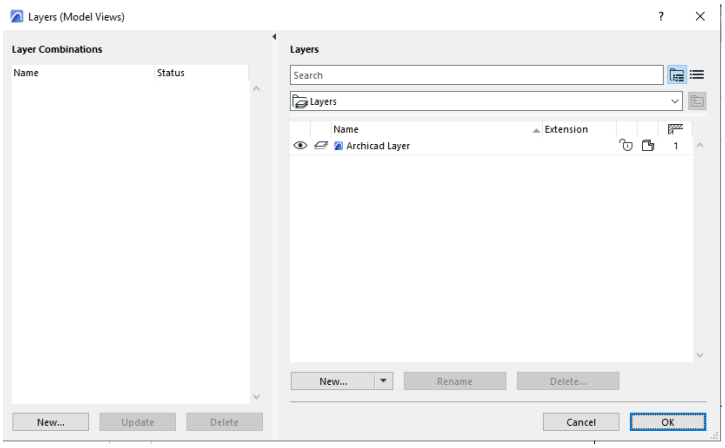
d. Layers Deleted



2. Delete Layer Combinations

a. Select First Layer Combination 3D Details > Hold Shift > Select Last Layer Combination: Sections > Press Delete Key





3. **Adding Layer Combinations:** Layer combinations group together individual layers to adjust from one drawing to the next (ex: Floor Plan Drawing, Foundation Plan, Roof Plan, etc.). To create a new Layer Combination, simply click **New** on the bottom left corner of the menu.

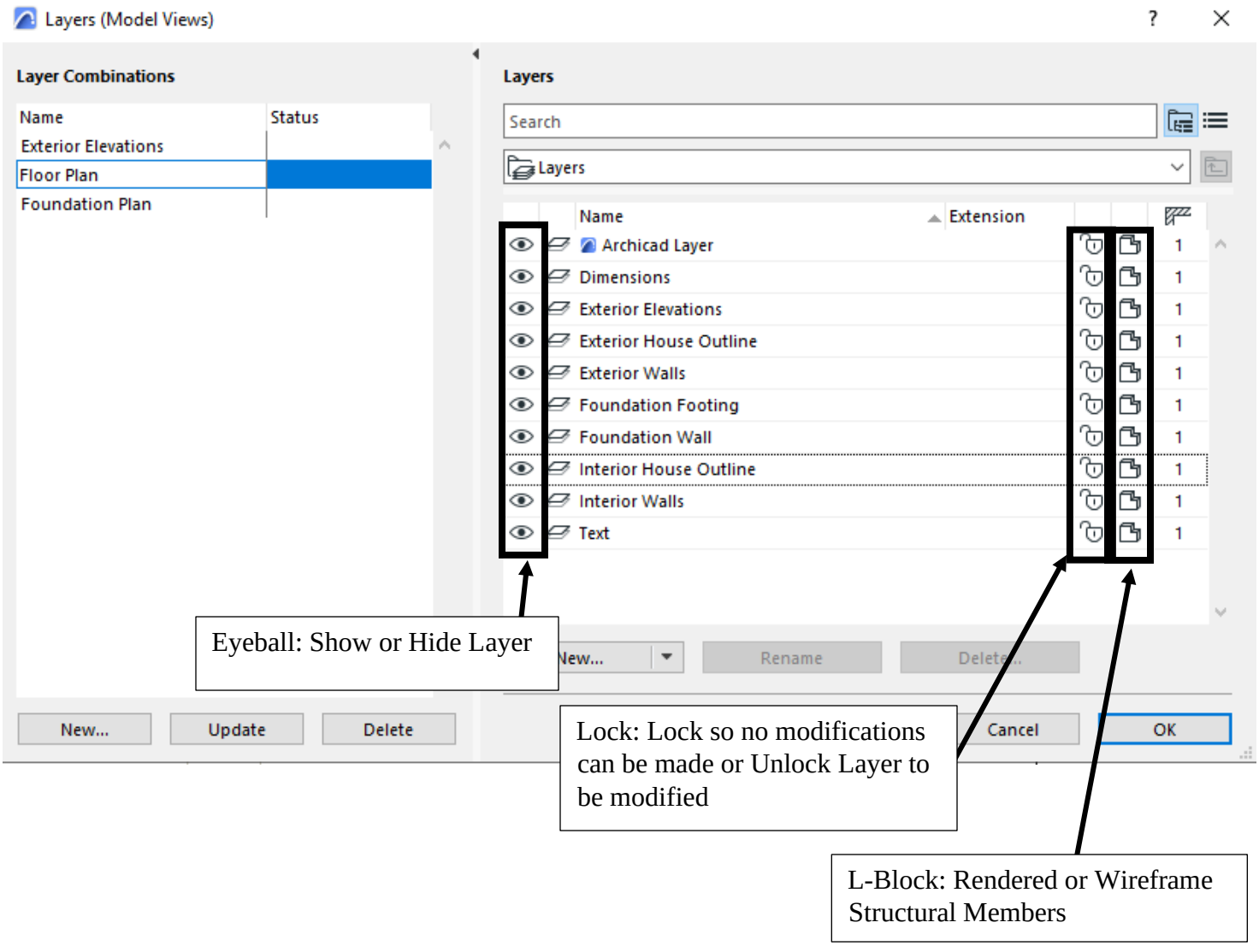
Create the following Layer Combinations:

- Floor Plan
- Foundation Plan
- Exterior Elevations

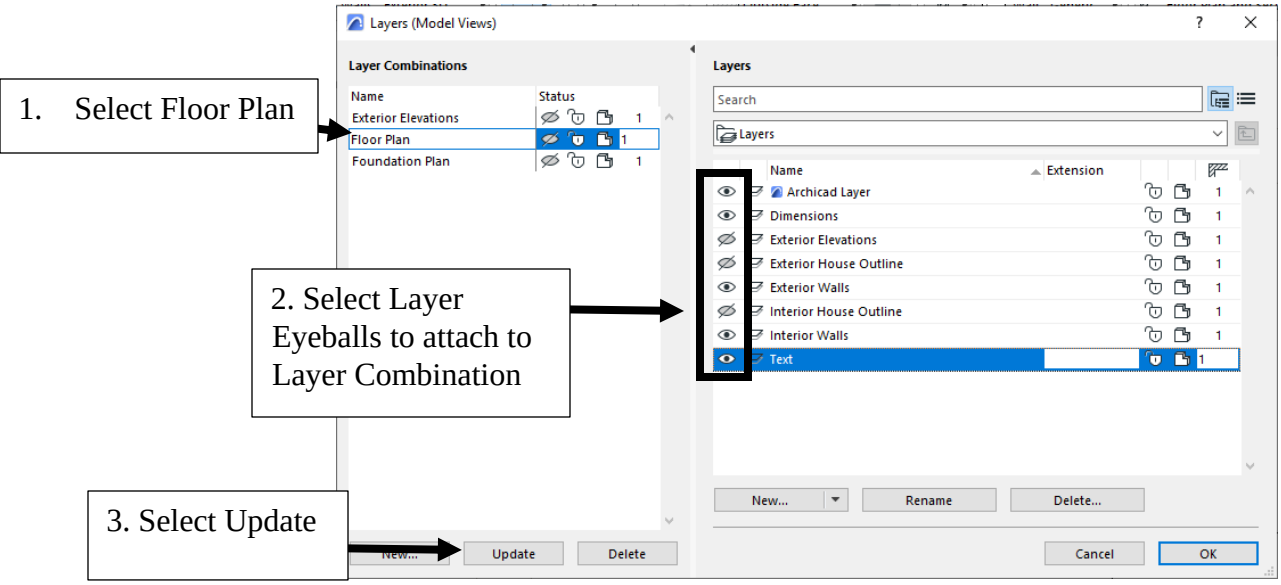
4. **Adding Layers**

Create the following layers:

- Exterior House Outline
- Interior House Outline
- Exterior Walls
- Interior Walls
- Text
- Dimensions
- Exterior Elevations
- Foundation Wall
- Foundation Footing



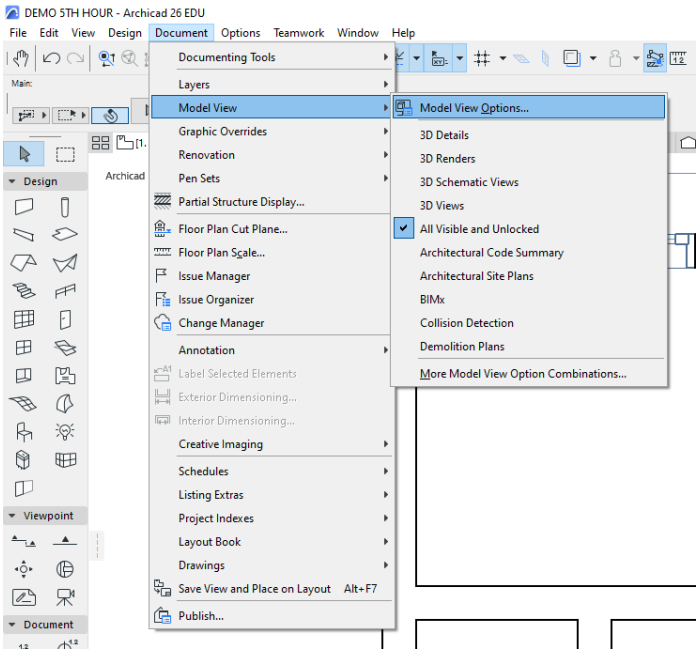
5. Attach Layers to Layer Combinations
    a. Select Layer Combination: Floor Plan
    b. Select the Eyeball (View) next to each layer to attach to Layer Combinations (Select Dimensions, Exterior Walls, Interior Walls, Text)
    c. Press Update in the Layer Combination Menu to Lock the Layers to that Layer Combination



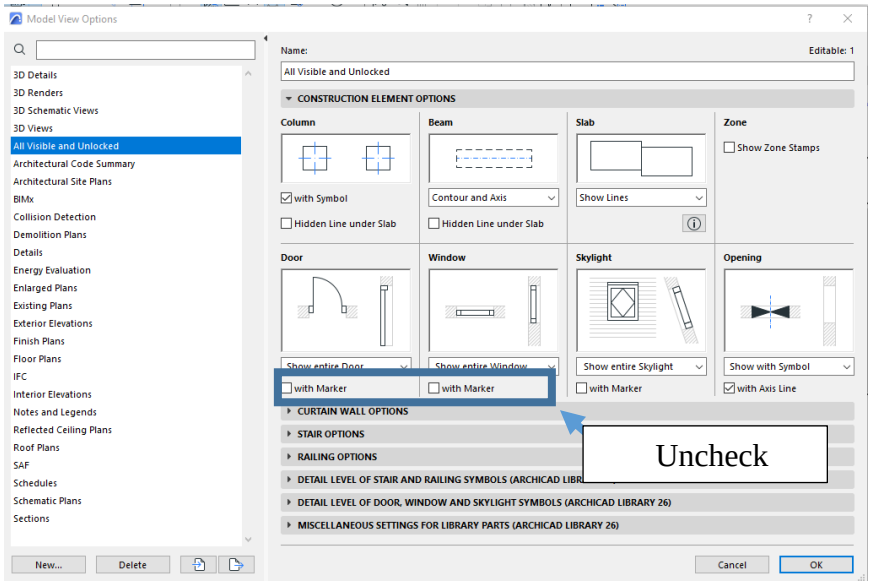
    d. Repeat the Process for the Foundation plan and Exterior Elevations
        i. Foundation Plan
            1. Foundation Wall
            2. Foundation Footing
        ii. Exterior Elevations
            1. Exterior Walls
            2. Interior Walls

NOTE: Throughout this course, you will be accessing this menu to add and delete different layers. Take a minute to examine the rest of the window.

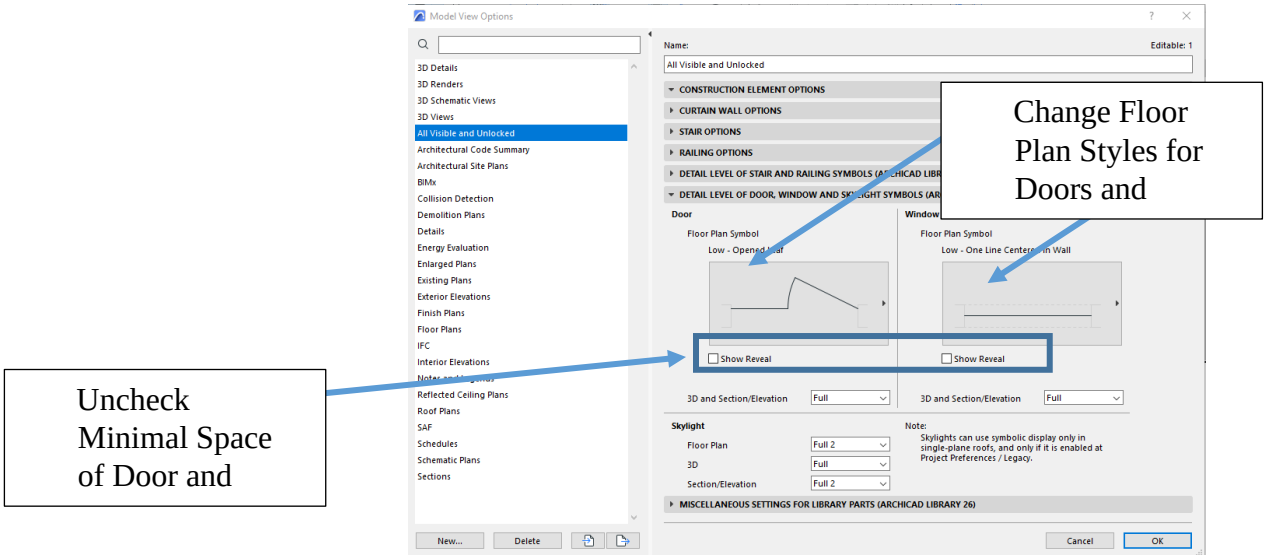
6. Door and Window Settings
    1. Document > Model View > Model View Options



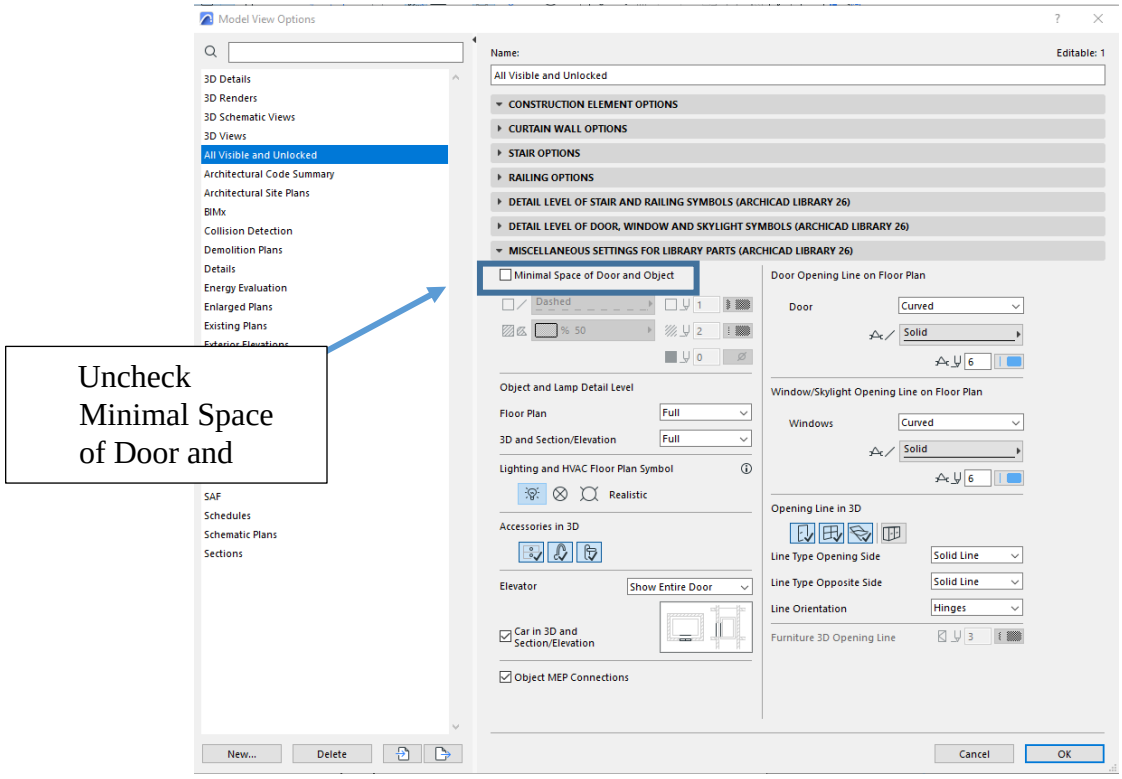
2. Select All Visible and Unlocked from left Group
    a. Tab Construction Element Options
        i. Uncheck Door > With Marker
        ii. Uncheck Window > With Marker



3. Select Tab Detail Level of Door, Window, Skylight Symbols (Archicad Library)
    a. Door
        i. Change Floor Plan Symbol to Low Opened Leaf
        ii. Uncheck Show Reveal
    b. Window
        i. Change Floor Plan Symbol to Low Opened Leaf
        ii. Uncheck Show Reveal



4. Select Miscellaneous Settings for Library Parts (Archicad Library)
    a. Uncheck Minimal Space of Door and Object



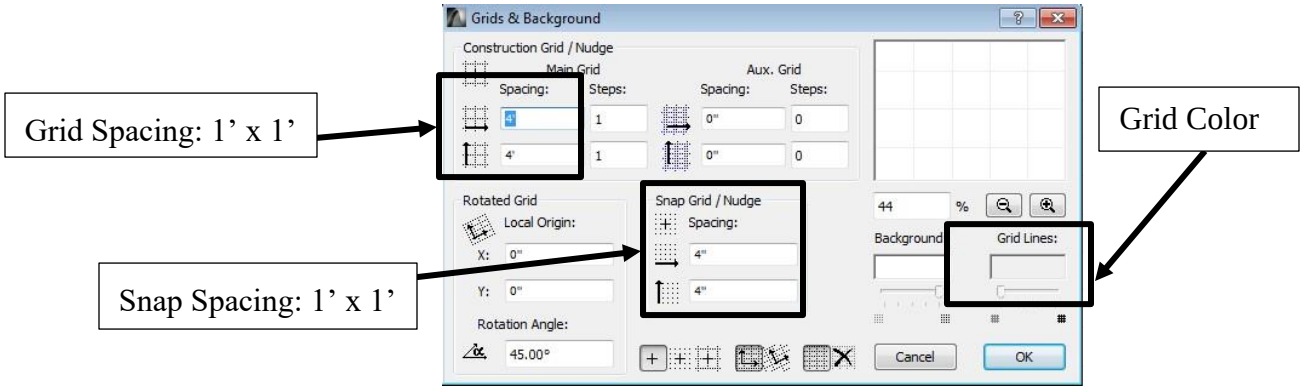
Step 4: Drawing the House Outline

Set Up the Grid: By now, you've probably noticed that there is a predefined grid in the background of your workspace. When using Archicad to draw a floor plan, you will use this grid to aid you as the designer. The software's default size for the grid is 4'-0" x 4'-0" for each square space. It is very helpful to redefine the grid based on what type of work drawing is being worked on.

To redefine the grid space, do as follows:

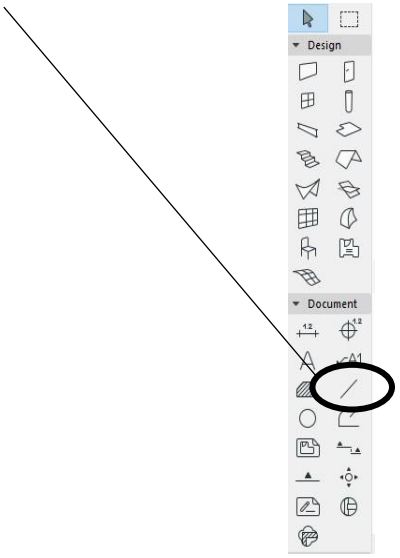
1. Click Drop Down Menu **View** > **Grid and Editing Plane Options** > **Grids and Background**

   The window below will appear.

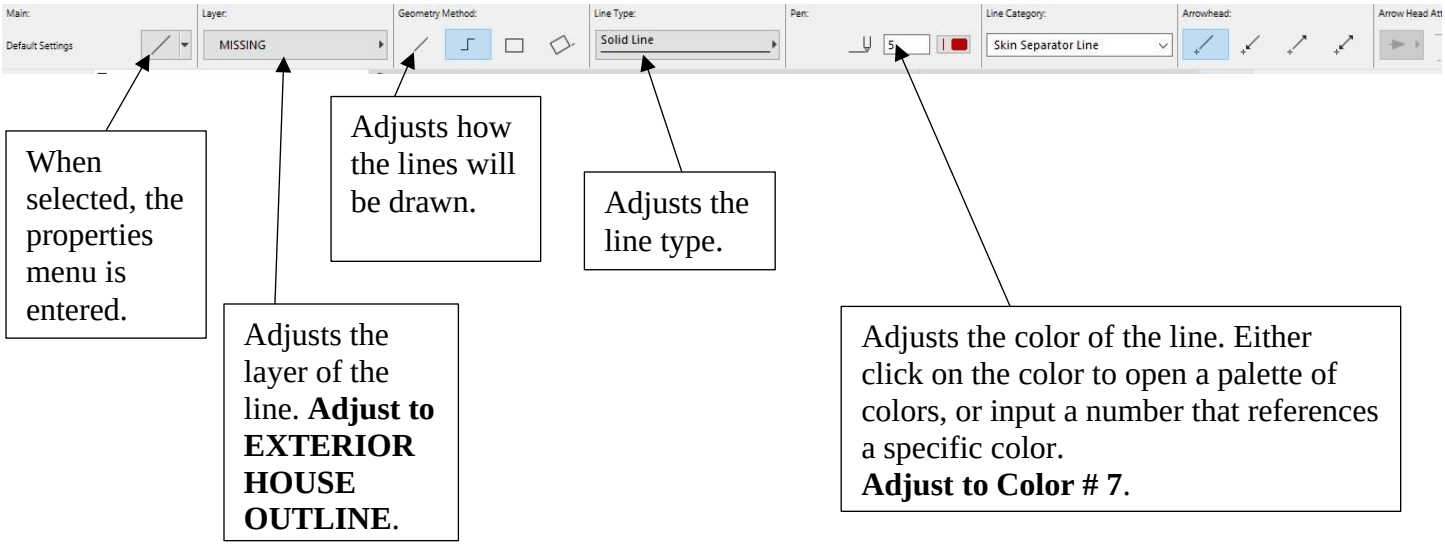


2. Adjust the following
   a. Main Grid Spacing:1'-0" x 1'-0".
   b. Snap Grid: 1' x 1'
   c. **Double-Click** the white box under **Grid Lines**. This brings up a color palette. Under the basic colors, select the **gray** that is the third from the right on the bottom row. ○ Click **OK**.

3. **Draw Interior/Exterior House Outline: Use the Line Tool:** In the toolbox, there are many different tools that will perform various functions in the software. The first tool you will use is the Line Tool to draw the exterior and interior outlines of your house. Simply select the **Line Tool** from the toolbox to use it



Once you select the **Line Tool,** the property options will appear in the **Info Box**.



Once these settings are set, you may begin drawing on the grid workspace. If you hover the cursor over the grid, you will notice that the cursor doesn't **snap** to each grid space. To turn the grid snap on, hit **ALT-S** on your keyboard. This allows for even measurements when working on various aspects of your house, including when you use your Line Tool. Hitting **ALT-S** turns the snaps on and off.

With the snap turned **on**, place your cursor on the origin. The origin is a black X that appears on your grid sheet. Once the cursor is over the origin, a **black check** will appear.

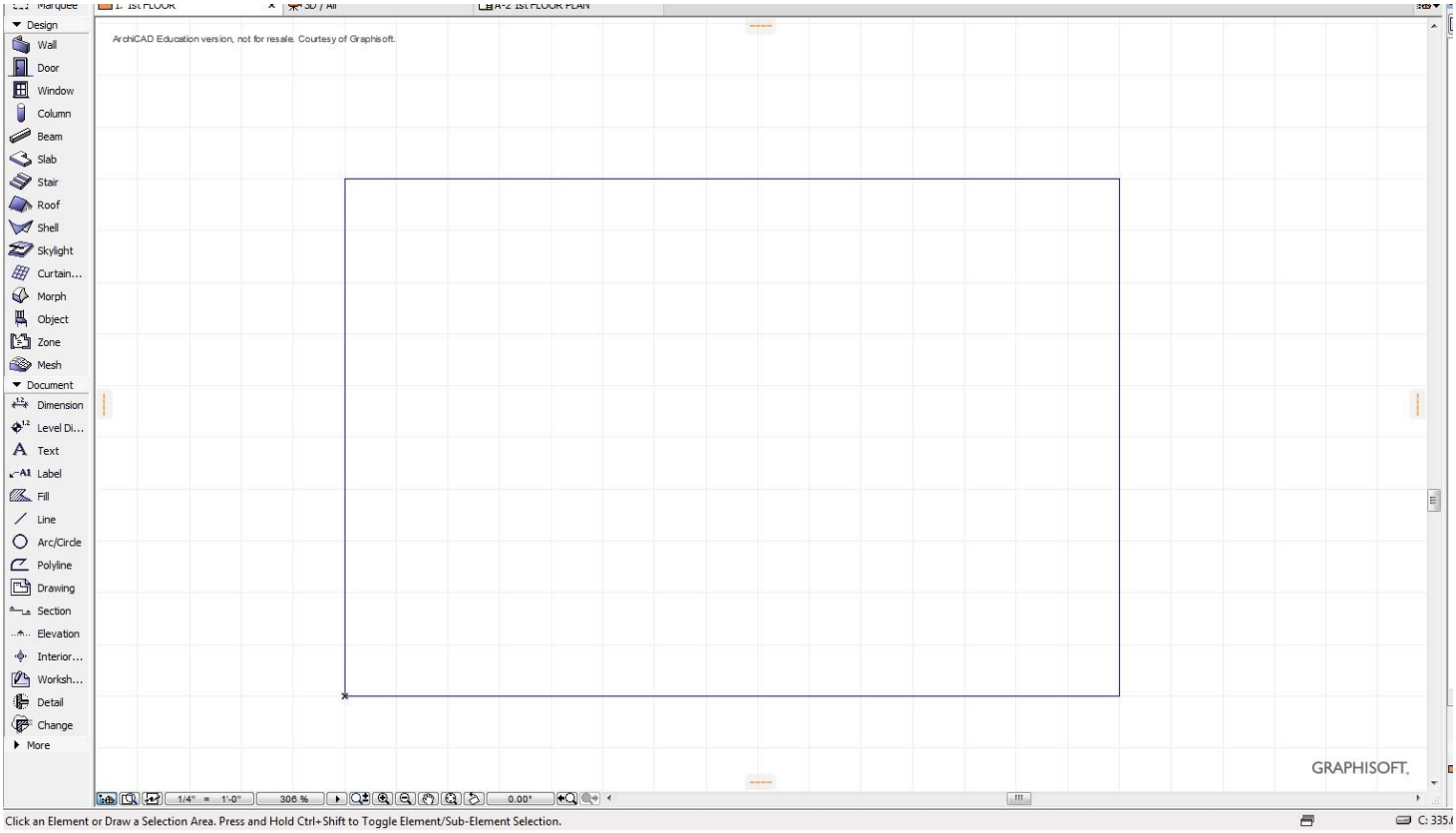
This indicates that the cursor has snapped to this spot. **Left Click** once on the origin. An error message will appear, asking if you want to turn the layer on since we previously left it hidden. Simply select **Show Layer**. Now, drag the mouse to the left. To make the line go straight, hold down the **Shift Key**.

Now, you need the length of the line. There are two ways to set the line length.

- **Option 1:** Since each side of a square in your grid is a foot, you can count the number of squares that equals the number of feet you want your line to be, then place your line accordingly.
- **Option 2:** Drag the line in the direction you want it to go. Then, simply type in the measurement value in feet and inches and then hit **Enter**. Be sure to use the **'** mark for feet and the **"** mark for inches. Example: 9'-6"

4. **Draw a rectangular box with these dimensions: Horizontal 15'-0" x Vertical 10'-0"**. Choose either method to create the box. If the **Tracker** is not on, click this icon.

The screen should now look like the one below.



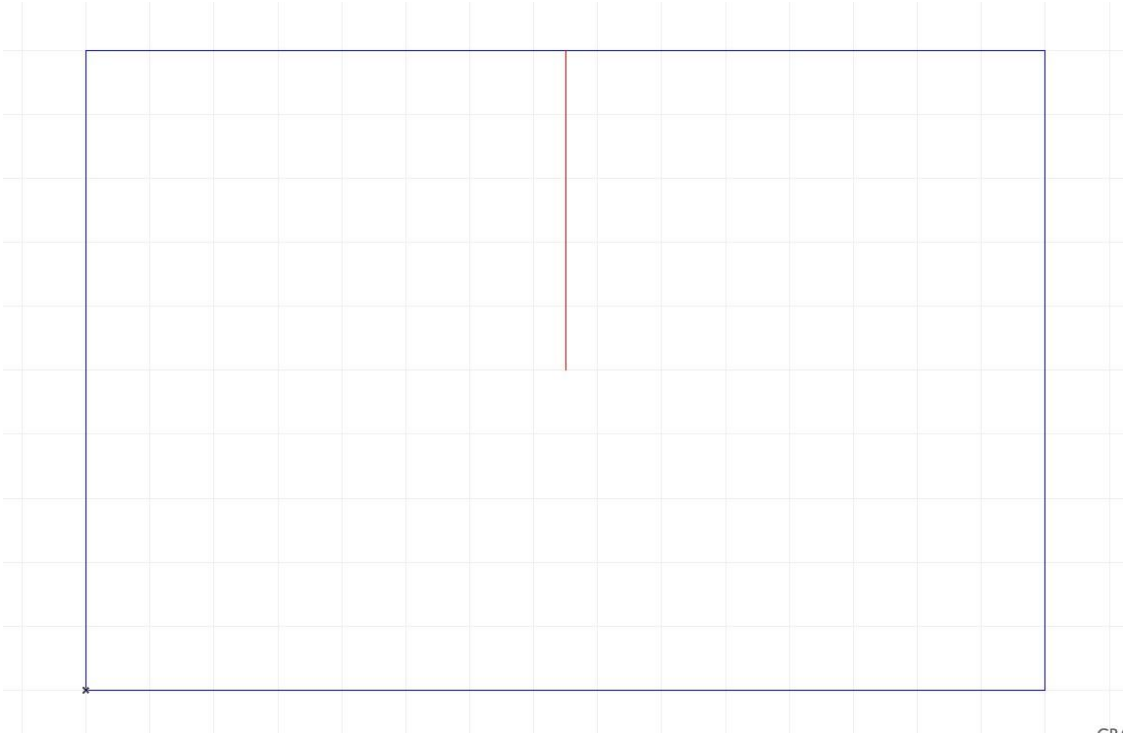
Step 5: Interior Walls

1. Select the **Line Tool** and set the following settings:
    a. Layer: **Interior House Outline**
    b. Color: **10**
2. Select the Line Division icon. This tool allows you to divide up a line in four different ways by showing hash marks on the line. It can be found on the top menu bar of the screen. Also, you can click the **View** pull-down menu and then click **Snap Options**. There is an arrowhead pointing downward on the Line Division icon. Click this arrowhead. Four different options will appear:
    a. **Half:** Shows the hash mark at the halfway point of any line or wall.
    b. **Divisions:** Shows hash marks that divide the feature in a predefined amount of sections.
    c. **Percent:** Shows hash marks that divide the feature in predefined percentages.
    d. **Distance:** Shows hash marks that divide the feature into predefined distances.

Line Division Icon

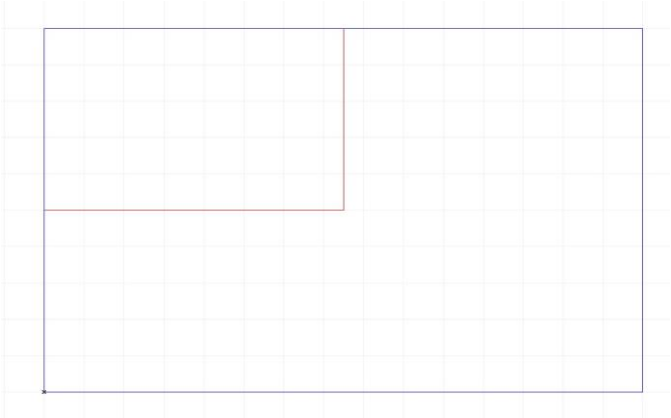
3. Click **Divisions**.
4. Click the arrowhead on the Line Division icon again.
    a. Click **Set Snap Point Values**.
    b. Input **4** for the number of divisions.
    c. Click **OK**.
5. Be sure your grid snap is turned **OFF** (ALT-S).
6. Place your cursor on the top line of the rectangle. 3 hash marks will appear. The number of divisions determines the number of hash marks, but these numbers ARE NOT the same. The line is divided into **4** sections by the **3** hash marks.
7. Place your cursor on the middle hash mark. A **Check Mark** should appear. This means that you have located that specific point. **Left Click** once on this mark. Another error message will appear. Click **Show Layer**.
8. Drag the mouse downward so the line goes below the blue line you started on. Line up the line with the vertical reference line to make it vertical.
9. Type **5'-0"**, then hit **Enter**.

Your workspace should now look like the one below.



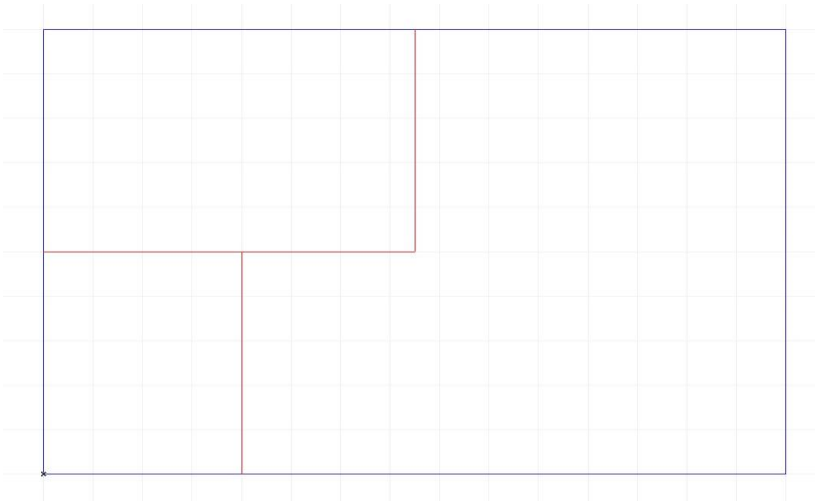
10. Place your cursor at the end of the red line. **Left Click** once on this point. (**Note:** Look for the **Check Mark** to indicate the end point of the line.)
11. Drag the cursor to the left. When you reach the blue line to the left of the rectangle, the Pencil should turn **black**. This indicates that you have reached the Perpendicular of that line. **Left Click** once at this point.

Your workspace should now look like the one below.



12. To complete the Interior House Outline, we will add one more line. First, click the arrowhead on the Line Division icon, click **Set Snap Point Values**, and in the **Distance** bar type in **3'-6"**. Then, click the same arrowhead again and click **Distance**.
13. Place your cursor on the **Right-hand Side** of the center of the Horizontal Red Line. The line will be divided by hash marks into increments of 3'-6". (**Note:** Depending on where the cursor is placed relative to the center of the line will determine in what direction the distance divisions will start from.)
14. Select the **first** hash mark (look for the **Check Mark** before clicking).
15. Draw a vertical line that is perpendicular to the bottom Horizontal Blue Line of the rectangle.

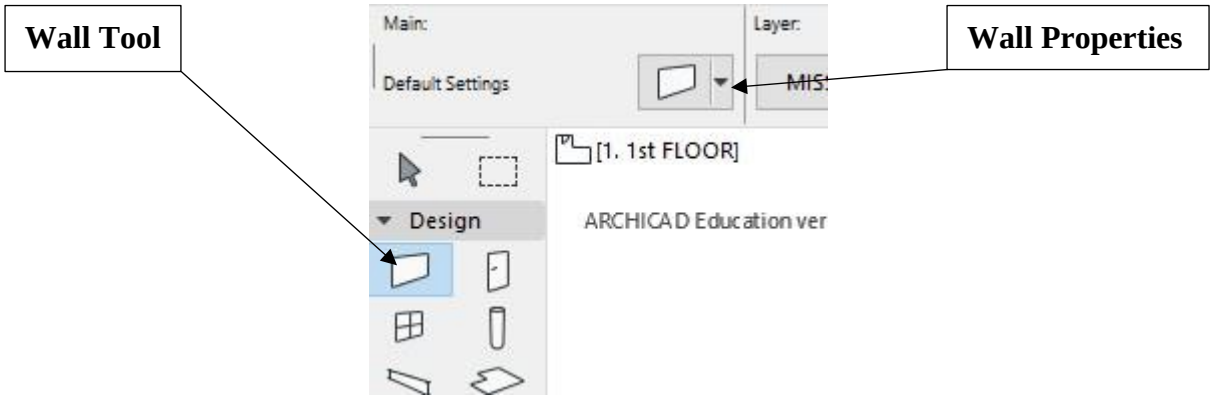
Your workspace should now look like the one below.



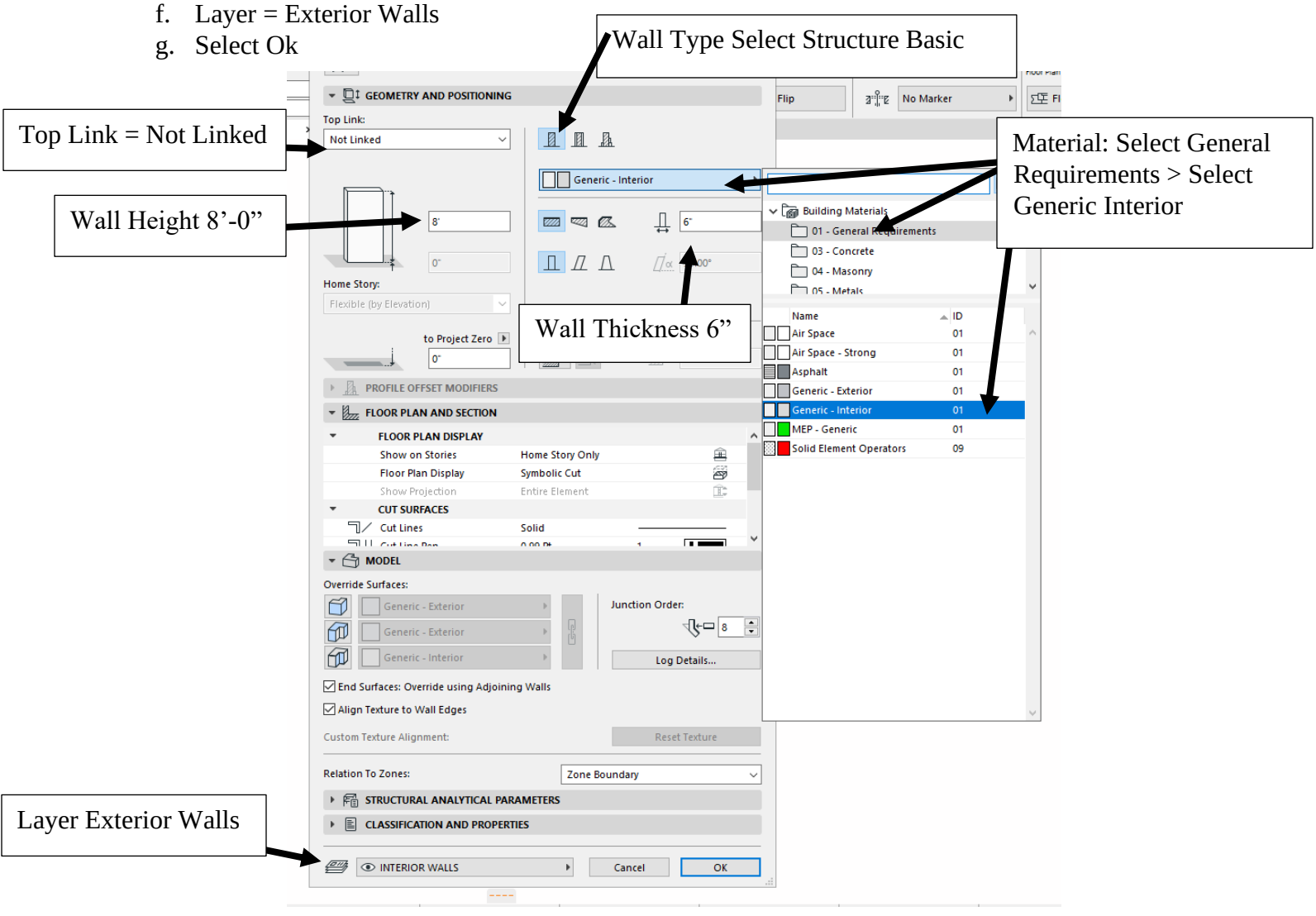
SAVE YOUR DRAWING.
File Name: Tutorial

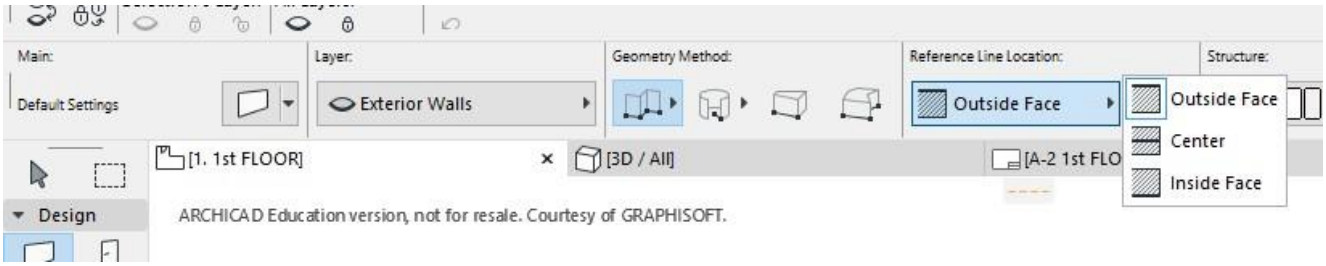
Step 6: Exterior Walls

1. Select the **Wall Tool** from the **Toolbox**.
   Select the **Wall Properties** icon in the **Info Box**.



2. The window below will appear. Change the settings as shown below.
   a. Top Link = No Link
   b. Wall Height = 8'-0"
   c. Wall Type: Basic
   d. Material > General Requirements > Generic Interior
   e. Wall Thickness = 6"
   f. Layer = Exterior Walls
   g. Select Ok

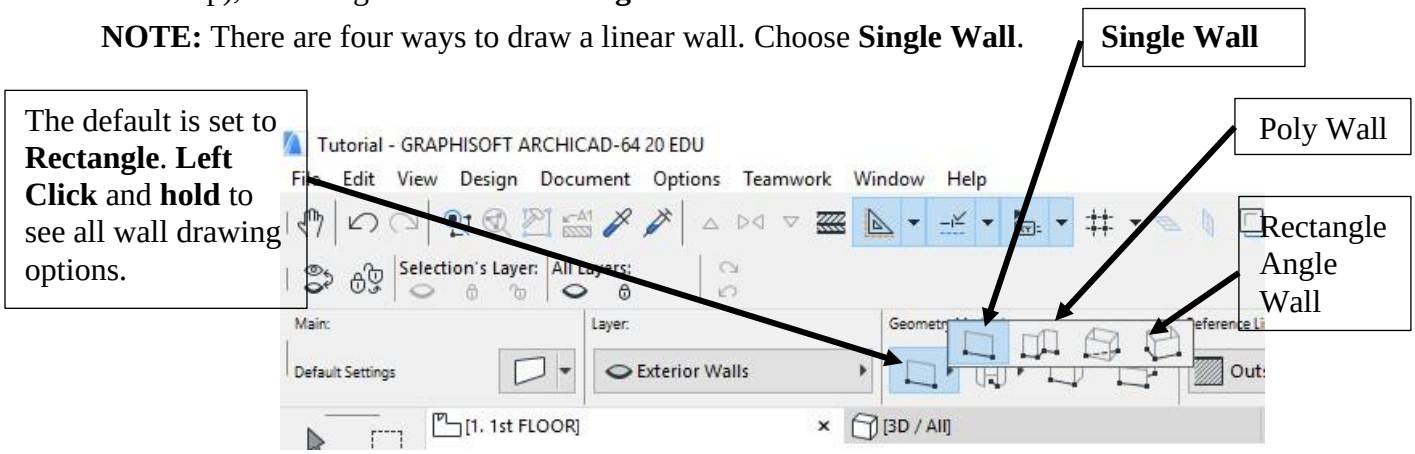




NOTE: All Exterior Walls must fall on the INSIDE of the Exterior House Outline.

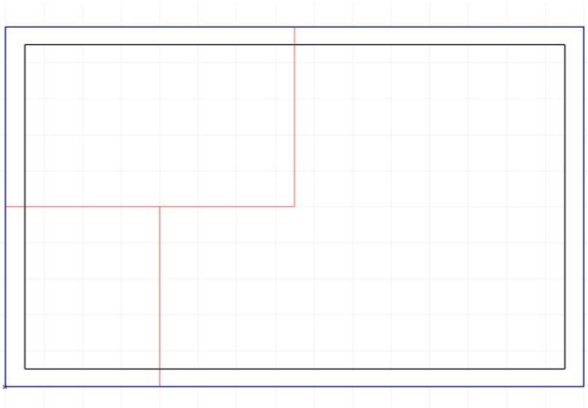
3. Select Outside Face for Wall Drawing Type > Start at the Origin. **Left Click** once (after the check mark comes up), then drag the cursor to the **right end** of the Exterior House Outline.

   NOTE: There are four ways to draw a linear wall. Choose **Single Wall**.



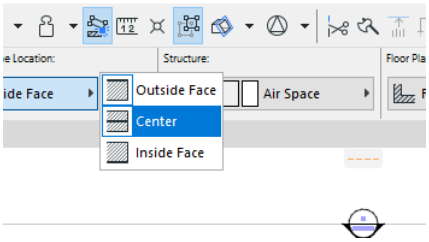
4. Choose Wall Type The bottom wall should now be formed. Place the cursor where you stopped drawing the bottom wall and a **Check Mark** should appear. **Left Click** on that check mark and drag the cursor along the Exterior House Outline until it ends. > Be sure the walls falls on the Inside of Exterior House Outline (Blue Lines)
5. Repeat this method for the rest of the lines of the Exterior House Outline in a counter-clockwise direction

Your drawing should now look like the one below.



Step 7: Interior Walls

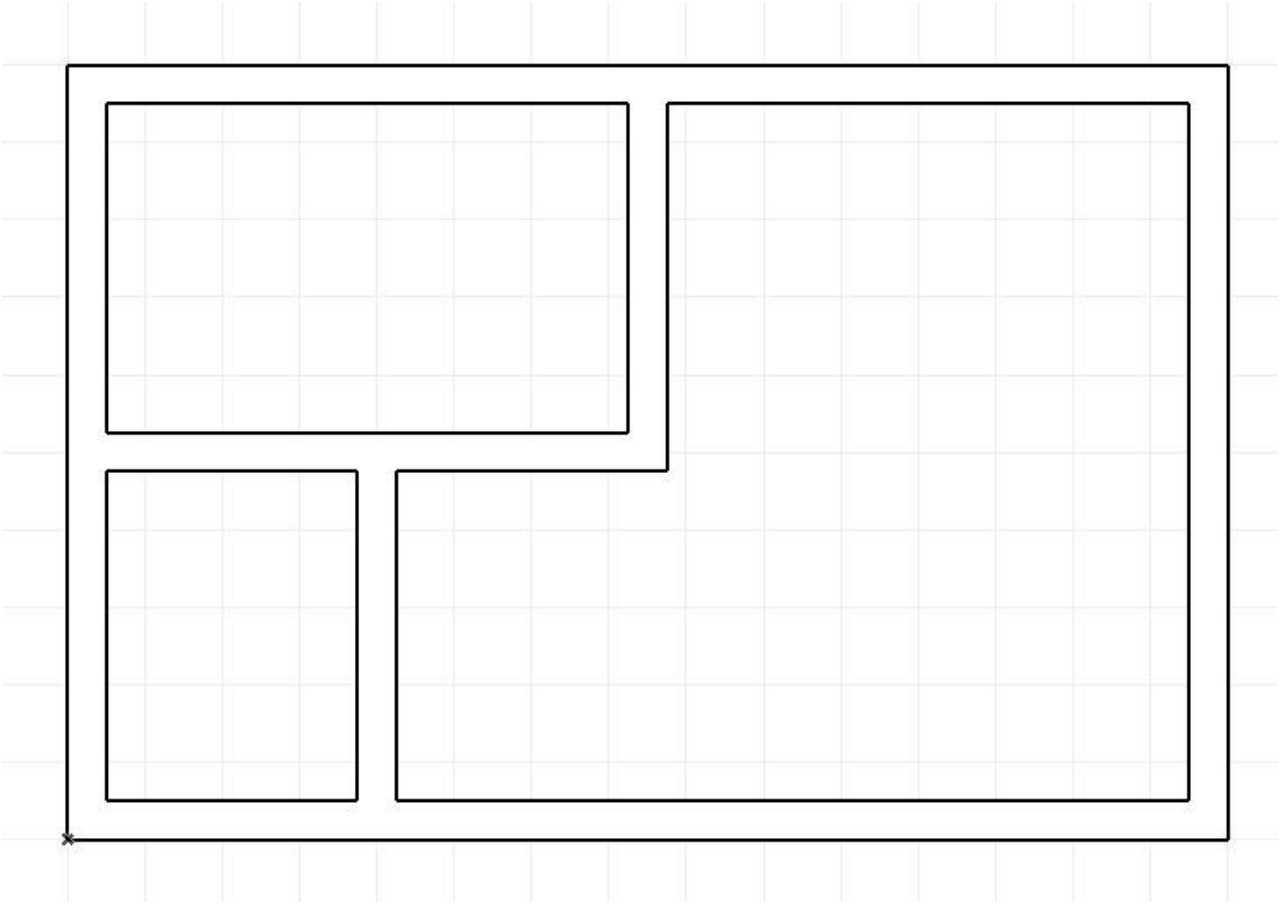
1. Select the **Wall Tool** from the **Toolbox**. > Settings are the same as Exterior Walls Except Change the layer to Interior Walls
2. Select Center For Drawing Wall Type



3. Draw the Interior Walls on the Interior House Outline (Red Lines)

4. Turn off Interior and Exterior House Outline > CTRL-L > Click the Eye Ball next to each layer > Click Ok

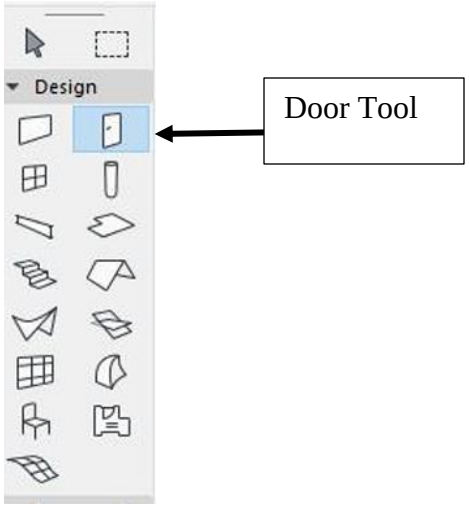
Your drawing should now look like the one below.



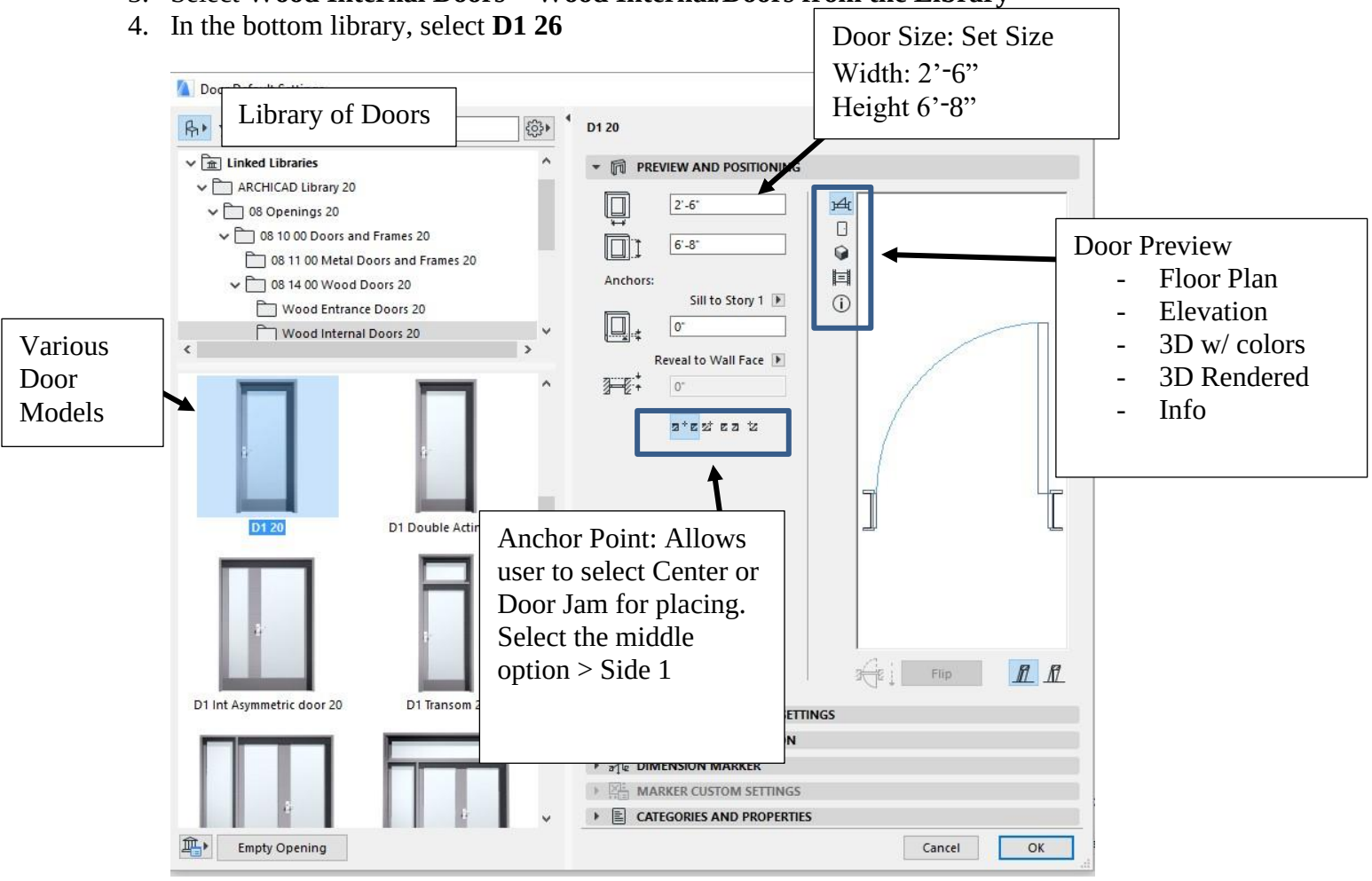
Step 8: Doors

The final steps of this tutorial are to insert doors and windows. We will insert basic types and features of these for now, as we will go more in-depth about this later in the course.

1. Click the **Door Tool** in the **Toolbox**.

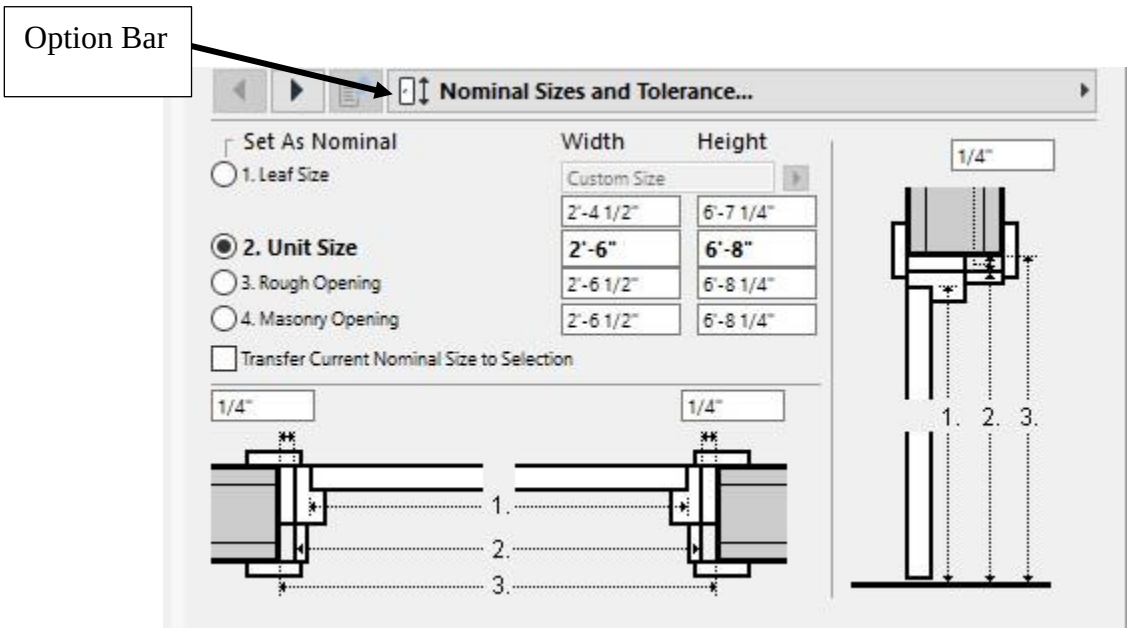


2. Click the **Door Properties** icon from the **Info Box**.
3. Select **Wood Internal Doors > Wood Internal. Doors from the Library**
4. In the bottom library, select **D1 26**



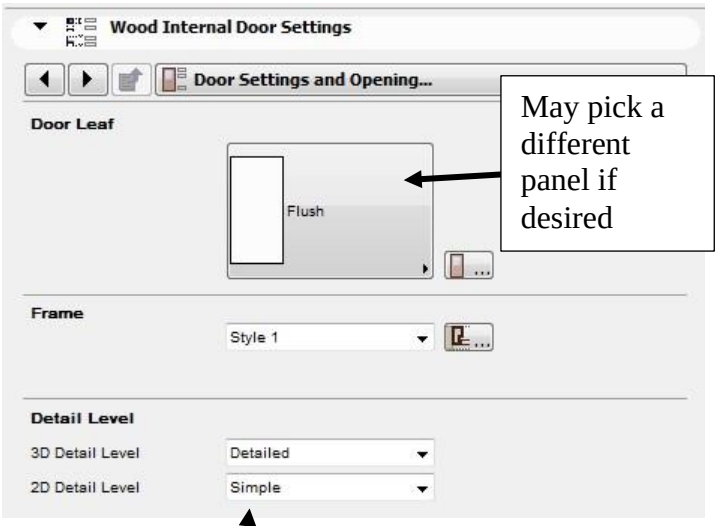
5. **Door Type Libraries**: Allows User to

Select **Wood Internal Door Settings** > **Option Bar** > **Nominal Sizes and Tolerances > Select Unit Size > Set Settings 2'-6" x 6'-8"** (NOTE: This will include the molding and dorr frame as part of its overall dimensions



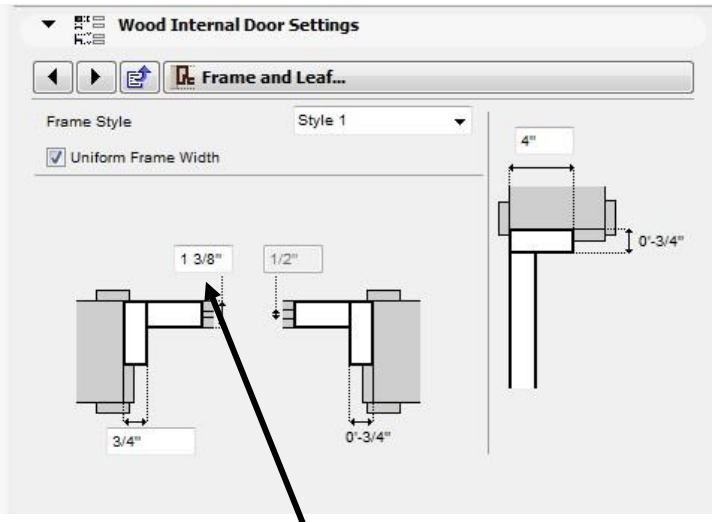
Internal Door Settings Menu: Click the tab as shown above to show a menu of various settings you can change. You will be accessing this menu frequently.

5. Set the following settings:

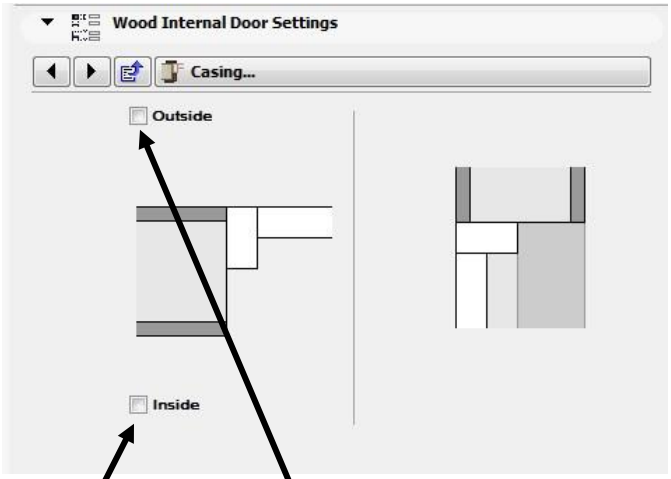


May pick a different panel if desired

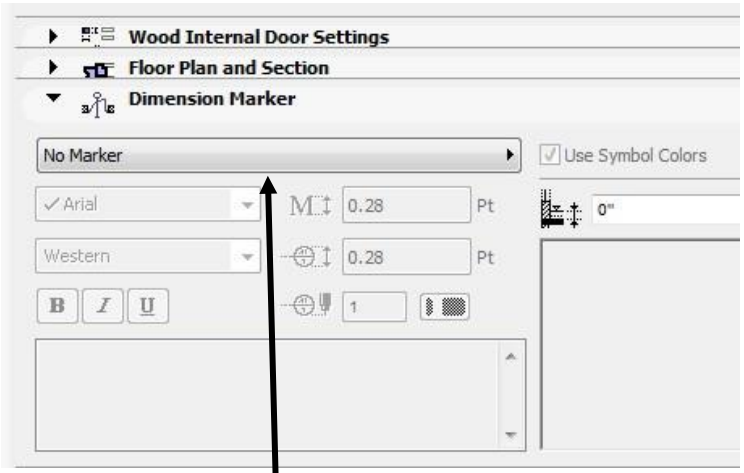
2D Detail Level: Simple



Leaf Thickness: 1 3/8”



Uncheck Outside Casing and Inside Casing



Dimension Marker: No Marker

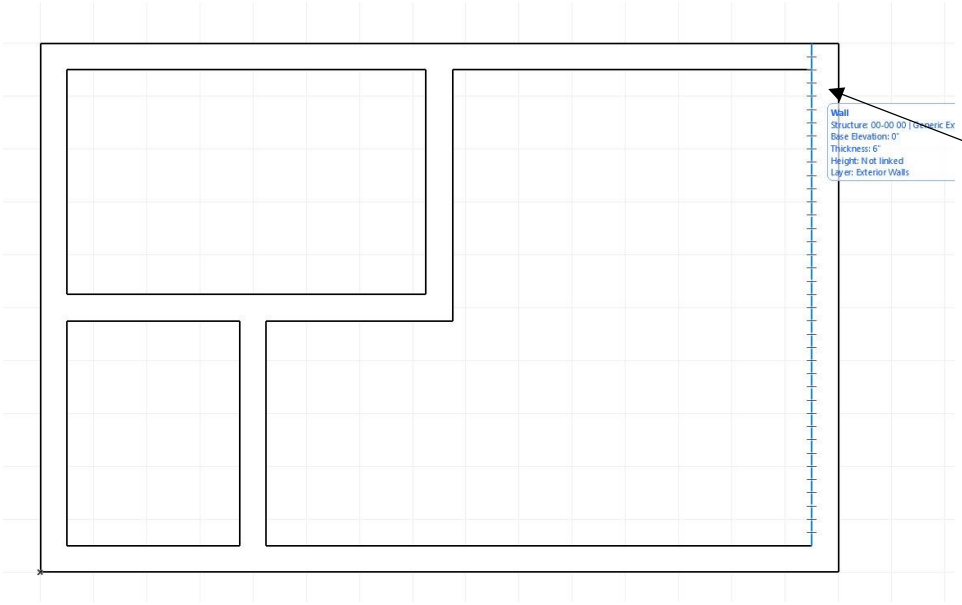
Overview of Door Settings

- Door Library > Internal Doors > Style of Door: D26
- Anchor Point > Side 1
- Nominal Door Size and Tolerance > Unit Size > Door Size 2’-6” x 6’-8”
- Frame and Leaf > Leaf Thickness > 1 3/8”
- Casing > Uncheck Inside and Outside (Turns off Molding)

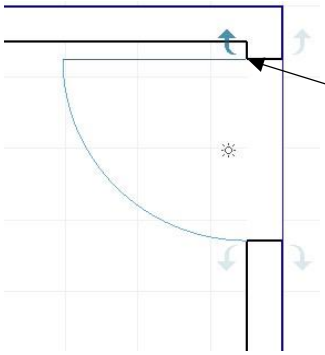
6. Special Snap > Set the Line Division type to **Distance**.
7. Set the **Distance** value to 3”. **Doors should be no closer than 3” from a wall.**
8. Follow the directions shown below.

NOTE:

- Doors should be **3”** away from any wall.
- Doors should always swing **towards a wall,** and never swing into open space.
- Doors should open into the room a person is walking into.

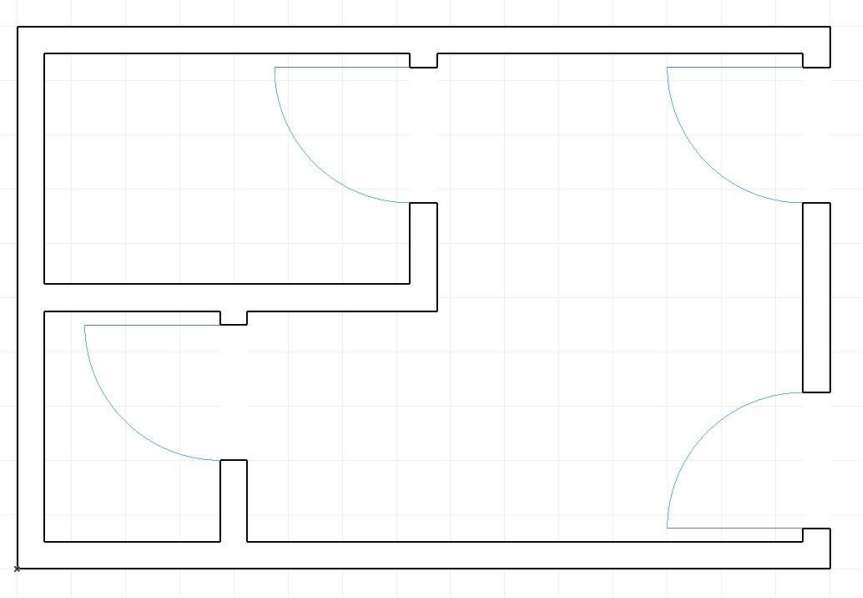


Place the cursor on the inside of the wall. Hash marks will appear. They will start from the nearest endpoint based on the cursor. **Note:** Hash marks are in 3” intervals.



Left Clickon the first hash mark. Place the cursor on the arrow that shows the correct direction of the swing on the door. **Left Click**to place it.

Place the following doors on your house. The settings for every door will remain the same. **Note: Be sure to adjust the anchor point of the door accordingly.**



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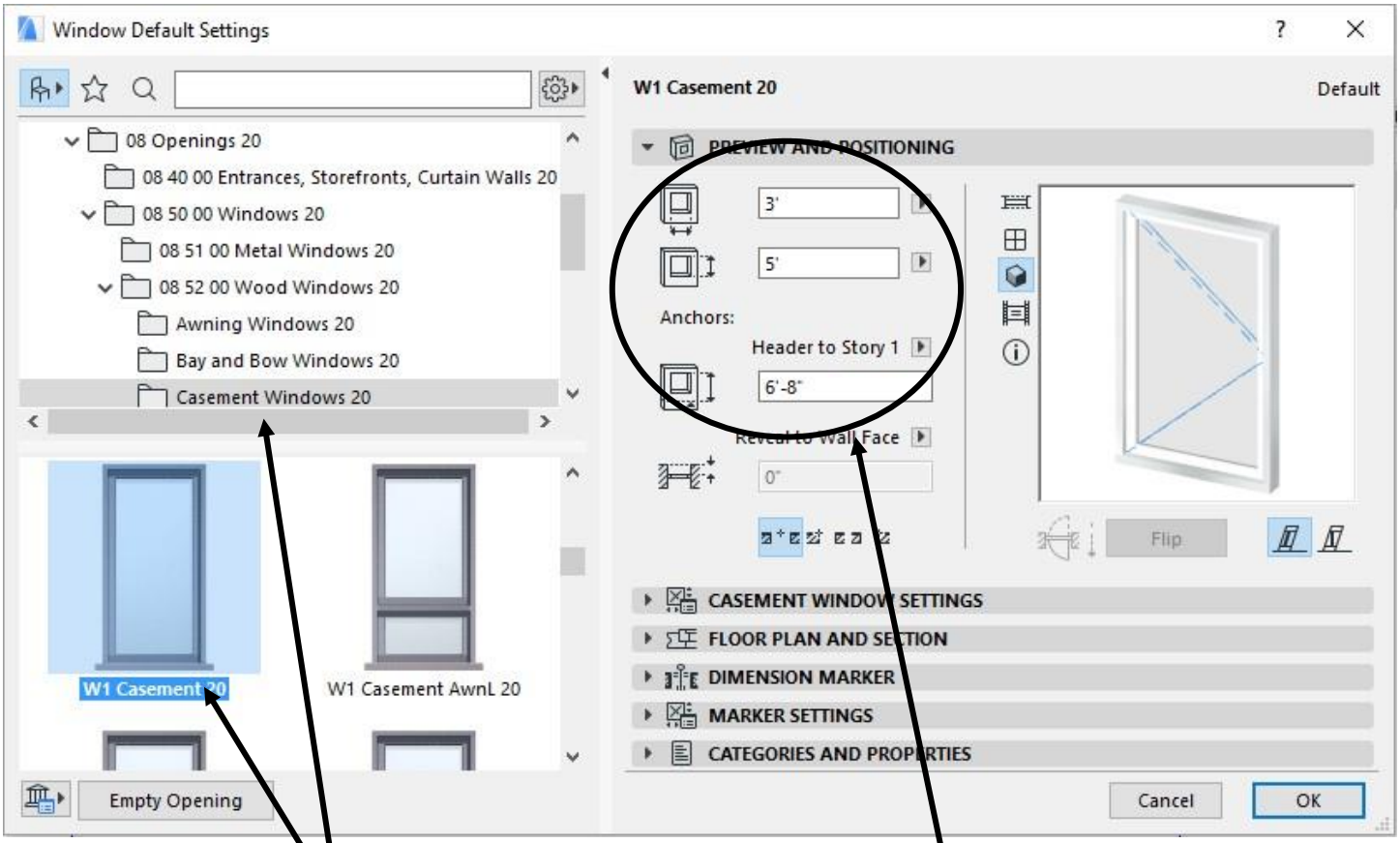
Step 9: Windows

Windows are a functional part of any house design. Their function is one of utility and of design style. A window's basic function is to provide ventilation and to bring light into a house. There are many styles of windows that all have their own functions and uses within a house design.

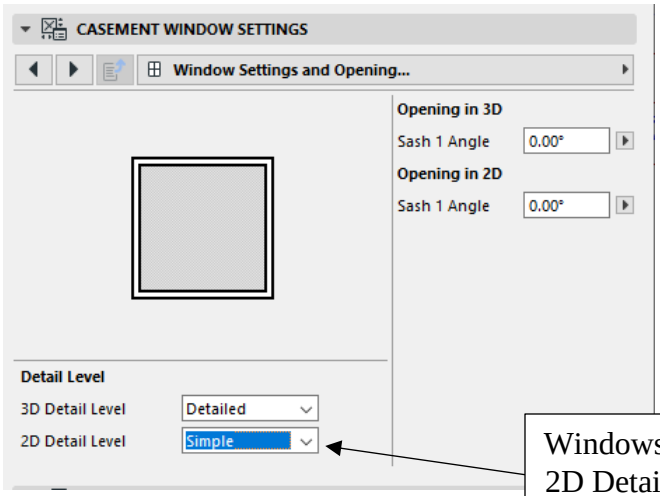
The **Window Tool** operates much like the **Door Tool**. The only difference is how the window is placed in the drawing.

1. Click the **Window Tool** from the **Toolbox**.
2. Click the **Window Properties** icon from the **Info Box**.
3. Set the following settings:

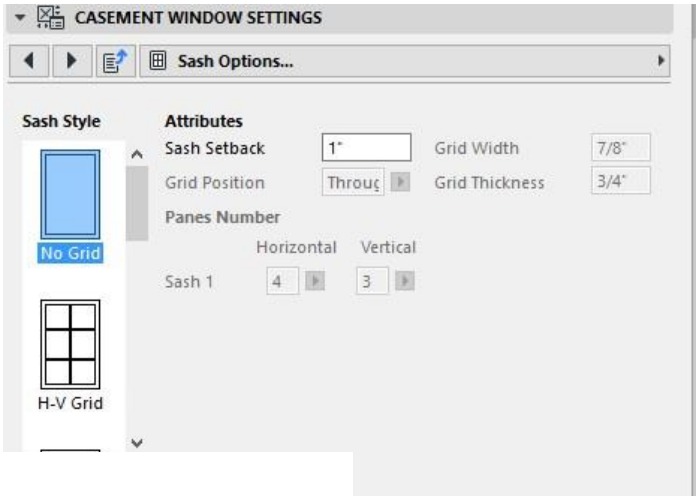


Select Casement Library > W1 Casement 26

Width: 3'-0"
Height: 5'-0"
Distance from the floor to the top of the window: 6'-8"

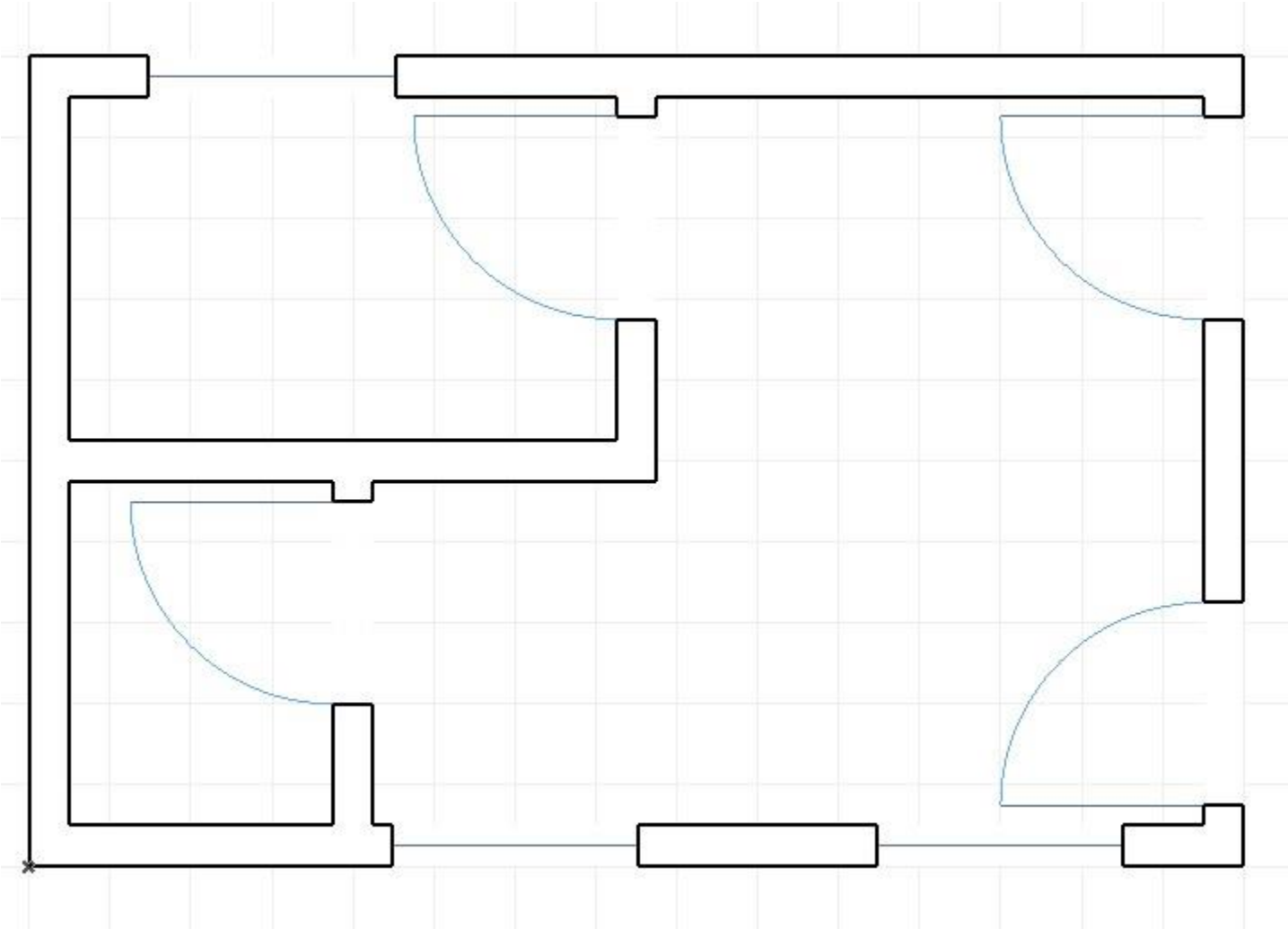


Windows Settings and Openings > Set 2D Detail Level > Simple



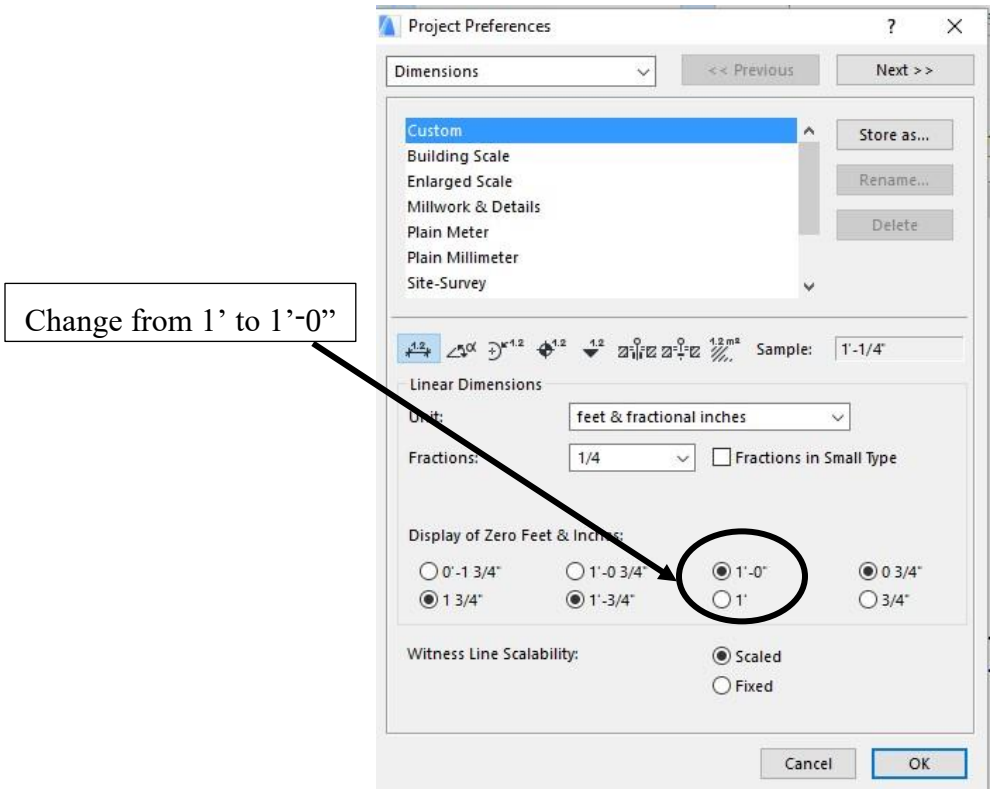
Sash Options lets the user create mullions on the window

4. Set the **Distance** in the Line Division menu to 3’-0”.
5. Place your cursor on an outside wall to show the hash marks (**Note:** The Snap tool must be turned **off**).
6. **Left Click** once on the hash mark desired (see below).
7. **Left Click** again on the outside of the wall to determine which way the window will swing. The window should now be placed.
8. Place the following windows as shown below.



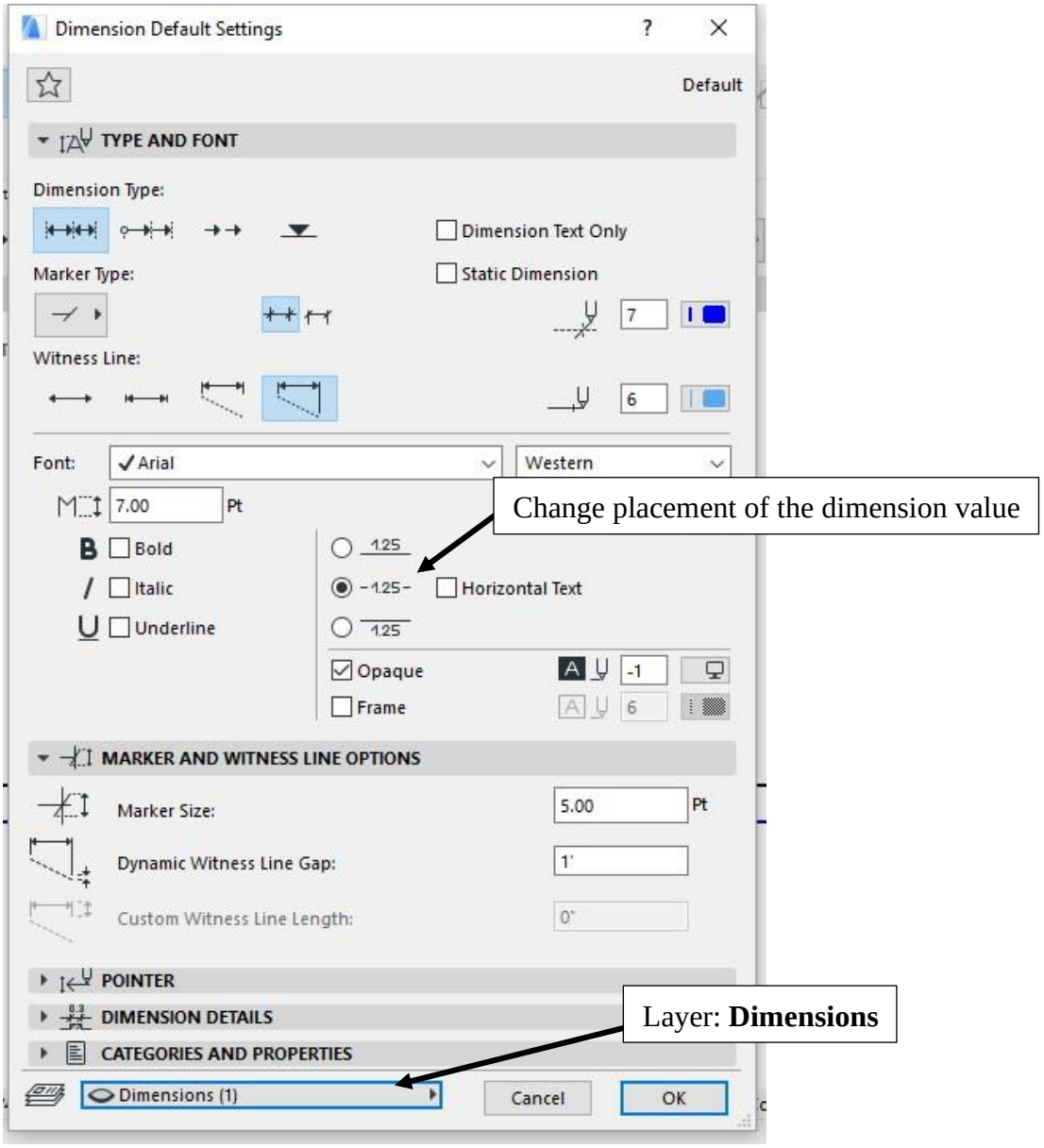
Step 10: Dimensioning

1. First, the working units need to be changed.
   Click **Options** > Click **Project Preferences** > Click **Dimensions.**



2. Click the **Dimension** tool from the **Toolbox**.

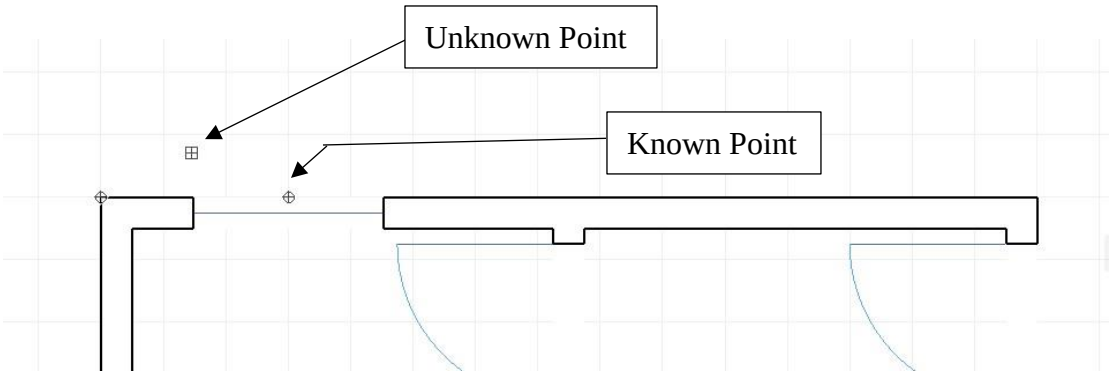
3. Click the **Dimension Properties** icon from the **Info Box**.
4. Change the settings as shown below.



Layers of Dimensions: When placing dimensions, you can click on as many **known points** as you would like in order to mark off dimension lines. There are three layers of dimensions

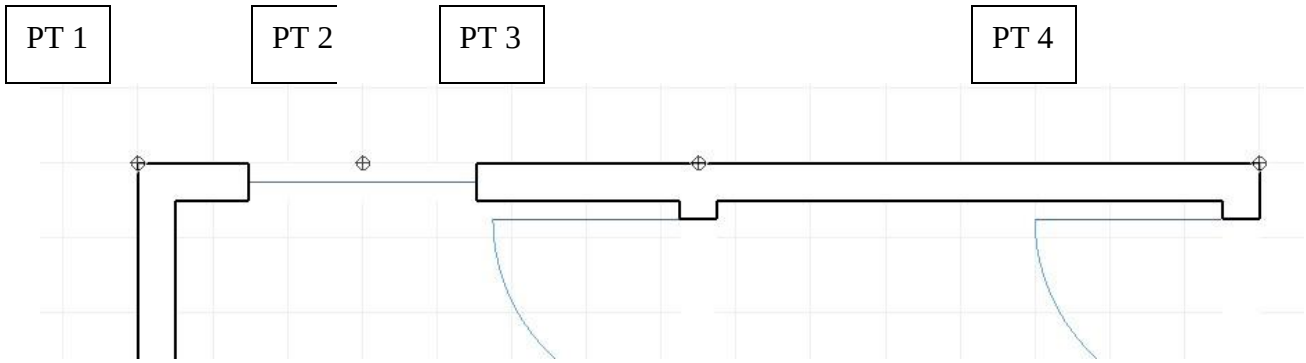
- **First Layer:** Starts on the outside of the house, then goes to the center of the interior walls, the center of doors , the center of windows, and then finishes at the outside of the opposite exterior wall.

  Note: When locating a known point, the cursor will change to a for the first selection **Check Mark**; Cursor will change to a BLACK pencil for a known point. When you left click, a **circular target** should appear. If a **square target** appears, then a known point was not checked and you will have to start over.



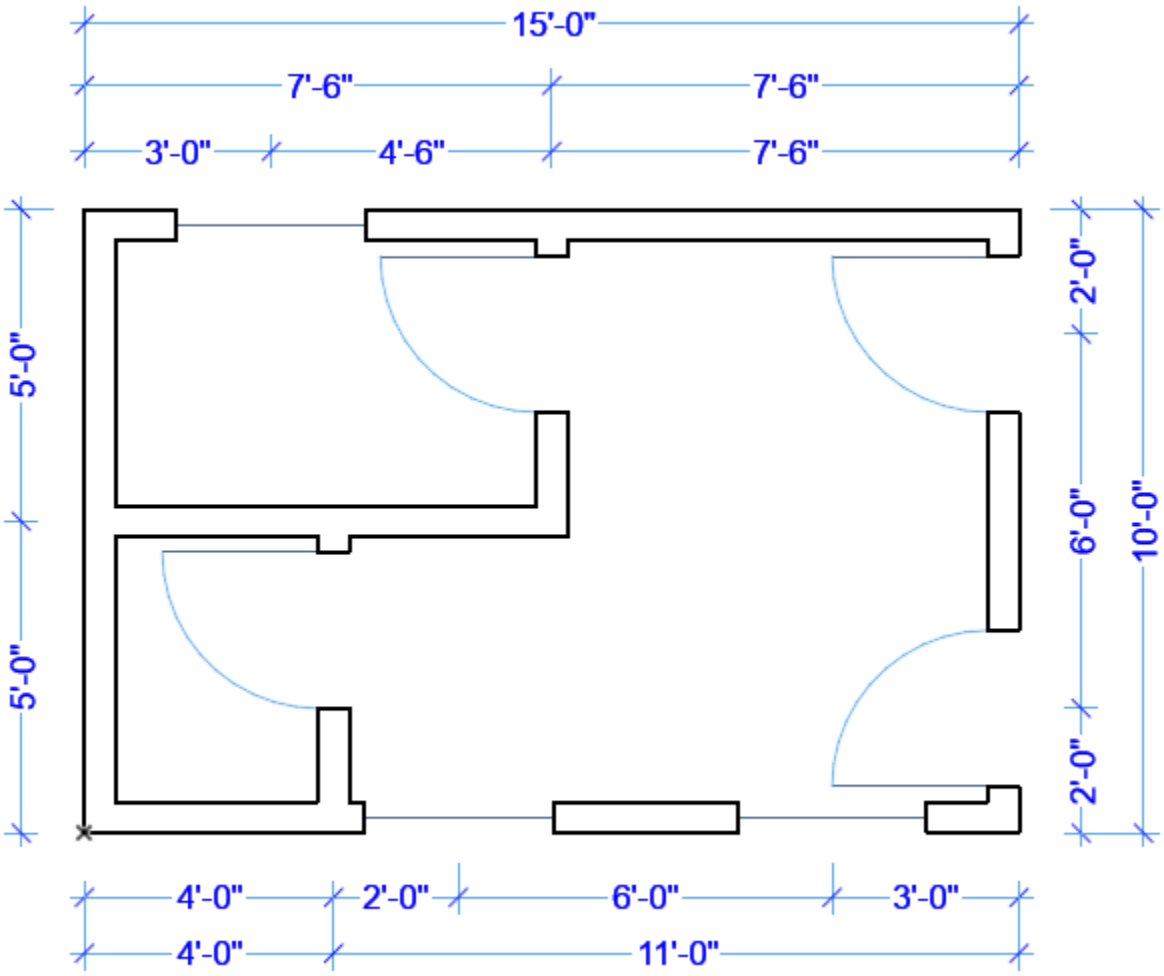
- **Second Layer:** Starts on the outside of an exterior wall, then goes to the center of the interior walls, and then finishes at the outside of the opposite exterior wall.
- **Third Layer:** Shows the overall size of the house.

5. Click the four following points.

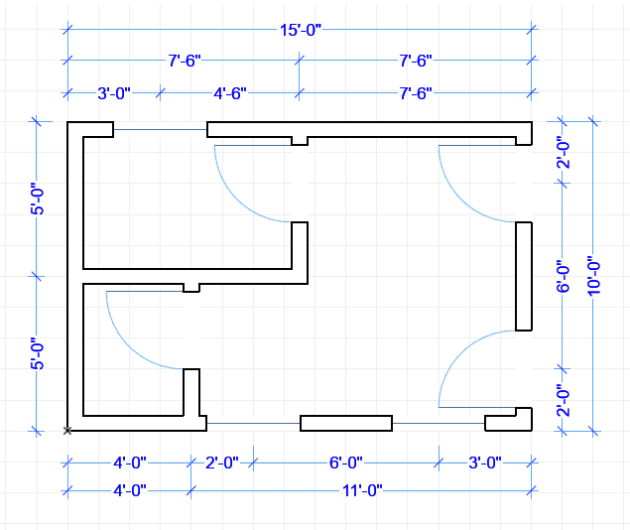


6. Double-click above the wall. The cursor should change to a hammer. Place the cursor on a grid line (turn the **Snap** tool on to lock in; make sure it is turned back off after you lock in your dimension), and **Left Click** to place.

7. Repeat this process to place the dimensions as shown below.



5. Dimension Spacing: Turn Grid On (Drop Down Menu View > Construction Grid Display) > Set Grid to 1’ x 1’ > Place Dimensions on the 1’ Grid Box



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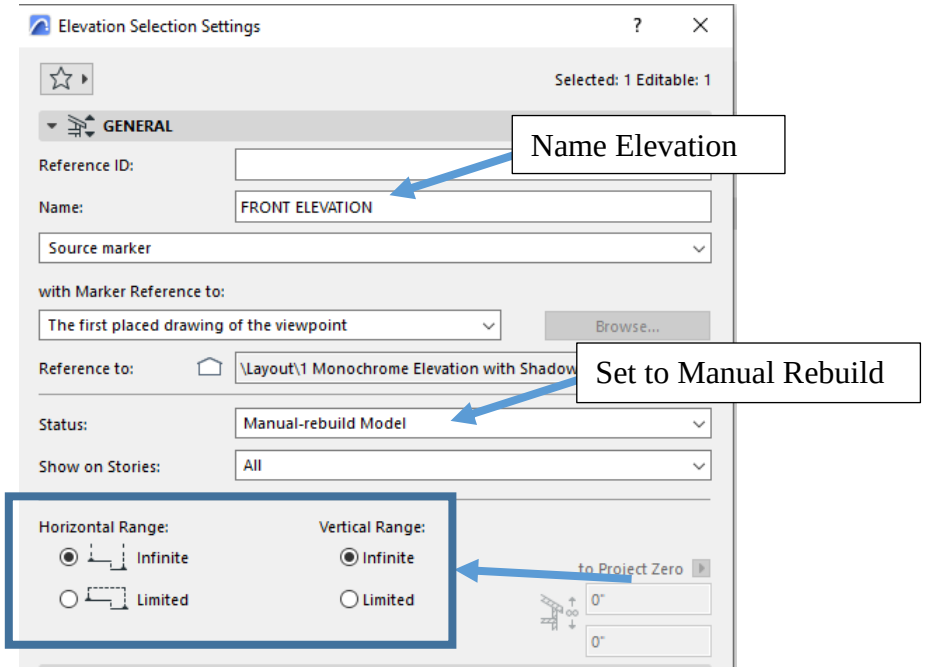
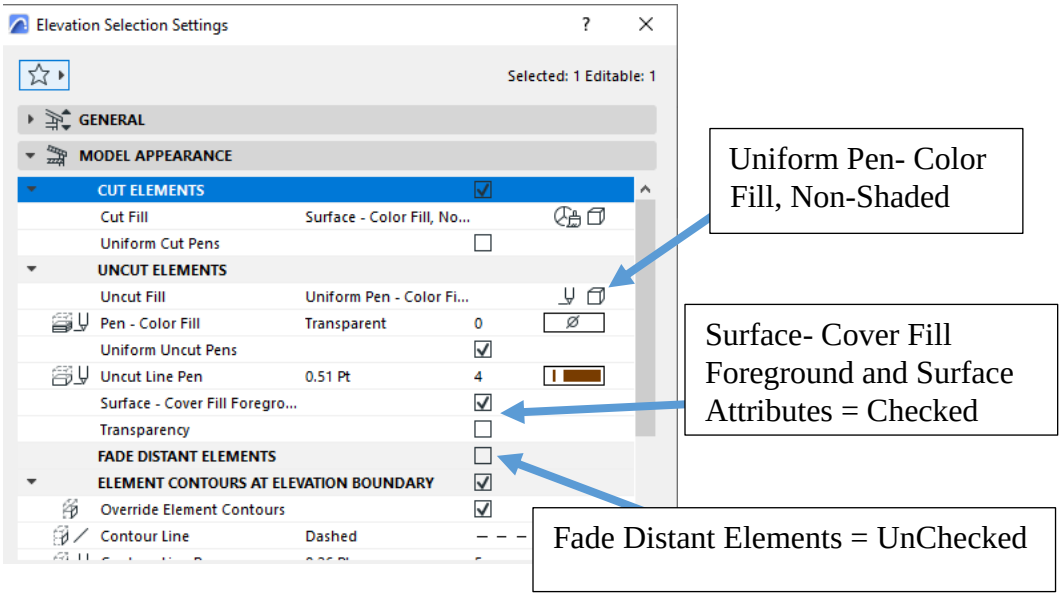
Step 11: Exterior Elevations

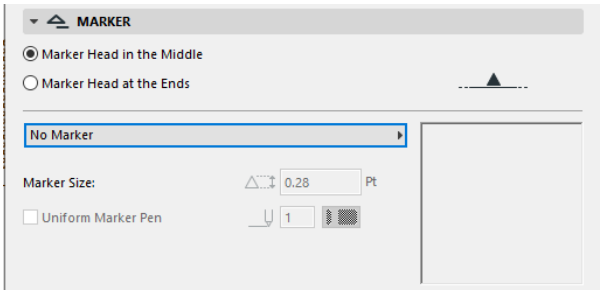
1. Click the **Elevation Tool** in the **Toolbox**.
2. Click the **Elevation Properties** icon in the **Info Box**.
3. Change the following:
    a. General Tab
        i Reference ID: LEAVE BLANK
        ii Name the elevation **Front Elevation.**
        iii Status: **Manual Rebuild Model** (NOTE: Allows the user to freeze the image with the current active layers and will not change if layers are turned on/off; as opposed to Automatic which will update the image automatically when layers are turned on/off)



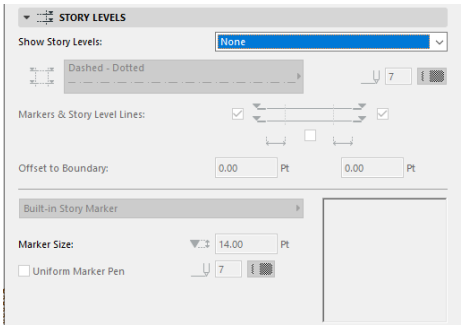
    b. Model Appearance Tab
        i Uniform Pen- Color Fill, Non-Shaded
        ii Uncut Elements > Surface-Cover Foreground and Surface Attribute = CHECKED
        iii Fade Distant Elements = UnChecked



c. Marker Tab
    i Marker Type = **No Marker**



d. **Story Levels** Tab
    i **Show Story Levels = None**



e. Layer
    i Change the layer to **Exterior Elevations**.
f. Click **OK**.

4. Creating Elevation Line
    a. To the right of the exterior wall with the two doors, find a point at least one grid box to the right of that wall **and** at least one grid box below the bottom (horizontal) exterior wall.
    b. **Left Click** once. Drag the line vertically to **past** the top (horizontal) exterior wall, then **Left Click** again.
    c. **Left Click** on the side of the line which you want the software to "look." In this case, it is to the **Left** of the line.
    d. Your elevation is now made. This is your **Front Elevation**. Rename your elevation to **Front Elevation**.
5. Repeat these steps (adjust for the location of the elevation) for **Right Elevation, Left Elevation,** and **Rear Elevation**. Remember to rename each elevation before making it.

    NOTE: When an elevation is made, the line you drew to make it will turn invisible. To select an elevation, make sure your arrow tool is turned on and click where you made the elevation.

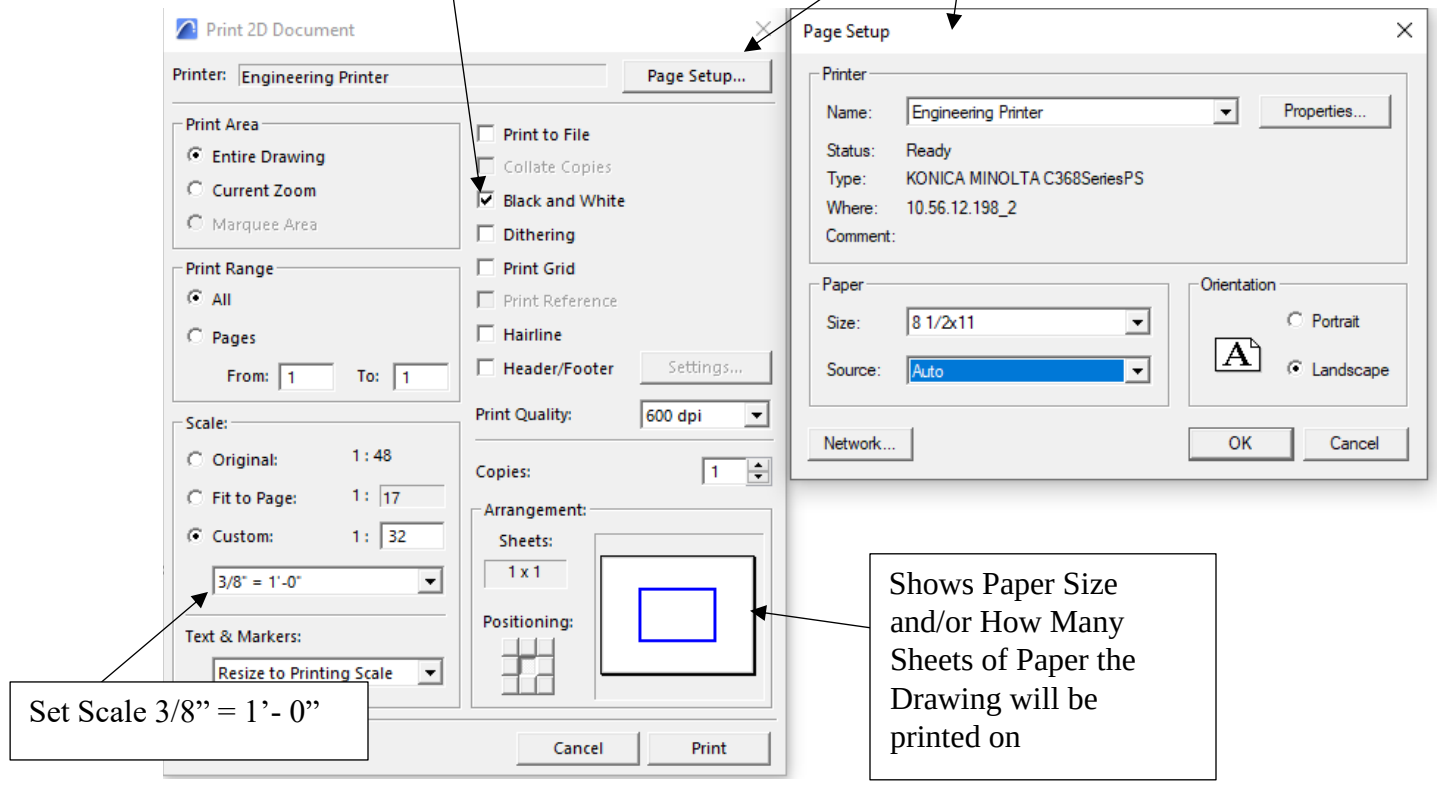
6. To view your exterior elevations, look in the **Navigator Window**. There is an **Elevations** tab, and there is a plus sign to the left of it. **Click** the plus sign, and you will see four elevations listed. **Double-Click** on one of them. A new window will appear showing the elevation. To go back to the floor plan, click the **FLOOR PLAN** tab at the top of your workspace.

Step 12: Printing

1. Select the **Text Tool** from the **Toolbox**. Using the **Text Tool** is like creating a Text Box in Microsoft Word.
2. Place your **Name**, **Date**, and **Hour** in the bottom right-hand corner of the sheet as shown below. Layer: **Text**
   Font Height: **8**
3. Click **File**, click **Print**, and **set the following:**

Select Page Setup to See Printer Properties
Set the following
Printer: Engineering Printer or Engineering Class Printer
Paper Size: 8 ½" x 11
Orientation: Landscape

Select Black and White



Set Scale 3/8" = 1'- 0"

Shows Paper Size and/or How Many Sheets of Paper the Drawing will be printed on

4. Print the following items:
   - **Floor Plan**
   - **Front Elevation**
   - **Right Elevation**
   - **Left Elevation**
   - **Rear Elevation**

TURN IN PRINTOUTS SHOW MR. JOURDEN COMPUTER FILE