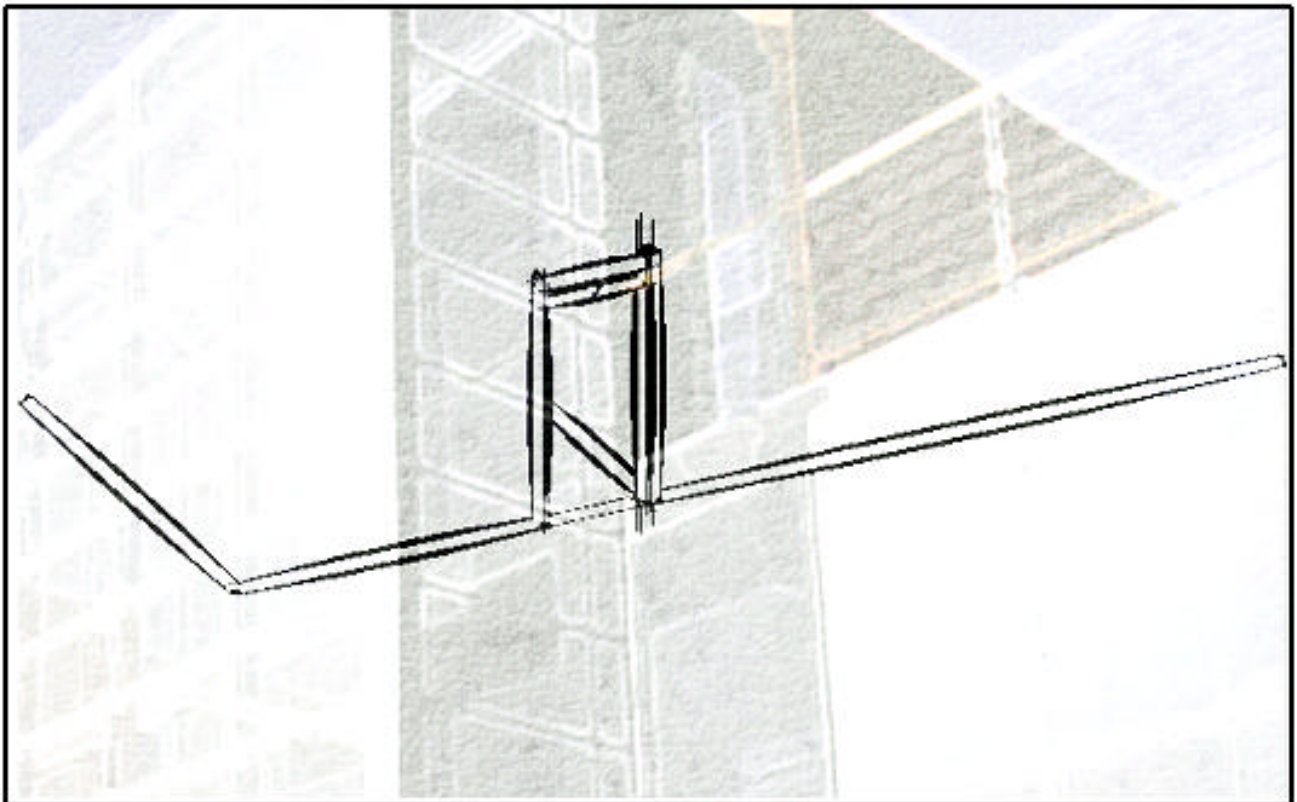


AUSTRALIAN *FLEXIBLE LEARNING* FRAMEWORK

# Door Space



## Framework Timber Framed Walls - Space for Door



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*An initiative within the Australian Flexible Learning Framework for the National Vocational Education and Training System 2000 – 2004.*

### **Background**

In August 1999, the Australian National Training Authority Chief Executive Officers (ANTA CEOs) endorsed the *Australian Flexible Learning Framework for the National Vocation Education and Training System 2000 - 2004 (AFL Framework)*. The AFL Framework has been developed by the Flexible Learning Advisory Group (FLAG) and represents a strategic plan for the five- year National Project allocation for flexible learning. It is designed to support both accelerated take-up of flexible learning modes and to position Australian Vocational Education and Training (VET) as a world leader in applying new technologies to vocational education products and services.

### **Role of the Flexible Learning Advisory Group**

In broad terms, FLAG is a strategically-focused group of senior VET personnel advising ANTA CEOs, the ANTA Board, the Department of Education, Science and Training (DEST) the Australian Information and Communication Technology Education Committee (AICTEC - formerly known as the EdNA Reference Committee), on national issues relating to the directions and priorities for flexible learning in VET, with particular reference to online technologies.

### **The Project**

Building Blocks to Reality is a series of three instructional frameworks that direct building and construction apprentices and pre-vocational learners in the virtual building of a simple timber dwelling. The learning is based on an architectural 3D drawing package (archiCAD) and covers the construction of the, Sub floor, Timber Walls and the Hip and Truss Roofs.

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## An Overview

**Building Blocks to Reality** consists of three distinct frameworks with two of the frameworks having supporting sections.

The three distinct frameworks are:

- **Sub Floor Framing**
- **Timber Framed Walls**
- **Roof Framing**

The **Sub Floor framework** is a standalone module and will give the instructions necessary to virtually build the sub floor of the dwelling.

The **Timber Framed Walls framework** provides instructions to virtually build the wall frames for the dwelling. The sub sections to support Timber Framed Walls are:

- *Placing Studs*
- *Window Spaces*
- *Door Spaces*
- *Window/Door Spaces*

These give specific instructions to aid the virtual building of the dwelling. It is intended that each of these sub-sections be completed as standalone modules and then used as notes to aid the completion of the Timber Framed walls.

The **Roof Framing framework** consists of two sections:

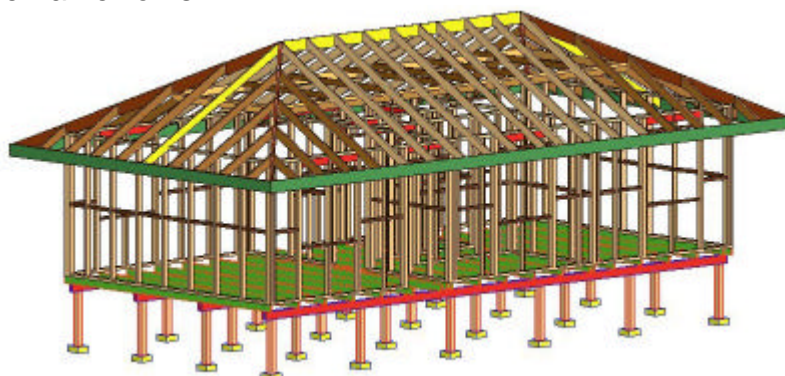
- *Roof Truss*
- *Hip Roof*

These modules provide instructions for the virtual building of a roof for the dwelling, depending on the roof type required.

An additional module '**Section/Elevation Tool**' is also available and must be referred to when developing the Hip Roof, although the principles covered can be practiced in any of the other frameworks.

It is intended that each of the frameworks be drawn separately, following the given guidelines, but it is possible that all the files of the three main sections can be merged to develop the completed dwelling in its entirety.

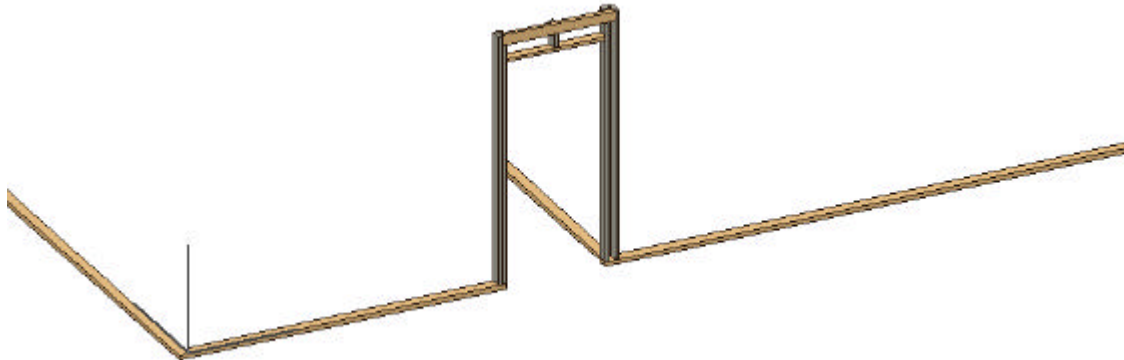
A template file providing set parameters is available and recommended for use when working with these frameworks.



## Door Space

By following these instructions you will be able to develop the skills required to place the doorframe opening in a timber framework.

It is intended to use these notes as a practice format and once mastered they will be a guide to help you place the doorframe openings in the Timber Framed Walls model.



All but the outside door to the laundry will be achievable.

(Think about why this may be so)

The toilet door will be placed after you have learnt how to copy and drag a stud.

**Open** the template named: 'Ftemplate\_temp.pne'.

If the libraries window appears click **done**.

*Note: To begin with you will only see a blank screen with the Global Origin Point ✕.*

This template is a read-only document, once opened resave it by going to **File** ä **Save As** and giving the file a new name (eg. Fwdoors.pne).


These notes will take you through the steps to prepare a doorway in practice mode. Once confident you will apply this procedure to the main framework as indicated in the Framework I document.

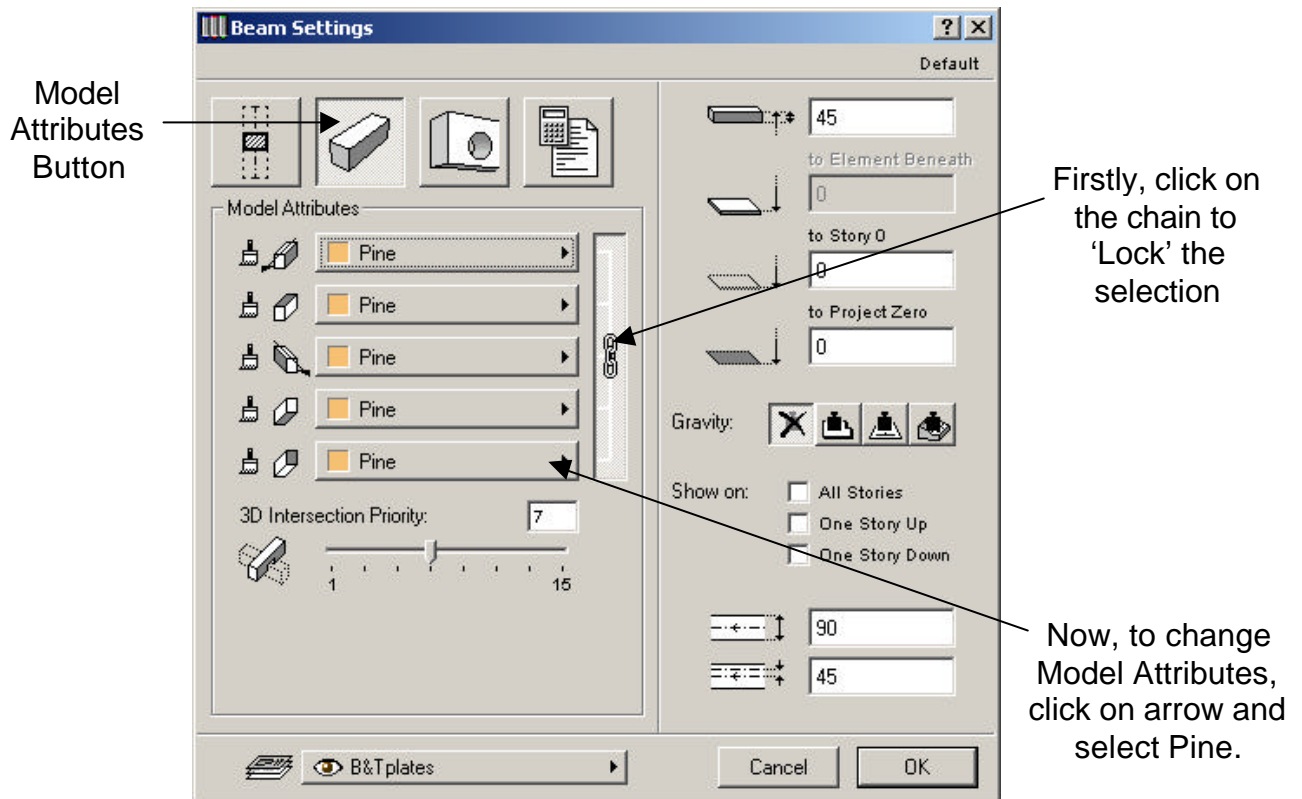
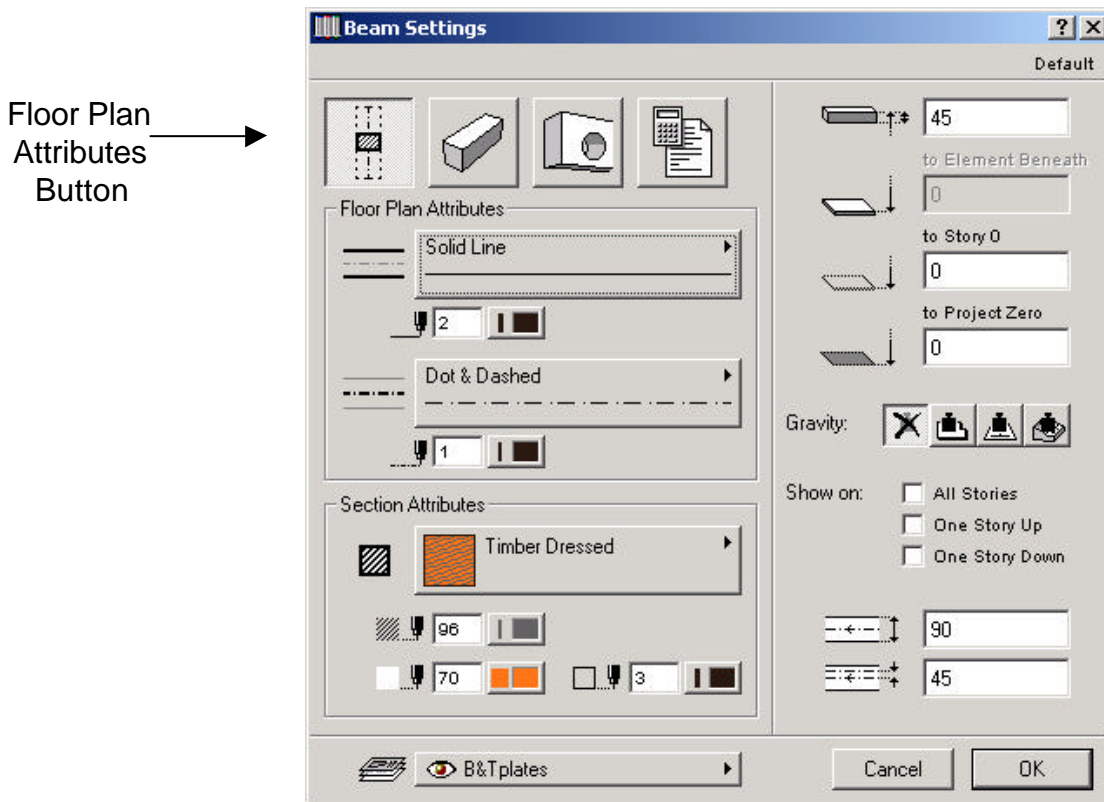
Sizes of material used will be as determined in the main Framework I

Drawing will commence from the *Global Origin* ✕ point.

## Framework Timber Framed Walls - Space for Door




**Note:** you can use the **TAB** key to highlight and change settings or you can click and drag over settings to change them.

Double click the **Beam Tool**  and set with information shown as below:




Click OK



## Framework Timber Framed Walls - Space for Door

**Move the cursor** to the *Origin Zero*  and click when it changes to a *checkmark*  cursor. As you move it will change to a full pencil .

*Type r and then 10000*  
*Press TAB*  
*Type 0 and press enter*

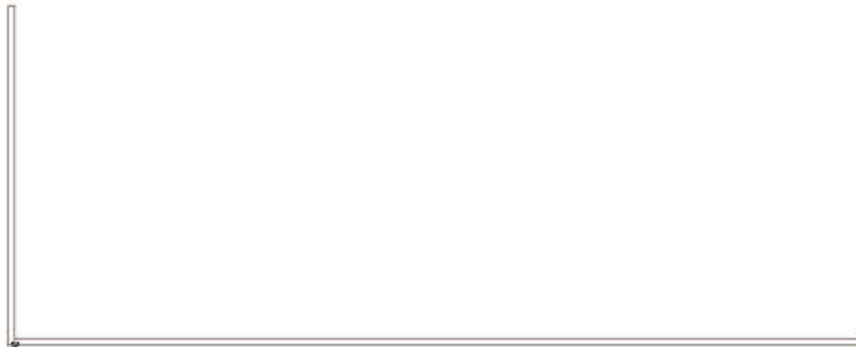
Use *Zoom Tool*  to draw a box around the bottom plate.




**Move cursor back** to *Origin Zero*  and once again click when it changes to a *checkmark*  cursor.

*Type r and 4000*  
*Press TAB*  
*Type 90 and press enter*

**Click on the *Fit in Window*** 



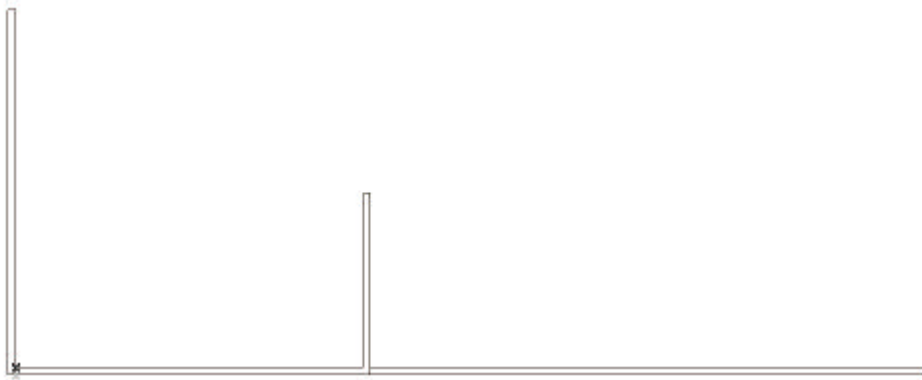
### Placing internal wall

**Move the *Origin Zero***  to the inside left corner, by clicking on *origin zero* in the toolbar and then clicking the inside corner.

*Type r and then 3890*  
*Press TAB*  
*Type 0 and press enter*

*Type r and then 1910*  
*Press Tab*  
*Type 90 click enter*

## Framework Timber Framed Walls - Space for Door



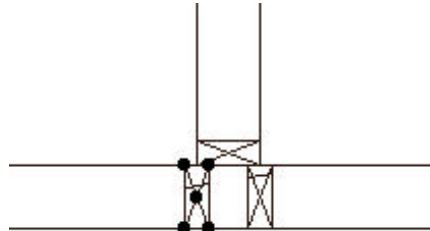
Using the method described in the *placing studs* manual, place the studs for where the internal wall meets the outside bottom plate.

Set the *Column Tool* as per *placing studs* manual (**stud height = 2310**). Use middle anchor points to attach the stud so that half is either side of internal frame as below:



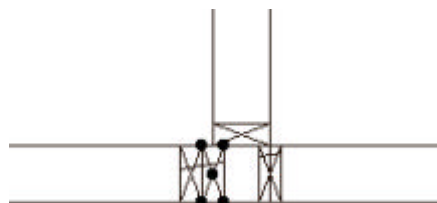
### Placing studs to suit doorframe opening

Click the *Arrow Tool*  and select the stud.



**Right mouse click** on the stud and choose 'drag a copy'. Now click on the top right hand node.

Type *r* and then *35*  
Press *TAB*  
Type *180* and press enter



We will now set a stud at 900 spacing.

## Framework Timber Framed Walls - Space for Door

**Right click** the same stud as above and choose 'drag a copy'. Now **click on** one of the selection nodes and:

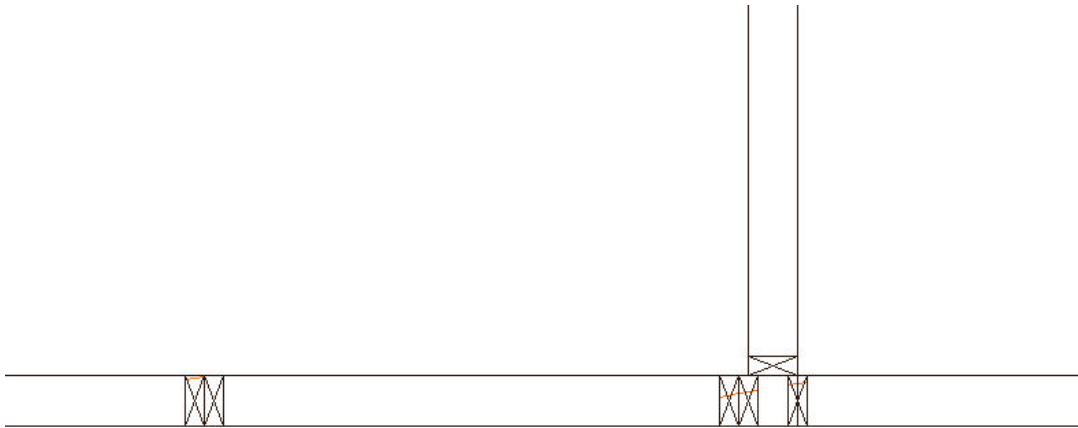
*Type r and then 935  
Press TAB  
Type 180 and press enter*

You now need to place a stud to the side of your new door gap. **Right click** your newest stud and choose 'drag a copy'.

Now click on the top right hand node and:

*Type r and then 35  
Press TAB  
Type 180 and press enter*

Your drawing should be as below:



### Cutting Plate in door way


**Hold down the Control Key** and you will see the cursor change to *scissors*  $\Xi$ . This is what will be used to trim the section of the plate not required.

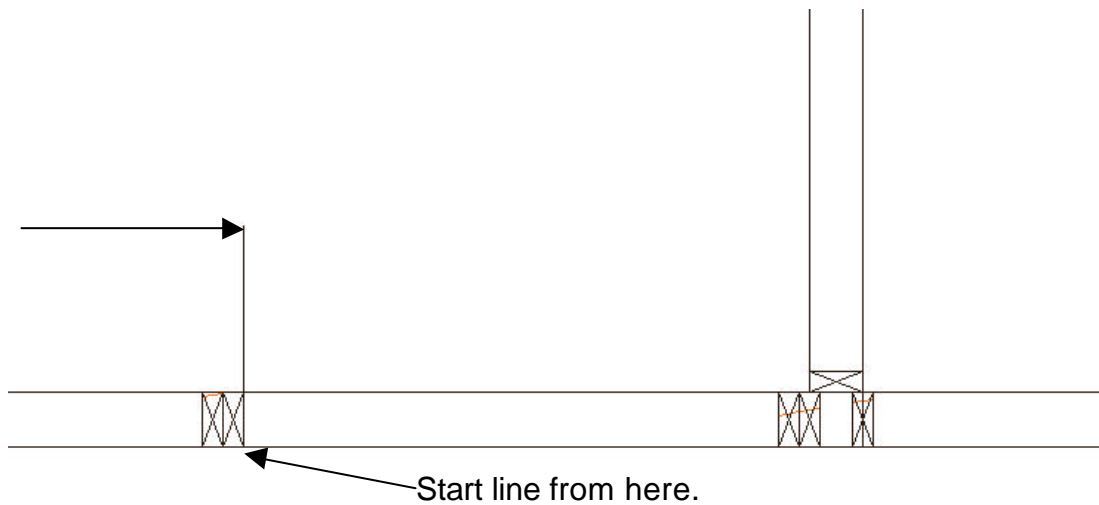
**Note:** *if holding control key scissors do not appear you may have the plate selected, i.e. if an object has selection nodes on click on the screen to deselect the object and try the process again.*

**Firstly to cut the section** not required, two lines have to be drawn from the inside of the studs as below.

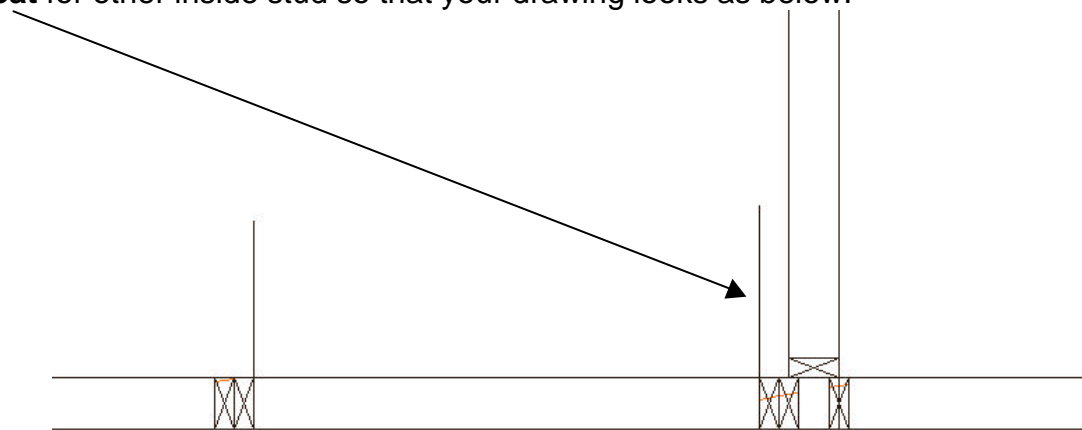
These lines can be any length but hold the **shift key down** when drawing so that they remain straight.

## Framework Timber Framed Walls - Space for Door

Select your *Line Tool*  and draw a line from the outside plate to inside as below (hold shift key down to keep it straight).



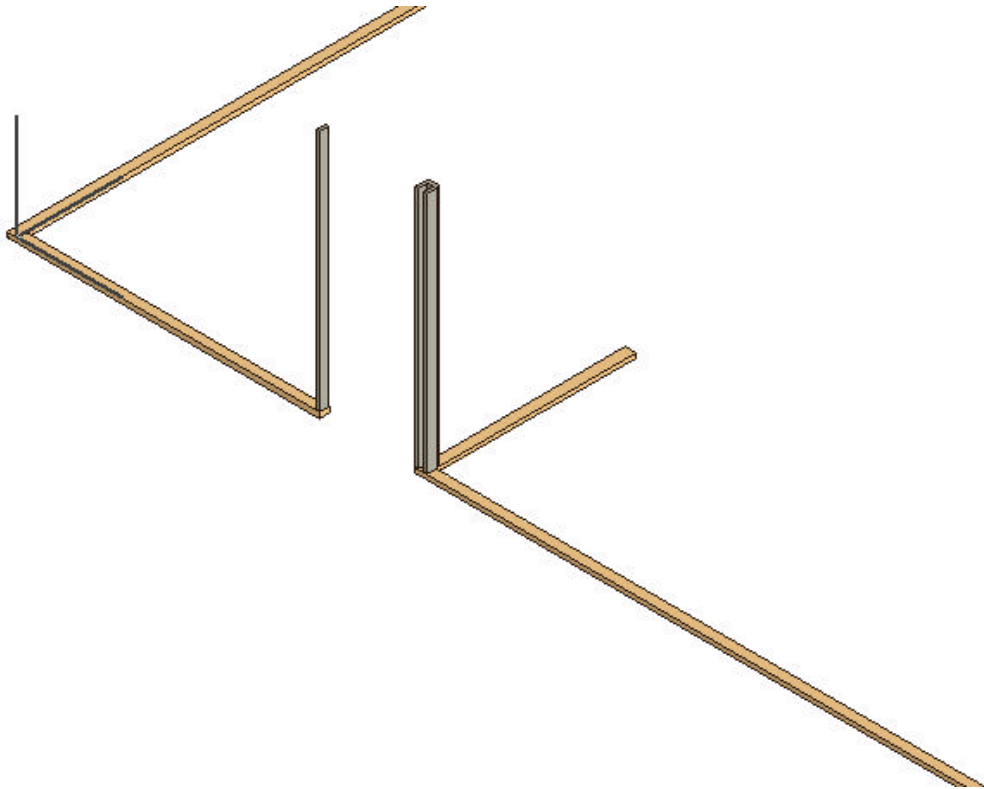
**Repeat** for other inside stud so that your drawing looks as below:



Now **hold down the control key** and when the scissors fill  $\nabla$  (**blades go black**), click on the section of the Plate to be removed. **Right click** on line and choose *clear*. Repeat for other line.

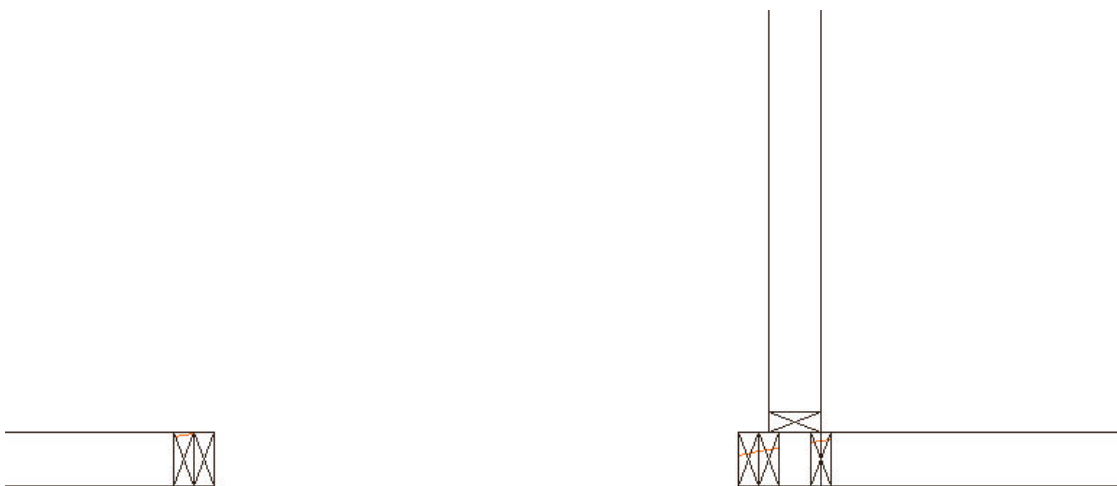


**Check 3D view**



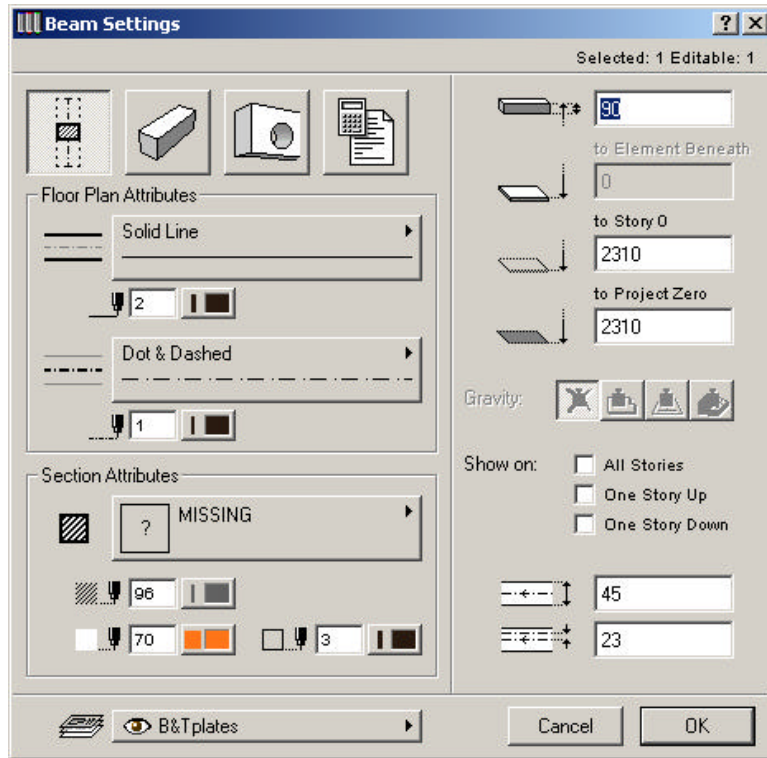
**Placing Lintel**

First place second stud next to door studs. Do this by selecting the stud, right click and then from the pop up menu select '*drag a copy*'. Now click on one of the selection nodes and move into place.

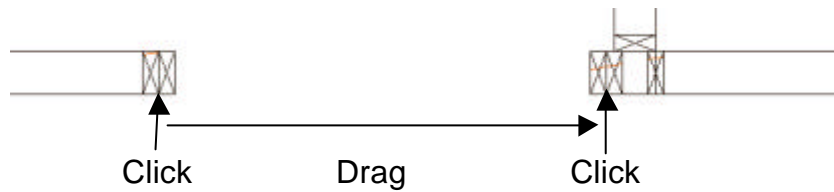


## Framework Timber Framed Walls - Space for Door

Double click *beam tool*  and set as below:



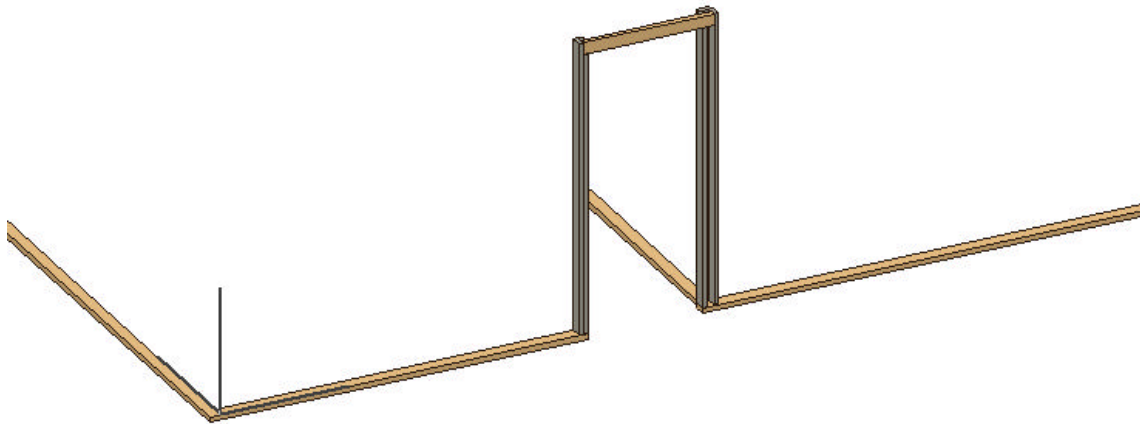
Click and drag beam into position. Note the starting point.



Should be as below:

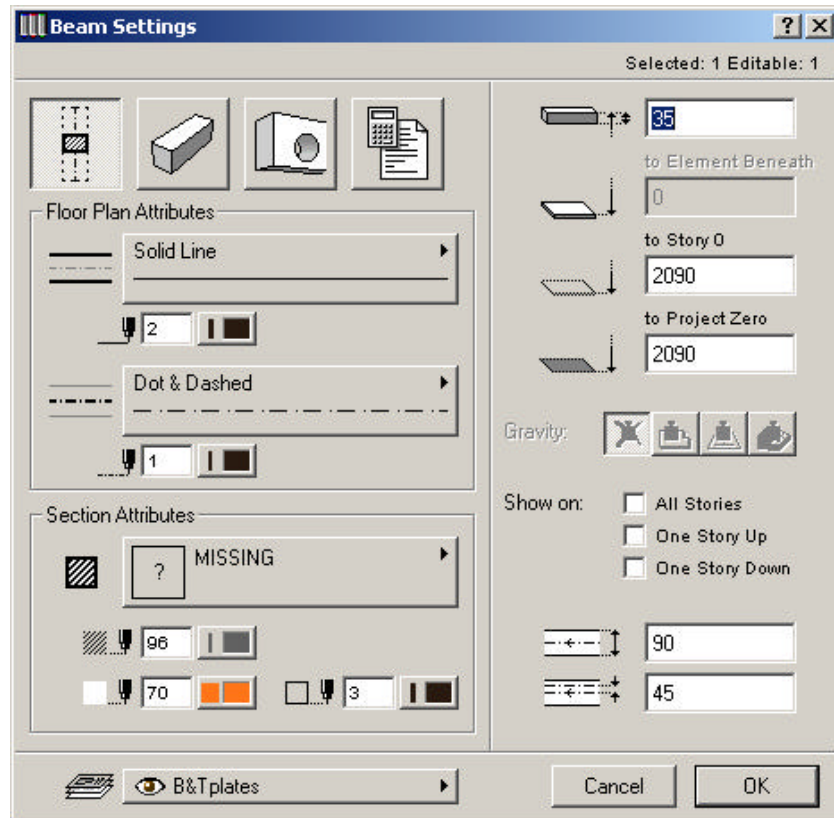


**Check 3D View**



Placing trimmer

Double click the *Beam Tool*  and set out as below:



Click and drag as below: *Note the starting point.*



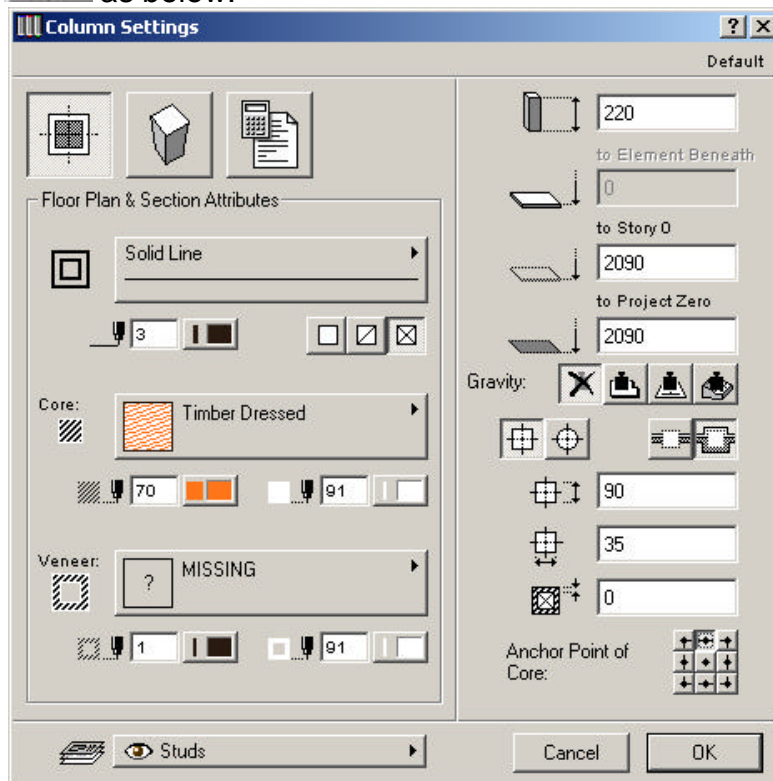
Check 3D view




Return to 2D view

### Placing Jack Stud

Set *Column Tool*  as below:

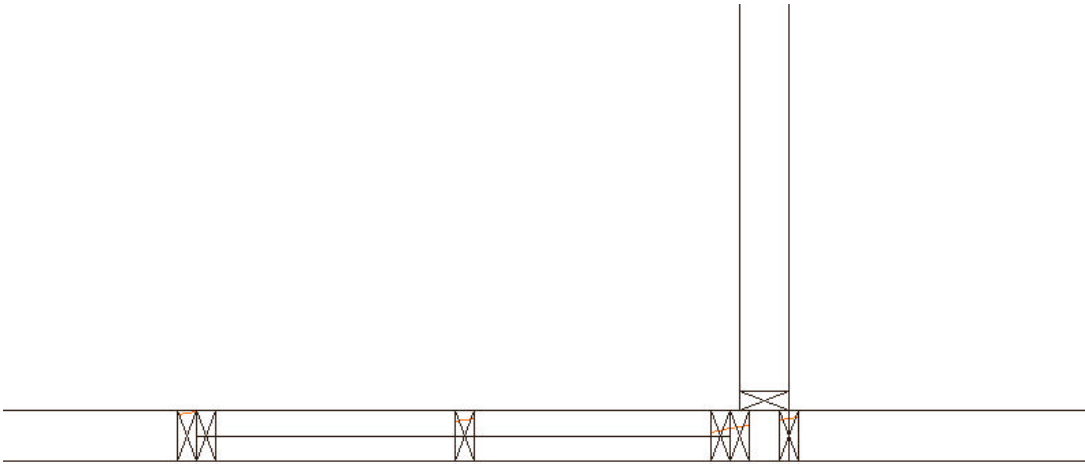


Move user origin  to inside door stud.

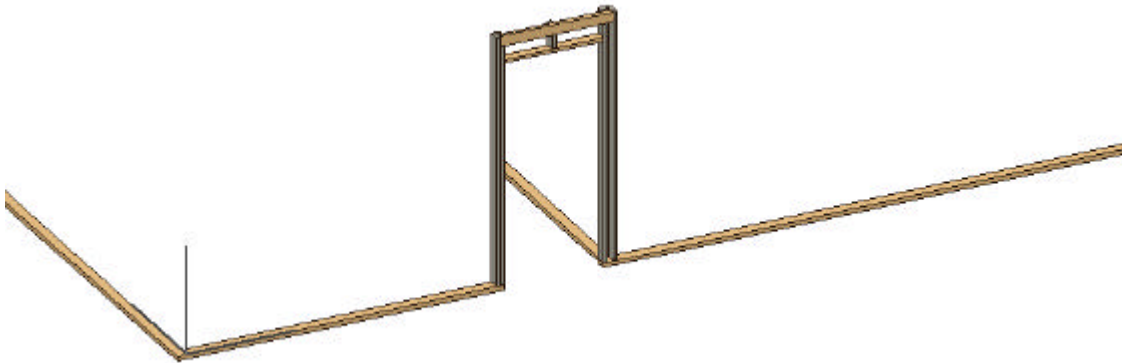
Type *r* and then 450  
Press TAB  
Type 0 and click OK

## Framework Timber Framed Walls - Space for Door

Should be as below:



Check 3D view



Return to 2D view

Save your work

**Note:** The door to the toilet will require the stud setting (90, 35) to be changed to 35, 90. You should now understand how to drag a copy 300 toward the outer wall in the Laundry to get a starting stud for the door. All other sizes should remain the same.