



Training Course: Getting Started with BuildingWorks

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HOW TO WORK THROUGH THIS COURSE

It is essential that you work through this course in sequence, as each exercise relies on knowledge gained in previous exercises. As you complete each exercise, you will build up a set of house plans. Each exercise requires you to have all of the elements from previous exercises completed, otherwise the instructions may not make sense.

Spend as much time as you need on exercises 2 and 3, until you feel confident using the mouse and keyboard in BuildingWorks. These exercises are especially important as they introduce core skills which are crucial to using BuildingWorks successfully. The core skills you learn during these exercises are used time and again throughout the course.

You may find it helpful to print out the House Plans (page 3) and the Shortcut Key Guide (page 4) to refer to as you complete the exercises.

At the start of each exercise, you'll find a link to a video. Each video will introduce and demonstrate the skills you are going to practise during the exercise. You will need to be connected to the internet to watch the videos. To follow the hyperlink to the video, hold down the Ctrl key on your keyboard and click on the link with the left mouse button.

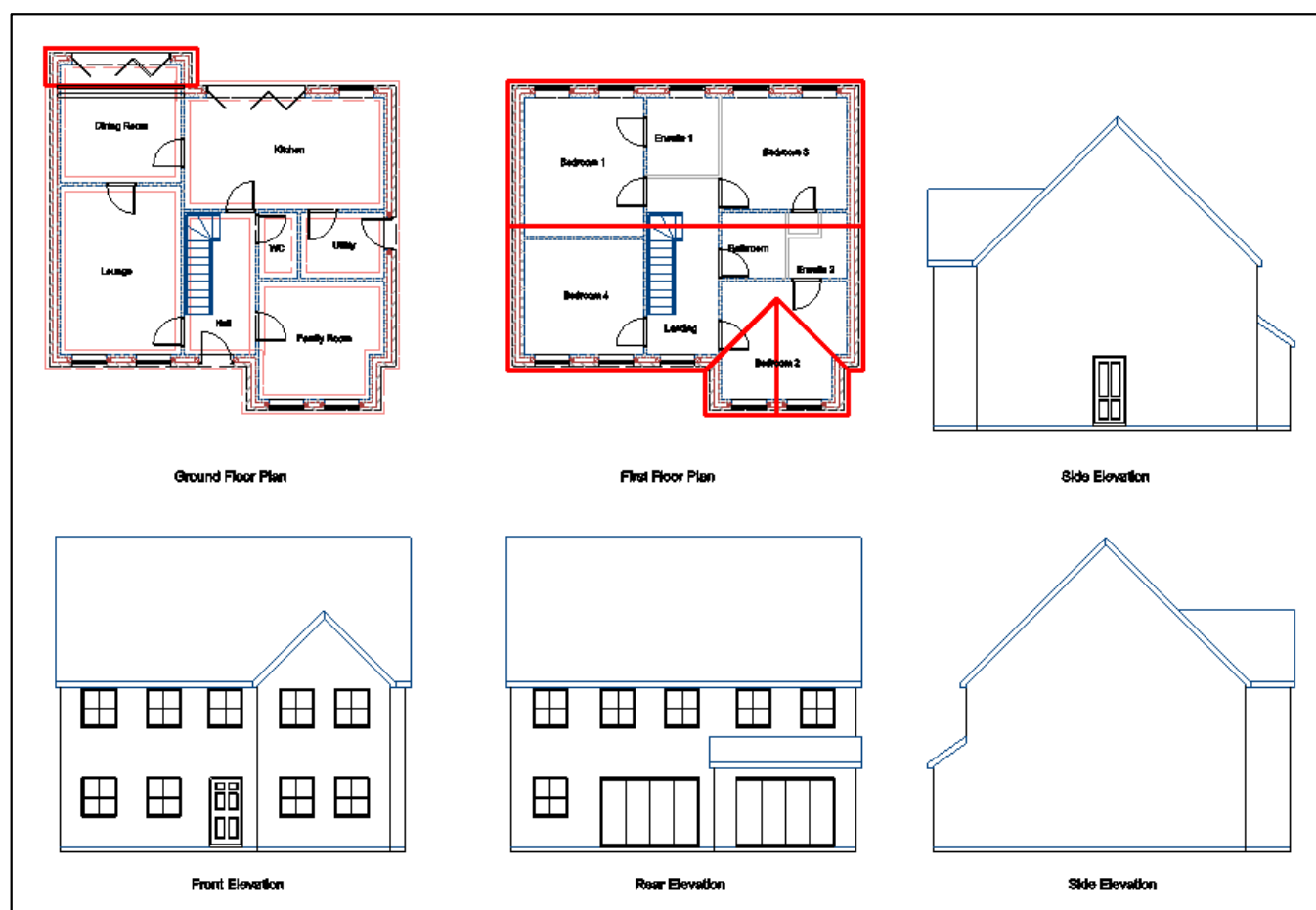
After the video, you'll find a brief introduction to the exercise. You'll then see a list of the skills you'll practise during the exercise. Finally, you'll see step by step instructions for completing the exercise. As it's good practice to save your project regularly, you'll be prompted to save your project at the end of each exercise.

If you're completing this training through your college and you have any queries or questions, please contact your college tutor. Good luck!

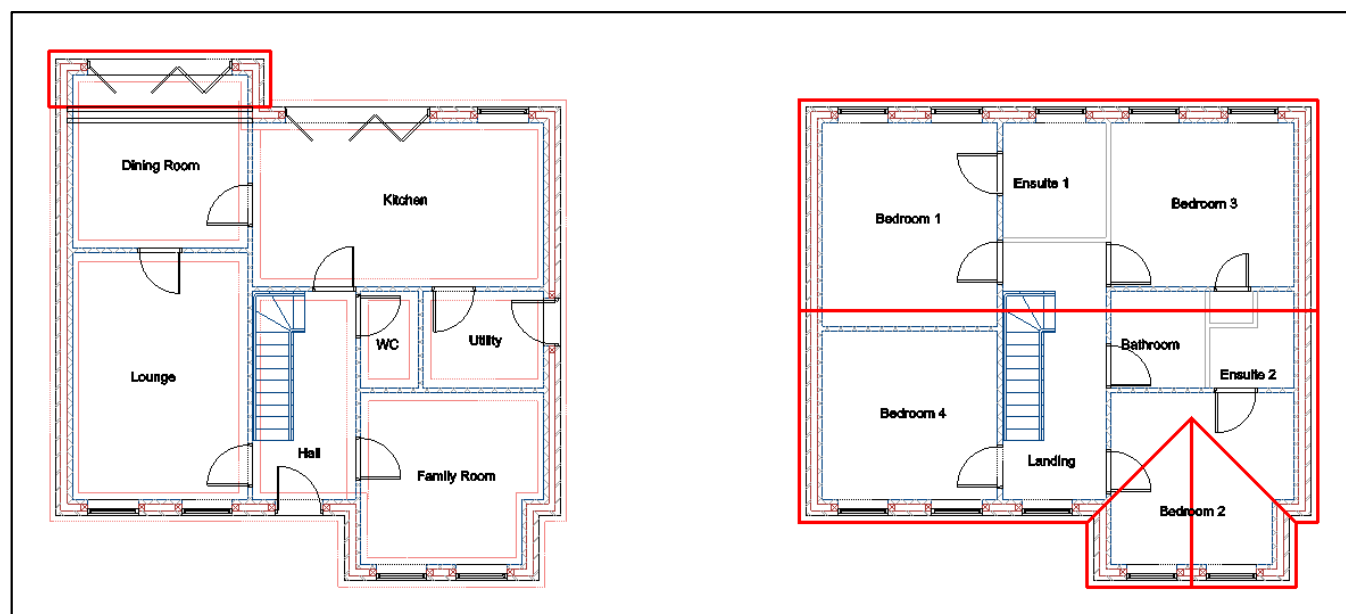
CONTENTS

HOUSE DESIGN	4
DRAWING SHORTCUT KEY GUIDE.....	5
MODULE 1: Getting Started.....	6
Exercise 1: Creating a Drawing	6
Exercise 2: Using the Mouse	7
Exercise 3: Using Shortcut Keys	9
MODULE 2: Drawing the Walls	12
Exercise 4: Drawing Construction Lines	12
Exercise 5: Drawing External Walls	15
Exercise 6: Drawing Internal Walls	18
MODULE 3: Inserting Openings	22
Exercise 7: Placing Doors	22
Exercise 8: Placing Windows	25
MODULE 4: Adding Stairs and Slab.....	28
Exercise 9: Inserting Stairs	28
Exercise 10: Adding the Ground Floor Slab	31
MODULE 5: Creating the First Floor	34
Exercise 11: Creating an Additional Storey	34
MODULE 6: Drawing the Roof	37
Exercise 12: Drawing the Lean-to Roof	37
Exercise 13: Drawing the Apex Roof	40
MODULE 7: Drawing Elevations.....	43
Exercise 14: Drawing 2D Elevations	43
MODULE 8: Adding Details	46
Exercise 15: Adding Dimension Lines	46
Exercise 16: Adding Labels	48
MODULE 9: Exploring the Estimate	50
Exercise 17: Swapping a Resource	50
MODULE 10: Using the Output.....	52
Exercise 18: Setting up the Build Programme	52
Exercise 19: Creating a Quote	55

HOUSE DESIGN
















Drawing Layout



Ground Floor and First Floor Layout

DRAWING SHORTCUT KEY GUIDE

Key	What does it do?	How do I use it?
	Switch on Snap mode	Press F7 to switch to Snap mode in order to snap to End, Intersection and Perpendicular points etc.
	Switch on Dimension mode	Press F8 to switch on Dimension mode in order to place items by measuring or using X and Y coordinates.
	Enter Relative input	First indicate the point you want to be relative to. Hover the cursor over an existing snap point (End, Nearest etc.) and press the R key to select the point you want to be relative to. Then press an arrow key to enter the distance to the point you are placing. Snap mode must be enabled.
	Change the Justification of a wall, door or window	When drawing walls, press the J key to specify which side of the wall to place with your mouse clicks. When placing windows and doors, press the J key to specify whether to measure to the left, right or centre of the window or door.
	Flip the walls	Press the F key to Flip a multi-leaf wall, or in other words change the external side of the wall, whilst drawing it.
	Fill an enclosed space	Press the F key to fill an enclosed space, for example when placing an area of slab or ceiling within a room. Hover your cursor over the area you want to fill and press the F key.
	Tee into an existing roof or wall, when drawing roofs	When prompted by the onscreen instructions, press the T key, then click on the wall or roof you want to tee into.
	Enter direction and distance	Press one of the arrow keys to specify the direction of the next point, and to enter the distance into the dialog box.
	Draw straight line	Hold down the Shift key to draw a straight or diagonal line, including walls. As you move your cursor, it will be restricted to drawing lines at 0°, 45°, 90°, 135°, 180° etc.
	Delete one or multiple items	Press the Delete key to delete items you have selected.
	Cancel the current action	Press the Escape key to cancel the current action.
	Move to next input box in Component Builders	Press the Tab key to move to the next input box in Component Builder dialog boxes, in order to enter dimensions.
	Change active dimension when placing windows and doors	When placing windows or doors, press the Tab key to change the end of the wall BuildingWorks is measuring from.

MODULE 1: Getting Started

Exercise 1: Creating a Drawing

Watch the following video: How to create a drawing (6 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000039212-how-to-create-a-drawing>

Introduction:

When you launch BuildingWorks, the first screen you'll see is the Home Screen. From here you can create new projects and open existing ones.

To get started with the software, you need to create a project. A project encompasses all of the work you're undertaking for a client on a specific site. A project may consist of just one job – for example, an extension - or multiple jobs – as in the case of a development with multiple houses.

Key skills you will be practising:

- Creating a new project
- Entering the project details

Instructions:

1. From the Home Screen, click **New** on the left-hand menu.
2. Tick the items you want to include in your project. Click **Drawing** and **Estimate** will automatically be selected.
3. Once Drawing is ticked, select the **A1 1:50 Plain Page** drawing template from the dropdown box. The template you select controls the page size, scale, and orientation. There are also options with a notes block. It is possible to change these settings later from within the Drawing module.
4. Once Estimate is ticked, select the **New Build** labour productivity profile from the dropdown box. The labour productivity profile you select will set the labour allowances for each of the tasks within your estimate. The extension and renovation labour productivity profiles generally allow more time for each task to be completed. You can customise the labour allowance for each type of labour from within the Estimate module
5. Tick the option to start on the Project Details screen.
6. Click **Create Project**. The Project Details screen opens up.
7. Click the **Add** button next to the **Client** dropdown box. The Add Contact opens up.
8. Click ... at the end of the Full Name input box. The Edit Name dialog box opens up.
9. Type the client's name into the various fields: **Mr Peter Finch**
10. Click **OK**.
11. Type the address into the appropriate fields: **6 Birch Farm, Cotes, Leicestershire, LE12 3AB, 07123 456789**.
12. Click **OK**.
13. Tick the **Use client address for site address** tick box as the site address is the same as the client address.
14. Click the **Save As Project** button at the very top of the screen, on the left. It's the button with the icon of a floppy disk and arrow. The Save As dialog box opens up.
15. Find a suitable location to save the file on your computer.
16. Type in the Project Name: **Upton Fields 1**.
17. Click **Save**.
18. Click **Drawing** on the Project Explorer on the left of your screen, to open your drawing.

Exercise 2: Using the Mouse

Watch the following video: Basic drawing skills: How to use the mouse when drawing (8 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000018965-basic-drawing-skills-how-to-use-the-mouse-when-drawing>

Introduction:

There are a few essential mouse skills you need to master to be able to draw effectively in BuildingWorks. In this exercise, you'll practise a number of key mouse skills.

Note: The scroll wheel is an essential tool when drawing in BuildingWorks. If you haven't got a mouse with a scroll wheel, you can pick one up from a PC shop or local supermarket.

Key skills you will be practising:

- Locating the architectural elements for your design
 - Zooming in and out
 - Dragging the page around (also known as panning)
 - Using the undo/redo buttons (and Ctrl+Z and Ctrl+Y shortcut keys)
 - Selecting items
-

Instructions:

Zooming and dragging the drawing page/panning

1. Place your cursor over the corner of the drawing page. Scroll the scroll wheel towards the screen. BuildingWorks zooms in around the original cursor position.
2. Scroll the scroll wheel away from the screen to zoom out again.
3. Move your cursor to a new position. Scroll towards the screen to zoom in on the new position.
4. Pan or drag the drawing page by holding down the scroll wheel on your mouse. If you have a mouse with a separate middle click button, you'll will need to use the middle click button instead of the scroll wheel. A hand icon appears on screen.
5. Move the mouse around the drawing area until you're happy with the position of the page.

Locating the architectural elements

6. Click on the **Architectural** tab. Here you'll find all of the building elements you'll need on your drawing, such as walls, windows, staircases and roofs.
7. Click on the **External** button.
8. Select the **Brick & Block Cavity Walls** type.
9. Skip through the Wall Component Builder dialog boxes so that we can focus on the mouse skills needed to draw the walls. Click **Next** to select the first Specification
10. Click **Next** to select the Configuration.
11. Click **Next** to select the Foundation Specification.
12. Then click **Accept Defaults** to select the default foundation, footing and wall dimensions. If you've already used the chosen wall specification, BuildingWorks will skip past the foundation and footing dimensions so all you need to do is click **Finish**.

Drawing a rectangle of walls

13. BuildingWorks is now ready for you to draw your walls. For this example, we're going to draw a rectangular building.
The Instructions Window prompts: Click to place the start point.

Click and release your left mouse button on the drawing area, to place the first point of the walls.

! Remember to click and release the left mouse button; don't hold it down.

14. The Instructions Window prompts: Click to place the next point.

To ensure your walls are straight, hold down the **Shift key** on your keyboard. As you move your cursor, you'll see that BuildingWorks is restricted to drawing the walls at a 90 degree, or 45 degree, angle.

15. Holding down the **Shift key**, move your cursor to the right of the first point.
16. Once you've positioned your cursor where you want to place the next point of the walls, click your left mouse button to place it.
17. Hold down the **Shift key** once again and move your cursor down the screen.
18. Click the left mouse button to place the next point of the walls.
19. The Instructions now tell you to: Click to place the next point or (U)ndo, (C)lose, (S)quare or (Escape) to End. Hover your cursor over the first point of the walls, the word Endpoint will appear on screen.

! If dimensions are showing at this point, you'll need to press the **F7 key** on your keyboard to switch to Snap mode, allowing you to snap to points on the drawing. Alternatively, click the **Snap** button at the bottom right of the screen. The **Snap** button has an icon of 4 green arrows pointing to a square.

When in Snap mode, the button becomes highlighted in blue.

20. Move your mouse down the screen. A line will appear linking the Endpoint and the cursor. Move your cursor to roughly where you want to place the next point, and then hold down the **Shift key**. BuildingWorks will ensure the wall you're drawing is at right angles, whilst using the X coordinate of the Endpoint to place the latest point.
21. Click the left mouse button to place the point.
22. The Instructions Window prompts: Click to place the next point or (U)ndo, (C)lose, (S)quare or (Escape) to End.
To complete your walls, hover over the first point of your walls to locate the Endpoint once again.
23. Click the left mouse button to place the final point of the wall.
24. Now press the **Escape key** on your keyboard to finish drawing the walls.

Undoing an action

25. If you make a mistake or want to undo something you've just done, click the **Undo** arrow button at the top of the screen. You can use the **Undo** button to undo anything – you can even undo a delete. You can click the **Undo** button repeatedly to undo several actions.
26. On the other hand, you can click the **Redo** arrow button to redo the last action.

Selecting an item

27. If you want to select an item on screen, simply click on it using the left mouse button. Once an item is selected, it will be displayed with dashed lines. You'll also notice red and blue handles which can be used to move and modify the item.

Selecting multiple items

28. If you place your cursor to the top left of a group of items you want to select, hold down the left mouse button and drag your mouse down and to the right, a purple/blue selection box will appear. Only the items full enclosed within the box will be selected.
29. If you place your cursor to the bottom right of the items, hold down the left mouse button and drag your mouse up and to the left, a green selection box will appear. Any item partially or fully enclosed by the box will be selected. Note that items don't have to be entirely enclosed to be selected.

Exercise 3: Using Shortcut Keys

Watch the following video: How to use shortcut keys when drawing (9 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000036861-basic-drawing-skills-how-to-use-shortcut-keys-when-drawing>

Introduction:

This exercise builds on the mouse skills taught in exercise 2, introducing a number of shortcut keys to speed up your drawing. You may find it useful to refer to the BuildingWorks Drawing Shortcut Key Guide on page 4 during this exercise.

Key skills you will be practising:

- Drawing walls at right angles using the Shift key
 - Closing a wall via the shortest right-angled route using the S key
 - Drawing walls using the arrow keys
 - Closing a wall via the shortest route using the C key
 - Undoing and redoing actions using the Ctrl+Z and Ctrl+Y keys
 - Switching on Dimension mode using the F8 key
 - Switching on Snap mode using the F7 key
 - Repeating the last action by middle clicking
 - Using the R key to place a new item relative to an existing one
 - Finishing doing an action using the Escape key
 - Deleting items using the Delete key
-

Instructions:

Recap: Drawing walls at right angles using the Shift key

1. Click the **External** button on the **Architectural** tab.
2. Select the **Brick & Block Cavity Walls** type from the dropdown menu.
3. Skip through the Wall Component Builder, as the focus of this exercise is to learn how to use the shortcut keys when drawing walls and other elements.
Select the **ALREADY USED** specification
4. Click **Next**.
5. Click **Next** to select the default Configuration.
6. Click **Finish**.
7. BuildingWorks is now ready for you to draw your walls.
The Instructions Window prompts: Click to place the start point.
Drag the drawing page so that you can see a clear area by holding down the scroll wheel and dragging the page across.
8. Click the left mouse button to place the first point of the wall.
9. The Instructions Window prompts: Click to place the next point.
! Remember, if you hold down the **Shift key** on your keyboard and move your cursor, the wall is locked so you can draw it at either a 90 degree or 45 degree angle.
Holding down the **Shift key**, move your mouse to the right.
10. Click the left mouse button to place the next corner of the building.
11. Draw the second side of the rectangle in the same way.

Closing a wall via the shortest right-angled route using the S key

12. The Instruction Window prompts: Click to place the next point or (U)ndo, (C)lose, (S)quare or (Escape) to End.

! This instruction indicates some shortcut keys you can use at this point – the U key to undo, the C key to close the walls, the Escape key to end drawing the walls etc. Look out for these shortcut key prompts on the Instructions Window, as you're drawing. When you've got two walls left to draw, you can also use the s to complete your walls.

Press the **S key** on your keyboard. BuildingWorks automatically completes the walls by joining them up to the starting point, via the shortest right-angled route. Pressing the **S key** works when you want to draw the final two, perpendicular, walls of your building. After you press the **S key**, BuildingWorks will assume you've finished drawing the walls and will drop the wall drawing tool.

Drawing walls using the arrow keys

13. You can also set out your walls by entering the length of each wall. To do this, you'll need to use the arrow keys, which you can find at the bottom right of your keyboard.
To draw the same type of wall again, middle click on your mouse. This means clicking the mouse scroll wheel, unless you have a middle click button, in which case you should use this. When you middle click, BuildingWorks repeats your last action – in this case, drawing a Brick & Block Cavity Wall with the chosen specification.
14. You can see that BuildingWorks is ready to draw another wall. The Instruction Window prompts: Click to place the start point.
Click the left mouse button to place the first corner of the walls.
! If you look at the bottom right-hand corner of the screen, you'll notice that the Snap button has appeared, highlighted in blue, telling us that we're in Snap mode. Snap mode is a way of interacting with your drawing; it allows you to click on points on your drawing, such as end points, intersection points and perpendicular points. The X-Y Coordinate button has also appeared. If you click on this button, BuildingWorks will switch to dimension mode, and dimensions appear on the wall you're drawing. To enter the wall dimensions using arrow keys, you need to be in dimension mode. Another way of switching on dimension mode, is to press the F8 key on your keyboard.
15. Press the **F8 key** on your keyboard. Check that the X-Y Coordinate button has turned blue.
16. Press the **right arrow key** on your keyboard.
17. The distance dialog box pops up, prompting you to enter the distance to the next point. Type the length of the wall into the distance dialog box: **10500** or **10.5**. Check the units your software is set to use (mm or m) and enter the appropriate figure. From now on in this training, all dimensions will be shown in mm as this is the default setting.
18. Click **OK** to confirm the distance.
BuildingWorks automatically places the next point of the wall 10500mm to the right.
19. Now click the **down arrow key** on your keyboard.
20. Type the length of the wall into the distance dialog box: **8500**.
21. Click **OK** to confirm the dimension (alternatively, press the **Return** key on your keyboard).
22. Continue in this way, pressing the **left arrow key** and entering a dimension of **10500** into the distance dialog box.

Closing walls via the shortest route using the C key

23. Once you've placed the third side of the rectangle, press the **C key** on your keyboard to close the walls.
C stands for close. The C key can be used to close any item and it will always close the item by the shortest possible route. After you press the C key, BuildingWorks will assume you've finished drawing the walls and will drop the wall drawing tool.

Undoing and redoing actions using the Ctrl+Z and Ctrl+Y keys

- ! If you make a mistake, the quickest way to undo the mistake is to hold down the Ctrl and Z keys on your keyboard. When you hold down Ctrl and Z, BuildingWorks will automatically undo the last action. To redo the last action, hold down the Ctrl and Y keys on your keyboard.

Using the R key to place a new item relative to an existing one

Another really useful shortcut key is the R key. You can use the R key to place an item relative to an existing point on the screen. For example, you could use R key to place a garage wall a certain distance from the corner of the house.

24. Middle click to draw the same type of wall again.
25. Hover your mouse over the back-right corner of the house until the Endpoint appears.
26. Press and release the **R key** on your keyboard.
27. You'll notice that dimensions once again appear on screen, this time linking the Endpoint with your cursor. Now you can use your arrow keys to tell BuildingWorks where to place the start point of your new walls.
28. Press the **up arrow key** on your keyboard.
29. Type in the dimension: **3000**.
30. Click **OK**.
31. BuildingWorks will start the new wall the given distance above the Endpoint on the existing wall. Continue drawing a rectangle to add a garage to the drawing.

Finishing doing an action using the Escape key

- ! If you want to stop drawing your walls at any point, simply press the **Escape** or **Esc key** on your keyboard. Pressing the **Escape key** will drop the wall drawing tool.
- ! To resume drawing your walls, click the middle mouse button to draw the same type and specification of wall again. Hover your cursor over the last point of the wall you placed, until Endpoint appears. Click the left mouse button to continue drawing your walls from this point.

Deleting items using the Delete key

32. Delete all of the items on screen by drawing a left to right selection box which encloses every item.
33. Press the **Delete key**.

MODULE 2: Drawing the Walls

Exercise 4: Drawing Construction Lines

Watch the following video: How to draw construction lines (7 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000036862-how-to-draw-construction-lines>

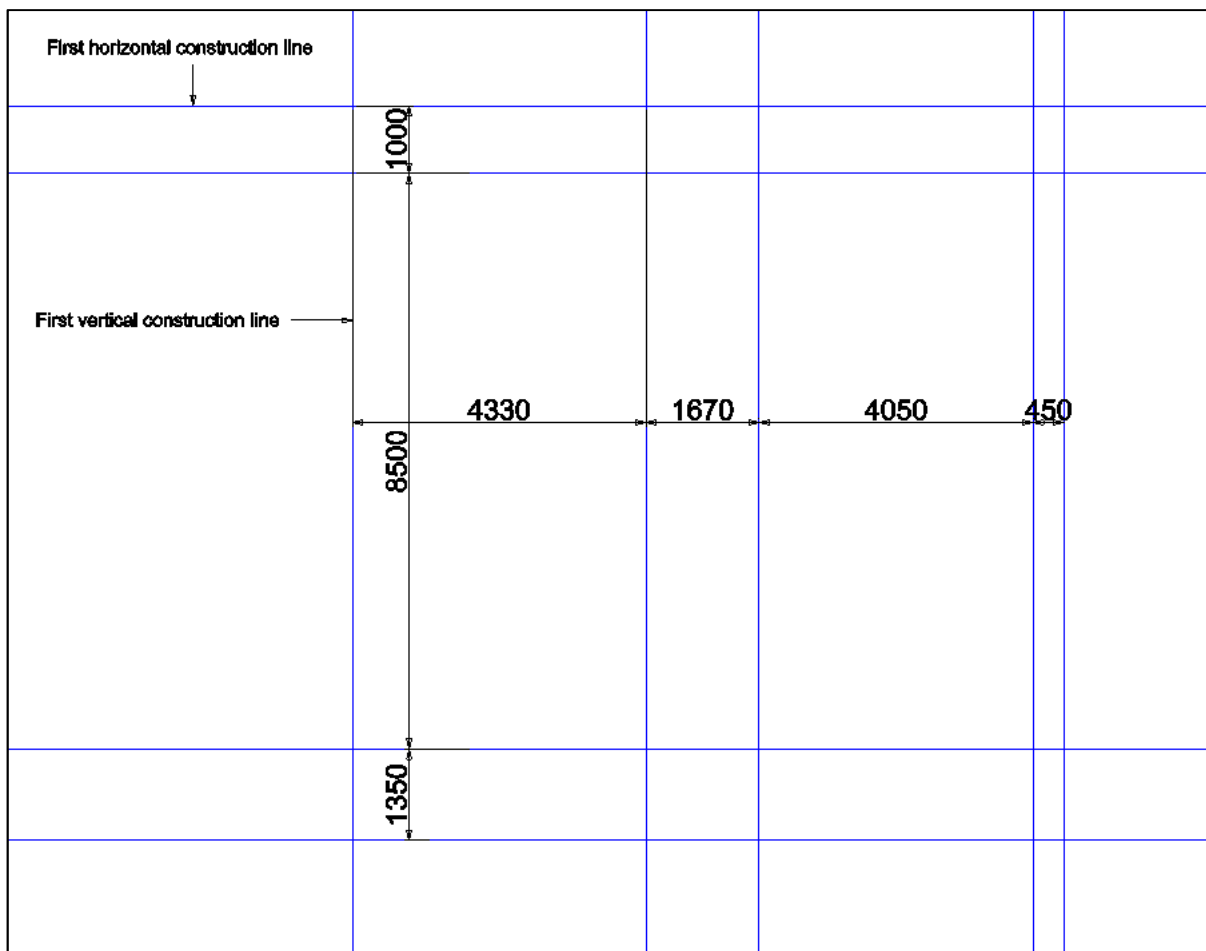
Introduction:

Construction lines can be used to help you set out elements of your design. You may want to use construction lines as a reference for drawing the overall footprint of your building or for creating a drainage layout, for example.

Key skills you will be practising:

- Placing construction lines
- Switching on Snap mode using the F7 key
- Switching on Nearest snap
- Using the R key and arrow keys to place items relative to existing items on the drawing area
- Dropping a tool using the Escape key
- Hiding and deleting construction lines

Refer to the diagram below to complete this exercise:



Instructions:

Drawing horizontal and vertical construction lines

1. Click on the **Drawing & Annotation** tab at the top of the screen. In the middle of the **Drawing & Annotation** tab, you'll see a range of construction line tools. To set out the external walls of a house, you'll usually just need horizontal and vertical construction lines.
2. Select the **Horizontal** construction line tool. Once you've selected a construction line tool on the ribbon, you'll see that you are effectively holding the construction line with the cursor - all you need to do is click to place it.
3. The Instructions Window prompts: Click to indicate point.
4. Zoom in on the top left-hand corner of the drawing page. To zoom in, place your cursor on the area of the page you want to zoom into and scroll the mouse wheel towards the screen.
5. Place your cursor where you want to position the construction line.
6. Click the left mouse button to place the construction line.
7. Now we're going to place a vertical construction line to set out the left-hand wall. Click the **Vertical** construction line button on the **Drawing & Annotation** tab.
8. The Instructions Window prompts: Click to indicate point.
Place your cursor to the left of the drawing page.
9. Click the left mouse button to place the construction line.

Placing a construction line relative to a construction line you've already drawn

10. Now place another vertical construction line 4330mm to the right of the first vertical construction line. Hover your cursor over the vertical construction line you've already drawn. A message pops up next to your cursor saying "Nearest". This means your cursor is snapping to this construction line. If "Nearest" doesn't appear, click the **Nearest Snap** button at the top right of the screen.
! Don't click on the Nearest snap point, just place your cursor over it.
11. To position the next vertical construction line relative to this one, press the **R key** on your keyboard.
12. Building Works now shows some measurements relative to the point on the construction line. To place the next construction line, press the **right arrow key**. This indicates that the next construction line is to the right of the first one.
13. The Distance dialog box will pop up.
Type in the distance to the next construction line: **4330**. This figure is given in mm.
14. Click **OK** to confirm the distance.
Building Works automatically places the construction line 4330mm to the right of the first vertical construction line.
15. After entering a dimension, the software returns to dimension mode. To use the Relative tool again, switch back to Snap mode. To select Snap mode, click the **F7 key** on your keyboard or press the **Snap** button at the bottom right of your screen.
16. Continue placing your vertical construction lines in this way, repeating steps 10 to 15 and referring to the diagram at the start of this chapter.
17. Once you've placed the final one, press the **Escape** key to drop the tool.
18. Now let's place a horizontal construction line 1000mm below the first horizontal construction line, as shown on the diagram.
Click the **Horizontal** construction line button to select the horizontal construction line tool.
19. Hover your cursor over the existing horizontal construction line to find the **Nearest** snap point. Remember, you don't want to click on the Nearest snap point, just hover your mouse over it.
20. Press the **R key** to use the Relative tool.
21. Press the **down arrow key** to indicate that you want to place the next construction line below the existing construction line.
22. Type the distance into the Distance dialog box: **1000**.
23. Click **OK**.
The construction line appears 1m below the original construction line.

24. Referring to the diagram, place the other horizontal construction lines. Switch on Snap mode, hover over the **Nearest** snap point on an existing construction line, press the **R key** and then the **down arrow key**, and enter the distance in the Distance dialog box.
25. To tell the software you've finished placing the construction lines, simply click the **Escape key** on your keyboard to drop the construction line tool.

Hiding the construction lines

26. To hide the construction lines, click the **Toggle Visibility** button on the **Drawing and Annotation** tab. You may want to do this to make your drawing look tidier, once you've set out the external walls.
27. To show the construction lines, just click the **Toggle Visibility** button again.
 - ! To permanently delete all of your construction lines, press the **Delete All** button. You might want to do this once your design is complete. You can also select and delete individual construction lines by clicking on them and pressing the **Delete key** on your keyboard.

Saving your project

- ! Don't forget to Save your project. If you press the **Save As Project** button, you can number your drawings each time, then if you make a mistake or need to make a design change, it'll be much easier to retrace your steps.
28. Click the **Save As Project** button.
 29. Type in a name for this version of your project: **Upton Fields 2**.
 30. Click **Save**.

All of the jobs in your project - and therefore all of your drawings and estimates - will be saved when you save your project.

Exercise 5: Drawing External Walls

Watch the following video: How to draw external walls using construction lines (9 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000036865-how-to-draw-external-walls-using-construction-lines>

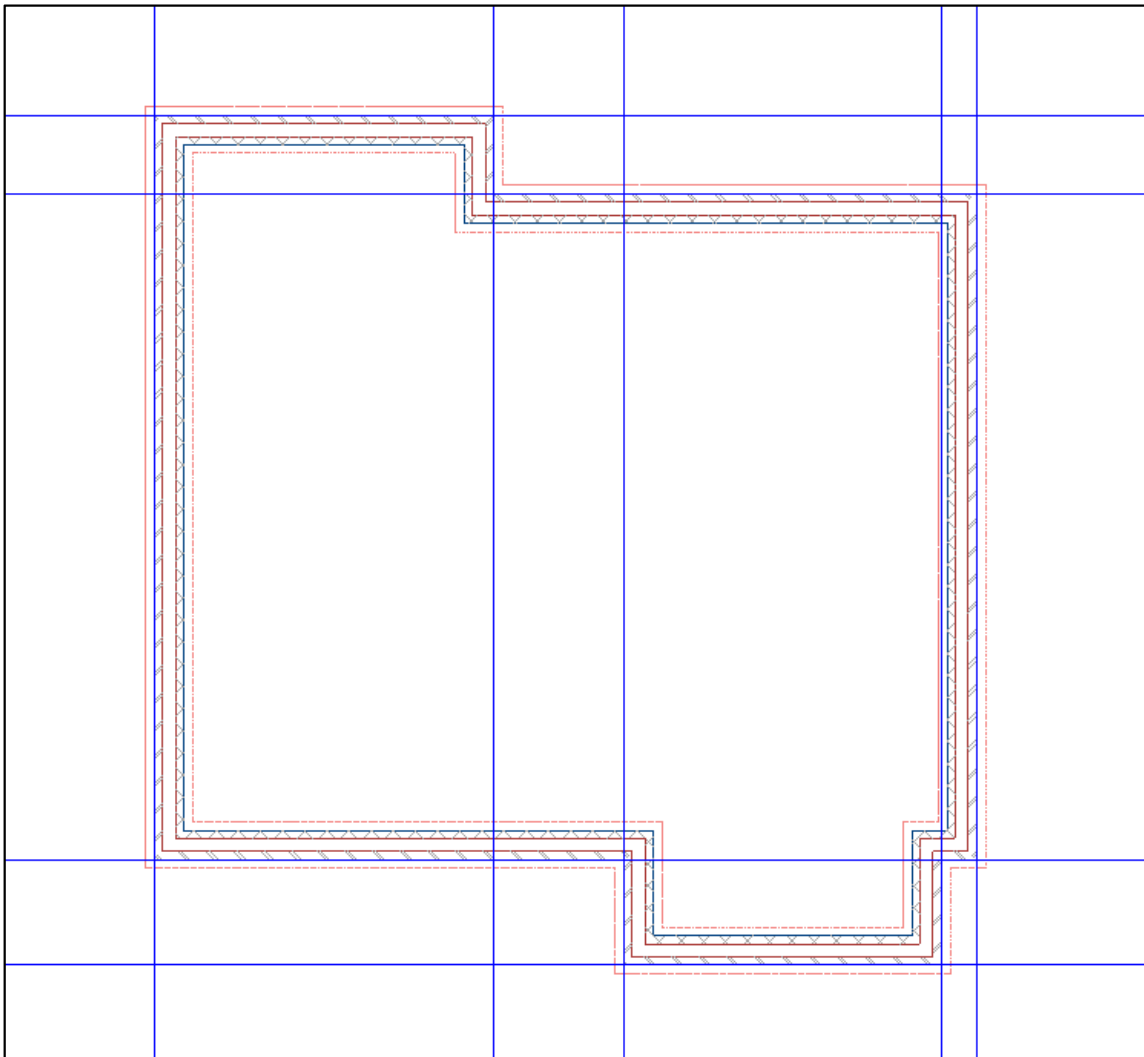
Introduction:

Once you've set out your construction lines, you're ready to start drawing the footprint of your design. In this exercise, you'll learn how to select a type and specification of external wall, how to input your foundation and footing details and wall height, and how to draw the walls by clicking on the intersection points of the construction lines.

Key skills you will be practising:

- Selecting a type and specification of external wall
- Changing the justification and external side of the walls
- Zooming in and out of your drawing
- Placing points on Intersection points
- Completing or closing items using the C and S keys

Refer to the diagram below to complete this exercise:



Instructions:

Specifying the external walls

1. Click on the **Architectural** tab at the top of the screen.
2. Click on the **External** Walls dropdown menu.
3. Select the **Brick and Block Cavity Walls** type.
4. The Wall Component Builder opens up.
Select the specification: **Brick and block full fill cavity wall – Basic Thermal Performance**.
! You can make changes to a specification by clicking on the specification and then clicking the Review Specification button. You can swap or edit a rate or resource within the specification, or delete any rates or resources you don't need. You can also add an item to the specification.
5. Click **Next** to move onto the next page of the Wall Component Builder.
6. Select the **Ground Floor** configuration.
! If you select the Upper Floor option, no foundations and footings will be included.
7. Click **Next**.
8. The next screen prompts you to select a specification for the foundations.
Select **Trench fill foundation to new build**.
9. Click **Next**.
10. Review the foundation dimensions. Leave them set to the defaults for now.
! If the Next button says "Scroll down", it means there are input boxes you need to review further down the screen or that key information is missing. Once you've scrolled down and reviewed all of the dimensions, the Next button will reappear.
11. Click **Next** to continue onto the footing details.
12. The next screen prompts you to select a specification for the footings.
Select: **Brick and 100mm block cavity footing**.
13. Click **Next**.
14. The next screen requires you to select a footing configuration.
! Please ensure your selected foundation and footing are compatible in terms of construction and dimensions.
Select **Cavity wall footing to trench fill foundations**.
15. Click **Next**.
16. Review the footing dimensions. Leave them set to the defaults for now.
! If you're unsure exactly what dimension is required, you can find some advice in the Tech Tip at the top of the wizard.
17. Click **Next** to review the final screen of the Wall Component Builder.
18. Finally, you can enter the dimensions of the wall.
Enter the height of unfinished wall: **225**. The units are shown next to each input box.
19. Select the wall height from the dropdown box: **2700**. Alternatively, type a wall height into the dropdown box.
20. Click **Next**.
21. The final screen allows you to add the cost of a concrete pump for the strip foundations. Type **1** into the Rate Quantity column. This will add 1 day's use to the estimate.
22. Click **Finish**.

Drawing the external walls

23. You're now ready to begin plotting out your walls.
When drawing each of your building components, refer to the Instructions Window. The Instructions explain how to draw or insert each part of your design. The Instructions Window's default position is below the drawing area, near the bottom of the screen.
24. The Instructions Window prompts: Click to place the start point.

Hover your cursor over the point where the vertical and horizontal construction lines meet at the top-left of the page. The word **Intersection** should appear next to your cursor.

25. Click on this intersection point to begin drawing the walls. Click and release the left mouse button to place the point.

! Don't hold down the left mouse button, just click and release.

26. The red line on the wall highlights which side of the wall you're placing while the arrow identifies the external side of the wall.

! A set of Wall tools appear on the ribbon towards the top of the screen when you're drawing your walls. From here, you can change the external side of the wall by selecting either right or left from the External Side drop down box. You can also change the external side of the wall, as you're drawing, by clicking the F key on your keyboard.

! The Justification drop down box tells BuildingWorks which side of the wall to place with your mouse clicks. You can also change the justification of the walls by pressing the J key on your keyboard – press the J key repeatedly to toggle through the justification settings.

In the Justification drop down box, set the Justification to **left** so that you're drawing the left side of the walls, thus placing them inside the construction lines.

27. The Instructions Window prompts: Click to place the next point.

It can help to zoom in and out of your page when you're placing several points on your drawing. Remember, one of the easiest ways to do this is to zoom in and out using the scroll wheel on the mouse. Place your cursor over the point you want to zoom in on, and scroll the mouse wheel towards the screen to zoom in. Scroll away from the screen to zoom out again.

28. Referring to the diagram at the start of this exercise, locate the next intersection point where you want to place your walls. If dimensions appear, rather than the word Intersection, press the **F7 key** on your keyboard to switch on snap mode.

29. Hover your cursor over the next **Intersection** point.

30. Click the left mouse button to place the next corner of the walls.

31. Follow the diagram to place all but the last length of wall.

32. Once you've placed the second to last point, you can click the **C key** on your keyboard to close the walls.

Checking your walls

33. You can check your walls have been drawn correctly using the 3D model. For most wall types, the colour and hatching of the walls will tell you if the external and internal leaf are in the correct place.

34. Click on the **3D Model** tab to open the 3D Model window.

! If the 3D model window isn't visible on screen, go to the **Views & 3D** tab and click on the **3D model** button.

35. Place your cursor over the 3D model, hold down the left mouse button, and move your mouse to drag the model around.

! If your walls are inside out, you can easily fix it using the flip walls tool. Take a look at the video called **How to flip the walls** (see link below).

Save your project

36. Click the **Save As Project** button.

37. Enter a name for this version of your project: **Upton Fields 3**.

38. Click Save.

You may also find it useful to watch the following video:

How to flip the walls (3 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000036867-how-to-flip-the-walls>

Exercise 6: Drawing Internal Walls

Watch the following video: How to draw internal walls (10 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000036868-how-to-draw-internal-walls>

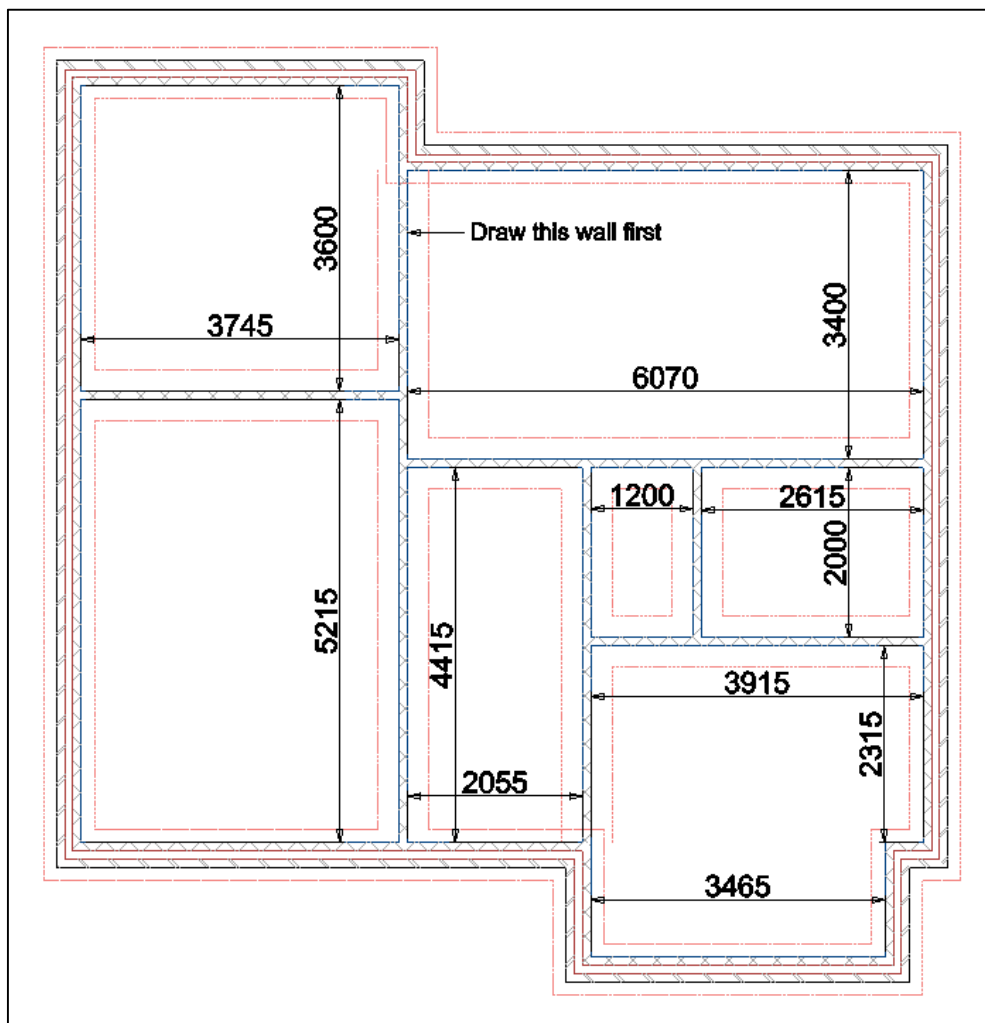
Introduction:

Once your external walls are in place, you're ready to begin drawing your internal walls. In this exercise, you'll practise drawing internal walls by measuring from existing points on your external walls. The process is the same whatever type of internal wall you're drawing but, in this exercise, we'll be drawing single skin block walls.

Key skills you will be practising:

- Selecting a type of internal wall
- Changing the justification of the walls
- Zooming in and out of your drawing
- Using the R key to place an item relative to another item
- Using the measure tool

Refer to the diagram below to complete this exercise:



Instructions:

Specifying the internal walls

1. If you have any construction lines on your drawing, from plotting out your external walls, delete them now. To do this, click on the **Drawing & Annotation** tab.
2. Click the **Delete All** button in the Construction Lines section of the tab.
3. A dialog box pops up asking if you're sure you want to delete the construction lines. Click **Yes**.
4. To draw your internal walls, click back onto the **Architectural** tab.
5. Click on the **Internal** dropdown menu.
6. Select the **Block Single Skin Walls**.
7. The Wall Component Builder opens up. From here you can choose the specification and configuration of your internal wall, and enter its dimensions.
8. Select the **Internal 100mm block wall with plastering and decoration to both sides** specification.
 - ! You can make changes to a specification by clicking on the specification and then clicking the **Review Specification** button.
9. Click **Next** to move onto the next screen of the wall component builder.
10. Select the **Ground Floor** configuration.
 - ! Note that the Upper Floor configuration doesn't include foundations and footings.
11. Click **Next**.
12. The next screen prompts you to select a specification for the foundations. Select **Trench fill foundations to new build**.
13. Click **Next**.
14. The next screen prompts you to review the foundation dimensions. If you can't see all of the dimension input boxes, double click on the bar at the top of the window to make the Wall Component Builder full screen. This will allow you to see all of the input boxes and ensure that the key information is completed.
15. Press the **Tab** key on your keyboard to move between the input boxes, reviewing the dimensions. Leave them set to the defaults for now.
16. Once complete, click **Next**.
17. The next screen prompts you to select a specification for the footings. Select **Solid 100mm blockwork footing to internal wall**.
18. Click **Next**.
19. The next screen prompts you to select a footing configuration.
 - ! Ensure your selected foundation and footing are compatible in terms of construction and dimensions. Select **Block solid wall footing for trench fill foundations**.
20. Click **Next**.
21. Now review the footing dimensions. Using the **Tab** key, work your way down the dimension input boxes. Leave them set to the defaults for now.
22. Click **Next**.
23. Now review the wall dimensions. Click into the **Height of unfinished wall to side 1** input box.
 - ! The Tech Tip at the top of the window gives an explanation of the dimension you need to enter. Each input box has its own Tech Tip and they're a helpful point of reference if you come across any dimensions you're unsure of.
24. In this example, the Tech Tip explains that we need to enter the height of wall which doesn't require plastering and decoration. Enter a height of unfinished wall of **225** on each side of the wall.
25. Select the wall height of **2700** from the dropdown box. You can also type a wall height into the dropdown box.
26. Click **Next**.

27. The final screen allows you to add the cost of a concrete pump for the strip foundations. Leave this set to **0** for now.
28. Click **Finish**.

Drawing the internal walls

29. The Instructions Window prompts: Click to place the start point.
Start by placing the wall which spans the house from the back to the front. Refer to the diagram at the start of this chapter for guidance.
Hover your cursor over the internal corner at the back of the house to locate the **End** point.
30. Click the left mouse button to place the start of the wall.
31. We need to change the justification so that the wall is drawn in the correct position.
Using the **Justification** dropdown box on the **Wall** tab at the top of the screen, set the justification to **Right**.
32. The Instructions Window prompts: Click to place the next point.
33. Hover your cursor over the front wall of the house until you locate the **Perpendicular** point.
34. Click the left mouse button to place the end of the wall.
35. Now this wall is complete, BuildingWorks prompts you to place another wall.
The Instructions Window prompts: Click to place the start point.
Zoom into the right corner of the rear projection of the house, by placing your cursor in this area and scrolling the mouse wheel towards the screen.
36. The Instructions Window prompts: Click to place the start point.
An accurate way of placing your internal walls is to measure a distance from an existing point on an external wall. You do this with the Relative tool.
To do this, hover your cursor over the **End** point on the internal corner on the right of the rear projection.
! Don't click on this point; just hover your cursor over it.
37. Press the **R** key on your keyboard to select the Relative tool.
38. Press the **down arrow** key on your keyboard to indicate the position of the internal wall relative to the End point.
39. In the Distance dialog box, enter the distance to the start of the internal wall. Type **3600**.
40. Click **OK**.
41. The first point of the wall appears on the drawing.
The Instructions now ask us to: Click to place the next point.
Press the **F7** key to switch on Snap mode. You'll see that the Snap mode button is highlighted at the bottom right of the screen.
42. Find the **Perpendicular** point on the opposite wall by hovering over the wall until the message Perpendicular appears. Finding the **Perpendicular** snap point will ensure your wall is drawn at right angles to the external wall.
43. Click the left mouse button to place the end of the wall.
44. BuildingWorks is now ready to draw another wall.
The Instructions Window prompts: Click to place the start point.
45. Zoom out by scrolling your mouse wheel away from the screen.
46. Use the scroll wheel to drag the page and zoom into the back-right corner of the house by placing your cursor in this area and scrolling the mouse wheel towards the screen.
47. Now draw the next internal wall. Start by hovering your cursor over the **End** point on the internal corner at the back right of the house.
48. Press the **R** key on your keyboard to select the Relative tool.
49. Press the **down arrow** key to indicate the position of the internal wall relative to the End point.
50. The Distance dialog box opens up.
Type in the distance to the internal wall: **3400**
51. Click **OK**.
The first point of the wall appears on the drawing.
52. Press the **F7** key to switch on Snap mode.
53. Find the **Perpendicular** point on the opposite wall.

54. Click the left mouse button to place the end of the wall.
55. Continue to draw the walls as laid out in the diagram. Remember to check the justification as you draw your walls as, if it isn't correct, your walls could be out by 100mm.
 - ! You can press the **Escape key** on your keyboard, at any time, to drop the internal wall tool and stop drawing your walls. If you've just stopped drawing your walls, and decide you want to draw another one with the same specification, click the middle mouse button. This will repeat the last action.

Checking the walls have been placed correctly

56. If you want to measure your room to check the justification of a wall is correct, you can use the Measure tool. The **Measure** button can be found on the **Modify & Selection** tab. Alternatively, press the **Ctrl** and **M** keys on your keyboard to summon the Measure tool.
57. The Instructions Window prompts: Click to indicate the first point
Click on a snap point at one end of the room.
 - ! If, when you move your mouse, there are dimensions linked to your cursor, this means you're in Dimension mode. To switch to Snap mode, press the **F7 key** on your keyboard.
58. The Instructions Window prompts: Click to indicate the second point.
59. Find and click on the **Perpendicular** snap point to place the second point.
60. The Measure Info dialog box pops up, showing some key measurements.
If you refer to the Length measurement, you can see the length of the room you've measured. Once you've checked the measurement.
61. Click **Close**.

Changing the justification

62. If your wall dimensions aren't correct, it may be that you need to change the justification.
63. Click on the wall.
 - ! Justification means the side of the wall you're placing with your cursor clicks. This will affect room dimensions, so it's important to get it right. The justification of a wall is indicated by red and blue handles which appear on the wall when it is selected. You can easily change the justification of a wall by selecting a different option on the **Justification** dropdown menu. You can find this on the **Wall** tab, whenever you're drawing and modifying walls. Pressing the J key on your keyboard, when drawing a wall, will also toggle between the Left, Centre and Right Justification options.

Checking the walls have heeled in correctly

64. If you notice that your walls haven't heeled in properly, simply click the **Refresh** button at the top right of the screen, and your walls should appear correctly.
65. Save your project using the **Save As Project** button.

MODULE 3: Inserting Openings

Exercise 7: Placing Doors

Watch the following video: How to insert doors into a drawing (6 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000037127-how-to-insert-doors-into-a-drawing>

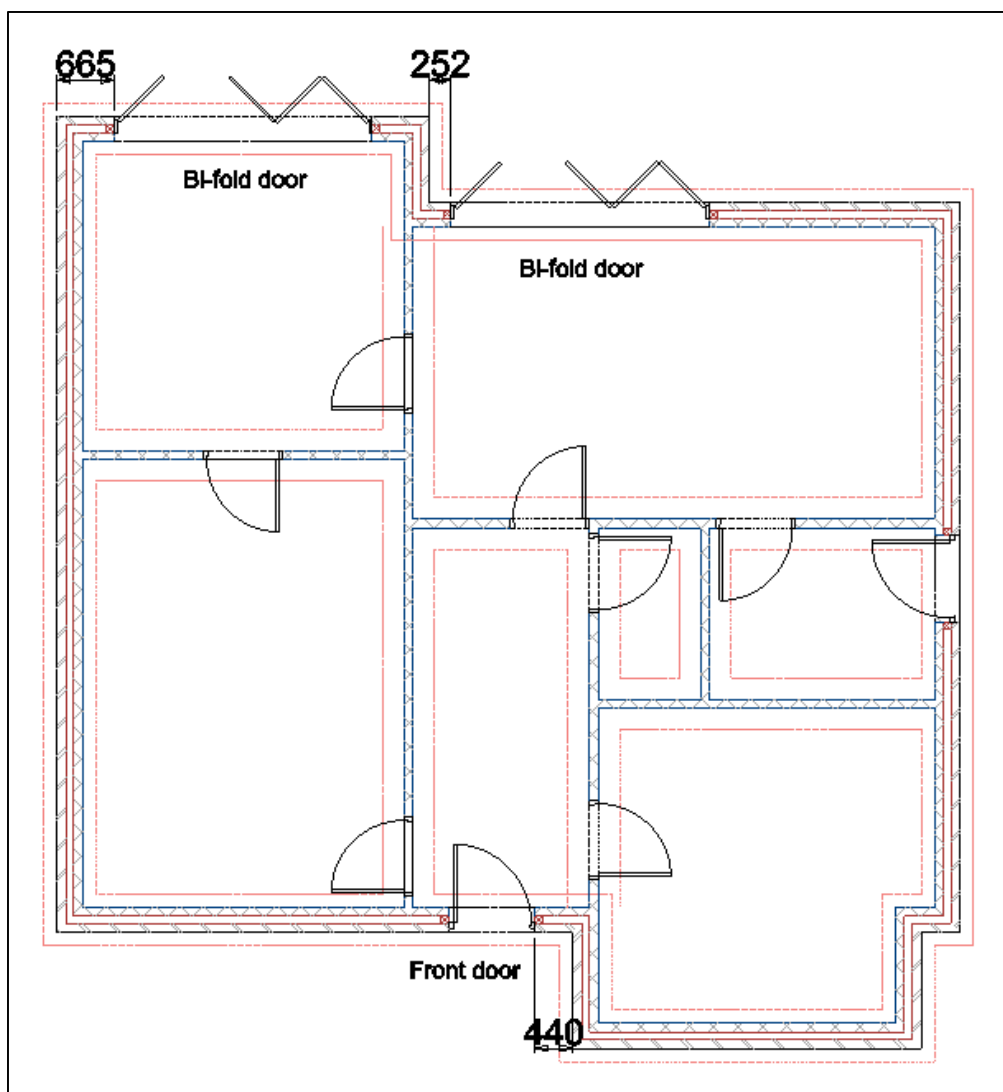
Introduction:

In this exercise, you'll practise selecting a door type and placing door symbols on your plans.

Key skills you will be practising:

- Selecting a type of door
- Changing the justification of a door using the J key
- Selecting the orientation of a door
- Placing a door by measuring from one end of a wall

Refer to the diagram below to complete this exercise:



Instructions:

Specifying the front door

1. Click on the **Architectural** tab.
2. Click on the **Doors** dropdown menu.
3. Select **External Doorsets**.
4. The Door Component Builder opens up.
Use the **Width** dropdown filter to view all doors which are **988mm** wide.
5. Type **Finesse** into the **Find** box at the top right of the window.
6. Click **Find**.
7. Click on the door with a **1.2 U value** to select it.
8. Click **Next**.
9. Review the external reveal depth.
10. Click **Finish**.

Placing the front door

11. The Instructions Window prompts: Select insertion point on wall.
Refer to the diagram at the start of this exercise.
Hold your cursor over the section of wall you want to insert the front door into.
12. You may want to zoom in by scrolling the mouse wheel towards the screen.
13. If snap points appear next to your cursor, you're in Snap mode. This means you can place your doors by locating and clicking on snap points, such as Mid points. However, often you'll want to place your doors by measuring from the ends of your walls.
To switch to Dimension mode, press the **F8 key** on your keyboard.
14. By default, BuildingWorks measures to the centre of the door when placing doors. To measure to one side of the door, change the Justification.
Click the **Justification** drop down box on the **Insert** tab and click **Left**.
! The justification of the measurement is dependent on the way the wall is facing, so it may, at first, appear back to front! Imagine you're standing inside the house, facing towards the wall you're working on – this will give you your left and right justification. As well as using the Justification dropdown menu, you can also press the J key on your keyboard to switch between the different Justification options.
15. To place the door 440mm from the projecting wall, enter 440 into the **Distance** input box at the bottom right of the screen.
16. Hold your cursor over the external side of the wall, so that BuildingWorks measures from the outer corner of the wall, and the measurement you entered appears externally.
17. Once the door is in the correct place, click the left mouse button to place the door.
18. The Instructions Window prompts: Select door alignment
You can determine the orientation, or hinge side, of the door by the placement of your cursor. When inserting some doors, you can also determine the direction the doors open in, at this point. However, for some doors, the hinge side and direction of opening are predetermined and cannot be changed.
19. Move your cursor inside the house and to the left of the door, so the door opens to the left.
20. Click the left mouse button to confirm the orientation and direction of opening.
21. Now the Door Component Builder opens up again, this time prompting you to select a lintel.
BuildingWorks offers a range of lintels suitable for your wall type, thickness and opening width.
Click on the **Birtley Supergalv CB90 lintel**.
22. Click **Next**.
23. Next the Component Builder asks you to select a specification for the door.
Select **External doorset with cavity tray**.
24. Click **Finish**.
25. Press the **Escape key** on your keyboard to finish inserting external doorsets with the selected specification.

Inserting the bi-fold doors

26. Now select the bi-fold doors for the rear of the house.
Click on the **Doors** dropdown menu.
27. Select **PVCu Bi-fold Doors**.
28. Use the width filter to search for a **2990** wide door.
29. Use the colour filter to locate a **white** door.
30. Click on the **Crystal Direct PVCu Evolve Exterior Bi-fold Door White 2090 x 2990mm wide 4 Door Folding Doors, 1.6 U-Value, Opening Out, 3L 1R configuration** to select it.
31. Click **Next** and then **Finish**.
32. Place two of these bi-fold doors as laid out in the diagram at the start of this exercise. Refer to steps 11 to 24 if you need any help doing so.

Inserting the internal doors

33. Click on the **Doors** dropdown menu and select **Internal Fire Doors**.
34. Select a door which is 838mm wide – any type is fine.
35. Place the internal fire doors on your plans by eye, referring to the diagram.

Inserting the back door (access to utility)

36. Select an **External Doorset** and place the back door (which opens into the utility room at the side of the house).

Viewing the 3D model

37. Once you've inserted your doors, you can take a quick look at a 3D model to check they've been drawn correctly.
38. Click on the **3D Model** tab or window.
39. Once the 3D model window is visible, hold down the left mouse button to drag the model around and view the entire building.
40. Once you've inserted your doors, save your drawing using the **Save As Project** button.

You may also find it useful to watch the following video:

How to change the position or orientation of a door (2 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000037129-how-to-change-the-position-or-orientation-of-a-door>

Exercise 8: Placing Windows

Watch the following video: How to insert windows into a drawing (7 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000037354-how-to-insert-windows-into-a-drawing>

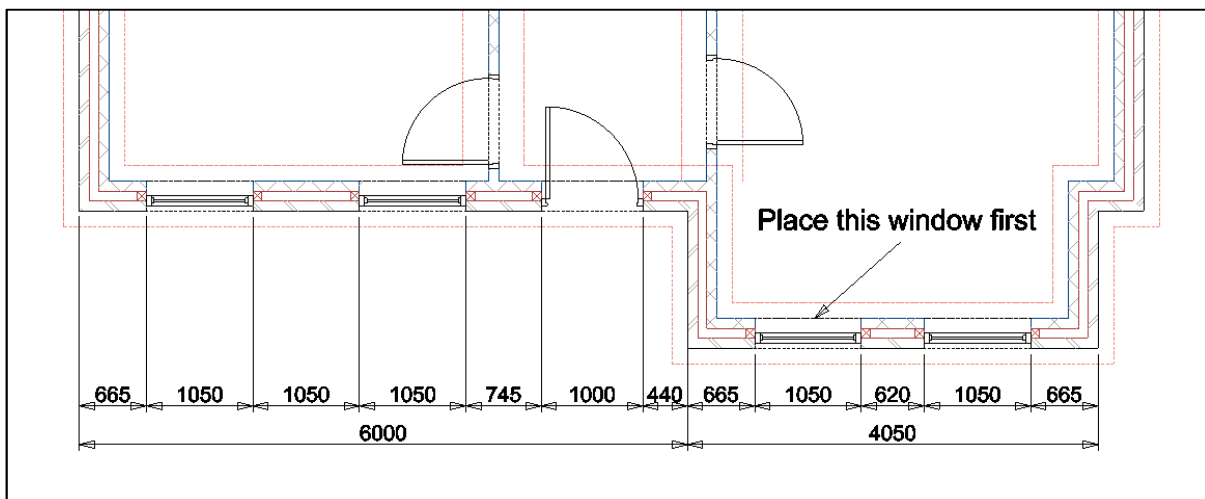
Introduction:

Once you've drawn your walls, one of the next jobs on your list will be adding windows to your plans. In this exercise, you'll practise placing windows by measuring from the end of a wall, or from a door or a window you've already placed.

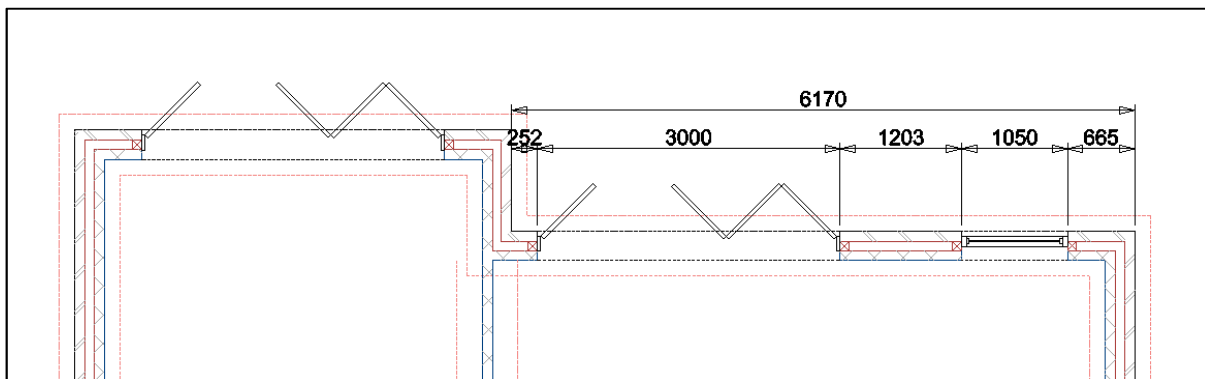
Key skills you will be practising:

- Selecting a type of window
- Placing a window by measuring from one end of a wall
- Changing the justification of a window using the J key
- Using the Tab key to change which end of the wall you're measuring from
- Switching on Dimension and Snap mode

Refer to the diagrams below to complete this exercise:



A: Front of house



B: Rear of house

Instructions:

Specifying the windows

1. Click on the **Architectural** tab.
2. Click on the **Windows** dropdown menu.
3. Select the **PVCu Windows** type.
4. The Window Component Builder opens up.
The first screen asks you to select the window you want to use.
Filter the windows by width to show only windows with a **1038mm** width.
5. Filter the windows by height to show only windows with a **1338mm** width.
6. Filter the windows by colour to look at only **white** options.
! You can remove a filter at anytime by clicking the adjacent Clear Filter button.
7. Click on the **Crystal Direct PVCu Centre Bar Mock Sash (top opener) Window White 1038mm wide x 1338mm high, U Value = 1.4** window.
8. Click **Next**.
Review the dimensions.
9. Click **Finish**.

Placing the windows

10. The Instructions Window prompts: Select insertion point on wall
Zoom in on the front projection of the house by placing your cursor over the wall and scrolling the mouse wheel towards the screen.
Refer to diagram A at the start of this chapter. We're going to place the left-hand window 665mm from the left corner of the wall.
11. If snap points, such as Nearest points, appear next to your cursor when it's hovering over the wall, you're in Snap mode, and you'll need to switch over to Dimension mode.
To do this, press the **F8 key** on your keyboard. Dimension mode allows you to place your windows by measuring from the ends of your walls.
12. Once in Dimension mode, you'll see that Building Works is, by default, set up to measure to the centre of the window. To measure to one side of the window, you need to change the justification.
! The justification of the measurement is dependent on the way the wall is facing, so it may, at first, appear back to front! Imagine you're standing inside the house, facing towards the wall you're working on – this will give you your left and right justification.
Change the justification to right by selecting **Right** from the justification dropdown box on the **Insert** tab.
Alternatively, you can press the J key on your keyboard to scroll through the justification options.
13. Hold your cursor over the external leaf. BuildingWorks shows the dimensions from the ends of the external leaf to the right side of the window (as viewed from inside the building). If you hold your cursor over the internal leaf, it measures to from the ends of the internal leaf to the right side of the window. Ensure your cursor is over the external leaf.
14. The active dimension is the one displayed in square brackets.
To change which dimension is active – or in other words, controlling the position of the window - press the **Tab key** on your keyboard, until the square brackets appear where you want them.
15. You can place the window by eye, using the on-screen dimensions to guide you, or alternatively you can type in a dimension.
To position the window by entering a dimension, click into the **Distance** input box at the bottom right of the screen.
16. Type the distance from the end of the wall into the input box: **665**
17. Click the left mouse button to place the window once you're happy with its position.
18. After you've placed the window, the window component builder opens up again, this time prompting you to select a lintel.
19. Click on the **Birtley Supergalv CB90**.

20. Click **Next**.
21. Finally, the component builder prompts you to select a specification.
Select **Window with cavity tray**.
22. Click **Finish**.
23. BuildingWorks now invites you to place another window with the same specification.
The Instructions Window prompts: Select insertion point on wall
BuildingWorks retains the window insertion settings from the window you've just placed. So, in this case, the justification is set to right and the active dimension is the one measuring from the left end of the wall. Of course, you can change any of these settings as you place each window. Use the **J key** on your keyboard to change the justification and the **Tab key** to change the active dimension.
24. Type **620** into the **Distance** input box.
25. Hover your cursor over the front projection of the house, to the right of the first window.
26. Click the left mouse button to place the window.
BuildingWorks places the window 620mm from the window you've just placed.
27. Continue placing your windows, following the dimensions on the diagrams at the start of this exercise.

Viewing the 3D model

28. Once you've inserted your windows, you can take a quick look at the 3D model to check they've been drawn correctly.
29. Click on the **3D Model** tab or window to view the 3D model.
30. Hold down the left mouse button to drag the model around and view the entire building.
31. Save your project using the **Save As Project** button.

You may also find it useful to watch the following video (5 minutes)

How to insert steelwork into a drawing

<https://help.getbuildingworks.com/support/solutions/articles/13000037490-how-to-insert-steelwork-into-a-drawing>

MODULE 4: Adding Stairs and Slab

Exercise 9: Inserting Stairs

Watch the following video: How to insert stairs into a drawing (7 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000037491-how-to-insert-stairs-into-a-drawing>

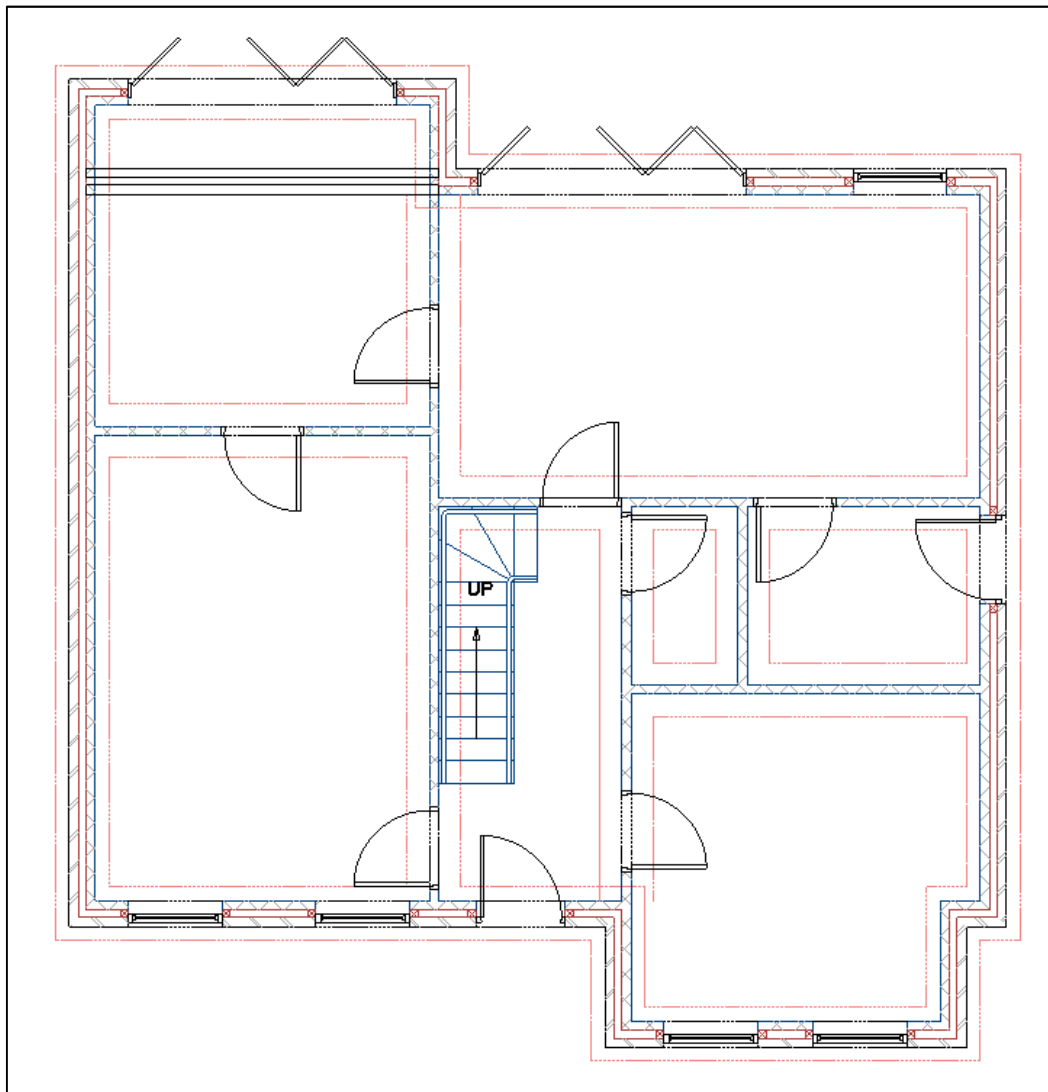
Introduction:

In this exercise, you'll learn how to add a staircase to your drawing.

Key skills you will be practising:

- Selecting a type of staircase
 - Placing a staircase
 - Adding sundry items
-

Refer to the diagram below to complete this exercise:



Instructions:

Specifying the stairs

1. Go to the **Architectural** tab.
2. Click on the **Stairs** button.
3. Select **Quarter Turn with Winders Stairs** from the dropdown menu.
4. The first screen of the Stairs Component Builder asks you to select a specification.
Select **Quarter Turn winder staircase (allowance) with plastered lining to landing**.
5. Click **Next**.
6. The next screen asks for the dimensions of the staircase.
Press the **Tab** key to move between the input boxes, updating the dimensions as needed.
7. Leave the going length set to **250**.
8. Enter a floor to floor height of **2700**.
9. Change the number of risers in the lower flight to **10**.
10. Leave the number of risers in winding risers set to **3**.
11. Change the number of risers in the upper flight to **1**.
12. Change the width of the staircase to **850**.
13. Now you can select the handrail and balustrade options.
Select **Outer side** for the handrail.
14. Select **Inner side** for the sloping balustrade.
15. Type **4000** into the length of horizontal, landing balustrade.
16. Click **Next**.
17. The final screen asks you to check the Resource Allowance for the staircase.
You may need to scroll across to see the price.
18. Enter the cost of the staircase as a known price: **£650**.
19. Click **Finish**.

Placing the stairs

20. BuildingWorks is now ready to place the staircase on the drawing.
The Instructions Window prompts: Click to indicate the top point for the first landing.
! The Justification is correct in this instance, as we want to place the staircase on the wall to the left of the hall. However, you can change the Justification to Centre or Right, if necessary, using the Justification dropdown box on the Stair tab.
21. Place your cursor in the hall. It's often easier to place the staircase roughly to start with, then move it into its exact position in a moment.
22. Click the left mouse button.
23. The Instructions Window prompts: Click to indicate the point for the bottom of the staircase.
You're now determining the orientation of the staircase.
Hold down the **Shift** key to lock the rotation to 45 degree increments.
24. The stairs go up from the front to the back of the house, so move your cursor down the screen to indicate where the bottom point of the stairs is.
25. Left click to position the bottom of the stairs.
26. The Instructions Window prompts: Click to indicate the point for the top landing.
In the case of a quarter turn staircase, this next step determines the direction of the turn at the top of the staircase.
Move your cursor to the right of the staircase to indicate that they turn right.
27. Left click to position the top of the stairs and finish placing the staircase.
28. Now you've drawn the staircase, you can move it into position.
Click on one of the lines which makes up the staircase, to select the entire staircase.
29. Right click on the staircase.
30. Select the **Move Selection** option from the right-click menu.
31. The Instructions Window prompts: Click to place a point of reference on the staircase.

Click on the top left corner of the staircase.

32. The Instructions Window prompts: Click to select the final position of the item.

Your cursor now holds the staircase on the selected snap point and you can move it to another position on the drawing.

33. Click the left mouse button to place the staircase in the corner of the hall.
34. Click on a blank area of the screen to deselect the staircase.

Adding a label and arrow

35. Now you can add a label and arrow to show the direction of the stairs.

Click on the **Drawing and Annotation** tab.

36. Click the **Text** button.

37. Type **UP** into the text box.

38. Click OK.

39. You're now ready to place the text on your staircase.

Zoom into the staircase by placing your cursor over it and scrolling the mouse wheel towards the screen.

40. Position the text towards the top of staircase.

41. Click the left mouse button to place the text.

42. Now add the arrow.

On the **Drawing and Annotation** tab, click the **Arrows** button.

43. Select the **Leader Arrow** option.

44. Find a **Midpoint** of one of the stairs to place the leader (head) end of the arrow.

45. Click the left mouse button to place the arrow head.

46. Find another midpoint for the tail end of the arrow.

47. Click the left mouse button place the tail.

48. Press the **Escape key** to finish drawing the arrow.

Adding newel posts and decoration

49. You may want to add some sundry items to the estimate, for your staircase, and can do so using the **Extra Items window**.

50. If it's already on screen, click on the **Extra Items tab**.

51. If it's not visible, go the **Views & 3D tab** and click on the **Window** button.

52. Click on the **Extra Items** option and the Extra Items window will come to the front of the screen.

53. Click on the staircase if the staircase the sundry item options aren't visible on the Extra Items tab.

54. Expand the newel post options by clicking the plus icon.

55. Under **Full newel post base and cap**, use the up arrow to increase the number of full newel posts to **2**.

56. Set the **Decoration to the newel posts** to **2** in the same way.

57. Save your drawing using the **Save As Project** button.

Exercise 10: Adding the Ground Floor Slab

Watch the following video: How to add a ground floor slab to a drawing (6 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000037492-how-to-add-a-ground-floor-slab-to-a-drawing>

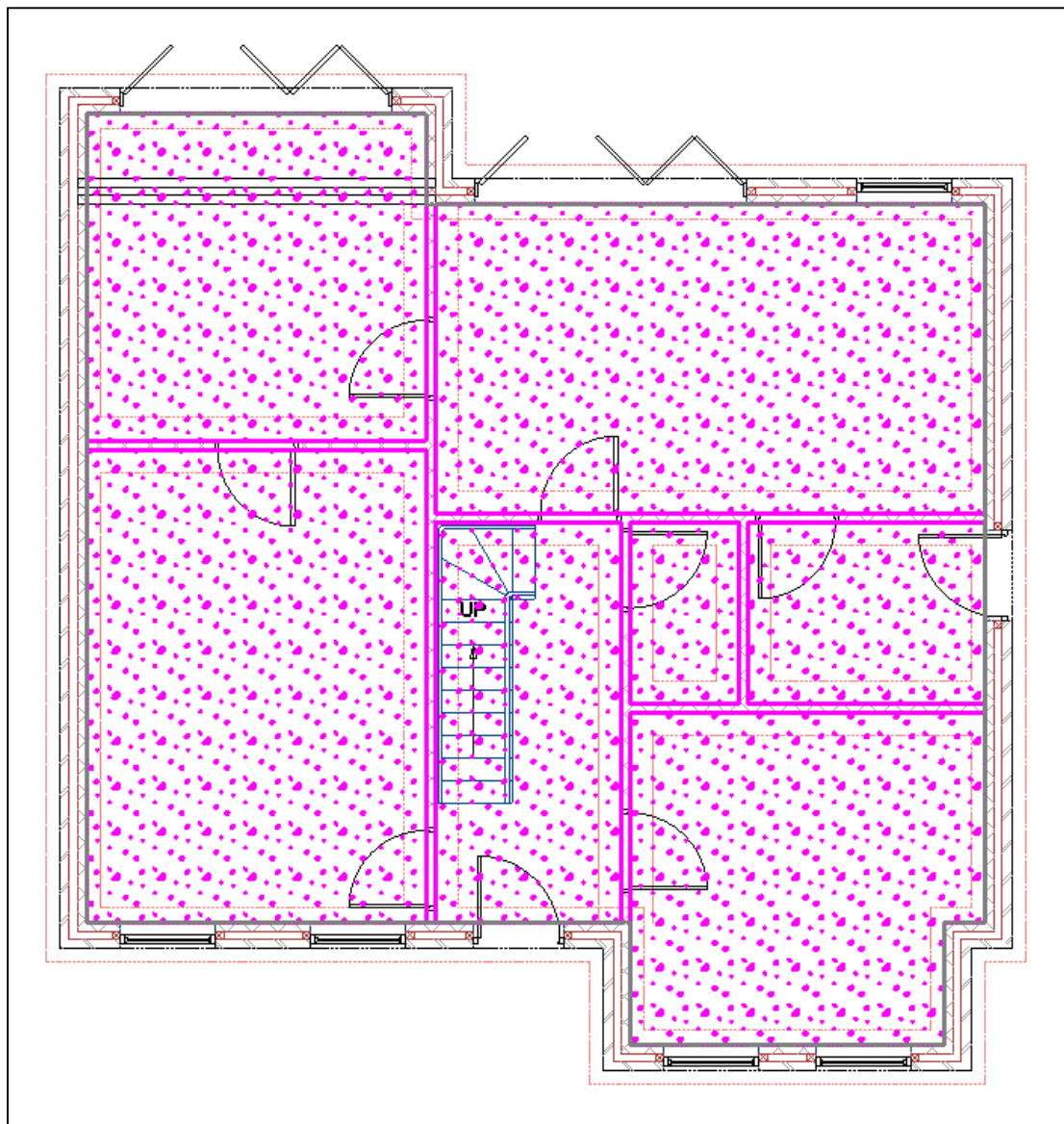
Introduction:

In this exercise, you'll have a go at adding a ground floor slab and perimeter insulation to your design.

Key skills you will be practising:

- Selecting a type of flooring
- Drawing a section of flooring
- Using the F key to fill an area with flooring
- Adding sundry items

Refer to the diagram below to complete this exercise:



Instructions:

Specifying the ground floor slab

1. Go to the **Architectural** tab.
2. Click the **Floors** button.
3. Select the **Concrete Slabs** type from the dropdown menu.
4. The Concrete Slab Component Builder opens up, asking you to select a specification.
You can order the specifications by thermal performance, thickness or rate – just click on the column headers to sort them.
5. Select the **Reinforced concrete slab, insulation below slab – High thermal performance spec.**
6. Click **Finish**.

Drawing the ground floor slab

7. Now BuildingWorks is ready to draw the first section of slab.
We're going to mark out the slab in sections.
The Instructions Window prompts: Click to place the start point
Zoom into the bottom left corner of the house using your scroll wheel.
8. Find an **End** point on the corner.
9. Click to place the start point of the slab.
10. The Instructions Window prompts: Click to place the next point
You may need to drag the page by holding down the middle mouse button, so you can clearly see where you want to place the next point.
11. Find the **End** or **Perpendicular** point on the next corner.
12. Click to place the next point.
13. Continue in this way, clicking on each corner of the section of slab.
14. To complete a rectangular section of slab, once you've drawn two sides of the rectangle, press the **S key** on your keyboard to complete the rectangle. Remember, the S key completes whatever item you're placing, via the shortest perpendicular route, so it's a great shortcut when you're drawing rectangles.
15. To draw another section of slab, middle click or, in other words, click the mouse scroll wheel. Clicking the scroll wheel repeats the last action.
16. The Instructions Window prompts: Click to place the start point
The instructions also tell you that you can use the **F key** to fill an enclosed space, such as a room. This is the quickest way of drawing an area of slab with a perimeter which has already been defined. Simply place your cursor in the room where you want to draw the slab, then press the **F key** on your keyboard.
17. Place your cursor in the back-left room.
18. Press the **F key** your keyboard.
BuildingWorks automatically draws the slab to fill the room.
19. Continue drawing the sections of slab in this way, referring the diagram at the start of this exercise.

Adding the perimeter insulation

20. Once you've finished drawing your sections of slab, you can add sundry items such as perimeter insulation.
Click on the **Extra Items tab**.
21. Once the **Extra Items tab** is visible, you'll be able to see the sundry items available for your slab.
If the slab extra items aren't showing in the window, you may need to click on an area of slab to bring up the options.
22. Click the **Draw** button under **Insulation to perimeter**.
23. The Instructions Window prompts: Click to place the start point.
24. Find the **End** and **Perpendicular** points on the inner corners of the walls and click to place the perimeter insulation around the footprint of the house. You may need to zoom in and out, and drag the page using the middle mouse button, to place the insulation accurately.
25. Once you've placed the final point, press the **Escape key** to finish drawing the insulation.

Switching off the floor layers

26. Now hide the floor layers.
Click on the **Layers tab** to open the **Layers window**.
27. If the **Layers window** isn't visible on screen, go to the **Views & 3D tab**, click on the **Window** button. Tick the **Layers** option.
28. The **Layers** window will come to the front of the screen.
To switch off the Flooring layers, scroll down the window to the group called Flooring.
29. Next to the **Flooring** heading, click the **Lightbulb** button with a cross through it.
You'll see the slab and insulation are no longer visible on screen, but you can switch the layers back on at any point by clicking the Lightbulb button.
30. Now save your project.

MODULE 5: Creating the First Floor

Exercise 11: Creating an Additional Storey

Watch the following video: How to copy your plans to create an additional storey (6 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000037494-how-to-copy-your-plans-to-create-an-additional-storey>

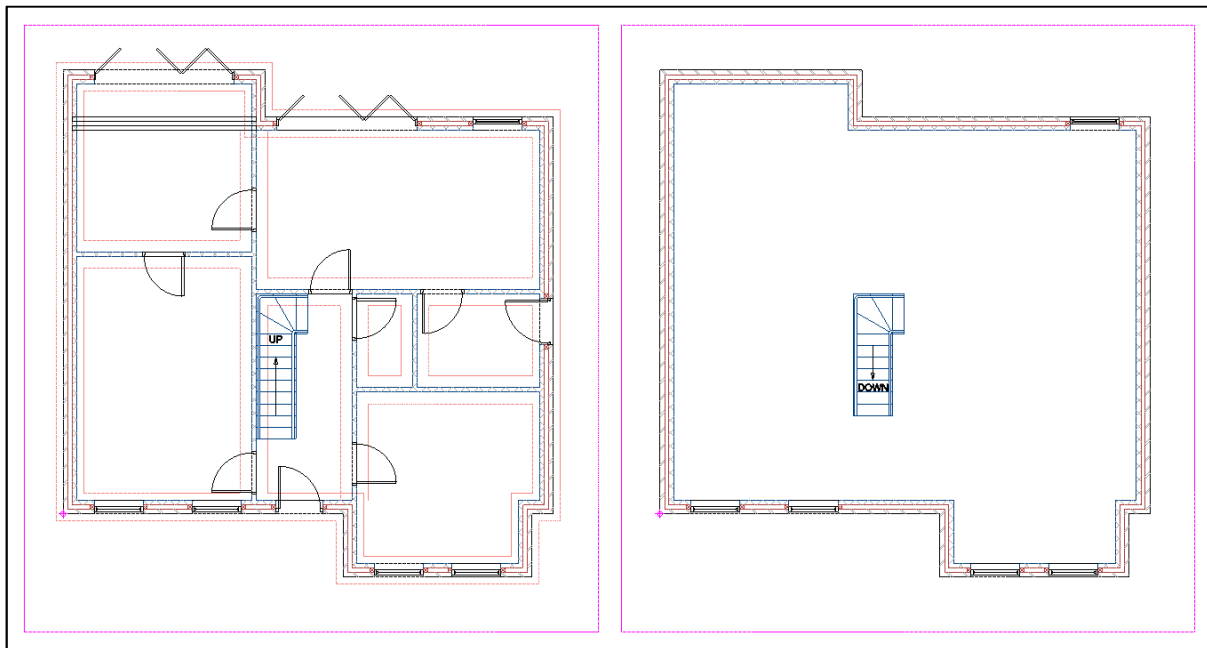
Introduction:

Rather than drawing each storey of your building from scratch, you can copy and adapt your ground floor plan to create an upper floor. In this exercise, we'll practise creating a first-floor plan by copying the ground floor plan.

Key skills you will be practising:

- Setting up the levels
- Selecting a level
- Copying the level
- Selecting which components to copy over to the new level

Refer to the diagram below to complete this exercise:



Instructions:

Creating the ground floor level

! You first need to set up the ground floor plan as a level of the building. Once BuildingWorks knows the order and height of each level, it can stack them together to create elevations and 3D views of your building.

1. Click on the **Views & 3D** tab.
2. Click the **Level** button.
3. The Level dialog box opens up.
Type in the name of the level: **Ground Floor**.
4. Use the **Tab key** on your keyboard to move down the input boxes.
5. For the ground floor, the base height is simply the ground level, so leave that set to 0.
6. Set the wall height to **2700**.
7. Ensure the Level is set to **1**. This means the ground floor is the first Level in our building. The first floor will be Level 2 and so on.
8. Click **OK**.
9. Now BuildingWorks will prompt you to select a reference point and define the boundaries of the level.
The Instructions Window prompts: Click to place a point of reference.
The reference point is a point you select on the building which is the same all the way through, so you can stack the floors, or levels, on top of each other to create your elevations and 3D views.
Position your cursor over bottom left hand corner of the external wall.
10. Click the left mouse button to select this point as the reference point
11. Next, the Instructions Window prompts: Click to select the first point of the box to define the level.
You're going to draw a box around the ground floor plan to set the boundaries of the level.
Position your cursor slightly above and to the left of the plan.
12. Click the left mouse button.
13. Finally, the Instructions Window prompts: Click to select the second point of the box to define the level
Move your cursor below and to the right of the plan.
14. Click the left mouse button.
This creates a boundary around the ground floor level, which appears in pink.

Copying the ground floor level

15. Now you've defined the ground floor level, you can copy it and use it to create the first floor.
Click on the level boundary to select the level.
16. Now click the right mouse button. The right click menu appears.
17. Select the **Copy Selection** option.
18. The Instructions Window prompts: Select reference point or use arrow keys to place copy of level adjacent to selected level.
The simplest way of placing the new level is to press an arrow key to tell BuildingWorks where you want the new level.
19. Press the **right arrow key** to indicate that you want to place the first floor level to the right of the ground floor level.

Creating the first floor level

20. The Copy Level dialog box opens up as Building Works creates level 2.
The first screen allows you to label and set the heights of the level.
Type in a name for this level: **First Floor**.
21. Use the **Tab key** to move into the next input box.

22. The base height for level 2 has been taken from the wall height of the ground floor level, so it should be correct at **2700**.
23. Use the **Tab key** to move into the next input box.
24. The level height has been copied from the ground floor level and may need changing.
Change the level height to **2550** as this is the height of the first floor walls.
25. The level has automatically been numbered 2, which is fine.
26. Ensure the **Additional Floor** configuration is selected.
27. Click **Next**.

Defining which components to copy across to the first floor level

28. On the next screen, you'll find a list of all the components which you can copy across to your new level. You can choose to leave or remove certain components, such as internal walls, doors and windows, using the tick boxes.
Leave all the brick and block cavity walls ticked to copy the external walls. As the Additional Floor configuration is selected, the foundations and footings will automatically be removed and the upper floor walls will be estimated.
29. You can remove all of the internal block walls using the **Selection** dropdown menu.
Click the **Selection** dropdown menu.
30. Click **Walls**.
31. Click **Unselect all internal walls**.
32. External doors will be removed, by default. You could tick the adjacent tick boxes if you wanted to copy them.
Leave them unticked for now.
33. Windows will be copied by default. You can always delete them at a later point. Leave them ticked for now.
34. Scroll down the window.
35. Click on the **Staircase** dropdown box.
36. Select the **Exploded Symbol** option.
This means the staircase symbol will be copied onto the first floor plan, but will not be estimated. It will appear as a collection of lines which can be adapted for the first floor plan – hence the term “exploded”.
37. Click **Finish** to confirm your selections.
After a few moments, the first floor level appears with doors and openings removed as per your selections.
38. Adapt the rear wall of the first floor to remove the rear projection. Use the diagram on page 39 for reference.
You may also wish to place internal stud walls and add additional windows to the first floor plan.
39. Now save your project.

You may also find it useful to watch the following video:

How to modify a staircase for upper floors (4 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000058322-how-to-modify-a-staircase-for-upper-floors>

MODULE 6: Drawing the Roof

Exercise 12: Drawing the Lean-to Roof

Watch the following video: How to draw a lean-to roof (7 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000038090-how-to-draw-a-lean-to-roof>

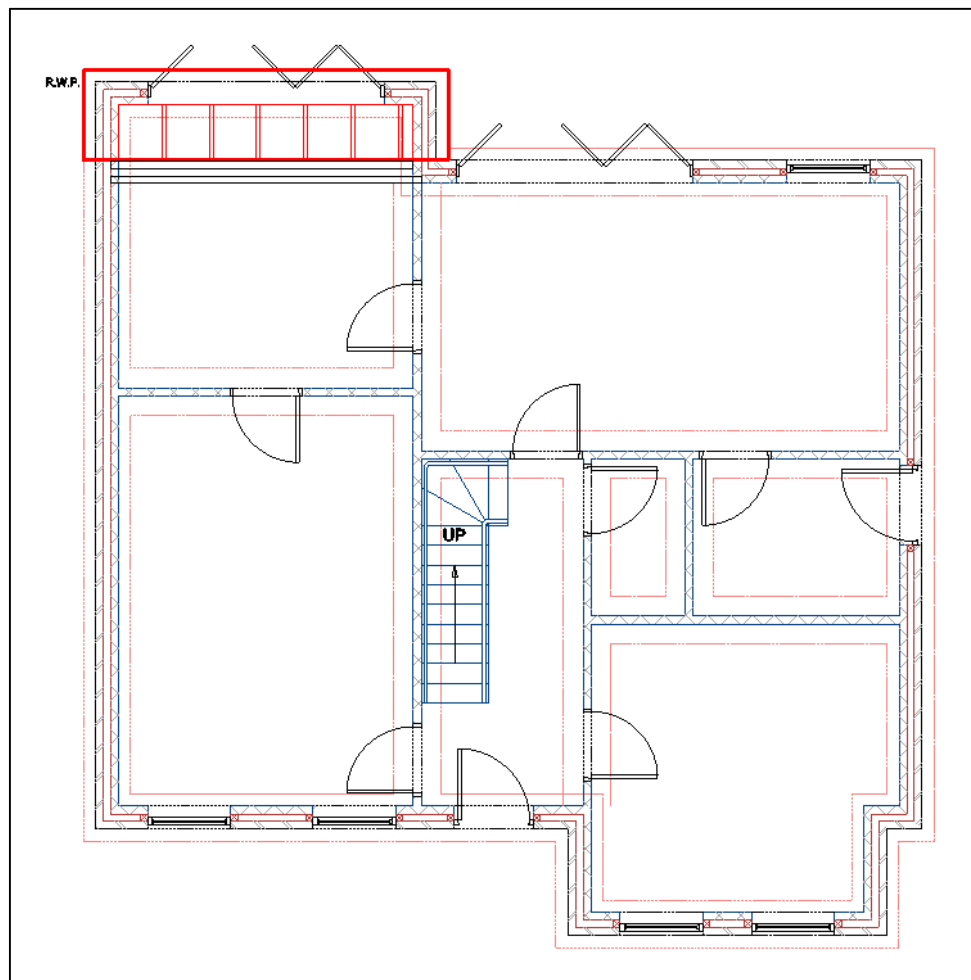
Introduction:

In this exercise, you'll practise adding a lean-to roof to your drawing, including extra items such as the ceiling and downpipes.

Key skills you will be practising:

- Selecting a type and specification of roof
- Drawing a lean-to roof
- Drawing a ceiling
- Adding sundry items such as downpipes

Refer to the diagram below to complete this exercise:



Instructions:

Specifying the roof

1. Go to the **Architectural** tab.
2. Click on the **Roofs** dropdown menu.
3. Select the **Cold Trussed Roofs**.
4. The Roof Component Builder opens up. The first screen prompts you to select a specification.
Select the **Tiled trussed cold roof with timbers at 400mm centres - High Thermal Performance** specification.
5. Click **Next**.
6. The next screen prompts you to select the tile type.
Click on the **Filter** dropdown box.
7. Select **Plain Tiles**.
8. Click the **Clay plain tiles with standard hips and cut valleys** option from the box below.
9. Click **Next**.
10. The next screen prompts you to select a tile assembly. There are variations with mortar bedding, dry fix, sarking and so on.
Click on the top roof tile assembly.
This assembly uses mortar bedding but doesn't use sarking.
Click **Next**.
11. The next screen prompts you to select a type of roof.
Click on the **Lean To** roof type.
12. Click **Next**.
13. The next screen prompts you to enter some of the dimensions of the roof.
In the **Pitch of Roof Main Section** box, type in a pitch of **30** degrees.
14. Scroll down the window and review the other details. Press the **Tab** key to move between the input boxes.
! The soffit, fascia and bargeboard heights are greyed out because they are determined by the resources defined in the specification. To change the soffit width, or the height of the fascia or bargeboard, click the adjacent swap button and select an alternative resource. The relevant dimension will then be updated to match the newly specified resource.
15. Click **Next**.
16. The final screen of the Roof Component Builder allows you to tweak the resource allowances for the tiles and trusses, if applicable.
Leave the resource allowances set to the defaults.
17. Scroll down and click **Finish**.

Drawing the roof

18. BuildingWorks is now ready to draw the roof. There are 4 steps to drawing a lean-to roof. Follow the onscreen instructions which will guide you through the process.
The Instructions Window prompts: Click on any wall that roof is on.
BuildingWorks will take the wallplate height from the wall you click on.
19. Zoom in on the rear projection of the house, where you're placing the lean-to roof.
20. Click on the rear wall of the projection.
21. The Instructions Window prompts: Click on the first corner to indicate the width of the building.
In the case of a lean-to roof, the "width of the building" means the gable end. The first corner you place is at the bottom of the slope of the gable.
Click on the right outer corner of the lean-to. You can easily see and click onto the inner corner of the projection here, so clicking on this end will make the next step easier.
22. The Instructions Window prompts: Click on the second corner to indicate the width of the building
Click on the inner corner of the projection.
23. The Instructions Window prompts: Click on the opposite corner to indicate the length of the building.
Click on the opposite end of the lean-to, to give the length.

After a few moments, the lean-to roof appears on the drawing as a series of red lines.

Viewing the 3D model of the roof

24. Click on the **3D Model** tab.
25. Once you can see the 3D Model window, click and hold down the left mouse button on the 3D Model, and move your mouse to drag the 3D model around.

Adding extra items to the roof

26. Now click on the **Extra Items** tab to see all of the extra items you can add to the roof, including ceiling, roof accessories and bracing.
27. Add the insulated ceiling to the lean-to roof.
Click the **Draw** button underneath **Insulated ceiling to roof trusses**.
28. The Instructions Window prompts: Draw ceiling (polyline) or press F to fill.
The first two points will place the ends of the joists.
Find and click the **End** and **Perpendicular** points on three corners of the ceiling.
29. Press the **S key** to complete the ceiling.
30. You can change the direction of the joists, if needed, using the **Toggle Joist Direction** button which appears on the ribbon when you're drawing the ceiling, or when the ceiling is selected.
31. Now add a rainwater downpipe to serve the lean-to roof.
Click the plus sign next to **Roof rainwater goods** on the Extra Items window.
32. Click the **Draw** button under **Rainwater downpipe**.
33. A dialog box opens up asking you for the length of the downpipe.
Type in **2700**.
34. Click **OK**.
35. The Instructions Window prompts: Place symbol.
Position your cursor to the left of the lean-to roof.
36. Click the left mouse button to place the rainwater pipe symbol.
37. The Instructions Window prompts: Click to select rotation of the item.
Hold down the **Shift key** and move the cursor to the right.
The initials RWP will appear the right way up.
38. Click to confirm the rotation of the pipe.
! You can also add rainwater fittings by entering the number you need on the Extra Items window.
39. Now save your project.

Exercise 13: Drawing the Apex Roof

Watch the following video: How to draw an apex roof (8 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000038091-how-to-draw-an-apex-roof>

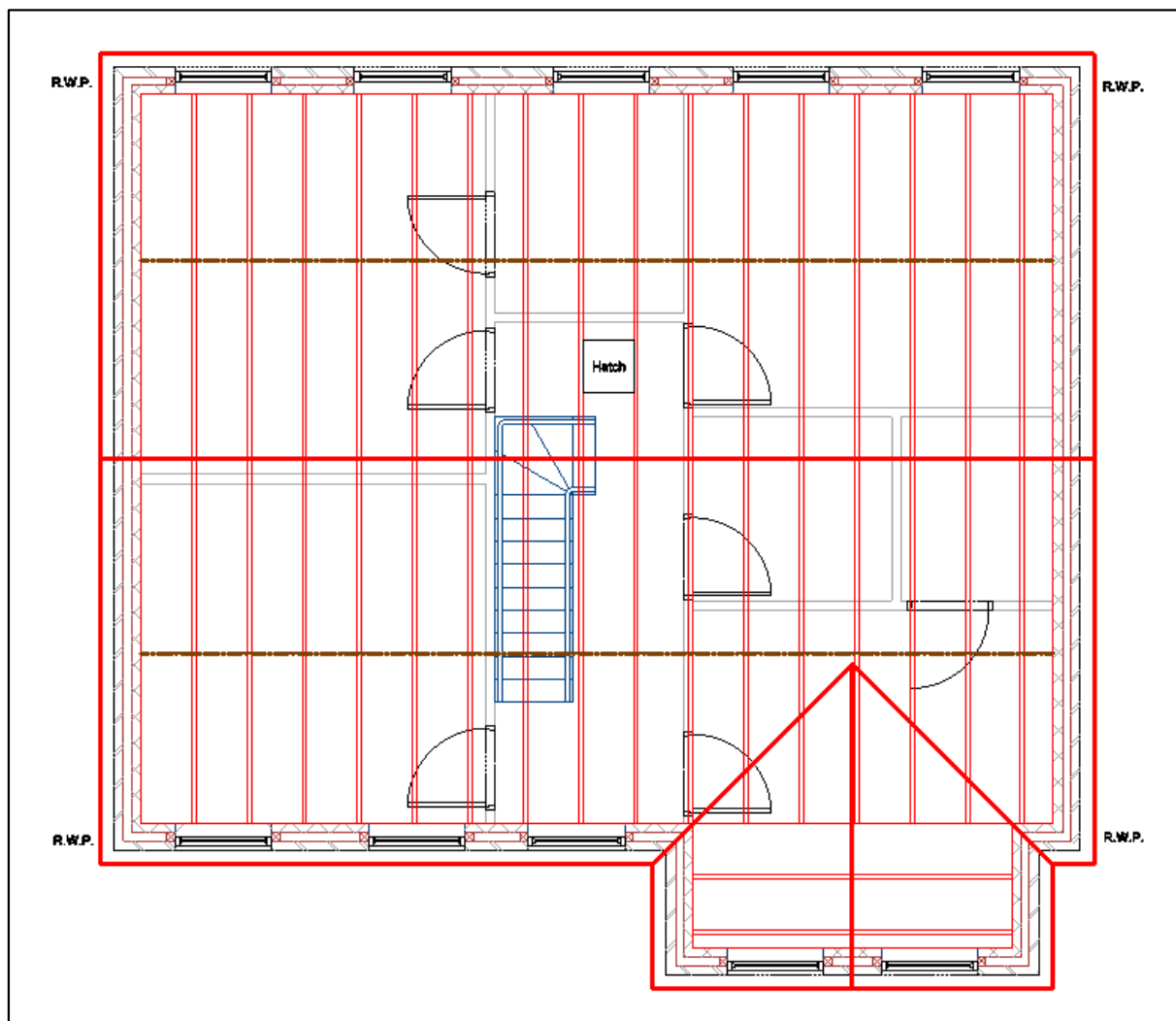
Introduction:

In this exercise, you'll practise specifying and drawing the main apex roof. When drawing a roof with multiple parts, always start by drawing the apex (or hipped roof, if appropriate). You can then add any valleys as required.

Key skills you will be practising:

- Selecting a specification of roof
- Drawing an apex roof
- Drawing a ceiling
- Adding bracing timbers to a roof
- Adding sundry items such as a loft hatch and downpipes

Refer to the diagram below to complete this exercise:



Instructions:

Specifying the roof

1. Go to the **Architectural** tab.
2. Click on the **Roofs** dropdown menu.
3. Select the **Cold Trussed Roofs** type.
4. The Roof Component Builder opens up.
Start by choosing the **ALREADY USED: Tiled trussed cold roof with timbers at 400mm centres – High Thermal Performance** specification.
Selecting this specification will save you having to specify the roof tiles again.
5. Click **Next**.
6. The next screen prompts you to select a type of roof.
The **Apex roof** type is already selected.
7. Click **Next**.
8. The next screen asks you to enter the dimensions of the roof.
Leave the pitch set to **45** degrees.
9. Review the other details (Ignore the valley options as they're not relevant in this case).
! As before, the soffit, fascia and bargeboard heights are greyed out because they are determined by the resources defined in the specification. To change the soffit width, or the height of the fascia or bargeboard, click the adjacent swap button.
10. Click **Finish**.

Drawing the apex roof

11. BuildingWorks is now ready to draw the roof. The following steps should be followed to draw the main apex roof. There are 4 steps to drawing an apex roof.
The Instructions Window prompts: Click on any wall that roof is on.
BuildingWorks will take the wallplate height from this wall so you can click on any supporting wall.
Click on the rear wall of the house.
12. The Instructions Window prompts: Click on the first corner to indicate the width of the building
In the case of an apex roof, the "width of the building" means the gable end of the roof.
Click on the back-left corner of the house.
13. The Instructions Window prompts: Click on the second corner to indicate the width of the building.
Click on the front-left corner of the house.
14. The Instructions Window prompts: Click on the opposite corner to indicate the length of the building, or press T to join an existing wall/roof.
You're not joining a wall or another roof on this occasion, so simply need to click on the opposite end of the building. It doesn't matter which corner you click on.
15. Click on the back-right corner of the house. The outline of the apex roof will appear on screen.

Adding extra items to the roof

16. Once you've drawn your roof, the **Extra Items** window opens up, showing you all the extra items you can add to the roof, including ceiling, roof accessories and bracing.
Add the insulated ceiling for this part of the roof (the valley will be done later).
See exercise 12, from step 29 for help drawing the ceiling.
17. Now add some lacers.
Click on the Draw button underneath **Lacers to roof rafters**.
18. The Instructions Window prompts: Click to place the start point.
You may find it helpful to zoom in and out, and to drag the page around, while you complete this exercise.
19. Hover your cursor over the front slope of the roof, half way between the ridge and the eaves, until you find the **Midpoint**.
20. Wait for the **Midpoint** symbol to turn pink.

21. Now move your cursor slowly towards the inside of the wall.
A dashed line will appear, showing that BuildingWorks has retained the Y coordinate of the Midpoint.
22. Once you find a **Nearest** snap point on the inside of the walls, click the left mouse button to place the first end of the lacer.
23. The Instructions Window prompts: Click to place the next point.
Find the **Perpendicular** point on the inside of the opposite external wall.
24. Click the left mouse button to place the other end of the lacer.
25. Now press the **Escape key** to finish drawing this lacer.
26. Middle click to draw another lacer.
27. Repeat steps 17 to 25 to place the lacer on the rear slope of the roof.
28. Now add rainwater downpipes to the drawing, referring to the diagram at the start of this exercise. See exercise 12, from step 33 for help selecting and placing the downpipes. Note that the downpipe length will be **5250mm**.
29. Finally, add a loft hatch to the drawing.
Minimise the Roof rainwater goods by clicking on the minus button.
30. Click the **Draw** button under the item called **Loft hatch insulated**.
31. The Instructions Window prompts: Place symbol.
Click to place the loft hatch symbol according to the diagram.
32. The Instructions Window prompts: Click to select rotation of the item.
Hold down the **Shift key** and move the cursor to the right.
33. Click to confirm the rotation of the hatch.
34. Now save your project.
35. To draw the valley roof, refer to the link below for “How to draw an apex roof which adjoins a roof or wall”.

Watch the following video to draw the apex valley:

How to draw an apex roof which adjoins a roof or wall (7 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000038092-how-to-draw-an-apex-roof-which-adjoins-a-roof-or-wall>

MODULE 7: Drawing Elevations

Exercise 14: Drawing 2D Elevations

Watch the following video: How to create an elevation view (5 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000046485-how-to-create-an-elevation-view>

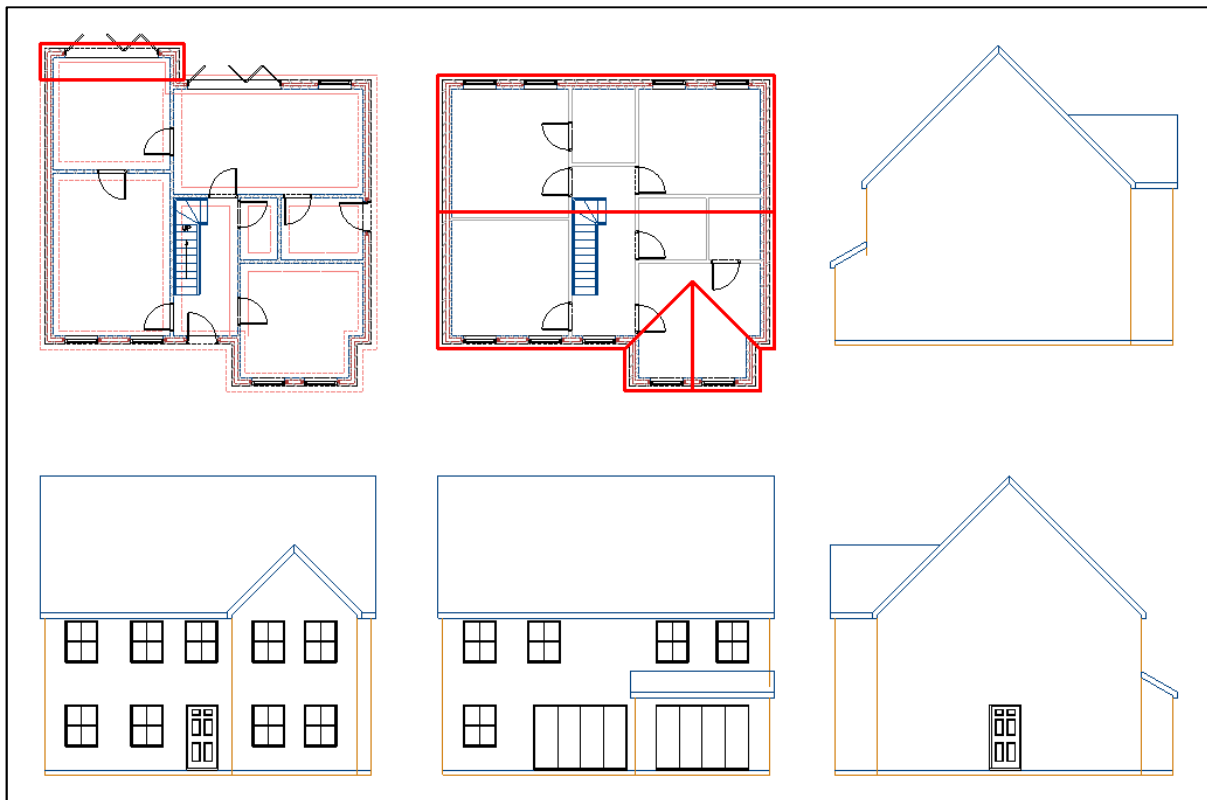
Introduction:

Once you've completed your plans, you're ready to create some elevation views of your design. You can create multi-story elevations using the Draw Elevation button. In this exercise, I'll show you how to draw and place elevations.

Key skills you will be practising:

- Creating elevations views
- Recalculating an elevation

Refer to the diagram below to complete this exercise:



Instructions:

Marking out what to include in the elevation

1. Go to the **Views & 3D** tab.
 2. Click the **Draw Elevation** button.
 3. Start by drawing the front elevation of the building.
 - ! Use points on the first floor plan to help you mark out the elevation. By using the plan which shows the roof, you can make sure the depth of the elevation extends beyond the roof ridge. This will ensure that the roof appears correctly in the elevation. The ground floor will be included automatically in the elevation too - you'll be given the option of creating the elevation for all levels of the design at the end of elevation drawing process.
- The Instructions Window prompts: Click on the wall on which the elevation will be based.
For a front elevation, click on one of the front walls of the house.
4. The Instructions Window prompts: Click on the observation point for the elevation.
For a front elevation, you'd be stood in front of the building, so click there.
 5. The Instructions Window prompts: Click on the depth of view point for the elevation.
This needs to be a point beyond the ridge to ensure the whole roof is drawn.
Click beyond the roof ridge.
 6. The Instructions Window prompts: Click on the left extent point for the elevation.
Click to the left of the left wall of the house.
 7. The Instructions Window prompts: Click on the right extent point for the elevation.
Click to the right of the right wall of the house.
 8. The Instructions Window prompts: Click to select a reference point for the elevation
Click on the bottom left corner of the first floor plan.
This means when you place the elevation on the page, you'll be placing the bottom left corner of the building.

Placing the elevation

9. The Instructions Window prompts: Click to select a relative point for the elevation.
You now need to place the elevation view on the drawing, below the ground floor plan. You can use intelli-snap points to help place your elevation in the line with the plan.
Hold your cursor over the snap point on the bottom left corner of the ground floor plan, until the snap point turns pink.
10. When you move your cursor down the screen, a dashed line appears. BuildingWorks is snapping the elevation to the X coordinate of the point you hovered over on the plan.
Move your cursor to the position where you want to place the bottom of the elevation.
11. Click to place the elevation.
12. A dialog box opens up asking if you want to create the elevation for all levels of the design.
Click **Yes**.
After a moment, the elevation appears on screen.
 - ! On occasion you may find that internal doors or other internal features show up in the elevation. This is because when you indicated the depth of the elevation beyond the ridge, some internal walls may have been included. You can edit the elevation to remove any unwanted features. Take a look at the video called **How to edit an elevation view** for more information (see link below).
13. Draw your rear and side elevations in the same way. Start by clicking the rear or side wall of the house, then follow the onscreen instructions, imagining you're standing looking at the wall you've clicked on.
 - ! You don't have to draw an elevation from scratch if you make any changes to your plans; you can update the elevation using the **Recalculate elevation** tool.
Click on the elevation containing the change, to select it.
Click the right mouse button. The right click menu will appear.
Select the **Recalculate elevation** option. The elevation will be updated to reflect the changes you've made.
14. Once complete, save your project.

You may also find it useful to watch the following video:

How to edit an elevation view (6 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000046486-how-to-edit-an-elevation-view>

MODULE 8: Adding Details

Exercise 15: Adding Dimension Lines

Watch the following video: How to add dimension lines to your drawing (4 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000046173-how-to-add-dimension-lines-to-your-drawing>

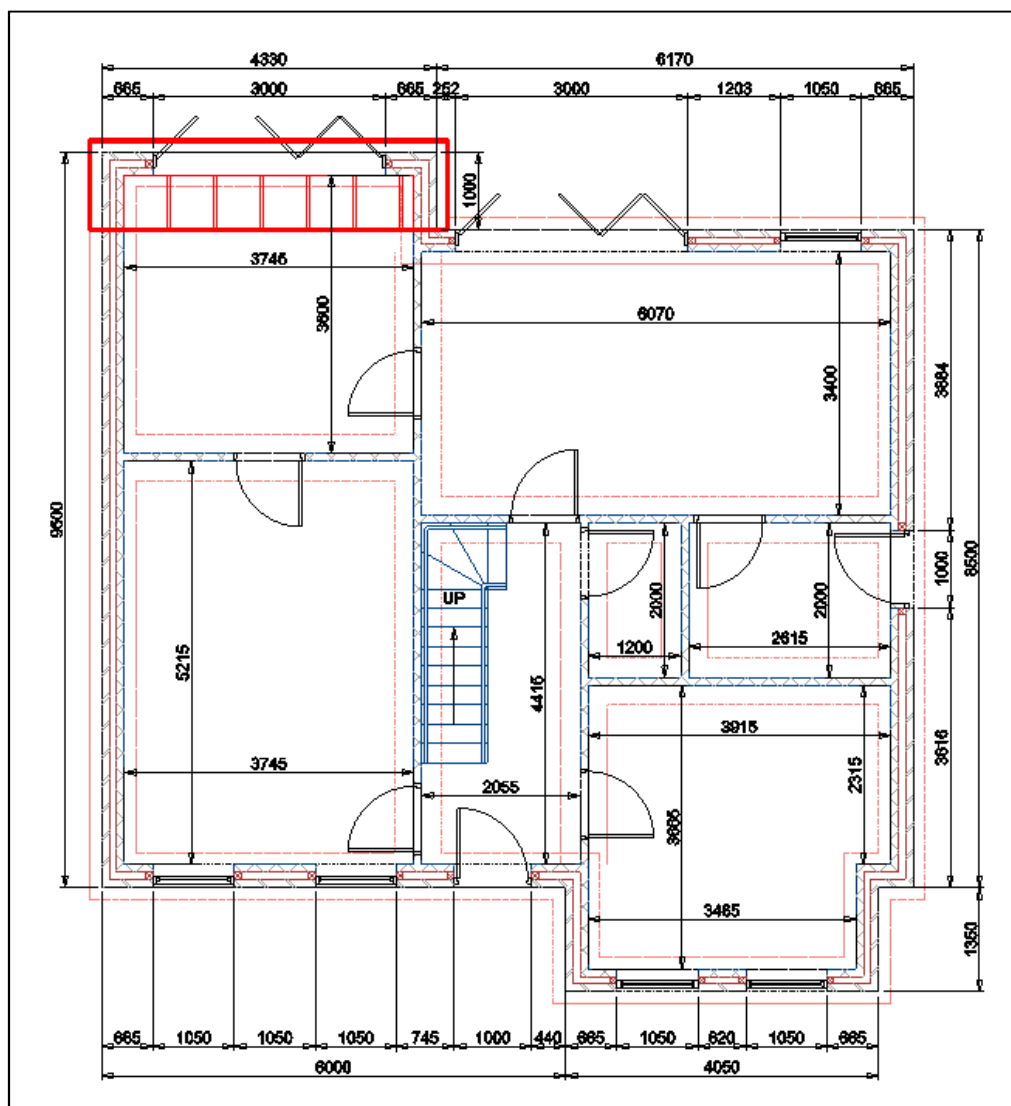
Introduction:

In this exercise, you'll practise adding dimension lines to your external walls using the automatic wall dimension tool. You'll also practise adding linear dimension lines to show the room measurements.

Key skills you will be practising:

- Auto-dimensioning the external walls
- Adding linear dimension lines to show room measurements
- Moving dimension lines

Refer to the diagram below to complete this exercise:



Instructions:

Using the Automatic Wall Dimension tool

1. First, let's look at the Automatic Wall Dimension tool. The Automatic Wall Dimension tool allows you to quickly measure and display dimensions for an entire wall, including each length of wall and all the components within the wall, such as windows and doors. It also gives the dimension for the entire length of wall.
Select the wall containing the front door, by clicking on it with the left mouse button.
2. Click the **Dimension Wall** button on the **Wall** tab which appears when a wall is selected.
3. Now use your cursor to position the dimension lines.
4. Click to place the dimension lines.
BuildingWorks inserts multiple dimensions for the wall, windows and door.
5. The automatic wall dimension tool can also be found on the right click menu.
Select the front projecting wall, by clicking on it with the left mouse button.
6. Click the right mouse button.
7. Select the **Dimension** option on the menu which appears.
8. Click the left mouse button to position the dimension lines.
9. Using either the **Dimension Wall** button on the **Wall** tab, or the right click **Dimension** option, continue to add dimension lines to each of your external ground floor walls.

Adding linear dimension lines

10. Now let's look at the linear dimension tool. You can use the linear dimension tool to add dimension lines showing the internal dimensions of the rooms.
Click on the **Drawing & Annotation** tab to view the dimension tools.
11. Click the **Linear Dimension** button.
12. Zoom in on the room at the front left of the house.
13. Locate the **Nearest** snap point on the inside of the wall you're measuring from.
14. Click the left mouse button to indicate the first dimension point.
15. Locate the **Perpendicular** snap point on the inside of the opposite wall.
If you use the **Perpendicular** point for your second dimension point, you can be sure that your dimension lines are straight and that your dimension is accurate.
16. Click the left mouse button to indicate the second dimension point.
17. Now place the dimension line. Move your cursor to position the dimension line.
18. Click the left mouse button to place the dimension line.
19. Middle click to indicate that you want to add another linear dimension line.
20. Repeat the process to add another dimension line to the room. Click the left mouse button to select the two dimension points, and click once more to place the dimension line.
21. Repeat this process to add dimensions to every room in your design.
! You can move a dimension line, if it's not positioned ideally.
Click on the dimension line to select it.
Click on the blue handle which appears in the middle of the dimension line.
Move your mouse to move the dimension line to its new position.
Click the left mouse button to place the dimension line.
22. Once complete, save your project.

Exercise 16: Adding Labels

Watch the following video: How to add labels to your drawing (3 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000046542-how-to-add-labels-to-your-drawing>

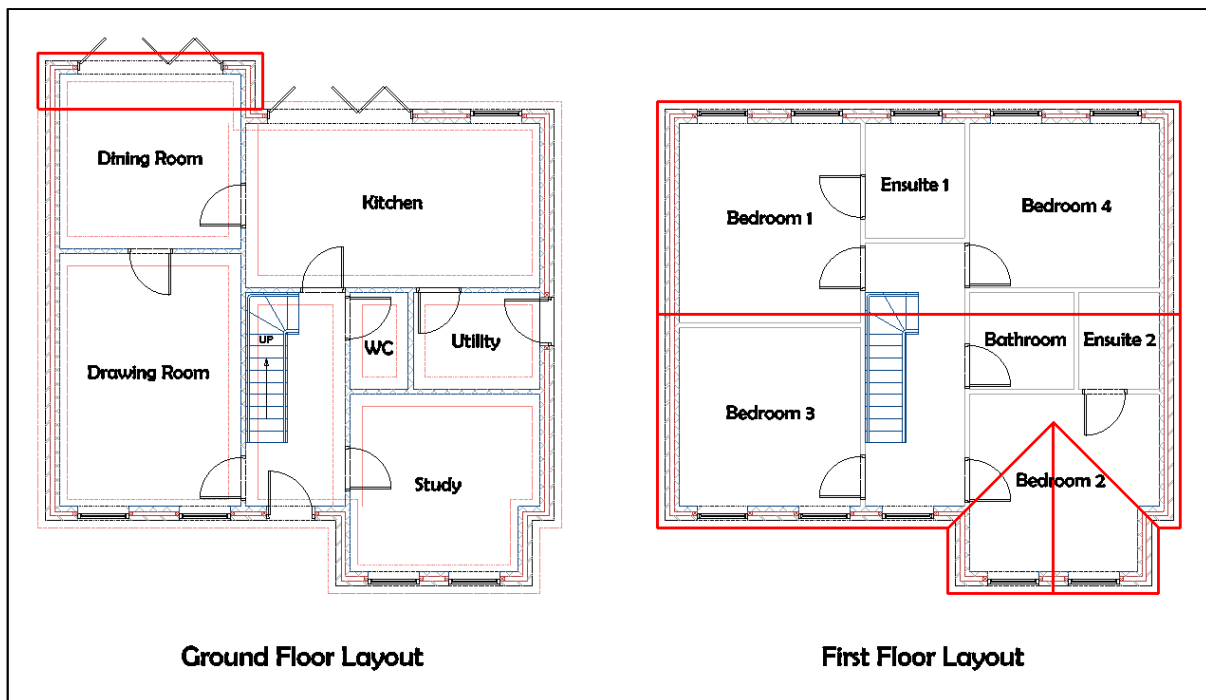
Introduction:

In this exercise, you'll learn how to use the Labels window to select labels and place them on your drawing. You'll also learn how to change the font style and size of your labels.

Key skills you will be practising:

- Adding labels to your drawing
- Changing the font style of labels
- Changing the font size of labels

Refer to the diagram below to complete this exercise:



Instructions:

Placing a label and changing the font style

1. Click the **Labels** tab to open the **Labels** window.
 - ! If the **Labels** tab isn't currently visible on screen, click on the **Views & 3D** tab and click the **Window** button. Tick the **Labels** option to open the **Labels** window.
2. The **Labels** window comes prepopulated with a list of labels which you may find useful for your drawing. Scroll down the list until you locate the **Kitchen** label.
3. Double click on the **Kitchen** label to select it.
4. Move your mouse onto the drawing area.
You'll see that your cursor is controlling the position of the label.
5. Once a label is selected, the **Text** tab appears on the ribbon. From here, you can change the font style.
 - ! To change the font, click on the **Font** dropdown box and select an alternative font.
 - ! To change the font size, use the **Height** setting. To increase the font size, enter a larger number. To decrease the font size, you would enter a smaller number.
 - ! You can also set the font to be **Bold**, *italicised*, underlined and so on.
6. Once you're happy with the font style, click the left mouse button to place the label.
BuildingWorks will remember the font settings for any labels you subsequently add to the drawing.
7. Repeat this process to label each of the rooms on your plans, referring to the diagram at the start of this exercise. Double click on the label on the **Labels** window, place your cursor where you want to place the label on the drawing, then click the left mouse button.

Adding a label to the list

8. If the label you want isn't in the list, you can easily add it.
Click into the Add text box at the top of the **Labels** window.
9. Type the label using your keyboard: **Music Room**.
10. Click the **Add** button.
Your new label will then appear in the list. You can select the label by double clicking on it, and add it to your drawing by left clicking, as before.
11. Once complete, save your project.

You may also find it useful to watch the following video:

How to add building regulations notes to your drawing (4 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000061908-how-to-add-building-regulations-notes-to-your-drawing>

MODULE 9: Exploring the Estimate

Exercise 17: Swapping a Resource

Watch the following video: How to swap a resource in an estimating calculator (4 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000039961-how-to-swap-a-resource-in-an-estimating-calculator>

Introduction:

In this exercise, you'll move into the Estimate module of BuildingWorks. Once you've drawn some estimated architectural items, such as walls, floors and roofs, you can change the specification of an element by swapping any of the resources within it. In this exercise, you'll practise swapping the brick type specified for the external walls. You can swap other materials in other elements following the same process.

Key skills you will be practising:

- Opening the estimate
- Looking at an estimating calculator
- Changing a resource within an estimating calculator

During this exercise, you'll be working on this screen:

The screenshot displays the 'Estimating Calculator' window for 'Upton Fields 3 - BuildingWorks'. The main table lists various construction items for a 'Brick and block full fill cavity wall'. The 'Swap' button is highlighted with a yellow circle in the top right corner of the table.

Description	Rate	Quantity	Item Cost (ex. Wastage)	Usage	Rate Cost (ex. Wastage)	Total Quantity Ex. Wastage	Wastage Rate	Total Wastage Quantity	Total Quantity Inc. Wastage	Total Cost Ex. Wastage	Total Wastage Cost	Total Cost Inc. Wastage
182.5mm stretcher bond pointed one side facing... Bostock Roughsides Red Multi Rustic 215 x 102.5 x 65mm facing brick and Site mix mortar 1:2:9, Cemex Rugby masonry cement 25kg, Tarmac premium yellow building sand bulk bag and Cemex Rugby hydrated lime 25kg	216.98/m²	1.000	£69.46/m²	1.000	£69.46/m²	216.98m²			216.98m²	£15,072.09	£344.34	£15,616.43
Brick Bostock Roughsides Red Multi Rustic 215 x 102.5 x 65mm facing brick	216.98/m²	1.000	£69.46/m²	1.000	£69.46/m²	216.98m²			216.98m²	£15,072.09	£344.34	£15,616.43
Site mix mortar 1:2:9 Cemex Rugby masonry cement 25kg, Tarmac premium yellow building sand bulk bag and Cemex Rugby hydrated lime 25kg	216.98/m²	0.022	£3.48/m²	0.022	£3.48/m²	4.77m²			4.77m²	£754.56	£164.77	£919.33
Lay bricks Bricklayer	216.98/m²	1.000	£24.00/m²	1.000	£24.00/m²	216.98hr	0%		216.98hr	£5,207.40	£0.00	£5,207.40
Lay bricks Bricklayer's labourer	216.98/m²	0.500	£7.00/m²	0.500	£7.00/m²	108.49hr	0%		108.49hr	£1,518.83	£0.00	£1,518.83
Full fill cavity wall insulation Knauf Earthwool DnTherm Rock 100mm thick insulation cavity slab 1200mm x 455mm pack of 15	216.98/m²	1.000	£6.44/m²	1.000	£6.44/m²	216.98m²			216.98m²	£1,397.32	£99.37	£1,496.69
100mm cavity with brick/block wall ties at 2.5 per m² Ancor stainless steel Starfix ST1 225mm tie for 76-100mm cavity	216.98/m²	1.000	£3.34/m²	1.000	£3.34/m²	216.98m²			216.98m²	£723.61	£32.00	£755.61
100mm aerated concrete blockwork skin to cavity... Hanson Thermalite Turbo 2.9N 440 x 215 x 100mm aerated concrete block and Site mix mortar 1:1:6, Cemex Rugby masonry cement 25kg, Tarmac premium yellow	216.98/m²	1.000	£36.31/m²	1.000	£36.31/m²	216.98m²			216.98m²	£7,877.33	£262.39	£8,139.72

Instructions:

1. On the **Project Explorer** menu on the left of the screen, click on the **Estimate**.
This opens up the Estimate module.
2. On the **Project Explorer**, click on the arrow next to **Walls: External**.
This expands the folder containing all of the external roof estimating calculators.
3. On the **Project Explorer**, click on the arrow next to the **Brick and block full fill cavity wall** estimating calculator.
This shows you every individual wall component with the **Brick and block full fill cavity wall** specification.
When the walls have been drawn, they are numbered Wall 1, Wall 2 and so on.
! Every wall component within the estimating calculator shares the same specification. Any changes you make to the specification of the estimating calculator will be copied across to every component within the estimating calculator. So, in this example, if you change the brick type in the **Brick and block full fill cavity wall estimating calculator**, the brick type will also change in the components within the estimating calculator – Wall 1, Wall 2 etc.
4. On the **Project Explorer**, click on the **Brick and block full fill cavity wall** estimating calculator to open it.
5. In the **Dimension Linked Specified Items** tab, you can see the list of specified items which are based on the dimensions of the walls.
Click on the arrow next to the **Brick and full fill cavity wall** assembly.
The assembly expands to show the rates within it.
6. Click on the plus sign next to the **Metric 102.5mm stretcher bond pointed** rate.
Here you can see the resources used within the brickwork rate, including the brick.
7. Click on the **Swap** button adjacent to the **Brick**.
8. A dialog box pops up, explaining that changing a resource within the specification will change it in every component within the estimating calculator.
Click **OK**.
9. The **Swap Resource** window opens up.
Click on the **Hanson Clumber Buff** brick.
It will appear highlighted in blue.
10. Click **OK** to select the brick.
The new brick will now appear in place of the old one. Remember, this change will have been made within each wall component within the estimating calculator.
11. Open up Wall 1 (or the first wall, whatever its number) by clicking on it on the **Project Explorer**.
12. Click on the **Dimension Linked Specified Items** tab.
Here you can see that the red brick has been swapped for a buff brick within this individual wall component.
The change will have been repeated within every other wall component.
13. Save the project.

You may also find it useful to watch the following videos:

How to swap a rate in an estimating calculator (4 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000039956-how-to-swap-a-rate-in-an-estimating-calculator>

How to add sundry items to a component (3 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000058321-how-to-add-sundry-items-to-a-component>

MODULE 10: Using the Output

Exercise 18: Setting up the Build Programme

Watch the following video: How to setup the build programme (8 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000038808-how-to-set-up-the-build-programme>

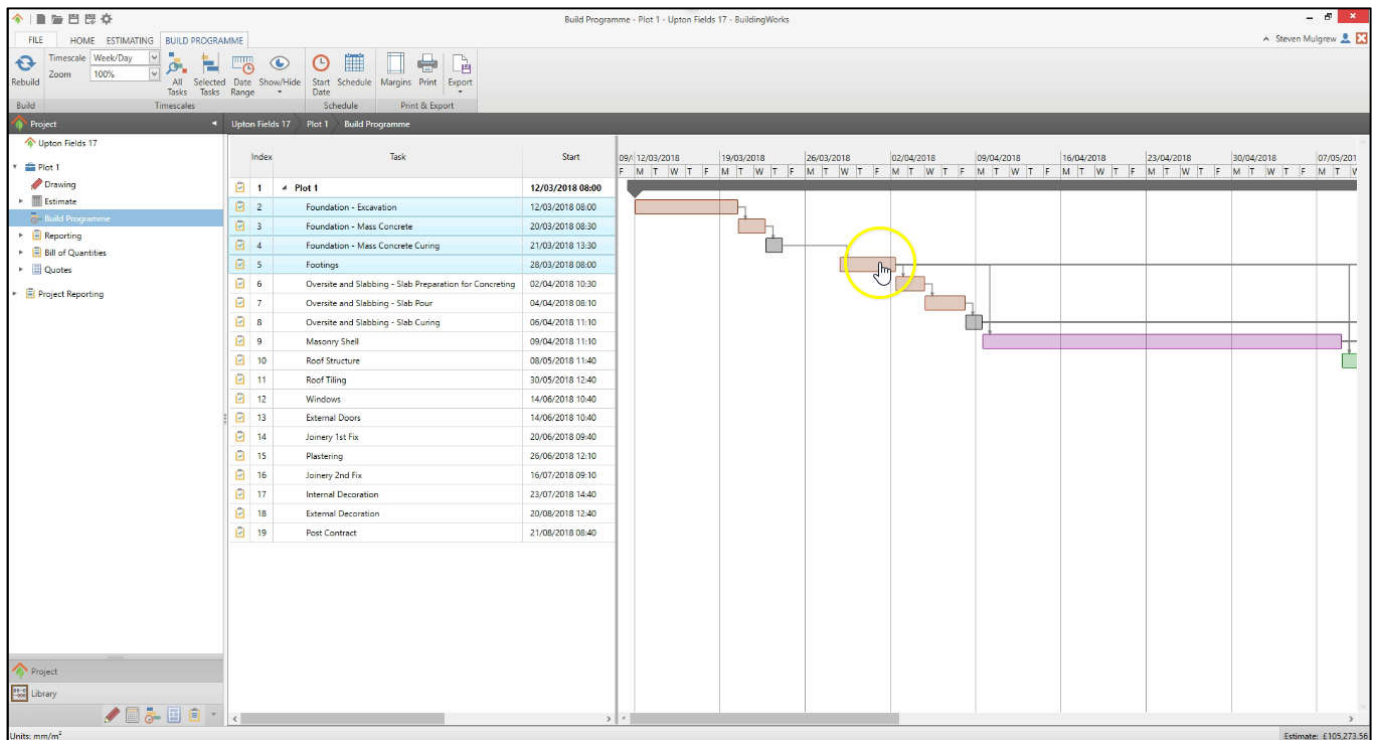
Introduction:

In this exercise, you'll learn how to set up the build programme and customise it for your project. You'll have the opportunity to manipulate the build programme in a range of different ways.

Key skills you will be practising:

- Opening the build programme
- Setting the start date
- Setting the schedule
- Viewing the chart in different ways
- Changing the start date and end date of tasks
- Moving tasks
- Printing the build programme
- Exporting the build programme

During this exercise, you'll be working on this screen:



Instructions:

Building the build programme

Note: Before you open the Build Programme, ensure you've finished your drawing/estimate, as any changes to the estimated elements will not appear automatically in the Build Programme. Also, use the **Check Estimate** tool to ensure your estimate is complete and free from errors.

1. Scroll down and click on the **Build Programme** on the **Project Explorer**.
2. The first time you navigate to the Build Programme, you need to build the build programme, by entering a few details.
A dialog box appears, prompting you to entering some key information.
Click on the **Start Date** dropdown box.
3. A calendar tool opens up.
Click through the months using the arrows, and then click on the start date: **6th April 2020**.
4. Ensure the **Typical Build Programme** template is selected in the dropdown box.
! The template determines the order of the build phases in the Gantt chart and their dependencies. The typical build programme assumes that the masonry shell and roof need to be completed before windows and doors are installed.
If you were building a masonry skinned timber frame building, you might want to make the building weathertight and begin the internal works before starting on the masonry skin. You could set up a new build programme in your library to reflect this.
5. Click **Next**.
6. The next dialog box asks you to enter the number of labourers who will be working on site.
In the **Quantity** column, adjacent to **Bricklayer**, use the up arrow to increase the number to 2.
The gang sizes are used to calculate the length of each task bar in the chart, based on the information contained in the estimate.
7. Click **Finish**.
After a few moments, the build programme will appear on screen.

Changing the project start date

8. Click the **Start Date** button on the **Build Programme** tab at the top of the screen.
9. Change the start date to **20th April 2020**.
10. Click **OK**.
After a moment, your build programme will be updated.

Setting the daily schedule

11. Click the **Schedule** button on the **Build Programme** tab.
Here you can set the daily work schedule.
12. Change the start time of each day by clicking into the start time boxes and overtyping the time. Type in **07:30**.
! You can add a second time period for a day, if you need one, by ticking the tick box and entering the times of the second period.
! You can also add hours for Saturday and Sunday, if applicable.
13. Click **OK**.

Changing the timescale of the chart

14. Select a different timescale using the **Timescale** dropdown box. Select **Month/Week**.
15. Now select **Week/Day**.

Changing the zoom of the chart

16. Change the zoom to **75%** using the **Zoom** dropdown box.
17. Change the zoom back to **100%**.

Selecting tasks to view

18. You can also view selected tasks.
19. For example, if you wanted to view the tasks relating to foundations and footings only, hold down the **Shift** key on your keyboard and click the foundation and footings tasks on the task list.
20. Then click the **Selected Tasks** button.
21. To show all tasks again, click the **All Tasks** button.

Changing the duration of a task

22. Hover your mouse over the tasks until you find the **Footings** task bar.
 23. To increase the length of the **Footings** task bar, hover your mouse over the right end of the bar until a double-headed arrow appears.
 24. Hold down the left mouse button.
 25. Move your cursor to the right to extend the task by 2 days.
- ! Note that altering the task bar lengths does not change the labour calculations in the estimate.

Moving a task

26. Hold down the left mouse button on the **Footings** task bar and drag it to the right.
 27. Release the left mouse button once you're happy with the task bar's position.
- Any changes will automatically cascade through to the later tasks.

Printing the Build Programme

28. Click the **Print** button.
 29. Select the option to print the **Chart** only.
 30. Click **OK**.
- The Print dialog box appears.
31. Select the printer you want to use, enter the number of copies, then click **Print**.

Exporting the Build Programme

32. Click the **Export** button.
33. Select the **PNG** file type from the dropdown menu.
34. Select the option to export both the **Task List and Chart**.
35. Click **OK**.
36. Check you're happy with the file name and location.
37. Click **Save**.
38. Open the file in the folder where you saved it.

Rebuilding the build programme

Note: If you make any changes to your estimate or drawing, those changes won't filter down automatically to your Build Programme. For example, if you added wall demolition to your estimate, the demolition build phase would not automatically be added to the Build Programme.

If, after producing a build programme, you decide to add to or alter the estimate or drawing, you'll need to rebuild the chart for these changes to be shown, using the **Rebuild** button. Rebuilding the build programme will reset any edited bar lengths back to those calculated from the estimate.

39. Save your project.

Exercise 19: Creating a Quote

Watch the following video: How to review and print a quote (12 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000045582-how-to-review-and-print-a-quote>

Introduction:

In this exercise, you'll learn how to open a quote template and edit it using the various quote settings.

Key skills you will be practising:

- Opening a quote template
- Editing a quote
- Printing a quote
- Exporting a quote

During this exercise, you'll be working on this screen:

The screenshot displays the BuildingWorks software interface. The top menu bar includes FILE, HOME, QUOTE, and HELP. Below the menu is a toolbar with icons for Rebuild, Edit, Print, Page Setup, Zoom In, Zoom Out, First Page, Previous Page, Next Page, Last Page, Export, Email, Save to Library, and Close Print Preview. The main window is titled 'Quotes - Plot 1 - Upton Fields 18 - BuildingWorks'. The left sidebar shows a project tree with 'Upton Fields 18' selected, and 'Quotes' is highlighted under the 'Project' folder. The main content area is titled 'Footings' and contains the following text: 'Construct masonry footings off prepared foundations.' Below this, there are two sections: 'Internal Masonry Solid Footings' and 'Brick & Block Cavity Footings'. Each section lists materials with their quantities and costs. The 'Internal Masonry Solid Footings' section lists Lime, Sand, Cement, and Blocks. The 'Brick & Block Cavity Footings' section lists Cavity fill, Lime, Sand, Cement, Bricks, and Engineering bricks. At the bottom, there is a summary table showing the total cost excluding VAT as £3,015.03.

Material	Quantity	Unit	Cost
Lime	0.01	m³	£4.08
Sand	0.08	m³	£12.84
Cement	0.01	m³	£3.80
Blocks	125	no	£163.82
Cavity fill	0.86	m³	£120.82
Lime	0.04	m³	£12.84
Sand	0.4	m³	£51.36
Cement	0.09	m³	£34.20
Bricks	285	no	£373.91
Bricks	190	no	£134.80
Bricks	380	no	£471.79

Category	Cost
Materials cost excluding VAT	£1,385.40
Labour cost excluding VAT	£1,616.24
Plant cost excluding VAT	£13.39
Total cost excluding VAT	£3,015.03

Note: not all items have been shown

Instructions:

Note: Before you create a customer quote, ensure your estimate is complete. Also check that you've filled out the client and site details on the Project Details screen.

Opening a quote

1. Scroll down and click **Quotes** on the **Project Explorer** to navigate to the list of quote templates.
The Estimate Completion Checker dialog box opens up, prompting you to check your estimate.
Usually, you would work your way along the tabs, checking for errors and omissions in your estimate.
2. For now, click **Close**.
3. Click the **Save Data Snapshot** button on the **Quotes** tab at the top of the screen.
A dialog box will pop up telling you that the snapshot has been saved.
! A data snapshot captures and saves the data in your estimate, so that if you subsequently make any changes to it, you can always revert to the data used to create the quote. It's good practice to take a data snapshot each time you intend to print out or export a quote. You can subsequently find and select the data snapshot – which will show today's date - using the **Data to Use** dropdown box.
4. Open the **Customer quote with materials quantities and costs by build phase** quote template, by double clicking on it on the main window.
You can now see a preview of the quote.
5. Scroll down to preview the quote.

Importing your company logo

6. Click the **Edit** button on the **Quote** tab.
7. Click **Cover Page**, under **Content**, on the left-hand menu.
8. Tick **Include logo**.
9. The first time you tick the **Include logo** tick box, a message will appear asking if you want to set the company logo.
10. Click **Yes**.
11. Locate the company logo on your computer – it must be saved as an image file such as a bitmap, jpeg or gif.
12. Click on the file to select it.
13. Click **Open**.
You'll see a preview of the company logo.

Editing the introductory letter

14. Now click **Letter** on the left-hand menu.
15. Edit the text in the cover letter as desired.
! You can either type directly into the box, or if you have your own standard letter which you'd prefer to use, you can copy and paste it into the text box. To paste the letter into the box, hold down the Ctrl and V keys on your keyboard.
16. Scroll down the dialog box.
17. Tick **Include letterhead**.
In the same way as you imported your company logo, you can import a company letterhead to appear on the introductory letter.

Changing the breakdown of the quote

18. Click **Breakdown** on the left-hand menu.
The breakdown settings determine how the quote is itemised.
19. Click **Grouping** on the left-hand menu.
20. Ensure **Build Phase** is selected in the **Grouping** dropdown box
21. Untick the **Show Build Phase Image** tick box.
22. Click onto **Default Settings** on the left-hand menu.
23. From the **Description** dropdown box, select the **Unbranded** option.

This will display more customer-friendly unbranded material descriptions in the quote.

Changing the quote style

24. Click **Template** on the left-hand menu.
The Template settings control the layout and formatting of your quote.
25. Click **Page Setup** on the left-hand menu.
26. Change the page size, orientation and margins if necessary.
27. Click **Font Styles**.
28. Change the font styles if desired.
29. Scroll down the left-hand menu.
30. Click **Header** and **Footer** to view which information which appears on the header and footer.

Changing the VAT settings

31. Scroll down and click **VAT** on the left-hand menu.
32. Set the **VAT Percentage** to 0%.

Previewing the changes

33. Click **OK** to confirm the quote changes.
34. Scroll down the quote to view the changes in the preview.

Opening an alternative quote

35. If the quote doesn't appear as you'd like, you can select an alternative quote template.
Single click on the **Abbreviated Customer Quote by Build Phase** on the **Project Explorer**.
The abbreviated quotes show less detail.
36. Scroll down and preview the quote.
The **Abbreviated Customer Quote by Build Phase** doesn't show the breakdown of materials and labour, and associated quantities and costs. It does however show subtotals for materials, labour and plant, for each build phase.

Saving the quote to the library

37. If you spend some time setting up a quote, you can save it to the library for future use.
Click the **Save to Library** button on the **Quote** tab.
The Save Quote to Library dialog box appears.
38. Select the **Save as new quote** option.
39. BuildingWorks suggests a name, but you can of course give it a name which is meaningful to you. Keep the default name for now: **My Abbreviated Customer Quote by Build Phase**.
40. Tick the **Keep build phase images, descriptions and filters** box if you want to save these settings.
41. Click **OK**.

Printing the quote

42. If you're happy with the quote, and are ready to print, click the **Print** button.
43. In the print dialog box, select the printer you want to use.
44. Select the number of copies you want.
45. Click **OK**.

Exporting the quote

46. Click the **Export** button on the **Quote** tab.
47. Select the **PDF** file type from the dropdown menu.
48. Check you're happy with the file name and location.
49. Click **Save**.

50. Open the file in the folder where you saved it, or attach the file to an email.
51. For now, click **Close Print Preview** on the ribbon at the top of the screen.

Deleting and reimporting a quote template

52. You can reset a quote to its original settings at any point, by deleting it and adding it from the library.
Click on the **Abbreviated Customer Quote by Build Phase** quote in the main window.
 53. Then click the **Delete** button.
 54. A dialog box appears asking if you want to delete the quote.
Click **Yes**.
 55. Click the **Import from Library** button.
 56. Select the **Abbreviated Customer Quote by Build Phase** quote from the list.
 57. Click **OK**.
The quote will appear in your project.
 58. Save your project.
-

You may also find it useful to watch the following videos:

How to review and print a report (9 minutes)

<https://help.getbuildingworks.com/support/solutions/articles/13000038347-how-to-review-and-print-a-report>

How to review and print a Bill of Quantities (6 minutes)

https://help.getbuildingworks.com/support/solutions/folders/13000004891/page/2?url_locale=