BUILD YOUR OWN

GARDEN SHED

Instructions and detailed plans to build and to build
a 8’ x 6’ 10' x 16' 12' x 8 Shed.

Techniques can be used to construct
a shed of any size.

CONSTRUCTIONAL NOTES FOR GARDEN SHEDS (APEX)

I shall use an 8' x 6' Apex shed as an example in these notes. Constructional details are the same whichever size is used, but this is probably the most popular size of all. We shall start with the floor. There are two good reasons for this. The first is that it is the easiest and so it will be good way for the inexperienced to gain confidence before proceeding to the other sections. The other reason is that the floor itself, when completed can be raised up on fruit crates or similar and can then be used as a work table. It will be just short of 8' x 6' so it will be large enough to take any of the other sections. You will, of course, need access from all sides, even so the average garage should be large enough to use as a workshop. If you are unable to work under cover, then a flat outdoor area will have to be used. Do make provision for inclement weather. Be sure to have somewhere to prop up completed sections, have some waterproof sheets handy with which to cover everything up. Wet boarding is unpleasant to work with and if it swells up it will make it difficult to fit together.

You will have seen in the 'General Notes' that the first thing to do is to obtain the RS (rough sawn) under floor bearers and give them a good soaking with preservative, creosote being as good as anything for this. Put them aside to dry.

THE FLOOR

Cut the floor bearers and lay them out parallel to each other about 15 ¾" (400mm) apart. (see plan) 34mm face uppermost. Cut the floorboards. Lay one of them across the bearers at the end nearest to you with the groove towards you.

Lightly nail in this position, but only at the corners nearest the groove and only into the end bearers. Place another floorboard at the other end of the floor bearers and again lightly nail, leaving the nail heads proud, in order to facilitate their removal, as this is only a temporary spacer (or locator).

You now have to find the positions for the other five bearers, this is easily done by finding the centre position at 1200mm, making a mark, positioning the bearer and nailing, again only lightly. It is now a simple matter to make marks at 400mm intervals to position and nail the other bearers. Other sizes of floor can use the same basic spacing.

It is now time to ensure that all is square, all corners 90 degree angles. Diagonal measurements must be equal to ensure this.

You can now position the other boards and nail up when you are quite sure that each board nests into the adjacent one. Sometimes you may have difficulty in getting the boards to nest, in which case cut a piece of scrap boarding about 6" (150mm) x 2" (50mm), retaining the groove edge. This is used as a buffer between the tongue and your mallet (not hammer), thus preserving the vulnerable tongue and your temper.

When two PTGV boards are nested, it will be seen that a slight profile exists in the form of a V. It does not matter which face is placed uppermost, but occasionally one face is better finished than the other one, so that will be the one to be put where it will show.

The last board to be placed will need about 1 ½" (37mm) cut off its edge, retain this it will be used later.

You have finished the floor and should now feel confident enough to proceed to the next section which is the blank side. Before doing so check that each board has two nails into the bearer under it and that all nails are driven fully home. Now treat under the floor with preservative.

You now have a table to work on. As mentioned before, if you can raise it up to a working height so much the better. You can now ensure that all future right angles are true by obtaining one 8'(2.400) and one 6'(1.800) lengths of straight tile lath ¾"x1 ½" (18mmx36mm) from your local builders merchant. One of these is nailed along the front of the 'table' at its very edge. The other one at right angles to it along the extreme right hand edge, check the angle with a known 90deg. angle. These I shall refer to as 'front stop' and 'side stop'.

THE BLANK SIDE

Cut two lengths of 34x45 PSE to 91 ¼" (2.318). Check the cutting list and plan, these are the side horizontals. Place one along the front stop, tight up against the side stop, and with the 34mm edge uppermost, as indeed, all elements will be, unless stated otherwise.

Now cut the verticals and place them, as on the plan, about 770mm apart, the other horizontal, of course, runs along the top. These can now be nailed up using 3" (75mm) galvanized nails.

The first shiplap board must project downwards (groove down) beyond the horizontal by 12mm. This forms a flange, which assists in locating the sections besides deflecting rainwater below floor level. Another flange is formed at both ends of the section by projecting the shiplap past the verticals by 34mm,(see plan), you can make a template for this from two pieces of 34x45 PSE to ensure accuracy. Lay the remaining shiplap boards and nail up, ensuring that all boards nest correctly. This completes the blank side.

THE WINDOW SIDE

The window side is set out in exactly the same way as the previous section, apart from the intermediate verticals. Their place is taken by short verticals but they have the same position.

Also you have a short horizontal, which is positioned by and supports the sash bars. You will note that the cutting list only gives an approximate measurement for this horizontal, as it also does for several other elements. This is due to the variation in timber size which does occur from time to time and you must be aware of it, so where you see 'approx.' on the cutting list, do measure the gap to ensure accuracy. The shiplap boarding can now be laid and nailed up to window level.

The three sash bars are placed in position, starting with the centre one and nailed, using the 24" x 24" template as before, this also determines the position for the short horizontal. Now nail on the short window side boards. All that is left now is the gap under the window which you can measure, cut a board with a groove on it to fit snugly under the sash bar strips. That completes the window side.

THE BLANK END

Lay out the two horizontal and three vertical elements as on the plan and nail up as before. Shed end shiplap boards do not need a flange at the ends but you must overlap the bottom horizontal by 12mm as you did for the sides.

Referring to the plan, nail each apex diagonal to it's block, leaving a 34mm space, which the roof joist will drop into later. Now fasten the two together using two or three corrugated fasteners. Although this may seem a flimsy joint, it is quite adequate when the shiplap boards are nailed on.

Because the apex assembly is laid on the table 45mm side up, and the framing on which it has to be fastened is 34mm edge up, it follows that, in order for the two surfaces to be flush, the apex assembly must be 'blocked up'. Scrap pieces of boarding, being 12mm wide, are ideal for this. Now nail the assembly to the end horizontal. Pre-drilling pilot holes may be advisable here to avoid splitting.

THE DOOR END

You have now constructed four relatively easy sections and should have enough experience and confidence to move on to something more advanced, namely the door end. The best way to approach this is to construct the door first, then this can be used as a template or spacer to position the various elements. As the door plan and constructional notes are on separate sheets, I shall continue as if the door has already been made.

The main framework for the door end is laid out in exactly the same way as the blank end. The important point here is that the door jamb positioning must be accurate.

To do this find the centre point of both end horizontals and make a mark. Now, as the door itself is 35" wide (890mm) and it must overlap the door jamb by ½" (13mm) at each side, it follows that the gap must be 34" (865mm) or 17" (432mm) each side of the mark. Now make two more marks both top and bottom. This is the position for the door jambs.

A glance at the plan shows that these are placed with the 45mm side uppermost. This means that they must be blocked up from the table, using four pieces of scrap boarding, so that the top surfaces are flush with the horizontals.

Lay the door in position so that it overlaps the door jambs by ½" (13mm) all round. When nailing the shiplap in position leave a 2mm gap so that the door does not bind. The hinges and hasp & staple can now be screwed in position. See the separate sheets for door plan and constructional detail.

THE ROOF

Construction of the roof sections for apex sheds is simplicity itself and should cause no problems of any kind. Just follow the plan and cutting list.

ERECTING THE BUILDING

The site on which the building is to be erected should be as level as possible.

Place the under floor bearers equidistant, so there are one at each end, one in the centre, and the others in the gaps. Put pieces of concrete slab or blocks under.

Lay the floor on the bearers and the other sections near where they are to go.

Place the blank side on the edge of the floor, get someone to hold it in position while you get the blank end and offer it up to it, they should fit snugly together.

Have your hammer and 3" nails ready, knock two nails through the bottom horizontals into the floor bearers, three more through the verticals. If you think that these may need to be removed at some future date, put a few small washers on each nail to facilitate their removal.

Place the window side in position next and nail as before. The door end should now slide into position.

The two roof sections will now drop into their slots. Any slight gap along the ridge will close up if you drive a few nails through one roof joist into the other thus 'stitching' them together. Four 3" (75mm) nails should suffice for this. Another eight 1 ¾" nails along the bottom into the side horizontals should secure the roof.

Where a roof truss is fitted to some of the larger buildings, see following note (1).

The roof truss can now be fitted. You will need assistance with this to hold it in position while you mark where a supporting block needs to be nailed onto the mid-point where the side (and roof) sections meet. The 'point' of the top of the truss is inserted up into the apex and can be secured with brackets or pieces of framing timber offcut.

Place the first length of roofing felt along the bottom of the roof section, it should overlap the ends by about 3" (75mm), the bottom of the felt should be bent round the joist until the wood is covered, a line of felt nails about 4" (100mm) apart will secure it. Fold the felt neatly at the ends and nail flat. Repeat this for the other roof section. The remaining length of felt will cover the ridge and overlap onto the other felt, a line of felt nails, again placed 4" apart to secure it. If you wish you may also use an adhesive such as Bostik or a silicone sealant under the overlap joints.

The whole building should now be treated with a preservative. Sadolin is the best and the most expensive, it is supplied in a range of colours. Cuprinol is a medium priced and very good quality product. The cheapest and very popular are the water-based preservatives which come in a wide range of colours.

Treat the corner laths, fascia boards and finials and nail them on when dry.

The glass can either be bedded onto putty or silicone compound. It can be secured in place by glazing tacks or quadrant or again by silicone sealant.

Usually sheds are heavy enough, together with their contents, to withstand normal wind conditions, occasionally, however, in an exposed position it may be advisable to provide extra security in the form of steel stakes at each corner, drilled so that long screws can be driven through into the shed framing.

8x6 APEX CUTTING LIST

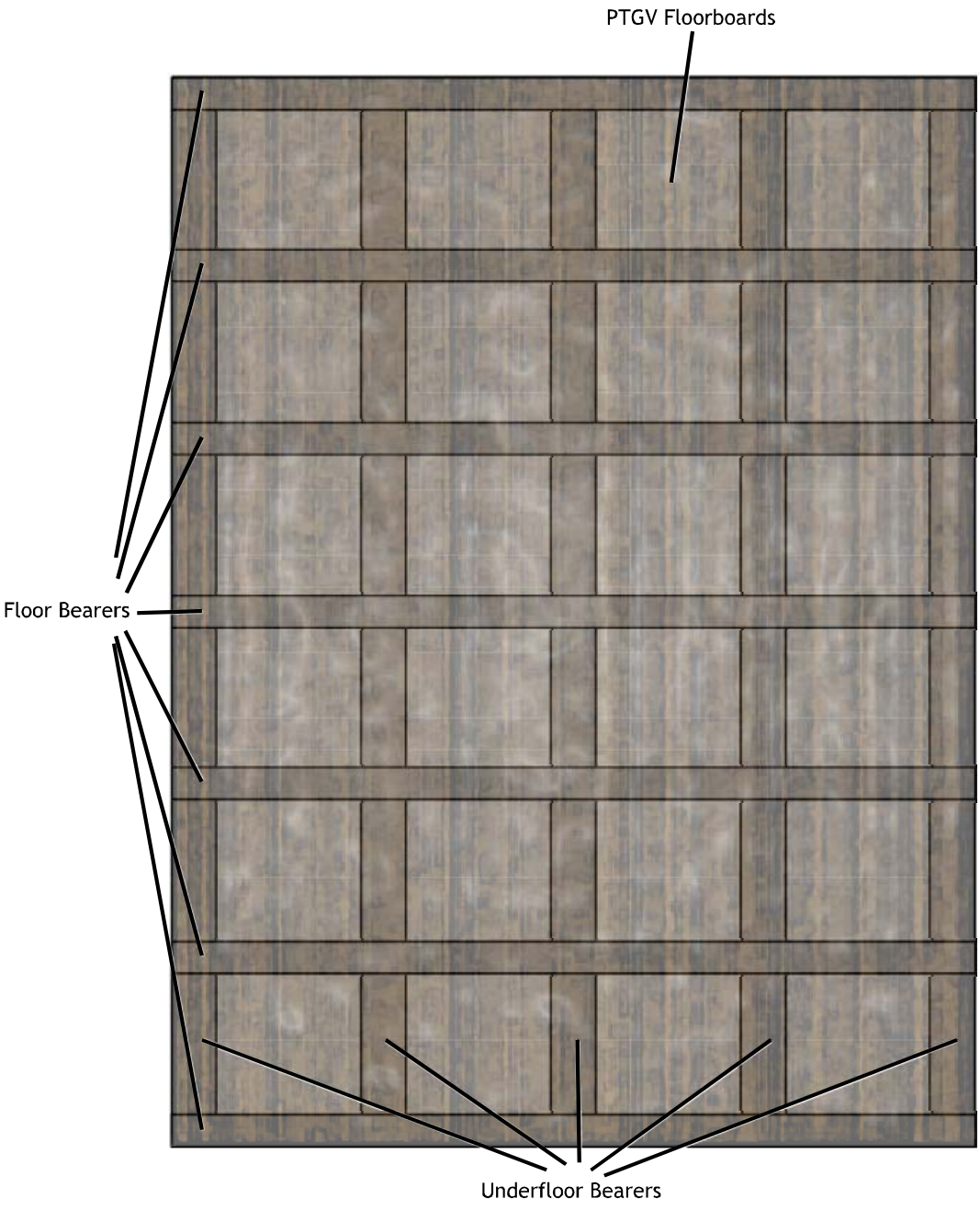
FLOOR				
Floor Bearers	34 x 45 PSE	70 ½"	1.791	7 off
Matching	12x120 PTGV	94 ½"	2.400	16 off
Underfloor Bearers	RS 3" x 3" (75x75mm)	96"	2.438	5 off
BLANK SIDE				
Side Horizontals	34x45 PSE	91 ¼"	2.318	2 off
Apex Verticals	34x45 PSE	63"	1.600	4 off
Shiplap	12x120mm	94"	2.387	15 off
WINDOW SIDE				
Side Horizontals	34x45PSE	91¼"	2.318	2 off
Apex Verticals	34x45 PSE	63"	1.600	2 off
Short Verticals	34x45 PSE	38 5/8"	0.981	2 off
Short Side Horizontals	34x45 PSE	88 5/8" (approx)	2.251	1 off
Sash Bars	34x45 PSE	23¼"	0.591	3 off
Sash Bar Strips	12x15mm	24"	0.610	3 off
Shiplap	12x120mm	94"	2.387	9 off
Shiplap(window sides)	12x120mm (2 to cut to size)	22¼"(approx)	0.565	12 off
Shiplap(under window)	12x65mm(approx)	49½"	1.256	1 off
BLANK END				
End Horizontals	34x45 PSE	70½"	1.791	2 off
Apex Verticals	34x45 PSE	63"	1.600	3 off
Apex Diagonals (162deg)	34x45 PSE	35¼"	0.895	2 off
Apex Blocks (18deg angles)	34x45 PSE	10"	0.254	2 off
Shiplap	12x120mm	70½"	1.791	15 off
Shiplap (trim corners)	12x120mm	67"	1.700	1 off
Shiplap (trim corners)	12x120mm	40"	1.015	1 off
DOOR END				
End Horizontals	34x45 PSE	70½"	1.791	2 off
Apex Verticals	34x45 PSE	63"	1.600	4 off
Apex Diagonals (162 deg.)	34x45 PSE	35¼"	0.895	2 off
Apex Blocks (18deg.angles)	34x45 PSE	10"	0.254	2 off
Shiplap (trim corners)	12x120mm	70½"	1.791	1 off
Shiplap (trim corners)	12x120mm	67"	1.700	1 off
Shiplap (trim corners)	12x120mm	40"	1.015	1 off
Shiplap (door sides)	12x120mm	17¾"	0.450	32 off
Weather strip over door	12x25mm	36"	0.915	1 off
ROOF (x2)				
Roof Joists	34x45 PSE	97"	2.464	2 off
Matching (1 to cut)	12x120 PTGV	41"	1.041	22 off
Fascia boards (18deg.angles)	12x120 PTGV	45"	1.143	2 off

SUNDRIES FOR 8x6 APEX SHED

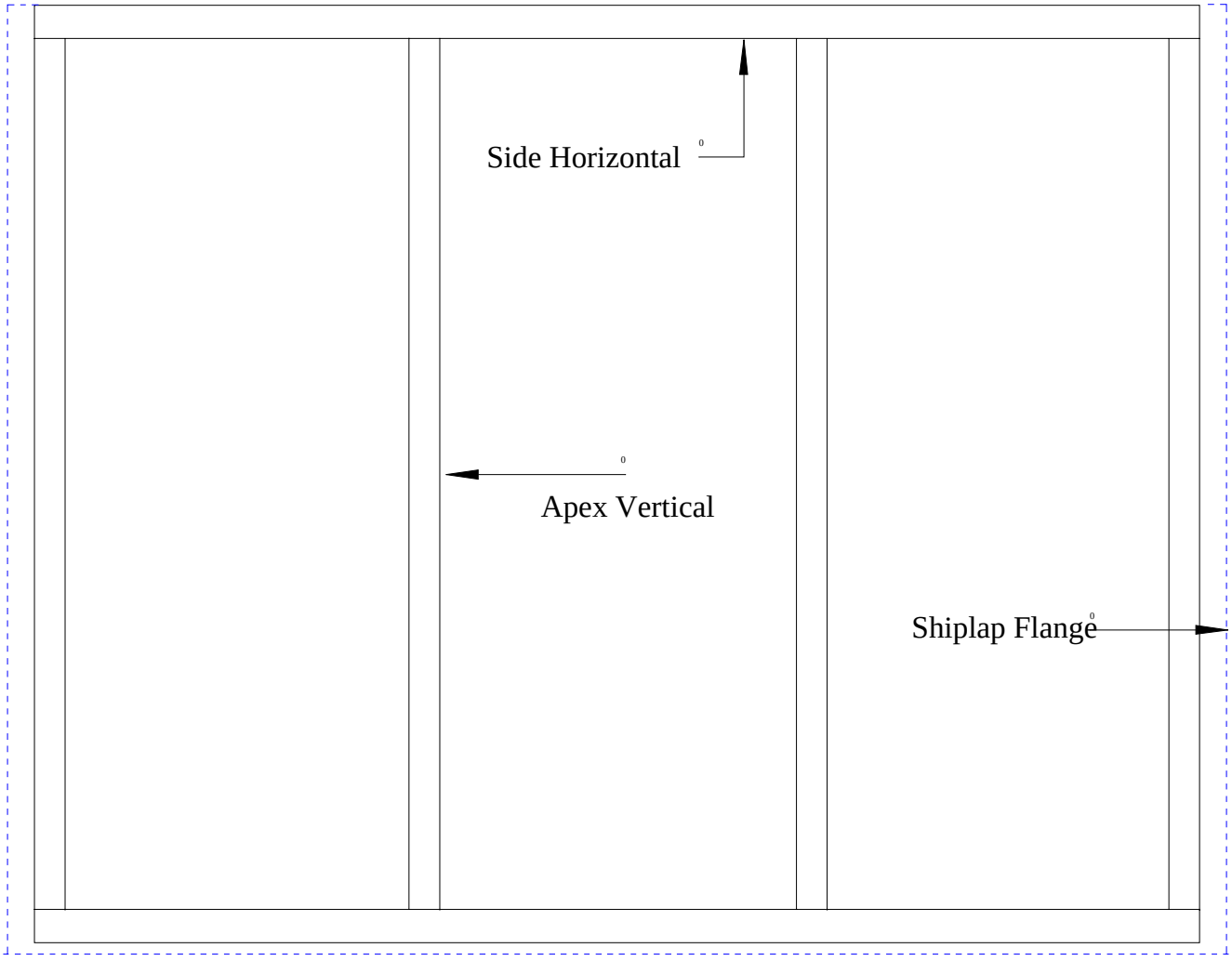
Finials (shape as drawing)		8"x4"	200x100mm		2 off
Corner laths	12 x 120 PTGV	66"	1.676		4 off
Roofing felt (mineral)	104" (2.642) x 1m				2 off
	and 104" (2.642) x 0.5m				1 off
Horticultural glass		24" x 24"	610 x610 x 4mm		2 off
Safety hasp & staple galv.		6"	150mm		1off
Hinges, black japanned		12"	300mm 'T' type		3 off
Screws, countersunk, Posidriv No.8 x 25mm					50 off
Felt nails		$^5/_8$"(12mm)	1/2lb	227g	
(If heavy duty felt is used, these may need to be longer, but not so long that they penetrate the roof boards)					
Nails galvanised		3"	75mm	1lb	454g
Nails galvanised		1 ¾"	45mm	2lbs	907g
Corrugated fasteners		$^5/8$"	15mm	small packet	
Glazing tacks				small packet	
Panel pins		1"	25mm	small packet	

Note: Depending on your supplier you may find that round headed screws are supplied with some door furniture. In this event, for security reasons, the groove should be filed off. For this reason Posidriv cross headed screws are advised, with the cross drilled out after fixing.

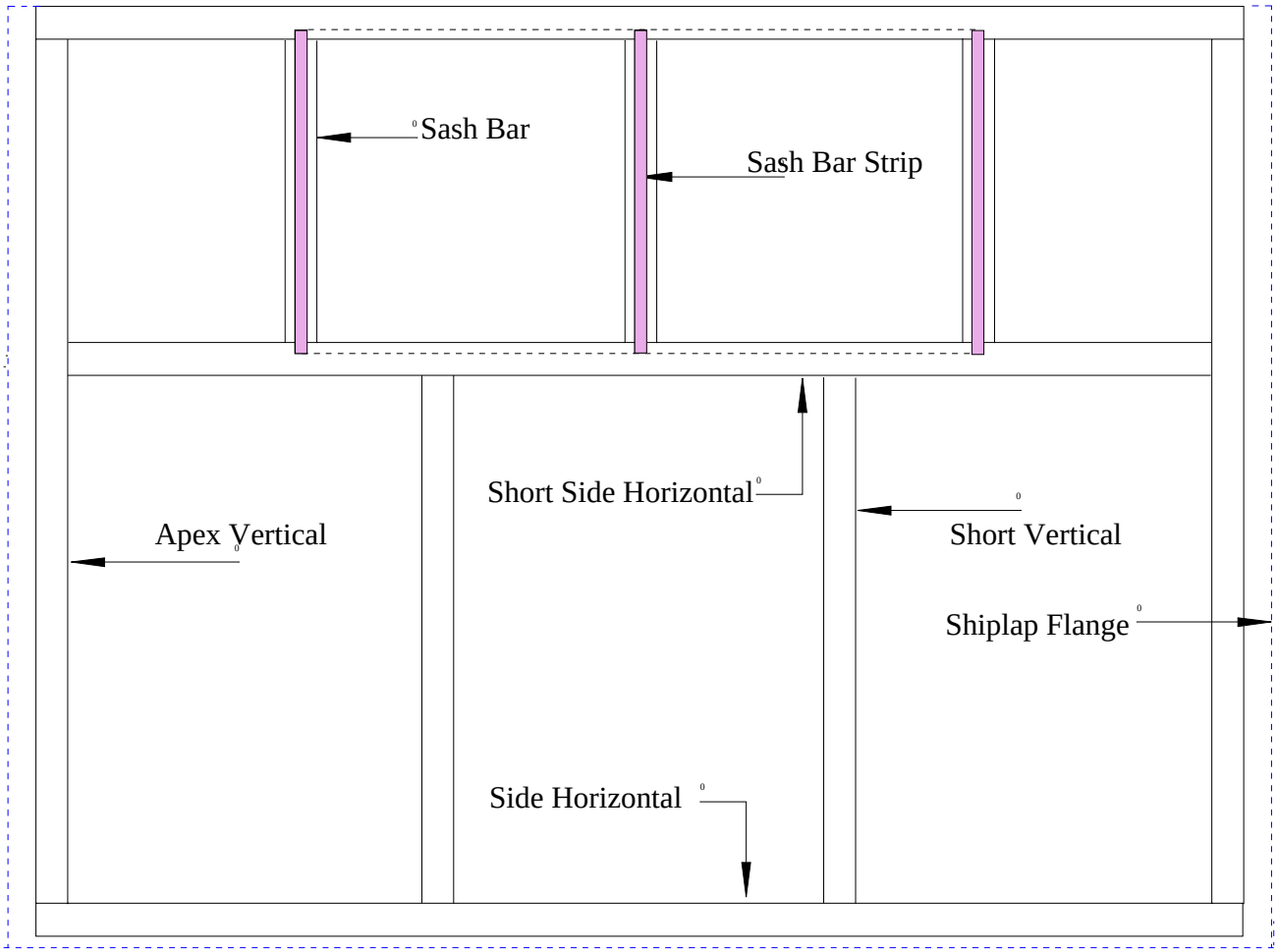
8’ x 6’ Floor



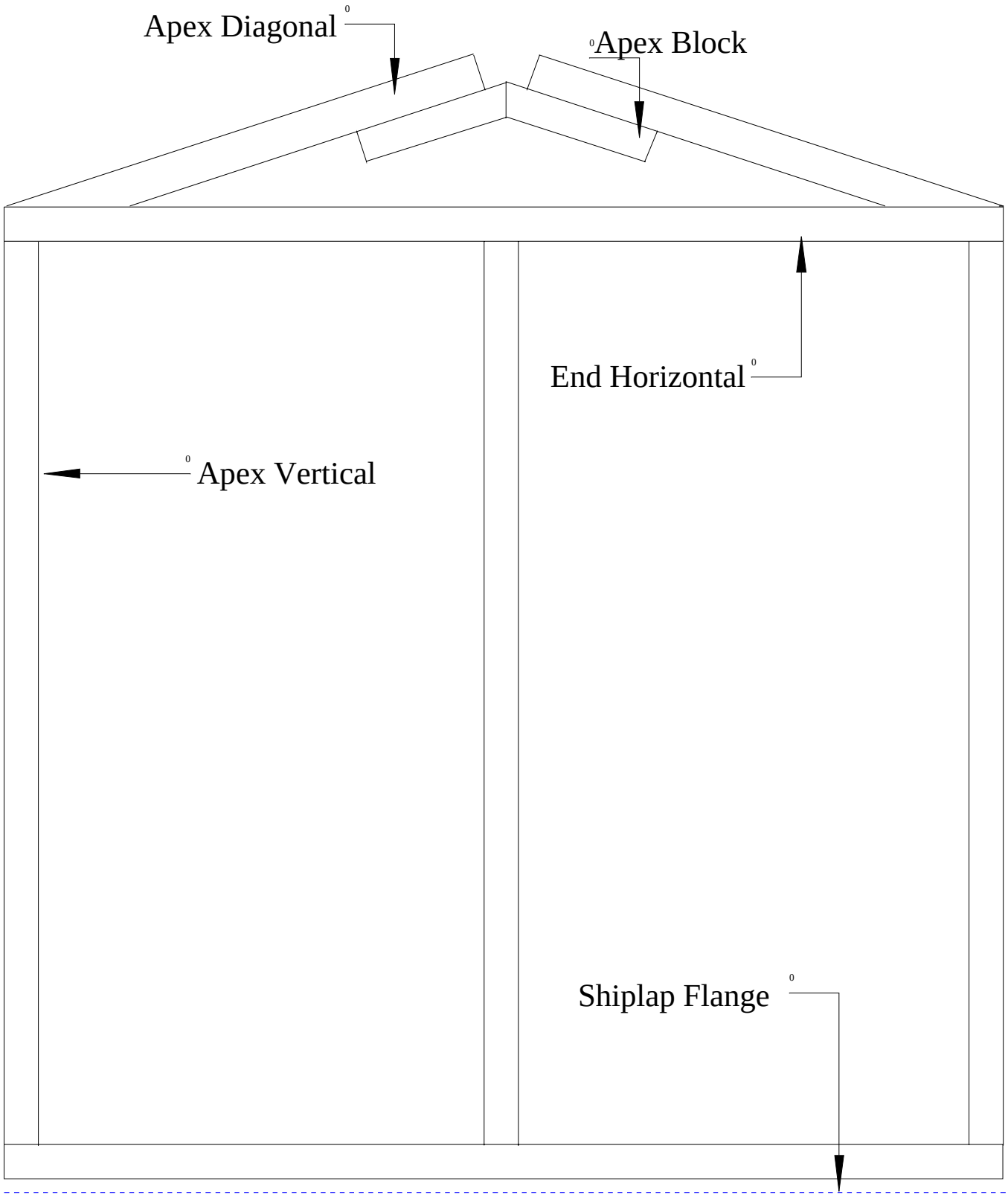
8’ x 6’ Blank Side



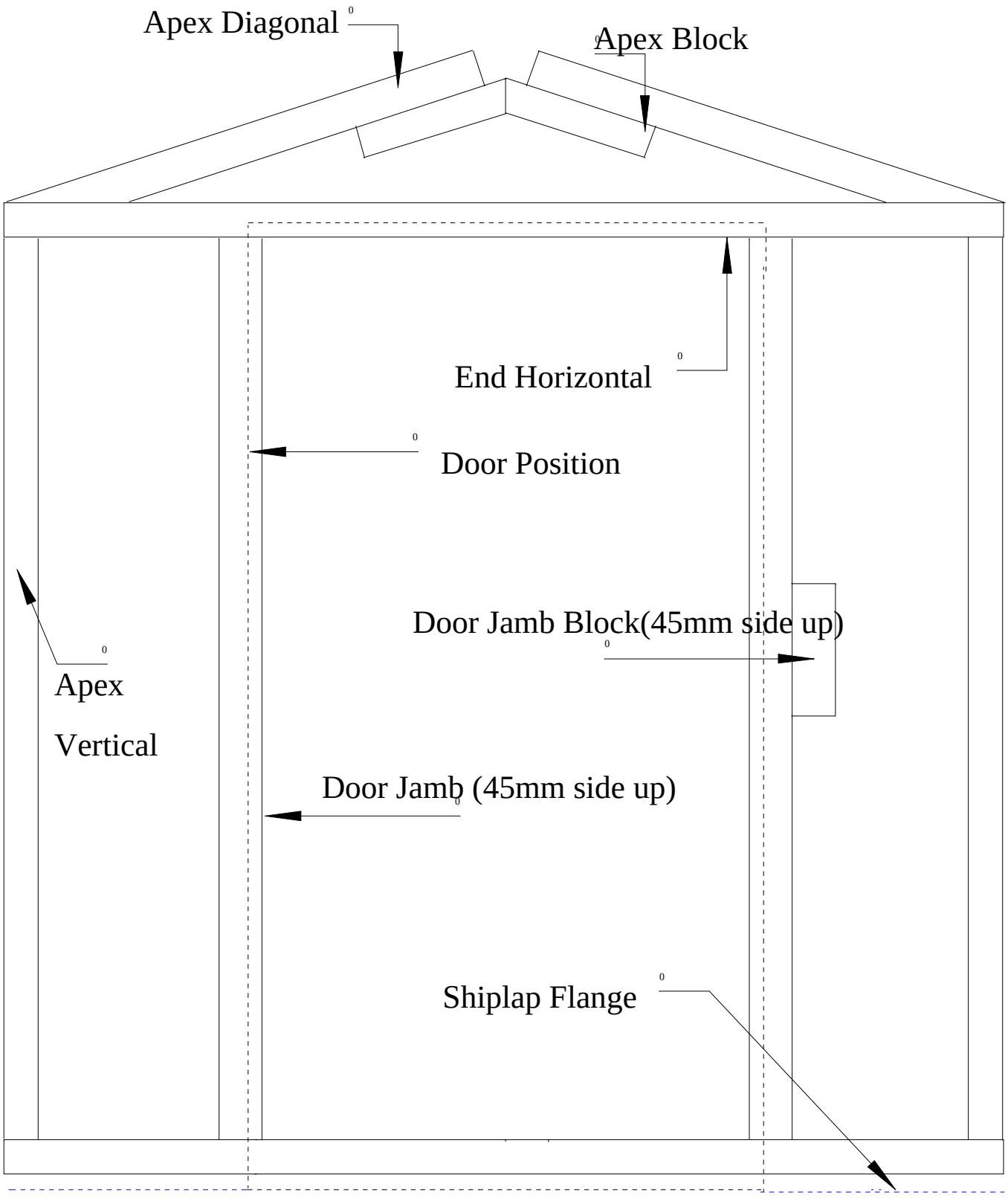
8’ x 6’ Window Side



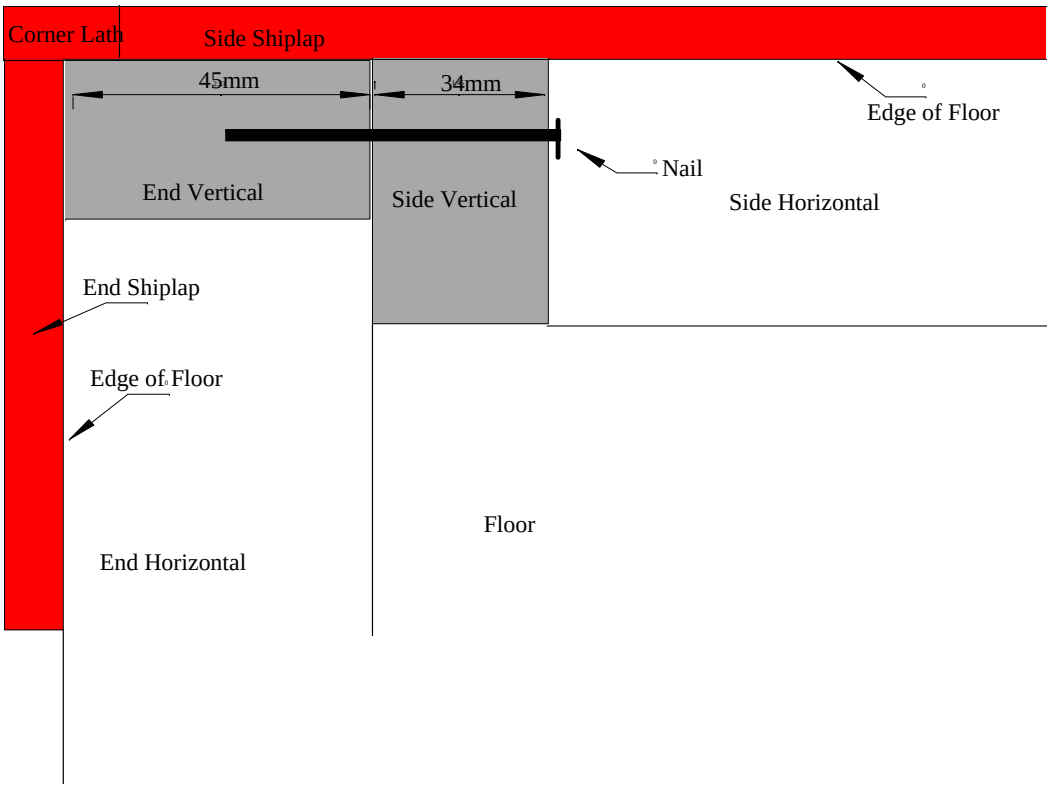
8’ x 6’ Blank End



8’ x 6’ Door End


Apex Diagonal
Apex Block
End Horizontal
Door Position
Door Jamb Block(45mm side up)
Apex
Vertical
Door Jamb (45mm side up)
Shiplap Flange

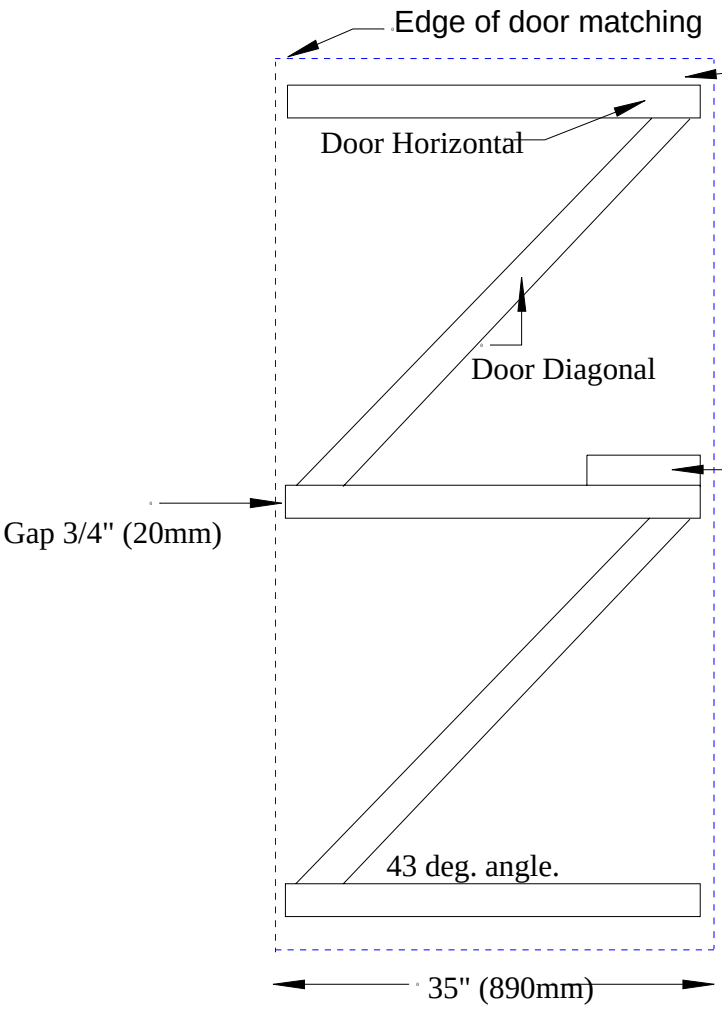
Corner Detail



Door for Apex Sheds

(Layout for doors hinged left)

ALL DOOR FRAMING TO BE LAID 45mm SIDE UP.



If you want the door to be hinged right, just reverse the diagonals and switch the block to the other end.

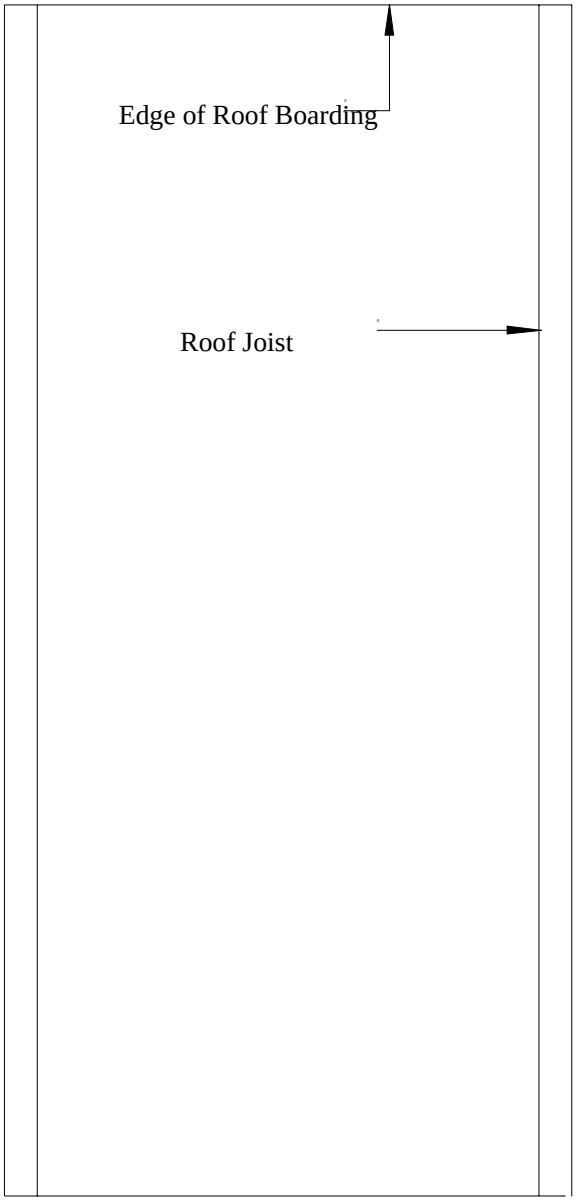
Cutting List

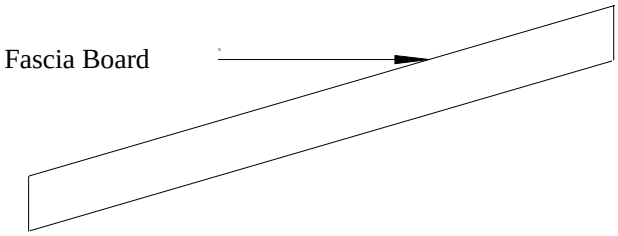
Door Horizontals, 34x45 PSE, 33 1/2", 0.850,
Door Diagonals, " " " 42", 1.067, 2 o
Matching, 12x120 PTGV, 65 1/2", 1.664, 7 off.
Matching, 12x90 PTGV, 65 1/2", 1.664, 1 off.
Door Block, 10", 250mm.

CONSTRUCTION OF DOORS FOR APEX AND PENT SHEDS

1. Lay out the horizontal and diagonal bearers, as shown on the plan, 45mm side up, on a flat surface and secure the butt joints using corrugated fasteners, two to each joint. If you intend using a rimlock, fix a short batten in the position shown on the door plan, a 10" (255mm) length of 34x45 PSE will do. Make sure that the securing nails don't coincide with the keyhole position when you come to drill it.
2. If the hasp & staple that you intend using is an extra large design, then you will need this batten anyway.
3. Now you must fix a few 'stops' in various positions to prevent movement when nailing up. It is necessary to lay the cladding boards in such a way that the groove of the first board will be at the edge where the hinges will be, now, because the last board to be fixed will have to have a strip cut off it, about 1" (25mm), you will finish up with the edge that is visible being of a neat planed or sawn edge instead of an ugly groove.
4. To accomplish this proceed as follows: For a door which is to be hinged left, place a batten or stop 6' (1.830) in length and 1¾" (45mm) in thickness on your work surface down the left hand side and fix in position, spacing it ¾" (20mm) away from the framing which you have just laid out and fastened together.
5. Now place your first board in position, butt it up to the stop and nail through into the bearers using three nails only, (top, bottom, centre) keeping these nails well to the left but ensuring that they enter the bearers, now, using chalk, mark on the board the position of each horizontal and diagonal.
6. Now position the other boards, butting them tight up to each other and making sure that each tongue nests into the adjacant groove, nail here and there as you proceed, make sure all the boards are in line along the top, another stop fixed 4" (100mm) away from the top batten should ensure this.
7. When you come to the last board, measure the remaining gap (about 3 ½", 90mm) mark the board to be cut and using a panel or jig saw carefully cut along the line in such a way that you can plane up a good finish on the edge and down to the line.
8. Before nailing this board in position mark where the bearer ends are. After nailing this board place a straight edge along the bearer marks and draw a line lightly so that you can accurately place the remaining nails.
9. To make a door which will be hinged on the right, use the same proceedure but lay the diagonal battens the opposite way round, fix the stop on the right hand side and work from right to left. It follows that if a rimlock is to be used instead of the more usual hasp and staple then the10" piece of PSE on the centre horizontal batten will be switched to the other end.
10. As in the case of shed height, which can be increased by using longer verticals and extra boards, the door height can be increased by using longer boards.
11. Note: Even if the building is constructed using `rustic` or other cladding, it will be more practical to use a door of this type.

8’ x 6’ Apex Roof Section
(2 required)





Apex Roof Arrangement

(Not to Scale)