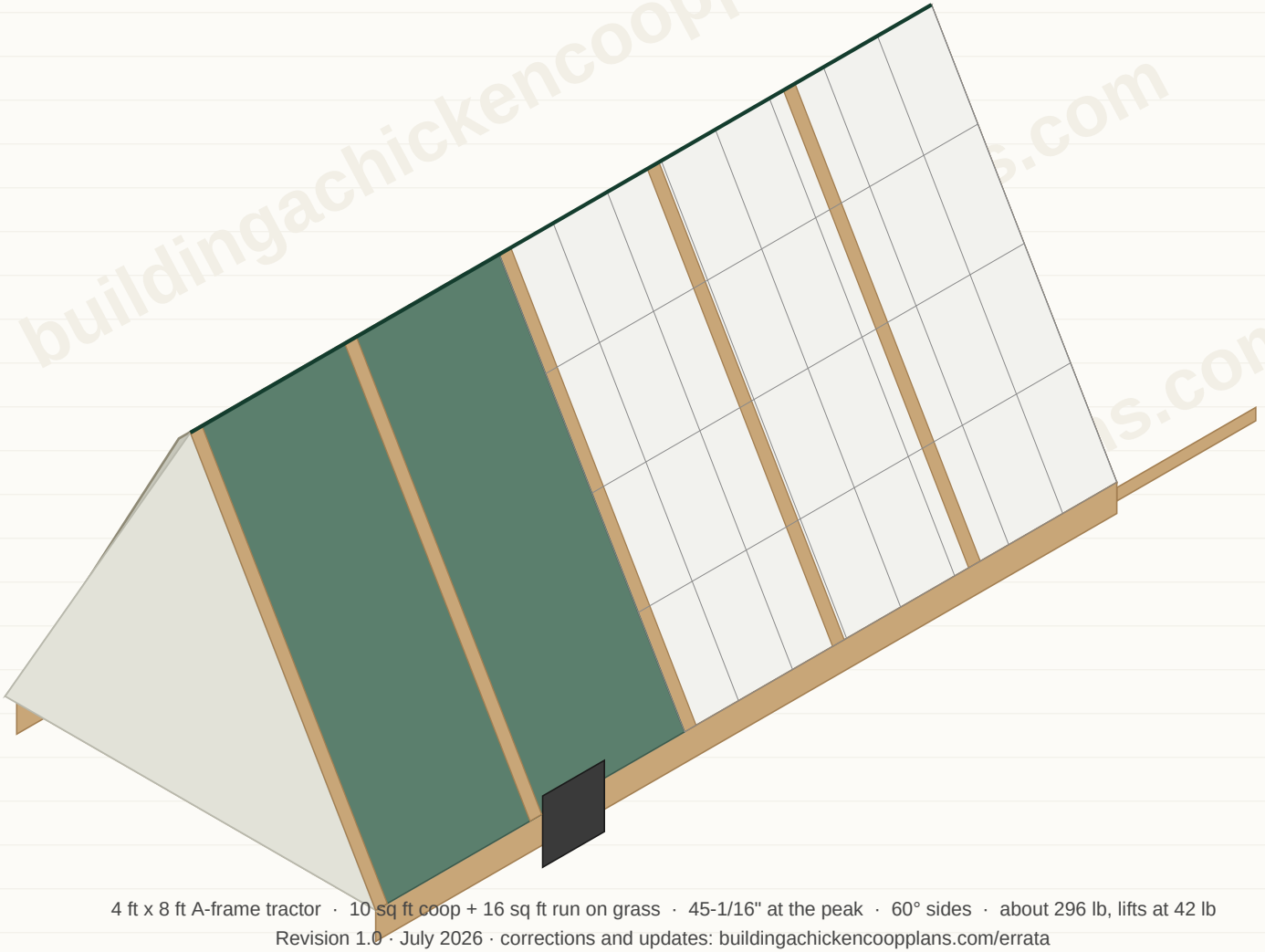
4X8 A-FRAME CHICKEN TRACTOR

10 sq ft coop · 16 sq ft run · 2-3 hens



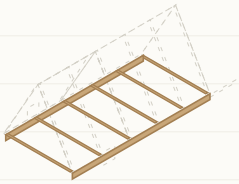
4 ft x 8 ft A-frame tractor · 10 sq ft coop + 16 sq ft run on grass · 45-1/16" at the peak · 60° sides · about 296 lb, lifts at 42 lb

Revision 1.0 · July 2026 · corrections and updates: buildingachickencoopplans.com/errata

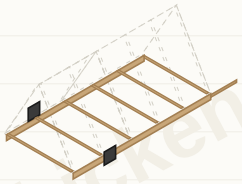
Check the revision before you cut. If yours is older than the one on that page, something in it has been corrected.

THE BUILD, STAGE BY STAGE

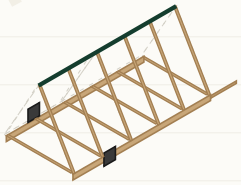
14 stages, in order. Solid is what you have built by the end of that step; the dotted outline is what is still to come. Check your work against the matching picture before you move on — it is much cheaper to notice a wall in the wrong place here than three steps later.



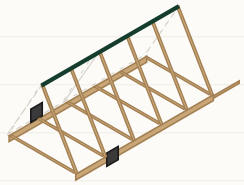
1. Base frame — skids and rungs



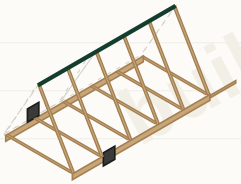
2. Wheels on flip-down arms, an…



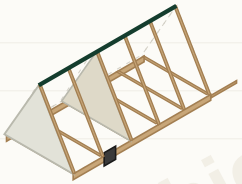
3. Rib assembly — the rafter pa…



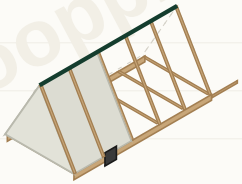
4. Stand the ribs and add the p…



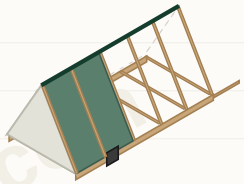
5. Ridge joint and ridge flashi…



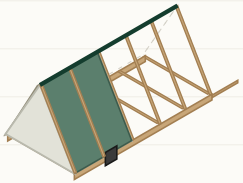
6. Coop floor and the partition…



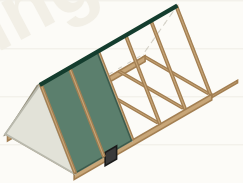
7. Slope cladding — the coop sk…



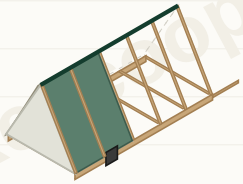
8. Roof covering over the coop



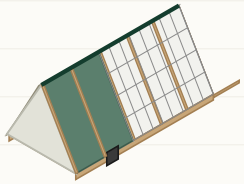
9. Cleanout door — the whole ri…



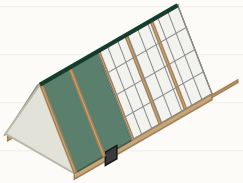
10. Nest box bank



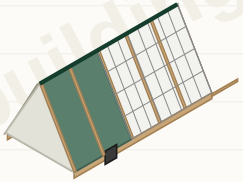
11. Pop door and ramp



12. Run hardware cloth — sides, …



13. Run access hatch



14. Roost bar and droppings tray

CONTENTS

35 pages. Read the whole set once before the first cut.

BEFORE YOU BEGIN

Wear safety gear

Safety glasses, gloves and ear protection. A circular saw and a framing nailer both throw debris.

Read the whole plan first

Understand every step and have the full material list on hand before the first cut.

Check your local rules

The number a building department measures is the BUILDING FOOTPRINT: 32 sq ft for the coop, or 48 sq ft if your jurisdiction counts the covered run. That is NOT the same as the capacity figure on the cover. Many jurisdictions require a permit past 100, 120 or 144 sq ft of footprint, and most require a setback from property lines. Confirm both before you buy lumber.

Work on a level base

Build the base frame square and dead flat on the ground before anything stands on it. The ribs, the panels and both doors are all cut to what the base frame ACTUALLY measures, so every error here compounds through the rest of the build.

Use hardware cloth, never chicken wire

Chicken wire keeps chickens in. It does not keep raccoons, weasels or foxes out. Quarter-inch 19-gauge hardware cloth, stapled and then screwed through fender washers. Quarter-inch, not half: a least weasel gets through a half-inch opening and does not get through a quarter-inch one.

Cut one, test-fit, then batch

Cut a single instance of each part, fit it, confirm it against the drawing, and only then cut the rest.

TOOLS YOU WILL NEED

Nothing in this plan needs a table saw, a compound mitre saw, or pocket-hole joinery.

ESSENTIAL

Circular saw	Every cut in this plan. A sharp 24-tooth framing blade is enough.
Drill / driver	Two is better than one - one drilling pilot holes, one driving.
Tape measure	25 ft. Check it against a second tape before you start.
Speed square	Marking square cuts and the 30-degree rafter cuts.
4 ft level	The base ring and the first wall decide everything after them.
Hammer	Staples, adjustments, persuasion.
Tin snips	Cutting hardware cloth. Wear gloves - the cut edges are vicious.
Staple gun	Tacking hardware cloth before you screw the washers.
Safety glasses, gloves, ear protection	Non-negotiable with a circular saw.
1/2in spade or auger bit	The axle holes through the wheel arms and pivot blocks.

MAKES IT MUCH EASIER

Mitre saw	The repetitive stud and rafter cuts go 3x faster and squarer.
Impact driver	Driving several hundred screws by drill is punishing.
Sawhorses (pair)	Cutting on the ground is slow and inaccurate.
Clamps (4+)	Holding a wall square while you fasten it.
Chalk line	Siding courses and deck fastening lines.
Carpenter's pencil + marking knife	A pencil line is 1/32 wide; that adds up.
Hacksaw	Cutting the steel axle rod to length.
Straightedge for bending flashing	A scrap 2x4 and a firm hand does it.

NOTES ON LUMBER DIMENSIONS

Nominal vs actual

The material list uses nominal sizes (2x4, 4x4). The drawings use actual finished sizes: a 2x4 really measures 1-1/2" x 3-1/2", and a 4x4 measures 3-1/2" x 3-1/2".

Measure your own stock

Mills vary. Check the lumber you actually bought against the drawings before cutting; a sixteenth of an inch compounds fast across an 8-foot wall.

Buy a little extra

The material list has no waste allowance. Add two or three 2x4s if you are new to framing.

Crown matters

Sight down every joist and rafter and mark the crown. Install them all crown-up.

MATERIAL LIST

Material	Size	Quantity	Find it
1x2 lumber	8 feet	**9 pcs**	search Home Depot ■
2x2 lumber	10 feet	**4 pcs**	search Home Depot ■
2x2 lumber	8 feet	**12 pcs**	search Home Depot ■
2x4 lumber	10 feet	**2 pcs**	search Home Depot ■
2x4 lumber	8 feet	**5 pcs**	search Home Depot ■
1/4" plywood, exterior grade (skins, doors, gussets)	4' x 8'	**3 pcs (~50 sq ft of par**	
1/2" plywood, exterior grade (floor, nest, tray)	4' x 8'	**1 pcs (~24 sq ft of par**	search Home Depot ■
Mineral-surface roll roofing	36in x 36 ft roll	**1 roll (24 sq ft of coo**	
Aluminium roll flashing, ridge cap	10" x 10 ft	**1 pc (bend to 60 deg ov**	
Roofing nails, galvanised	7/8"	**1 lb**	
Roof / flashing screws, neoprene washer	1"	**40 pcs**	
1/4" hardware cloth, 19 ga	36" roll	**50 ft (26 ft needed)**	search Home Depot ■
Fender washers + screws for cloth	1" washer	**104 pcs**	search Home Depot ■
Heavy-duty staples	1/2"	**1 box (1000)**	search Home Depot ■
Lawnmower wheels, sealed bearing	8" dia, 1/2in bore	**2 pcs**	
Arm pivot bolts + nyloc nuts	3/8" x 4"	**2 + 2**	
Drop pins on lanyards (arms up / arms down)	5/16" x 3"	**2 pcs**	
Steel axle rod	1/2" x 54"	**1 pc**	
Axle washers + cotter pins	1/2in	**4 + 4**	
Angle brackets, rafter feet	3" galvanised	**12 pcs**	
2-1/2" exterior screws	5 lb box	**1 boxes**	search Home Depot ■
1-1/4" exterior screws	5 lb box	**1 box**	search Home Depot ■
1/4" x 3-1/2" lag screws (handles)	—	**8 pcs**	
Exterior primer + paint	1 qt each	**1 + 1**	search Home Depot ■

MATERIAL LIST (CONTINUED)

Material	Size	Quantity	Find it
Hinges	—	**9 (4 openable parts)**	search Home Depot ■
Two-action latches	—	**5**	search Home Depot ■

Estimated materials cost at 2026 big-box prices: $675-$875. This is priced off THIS list — every line above, including piers, gravel, run surface, fasteners, caulk and paint. Every line links to a Home Depot SEARCH, not to a product page — item numbers change and a dead link is worse than none, but the search terms keep working. Two specs are worth knowing about before you go: 1/4in hardware cloth is widely stocked in 23 gauge and you want 19, which is usually a special order or online; and corrugated panels are sold 26in wide (24in of coverage) in even foot lengths, not in 4x8 sheets.

MASTER CUT LIST

Every cut in the build, grouped by stock. Take this to the saw. The board-count buy list follows it.

1X2

Part	Step	Qty	Length	Note
Door frame, short	9	2	**41-1/2"**	
Vent screen cleat	5	4	**38-1/2"**	staple the cloth to this
Drip edge	8	2	**38-1/2"**	bevelled, at the foot of each coop slope
Hinge ledger	9	1	**38-1/2"**	3" below the peak
Door frame, long	9	2	**38"**	
Run hatch stile	13	2	**30"**	
Hatch stop	13	2	**28"**	inside the opening, for the hatch to close on
Door prop	9	1	**26"**	drilled both ends
Run hatch rail	13	2	**25"**	
Tray cleat	14	2	**24"**	under the tray edges
Hatch frame side	7	2	**16-1/2"**	
Hatch frame	7	2	**13-1/2"**	top and bottom
Nest cleat	10	2	**13"**	under the bank floor
Ramp cleat	11	3	**12"**	every 4"

1/2" PLYWOOD

Part	Step	Qty	Length	Note
Coop floor	6	1	**43-15/16" x 38-1/2"**	
Nest bank floor	10	1	**24-1/2" x 13"**	
Nest bank back	10	1	**24-1/2" x 16"**	
Nest divider	10	1	**12" x 13"**	
Nest litter lip	10	1	**24-1/2" x 3-1/2"**	
Nest bank top	10	1	**24-1/2" x 14"**	
Roost support	14	2	**5" x 6" gusset**	
Droppings tray	14	1	**24" x 16"**	

1/4" PLYWOOD

Part	Step	Qty	Length	Note
Peak gusset	3	12	**9" x 11"**	
Closed end panel	6	1	**48" x 41-9/16" triangle**	
Partition panel	6	1	**48" x 41-9/16" triangle, pop opening**	
Left coop slope panel	7	1	**38-1/2" x 45", hatch cut out**	
Egg hatch slab	7	1	**13-1/2" x 19-1/2"**	
Cleanout door slab	9	1	**38" x 44-1/2"**	

MASTER CUT LIST (CONTINUED)

1/4" PLYWOOD (CONTINUED)

Part	Step	Qty	Length	Note
Pop door slab	11	1	**12-1/2" x 14-1/2"**	
Ramp	11	1	**12" x 8-15/16"**	

2X2

Part	Step	Qty	Length	Note
Purlin	4	4	**96"**	inside face of the rafters, full length
Rafter	3	12	**48"**	30 deg both ends, cuts parallel
Grip bar	2	1	**45"**	between the handle ends
Floor cleat	6	2	**38-1/2"**	inside the skid, under the floor edge
Roost bar	14	1	**37"**	top corners eased

2X4

Part	Step	Qty	Length	Note
Skid	1	2	**96"**	on edge, full length
Base rung	1	6	**45"**	on edge, between the skids
Lift handle	2	2	**42"**	lagged to the skid, 4 lags each
Wheel arm	2	2	**14"**	pivot bolt one end, 1/2in axle hole the other
Arm pivot block	2	2	**6"**	outside the skid

HARDWARE CLOTH

Part	Step	Qty	Length	Note
Run floor cloth	12	1	**48" x 53"**	
Run slope cloth	12	2	**48" x 53"**	
Handle-end cloth	12	1	**48" x 41-9/16" triangle**	
Ridge vent cloth	12	2	**38-1/2" x 7"**	
Run hatch cloth	13	1	**28" x 30"**	

ROLL ROOFING

Part	Step	Qty	Length	Note
Roll roofing, left slope	8	1	**38-1/2" x 45"**	
Roll roofing, cleanout door	8	1	**38-1/2" x 45"**	

MASTER CUT LIST (CONTINUED)

ALUMINIUM FLASHING

Part	Step	Qty	Length	Note
Ridge flashing	5	2	**10" x 48"**	

ANGLE BRACKET

Part	Step	Qty	Length	Note
Rafter foot bracket	4	12	**3"**	

STEEL

Part	Step	Qty	Length	Note
Axle rod	2	1	**1/2" x 54"**	

50 part lines in total — if your copy shows fewer, a page is missing.

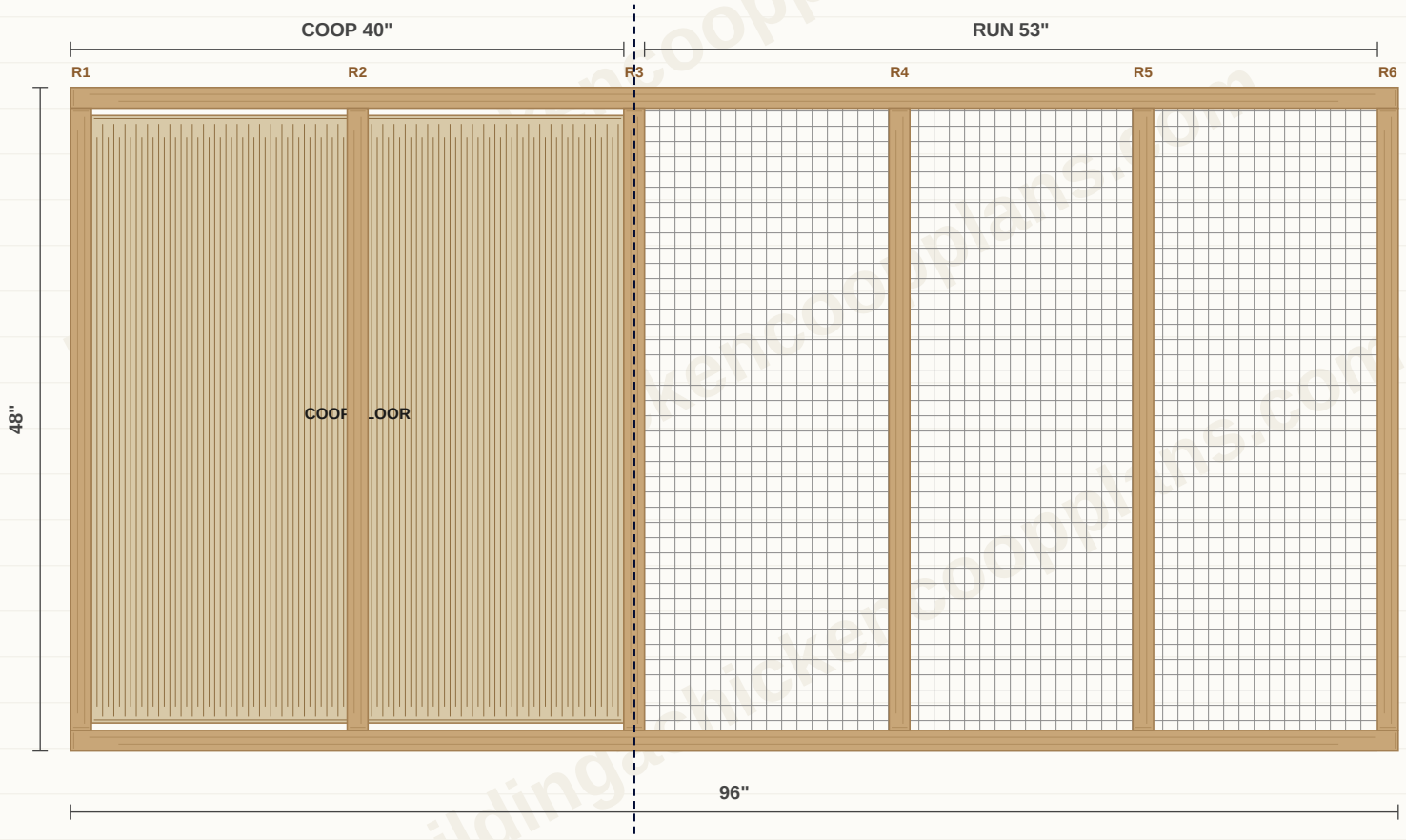
WHAT TO BUY - BOARD COUNT

These counts come from actually packing the cut list onto real stock, allowing 1/8 inch per saw kerf and 4 inches of margin on any cut over 8 feet. **The material list on page 7 is generated from this same packing** , so the two pages cannot disagree — they used to, by sixteen boards on the 2x4 line and by a three-board shortfall on the 4x4.

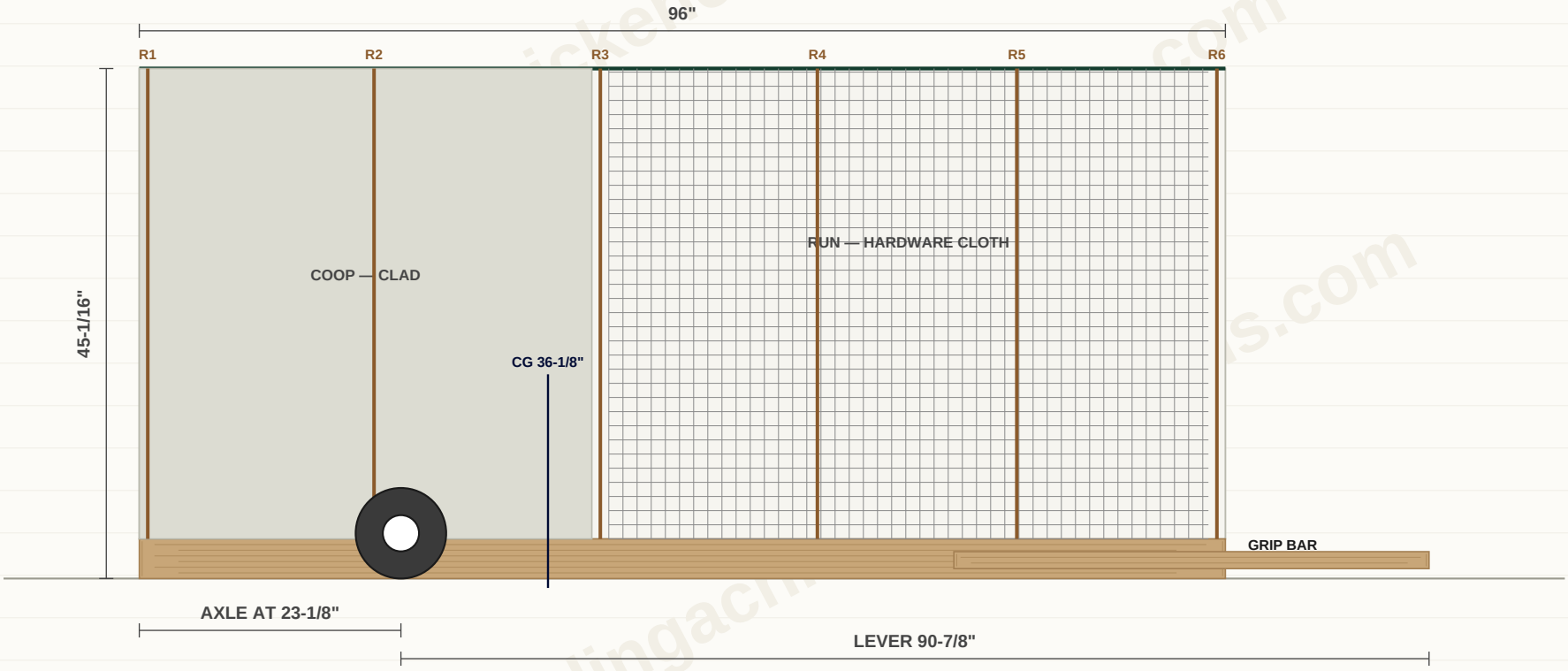
Stock	Buy this length	How many	Longest cut on it	Note
1x2	8 ft	**9**	41-1/2"	general framing
2x2	10 ft	**4**	96"	cut from full-length stock
2x2	8 ft	**12**	48"	general framing
2x4	10 ft	**2**	96"	cut from full-length stock
2x4	8 ft	**5**	45"	general framing

Buy two or three extra 2x4s beyond this count if you are new to framing — one bad cut costs less than a second trip to the yard. Sheet goods, mesh, fasteners and hardware are all on the material list and already carry their allowances.

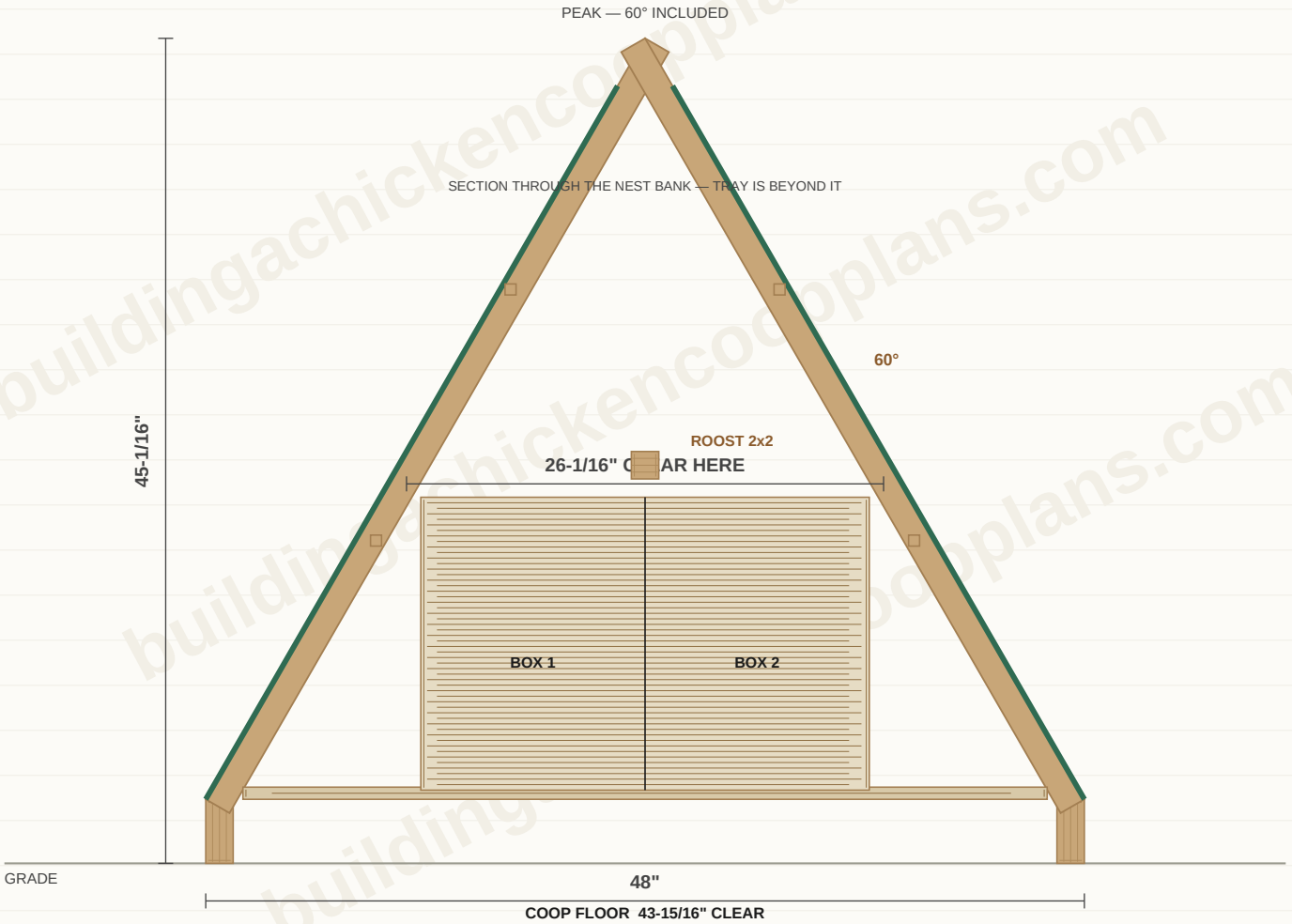
MAIN DIMENSIONS: PLAN VIEW



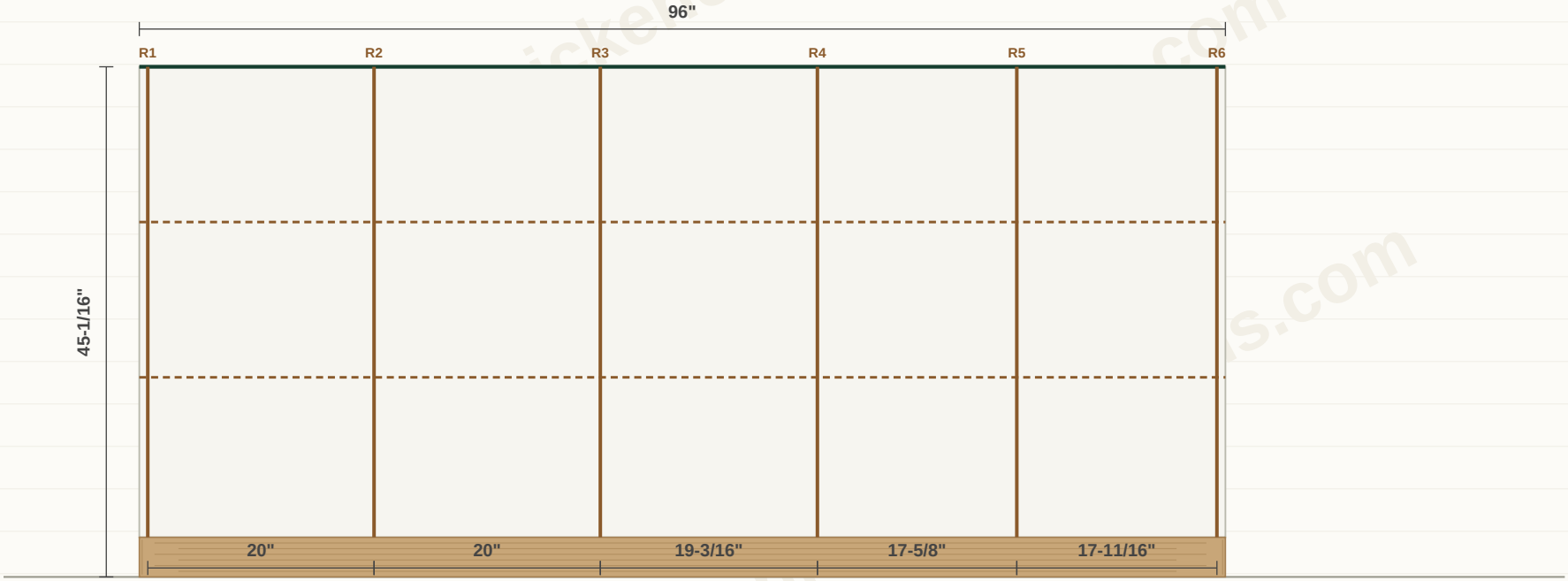
MAIN DIMENSIONS: SIDE ELEVATION



MAIN DIMENSIONS: CROSS SECTION



RIB LAYOUT AND PURLINS



WHAT THE WORDS MEAN

Every term this plan uses that is not ordinary English. If a step says something you do not recognise, it is on this page — you should not have to leave the document to understand it.

Crown
The natural bow along a board's edge. Sight down it, mark the high side, and install every piece with the crown the same way.

Eave
The lower edge of a roof, where it meets the wall. On a shed roof one long wall is the LOW eave and the other is the HIGH eave.

Gusset
A flat plate — here 1/4in plywood — screwed across a joint on both faces to hold two members together. The butted end grain at the peak carries nothing on its own; the gussets are the joint.

Kerf
The width of material a saw blade removes — about 1/8in. It matters when you cut several pieces from one board.

Lap
Where one piece runs past another and they overlap, rather than meeting end to end.

On centre (OC)
Spacing measured from the CENTRE of one stud to the centre of the next, not the gap between them. 16in OC means centres 16in apart.

Plumb / level / square
Plumb is vertical, level is horizontal, square is a true 90 degrees. Check square by measuring both diagonals of a rectangle — equal diagonals means square.

Proud
Standing out past the surface beside it, deliberately, to be trimmed later.

Purlin
A member running the LENGTH of the roof, across the rafters, tying them to each other and giving the cladding something to land on between ribs.

Rib
One pair of rafters meeting at the peak. The A-frame is a row of ribs standing on a base frame; there are no walls between them.

Ridge vent
The permanently open, screened gap left at the peak where the cladding stops short on each side, sheltered by the flashing above it.

Rough opening (R.O.)
The framed hole, measured between the jack studs and from the sill to the underside of the header. Always bigger than the door or window that goes in it.

Scribe
To mark a piece by holding it in place and tracing the thing it must fit, rather than measuring.

Skid
The runner the whole tractor sits and drags on, in place of a foundation. Also the tie that stops the two sides of the A from spreading.

Toe-screw
To drive a screw at an angle through the end of one piece into the face of another, where you cannot get at it straight on.

Tractor
A coop with no fixed base, moved onto fresh ground every day so the birds graze and the droppings never build up in one place.

CUT PLAN — WHAT TO CUT FROM EACH BOARD

Label every board as you pick it up, then cut it in the order shown. This is the same packing the buy list is counted from, so if you follow it you will not run out and you will not be left holding offcuts you needed. Waste is what is left after the last cut on that board.

1x2 8ft #1	41-1/2" 41-1/2" 12"	5/8" left
1x2 8ft #2	38-1/2" 38-1/2" 16-1/2"	2-1/8" left
1x2 8ft #3	38-1/2" 38-1/2" 16-1/2"	2-1/8" left
1x2 8ft #4	38-1/2" 38-1/2" 13-1/2"	5-1/8" left
1x2 8ft #5	38-1/2" 38" 13-1/2"	5-5/8" left
1x2 8ft #6	38" 30" 26"	1-5/8" left
1x2 8ft #7	30" 28" 28"	9-5/8" left
1x2 8ft #8	25" 25" 24" 13"	8-1/2" left
1x2 8ft #9	24" 13" 12" 12"	34-1/2" left
2x2 8ft #1	48" 45"	2-3/4" left
2x2 8ft #2	48" 38-1/2"	9-1/4" left
2x2 8ft #3	48" 38-1/2"	9-1/4" left
2x2 8ft #4	48" 37"	10-3/4" left
2x2 8ft #5	48"	47-7/8" left
2x2 8ft #6	48"	47-7/8" left
2x2 8ft #7	48"	47-7/8" left
2x2 8ft #8	48"	47-7/8" left
2x2 8ft #9	48"	47-7/8" left
2x2 8ft #10	48"	47-7/8" left
2x2 8ft #11	48"	47-7/8" left
2x2 8ft #12	48"	47-7/8" left
2x4 8ft #1	45" 45"	5-3/4" left
2x4 8ft #2	45" 45"	5-3/4" left
2x4 8ft #3	45" 45"	5-3/4" left
2x4 8ft #4	42" 42" 6"	5-5/8" left
2x4 8ft #5	14" 14" 6"	61-5/8" left

STEP 1: BASE FRAME — SKIDS AND RUNGS

The base is the foundation, the floor frame and the tie that stops the A from spreading, all in one. There are no piers and no posts: a tractor that needs levelling is a tractor nobody moves.

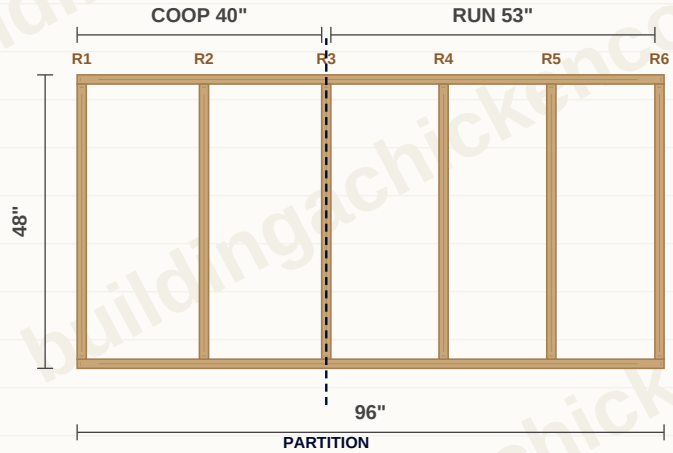
Cut two **skids** 96" long and lay them on edge, 48" apart at the outside faces. Cut 6 **rungs** 45" long and screw them between the skids, on edge, flush with the skid tops — one at each rib position so every rafter foot lands on solid framing.

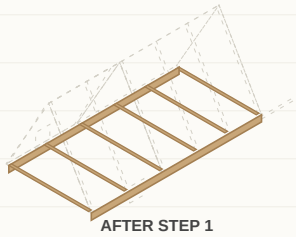
Run the skids **crown up** and put the better face outward. They drag on grass for years; a cupped skid collects water in the hollow and rots from the top.

Part	Qty	Length	Stock	Note
Skid	2	**96"**	2x4	on edge, full length
Base rung	6	**45"**	2x4	on edge, between the skids

STOP AND MEASURE BEFORE THE NEXT STEP

Diagonal to diagonal across the base frame, corner to corner — **equal within 1/8in**





WATCH OUT

! Square it now. Every rib, panel and door downstream is cut to the 48" the base frame ends up, not the 48" on the paper.

Skids on edge. Rungs land on every rib position so each rafter foot bears on framing, not on air.

STEP 2: WHEELS ON FLIP-DOWN ARMS, AND THE LIFT HANDLE

The wheels go on before anything heavy does, because after the cladding you will not want to roll it over.

Each wheel hangs off a **wheel arm** 14" long, bolted through a **pivot block** on the outside of the skid. Flip the arms DOWN and pin them and the coop end rises onto the wheels; flip them UP and pin them and it settles back flat on both skids with the tyres 3/4" clear of the grass.

That is worth the two extra parts. Wheels bolted permanently below the skids hold one end of the coop off the ground all night, which is a gap running the full 48" width under the end the birds sleep in. Wheels bolted level with the skids never touch the ground at all — lift one end of a rigid frame and it pivots about the other end, so a wheel in the middle only rises.

Set the arms so the wheels touch down 23-1/8" from the closed end. The finished centre of mass works out at 36-1/8", and the wheels have to land AHEAD of it — behind it the coop end hangs past the axle and the handle end lifts on its own.

At the far end, lag a **handle** 42" long to the outside of each skid, projecting 18" past it, and join the two with a **grip bar** .

Part	Qty	Length	Stock	Note
Wheel arm	2	**14"**	2x4	pivot bolt one end, 1/2in axle hole the other
Arm pivot block	2	**6"**	2x4	outside the skid
Lift handle	2	**42"**	2x4	lagged to the skid, 4 lags each
Grip bar	1	**45"**	2x2	between the handle ends
Axle rod	1	**1/2" x 54"**	Steel	

STOP AND MEASURE BEFORE THE NEXT STEP

Underside of both wheels to the ground, arms UP, sitting on the skids **3/4"**

WATCH OUT

! Estimated finished weight off the bill of materials is 296 lb, and with the wheels here the lift at the grip bar is about 42 lb — one person, both hands, like the handles of a loaded barrow.

! Put the wheels at the very end of the skid instead and the same tractor lifts at about 91 lb. That is the difference between a coop that gets moved every morning and one that gets moved twice.

STEP 3: RIB ASSEMBLY — THE RAFTER PAIRS

A rib is two rafters meeting at the peak. Build all 6 of them flat on the ground before you stand any of them, off one set of marks, so they are identical.

Every rafter is the same part: a 2x2 48" on the long edge, cut at **30 degrees off square at BOTH ends** , with the two cuts PARALLEL, not mirrored. Set the saw once and cut all 12. Two come out of one 8-ft length if you alternate the offcut end.

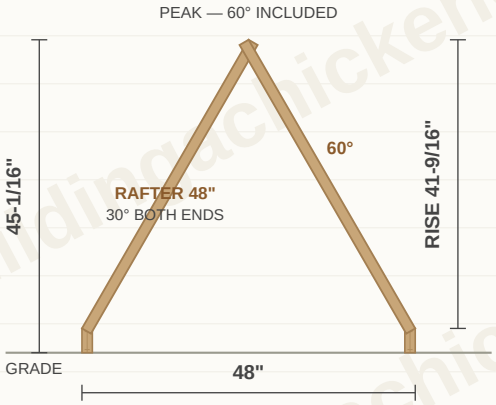
2x2, not 2x4. The base rung ties the two feet together, so each rafter is a strut in a closed triangle carrying its load along its own length rather than bending across it. Framing this in 2x4 puts about 40 lb onto something you pick up every morning, and a tractor nobody moves is just a small dirty coop.

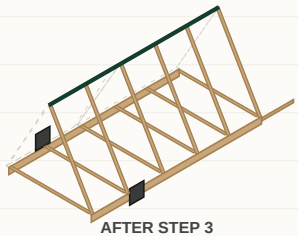
Stand a pair on edge with the 30-degree top cuts butted plumb against each other and the bottom cuts flat on the floor, then screw a **peak gusset** across the joint on each face. The gussets are the joint — the butted end grain carries nothing on its own.

Part	Qty	Length	Stock	Note
Rafter	12	**48"**	2x2	30 deg both ends, cuts parallel
Peak gusset	12	**9" x 11"**	1/4" plywood	

STOP AND MEASURE BEFORE THE NEXT STEP

Foot to foot across a finished rib, outside to outside **48"**





AFTER STEP 3

WATCH OUT

- ! If a rib measures short across the feet, the peak cuts are not meeting plumb. Do not pull it to width with the gusset — it will spring back and push the skids apart.
- ! The rise from skid top to peak is 41-9/16". Check the first rib against it before you build the other 5.

STEP 4: STAND THE RIBS AND ADD THE PURLINS

Stand each rib on its rung, outside faces of the rafter feet flush with the outside of the skids, and fix each foot with an **angle bracket** plus one screw skewed through the bevel. Brace it upright as you go.

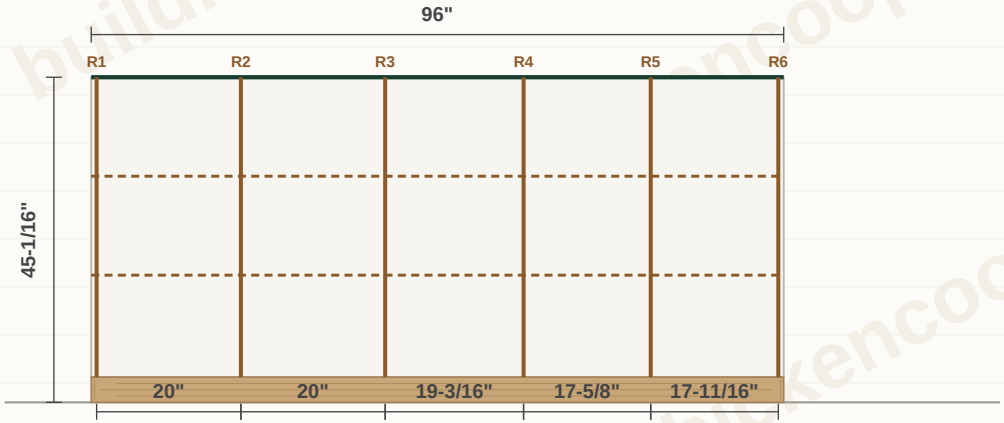
Rib spacing runs 20", 20", 19-3/16", 17-5/8", 17-11/16" from the closed end. They are not evenly spaced on purpose: the third rib has to land at 40" so the partition has framing to screw to. Nothing exceeds 24".

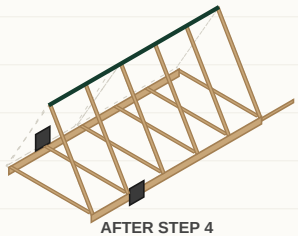
Then run four **purlins** the full 96", two per side, screwed to the **INSIDE** faces of the rafters. Inside, not outside — the slope panels and both big doors have to lie flat on the outside face, and a purlin out there is what stops a door from ever closing.

Part	Qty	Length	Stock	Note
Purlin	4	**96"**	2x2	inside face of the rafters, full length
Rafter foot bracket	12	**3"**	Angle bracket	

STOP AND MEASURE BEFORE THE NEXT STEP

Peak of the closed-end rib to the peak of the handle-end rib, measured along the ridge line **96"**





AFTER STEP 4

WATCH OUT

! Sight down the ridge before the purlins go on. Once four purlins are screwed to the inside faces, whatever lean the ribs had is permanent.

Purlins on the INSIDE faces — the doors have to lie flat on the outside.

STEP 5: RIDGE JOINT AND RIDGE FLASHING

The peak is a 60-degree vee, which is sharper than any ridge cap sold for a house roof. Bend your own from 10in aluminium roll flashing over the edge of a board.

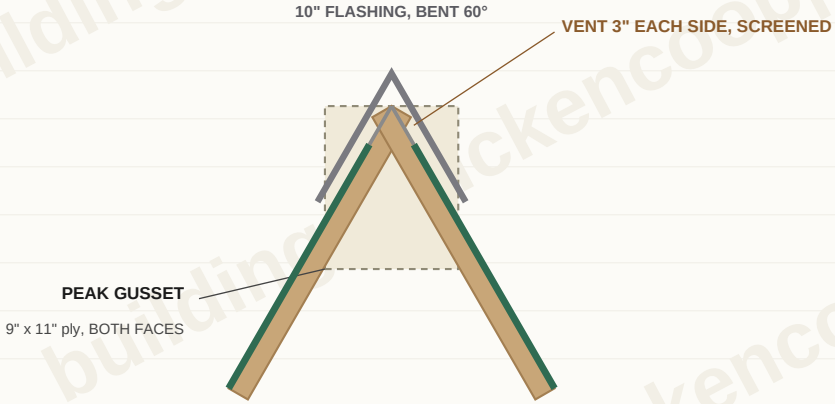
The flashing is doing two jobs. It sheds the rain off the butted rafter joint, and it shelters the **ridge vent** : the coop cladding stops 3" short of the peak on each side, and that continuous gap — 38-1/2" long, both sides, 1.6 sq ft in total — is the ventilation. Screen it with hardware cloth stapled to the rafter edges before the flashing goes on.

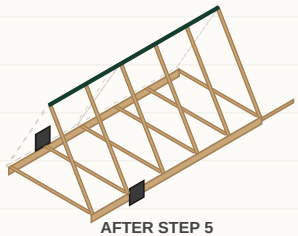
Screw the flashing to the cladding 2" below its top edge, on a bead of sealant, so the fasteners are above the water line.

Part	Qty	Length	Stock	Note
Ridge flashing	2	**10" x 48"**	Aluminium flashing	
Vent screen cleat	4	**38-1/2"**	1x2	staple the cloth to this

STOP AND MEASURE BEFORE THE NEXT STEP

Cladding top edge to the peak, both sides **3"**





WATCH OUT

- ! That vent is 0.17 sq ft per sq ft of floor against an extension figure of 0.10, and it stays open all winter. Ammonia and damp kill far more birds in a small coop than cold does.
- ! Do not be tempted to close it up in a cold snap. A draught at bird level is the problem; an opening at the peak, above their heads, is the cure.

STEP 6: COOP FLOOR AND THE PARTITION WALL

The closed end gets a solid floor; the run end stays open to the grass.

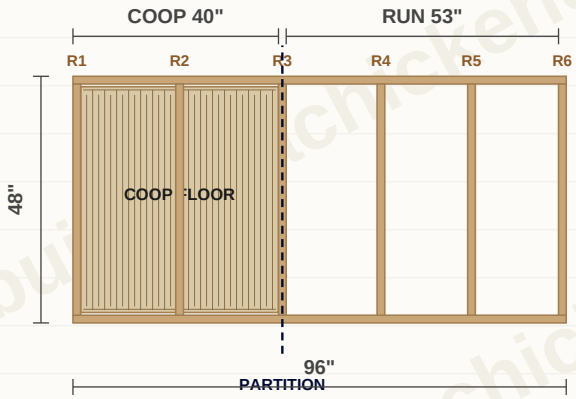
Drop the **coop floor** in on the rungs between the closed-end rib and the partition — 43-15/16" wide by 38-1/2" long. That 43-15/16" is narrower than the 48" outside width and narrower than the gap between the skids, because the rafters lean in over the floor. Measure it in place.

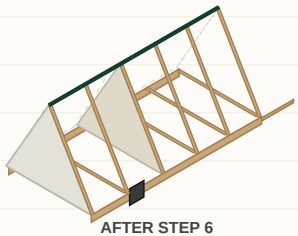
Cut the **partition panel** and the **closed end panel** from 1/4in ply as matching triangles, 48" across the base by 41-9/16" tall. Both are notched around the four purlins that pass through them — four 1-1/2" by 1-1/2" notches per panel. Cut the **pop-door opening** , 12" wide by 14" tall, in the partition, sitting on the floor and centred.

Part	Qty	Length	Stock	Note
Coop floor	1	**43-15/16" x 38-1/2"**	1/2" plywood	
Closed end panel	1	**48" x 41-9/16" triangle**	1/4" plywood	
Partition panel	1	**48" x 41-9/16" triangle, pop opening**	1/4" plywood	
Floor cleat	2	**38-1/2"**	2x2	inside the skid, under the floor edge

STOP AND MEASURE BEFORE THE NEXT STEP

Clear width across the finished coop floor **43-15/16"**




AFTER STEP 6

WATCH OUT

! Cut the two triangles as one pair off a single sheet — nose to tail they come out of a piece 48in by 42in with almost nothing left over.

The coop floor is 43-15/16" wide, not 48" — the rafters lean in over it.

STEP 7: SLOPE CLADDING — THE COOP SKIN

Only the coop section gets skinned. The run stays mesh, which is the point of the whole machine.

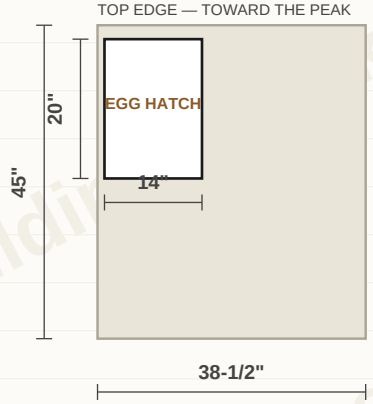
The **left slope panel** is one piece, 38-1/2" by 45", screwed to the outside faces of the first three ribs and to the purlins behind them. Its top edge stops 3" below the peak for the vent.

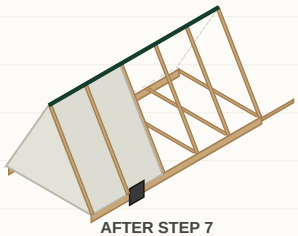
Cut the **egg hatch** opening in it now, hard against the closed end, 14" along the length by 20" up the slope. The hatch opens the outer wall of the near nest box and lets you reach over the divider into the far one, so two boxes are served by one opening.

The right slope is not clad here — the whole panel is the cleanout door, and it goes on in step 9.

Part	Qty	Length	Stock	Note
Left coop slope panel	1	**38-1/2" x 45", hatch cut out**	1/4" plywood	
Egg hatch slab	1	**13-1/2" x 19-1/2"**	1/4" plywood	
Hatch frame	2	**13-1/2"**	1x2	top and bottom
Hatch frame side	2	**16-1/2"**	1x2	

LEFT COOP SLOPE PANEL, AS CUT





AFTER STEP 7

WATCH OUT

! Screw the panel on before you cut the hatch out of it if you can — a slope panel with a hole in it is floppy and hard to hold at 60 degrees.

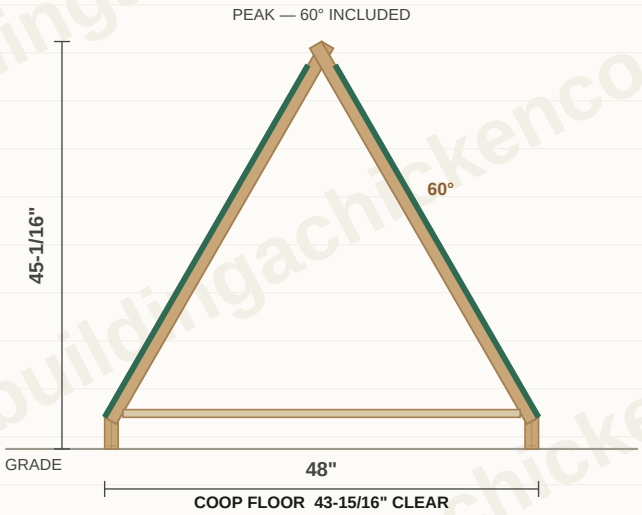
STEP 8: ROOF COVERING OVER THE COOP

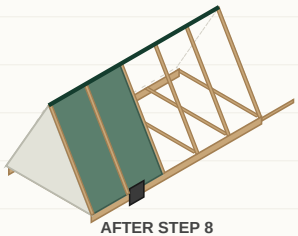
Roll roofing, not metal. On a stationary coop metal is the better roof; here every pound is a pound you lift twice a day, and mineral-surface roll goes on flat over plywood at a fraction of the weight and none of the drumming.

Roll it up the slope, not along it, so no seam runs downhill. Nail the top edge under where the flashing will land, then work down, and lap the lower course over the upper by 4in on a bead of lap cement.

Cover 38-1/2" by 45" on each side — 24 sq ft in total, comfortably inside one 36in roll. The right slope gets its roofing AFTER the cleanout door is built, on the door itself.

Part	Qty	Length	Stock	Note
Roll roofing, left slope	1	**38-1/2" x 45"**	Roll roofing	
Roll roofing, cleanout door	1	**38-1/2" x 45"**	Roll roofing	
Drip edge	2	**38-1/2"**	1x2	bevelled, at the foot of each coop slope




AFTER STEP 8

WATCH OUT

! Warm the roll in the sun for an hour before you unroll it. Cold roll roofing cracks along the fold and every crack is a leak over a roost.

Roll roofing on both coop slopes — 24 sq ft, laid UP the slope so no seam runs downhill.

STEP 9: CLEANOUT DOOR — THE WHOLE RIGHT COOP SLOPE

The single most useful thing on the tractor. The entire right slope of the coop section lifts, so you clean, catch a bird or change bedding standing up instead of crawling in through a hatch.

Build the slab 38" by 44-1/2" out of 1/4in ply on a 1x2 perimeter frame — thin ply on a frame, like a screen door. The frame, not the sheet, is what keeps a panel this size from racking into a parallelogram. Hang it on **three** hinges along its top edge, to a 1x2 ledger screwed to the rafters 3" below the peak.

Two two-action latches at the bottom edge, into the skid. Two-action, both of them: raccoons open hooks, and a door this size is the whole side of the coop.

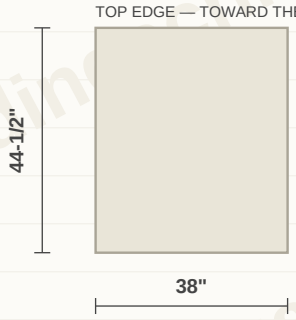
Fit a **prop** so it stays up. A panel this size falling on the back of your neck while your hands are full of bedding is the accident this design has to design out.

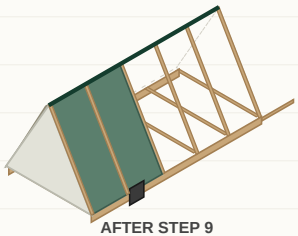
Part	Qty	Length	Stock	Note
Cleanout door slab	1	**38" x 44-1/2"**	1/4" plywood	
Door frame, long	2	**38"**	1x2	
Door frame, short	2	**41-1/2"**	1x2	
Hinge ledger	1	**38-1/2"**	1x2	3" below the peak
Door prop	1	**26"**	1x2	drilled both ends

STOP AND MEASURE BEFORE THE NEXT STEP

Gap all round the closed door — **1/4in or less, even**

CLEANOUT DOOR SLAB — THE WHOLE RIGHT COOP SLOPE





AFTER STEP 9

WATCH OUT

! Hang the door before the roofing goes on it. Hanging a panel that already carries its own roll roofing, on a slope, on your own, is how hinges get started crooked.

Hinged along the TOP edge, three hinges, two two-action latches at the bottom into the skid. Prop it before you put your head under it.

STEP 10: NEST BOX BANK

Two boxes across the closed end, sitting on the coop floor. There is no wall to hang them from, so they stand on the floor and they genuinely take 2.2 sq ft of it — that is already out of the capacity figure on the cover.

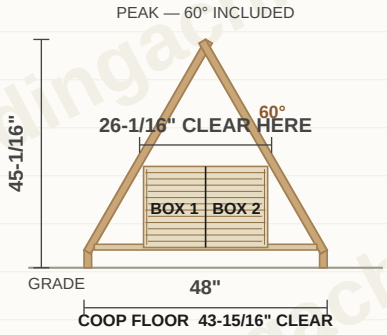
The bank is 24-1/2" across and 13" deep, with **one** divider. The sloping sides are the outer walls of the outer boxes, which is what lets two 12" boxes fit at all: at the top of the opening the triangle is only 26-1/16" wide.

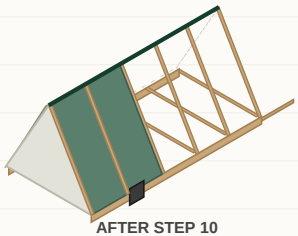
A **litter lip** 3-1/2" tall across the front keeps the shavings in, so the opening a hen steps through is 12" tall with its sill 4" off the floor. Slope the **top** so nobody roosts on it and fouls the eggs.

Part	Qty	Length	Stock	Note
Nest bank floor	1	**24-1/2" x 13"**	1/2" plywood	
Nest bank back	1	**24-1/2" x 16"**	1/2" plywood	
Nest divider	1	**12" x 13"**	1/2" plywood	
Nest litter lip	1	**24-1/2" x 3-1/2"**	1/2" plywood	
Nest bank top	1	**24-1/2" x 14"**	1/2" plywood	
Nest cleat	2	**13"**	1x2	under the bank floor

STOP AND MEASURE BEFORE THE NEXT STEP

Clear width inside ONE finished box — **12"**





WATCH OUT

! 2 boxes for 3 hens is generous — the extension figure is one per five. They will all use the same one anyway.

The sloping sides ARE the outer walls of the outer boxes. One divider, not three.

STEP 11: POP DOOR AND RAMP

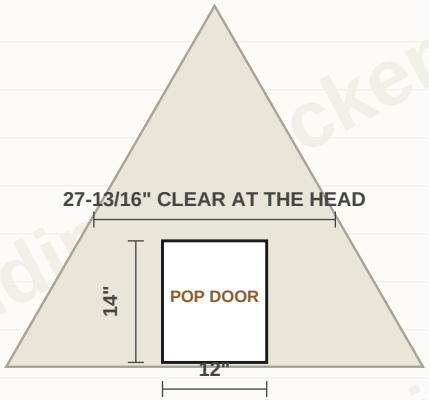
The pop door is the hens' way between the coop floor and the grass, and it is the only opening that gets shut every single night.

The opening is already cut in the partition, 12" by 14", sitting on the floor. Hang the slab on the RUN side so it swings against the frame and cannot be pushed inwards, two hinges and a two-action latch.

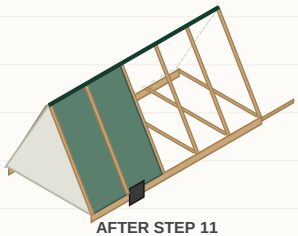
The floor is 4" above the grass, so add a **ramp** 8-15/16" long with cleats every 4". A hen will jump down happily and then refuse to jump back up at dusk, and you will be the one lifting her in.

Part	Qty	Length	Stock	Note
Pop door slab	1	**12-1/2" x 14-1/2"**	1/4" plywood	
Ramp	1	**12" x 8-15/16"**	1/4" plywood	
Ramp cleat	3	**12"**	1x2	every 4"

PARTITION PANEL, FROM THE RUN SIDE



Ramp 8-15/16" down to the grass, cleats every 4in.



AFTER STEP 11

WATCH OUT

! Shut it at dusk and open it after sunrise. On a tractor the mesh floor stops things digging in, but the pop door is the one hole a raccoon can reach through if the run mesh is ever damaged.

STEP 12: RUN HARDWARE CLOTH — SIDES, ENDS AND THE FLOOR

This is the predator strategy, and it is different from every other plan in this set. A stationary coop buries an apron 12 inches down. You cannot bury anything under something you drag across the lawn, so the cloth goes UNDER the birds instead and travels with them.

1/4in hardware cloth, 19 gauge. Never chicken wire — chicken wire keeps chickens in and keeps nothing at all out; a raccoon opens it with its fingers.

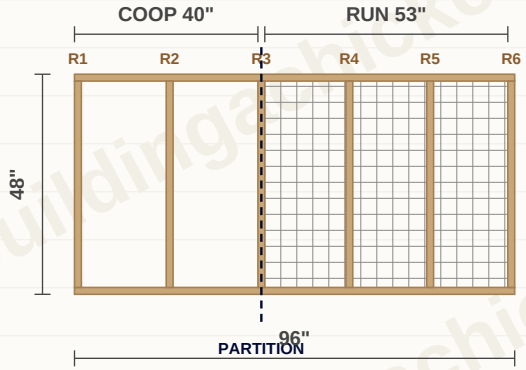
Staple the **floor** cloth across the underside of the skids and rungs over the whole run section, then both **run slopes** , then the **handle-end triangle** . Fasten with staples every 2in AND fender washers every 8in along every edge. Staples alone pull through — that is the failure everyone finds out about the morning after.

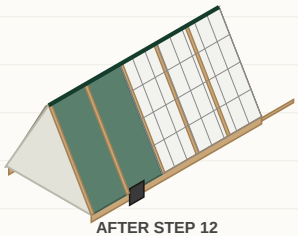
Total needed is 26 ft off a 36in roll.

Part	Qty	Length	Stock	Note
Run floor cloth	1	**48" x 53"**	Hardware cloth	
Run slope cloth	2	**48" x 53"**	Hardware cloth	
Handle-end cloth	1	**48" x 41-9/16" triangle**	Hardware cloth	
Ridge vent cloth	2	**38-1/2" x 7"**	Hardware cloth	

STOP AND MEASURE BEFORE THE NEXT STEP

Cloth on the run floor, pulled up by hand at the middle — **no more than 1/2in of lift**




AFTER STEP 12

WATCH OUT

- ! The floor cloth is walked on by the birds and dragged over grass by you. Anything less than 19 gauge will open up inside a season.
- ! Overlap adjoining pieces by 2in and washer through both layers. A seam that is only butted is a door.

Cloth on the run FLOOR as well as the sides. There is no buried apron on a coop that moves — the floor is the apron.

STEP 13: RUN ACCESS HATCH

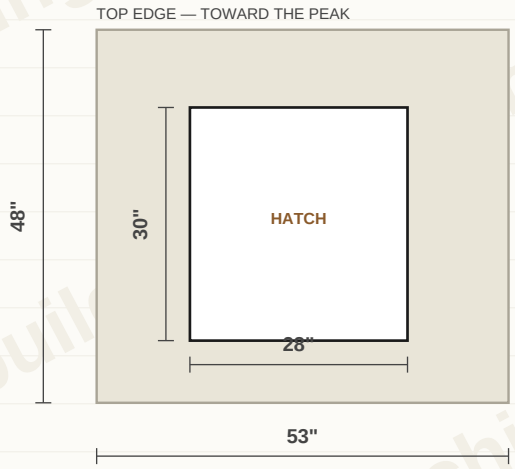
One hatch on the right run slope for feed, water and catching a bird without opening the coop.

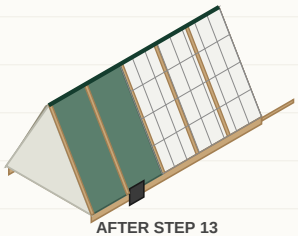
Frame it 28" along the length by 30" up the slope out of 1x2, cover the frame with the same hardware cloth, and hinge it at the TOP so it falls shut on its own if you let go. Sill 8" up the slope, so the bottom rail clears the grass.

One two-action latch. Hooks and turn-buttons are not enough on a run panel a raccoon can stand on the ground and work at with both hands.

Part	Qty	Length	Stock	Note
Run hatch stile	2	**30"**	1x2	
Run hatch rail	2	**25"**	1x2	
Run hatch cloth	1	**28" x 30"**	Hardware cloth	
Hatch stop	2	**28"**	1x2	inside the opening, for the hatch to close on

RIGHT RUN SLOPE — ACCESS HATCH





AFTER STEP 13

WATCH OUT

! Put the water OUTSIDE the hatch on a block, not on the mesh floor. Anything standing on the floor cloth wears a hole in the grass and stops the tractor doing its job.

STEP 14: ROOST BAR AND DROPPINGS TRAY

One bar, running the length of the coop, on the centreline where the headroom is.

A 2x2 with the top two corners eased — flat side up, not a dowel. A hen grips with a flat foot and in cold weather she has to be able to sit down ON her feet to cover them; a round bar leaves her toes exposed and is how you get frostbite in a coop that is otherwise fine.

Set the TOP of the bar 18-1/2" above the COOP FLOOR — not off the grass. The floor is 4" up already (3-1/2" of skid and 1/2" of ply), so off the grass the same bar is 22-1/2" and the peak is 45-1/16".

Floor to the peak is 41-1/16", so the bar leaves 22-9/16" to the peak line. Your tape will read 19-9/16", and that is not an error: the rafters are plumb-cut and butt on the centreline, so the joint hangs 3" below the peak and the tape stops on wood. 19-9/16" of clear air over a sitting hen is the number that matters, and it is the one on the check line.

That height also keeps her above the nest bank top so she roosts on the bar rather than in the eggs. The bar delivers 37" of perch for 3 birds; the extension minimum is 6in each.

Slide the **droppings tray** underneath on two cleats. It is 24" long, not the full 37" of the bar: the first 13" of that floor is where the nest bank stands, and the bar passes over the bank's own sloped top there. Pull the tray out, tip it on the compost, slide it back — thirty seconds, and it is the difference between a coop that smells and one that does not.

Part	Qty	Length	Stock	Note
Roost bar	1	**37"**	2x2	top corners eased
Roost support	2	**5" x 6" gusset**	1/2" plywood	
Droppings tray	1	**24" x 16"**	1/2" plywood	
Tray cleat	2	**24"**	1x2	under the tray edges

STOP AND MEASURE BEFORE THE NEXT STEP

Top of the roost bar, plumb to the underside of the rafter joint **19-9/16"**

WATCH OUT

! Move the tractor every morning. On 16 sq ft of run 3 hens will strip a patch of lawn to bare dirt in about three days if you leave it, and bare dirt is where worms and coccidia start.

IMPORTANT — PLEASE READ BEFORE BUILDING

What these plans are

rafters are checked as compression struts against the NDS slenderness limit, and the welfare, ventilation and predator figures are taken from published extension guidance tables rather than estimated.

What these plans are NOT

They are not stamped engineered drawings. No licensed professional engineer has reviewed, sealed or certified this design, and it is not site-specific. Prescriptive tables are conservative by design, but they are not a substitute for an engineer's analysis of your particular soil, snow load, wind exposure and seismic conditions.

You are responsible for local code and permits

Building codes, permit thresholds, setbacks, frost depth, snow load and livestock ordinances vary by state, county, city and HOA, and they change. The IRC exempts detached accessory structures under 200 sq ft from a building permit, but many jurisdictions tighten that to 100, 120 or 144 sq ft, and zoning setbacks are entirely local. Confirm with your building department and zoning office BEFORE you buy materials.

Heat is a design load too

An uninsulated metal roof in desert or deep-south sun is the most common way a flock gets hurt in a coop that is otherwise built correctly. Hens have no sweat glands and start to suffer above about 85F. If that is your summer: use a light-coloured or reflective roof panel rather than a dark one, add a radiant barrier or rigid foam under the deck, shade the run with cloth or a vine, put the waterers in the shade and add a second one, and consider leaving the top of one gable-end bay permanently open as extra cross-ventilation. None of this is in the framing above because it is climate-specific — but in the wrong climate it matters more than anything that is.

Snow, wind and seismic loads are your call

The rafter sizing here assumes a moderate roof load. If your ground snow load exceeds 30 psf, or you are in a high-wind or seismic zone, have the roof and anchorage reviewed locally — upsizing rafters is cheap; a collapsed roof in February is not.

Build safely

Power tools cause serious injury. Wear eye, ear and hand protection, use tools only as the manufacturer intends, and get help lifting walls and roof panels. If a step is beyond your skill or equipment, hire it out.

Verify before you cut

Check every dimension against your own materials before cutting. Lumber varies between mills and nominal sizes are not actual sizes. We have checked these numbers carefully, but you are the last line of defence against an error.

Limitation of liability

These plans are provided "as is," without warranty of any kind, express or implied, including any implied warranty of merchantability or fitness for a particular purpose. To the fullest extent permitted by law, buildingachickencoopplans.com and its authors accept no liability for any loss, injury, property damage, animal loss, code violation or cost arising from the use of these plans. By building from them you accept full responsibility for the finished structure and for compliance with all applicable laws.

IMPORTANT — PLEASE READ (CONTINUED)

Animal welfare

Capacity assumes 4 sq ft of coop floor per standard-breed hen — comfortably inside the 3-4 sq ft that Virginia Cooperative Extension and Oregon State give for birds WITH run access. This coop gives 10 sq ft of bird floor for 3 hens.

Outdoors, the run is 16 sq ft, or 5.4 sq ft per bird. Extension services genuinely disagree here: Cornell says 4-5 sq ft is enough, Virginia says 10. We are comfortably over the first and under the second. If you want to meet the stricter figure, either build the run longer or keep 1 birds rather than 3.

The number that actually bites is winter. Where birds are shut in for days at a time, Oregon State escalates to 8-10 sq ft of INDOOR floor per bird — for 3 hens that is 24-30 sq ft, and this coop has 10. In a climate with long confinement, size the flock off the indoor figure, not the summer one: 1 hens, not 3. Crowding causes feather-pecking, disease and ammonia problems. Fewer birds is always safe; more is not.

You're done. A few things worth doing before the birds move in.

- Feeder and waterer: hang or stand them so the lip is at the birds' back height (about 8in off the floor for standard breeds) — it stops them scratching bedding into the feed. Allow 4in of feeder edge and 1in of drinker edge per bird: for 3 hens that is one 30in tube feeder and two 3-gallon founts, sited AWAY from under the roosts.
- Bedding: 4 to 6 inches of pine shavings or chopped straw, never cedar. Stir it weekly, top it up rather than replacing it, and strip it out when it stops smelling of nothing.
- Give them a dust bath — a shallow box of dry soil with a little wood ash or sand, kept under cover so it stays dry. It is how a hen treats her own mites, and there is nowhere in this coop to do it unless you build one.
- Keep one spare crate or a corner of the feed room free. You will need somewhere to isolate a sick bird or a new one, and working that out on the day is too late.
- Run a bead of exterior caulk anywhere siding meets trim, and prime every cut end.
- Fit two-action latches on the pop door and every people-door. Raccoons are dextrous and keepers widely report them working simple hooks and slide bolts open, so a latch that needs two different motions is cheap insurance.
- Bury the hardware-cloth apron 12 inches down and 12 inches out before you add bedding.
- Confirm the vents are above roosting height so moisture leaves without drafting the birds.
- Give the flock a week to learn the coop before you let them into the run unsupervised.

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