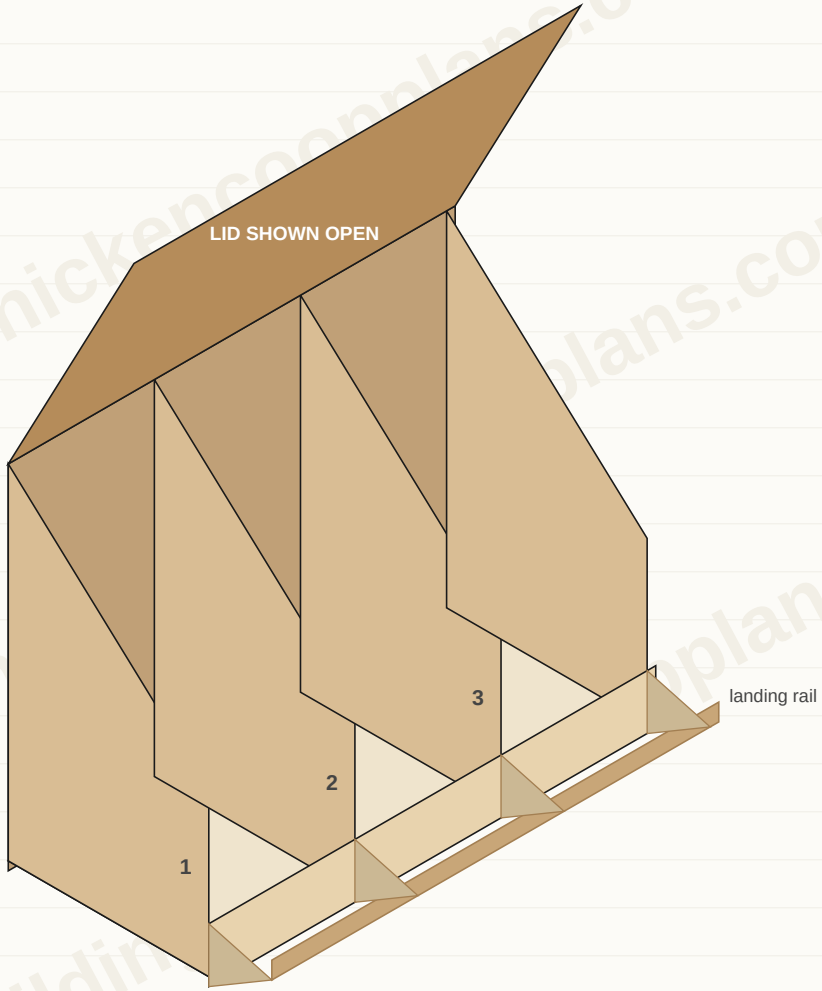
3-BOX NESTING BOX BANK WITH ROLL-OUT OPTION

3 boxes · nesting for up to 12 hens · roll-out floor optional · One afternoon (3-5 hrs)

39" long · 17-1/2" deep · 30-3/4" tall at the back · hangs on a French cleat



FREE PLAN — 8 pages. Every dimension is given; nothing is left to "cut to fit".

Every welfare figure in here is sourced on page 8, and the ones that are only our opinion are labelled as ours.

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

WILL IT FIT YOUR COOP?

This is a bank of 3 nesting boxes that hangs on the wall of a coop you already have. It is a fitting, not a building: no floor, no roof, no run — and **it houses nobody.** The hen count on the cover is how many layers these boxes SERVE. It is not a capacity, and you still size the coop itself on floor area.

Three numbers decide whether you can use it. Measure before you cut anything.

	The number	Why, and what it rules out
Boxes per hen	**1 box : 4 hens**	3 boxes serves 12 hens. That is the extension figure and it is stricter than the welfare standards, which allow 1:5 — 15 hens in the same boxes. Hens queue for a favourite box whatever you build, so more boxes is never a fault.
Nest floor height	**24" up**	Two feet, flat. You will read 18-24in everywhere; that is a garbled copy of the ROOST figure. Can drop to 12" in a short coop.
Clear interior height	**56-3/4"**	Floor to the underside of the roof. The bank is 30-3/4" tall — most of that is the 45° anti-roost lid. At the low mount it comes down to 44-3/4". This is the number that rules small coops out.
Wall length	**87"**	The bank is 39" wide and wants 48" of clear wall between it and the roosts. That separation is HORIZONTAL — see page 7.

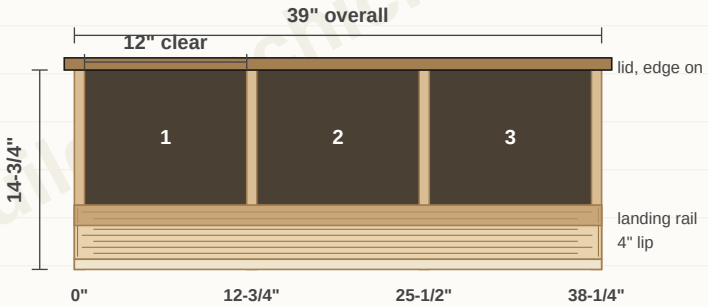
OTHER FLOCK SIZES

Only the five full-length parts change. Every side panel, the whole roll-out kit and the mounting detail are identical at any box count.

Boxes	Bank length	Cleat length	Serves	3/4" sheets	
2	26-1/4"	24-3/4"	8 hens	1	
3	**39"**	**37-1/2"**	**12 hens**	**2**	*← this plan*
4	51-3/4"	50-1/4"	16 hens	3	
5	64-1/2"	63"	20 hens	3	
6	77-1/4"	75-3/4"	24 hens	4	

Sheet counts are from the real nesting, not from a square-footage estimate: past three boxes the bank is longer than a sheet is wide and the long panels have to be turned to run down its length.

FRONT ELEVATION



divider faces, every one measured from the same end

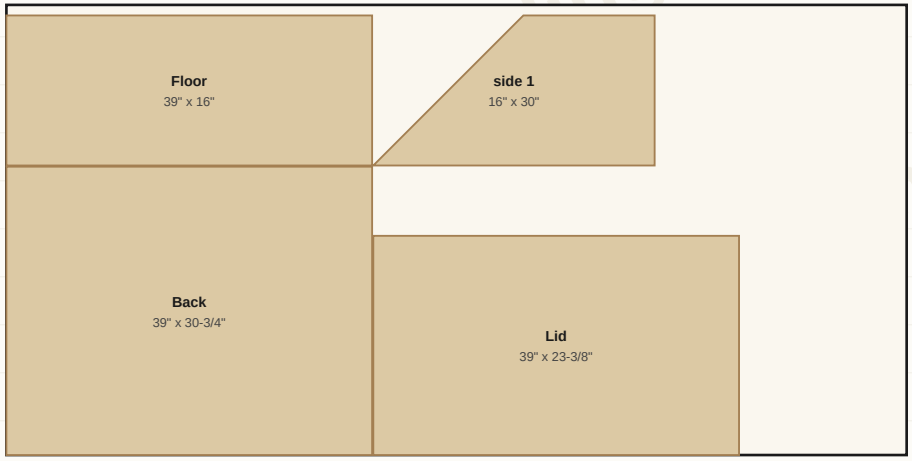
30-3/4" tall at the BACK — see the section, page 5

CUT LIST, AND WHERE IT LANDS ON THE PLYWOOD

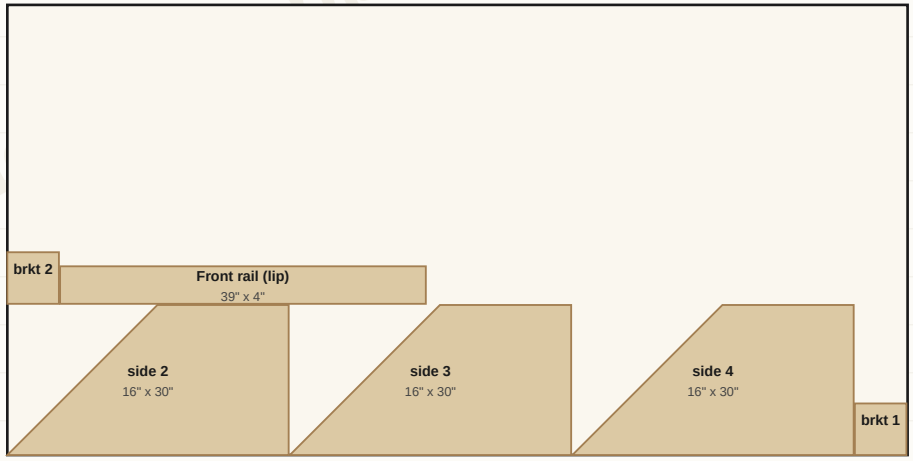
Part	Qty	Length	Stock	Note
Floor	1	**39" x 16"**	3/4" plywood	
Back	1	**39" x 30-3/4"**	3/4" plywood	
Side / divider	4	**16" x 30"**	3/4" plywood	14" front, 30" back
Front rail (lip)	1	**39" x 4"**	3/4" plywood	
Lid	1	**39" x 23-3/8"**	3/4" plywood	0.75in front overhang
Bracket blank	2	**5-1/2" x 5-1/2"**	3/4" plywood	cut corner to corner — 2 brackets each
Landing rail	1	**39"**	2x2	ease the top edges
Landing bracket	4	**5-1/2"**	3/4" plywood	half a blank, cut corner to corner
French cleat	2	**37-1/2"**	2x4	ONE 2x4 ripped at 45 deg gives both halves
Bottom spacer	1	**37-1/2"**	2x4	laid flat — packs the bank plumb
Roll floor	3	**11-7/8" x 12-9/16"**	1/2" plywood	nest pad glued on top
Roll floor riser	3	**11-7/8"**	2x4	laid FLAT — 1-1/2in tall, not on edge
Trough hood	1	**37-1/2" x 4-1/4"**	1/2" plywood	hinged

The last three rows are the OPTIONAL roll-out kit (step 6) and come off a separate half-sheet of 1/2in. Everything above them is the carcass and the landing rail.

33.8 sq ft of parts on 2 sheets (64 sq ft) — 53% used. Bare area would say 2; this is the real nesting, to scale, gaps 1/8" saw kerf.



SHEET 1 of 2 — 4' x 8' x 3/4"



SHEET 2 of 2 — 4' x 8' x 3/4"

CUT THE PANELS, THEN BUILD THE CARCASS

1. CUT THE PANELS

The carcass comes off 2 sheets of 3/4in exterior plywood, and page 3 shows exactly where every piece lands on them. Cut the 39" pieces first — the floor, the back, the front rail and the lid all share that length, so if your saw is drifting out of square you find out on the first cut and not on the fourth.

The 4 side panels are one shape cut 4 times. Two finish as the outer ends and 2 as dividers; they are identical, so cut one, check it, and use it as the template for the rest. Each is 16" deep, 14" tall at the FRONT and 30" at the BACK with a straight line between those corners. That line is the 45 degree lid slope. You do not set a bevel to cut it — mark the two heights, join them, cut the line.

2. FLOOR AND DIVIDERS

Stand the 4 side panels ON the floor panel, not beside it, front and back edges flush with the floor's. Outer ends first, then work inward.

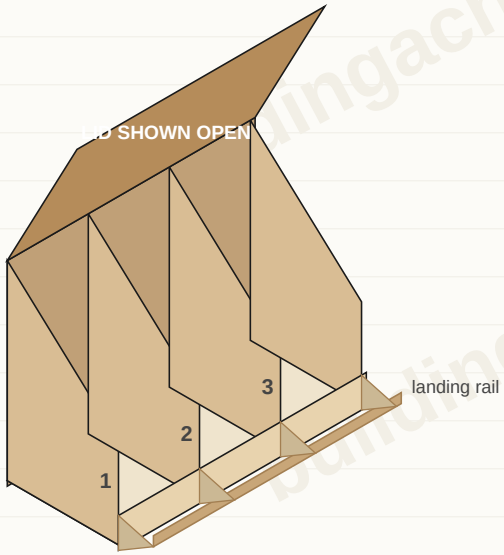
Mark the divider positions off ONE end from a running total, never box by box: 0" , 12-3/4" , 25-1/2" , 38-1/4" to the near face of each panel. Measuring each box off the last one stacks your saw kerf 2 times and the end box finishes the odd one out.

Glue and screw up through the floor into the bottom edge of each panel, three per panel.

3. BACK PANEL

The back goes on the OUTSIDE of the side panels and covers the back edge of the floor, so it runs the full 30-3/4". It is what squares the bank: until it is on, the dividers are a comb and they rack.

Get one corner square, screw it, then run the whole top edge before you touch the bottom. Screws at 8" centres into every side panel.



WATCH OUT

- ! The bank is 39" long because it is 3 boxes of 12" PLUS 4 panels of 3/4". Multiplying 3 by 12" and stopping there loses 3" and makes every full-length panel short.
- ! Clear width should come out at 12" in every box. Check the LAST one, not the first — that is where accumulated error lands.
- ! The back also carries the entire hanging load into the cleat. Glue it as well as screw it — this is the one joint whose failure drops 125 lb off a wall.

FRONT RAIL, LANDING RAIL, AND THE SLOPED LID

4. FRONT RAIL, THE WAY IN, AND THE LANDING RAIL

The front rail is the lip that holds bedding and eggs in. It lands on the FRONT FACES of the side panels and on the front edge of the floor, 4" tall, running the full 39". Penn State puts that lip at three to four inches; this is the top of the range.

That leaves an opening 10" high and 12" wide into each box. **A hen walks through that** , so it is dimensioned here rather than being whatever is left over.

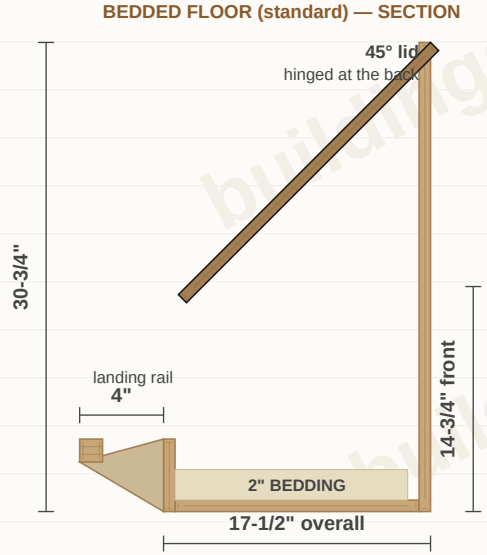
Then the landing rail, which is the part most home-built banks leave off. A 2x2 running the full 39", carried on 4 triangular brackets screwed through the front rail into the side-panel edges, standing 4" clear in front of the lip with its top level with the lip at 4-3/4". UGA specifies that 4in offset: a hen needs somewhere to land and settle before she goes in, and without it she scrabbles at the lip and knocks eggs about.

5. THE SLOPED LID

One piece, 39" x 23-3/8", hinged along its BACK edge at the top of the back panel. Use loose-pin hinges and the whole lid lifts off when you want to scrub the bank out.

It sits at 45 degrees. **That slope exists to stop the hens roosting on top of the bank** — a flat-topped bank becomes the highest perch in the coop inside a week and then everything below it is fouled. Oregon State is the source of the 45 degrees; they assert it without evidence, so treat it as our choice rather than as a law. The 0.75in overhang at the front is your finger grip.

Lift it to horizontal and every box is open, with no headroom needed above the bank at all. To stand it fully upright against the wall you need 23-3/8" of clear space above it. Fit a stay or a prop stick — a lid you have to hold is a lid you will not open — and a hook or barrel bolt to keep it SHUT, because a lid that blows open in wind tears its own hinges out.



WATCH OUT

- ! Round over the top edge of the lip and the rail. A hen lands on both with an egg in her, and a splintered arris is exactly where she will not want to be.
- ! Hinge the lid to the BACK panel, not to the side edges. Hinged at the side it fouls the wall before it has opened 45 degrees.

ROLL-OUT FLOOR — THE OPTIONAL HALF

6. ROLL-OUT FLOOR — OPTIONAL

Skip this step and you have a conventional bedded nest box. Build it and the egg leaves the box the moment it is laid, which is how you stop egg eating and stop eggs being cracked or fouled under a sitting hen.

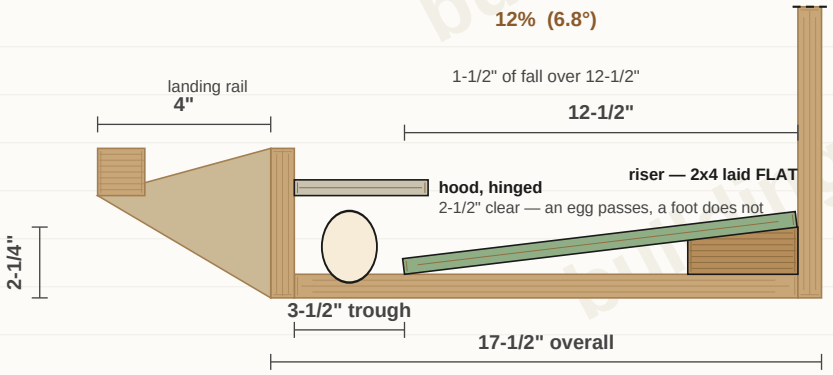
Per box: one 2x4 laid FLAT against the back panel, 11-7/8" long. The roll panel rests on it at the back and lands on the floor at the front, leaving the front 3-1/2" of the box as the collection trough.

That is 12.0 percent of slope, and it needs no ripping and no angle cuts — the rise is one 2x4 thickness and the run is what is left of the box depth. Twelve percent is not a round number we liked: it is the slope hens chose over a steeper one in a controlled test, and the bottom of the 12-18 percent band commercial nests run. Shallower and the egg sits; steeper and hens start refusing the box.

Cover the roll panel with a nest pad, rubber mat or artificial turf — never wire. Bare plywood is too slippery and too hard on the egg, and wire in the lay zone is banned outright under EU 1999/74/EC. The pad cushions the egg, keeps it clean and still lets it roll; a worn one holds eggs back and the hen sits on them.

The trough hood is one piece across all 3 boxes, hinged so it lifts. It stands 2-1/2" above the floor, which passes an egg (under 1-3/4" across) and keeps a hen's foot out.

ROLL-OUT FLOOR — DETAIL, LID OMITTED



WATCH OUT

- ! No bedding on a roll-out floor. Bedding is what stops the egg rolling, and a roll-out box with shavings in it is a nest box you spent an extra afternoon on.
- ! If they refuse it the first week, that is normal. Put a golf ball in the TROUGH, not on the slope.
- ! Nobody publishes a maximum drop height into the tray, so this design does not drop the egg at all — it rolls onto the flat floor of the trough and stops against the lip. That is our call, not a sourced figure.

7. HANG IT ON THE WALL

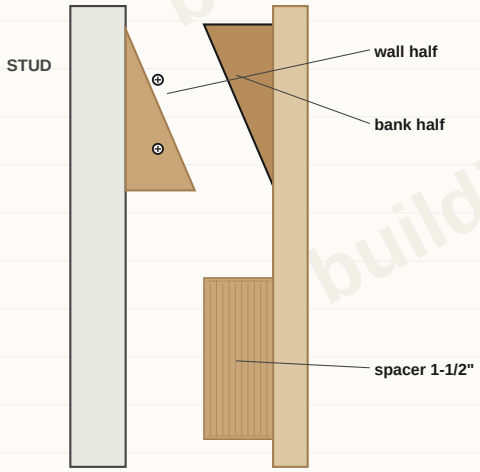
A French cleat. Rip one 2x4 corner to corner down its length at 45 degrees and you have both halves: one screws to the wall, one to the back of the bank, bevels facing each other, and the bank drops on and locks itself down. It also lifts straight off for cleaning, which a bank screwed flat to a wall never does.

The bank half goes on 3/4" in from each end, 37-1/2" long. Add a plain 2x4 laid flat across the bottom of the back as a spacer — **the same 1-1/2" thickness as the mated cleat pair, or** the bank hangs tilted, and on the roll-out version the eggs then run to one end.

The wall cleat must hit studs. Not siding, not sheathing — studs. Find at least 2 of them and drive 4 structural screws of 3in. Bank plus hens plus bedding is about 111 lb; the schedule here is sized for 125 lb.

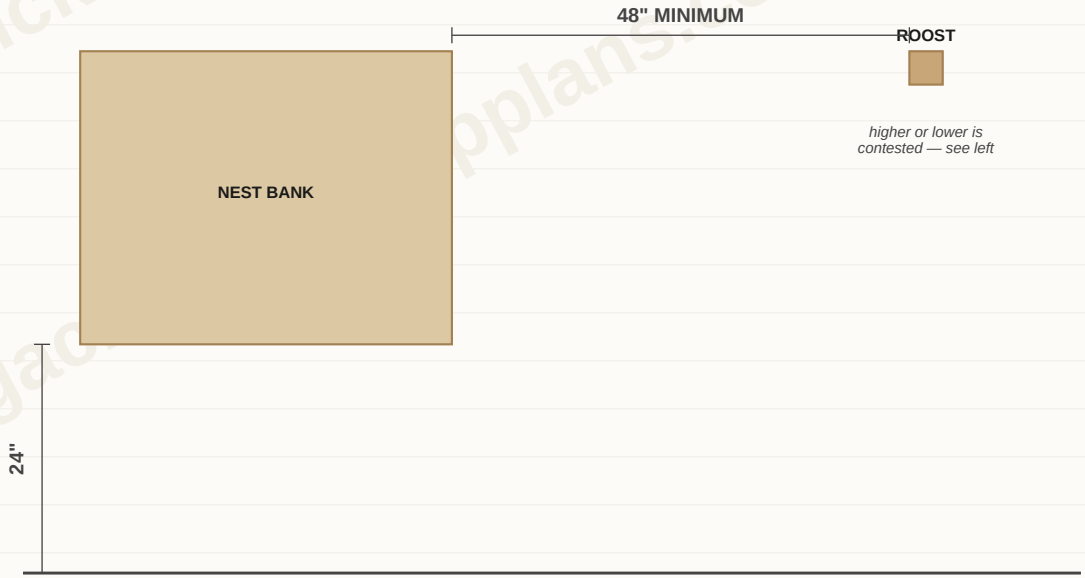
Set the nest FLOOR 24" above the coop floor — Penn State, Maryland and UGA all give two feet, and it keeps the hop under the 25-5/8" Hy-Line calls ideal. Put the bank at least 48" ALONG THE WALL from the roosts.

FRENCH CLEAT, IN SECTION



one 2x4 ripped at 45° gives BOTH halves

SEPARATION IS HORIZONTAL, NOT VERTICAL



nest floor 24" up · 48" along the wall from the roosts (Penn State)

BEDDING, MATERIALS, AND WHERE THE NUMBERS CAME FROM

8. BEDDING, AND THE FIRST WEEK

Bedded boxes: about 2" of pine shavings or chopped straw. Not cedar, and not hay, which moulds. Extension genuinely disagrees on depth — Maryland says 1-2in, Penn State 2in, Mississippi State 3in, NC State 6in — so 2" is the middle of a real spread rather than a precise figure. Roll-out boxes: a pad, and nothing else.

Hens pick a nest and keep using it, so the first week sets the next year. Keep them shut in until mid-morning if you can; a hen that lays her first clutch on the floor keeps doing it.

Clean on the same schedule as the coop, and take the lid off its loose pins two or three times a year to get at the corners properly. Check where the dividers meet the back for red mite — that joint is the classic harbour, and painting the inside a light colour is what lets you see them.

MATERIALS

3/4" exterior plywood (carcass)	4' x 8'	2 sheets
1/2" plywood (roll-out option only)	4' x 8'	1 sheet — skip it if you
2x4, 8 ft (cleats, spacer, roll-out risers)	8 ft	2 pc
2x2, 8 ft (landing rail)	8 ft	1 pc
1-1/4" exterior screws (panel to panel)	1 lb box	1 box
3" structural screws (cleat to STUDS)	—	4 minimum, into 2 studs
Exterior wood glue	8 oz	1
Hinges — loose-pin, so the lid lifts off to clean	2in	4 (lid + trough hood)
Lid stay or a prop stick	—	1 (holds the lid open)
Hook-and-eye or barrel bolt, to hold the lid SHUT	—	1
Nest pad, rubber mat or artificial turf	12" x 16"	3 (MANDATORY on the r
Pine shavings (bedded version only)	2" deep	1 bale
Exterior primer + paint, light colour	1 qt each	1 + 1

Materials at retail: $240–$330

WHERE THE NUMBERS CAME FROM

Most plans for this do not say. These are the sources, and the last two rows are the figures nobody publishes — we picked those, and we would rather say so than dress them up as standards.

1 box per 4 hens
Penn State, UGA C969, NC State, U-Maryland, Oregon State EC 1644. Stricter than Certified Humane / RSPCA (1:5) and EU 1999/74/EC (1:7).

12in wide x 16in deep box
Width: OSU EC 1644, Penn State, UGA. Depth: Mississippi State Extension (14w x 12h x 16d per four hens).

4in lip
Penn State: "three to four inch lip in the front of the nests".

Nest floor 24in up
Penn State ("at least 2 feet"), U-Maryland ("24 inches"), UGA. Hy-Line puts the hop to a nest at 65cm ideal, 90cm absolute.

4 ft from the roosts
Penn State: roosts "at least four feet away from the nests". HORIZONTAL.

Landing rail 4in out
UGA C969: "a perch about 4 in. in front of each box".

Roll-out slope 12%
Stampfli et al. 2011, Appl. Anim. Behav. Sci. 135:286-292 — hens chose 12% over 18%. Hy-Line: commercial nests run 12-18%.

Pad, never wire
EU 1999/74/EC Art.2 bans wire in contact with the bird; Hy-Line and RSPCA E 9.2d specify mat, turf or straw.

2in of bedding
Penn State. Extension genuinely disagrees, 1in to 6in.

45° lid — OURS
Oregon State EC 1644 says 45° stops roosting, with no evidence behind it. The nearest data is pigeon work putting bare wood at 35°. Different bird. Our call.

Lip 4in, trough 3-1/2in, hood 2-1/2in, box 14in tall — OURS
No standard specifies any of these. We chose them; nothing is riding on them but our own arithmetic.

Nothing here is engineered for snow, wind or seismic load, because it is a plywood box on a wall. The one structural thing that matters is that the cleat reaches studs. Build to your own local rules. Corrections and revisions: buildingachickencoopplans.com/errata