00 / Three original sauna designs

Coordinated drawings, framing geometry and material quantities for supplier and engineer review.



S1 / compact kit

1800 x 1800 external

S2 / installed cabin

2600 x 2400 external

B3 / barrel kit

2400 diameter x 2800 shell

Original technical proposals. Images are artist impressions, not dimensioned geometry or final product photographs.

01 / Design register and dimensional hierarchy

Written dimensions govern. Geometry is coordinated; structural and thermal certification is not included.

Parameter	S1	S2	B3
External shell	1800 x 1800	2600 x 2400	2400 diameter x 2800
Clear interior plan	1460 x 1460	2260 x 2060	2312 diameter x 2572
Wall / shell thickness	170	170	44
High / low ceiling above FFL	2250 / 2100	2300 / 2150	2006 max above floor
External overall height	2550 / 2400	2600 / 2450	Depends on saddle / base
Door rough opening	800 x 2000	800 x 2000	800 x 1850
Door clear target	700 x 1900	700 x 1900	700 x 1750
Upper seat above FFL	900	900	500
Commercial basis	Kit target GBP 8,000 inc VAT	Installed target GBP 20,000 inc VAT	Costing pending

Cabin datum: FFL = 0. Supporting base = -150. Wall frame underside = FFL. Roof envelope is 150 above the ceiling datum. Wall layers: 20 external cladding + 20 drained cavity + 9 sheathing + 89 frame + 20 internal battens + 12 lining = 170. Membranes excluded from dimensional sum.

B3 is enlarged from the R02 study to resolve doorway and circulation. All R02 barrel dimensions and gross framing allowances are superseded. No capacity, price, delivery or stock claim is approved.

02 / Supplier benchmark and scope

The actual starting references, recovered from the conversation and checked against this revision.

Original compact reference: Leil Viva 120 / Heracles Wellness. Larger installed reference: Heritage Lumo. The later technical references were Gardj Barrel 240, Dundalk barrel and Harvia Keitele. Their documents are benchmarks, not our manufacturing licence or specification.

Gardj Barrel 240 manual (30 pages) includes dimensioned general arrangement, coded parts, cradle setting-out, sequential shell assembly, benches, door and roof details. This revision adds original member IDs, coordinate tables, support layouts, material formulas and assembly stages in that spirit. Its wood-burning equipment details are not copied.

Original URLs:

https://heracleswellness.co.uk/products/leil-viva-120-1-2-person-outdoor-sauna

https://heritageliving.co.uk/heritage-sports/saunas/lumo/

https://gardj.co.uk/product/outdoor-barrel-sauna-240-cm/

https://gardj.co.uk/wp-content/uploads/2026/08/Barrel-240-gardj.pdf

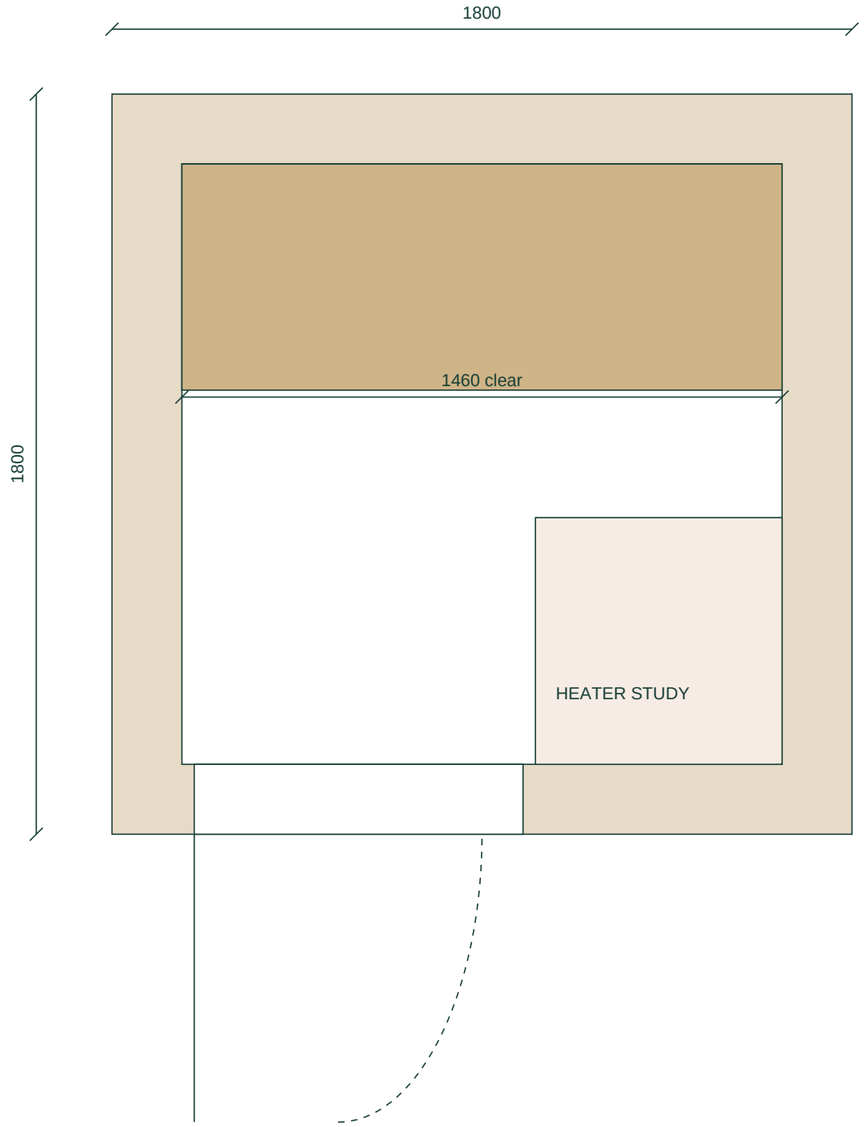
https://support.harvia.com/hc/en-gb/articles/21953036825628-Ventilation-in-the-sauna

Viva 210 manual was also identified through the original retailer. Its direct file was not accessible during this review, so this pack does not claim to reproduce or verify its detailed assembly system.

Release scope: geometry for design discussion, not an approved kit manual. Engineer connections, foundations, structural loading and lifting; select heater, ventilation, glazing, wiring and fire-safety details; then prototype and test before a consumer kit is offered.

S1-01 / Compact self-assembly kit / plan

GBP 8,000 inc VAT target; no quotation or production release implied.



01 / clear room 1460 x 1460

02 / rear seat 550 deep at +900

03 / step at +450 (support design pending)

04 / door rough opening 800 x 2000

05 / front-left opening offset 200 from external face

06 / outward door swing; no lock preventing escape

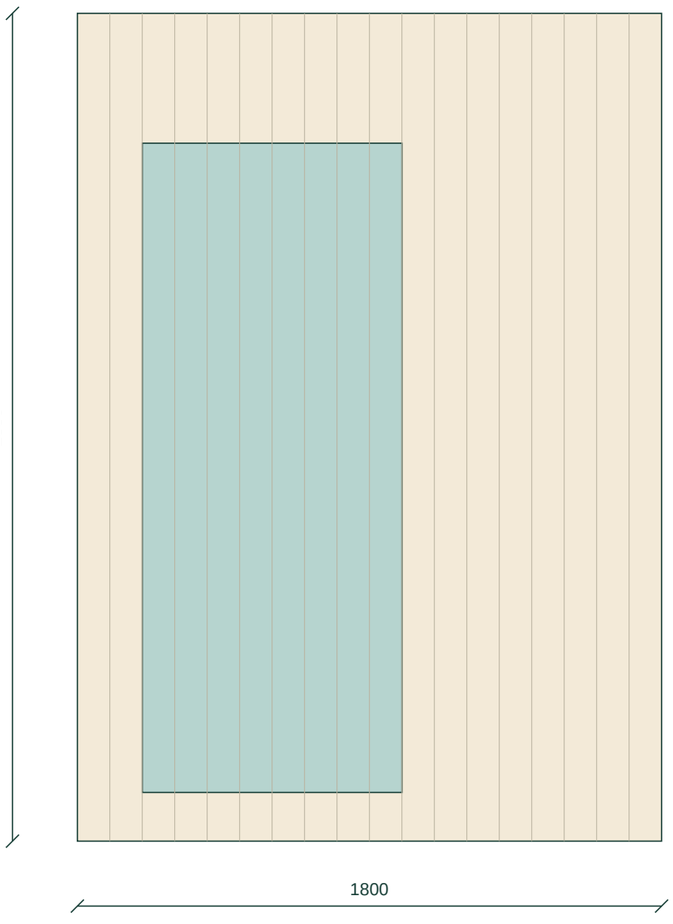
07 / heater zone is a 600 x 600 space study ONLY

Heater model, guards and actual safety clearances must be resolved before this arrangement can be released. No ventilation openings are cut until equipment and sensor locations are approved.

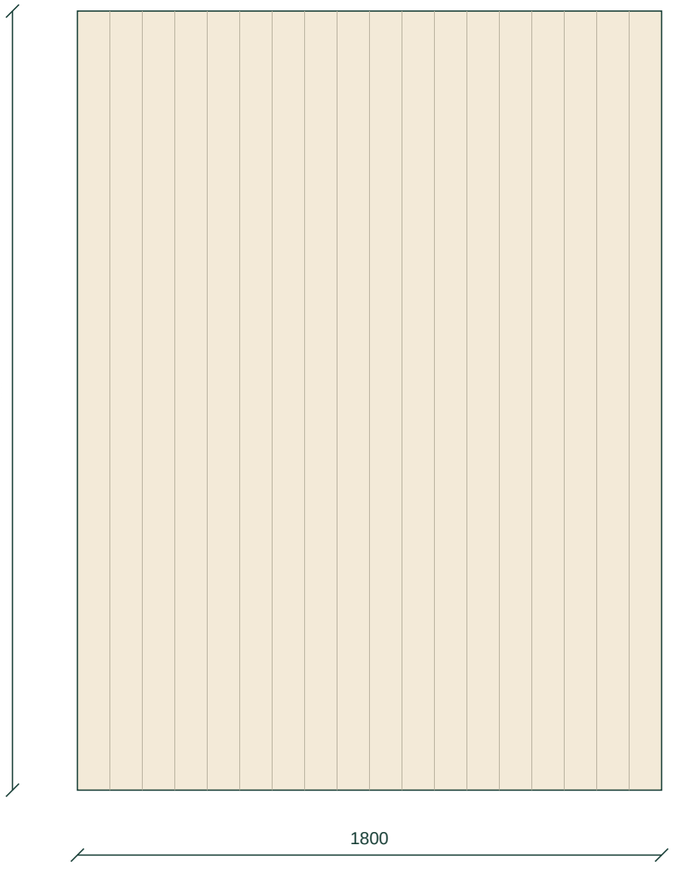
S1-02A / front/rear elevations

Exterior heights include 150 base zone and 150 roof zone. All dimensions mm.

FRONT



REAR

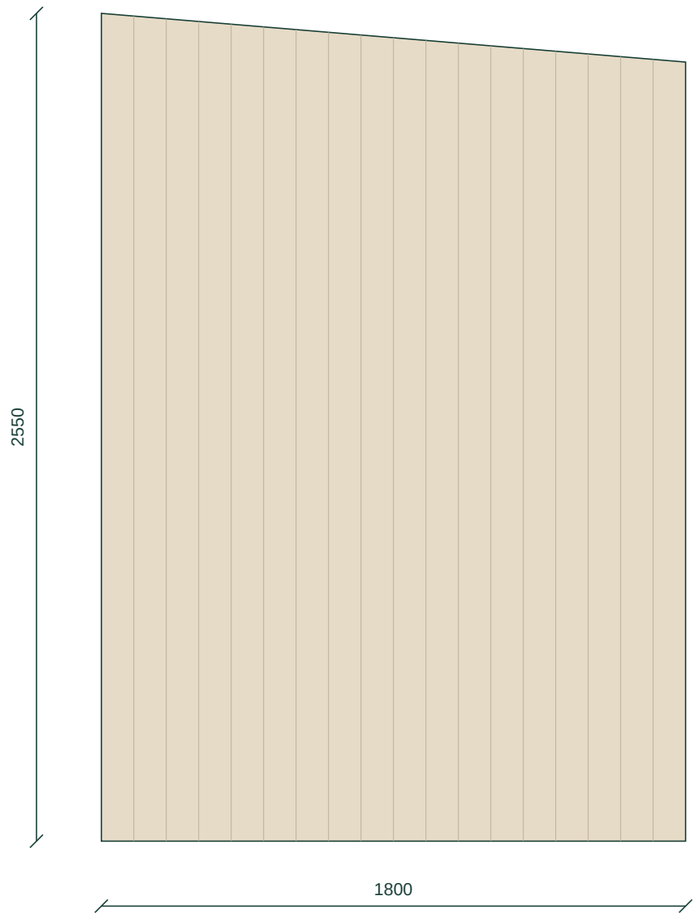


External cladding profile and roof covering to supplier specification. No rear or side windows in baseline. Gutter at low rear eaves; downpipe location coordinated to site. Elevations show envelope and cladding cadence, not final fixing centres.

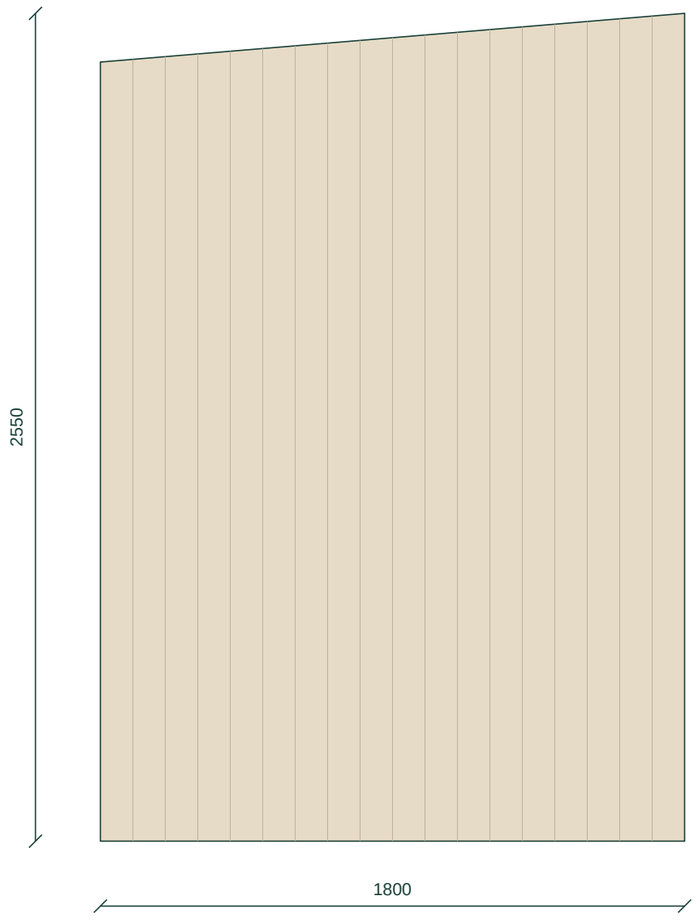
S1-02B / left/right elevations

Exterior heights include 150 base zone and 150 roof zone. All dimensions mm.

LEFT



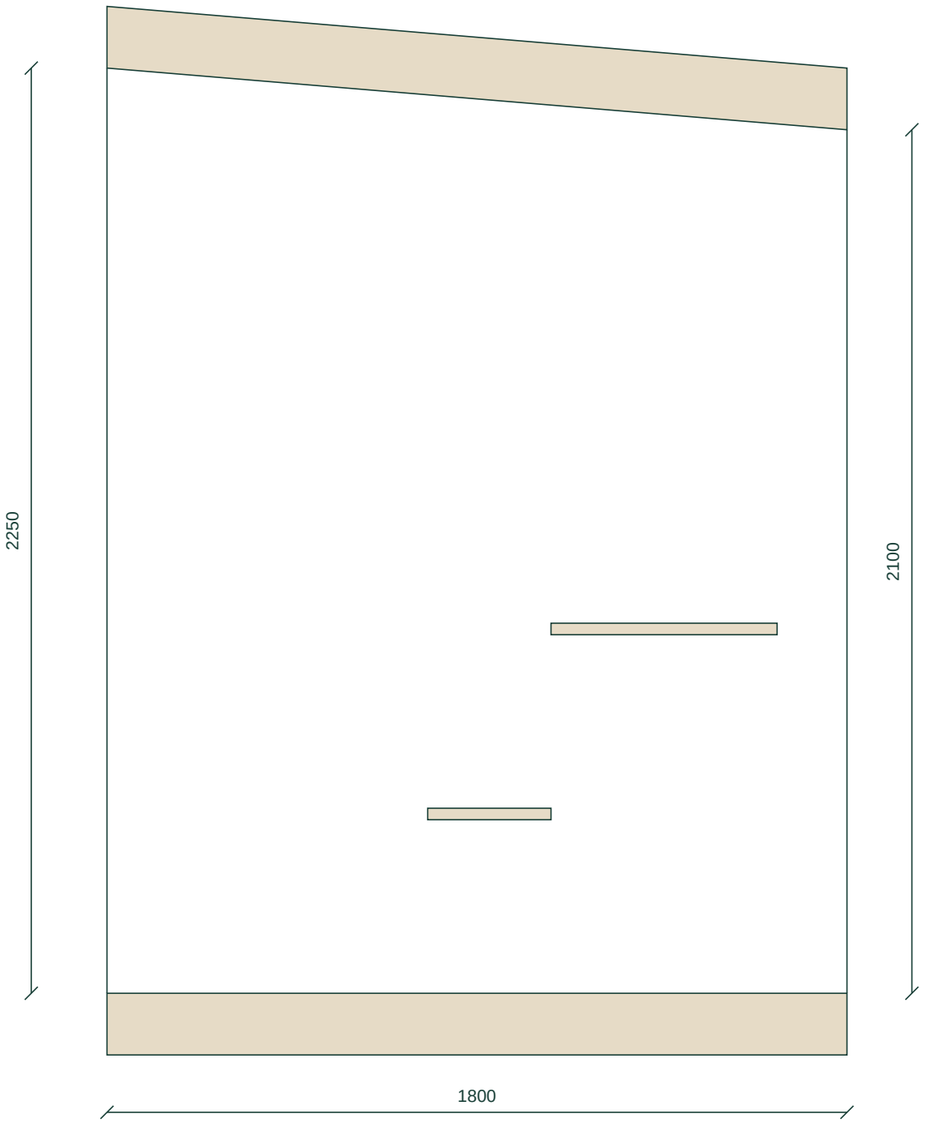
RIGHT



External cladding profile and roof covering to supplier specification. No rear or side windows in baseline. Gutter at low rear eaves; downpipe location coordinated to site. Elevations show envelope and cladding cadence, not final fixing centres.

S1-03 / Longitudinal section / levels

Front at left; rear bench at right. Clear headroom is explicitly dimensioned.



FFL = 0

BASE = -150

UPPER SEAT = +900

STEP = +450

REAR CLEAR HEADROOM ABOVE SEAT = 1200

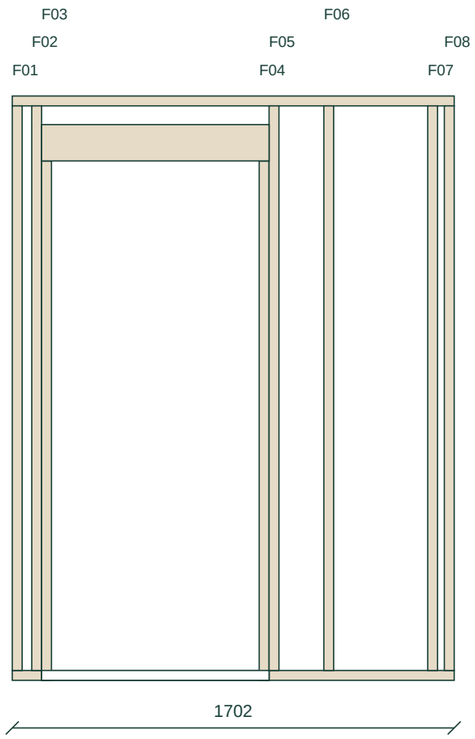
Floor zone: 150 total, proposed 97 joist depth leaves 53 for deck/finish/support allowances.

Roof zone: 150 total, proposed 97 rafter depth leaves 53 for deck, weather skin, battens and lining.

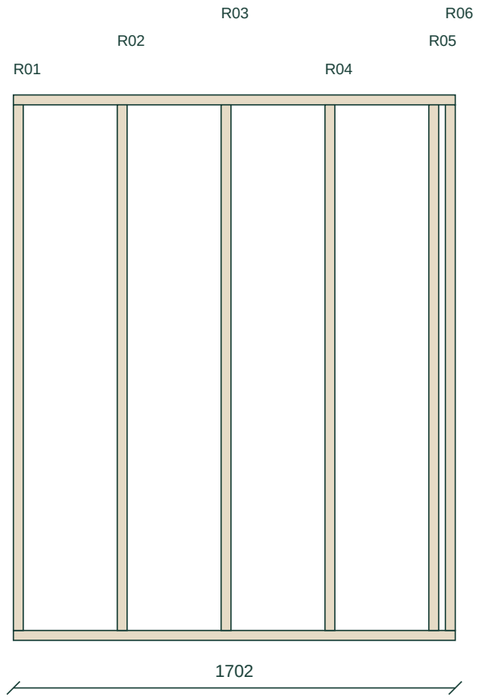
Both require detailed layer coordination; do not add insulation or service layers without revising the envelope.

S1-04 / Wall framing / member identification

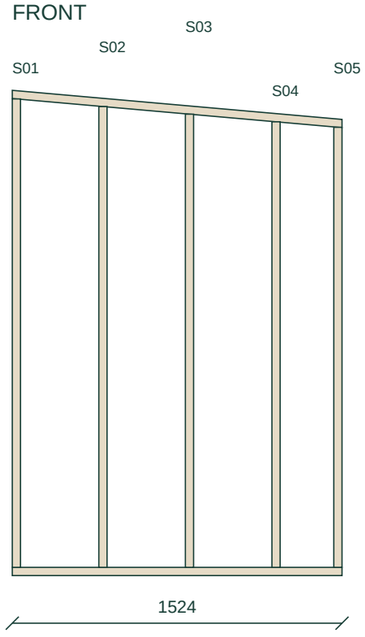
Orthographic framing elevations. Nominal finished timber: 38 x 89; structural adequacy not verified.



FRONT



REAR



SIDE (2 mirror sets)

Front: rough opening x151 to x951 from frame edge. Trimmers x113 and x951; kings x75 and x989.

Header: proposed 876 x 140 x 89; underside +2000. Not structurally designed.

Side top cuts follow 150 roof fall over frame depth.

Cripple blocks, bracing, joint packs and connector schedule require final design.

S1-05 / Individual timber member schedule 1

Geometry schedule, not a purchase order. S = two mirrored side walls.

Part ID	Quantity	Start x	Length at centre	Member
S1-F01	1	0	2174	stud
S1-F02	1	75	2174	stud
S1-F03	1	113	2000	trimmer
S1-F04	1	951	2000	trimmer
S1-F05	1	989	2174	stud
S1-F06	1	1200	2174	stud
S1-F07	1	1600	2174	stud
S1-F08	1	1664	2174	stud
S1-R01	1	0	2024	stud
S1-R02	1	400	2024	stud
S1-R03	1	800	2024	stud
S1-R04	1	1200	2024	stud
S1-R05	1	1600	2024	stud
S1-R06	1	1664	2024	stud
S1-S01	2	0	2164	stud
S1-S02	2	400	2129	stud
S1-S03	2	800	2094	stud

Stud length = wall height at member centre minus 76 for two plates. Trimmers stand directly at FFL; bottom plate is removed across the opening and trimmer zone. Side top cuts follow roof slope. Lengths rounded to nearest mm for review. Timber tolerances, saw kerf and final joint detailing must be allowed in production.

S1-05 / Individual timber member schedule 2

Geometry schedule, not a purchase order. S = two mirrored side walls.

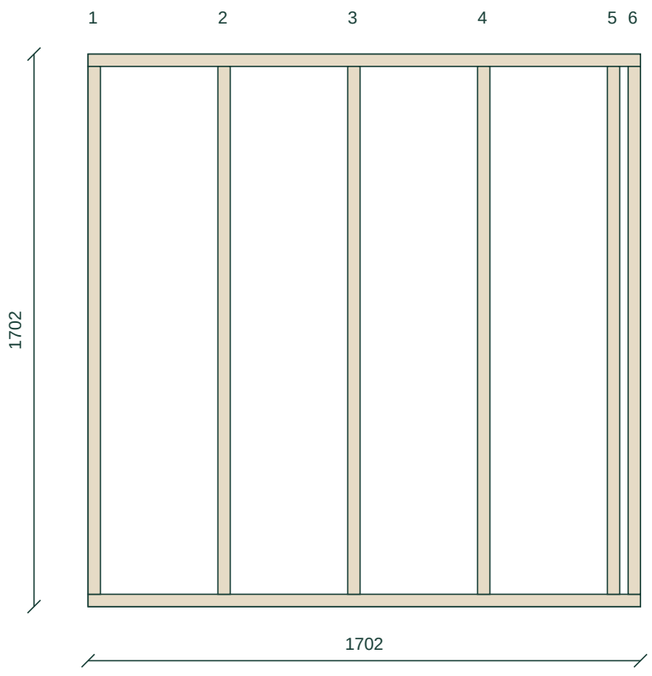
Part ID	Quantity	Start x	Length at centre	Member
S1-S04	2	1200	2059	stud
S1-S05	2	1486	2034	stud

Stud length = wall height at member centre minus 76 for two plates. Trimmers stand directly at FFL; bottom plate is removed across the opening and trimmer zone. Side top cuts follow roof slope. Lengths rounded to nearest mm for review. Timber tolerances, saw kerf and final joint detailing must be allowed in production.

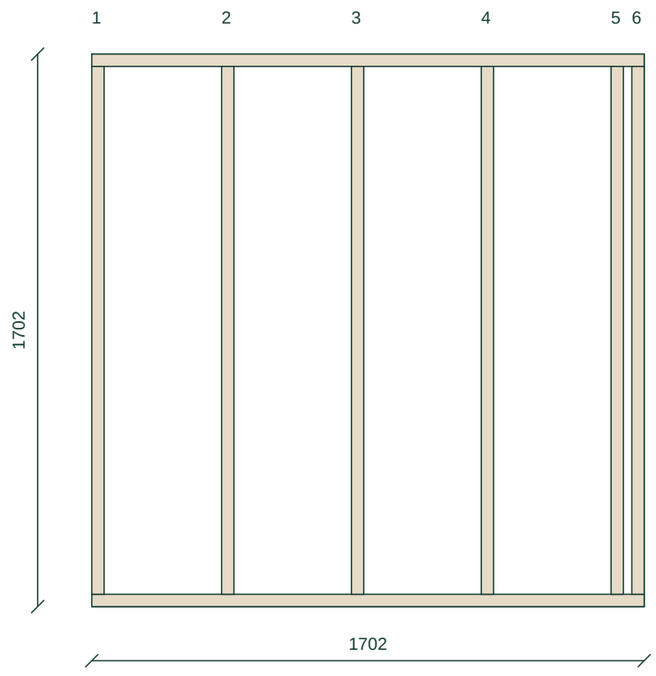
S1-06 / Floor / roof framing plans

Shared x setting-out with individually quantified members; engineering and foundation design outstanding.

FLOOR / 38 x 97



ROOF / 38 x 97



Member	Qty	Floor length	Roof centreline length
Joists / rafters	6	1626	1632
Front / rear rim	2	1702	1702

S1-07 / Timber and surface quantity schedule

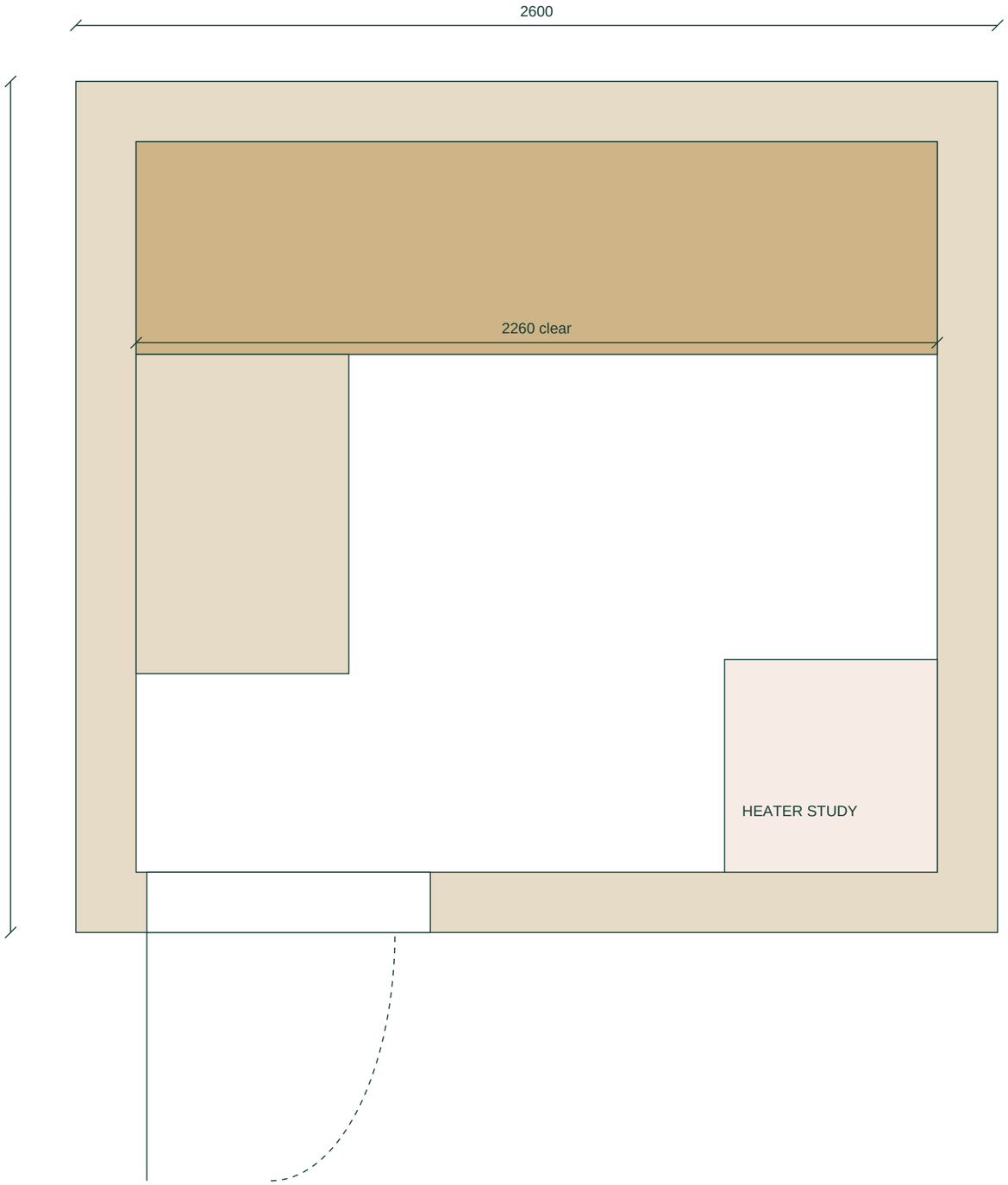
Net geometry with separately stated waste. Full system costs are not yet established.

Material	Net quantity	Pricing allowance	Waste / boundary
38x89 studs / trimmers	50.15 lm	55.16 lm	10%
38x89 plates (gross)	12.90 lm	14.19 lm	Opening offcut discarded
89x140 header	0.876 lm	1 piece	Design assumption
38x97 floor frame	13.16 lm	Add 10%	Blocking excluded
38x97 roof frame	13.20 lm	Add 10%	Outriggers excluded
Interior wall lining	11.37 m2	12.74 m2	12%
Ceiling lining	2.14 m2	2.40 m2	12%
External cladding	14.06 m2	15.75 m2	12%
Roof weather surface	4.01 m2	System laps extra	100 overhang each side
Upper bench slats	7.30 lm	Add 10%	Supports/step extra

Excluded: bracing, cripple blocking, noggins, battens, sheathing sheet optimisation, membrane laps, insulation, bench supports, connectors, glazing, heater, wiring, lighting, foundations, transport and labour. These exclusions must be priced before an offer is issued. Member quantities are arithmetic design studies, not certified construction specifications.

S2-01 / Factory-built garden studio / plan

GBP 20,000 inc VAT installed target; no quotation or production release implied.



01 / clear room 2260 x 2060

02 / rear seat 600 deep at +900

03 / step at +450 (support design pending)

04 / door rough opening 800 x 2000

05 / front-left opening offset 200 from external face

06 / outward door swing; no lock preventing escape

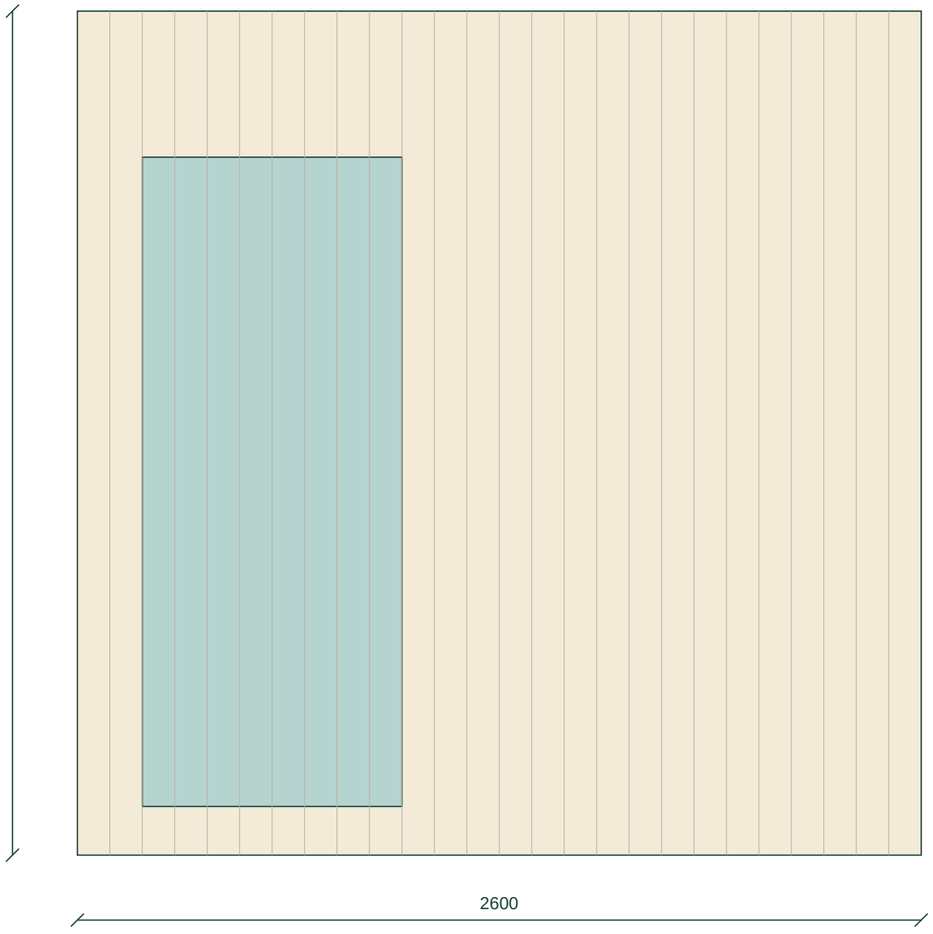
07 / heater zone is a 600 x 600 space study ONLY

Heater model, guards and actual safety clearances must be resolved before this arrangement can be released. No ventilation openings are cut until equipment and sensor locations are approved.

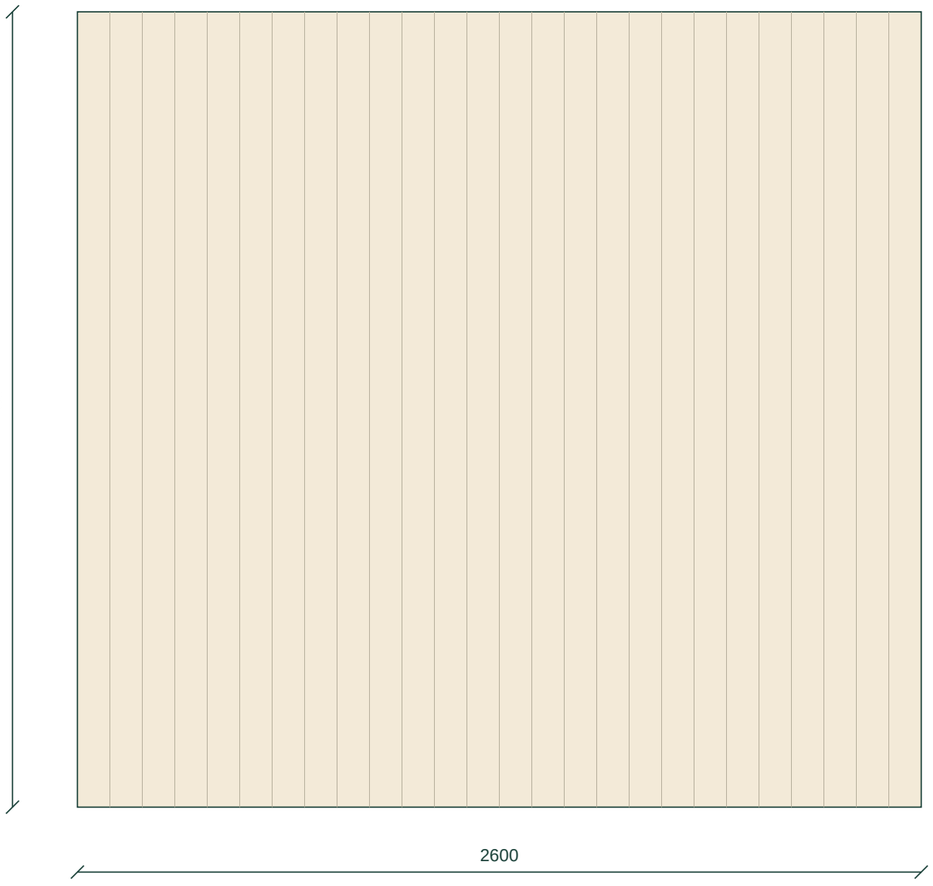
S2-02A / front/rear elevations

Exterior heights include 150 base zone and 150 roof zone. All dimensions mm.

FRONT



REAR

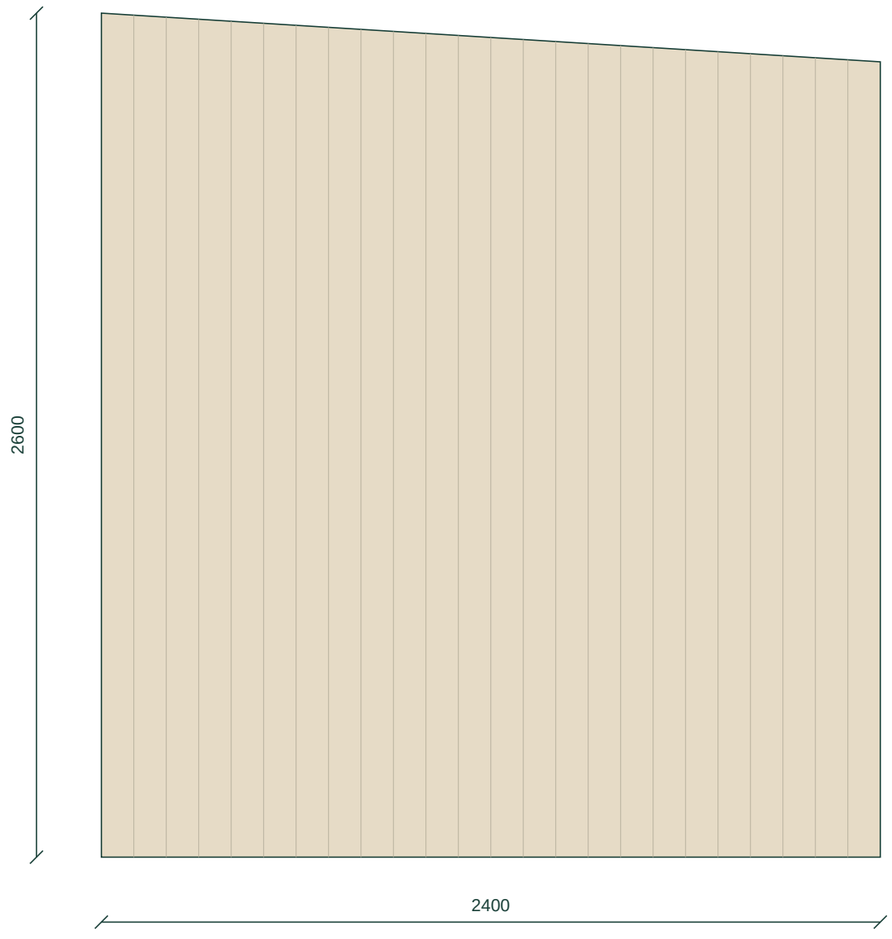


External cladding profile and roof covering to supplier specification. No rear or side windows in baseline. Gutter at low rear eaves; downpipe location coordinated to site. Elevations show envelope and cladding cadence, not final fixing centres.

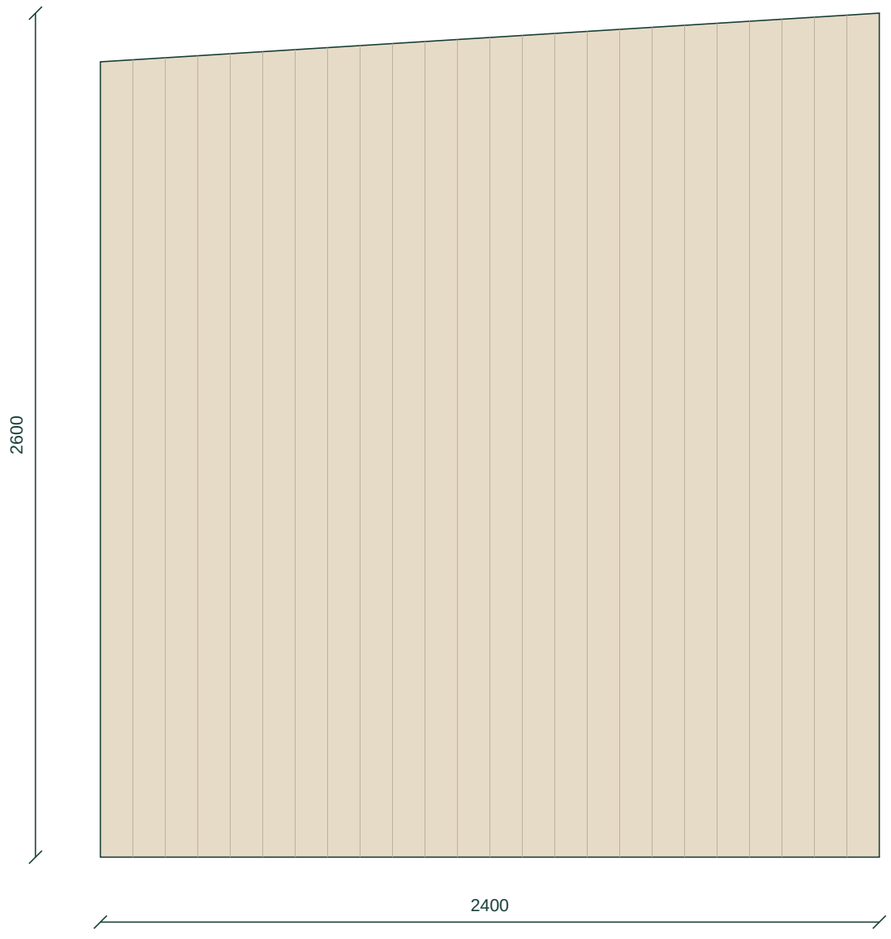
S2-02B / left/right elevations

Exterior heights include 150 base zone and 150 roof zone. All dimensions mm.

LEFT



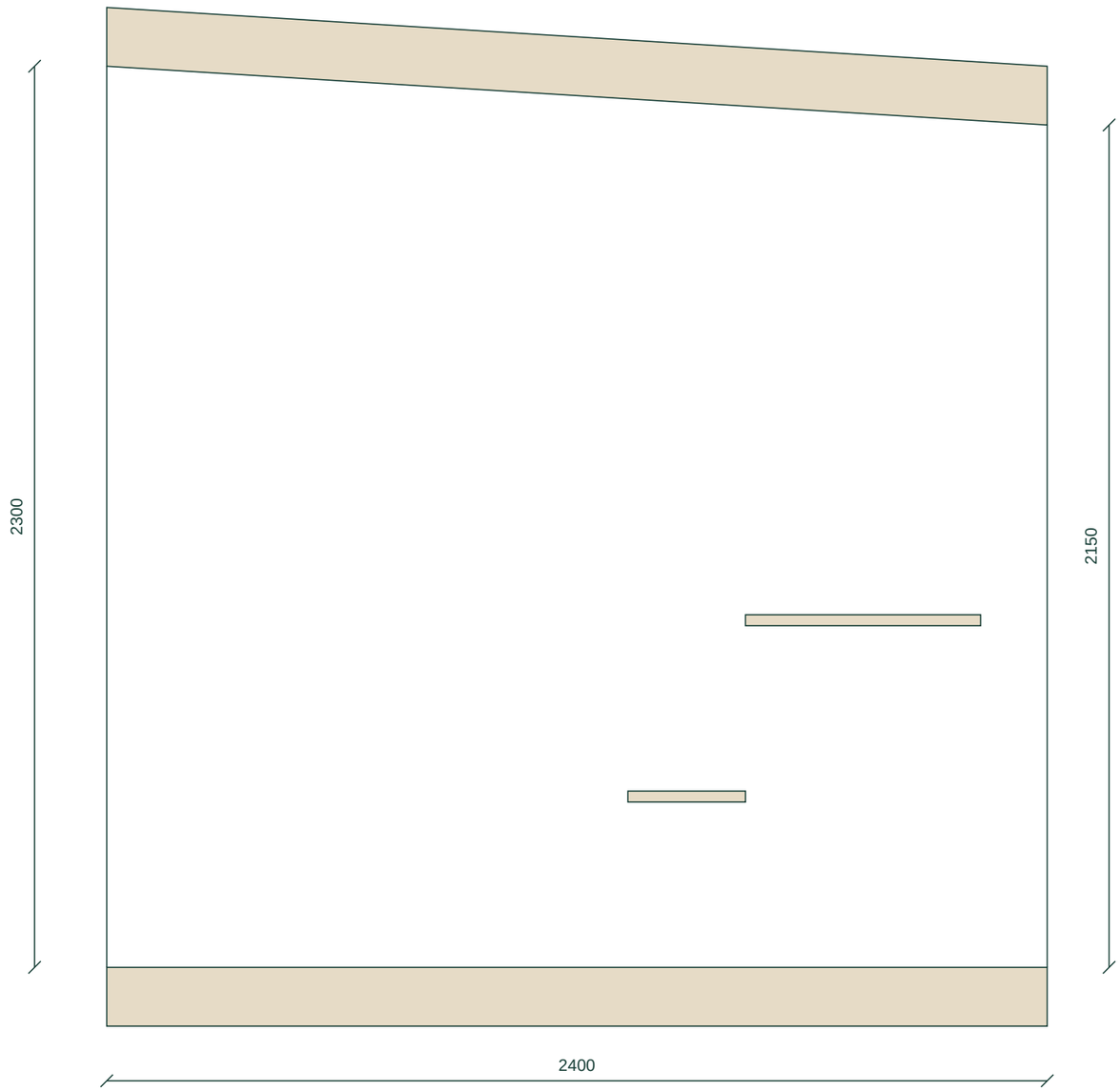
RIGHT



External cladding profile and roof covering to supplier specification. No rear or side windows in baseline. Gutter at low rear eaves; downpipe location coordinated to site. Elevations show envelope and cladding cadence, not final fixing centres.

S2-03 / Longitudinal section / levels

Front at left; rear bench at right. Clear headroom is explicitly dimensioned.



FFL = 0

BASE = -150

UPPER SEAT = +900

STEP = +450

REAR CLEAR HEADROOM ABOVE SEAT = 1250

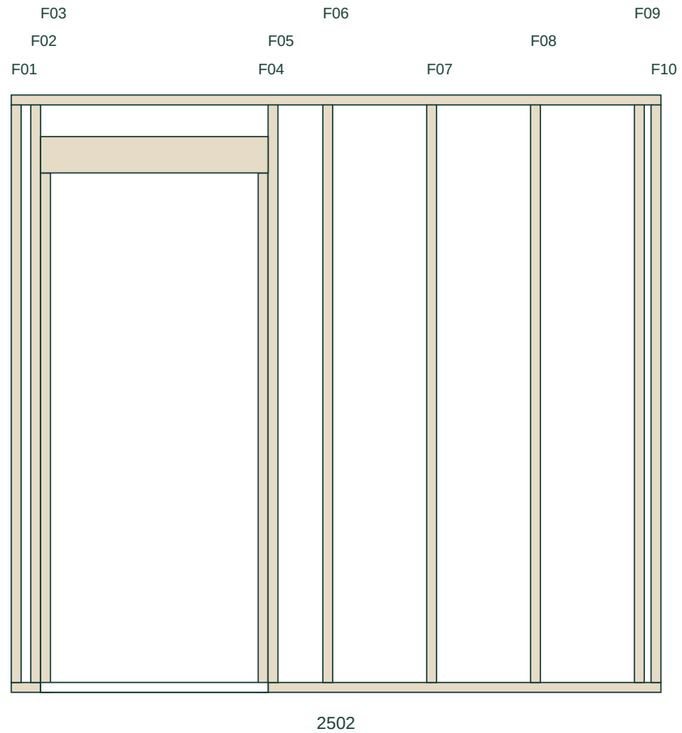
Floor zone: 150 total, proposed 97 joist depth leaves 53 for deck/finish/support allowances.

Roof zone: 150 total, proposed 97 rafter depth leaves 53 for deck, weather skin, battens and lining.

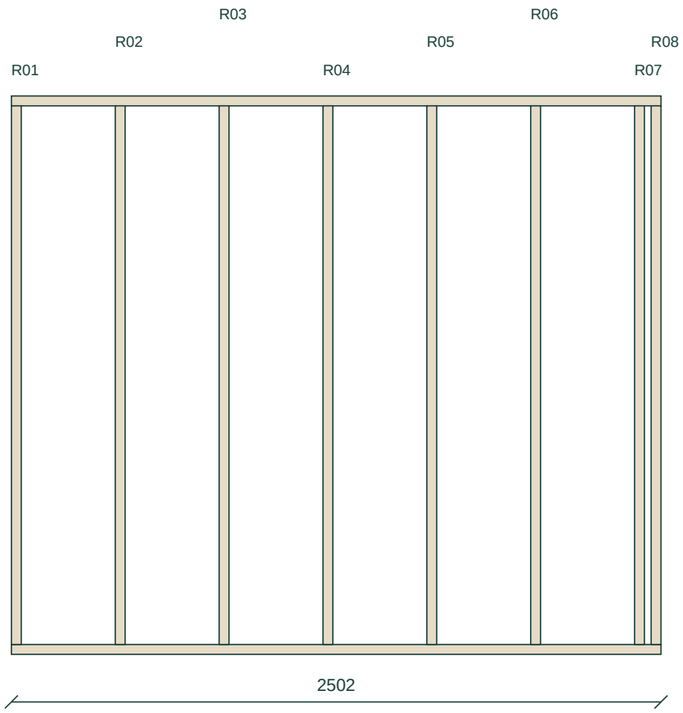
Both require detailed layer coordination; do not add insulation or service layers without revising the envelope.

S2-04 / Wall framing / member identification

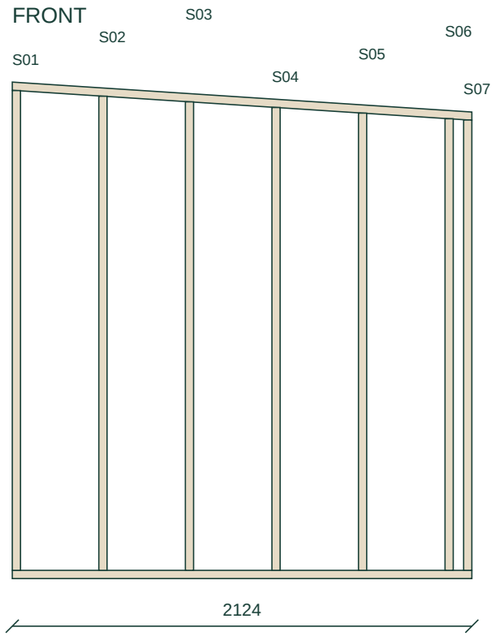
Orthographic framing elevations. Nominal finished timber: 38 x 89; structural adequacy not verified.



FRONT



REAR



SIDE (2 mirror sets)

Front: rough opening x151 to x951 from frame edge. Trimmers x113 and x951; kings x75 and x989.

Header: proposed 876 x 140 x 89; underside +2000. Not structurally designed.

Side top cuts follow 150 roof fall over frame depth.

Cripple blocks, bracing, joint packs and connector schedule require final design.

S2-05 / Individual timber member schedule 1

Geometry schedule, not a purchase order. S = two mirrored side walls.

Part ID	Quantity	Start x	Length at centre	Member
S2-F01	1	0	2224	stud
S2-F02	1	75	2224	stud
S2-F03	1	113	2000	trimmer
S2-F04	1	951	2000	trimmer
S2-F05	1	989	2224	stud
S2-F06	1	1200	2224	stud
S2-F07	1	1600	2224	stud
S2-F08	1	2000	2224	stud
S2-F09	1	2400	2224	stud
S2-F10	1	2464	2224	stud
S2-R01	1	0	2074	stud
S2-R02	1	400	2074	stud
S2-R03	1	800	2074	stud
S2-R04	1	1200	2074	stud
S2-R05	1	1600	2074	stud
S2-R06	1	2000	2074	stud
S2-R07	1	2400	2074	stud

Stud length = wall height at member centre minus 76 for two plates. Trimmers stand directly at FFL; bottom plate is removed across the opening and trimmer zone. Side top cuts follow roof slope. Lengths rounded to nearest mm for review. Timber tolerances, saw kerf and final joint detailing must be allowed in production.

S2-05 / Individual timber member schedule 2

Geometry schedule, not a purchase order. S = two mirrored side walls.

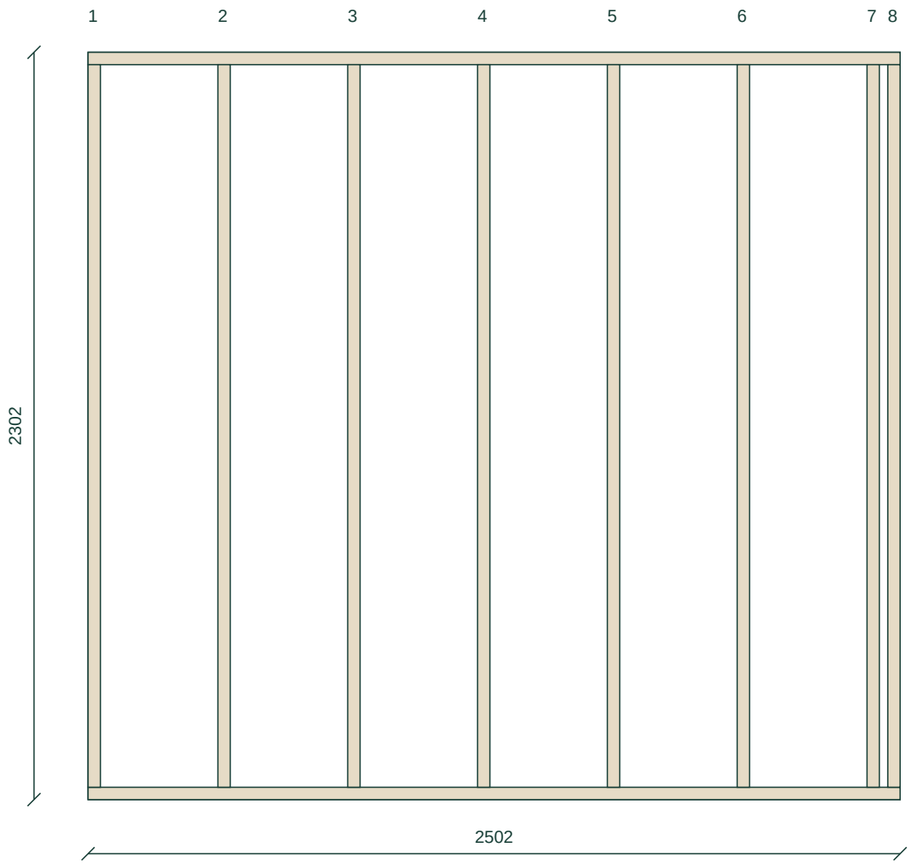
Part ID	Quantity	Start x	Length at centre	Member
S2-R08	1	2464	2074	stud
S2-S01	2	0	2217	stud
S2-S02	2	400	2191	stud
S2-S03	2	800	2165	stud
S2-S04	2	1200	2139	stud
S2-S05	2	1600	2113	stud
S2-S06	2	2000	2087	stud
S2-S07	2	2086	2081	stud

Stud length = wall height at member centre minus 76 for two plates. Trimmers stand directly at FFL; bottom plate is removed across the opening and trimmer zone. Side top cuts follow roof slope. Lengths rounded to nearest mm for review. Timber tolerances, saw kerf and final joint detailing must be allowed in production.

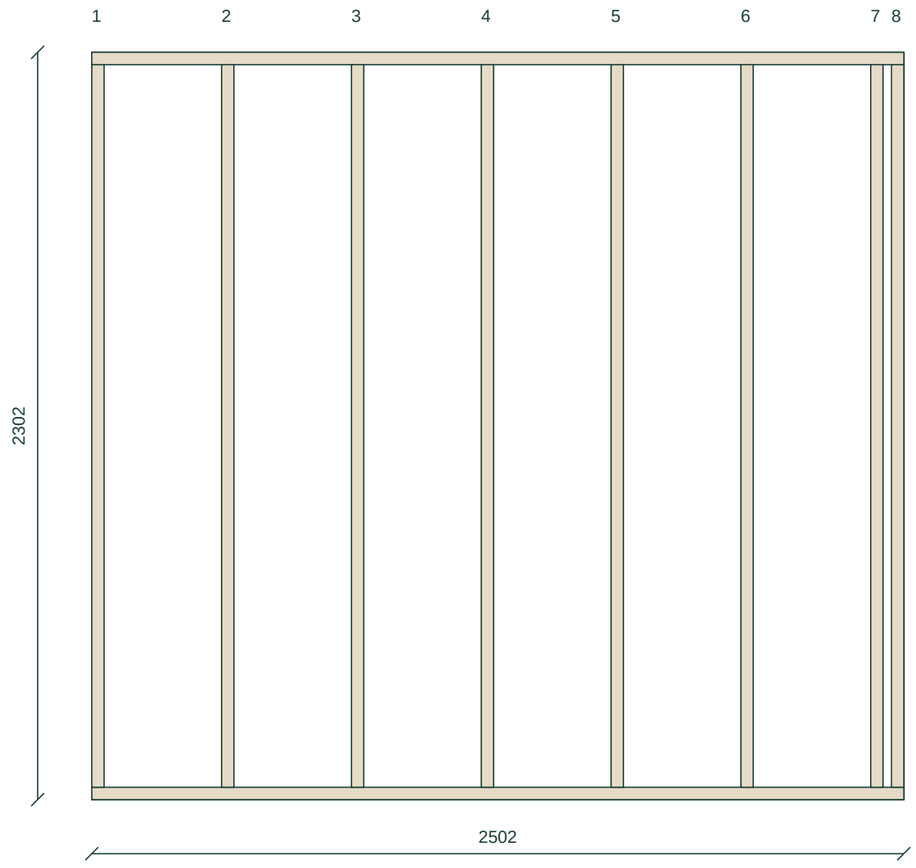
S2-06 / Floor / roof framing plans

Shared x setting-out with individually quantified members; engineering and foundation design outstanding.

FLOOR / 38 x 97



ROOF / 38 x 97



Member	Qty	Floor length	Roof centreline length
Joists / rafters	8	2226	2231
Front / rear rim	2	2502	2502

S2-07 / Timber and surface quantity schedule

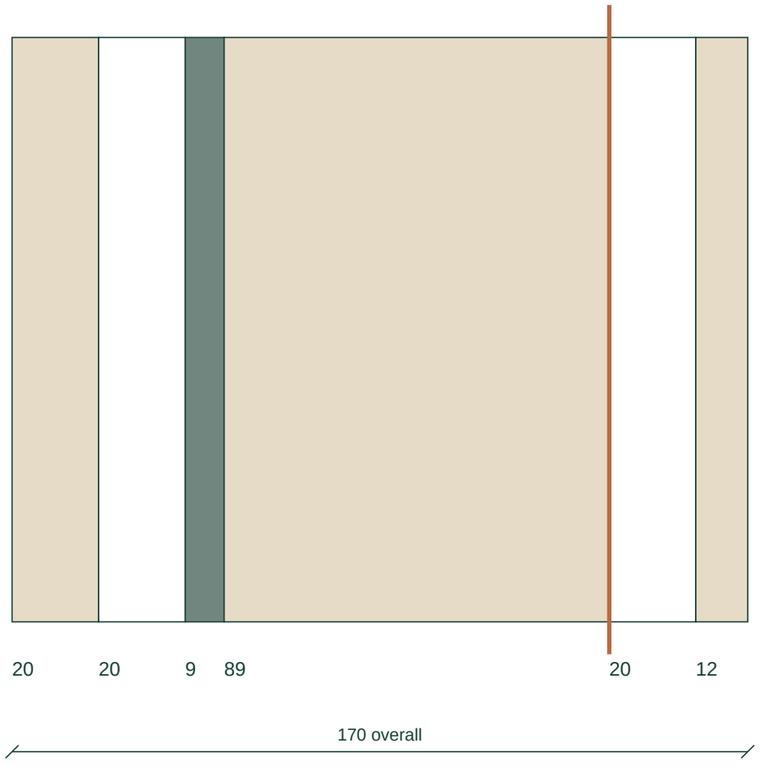
Net geometry with separately stated waste. Full system costs are not yet established.

Material	Net quantity	Pricing allowance	Waste / boundary
38x89 studs / trimmers	68.37 lm	75.20 lm	10%
38x89 plates (gross)	18.50 lm	20.35 lm	Opening offcut discarded
89x140 header	0.876 lm	1 piece	Design assumption
38x97 floor frame	22.81 lm	Add 10%	Blocking excluded
38x97 roof frame	22.85 lm	Add 10%	Outriggers excluded
Interior wall lining	17.89 m2	20.04 m2	12%
Ceiling lining	4.66 m2	5.22 m2	12%
External cladding	20.65 m2	23.13 m2	12%
Roof weather surface	7.29 m2	System laps extra	100 overhang each side
Upper bench slats	18.96 lm	Add 10%	Supports/step extra

Excluded: bracing, cripple blocking, noggins, battens, sheathing sheet optimisation, membrane laps, insulation, bench supports, connectors, glazing, heater, wiring, lighting, foundations, transport and labour. These exclusions must be priced before an offer is issued. Member quantities are arithmetic design studies, not certified construction specifications.

D-01 / Wall, roof and base interfaces

Layer coordination for both cabins. All build-ups are proposed allowances, not tested assemblies.



01 / 20 external cladding. Fix profile to compatible external battens.

02 / 20 drained / ventilated cavity. Preserve water exit and insect protection.

03 / 9 sheathing with external weather membrane. Bracing capacity unverified.

04 / 89 insulated timber frame. Timber grade and mineral-wool specification to engineer.

05 / Sauna-rated foil on warm side, then 20 internal batten/service zone.

06 / 12 untreated sauna lining, movement joints per supplier.

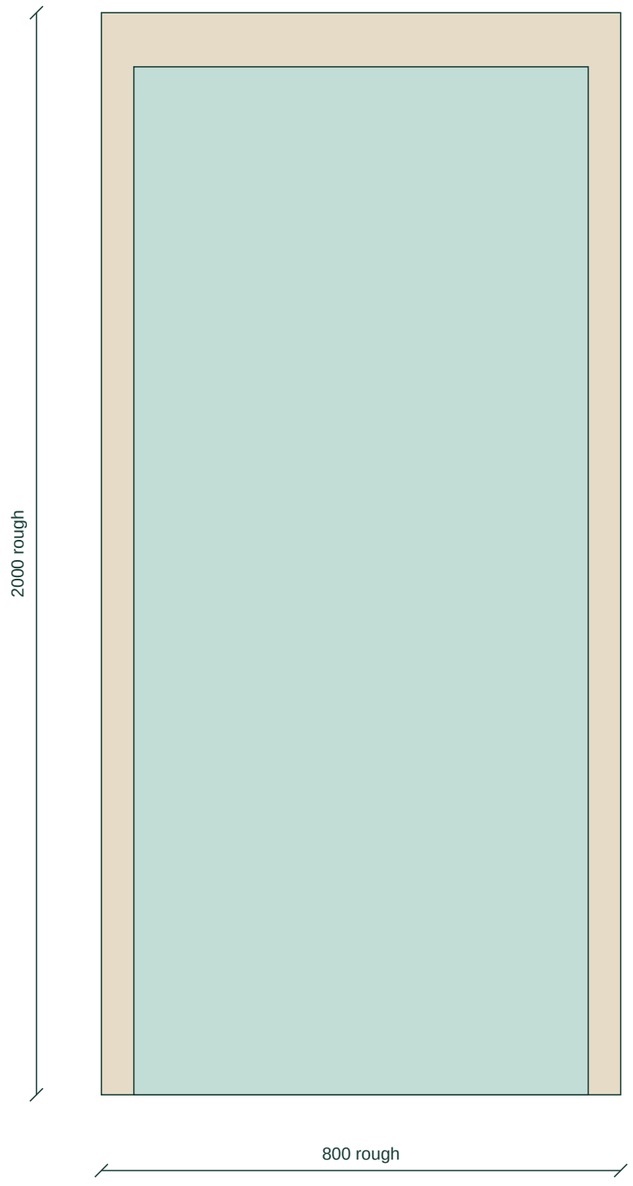
Orange line = warm-side foil. Tape laps, corners and penetrations with compatible temperature-rated materials.
No ordinary paint or treated structural timber is specified for hot exposed surfaces.

Interface	Detail to preserve	Required approval
Roof / wall	Continuous warm-side control; external roof drains outside cavity	Condensation / waterproofing review
Wall / floor	Protect frame from splash; continuous interior moisture control	Floor drainage and finish design
Door / wall	Support jambs; preserve flashing and foil continuity	Door supplier section and fixings
External eaves	Low rear gutter, drip, drainage path	Roof-system minimum pitch

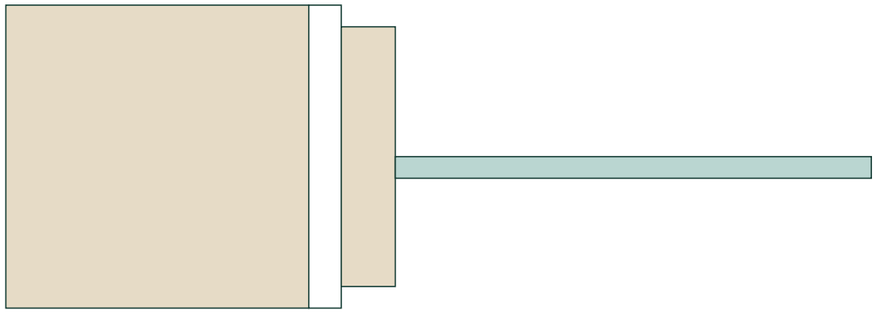
D-02 / Door frame and bench detail studies

Dimensions refer to clear and rough targets; select actual certified components before production.

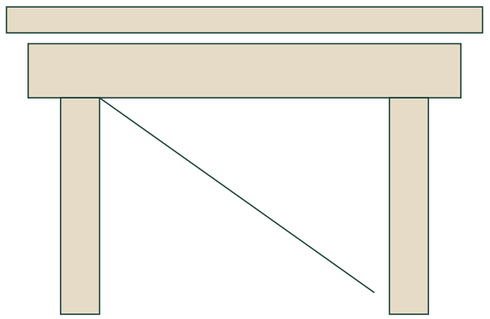
CABIN DOOR ELEVATION



JAMB PLAN / SCHEMATIC



Timber jamb pack; installation gap and packers; supplier frame; safety glazing; outward hinge. Frame depth, glazing thickness and anchors depend on the selected door. No structural screw size is issued.



28 x 90 slats / 10 nominal gaps

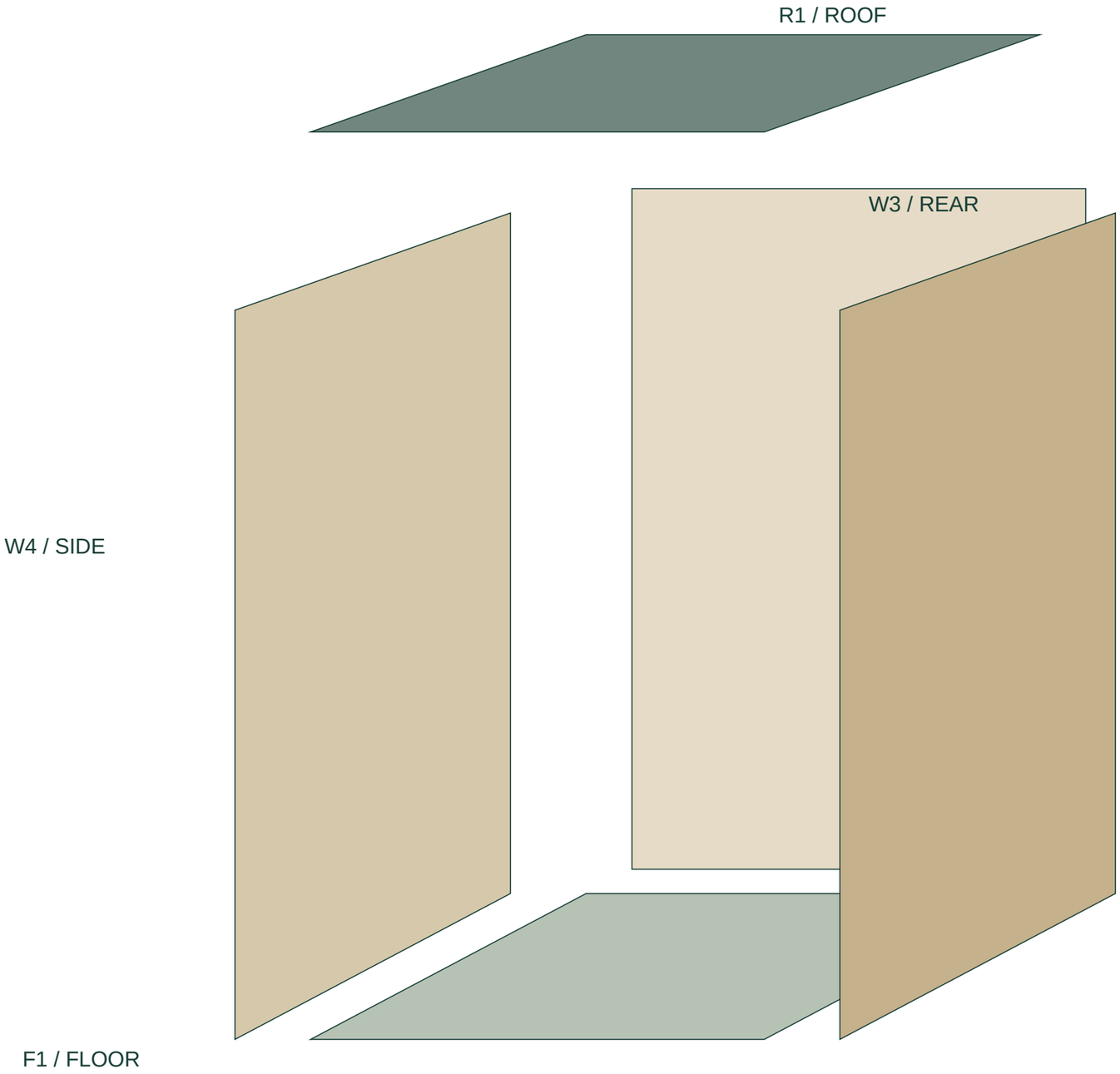
Concealed fixings, rounded edges

Supports spaced by structural design

Do not assume full-room unsupported span

A-01 / Cabin kit assembly / exploded modules

Original sequence diagram. Connectors, handling weights and temporary bracing must be designed.



1 Inspect parts and designed base.

2 Assemble floor; check diagonals.

3 Erect and temporarily brace rear/sides.

4 Fit front/door frame; verify opening.

5 Fit roof, weather skin and drainage.

6 Fit foil, lining, benches and trim.

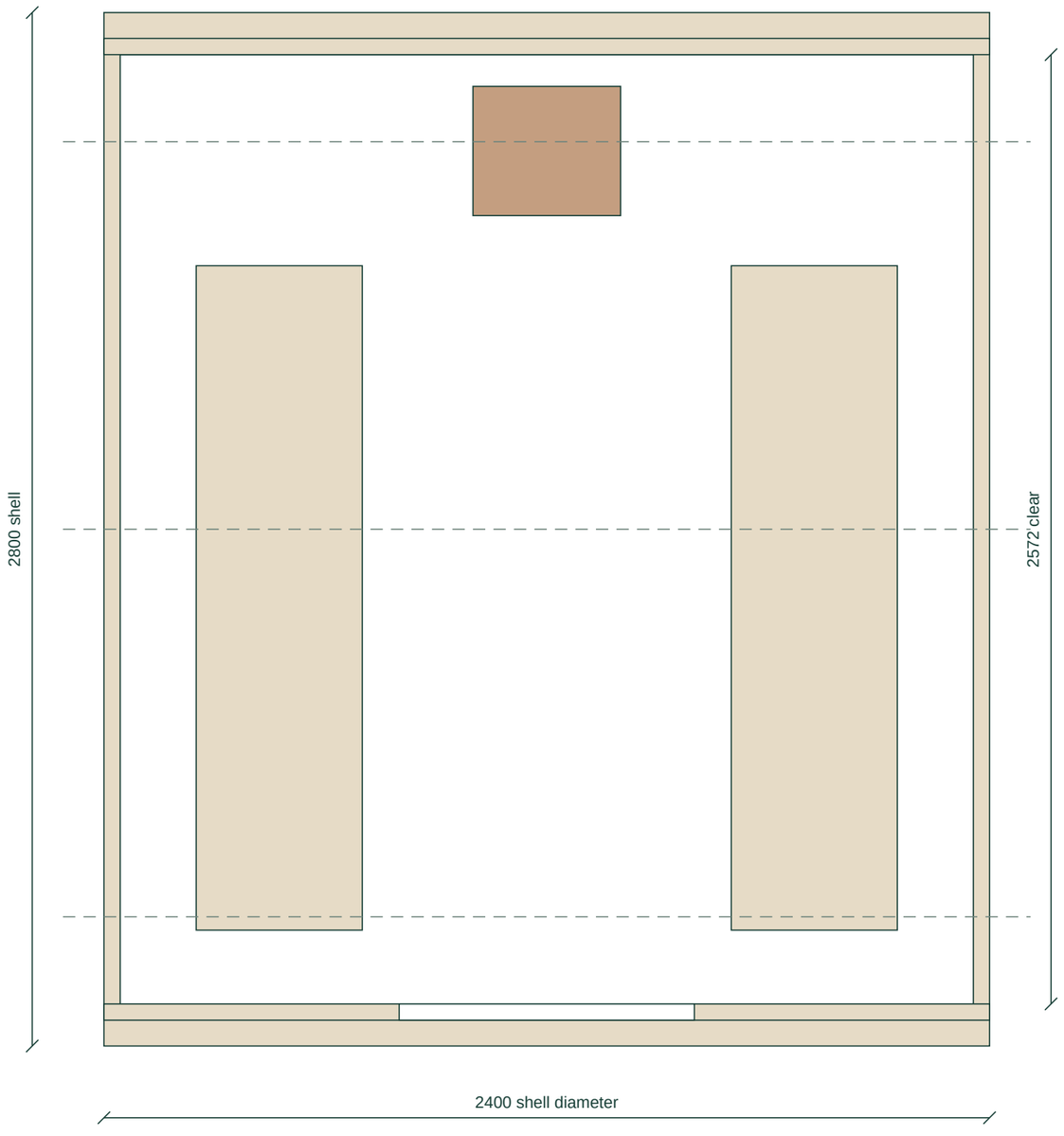
7 Qualified installer fits services.

8 Inspect, test, commission and hand over.

S2 follows the same structural order in a factory jig, with transport/lifting review before delivery. S1 panel splitting and weights remain unresolved: this is an assembly strategy, not a claim that two people can safely handle the complete shown walls.

B3-01 / Barrel plan / support setting-out

Original 2400 diameter x 2800 shell. 44 mm nominal shell and end panels.



LENGTH CHAIN

70 overhang + 44 end + 2572 room + 44 end + 70 overhang = 2800.

SEATS

Two proposed 1800 x 450 seats. Start 200 behind inner front panel.

SUPPORTS

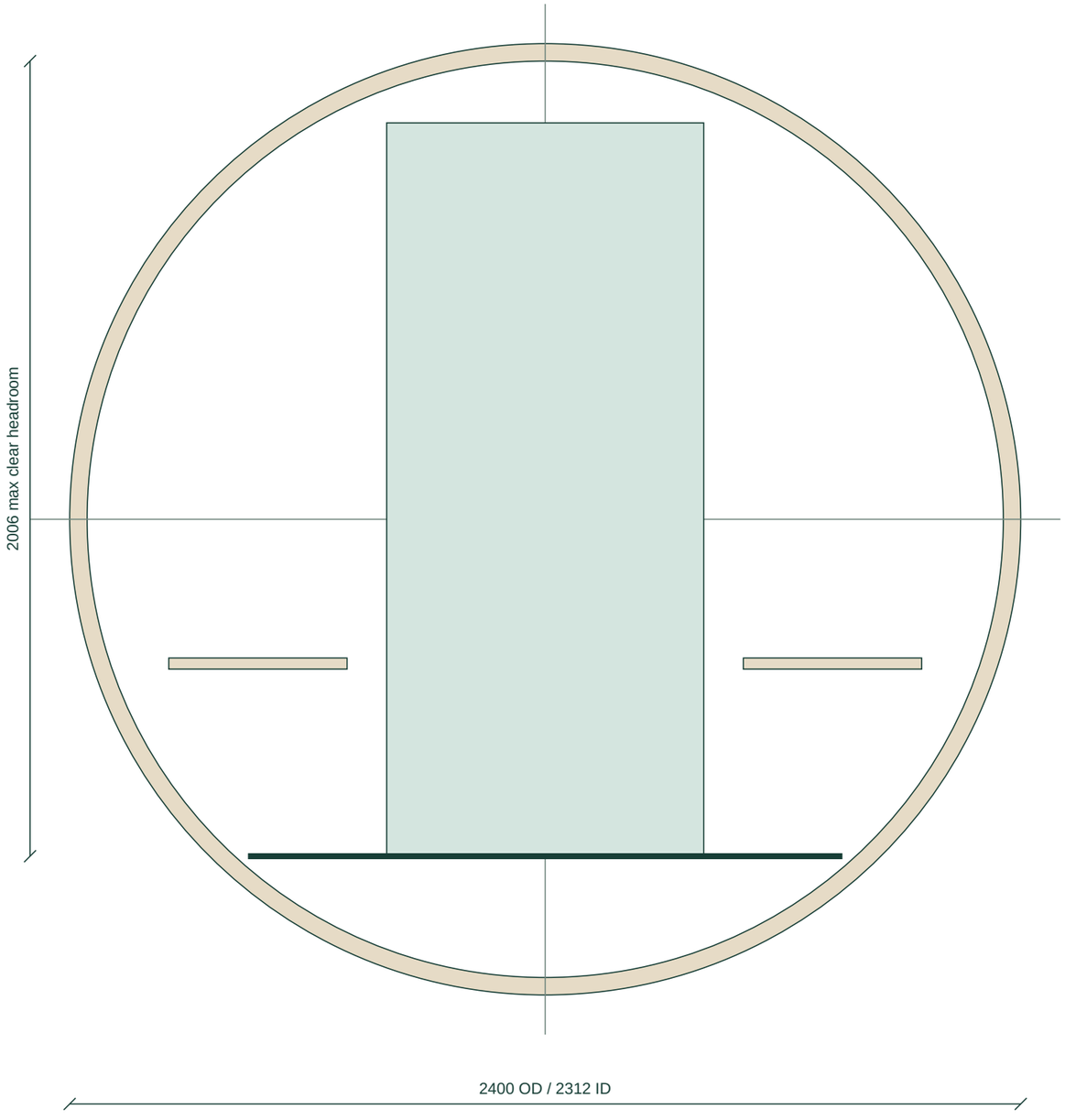
Saddle centres at 350, 1400 and 2450 from shell front. Equal 1050 spacings.

HEATER

Rear-centre footprint study only. Actual clearance, guards and ventilation not resolved. Electric baseline; no flue is designed.

B3-02 / Circular section / bench and door fit

Door headroom and floor width checked against the inner circle, not just an artist impression.



CENTRE = (0,0)

Floor = -850

Seat = -350 (500 above floor)

Door rough = x +/-400; y -850 to +1000

Door clear target = 700 x 1750

WIDTH AT DOOR HEAD

2 x sqrt(1156 squared - 1000 squared) = 1159.9. An 800 opening leaves about 180 each side.

FLOOR

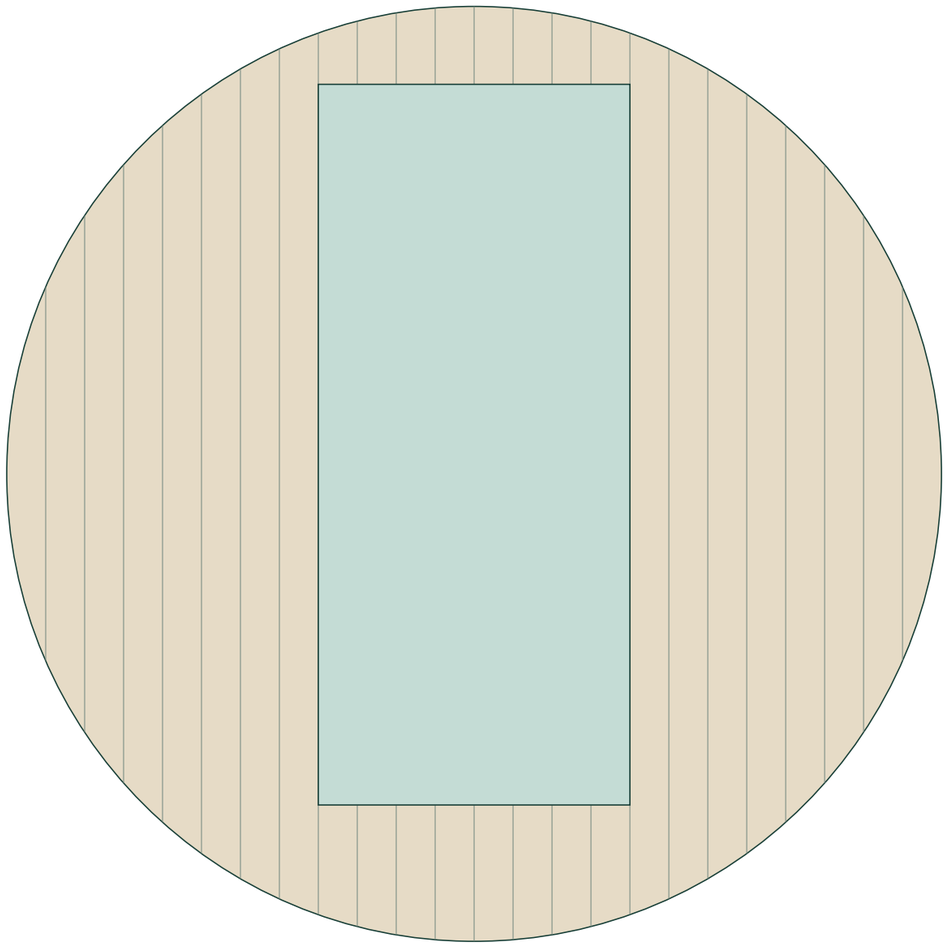
1500 walkway target is less than the inner chord at y=-850 (1566.9).

Door is low: users must duck. Review accessibility, threshold and actual frame before approval.

B3-03 / Front and rear elevations

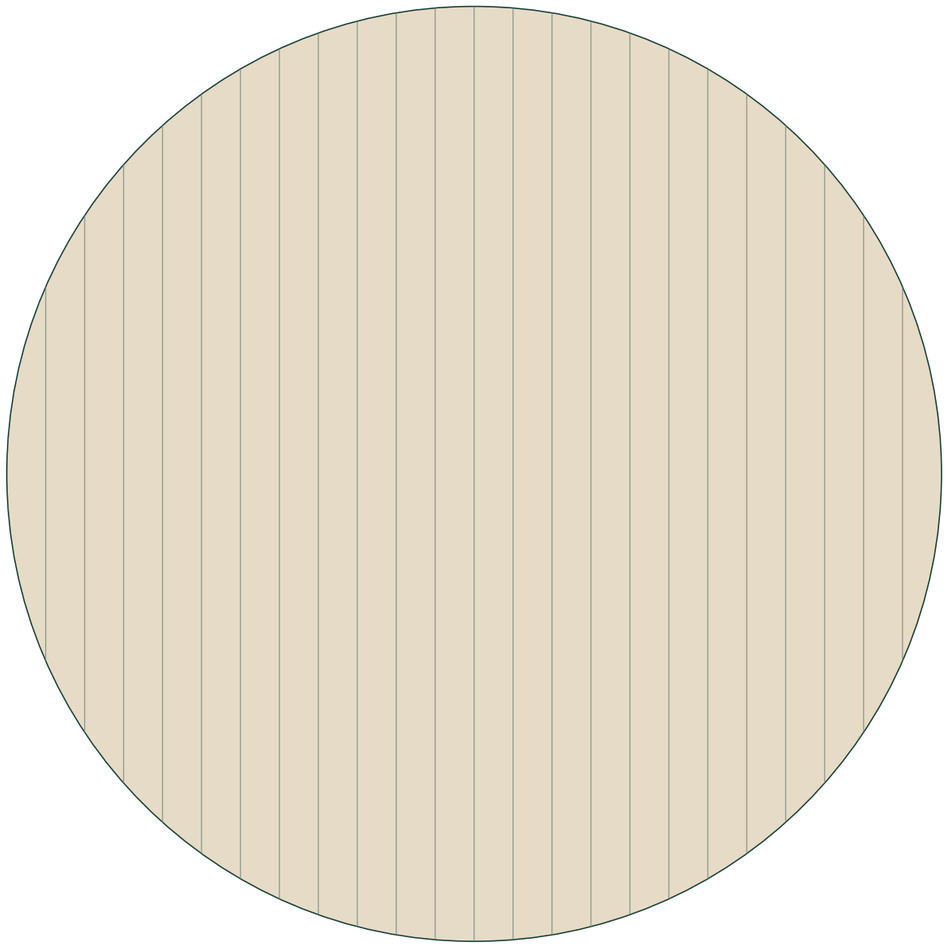
Envelope measured from the barrel centre; installed ground height depends on designed saddles.

FRONT



2400

REAR



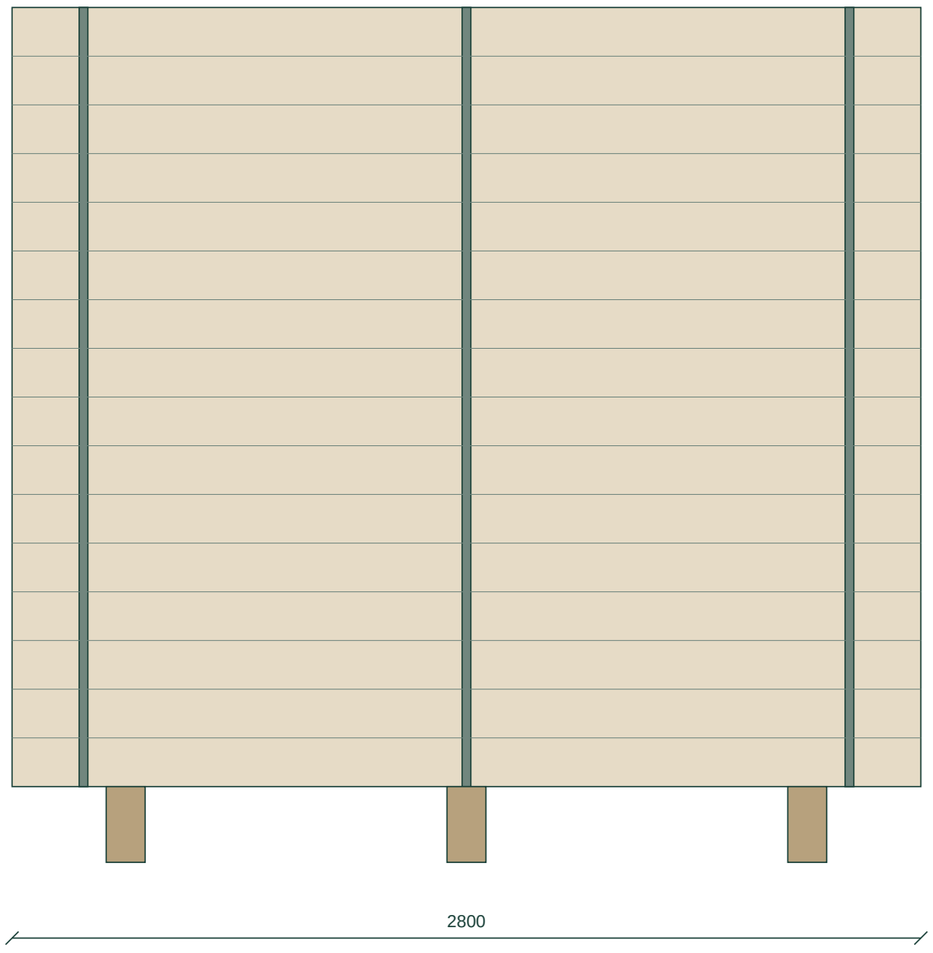
2400

No rear glazing in the baseline. End-panel reinforcement, doorway header and shell groove still require detailed joint design. Drawing is an original geometry study and is not a routing or CNC template.

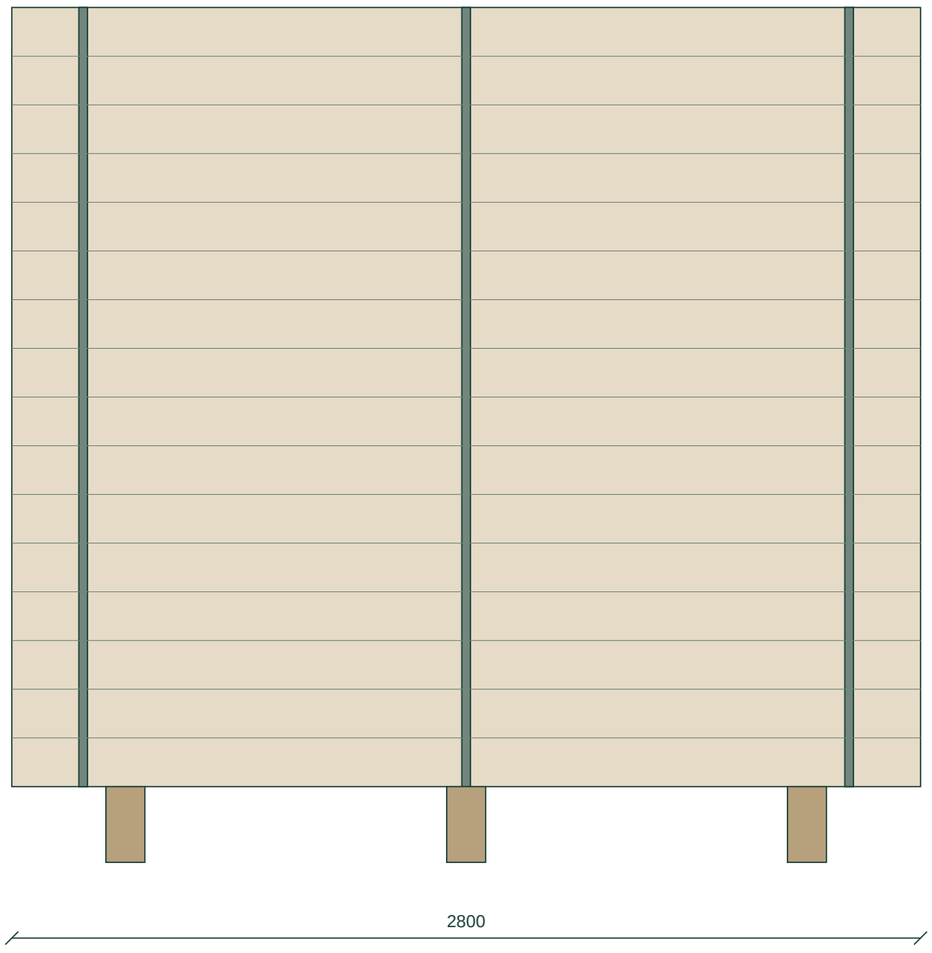
B3-04 / Both side elevations / bands and saddles

Band positions are a restraint-design starting point, not an approved tensioning schedule.

LEFT



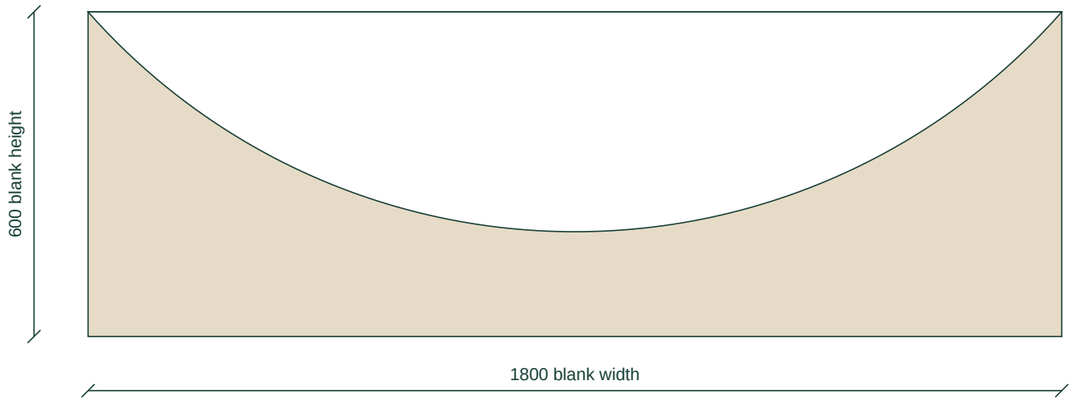
RIGHT



Band centre positions: 220 / 1400 / 2580 from front shell edge. Three saddle centre positions: 350 / 1400 / 2450. Stainless / galvanised material choice, section, corrosion protection, tensioner travel and torque require design and prototype verification. Do not tighten from this drawing alone.

B3-05 / Saddle and stave section geometry

Calculated ring geometry for supplier development; no proprietary joint is reproduced.



The 600-high saddle blank corrects the insufficient depth of a 400-high trial blank. Curve geometry is explicit, but it is not a final structural or CNC cutting specification. The shell must be protected at contact and allowed to move as moisture changes.

SADDLE STUDY

3 laminated blanks 1800 x 120 x 600.

Seat radius 1200. Across width 1800, curve sag = 406.3. Residual timber at centre = 193.7.

Grade, lamination, bearing stress, restraint and support pads are not yet designed.

STAVE RING

84 sectors; mean radius 1178.

Central angle 4.2857 degrees.

Mean arc pitch 88.115.

Outer chord 89.739; inner chord 86.448.

Half-angle bevel 2.1429 degrees.

44 radial thickness.

Tongue/groove or bead/cove tooling remains to be developed and tested.

B3-06 / Barrel bill of materials / transparent quantities

Geometric procurement study. Milling profile, closure sector and safety specification unresolved.

Component	Qty	Net geometry	Qualification
44 shell sectors	84	2800 each / 235.20 lm	Add3 spare lengths; closure profile TBD
44 end panel timber	2	6.916 m2 net total	Opening deducted; reinforce separately
Saddle blanks	3	1800 x120 x600	Grade/lamination to engineer
Bench slats 28x90	8	1800 each /14.40 lm	Four per seat; supports extra
Steel bands	3	7.540m circumference each	Tensioner/overlap/section extra
Door set	1	800 x1850 rough target	700 x1750 clear target
Floor slats	1	1500 wide geometric zone	Length/support/drainage to detail
Roof/weather covering	1	System-specific	Upper shell coverage and laps TBD

End-panel area = 2 x pi x 1.156 squared - 0.8 x 1.85. Shell length =84 x2.8. No supplier profile yield, machining allowance or moisture rejection has been assumed. Bands, connections, insulation option, glazing, heater, electrical and ventilation equipment require separate specifications.

Bench width: four90 slats + three10 gaps =390 within a450 seat zone. Slat edge overhang and supports are not yet designed. No unsupported1.8m span is approved.

B3-07 / Barrel assembly sequence / hold points

Kit-manual architecture using original component groups, not copied supplier steps.

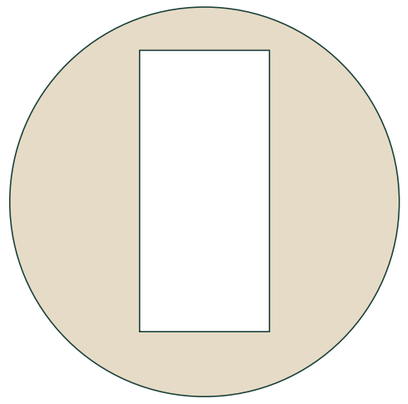
01 / SADDLES



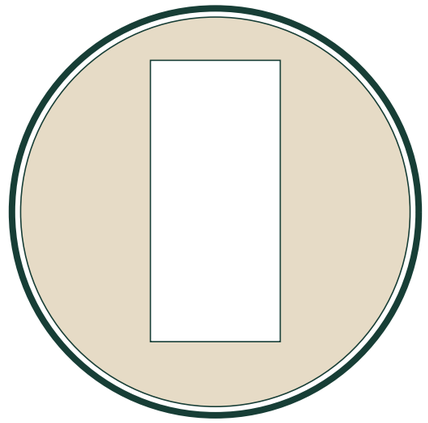
02 / LOWER SHELL



03 / END PANELS



04 / CLOSE & BANDS



01 Check parts, moisture condition, designed foundations, saddle levels and diagonals.

02 Place starter and lower shell sectors symmetrically; verify end-panel groove positions.

03 Stand front/rear end panels square; temporary restraint until shell closure. Continue equally on both sides.

04 Trial closure; fit engineered bands and approved tensioning procedure. Check circularity and doorway.

05 Fit designed flooring, bench supports, seats, backrests and door. Apply approved weather protection.

06 Qualified installer fits heater, guards, ventilation, sensor and electrical controls.

07 Inspect moisture movement, door egress, leaks and equipment operation; commission and hand over.

QA / Release checklist and open engineering items

Drawing checks are not structural certification. No build should start from this revision alone.

Check	Current result
Three designed models	S1, S2, B3 each have dimensions, layouts, schedules and assembly routes
Cabin clear dimensions	External dimensions minus two170 wall build-ups
Barrel doorway / walkway	Checked against inner circular chord, not render
Saddle residual depth	600 blank minus406.3 sag = 193.7 before structural review
Individual wall members	IDs / positions / lengths generated from shared geometry
Engineering still required	Loads, spans, connections, bracing, supports, glass, lifting
Equipment still required	Heater, guards, sensors, ventilation, electrical, fire separation
Kit manual still required	Final fastener schedule, assembly tolerances, weights, prototype testing
Commercial release	Not approved as ready stock or a guaranteed specification

Next practical step: approve the geometry; obtain structural/sauna specialist review; send a complete supplier enquiry including the excluded items; prototype one unit; then issue a tested assembly manual and final priced product specification. This is a materially developed drawing pack, not a substitute for those steps.