

C2

Panel Project Preparation

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01

Panel Project Basics

Panel Project: What is it?

- » Panel Project is a basic document for production. It contains all the measurements and types of panels required for a project.
- » It is prepared in cooperation with an architect and a structural engineer and needs to be signed off either by a builder or an architect.

Note

- » Preparation of a Panel Project is steered by an EcoCocon technician and can take 1 to 4 weeks, depending on the quality of input materials obtained and the responsiveness of the parties involved.



Panel Project Process: Who needs to be involved?

PREPARATION



Architect

- » Prepares drawings of the load-bearing geometry, together with wall-to-roof and wall-to-foundation details.

Structural engineer

- » Provides loads from roof, floors and wind.
- » Requests the EcoCocon Design Technician to provide detailed calculations for parts of the wall (lintels, point loads, screw connections), if necessary.
- » Takes responsibility for the overall structural engineering.

CREATION



EcoCocon Technical Sales Consultant

- » Ensures the drawings and the documents are complete.
- » Collects information about the project, the client, and the building site.

EcoCocon Design Technician

- » Creates the Panel Project.
- » Provides structural engineer with the detailed calculations.
- » Prepares a list of all the materials for delivery.

AUTHORISATION

Builder/Architect

- » Checks the drawings and verifies compatibility with external deliveries (windows, etc.)
- » Signs the Panel Project.
- » Provides the amounts of extra materials to be ordered.

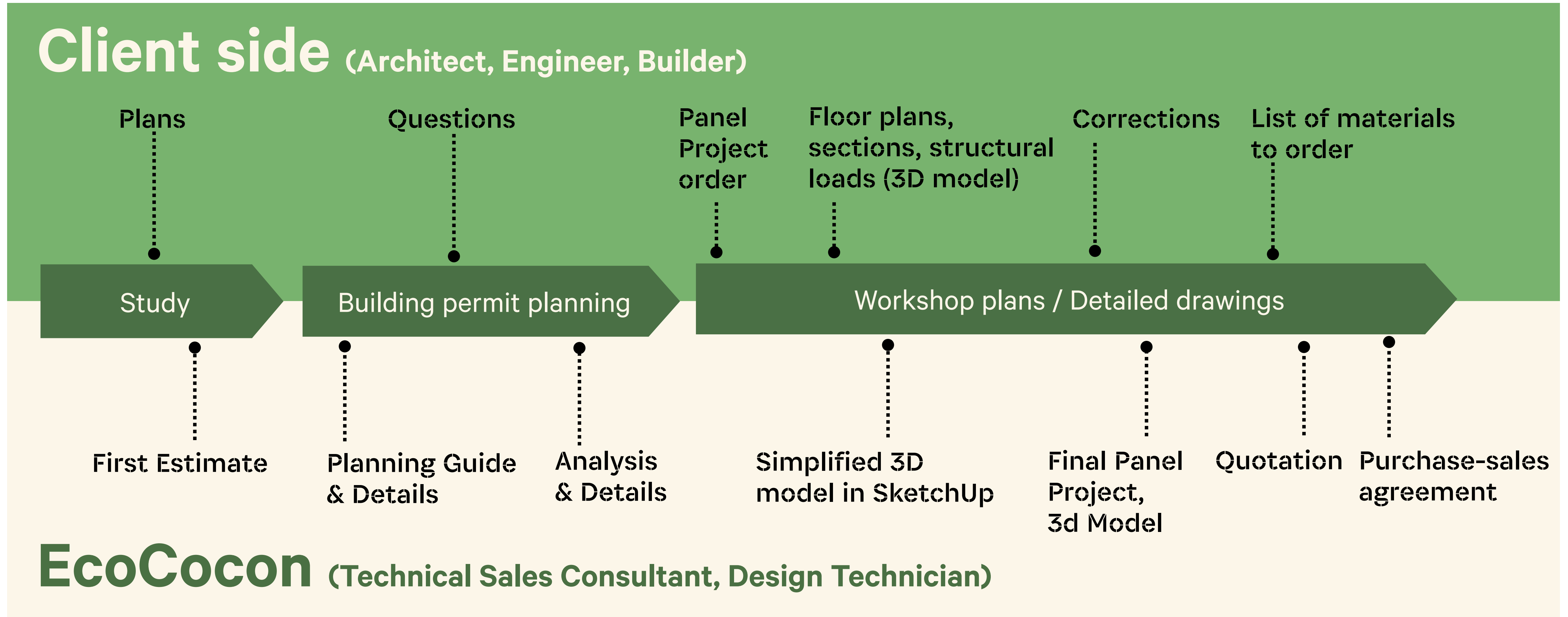
EcoCocon

- » Prepares a quotation and a contract for digital signature.

Client

- » Confirms the quotation and signs the contract.

Timeline: What to expect and when



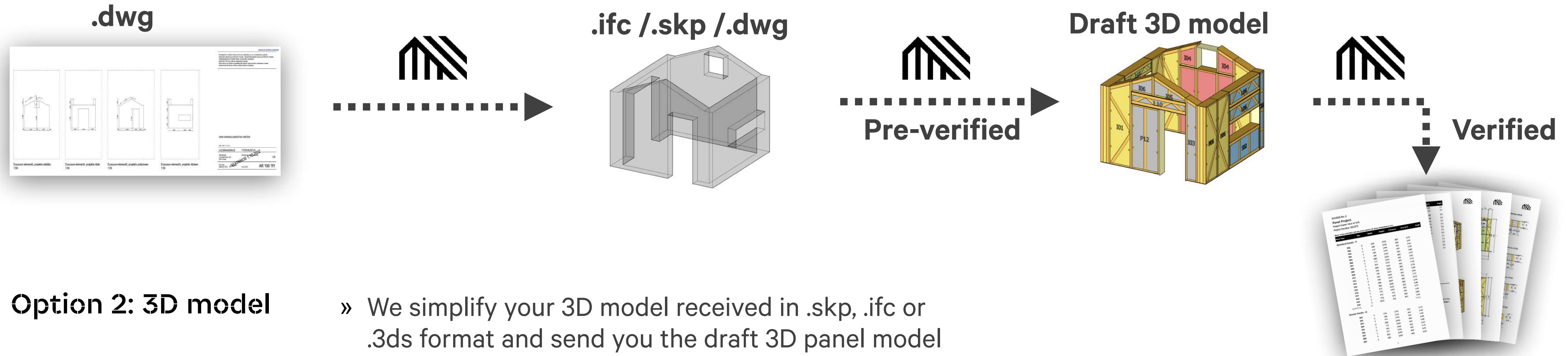
02

How to Prepare Files

Send us 2D drawings or 3D model

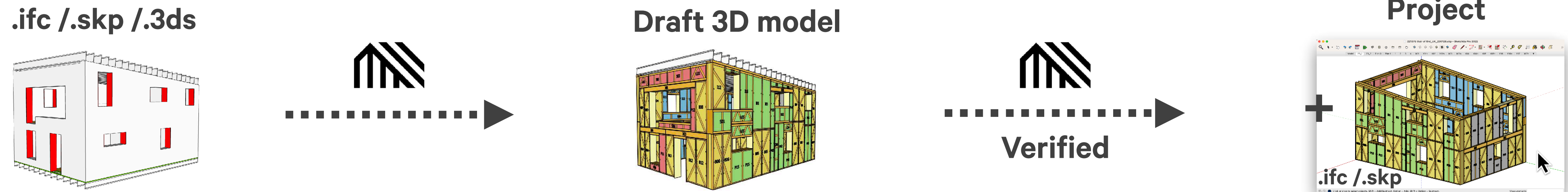
Option 1: 2D drawings

» We transform your DWG floor plans and elevations/sections to SketchUp and send you a 3D model of the panel outlines for verification. After your initial verification, we create the draft 3D panel model for final verification. The Panel Project is then prepared.



Option 2: 3D model

» We simplify your 3D model received in .skp, .ifc or .3ds format and send you the draft 3D panel model for verification. The Panel Project is then prepared.

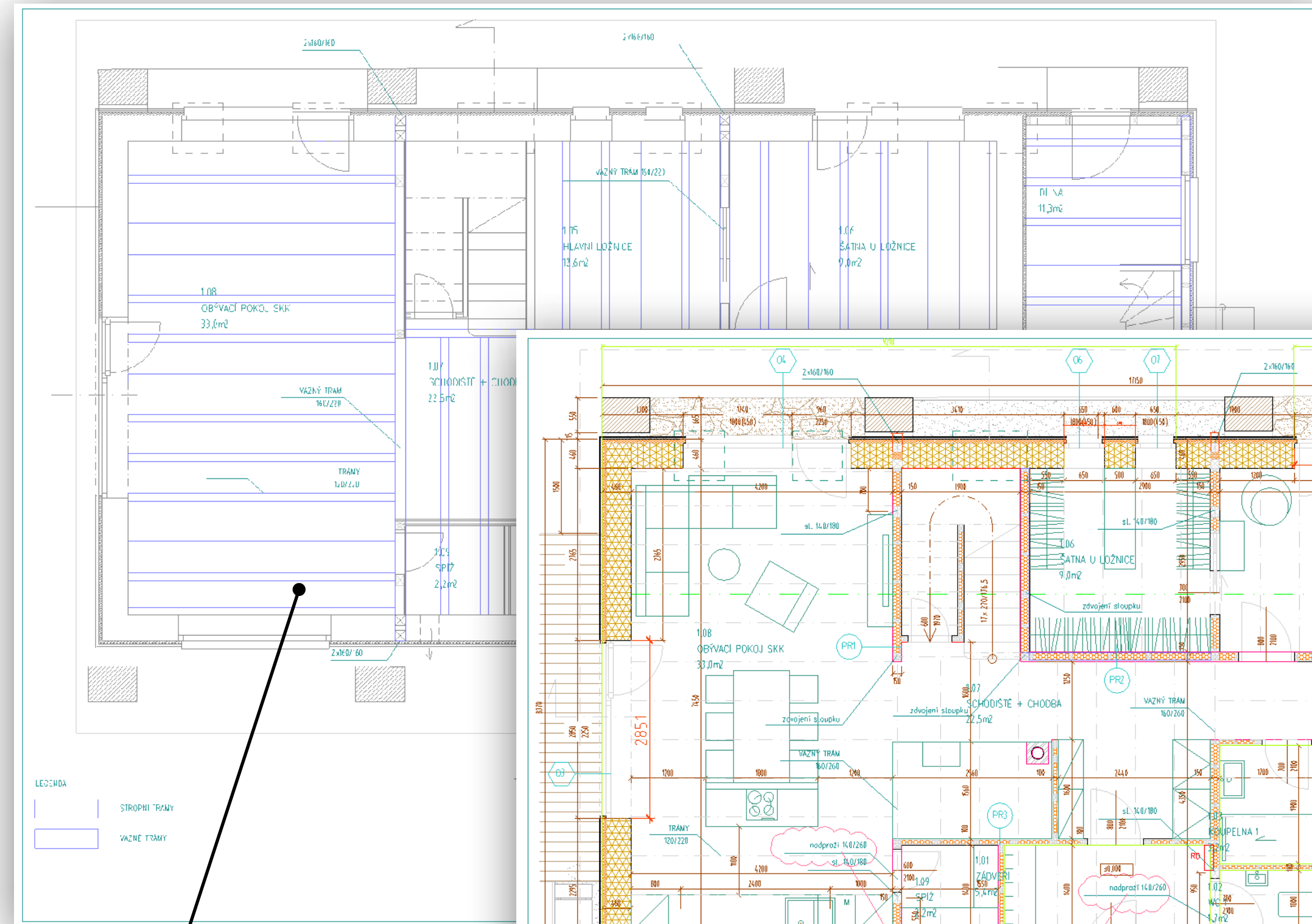


Option 1: 2D drawings (DWG)

If you work in 2D, send us DWG plans to scale.

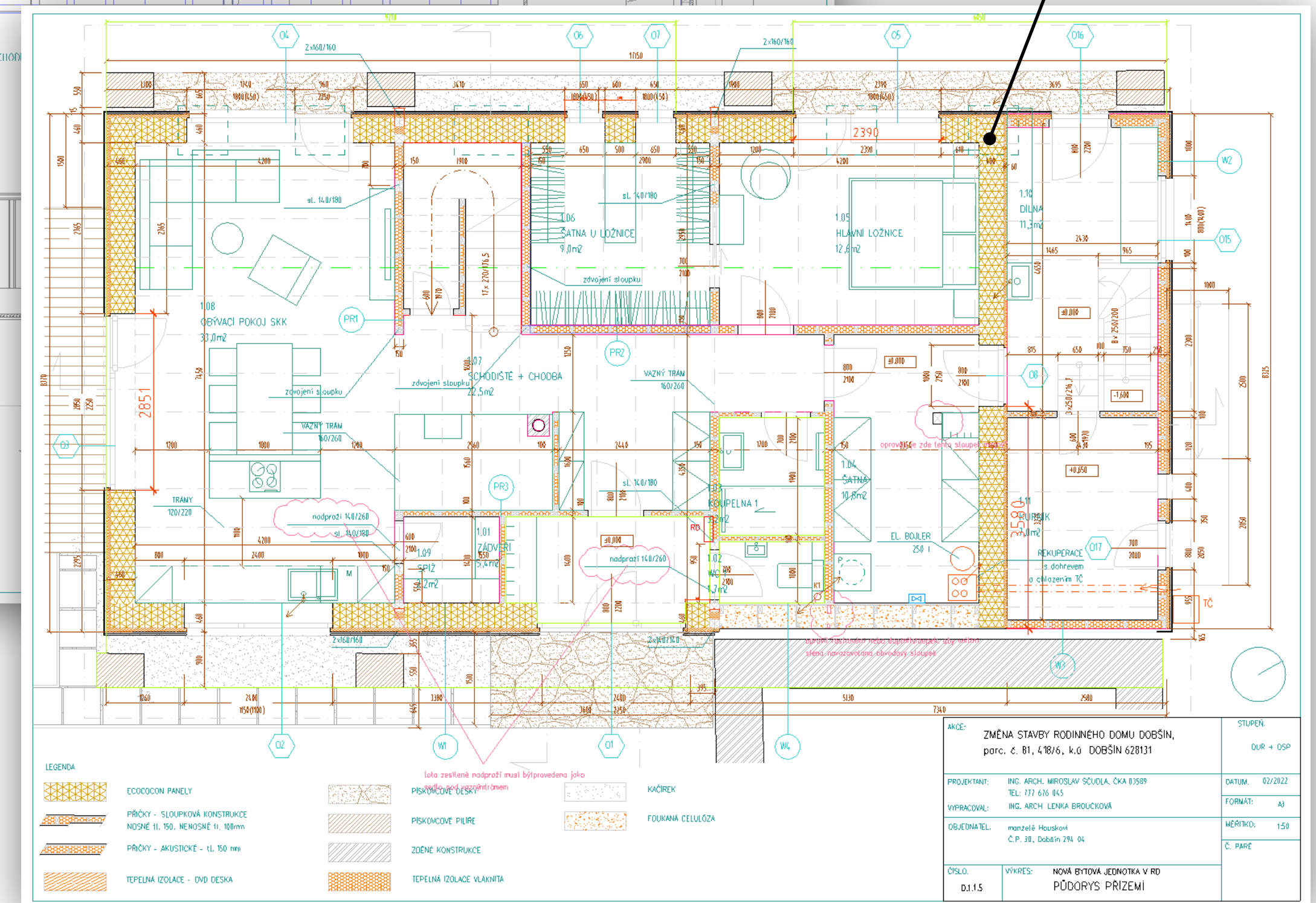
Important

- » Clearly indicate the EcoCocon wall.
- » Provide typical sections.
- » Provide wall elevations with visible clear opening dimensions, if the floor plan doesn't show these.
- » Show details at the bottom (base plate) and the top (top plate) of the wall.
- » Show exact outline of gable wall.
- » Include all load bearing beams and purlins; mark floor joist span directions.
- » Indicate any other special requests (e.g. openings for ventilation ducts, chimney, etc.).



Clearly indicate the EcoCocon wall from 300 to 400 mm

Include all load-bearing beams and purlins; mark floor joist span directions

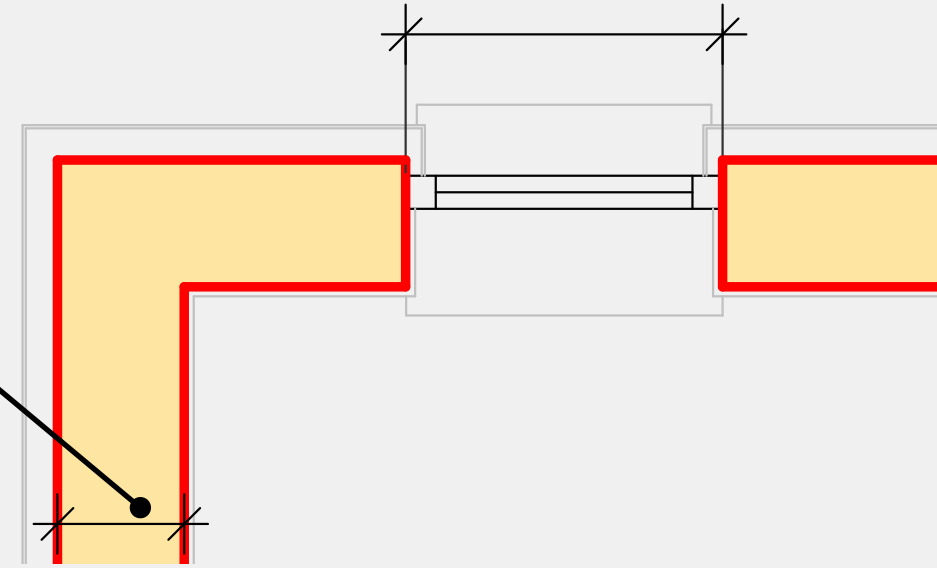


Option 1: Show 2D details and important dimensions

Floor plan

Clear opening dimensions; mark height of window sill relative to ± 0.000 m level

Clearly indicate the EcoCocon wall from 300 to 400 mm



Include openings, pockets/recesses for load-bearing elements connected to EcoCocon straw wall

Show exact outline of the gable wall

Indicate size and position of openings for ventilation ducts, chimney, etc.

Show connection of floor joists to the wall

Sections

Details of the top plate and its height

Clear opening dimensions

± 0.000

Height of window sill

Details of the base plate and its height

Bottom of panels

± 0.000

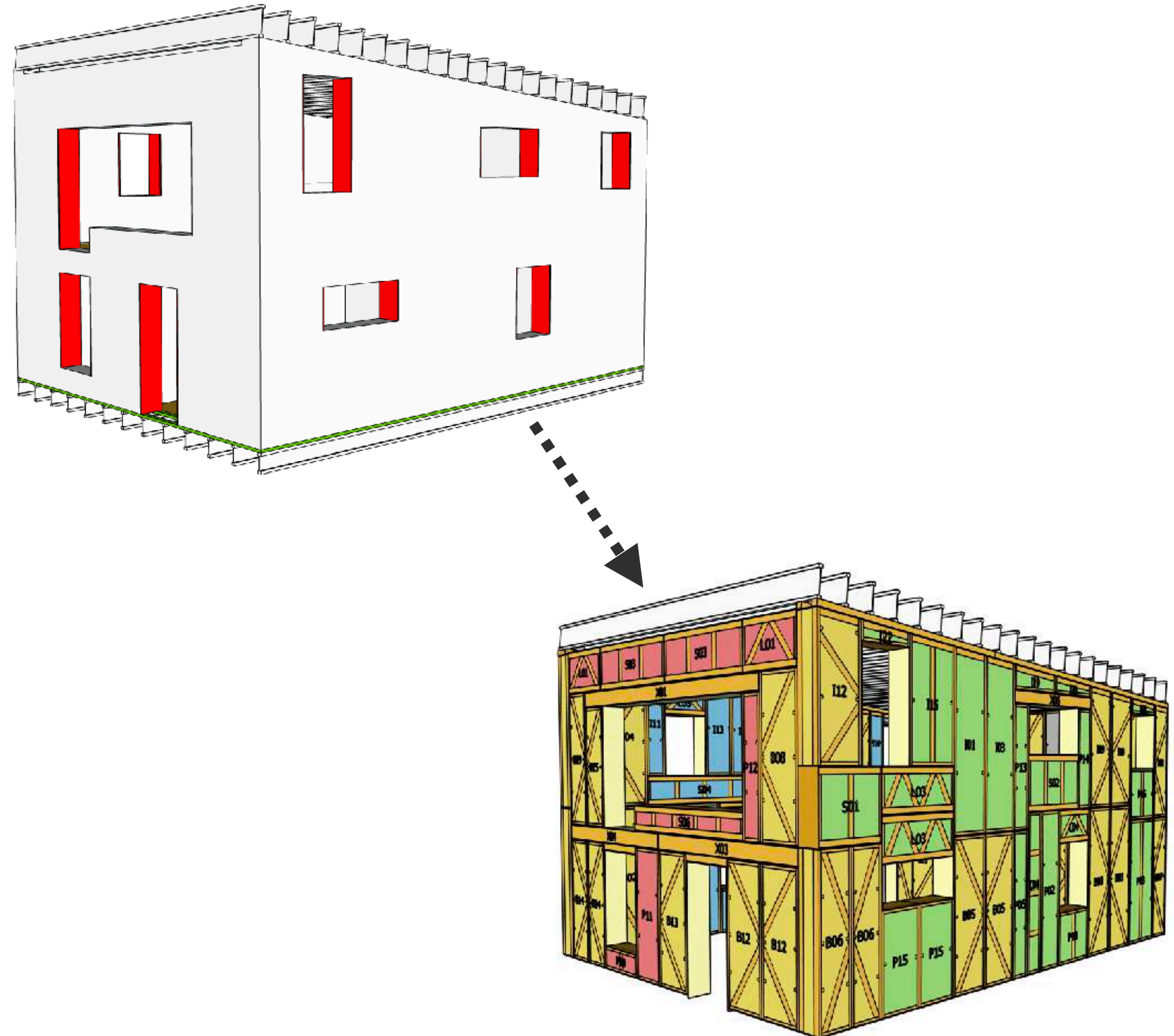
± 0.000

Option 2: Send us .ifc or .skp 3D model exports

Most 3D modeling softwares, such as Archicad and Revit, enable the export of 3D elements to .ifc or even .skp file formats. This is the most efficient way to create a Panel Project.

Steps

- » Create a separate layer and create a 300-400 mm thick wall with exact measurements.
- » The geometry does not need to show panels, the wall can be assembled as one or several simple geometric elements.
- » Include all load-bearing elements connected to EcoCocon straw wall, base plates and roof plates in the export.
- » Exclude all other layers from 3D model before export.
- » 3D model must show clear window openings.



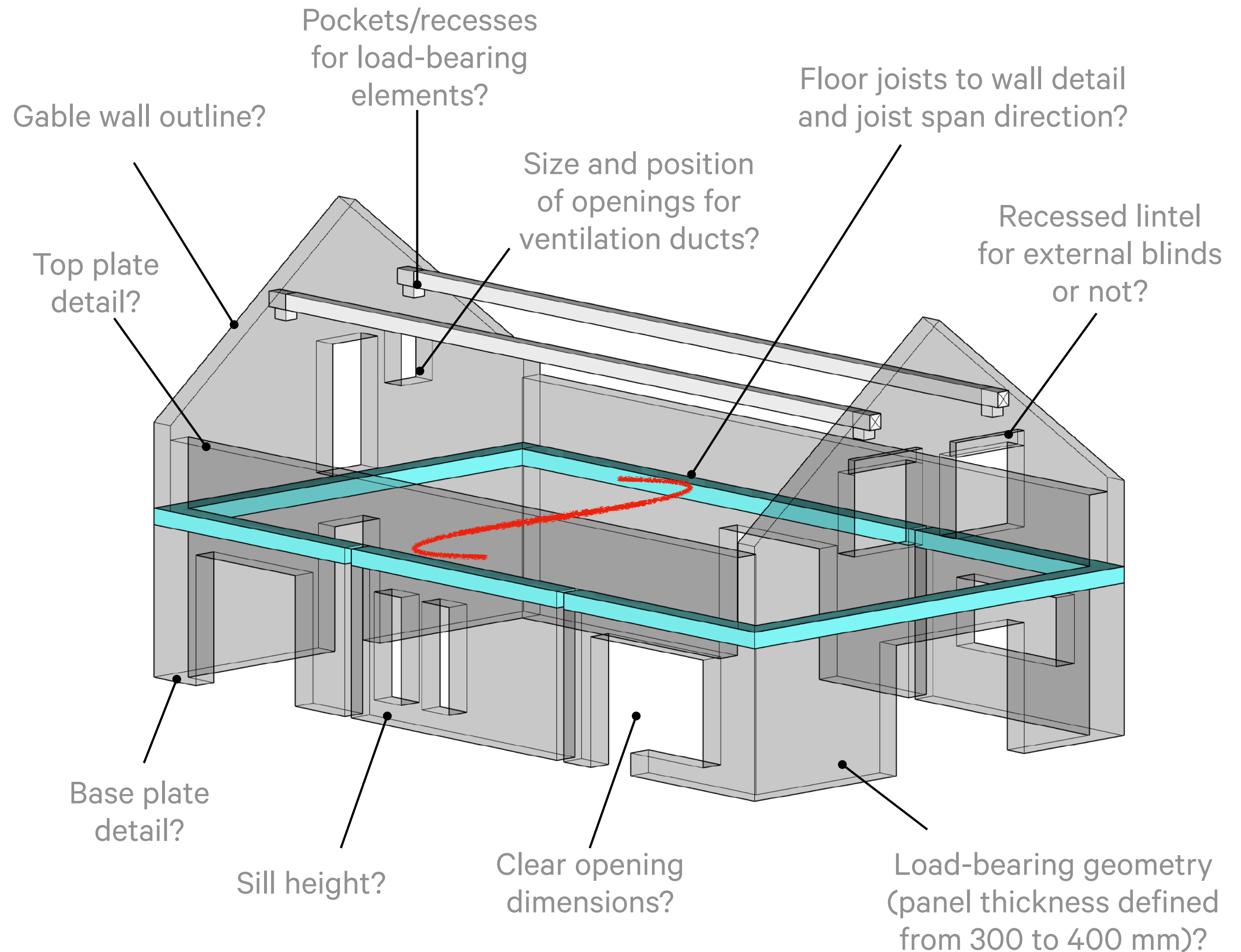
03

Check
Before
Sending

Checklist for Architect

What needs to be clearly defined in the project:

- ✓ Load-bearing geometry: 3D model or 2D floor plan, sections, elevations (panel thickness: 300-400mm)
- ✓ Clear opening dimensions
- ✓ Window sill height relative to $\pm 0.000\text{m}$ floor level
- ✓ Base plate details
- ✓ Top plate details and angle with roof
- ✓ Gable wall outline (top of panels)
- ✓ Recessed lintel for external blinds or not
- ✓ Size and position of wall openings for ventilation ducts, chimney, etc.
- ✓ Floor joists to wall detail and joist span direction
- ✓ Pockets/recesses for load-bearing elements connected to panels (beams and purlins)
- ✓ Other vertical load-bearing elements (partitions/posts)



Checklist for Structural Engineer

This is the minimum that needs to be provided:

Loads

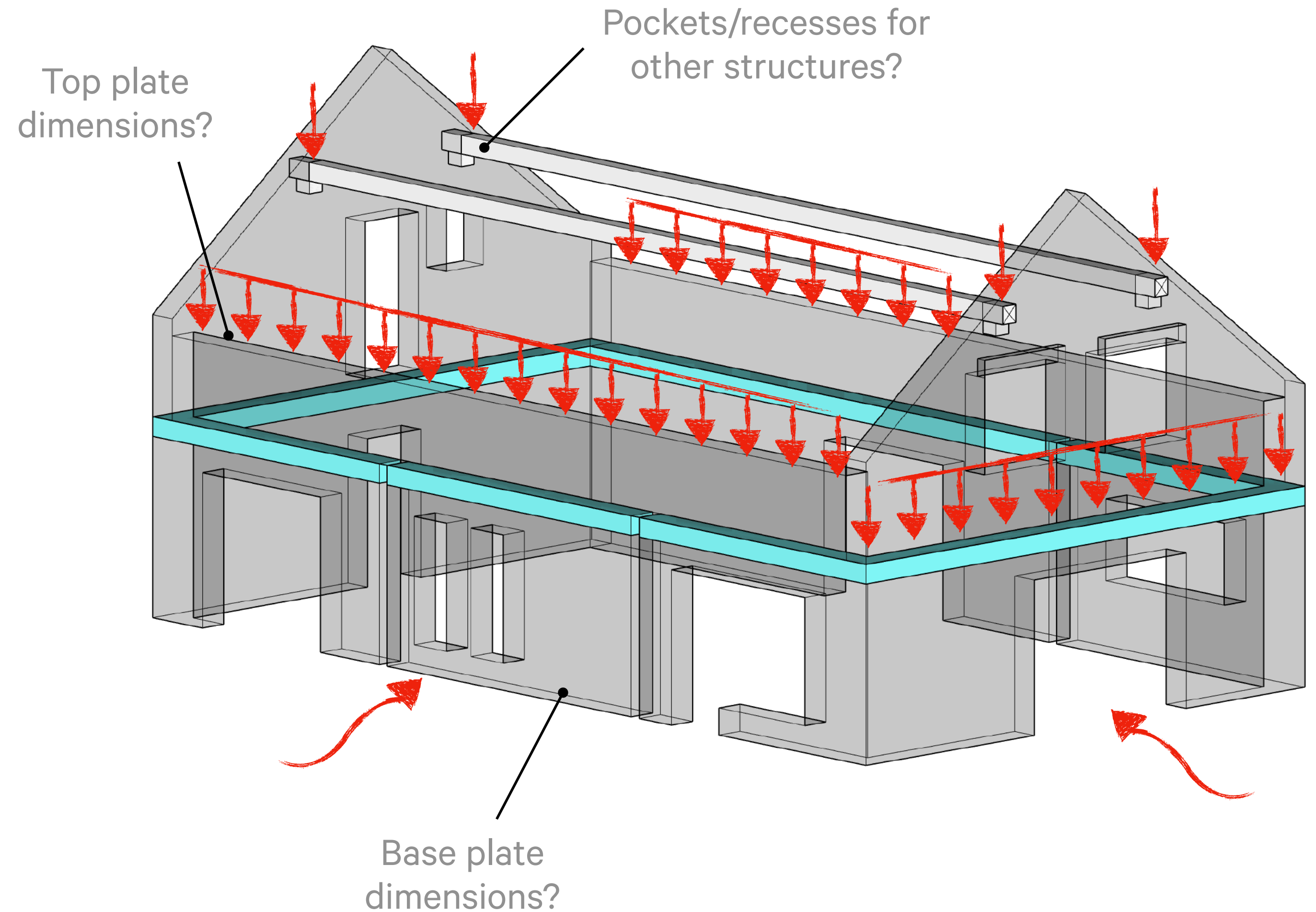
- ✓ From roof to walls
- ✓ From ceiling (floor joists to walls)
- ✓ Point loads
- ✓ Wind loads (horizontal)

Dimensions of load-bearing elements

- ✓ Load-bearing geometry
- ✓ Dimensions of all load-bearing elements connected to EcoCocon straw wall, including base plate and top plate dimensions

Other

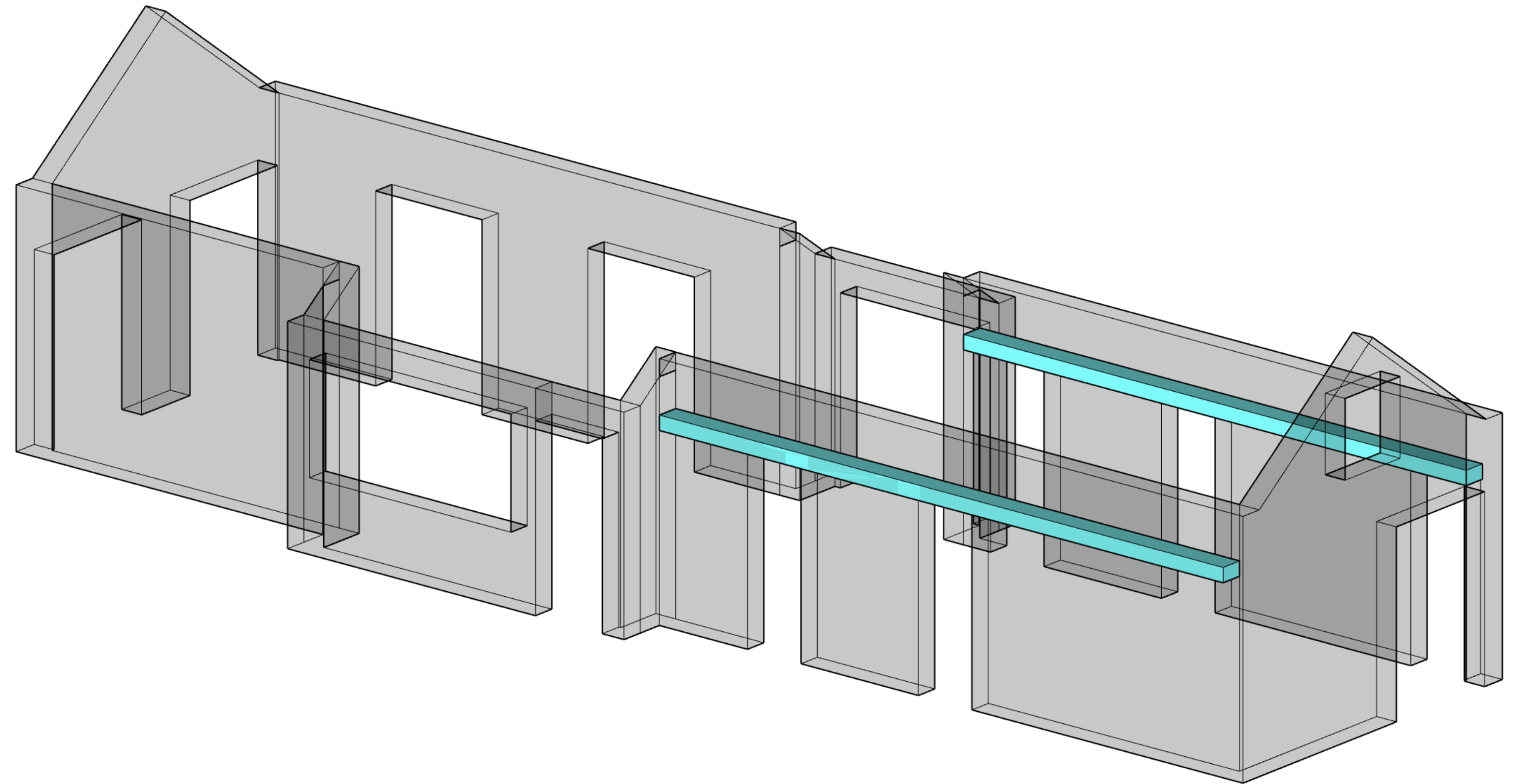
- ✓ Shear partition walls and other vertical load-bearing elements such as partitions or posts
- ✓ Special structural requirements



04

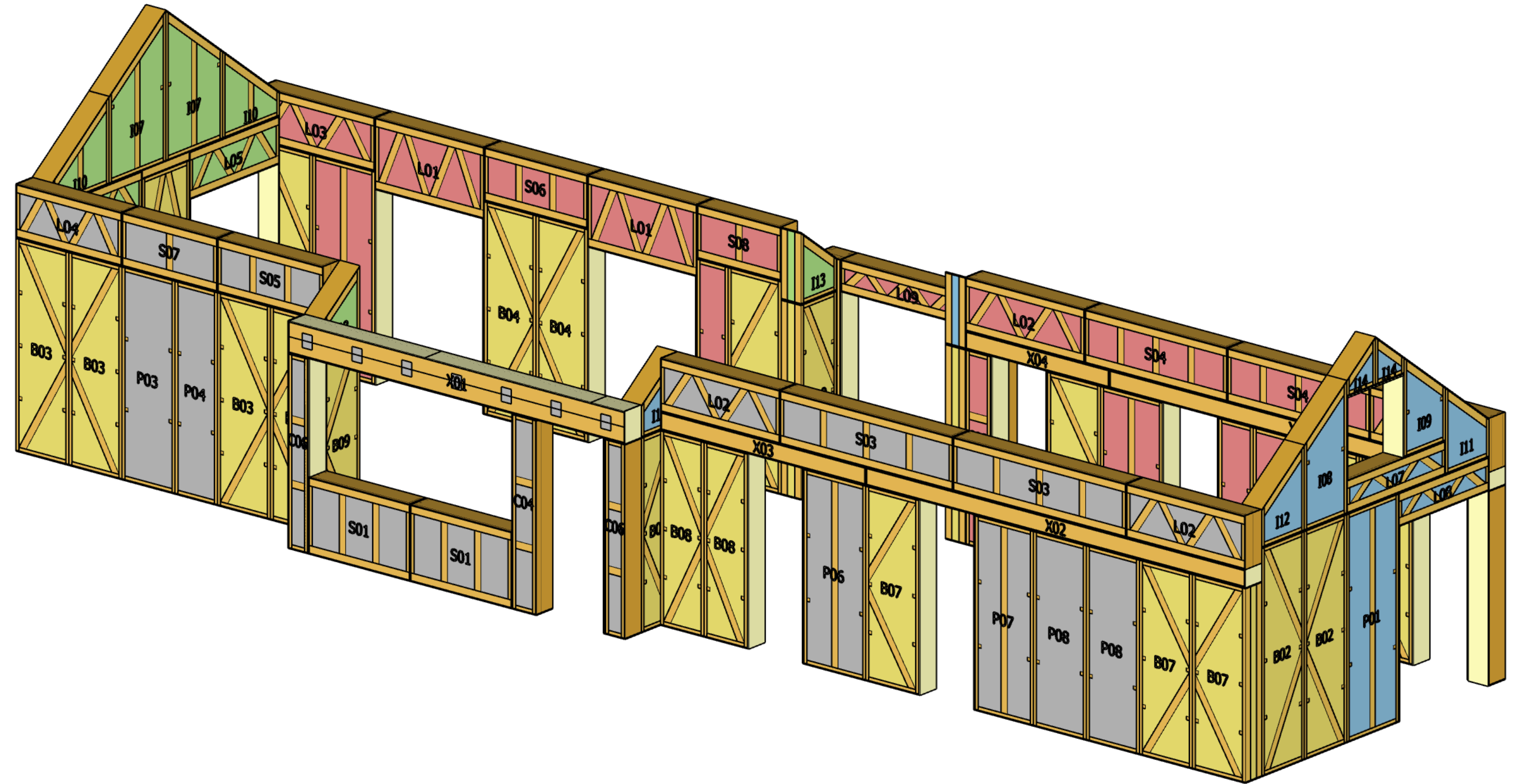
Files You Get in Return

First draft – A panel outlines 3D model



- » A simplified 3D model of panel outlines is prepared first, if the drawings were delivered as 2D.
- » We expect you to check all measurements and correct the model or mark any changes before we proceed with the Panel Project.
- » We provide you with this panel outline model in .skp or .ifc file formats for easy import to your software.

After corrections – a finished 3D model



- » We provide you with the finished 3D model in .skp or .ifc file formats for easy import to your software.
- » We expect you to check all the dimensions of walls and openings and correct the model before the Panel Project is completed.

05

Final Panel Project & Examples

Panel Project signing

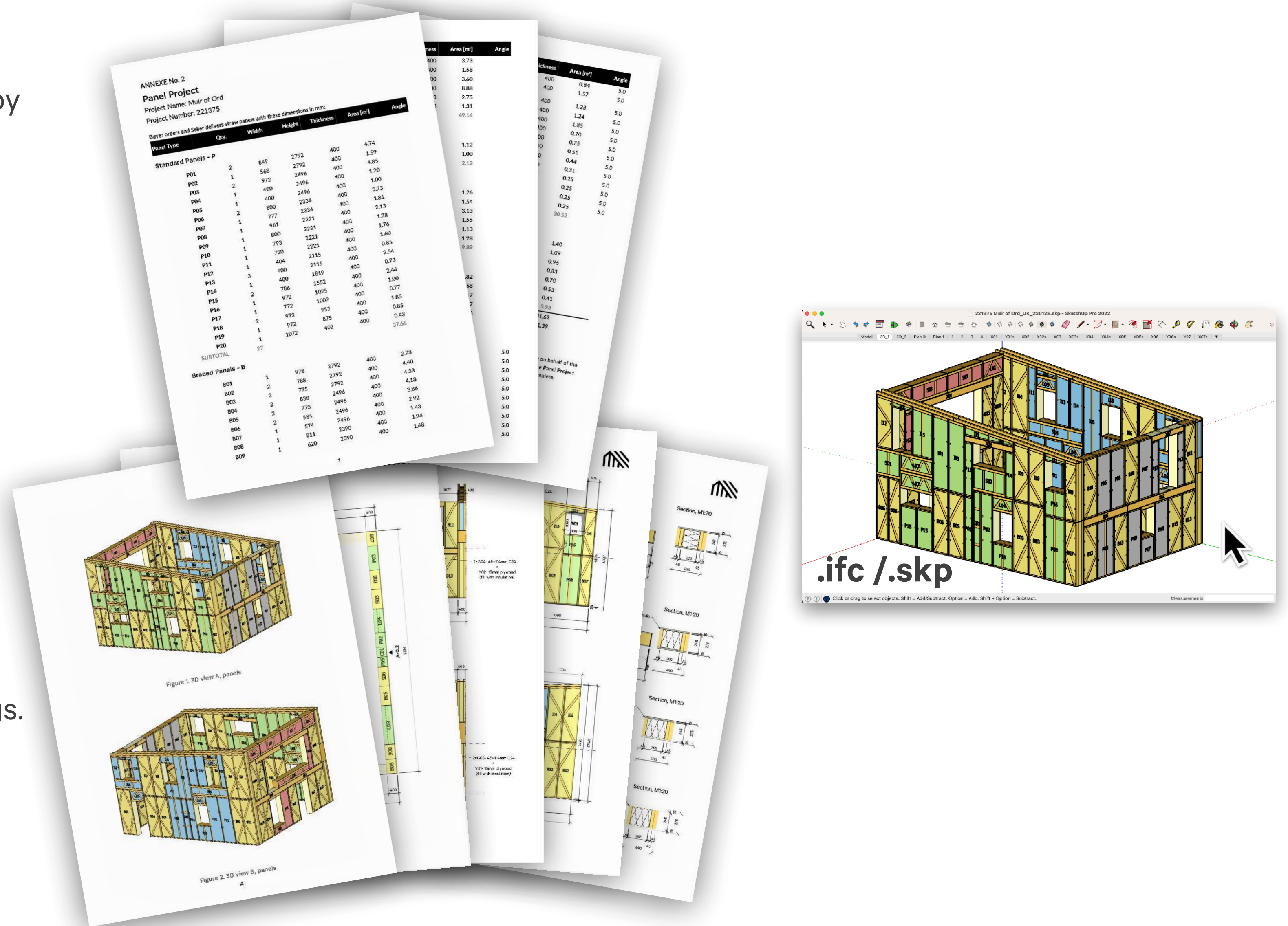
The Panel Project should be authorised and signed by the builder, architect or other responsible person on behalf of the customer.

The Panel Project consists of:

- » Table of all panels with dimensions.
- » 3D views of EcoCocon straw walls.
- » Elevations of EcoCocon walls, dimensions of walls and clear opening widths and heights.
- » Shop-drawings of box lintels (if applicable).
- » 3D file of the final model in .ifc or .skp format.

Note

- » Check carefully the dimensions of all wall openings.
- » Check the geometry of the building envelope.
- » Colour coding of panels is based on approximate wall orientation (**south**, north, **east**, **west**).
- » Walls are numbered based on the following logic: "building-floor . wall#". Example: "A-0.3"



Panel Project example – Project information and list of panels

Basic project information including Name and a unique Project Number

ANNEXE No. 1						
Panel Project						
Project Name: John Smith - Mi casa						
Project Number: 221362						
Buyer orders and Seller delivers straw panels with these dimensions in mm:						
Panel Type	Qty.	Width	Height	Thickness	Area [m ²]	Angle
Standard Panels - P						
P01	2	849	2792	400	4.74	
P02	1	568	2792	400	1.59	
P03	2	972	2496	400	4.85	
P04	1	480	2496	400	1.20	
P05	1	400	2496	400	1.00	
P06	2	800	2334	400	3.73	
P07	1	777	2334	400	1.81	
P08	1	961	2221	400	2.13	
P09	1	800	2221	400	1.78	
P10	1	793	2221	400	1.76	
P11	1	720	2221	400	1.60	
P12	1	404	2115	400	0.85	
P13	3	400	2115	400	2.54	
P14	1	400	1819	400	0.73	
P15	2	786	1552	400	2.44	
P16	1	972	1025	400	1.00	
P17	1	772	1002	400	0.77	
P18	2	972	952	400	1.85	
P19	1	972	875	400	0.85	
P20	1	1072	402	400	0.43	
SUBTOTAL	27				37.66	
Braced Panels - B						
B01	1	978	2792	400	2.73	
B02	2	788	2792	400	4.40	
B03	2	775	2792	400	4.33	
B04	2	838	2496	400	4.18	
B05	2	773	2496	400	3.86	
B06	2	585	2496	400	2.92	
B07	1	574	2496	400	1.43	
B08	1	811	2390	400	1.94	
B09	1	620	2390	400	1.48	

Height	Thickness	Area [m ²]	Angle
2334	400	3.73	
2334	400	1.58	
2221	400	3.60	
2221	400	8.88	
2221	400	2.75	
2115	400	1.31	
		49.14	
2792	400	1.12	
2496	400	1.00	
		2.12	
1075	400	1.26	
979	400	1.54	
759	400	3.13	
579	400	1.55	
579	400	1.13	
425	400	1.28	
		9.89	
759	400	1.82	
700	400	0.68	
689	400	2.17	
600	400	1.17	
550	400	0.53	
		6.37	
2894	400	2.21	5.0
2838	400	2.21	5.0
2826	400	2.16	5.0
2769	400	2.15	5.0
2762	400	2.40	5.0
2601	400	2.15	5.0
2528	400	2.09	5.0
2333	400	1.32	5.0
2255	400	1.65	5.0
2190	400	1.67	5.0

Height	Thickness	Area [m ²]	Angle
2121	400	0.84	5.0
2059	400	1.57	5.0
2001	400	1.28	5.0
1944	400	1.24	5.0
1906	400	1.85	5.0
1579	400	0.70	5.0
1454	400	0.75	5.0
571	400	0.51	5.0
419	400	0.44	5.0
315	400	0.31	5.0
303	400	0.25	5.0
301	400	0.25	5.0
300	400	0.25	5.0
296	400	0.25	5.0
		30.52	
		141.62	
Average size [m ²]		1.39	

List of panels grouped by panel type, listing quantities and sizes

Area of panels is summed and average size is calculated

Panel Project is signed by competent person on behalf of the customer

Panel Project example - Additional materials and openings

Any additional timber and plywood required for panel assembly is listed here – easy to find and identify items when receiving delivery

Additional Timber and Plywood

Project Name: John Smith - Mi casa
Project Number: 221362

Buyer orders and Seller delivers elements with these dimensions in mm:

Element	Qty.	Thickness	Width	Length	Volume [m³]	Weight [kg]
Additional Timber - G						
G01	4	95	95	6000	0.22	90.8
G02	4	95	95	3770	0.14	57.2
G03	4	45	114	1072	0.03	8.4
G04	2	45	114	772	0.01	3.4
SUBTOTAL	14				0.39	159.8
Additional Plywood - Y						
Y01	2	15	400	1072	0.01	9.2
Y02	1	15	400	772	0.00	3.3
SUBTOTAL	3				0.02	12.5
TOTAL	17				0.41	172.3

Generated from file:
221362 John Smith - Mi casa_UK_230128_2214.json

DM 5 WS

Fenestration Openings

Project Name: John Smith - Mi casa
Project Number: 221362

Clear fenestration opening dimensions and wall thickness in mm:

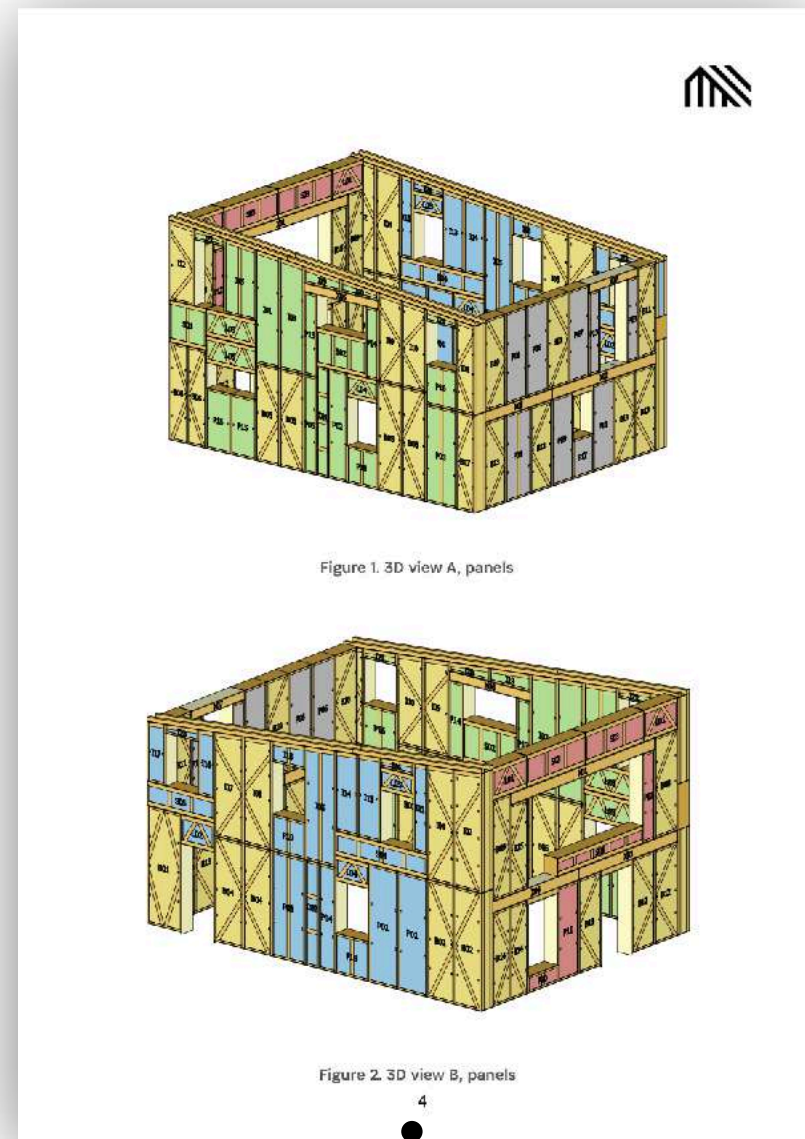
Opening	Qty.	Width	Height	Thickness	Area [m²]
Window Openings - W					
W01	1	1030	2115	400	2.18
W02	1	930	2115	400	1.97
W03	1	1030	2115	400	2.18
W04	1	1030	2115	400	2.18
W05	1	3000	1690	400	5.07
W06	1	1030	1690	400	1.74
W07	1	930	1690	400	1.57
W08	5	930	1240	400	5.77
W09	1	930	1090	400	1.01
W10	1	730	1090	400	0.80
W11	1	1530	840	400	1.29
W12	1	1530	640	400	0.98
TOTAL	16				26.72

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221362 John Smith - Mi casa_UK_230128_2214.json

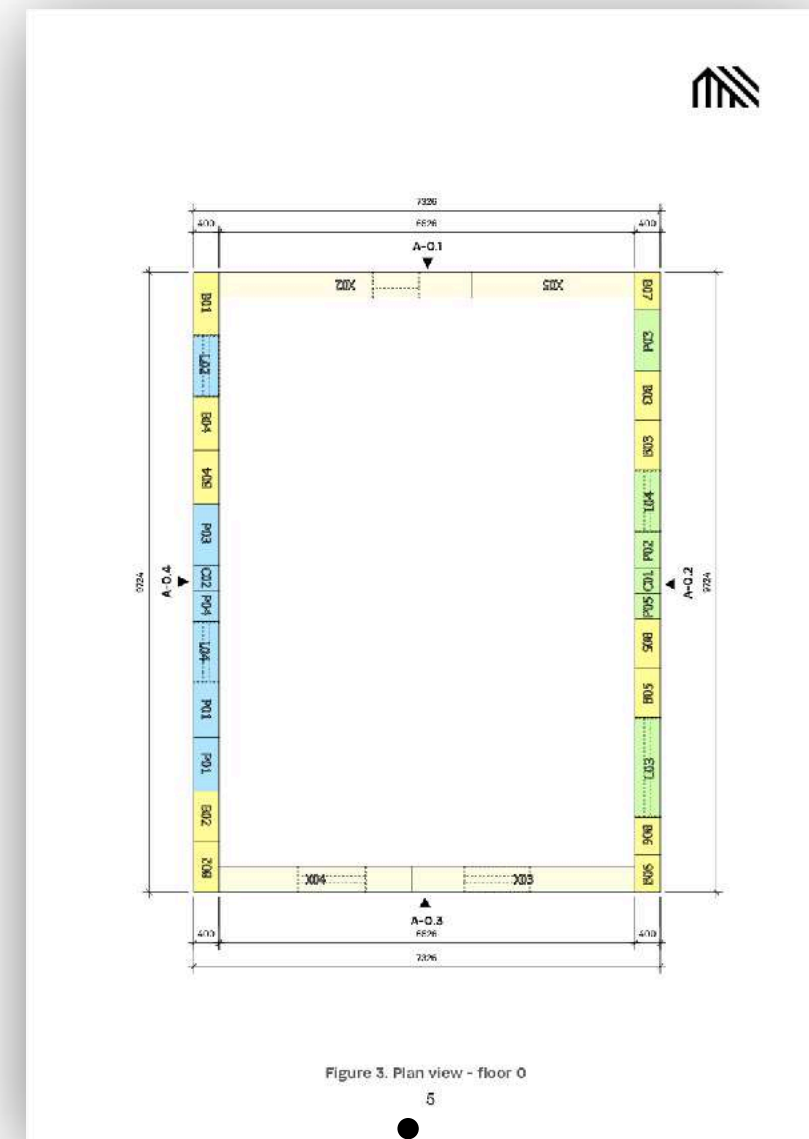
DM 6 WS

Wall openings are listed with clear opening dimensions – useful when ordering windows

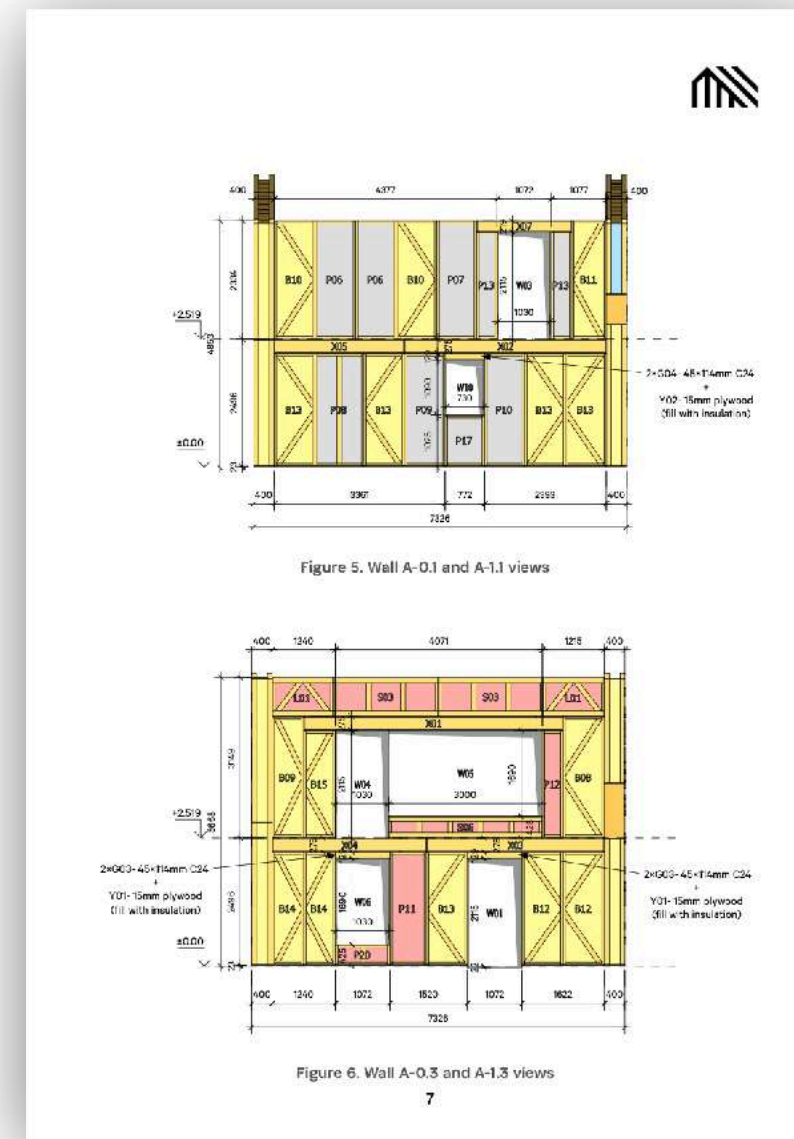
Panel Project example – Drawings



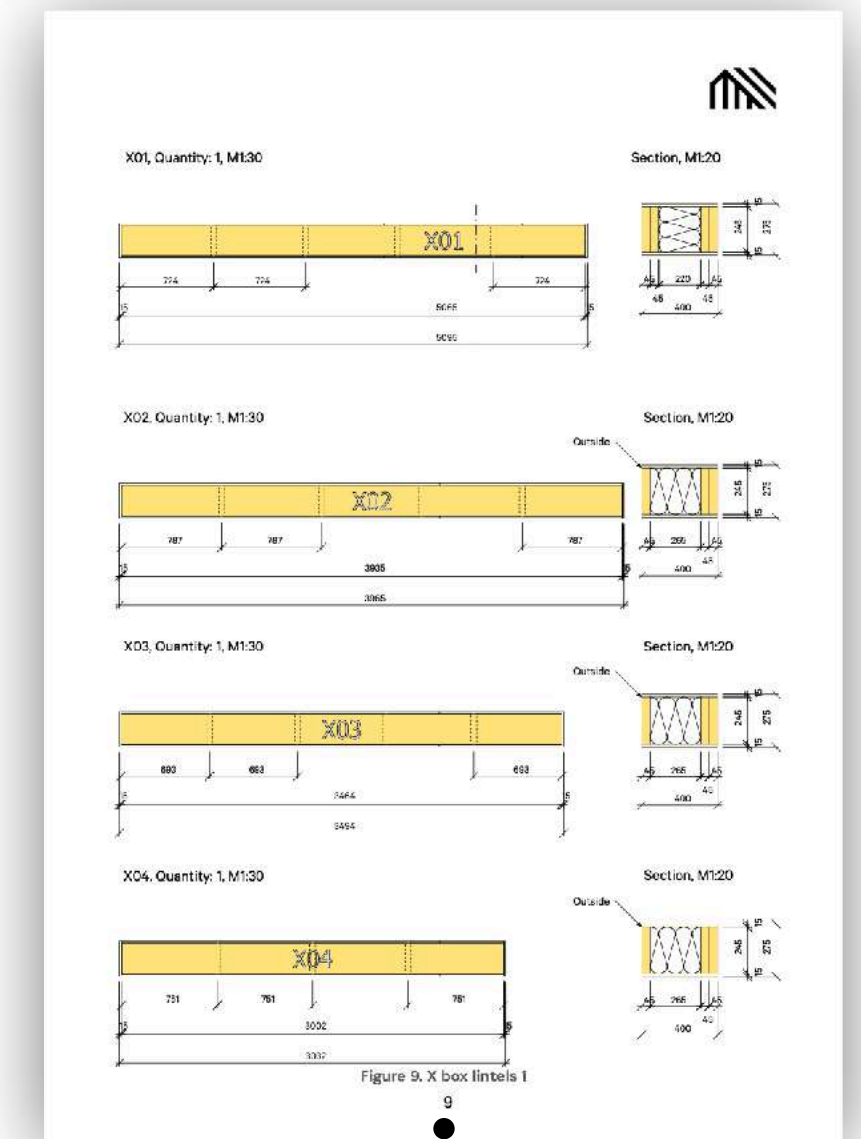
3D views of the structure



Plan view showing overall dimensions and wall numbering



Wall elevations showing panel arrangement with dimensions of openings and floor levels defined by architect



Shop drawings of box elements

Project examples III.

