

# Our design process



**Residential projects**

## Architecture is for life

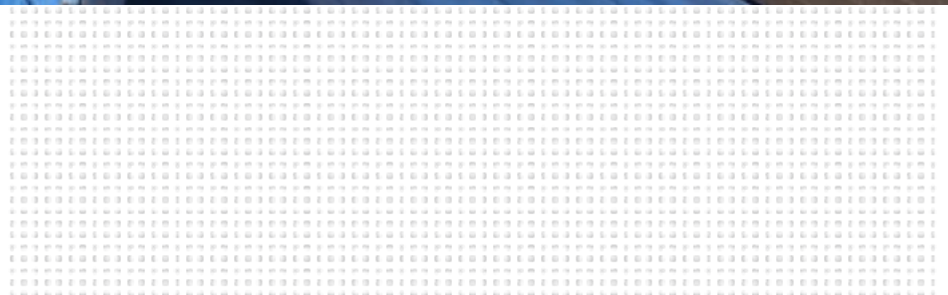
Each project is special. We work collaboratively with our clients to achieve buildings that are architecturally excellent, contextually sensitive and perform for life.

Architecture for life is what we're about.

This means we work hard to ensure your completed home is as healthy as we can make it. Healthy for you and your family, healthy for the planet and healthy for your budget.

We design for you. We listen, we advise, but the decisions are yours.

This is your home, not ours. Even if we disagree with a decision you make, we will listen and take instruction. We will give advice, **but the decisions are yours.**





## Our design process

Architecture is an iterative design process that doesn't always happen in a linear fashion.

You and your family are intimately involved in the design process; we engage with you all the way through to make sure that your completed home is exactly what you need.

Architecture requires a team of people during the design process. We will co-ordinate this team and ensure that their input is of high quality and contributes to the best possible outcome. See the end of this document for more information about the team that may be involved.

As we work through the design process everything becomes clearer and clearer, but we will sometimes take a step backwards if we need to head in a different direction. The following pages outline the potential steps in the design process.



## Project establishment

This stage of work collects all the information we need to begin the design process.

We will:

- + work with you to finalise your design brief
- + make sure we have all the relevant information from the relevant Territorial Authorities.
- + research the relevant sections of the District Plan to ensure we understand the relevant rules for your site.
- + if required, arrange a Surveyor to record your site so we have accurate information to work from.
- + if required, arrange a Geotechnical Engineer to undertake a site inspection which will be required for later stages.

### Deliverables

There is little visible output from this stage of work, but the information we collect is essential to beginning the design process.



## Concept design

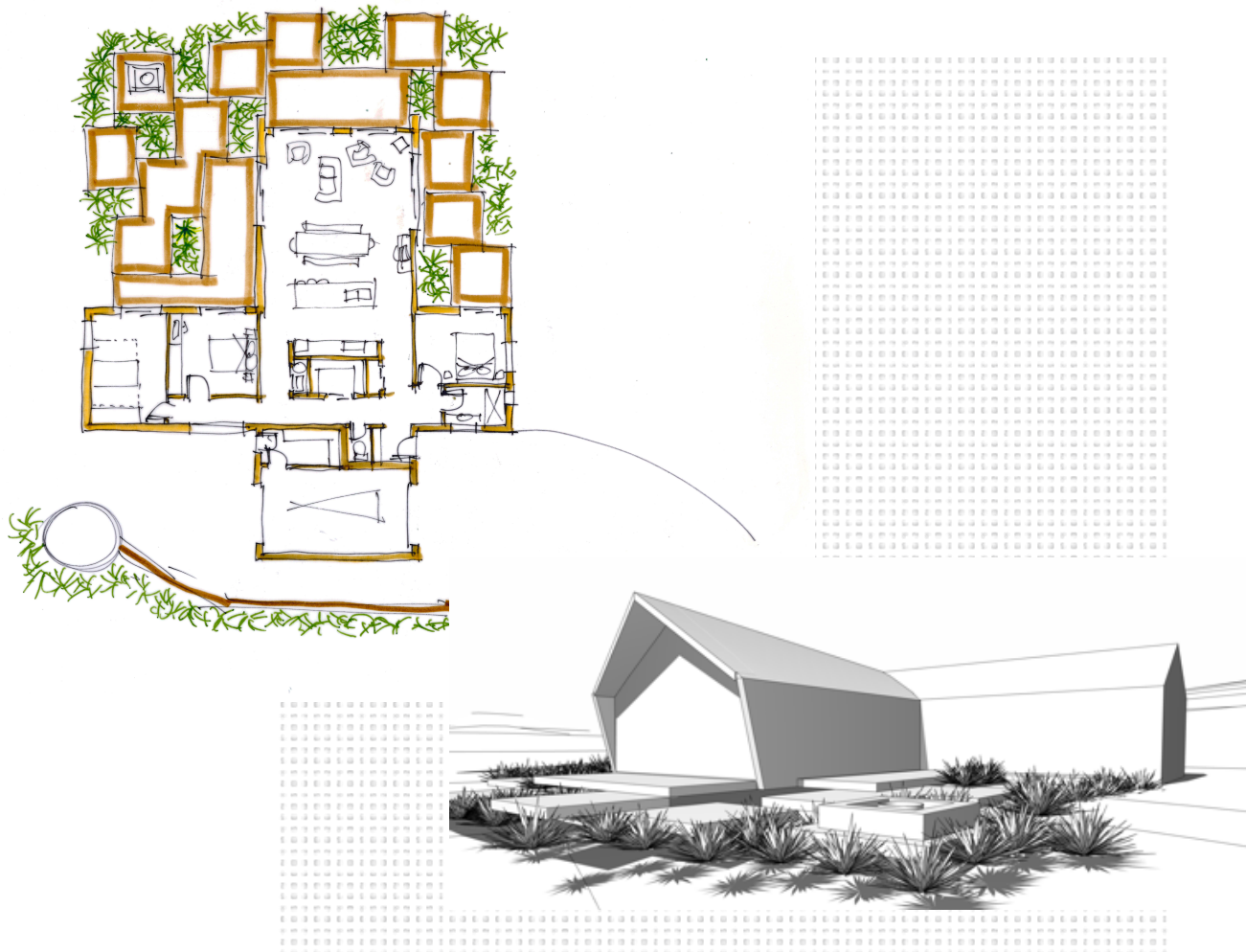
The Concept Design stage is where the design work begins.

Using your design brief as a guide, we will prepare freehand sketches of our vision for your new home and a basic computer generated 'bulk model' which shows the general shape and form of the design.

The purpose of this stage is to ensure that we have understood your intent correctly. The design will always undergo change after this stage, the Concept Design is a 'big picture' to ensure we are heading in the right direction.

### Deliverables

At the end of this stage you will see hand-drawn sketches of the proposed floor plan and site plan, and computer-generated 'bulk models' of the overall form of your completed home.



## Preliminary design

The Preliminary Design stage takes the approved Concept Design and starts to add a lot more detail. During this stage we will explore specific materials for the exterior claddings and you will be able to see what these look like on your new home.

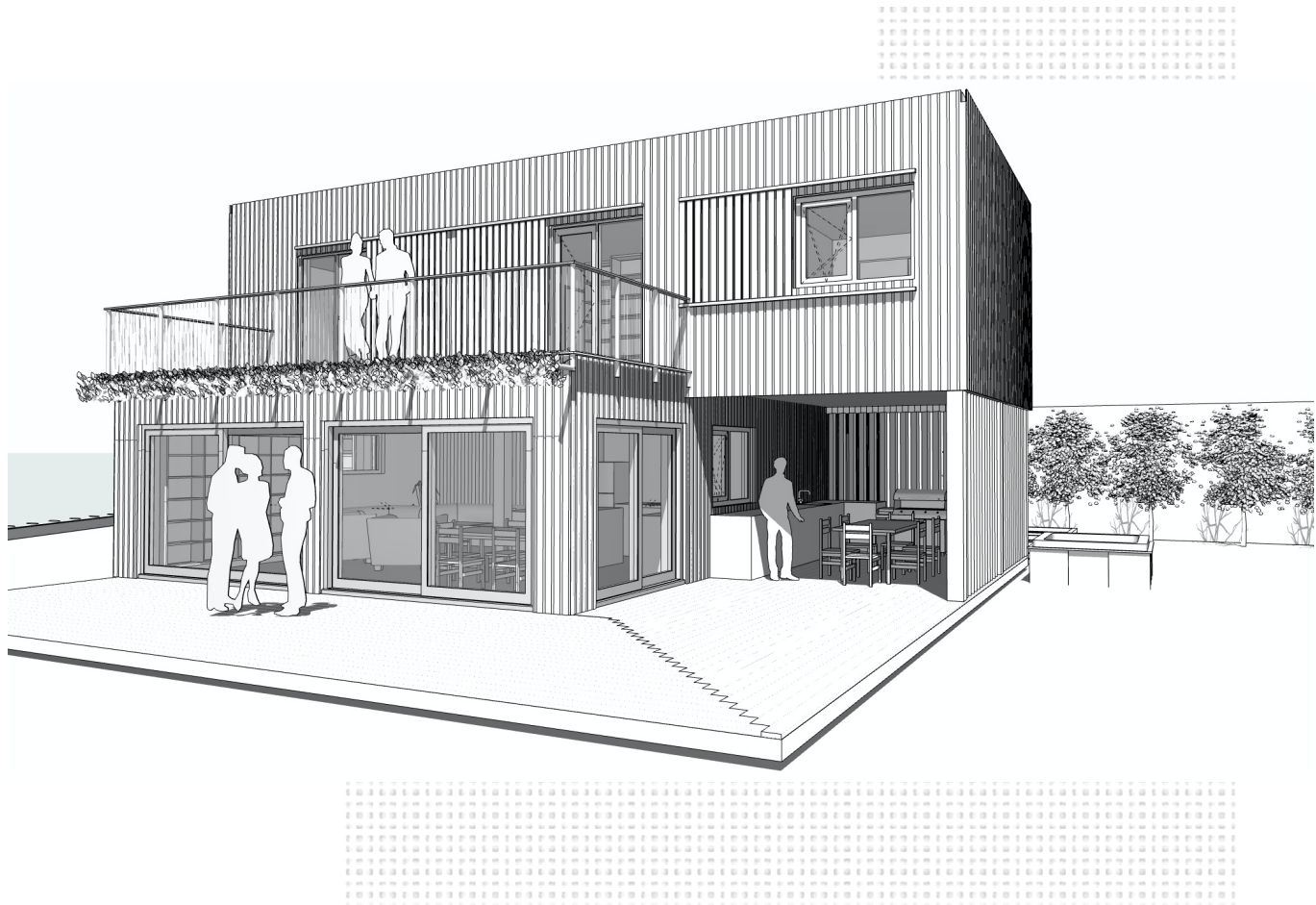
The Preliminary Design will also include a basic outline of the completed home's specification and a high level landscape concept plan.

At the end of this stage a builder, or a Quantity Surveyor, will provide an initial estimate of the cost to build your new home.

### Deliverables

At the end of this stage you will clearly see what your completed home will look like, and how it sits on the site.

You will see accurate, computer generated floor plans, site plan, elevations and simple black and white 3D images of your new home.



## Resource consent

We'll do our best to avoid the need for a Resource Consent, but this is usually very difficult. You should assume that a Resource Consent will be required.

A Resource Consent application has very strict requirements about the information to be presented. We will prepare this information in the correct format and, if necessary, consult with the neighbours around obtaining their permission for the design.

Most Resource Consents can be handled internally by Theca Architecture; only rarely would we need to engage a specialist Planning Consultant.

No matter how hard we work, the granting of a Resource Consent is **NOT** guaranteed. We always aim to know before we apply the chances of success, and we will communicate these clearly to you.

Any design that has a Resource Consent approved is difficult to change. We must ensure that the design is correct before applying for a Resource Consent.

### Deliverables

At the end of this stage we hope that a Resource Consent has been approved.



## Builder selection

We will introduce you to several builders we have worked with before, that we trust and that we know will do a good job for you.

You will choose a builder and we will work with you to negotiate a fair price for your project.

At this stage we may engage with a Quantity Surveyor (if we haven't already) to prepare a build cost estimate.

### Deliverables

At the end of this stage you will know the builder who will be completing your work.



## Developed design

The Developed Design stage is where we solve all the technical questions around the design.

During this stage we will confirm all the materials we will use and begin the process of selecting detailed items such as plumbing fixtures.

We will get the Structural Engineer more involved during the Developed Design stage and they will complete their structural design for inclusion in the final documentation.

### Deliverables

At the end of this stage, all the technical questions have been answered.

You will see detailed floor and site plans, elevations, cross-sections and black and white 3D images of the completed project.



## Detailed design

The Detailed Design stage is where we prepare the technical documents that are used for the Building Consent application and construction; this is the most time-consuming stage of the design process.

During this stage we will prepare the drawings, including the Structural Engineer's final design, and a detailed specification.

We will submit the Building Consent application and manage its progress until the Building Consent is issued.

### Deliverables

At the end of this stage you will have a Building Consent.





## Thermal performance modelling


This stage of work is only applicable if we have agreed that your completed home will aim to achieve Passive House certification.

Thermal performance modelling runs in parallel with all stages of design work to ensure compliance with the Passive House certification level we are targeting.

We will model the design using the Passive House Planning Package (PHPP) and ensure that it complies with the relevant certification requirements.

### Deliverables

At the end of this stage you will know that your completed home will achieve the level of Passive House certification we have agreed on.

Passive House Verification									
				<b>Building:</b> NZ's first PH Plus Street: Postcode/City: Province/Country: Canterbury NZ-New Zealand Building type: Detached Residential Climate data set: NZ0003a-Christchurch Climate zone: 4: Warm-temperate Altitude of location: 20 m					
				<b>Home owner / Client:</b> Street: Postcode/City: Christchurch Province/Country: Canterbury NZ-New Zealand					
				<b>Mechanical engineer:</b> Street: Postcode/City: Province/Country:					
				<b>Certification:</b> Sustainable Engineering Ltd Street: Postcode/City: Province/Country:					
<b>Architecture:</b> Theca Architecture Street: 14 Walker Street Postcode/City: Christchurch Province/Country: Canterbury NZ-New Zealand <b>Energy consultancy:</b> Theca Architecture Street: 14 Walker Street Postcode/City: Christchurch Province/Country: Canterbury NZ-New Zealand Year of construction: 2017 No. of dwelling units: 1 No. of occupants: 2.8				Interior temperature winter [°C]: 20.0 Internal heat gains (IHG) heating case [W/m²]: 2.5 Specific capacity [Wh/K per m² TFA]: 60 Interior temp. summer [°C]: 25.0 IHG cooling case [W/m²]: 2.5 Mechanical cooling:					
<b>Specific building characteristics with reference to the treated floor area</b>									
		Treated floor area m²	131.8		Criteria		Alternative criteria	Fulfilled?²	
Space heating	Heating demand kWh/(m²a)	14.07	≤	15	-		yes		
	Heating load W/m²	9.38	≤	-	10				
Space cooling	Cooling & dehum. demand kWh/(m²a)	-	≤	-	-		-		
	Cooling load W/m²	-	≤	-	-				
	Frequency of overheating (> 25 °C) %	3	≤	10		yes			
	Frequency of excessively high humidity (> 12 g/kg) %	0	≤	20		yes			
Airtightness	Pressurization test result n <sub>50</sub> 1/h	0.6	≤	0.6		yes			
Non-renewable Primary Energy (PE)	PE demand kWh/(m²a)	95	≤			-			
Primary Energy Renewable (PER)	PER demand kWh/(m²a)	41	≤	45	41	yes			
	Generation of renewable energy (in relation to projected kWh/(m²a) building footprint area)	61	≥	60	53				
I confirm that the values given herein have been determined following the PHPP methodology and based on the characteristic values of the building. The PHPP calculations are attached to this verification.									
Task: 1-Designer		First name: Glenn		Surname: Murdoch		Passive House Plus?		yes	
		Issued on: 24/01/23		City: Christchurch		Signature:			

## Interior design

All the way through the design process, we are thinking about the interior design, feel and mood of your completed home. To realise the full intent of the design process it is important that this thinking is captured and communicated to the contractors via the construction documentation.

While some elements of the interior design form a fundamental part of the normal design process, we can also assist you with selection of interior colour palettes and finishes including wall finishes, floor coverings, fabrics, plumbing fittings, furniture and lighting design.

### Deliverables

Depending on the scope for which we are engaged, you will see a detailed specification of all internal finishes, colours, plumbing and light fittings.



## Landscape design

We live outside whenever possible in Aotearoa. We want to make sure this is as outstanding as it can be for you and your family.

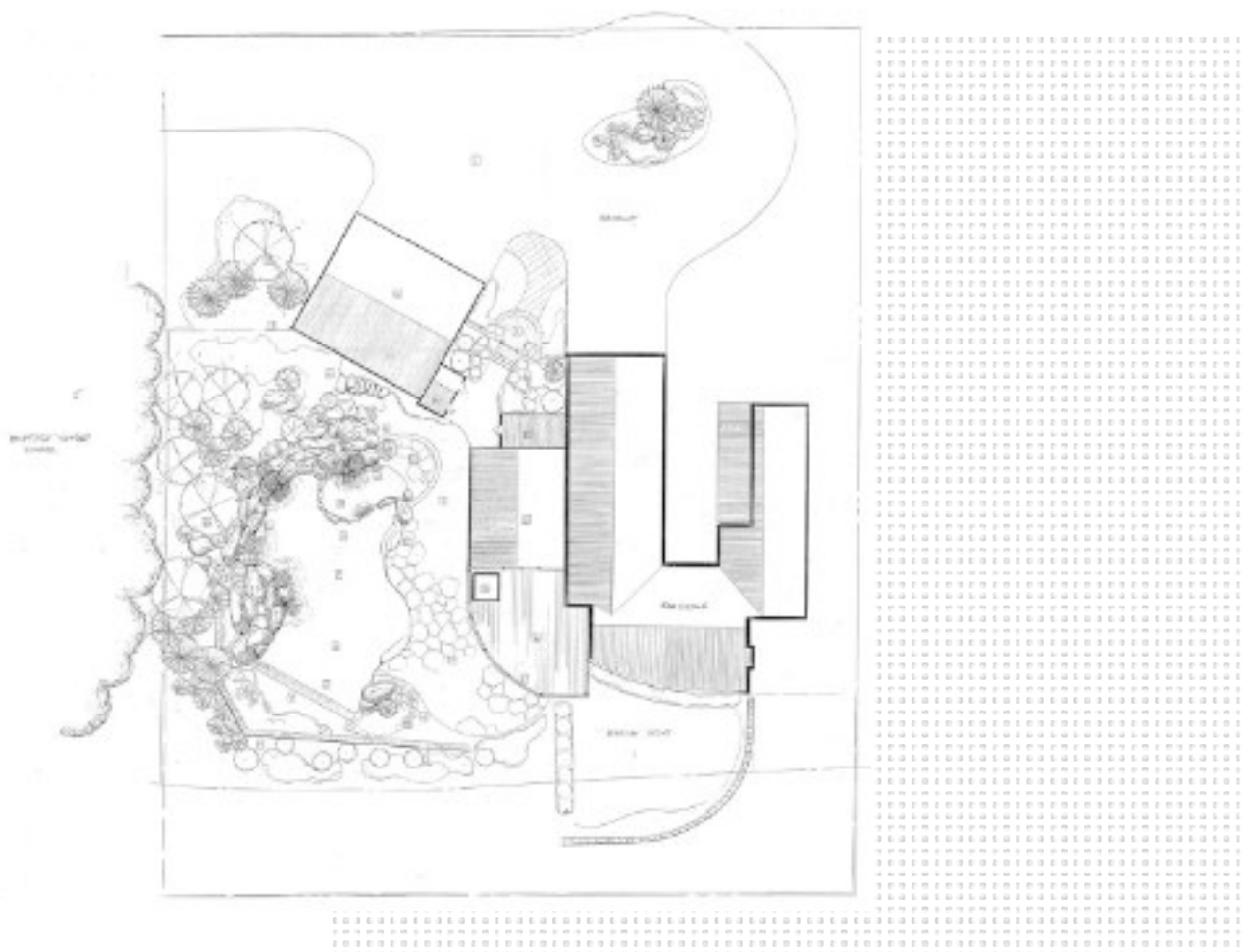
While a very high level, conceptual landscape design will come as a part of the design process, it provides only a very broad picture of how outdoor spaces (other than those connected directly to the house, such as decks) will look when finished.

Working on the entire scope of your home, including the outdoors, is where the design process really adds value to your life.

During this stage we will design the gardens, structures, surfaces and features of the landscaping that really make your new home work.

### Deliverables

We will provide detailed plans and construction details for the landscaping, and planting schedules for all gardens.



## Kitchen design

Your kitchen is a critical part of family life.

As we've worked through the design process with you we have developed an excellent understanding of how you and your family will live in your completed home.

We will design your kitchen in detail, including materials and finishes. Often the final specification comes down to cost; we will work with your or your builder's joiner to come to a solution that works for you, your family and your budget.

### Deliverables

We will provide detailed plans and elevations of your kitchen from which the joiner can complete their design work.

We will provide computer-generated renders of how your completed kitchen will look.



## Contract administration and site observation

A building contract is a complicated document for anyone who is not accustomed to dealing with them.

First we will help you negotiate a fair and reasonable building contract. This will not be a Master Builders or Certified Builders contract, but an alternative that is fair and reasonable for everyone involved.

With us administering the building contract you are assured that your money is being spent in the best way possible, with any potential changes fully examined and the relative benefits and drawbacks explored.

To ensure that the final outcome accurately reflects what we have designed and detailed, we will observe the work being completed onsite to ensure it is doing to a sufficient standard of quality, and that our design intent is being realised.

### Deliverables

A completed project that matches our original design intent, and has cost you a fair and reasonable amount of money.



## Computer generated renders

Many people struggle to understand what their finished home will look like from two dimensional and line sketch 3D drawings.

We can prepare computer renders that accurately show you what your completed home will look like, both externally and internally.

### Deliverables

Depending on the scope of work agreed on, we will deliver static rendered images, video walk-throughs or virtual reality experiences for you to understand your completed home.



## The team...

### **Theca Architecture**

Our team of Designers and Technicians will be intimately involved in the project, from beginning to end.

### **You and your family**

You are a key part of the design team.

### **Surveyor**

If your project will add to the footprint of the building, or the project is on a sloping site, then we will almost certainly need a Surveyor to give us accurate information about the boundaries and / or topography of your site.

### **Geotechnical Engineer**

On projects where we need to build new foundations we are likely to need the involvement of a Geotechnical Engineer.

The Geotechnical Engineer tests the strength of the ground where new foundations or retaining walls will be built and provides design requirements to the Structural Engineer.

### **Structural Engineer**

A Structural Engineer is not always, but is usually, required.

A Structural Engineer designs any structures that don't come 'off the shelf', and can also provide valuable design options as a cost-saving strategy.

### **Quantity Surveyor**

In the early stages of the design process, usually around the end of Preliminary Design, a Quantity Surveyor can provide an estimate of construction cost that can ensure we have not designed a project that you can't afford.

### **Planning Consultant**

If your Resource Consent application is complicated, a Planning Consultant can help navigate the sometimes murky waters of the Resource Consent process.

### **Passive House Certifier**

If your project aims to achieve Passive House certification, the Passive House Certifier will work with us to achieve certification.



**Theca  
Architecture**

03 595 1210

design@theca.nz

theca.nz