

# Solid Timber home buyers guide



Solid Timber



# 1. Why choose Fraemohs?



Fraemohs believes in building homes, not just houses. A home is much more than four walls and a roof. Home is where family and friends get together to celebrate milestones. It is where your child learns to crawl, then walk, then throw a rugby ball. Home is where the memories of your life are made.

For more than 50 years we have welcomed thousands of homeowners into our family and have been privileged to be part of many heartfelt memories. We understand how important a home is and that building a new home is a big investment. To ensure your peace of mind, we use only the very best materials, local expertise and experienced tradespeople to create sustainable, solid homes that stand the test of time.

Building with Fraemohs Homes gives you reassurance. All our team are experienced professionals, from our management staff to our valuable trade partners. Your home is your biggest asset, so there is simply no room for error. We work with proven technologies, quality materials and reliable people, so you can have confidence that your home will continue to perform long after you have passed it onto the next generation.

You'll also be surprised at how many items charged elsewhere as extras are included in your Fraemohs home, such as quality carpets and superior fittings and appliances. We know how to maximise value and minimise stress. You can expect the best from us, and with our team committed to creating the latest in living solutions, you can be confident you'll get the home of your dreams.

A home built by Fraemohs Homes enhances the health of those who live in it by promoting a warm, dry and relaxing indoor environment. In addition, Fraemohs Homes builds homes that are better for the health of the planet by making sustainability central to the home's design and construction.

Fraemohs Homes is a registered Master Builder, and offers a Master Build Guarantee with every home we build.





### Custom design

Our plan or yours; our sales consultants walk you through the process of designing a home that is just right for you.



### Local expertise

As locals, we understand Canterbury's unique building challenges like no-one else. Our team's expertise will ensure that you get the best home for you and your family.



### Decades of experience

We all know that building your new home is one of the most important decisions you will ever make, so let us show you what over 50 years of experience can do!



### 100% sustainable

Wood is a sustainable building material because it is a renewable resource, unlike concrete and steel. Fraemohs uses timber that has been grown sustainably in pine plantations here in New Zealand, on land that would otherwise be unproductive.



### Cosy and warm

The air pockets which occur within the cellular structure of wood make it a very effective insulator. These natural properties of timber mean that it far out-performs other building materials such as bricks, steel or aluminium when it comes to its insulating properties.

- New Zealand owned and operated
- No hidden extras
- Building green
- One-stop solutions
- Excellent supply partners
- Environmentally friendly

## Our founder

Monni Fraemohs arrived in New Zealand from Denmark with a passion for Danish design and quality. He was inspired by New Zealand's natural environment and plentiful exotic timber, and in 1968 he started Fraemohs Homes with a vision to share his passions, and to create homes Kiwis would love.

More than five decades, and thousands of houses both locally and internationally later, we still operate from the same Christchurch site. While Monni has moved on, Fraemohs remains locally owned and true to Monni's founding principles – excellence in design and quality.





## Homes designed for health

A home built by Fraemohs enhances the health of those who live in it by promoting a warm, dry and relaxing indoor environment. In addition, Fraemohs builds homes that are better for the health of the planet by making sustainability central to the home's design and construction.



### New Zealand's ecological choice for a home

Fraemohs Homes stands out from the crowd when it comes to designing and building homes with sustainability front of mind.

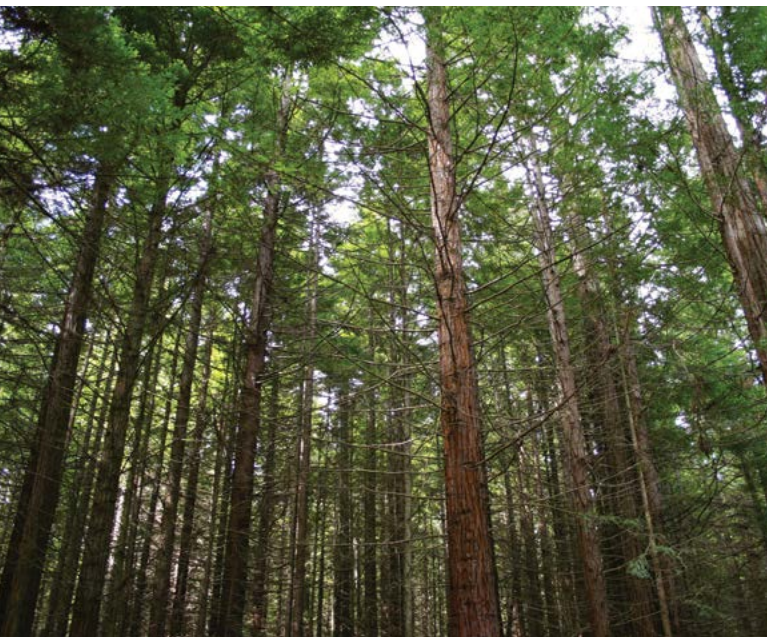
Our homes are constructed using sustainably-grown New Zealand timber, which has natural insulating, temperature and humidity regulating properties.

Our homes are inspired by nature and we use materials and design principles that harness the power of nature to reduce energy usage and minimise the carbon footprint of the homes we create so you can be comfortable with your choice now and in the future.



### Energy efficient

Having an energy efficient home is good for two reasons – you spend less, and you reduce the burden on our (increasingly scarce) resources.



## 2. Designing your home



### Design considerations

When positioning your home on your section, you need to consider a number of factors including:

- The topography of your site
- The prevailing wind direction
- The room layout you want to achieve
- Access to the site from the street and
- Where outdoor living areas will be positioned

Home orientation is crucial, and needs to factor in a range of less obvious considerations, including the vegetable garden!

In general, to achieve the best orientation for passive home heating, your living, family and dining rooms should face north. You want these rooms to be the sunniest rooms in your home.

Your kitchen and the space where you have your breakfast are usually best facing east. This means they benefit from early morning sun throughout the year and will be cooler in the late afternoon when you are cooking your evening meal.

Clients often ask as for all the bedrooms in their homes to have sun but sometimes this is not possible, or desirable. For example, bedrooms that face the east or south will be cooler in the late afternoon and evening, making them more comfortable for summer sleeping, especially for children who tend to go to bed when the sun is still up.

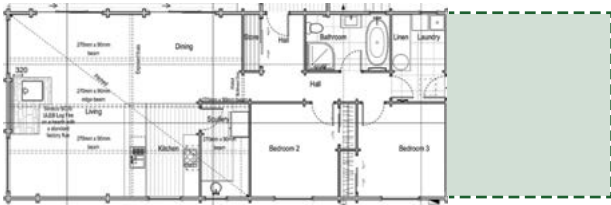
West-facing rooms get low angled late afternoon sun and require some shading to prevent overheating and glare. Meanwhile, south-facing rooms receive the least light and are best suited for use for bathrooms, laundries and garages.

## Changing plans

We have an extensive plan range that you can use as inspiration for your new home. You might find one of our plans that is perfect as-is, or one that would be ideal with a few changes.

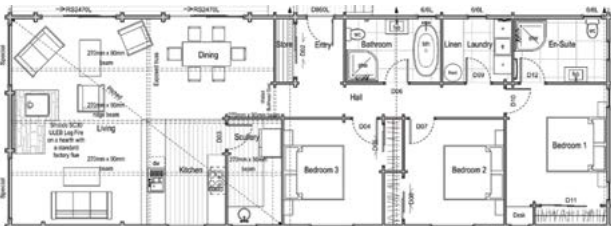
We are all individuals, with different requirements and tastes. We want your home to be the best it can possibly be for you, and we will support you through the design process to achieve this.

There are a few things that you need to be careful of when changing a plan to make sure you don't blow your budget.



As an example, you might really like the Manapouri pod from our Solid Timber Range as the overall layout really suits you, but you would love a larger garage and master bedroom.

An economical way of achieving this would be by stretching the home in overall size, reconfiguring a few items and adding in the much-desired master bed and ensuite.



Don't be daunted by any of this! Your Fraemohs sales consultant is very experienced and will guide you through every step of the design and material selection process.

Our standard ("Classic") specification is a great starting point, and is carefully designed to balance cost and style. Most of our clients use this as a starting point and change a few things here and there as needed. Easy!

## Considerations

Because of our own unique solid timber product there are certain aspects of the design that need consideration.

### Electrical

Electrical design is important for our homes as you cannot easily retrofit at a later date.

All electrical ducts are pre-drilled in the factory so we ask you to complete your electrical plan early.

## What we need from you

- Your favourite plan
- Budget
- Geotech report (if you don't have one we can assist with this)
- Site levels (if you don't have one we can assist with this)
- Covenants
- LIM
- We also like to know about any must-haves and nice-to-haves that you have been thinking about for your home.



Along with the size and shape of the floor plan, the roof style and claddings can have a significant effect on the overall build cost.

Hip roofs are the most cost-effective option, while a monopitch roof like on our Bayside model above is at the higher end cost-wise. A gable roof is less expensive than monopitch, and has more of a premium look than a hip roof (see our Manapouri plan above).

To balance cost and style, you might consider a hip roof with feature gables that face towards the street.

# 3. Eco options



## Building to maximise energy efficiency

In most cases, Mother Nature sends more than enough energy and resources bumping into or swirling around our houses to supply all our day-to-day needs. The problem is that we just let most of it pass us by! We get the electricity we need from the national grid, the water from our council, and we also send our waste to council treatment plants. We can reduce or remove this reliance on third parties, and with careful planning, we can get significant benefits for little cost.

There are many ways to improve the energy efficiency of your home. Your Fraemohs sales consultant is very knowledgeable in this area (that's why they work for Fraemohs) and can help you come up with a plan to maximise your energy efficiency based on the aspects that are most important to you, along with any budget constraints.



### Energy efficient

Having an energy efficient home is good for two reasons – you spend less, and you reduce the burden on our (increasingly scarce) resources.



### Passive heating and cooling

This is the first step – utilising free renewable sources of energy such as the sun and the wind to heat, cool, light and ventilate your home. A focus on this part of the design can help lower the ongoing running costs for your household.

To make the most of the warmth from the sun you will need to have large windows facing north or northwest to capture the sun, and keep south-facing windows to a minimum. Our Bayside plan is a great example of this principle. You may also want to consider a covered patio or verandah on the north side like on our Fantail plan, as this allows maximum solar gain in the winter (when you need it) when the sun is lower, but helps block out the sun higher in the sky in the summer (when you don't!).

In the warmer months you need to ensure you can easily ventilate your house to cool it. Having higher windows on the north side plus windows you can open along the south side means that the warm air in the house rises and leaves via the high windows, and is replaced by cooler air from the shaded side.

Your sales consultant can guide you in this, while also taking into account other important factors such as views, access, etc.

### Storing heat

Another way to smooth out the peaks and troughs in temperature fluctuations is to introduce thermal mass into your home. A thermal mass works to absorb heat when it is warm, reducing energy needed to cool your house, and releases it later when it is cooler, reducing energy needed to heat it.

A neat way to improve the thermal efficiency of your home is to utilise the thermal mass of a concrete foundation. If you're going to have one of these anyway, why not make the most of it? By not covering it up with carpet, it can absorb the sun's radiation during the day and release the energy as heat at night. Grinding and polishing the concrete provides a hardwearing floor that is also an amazing design feature.

### Keeping it in

This is self-explanatory; once your house is warm and comfortable you want keep it that way without using a lot of energy. You'd be surprised at how inexpensive it is to upgrade the insulation in your house, or even change your standard framing to 140mm wide. If your budget is restrictive, you could offset the cost of these upgrades by trimming just 3-4 square metres off the overall size of the house.

Windows are an important consideration when thinking about energy efficiency because they transfer heat more readily than other parts of your home. All our homes come standard with modern double glazing, which is a massive improvement compared to yesteryear, and there are additional upgrades to be considered to improve them further.

Around a quarter of our clients choose to invest a little more in their windows. Common upgrades, in rough order of least expensive to most expensive are outlined below:

- Low-E glass, and argon gas fill
- Thermally broken aluminium joinery (with or without Low-E and argon)
- PVC joinery – double glazed (with or without Low-E and argon)
- PVC joinery – triple glazed (with or without Low-E and argon)





### Use it wisely

You will need to use some energy in the day-to-day running of your household. Good decisions regarding energy use when planning your build can make a big difference down the track.

Some examples:

- If you need to heat your home, make sure you're doing it efficiently. You receive triple the return in warming from a heat pump than you contribute in electrical energy.
- Choose your appliances carefully. A more energy efficient fridge might be more expensive up front, but over the life of the fridge you will make significant savings than if you bought the less expensive one.
- LED lighting. This is the obvious choice these days due to the low running cost and long lifespan, and is standard on all Fraemohs builds. Almost all of our kitset clients choose to have these installed also.

You should also think about the other appliances you use in your home. Carefully choosing your washing machine, dishwasher, and your tapware can have a big effect on your water consumption. As climate change begins to bite in the next few years water conservation will only become more important.

### Extra credit

Lastly, if you're right on top of everything so far, you may also want to consider the energy cost to produce and supply the materials and products used in your home. This is referred to as embodied energy. Ideally we would consider energy use or saving over the service life of the material/product, as well as it's embodied energy.



### Carbon-negative

Did you know that it takes two to three times more energy to manufacture steel beams than it does to make timber beams? Using locally-grown timber for building instead of other building materials is an easy way to reduce carbon emissions and combat climate change.

It may not surprise you to know that our Solid Timber homes fare exceptionally well when embodied energy is considered. You don't need fossil fuels to make timber – it is manufactured by nature using sunshine. The embodied energy required to produce a solid timber house is far less than a conventional light timber framed house with gypsum board lining and brick or fibre cement cladding. Solid wood has the lowest energy consumption and the lowest CO2 emissions of any commonly used building material. We see solid timber construction as having a major part to play in residential building in the coming decades, and we are excited to be part of it.

As an aside, our Solid Timber houses provide excellent thermal mass by virtue of the full-thickness timber walls, so if you are looking at one of these you are onto a winner! Keep an eye out for our Citi Log development, due for release in late 2020. This will allow you to add feature solid timber walls to our conventional timber framed houses, which contribute thermal mass along with being a visual feature that makes a real statement.



## Off-grid living: the ultimate freedom

What was once the domain of uber-greenies and doom-sayers is slowly becoming mainstream. One of the benefits of over 50 years in business is that we get to experience and understand long term shifts in our industry by listening to our clients. More and more, people are looking for freedom from power bills, from service outages, and from pricing uncertainty. Add into that uncertainty around climate change, economic upheaval, and energy availability... you get the idea. Going off grid is one solution, and the good news is that the options for this are better than ever!

The first thing to note is that you don't need to go totally off-grid. You can cherry-pick some areas to invest in where it makes sense for you.

### Electricity

Once you've digested everything in the Energy Efficiency section above, the next step is to work out where your main electricity source will be from. There are lots of options, but the main ones we deal with are grid supplied power (obviously), solar panels supplementing grid supply, and totally off-grid solar supply with batteries. You can also integrate additional sources like wind turbines, and we have even had a client build their own Pelton wheel! There has never been a better time to explore these options. As a rough idea for budgeting purposes, you should allow ~\$15k for a grid tied solar system to suit a 3-4 bedroom house. A fully off grid solution with lithium-ion batteries will nearly double that figure. It's a long payback period, but you do get the freedom from power companies, and in areas where the grid supply is prone to outages, being your own power generator is a definite bonus.

### Water supply

You'll need collection tanks and a pump if you are planning on collecting rain water from your roof or if you have a low pressure supply from the road. We'll need to know the size and number of tanks so this information can be included in the consent documentation.

If you're planning on collecting water in the roof we'll need to change the downpipes from ColorSteel to PVC, as water can pool in the downpipes for long periods of time. The good news is that we can now source PVC downpipes and spouting in a range of colours. Of course, you can always paint them if you want to.

### Septic, wastewater and stormwater

This is relatively straightforward, as most properties outside of cities and townships need to deal with their own waste. The industry is large and established and is used to travelling to remote locations.

One change we are seeing is the trend toward worm farm style septic systems as these don't need power – a complication for normal style septic systems that use an electric pump to move waste between chambers. We've used Natural Flow on a number of these projects now and they have been great. We also get occasional requests for composting toilets, which we are happy to accommodate.

One thing to consider with septic systems is the location and size of the disposal field. The disposal field needs to be set back from waterways and you need enough free space to fit it in. The supplier of the system typically does the design work also, and they determine the size of the disposal field based on the demand (occupancy measured by number of bedrooms) and the ability of your soil to absorb the output.

We recommend budgeting \$12-14k for a smaller septic system to suit a two bedroom house, and \$14-18k for a 3-4 bedroom house. If travel is a big factor you might need to allow a bit more in your budget to cover this. If you're extending your home or adding a second dwelling, it's quite likely that your existing septic system will need upgrading for the additional load, or replacing altogether.

Your stormwater flow will go into a soak pit or a natural waterway if you have one nearby. This needs to be designed and consented. A drainlayer looks after the physical work on site.

We can look after this whole package of work for our full build clients.



## 4. The build process



### Construction starts

Once consent is issued the construction will begin. Everything will be set in stone as far as the look and construction of your home, and that barren plot of land you've purchased will be prepped and ready to become the site of your new home. Keep in mind that site prep can be impacted by weather conditions and other incidents out of our control, we will work with you and keep you involved in the programming.

It can be exhilarating to see the rough shape of your home on your property for the first time. Expect a lot of excavators and heavy equipment to come with this stage. Workers will be busy clearing, excavating, and levelling the lot according to your plan.

### Foundation

Depending on whether you are having a concrete or a timber foundation a variety of trades will be required. Once the floor is completed and inspected your pre-manufactured timber profile will arrive on site.

### Solid Timber construction

The first step is to attach the bottom plate to your foundation. Once this has been completed the walls are erected in an order as according to the detailed drawings up to top plate or gable ends.

This is when your home starts to take shape!

It is at this stage where the roof framing is started which could include your beams and timber internal linings depending on your design. Prior to the roof being installed we complete the prewire of the home. This is through the pre drilling ducts in the wall profile. Tie rods will then be installed along with other structural fixings.

### Faster Construction

Our solid timber homes are faster to construct due to the wall profile being a complete product. Our homes generally are at least 3-4 weeks faster to construct than the usual frame and truss method. We work with our contractors in advance to schedule each phase of the build on site. This helps us find efficiencies across the build process and helps us reduce the length of the overall build programme.

### Finishing

We are now up to the point of the finishing carpentry of the home, the basic shell is now completed and once the windows are installed, the home is now watertight we will start completing the finishing trim around the doors and windows ready for painting.

### Flooring and paint

Up until this point, all you'll see on your home building site is a lot of concrete, wood, insulation and wires. This is the phase where your home will start to look more like one. Flooring will be going in, cabinets will be hung, and the pretty stuff like architraves and moldings will be installed during this period. Most homeowners will smile at this stage since the site will finally look like the drawings your sales consultant showed you months ago.

### Fixtures and appliances

Delivery trucks will make frequent stops at your home during this end stage. That's because now is the time when subcontractors (sometimes referred to as "tradies") install tapware, benchtops, light fixtures, plugs, and appliances. The front of your property will also be undergoing massive transformation if you've purchased landscaping services.

### Final countdown

The last few weeks of your home-building timeline will be a whirlwind of emotion and small details. You'll be excited, but you probably will want to know if it will all come together in time for handover.

Although you'll be anxious to occupy your home, be absolutely sure all of your questions and concerns have been addressed before you head to handover. That way, loose ends will be tied up, the small details of your home will be completed, and your home will be cleaned in anticipation of your arrival.



### Handover

The moment you've been waiting for, handover, will be the best. There are just a couple things you'll need to do before you formally close and move in.

After your home is complete, do a "walk through" of the home. In addition to inspecting it and making a "snag list" of things you want the trades to correct. Once you're done with all of this, you can get the keys to your new home, and enjoy every last detail.

We'll leave you with one piece of advice: One of the best ways to stay on track with your home-building timeline is to communicate your needs and wants clearly from the start.

## FAQ

### How long will it take?

We will provide an estimate in your contract, based on the plans and site conditions. We will also provide updates during the build.

### Can I use my own painter?

You can, however they will be required to complete a subcontractors induction pack and you will need to arrange your own trade insurance for them.

### Can I change something after the contract?

Yes this is called a variation, all variations will need to be agreed by both parties in relation to price and timeframe in order to proceed.

Once consent plans have been lodged and the build started, variations can cause delays and additional costs. It is important to make sure you are 100% happy with everything in the planning stage of your build.

### Can I take my friends or family to look at the house during construction?

Unfortunately, due to health and safety requirements this is not possible, however we will take photos throughout the build process so you can pass these on. You'll also be able to view the house from outside the fencing.

### Can I have a mixture of different claddings?

Yes, there are alternative options and features we can provide, please speak with your sales consultant.

## 5. Glossary and terms



**AMENDMENT**—Changes to the plans and/or specifications on which the building consent was granted require an amendment to the original consent.

**ARCHITRAVE**—A moulding used as a surround to a door or window to cover the gap between the wall and the joinery.

**BALUSTRADE**—The handrail beside a staircase or along the edge of a balcony or veranda.

**BARGE BOARD**—A timber or metal board fixed to the front edge of a gabled roof.

**BEAM**—A long structural member that supports the floor or roof.

**BEARER**—A beam supported on jack studs, foundation walls, piles or piers and carrying joists, jack studs or subfloor training.

**BIFOLD DOORS**—A bi-fold door is a set of two or more hinged panels that fold (in a concertina-like fashion).

**BOTTOM PLATE**—The piece of timber in the wall frame that sits on the floor and forms the bottom of the wall.

**BUILDING ACT 2004**—The legislation governing the building industry and building work in New Zealand.

**BUILDING CONSENT**—Approval given by a building consent authority (usually your local council) to undertake the building works.

**BUILDING CODE**—Regulations within the Building Act 2004 that state the minimum performance standards that building work must meet. Compliance with the Building Code is mandatory.

**BUILDING ENVELOPE**—The entire exterior surface of the building, including foundations, walls, doors and windows, which encloses or envelopes the space within.

**BULKHEAD**—A lowered ceiling formed when a room is pushed out under an eave or at a transition from a sloping ceiling to a flat ceiling.

**CANTILEVER**—Also known as an overhanging beam, where one end is fixed and the other is unsupported.



**CEILING BATTENS**—Timber or metal strips used to connect lining to roof framing.

**CERTIFICATE OF CODE COMPLIANCE**—Code Compliance Certificate or Consent Completion Certificate. A certificate issued by the local authority or council after construction is complete, notifying that building work has been completed in accordance with the building consent.

**CERTIFICATE OF TITLE**—Document which shows the ownership of a piece of land, held in Lands and Deeds Registry Offices. It can include the owner's details, type of ownership, area, legal description, mortgages, covenants and consent conditions.

**COMPLIANCE**—Occurs when building performance, according to the standards in the Building Code, has been achieved.

**CONCEPT**—A concept drawing conveys the overall intended design and style of the finished house. These drawings don't have all the detail needed for construction.

**CONTROL JOINT**—Also known as an Expansion Joint. See Expansion Joint.

**COVENANTS**—A set of rules included in the LIM which impose restrictions or requirements on the buildings and activities on a specific property. Covenants may or may not expire after a specified period of time.

**COVER BATTENS**—External decorative notch cover.

**DOUBLE GLAZING**—A double-glazed window or door consists of two sheets of glass spaced apart in a frame. The space between the panes may contain dry air or argon gas.

**EASEMENT**—A right that a property owner has to some use of the (usually adjoining) property of another. Examples of easements include: a right of way (this is a right to pass over another person's land, such as a driveway or for the neighbours drain to go through your land).

**EAVE**—The lower part of a roof that overhangs the walls.

**EXPANSION JOINT**—A joint or gap constructed between two similar materials in the same plane to allow for expansion/contraction between those surfaces with temperature changes. Most commonly a gap between sheets of plaster board, or a gap between concrete sections.





**FACINGS**—Finishing exterior trim around windows.

**FASCIA**—The board that runs along the edge of the roof at the eaves. Guttering is usually attached to the fascia.

**FLASHING**—A strip of metal used in parts of a building to prevent penetration of moisture where different components meet. Flashing is used above windows so rain can't seep through gaps.

**FLOOR PLAN**—A scale drawing of the homes layout from a birds eye view.

**FOUNDATION**—Those parts of a building or structure such as piles, piers or footings which transmit and distribute loads to the ground.

**GABLE**—The part of a wall that encloses the end of a pitched roof showing triangular open ended roof edges.

**GIB STOPPING/PLASTERING**—To fill the surface that is to be painted providing a flat surface such as nail holes, GIB joins and cracks. Note: there are differing levels of finish in this work.

**HIP**—The seam formed between two roof planes that meet at an external corner and runs up to a ridge. The opposite of valley.

**JOIST**—Horizontal framing which supports a floor or ceiling.

**LBP**—Licensing Building Practitioner (LBPs). A licensing system for the building industry covering designers and trades. Critical building work will need to be carried out or supervised by a Licensed Building Practitioner.

**LIM**—Land Information Memorandum. This is a document from the local authority which discloses a number of known features about the site. This may include location of stormwater and sewer lines and connection points, land zoning, wind zones, and soil types.

**LONG RUN ROOFING**—Metal sheets overlapped which run the full length of a roof.

**MONOPITCH**—A single roof plane that slopes from one side of the house to the other, usually at a lower pitch than a gable or hip roof.

**NIB WALL**—A short section of wall that juts out at 90 degrees from the floor. It allows you to separate parts of rooms. Usually used in bathrooms to separate off the toilet but still allow the feeling of space.

**NOTCH**—Where timber walls interlock at 90 degrees and extend beyond the basic line of the house for strength.

**PARTICLEBOARD**—Also known as chipboard. A sheet panel manufactured by bonding together particles of wood.

**PILE**—A block or column-like support used to support the building above the ground.

**PLANS**—Drawings. The set of construction plans including the floor plan, elevations, site plan, and other construction details.

**PLASTER**—A render or mixture for spreading onto walls to form a surface. It can be used internally or externally and moulded to decorate.

**PLATE**—The horizontal length of the wall frame.

**PLYWOOD**—A sheet material where layers of wood veneer are glued together.

**PURLIN**—A horizontal beam along the length of a roof and the roof cladding.

**RAFTER**—Framing that is normally parallel to the slope of the roof that provides support for the roof.

**RESOURCE CONSENT**—A consent issued by a Territorial Authority (Council) to use the land in a way that is not a permitted activity under a council or district plan. For example, locating a building closer to the boundary than permitted on the District Plan, requires Resource Consent.

**RFIs**—Requests for information. From time to time council will send us these formal requests as they review the working drawings. We handle these on your behalf.

**RIDGE**—The vertically running seam at the junction of the top of two roofing planes.

**SARKING**—Timber profile that can be used as a ceiling lining,, sarking is a structural element so may be used to strengthen the roof.

**SASH**—A frame containing a pane or panes of glass that can move up and down. It is fitted in the window frame.

**SEPTIC TANK**—A holding tank where sewage undergoes initial treatment before dispersal over a large land area.

**SETBACK LINE**—The distances from the ends and/or sides of the allotment beyond which construction may not extend. It may be established by restrictive covenants on the certificate of title, or by local council requirements. Also known as the setback line.

**SETTING OUT**—Using pegs to show the position of a structure on a site, ensuring to clear site boundaries or noted areas of concern.

**SETTLEMENT**—Movement of a structure after construction, usually caused by expansion and contraction due to temperature variations.

**SHIPLAP TO BASE**—The timber profile to cover sub-floor or foundation plate.

**SILL**—A horizontal piece of wood at the foot of a door or window.



**SITE PLAN**—This is a bird's eye view of the section, showing the position of the building and other relevant factors like waste water pipes and vehicle access.

**SKILLION ROOF**—A pitched roof where the ceiling lining is parallel and close to the roof cladding.

**SOFFIT**—The lower face or undersurface of the eaves of a roof.

**SPECIFICATION**—A written document that contains additional details about the project that aren't necessarily captured in the drawings. The specification is included in the package that is submitted to council for building consent.

**STACKER DOORS**—A stacker door has two or three panels that slide the same way behind a fixed panel, which means there are no intrusive panels to obstruct.

**STUD HEIGHT**—The height of the wall framing a room. Note that this height will generally be greater than the height from floor coverings to ceiling.

**SUBCONTRACTOR**—A tradesperson hired to do specific work such as roofing, plumbing, wiring or painting. The subcontractor takes instructions from, is paid by, and is responsible to the main contractor.

**SUBFRAMES**—Provide the stability for the windows for installation.





**TANKING**—A continuous waterproof membrane applied to a surface to prevent water penetration from either side. Tanking is applied to the walls around a tiled shower before the tiles are fixed.

**TIE RODS**—Are to keep the timber profile joints tight during the settlement process.

**TOP PLATE**—The horizontal piece of timber running along the top of a timber framed wall.

**S TRAP**—A toilet pan or fixture in which the outlet discharges vertically downward (out through the floor of the structure).

**VARIATION TO THE CONTRACT**—A change to the approved plans and specifications for a building project, occurring during construction. This may or may not require an amendment to the building consent, which needs to be approved by the building consent authority.

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