Waimakariri District Council
215 High Street
Private Bag 1005
Rangiora 7440, New Zealand
Phone 0800 965 468

BC No: BC211794

SITE DETAILS:

25 GREENGRASS CRESCENT

KAIAPOI

LEGAL:

LOT 11 DP 540916

Approved Building Consent Documents and Plans

(Full set)

On Site Copy

- These plans and specifications must be kept on site during construction, and made available to the building officer on request. Failure to do so will mean an automatic failure of the building inspection and will necessitate re-booking the inspection at the applicant's expense.
- All boundary survey pegs must be located and flagged by the owner before work is commenced.

Inspections

For bookings or building enquiries please phone the Building Unit on:

03 311 8906

or

Email inspection bookings to: bcbooking@wmk.govt.nz

- Please refer to your inspection schedule for details of inspections to be carried out.
- At least 2-3 full working days' notice should be given when booking an inspection.
- Please be advised that it may not always be possible to carry out the inspection within the time frame you require.
- Provision is to be made to allow access.
- The Code Compliance Certificate will be issued once the:
  - Final inspection has been carried out and passed.
  - Audit of WDC building consent file has been completed.
  - Payment of any outstanding invoices is received.

211208196566 / QD BU Information 003 – Version 1.0 – December 2021

Access Around House Building Sites



It is important when you are building your house that you take care not to damage roads, kerbs, footpaths, street trees, swales and berms.

The Council will be monitoring building sites in subdivisions to make sure that builders have the correct arrangements in place to help avoid damage and to ensure public safety.

In particular:

- **Vehicles accessing the site should only use an approved vehicle crossing**
- **Vehicles should not park on the footpath or berm**
- **Take care unloading plant and materials to protect the road surface**
- **You must ensure no litter encroaches into a public place (road/berm/footpath). Litter includes such items as earth, dirt or stones. An infringement notice up to $400.00 may be issued to any person or company found in breach of the Litter Act 1979.**

If you need to block footpaths for any reason such as pouring foundations or unloading materials you need to provide alternative access for pedestrians. You need to do this to fulfil the requirements of the Health and Safety in Work Act 2015, and the Code of Practice for Temporary Traffic Management (CoPTTM). As site owner you or your builder are responsible for the health and safety of workers and the general public.

Vehicles are not allowed to be parked on footpaths, berms or swales. The Council will issue parking infringement notices if required.

Thank you for helping to keep our roads and footpaths safe for everyone, and doing what you can to reduce costly damage to new roads, footpaths and berms.

Find out more at waimakariri.govt.nz

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THINGS YOU SHOULD KNOW ABOUT...

Noisy Heat Pumps

AS THE DISTRICT GROWS WE'RE SEEING MORE HOMES BEING BUILT ON SMALLER SECTIONS.

Smaller sections mean that you need to pay closer attention to products which both eliminate and produce noise.

While a heat pump is not assessed under the Building Consent application, and therefore not checked or signed off under any building inspection, some models produce noise which is deemed excessive under the District Plan.

The onus is upon the individual / landlord to ensure that it complies with your local council's District Plan rules.

BELOW ARE QUESTIONS TO ASK YOURSELF BEFORE INSTALLING A HEAT PUMP:

- **Does your heat pump comply with the permitted noise levels allowed by the Waimakariri District Council?** i.e. Does the noise produced from your heat pump measure less than 50dBA during the day and less than 40dBA at other times? You may not be allowed to use it if complaints are received.
- **Where are you mounting the unit?** The level of noise produced by your heat pump will depend upon the size, the location and how it has been fixed /mounted.

It is common sense that heat pumps will produce some noise as they do contain a compressor and fan. However what is regarded as 'acceptable noise' is a personal and subjective opinion.



Please note that if the unit makes a constant penetrating monotone engine noise similar to generators or water heater pumps, then those types of noise may cause significant issues for neighbours who will render the noise 'unreasonable'. Such noise may not even be exceeding the noise levels but will potentially still be rated as 'unreasonable'.

Most noise issues occur when the outdoor unit is located too close to the neighbouring boundary or not raised off the ground.

Noise specifications will be found in the sales brochure, and you are advised to check these prior to purchase and installation.

If you are having a heat pump installed, make sure the installer is trade qualified to install air conditioning units and heat pumps. The installer should be a member of IRHACE.

Have your heat pump installed by a qualified installer.

MORE INFORMATION Visit waimakariri.govt.nz for more information, or contact Customer Services on 0800 965 468 (0800WMKGOV)

190215017430 / MARCH 2019

Dial Before You Dig

Safety near underground cables and services

MainPower is committed to providing a safe, secure and reliable electricity supply to all customers.

This fact sheet is designed to inform you about safety around electricity, particularly underground cables.

Working near electricity cables

Serious personal injury can result from damaging underground services during excavation and ground penetration. Supply disruption and repairs can be costly and extremely irritating to customers.

The positions where cables are buried are subject to reasonable tolerance however, the depth of cover may have changed since installation.

It is your responsibility to verify the position and depth of cables before excavation.

Steps to ensure safe digging

- Obtain up-to-date plans from the relevant local authorities.
- Use a cable locator, if possible, to mark-out the underground services before commencing work.
- Practice safe digging procedures.
- The Worksafe Guide for Safety with Underground Services sets out agreed work methods and preferred work practices for the location and excavation of underground services. Download the guide at - http://www.business.govt.nz/worksafe/information-guidance/all-guidance-items/underground-services-guide-for-safety-with/underground.pdf

Underground electricity cables

For copies of plans showing MainPower's electricity cables phone 03 311 8300, weekdays 8am - 5pm or email us at underground.records@mainpower.co.nz.

Please allow 2 working days to receive copies of plans. MainPower may hold some records of privately-owned cables connected to the MainPower network system; contact MainPower in the first instance.

Additional services MainPower can provide if you are planning your digging:

- Mark-out Services: MainPower can trace cables using an electronic locator.
- On-Site Supervision: For difficult work or locations, MainPower can provide on-site safety supervision.

Disclaimer This fact sheet is not an exhaustive list of all safety matters that need to be considered. Whilst care is taken in the preparation of this material, MainPower does not guarantee the accuracy and completeness of the information.

Underground council services

All contractors are reminded of their legal responsibility to take all practicable steps to locate and protect existing services. In the road corridor, service plans and a Corridor Access Request (CAR) permit need to be obtained through the Beforeudig website (www.beforeudig.co.nz). The Beforeudig service helps contractors to determine the location of any underground services before excavating. For service plans on private property, and lateral locations for work on private property that will not extend into any part of the road reserve, contact the Waimakariri District Council's Customer Services team at office@wmk.govt.nz.

Contact MainPower

To report a fault:
0508 60 70 80

For electricity emergencies:
0508 60 70 80

For general enquiries:
www.mainpower.co.nz
info@mainpower.co.nz
03 311 8300 (8am to 5pm, Monday to Friday)



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Dwellings, Outbuildings, Swimming Pools and Other Works (Not Commercial)

Section 1
Statutory Forms

- **Inspection List** – By Council
- **Building Consent Form (Form 5)** – By Council
- **Code Compliance Application (Form 6)** – By Council
- **Installation & PS3 Forms** – By Council
- **Application Form**
- **LBP Design Certificates**
- **Record of Title or Sales & Purchase Agreement**
- **PIM, Resource Consent** – By Council

Waimakariri District Council
215 High Street
Private Bag 1005
Rangiora 7440, New Zealand
Phone 0800 965 468

PLEASE NOTE

- Although your Consent documentation states 48 hours notice is required, it is not always possible to carry out an inspection within this period.
- If an inspection of the building works is not carried out in accordance with the Inspection Schedule it could affect the issue of the Code Compliance Certificate.

To book inspections ring WDC on
03 311 8906

All inspections are subject to a separate charge.

All re-inspections will be charged and recorded separately even if other inspections are carried out on the same day.

Using engineers & other professionals
If an engineer has been engaged to carry out various site inspections you will need to provide copies of his/her site notices to us and a producer statement, a PS4 from the engineer confirming the building elements designed and inspected by the engineer were completed in accordance with the approved design.

Confirmation of installation of products
We require producer statements, warranties & installation certificates from various installers as a way of confirming products have been installed in accordance with the manufacturer's recommendations. These are commonly required for exterior claddings, wet area tanking, membrane roofing/decking and effluent fields. Energy certificates such as electrical and gas certificates need to be provided too. You will need to provide these to us prior to the issue of the Code Compliance Certificate.

Applying for a Code Compliance Certificate (CCC)
When you are satisfied your project is complete please book a final inspection and complete and sign *form 6*, application for Code Compliance Certificate which is enclosed with your building consent. You should have this form ready for when the building Inspector arrives on site to carry out the final inspection. Please note all outstanding monies must be paid prior to the issue of the CCC.

Grant or refuse a CCC
We are required to make a decision to grant or refuse a CCC if you do not formally apply for a CCC within two years of the granting of the building consent. The date your consent was granted is the date at the bottom of the building consent form. If you do not apply for a CCC or arrange an extension with us within the two year period we may carry out an inspection of the building work. An additional fee applies for this work.

Lapsing of your consent
Your building consent will lapse if building work has not commenced within 12 months after the date of issue of the building consent. The issue date is deemed to be the day you paid for the consent. In saying this we understand things don't always run smoothly so you can apply for a time extension which we may agree to. A fee applies for this.

Site Inspection Sheet

Application

Barry A Marshall, Royleen G Marshall C/- Golden Homes Limited 3 Otley Street Christchurch 8013	No.	BC211794
	Issue date	21 January 2022
	Overseer	Chris Keegan

Project

Description	1100 New (& prebuilt) House, Unit, Bach, Crib, Town Houses BC - New or Relocated Dwelling, New Detached Dwelling, 01 Standard Building Consent(20 W Processing Days)
Intended Life	Indefinite (50+)
Intended Use	Residential
Estimated Value	$253000.00
Location	25 Greengrass Crescent KAIAPOI
Legal Description	LOT 11 DP 540916 0.030300 Ha
Valuation No.	2172500740

This inspection sheet and all the approved plans and specifications relating to this building consent are to be available on site during construction. If the documentation required for a particular inspection is not available, this will mean automatic failure of the building inspection and will necessitate re booking the inspection at the applicant's expense.

Please give at least 48 hours notice for the next required inspection.

Work cannot proceed past each step until that step has been inspected and approved.

All inspections listed below are to be inspected by a WDC Building Inspector, an Engineer may also need to be engaged to inspect engineer requirements, this will be noted below.

BC211794
Compacted Hardfill - pre DPM - Engineer to inspect excavation also. Building Location certificate required.
Foundation / Floor Slab -
Structure Pre Roof Pre Wrap -
Building Wrap & Sill Tape -
Cavity Battens & Flashings -
Mid Height Cladding - Oblique weatherboard part installed.
AAC-AAC Panel Part Installed -
Pre Plaster & Flashings -
Drains -
Preline & Plumbing -
Prestopping -
Final -

Waimakariri District Council
215 High Street
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Phone 0800 965 468

Form 5
Building consent BC211794

Section 51, Building Act 2004

The building

Street address of building: 25 Greengrass Crescent KAIAPOI
Legal description of land where building is located: LOT 11 DP 540916 0.030300 Ha
Valuation number: 2172500740
Building name:
Location of building within site/block number:
Level/unit number: 1

The owner

Name of owner: Barry A Marshall and Royleen G Marshall
Contact person:
Mailing address: 93A Marne Street Hokowhitu Palmerston North 4410
Street address/registered office:
Phone number: Landline: Mobile:
Daytime: After hours:
Facsimile number:
Email address:
Website:
First point of contact for communications with the council/building consent authority:
Golden Homes Limited

Building work

The following building work is authorised by this building consent:
CODEMARK DWELLING WITH ATTACHED GARAGE 25 GREENGRASS CRESCENT KAIAPOI LOT 11 DP 540916
Primary Specified Intended Use: Housing - Detached dwellings
Description of Intended Use: Residential

This building consent is issued under section 51 of the Building Act 2004. This building consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act relating to or affecting the building (or proposed building).

This building consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

This building consent is subject to the following conditions:

The Building Act 2004, Section 90, states that agents authorised by the building consent authority (the Council) for the purposes of this section are entitled, at all times during normal working hours or while building work is being done, to inspect:
(a) land on which building work is being or is proposed to be carried out; and
(b) building work that has been or is being carried out on or off the building site; and
(c) any building.

This building consent is issued with the following advice notes:

All inspections listed must be requested and carried out in accordance with the attached schedule (list) of inspection types. It is advisable to request bookings at least 2-3 full working days' in advance, please be advised that it may not always be possible to carry out the inspection within the time frame you require. It is the owner's responsibility to ensure all necessary inspections are carried out. Please contact the building consent authority if you are unsure what requires inspection - do not cover or enclose any building work without prior inspection.
Please note that the consent fees allow for a single inspection of construction stages of the project as specified in the inspection schedule. Any extra inspections required will be invoiced and must be paid for before a code compliance certificate is issued.

All boundary survey pegs must be located by discovery or redefinition before work is commenced.

Critical Siting: The owner/applicant/agent will need to supply a Building Location Certificate for this Lot two (2) working days prior to the Pre-Pour inspection. The certificate shall confirm that the building meets the District Plan requirements for critical finished floor levels (FFL). Minimum FFL = 4.40m in terms of the Lyttleton Vertical Datum 1937 (Jan 2018).

Comply with the endorsements on the plan.

The duplicate copy of the approved consent documents and inspection schedule must remain on site during construction.

Engineers site reports are to be kept on site for the review and collection by the building Inspector.

A PS4 construction review will be required from the engineer prior to the issue of a Code Compliance Certificate.

Please note that any material deviation from the approved documents will require a formal application for amendment. Amendments that are not of a material nature can be approved by a Building Officer or Building Inspector by way of the endorsement of the approved consent documentation.

WorkSafe New Zealand to be notified prior to any disturbance of asbestos or hazardous materials on site during demolition or construction.

The electrical certificate shall be provided to the building consent authority prior to issue of Code Compliance Certificate

Your consent is issued subject to manufacturers technical information about their products, installation and maintenance is to be as this technical information requires.

Licenced building practitioners records of work shall be provided to the Territorial Authority (TA) / Building Consent Authority (BCA) for foundations, carpentry / primary structure, roof cladding, wall cladding systems, brick & block laying as applicable at the conclusion of the relevant work.

A Building Consent lapses and is of no effect if the building work to which it relates does not commence within 12 months after the date of issue of the building consent or any further period that the Building Consent Authority may allow. (Time extensions to commence building work after 12

months must be submitted to the Building Consent Authority in writing stating the reason for the request, prior to the lapse date of the consent.

A Building Consent is not completed until it has been issued with a Code Compliance Certificate. The owner is required to complete a separate application for a Code Compliance Certificate as soon as practicable after the building work is completed. In any event no later than two (2) years after the granting of the Building Consent. Council is required to decide whether or not a Code Compliance Certificate can be issued. If your project will not be completed within two years you will need to apply for a time extension*. *fees apply

The certifying drainlayer's registration number shall be provided to the Building Consent Authority prior to issue of the Code Compliance Certificate.

The plumbing pressure test PS3 & plumbers registration number shall be provided to the Building Consent Authority prior to issue of the Code Compliance Certificate

The installer shall provide the building consent authority a PS3 for the installation of the AAC exterior cladding system prior to issue of Code Compliance Certificate

Compliance schedule

A Compliance Schedule is not required for this building.

Attachments

Copies of the following documents are attached to this building consent:
Consented Plans
Consented Specifications
Inspection List
Form 6 Application for Code Compliance



Diana Firth | **Building Consent Administrator**

Building Unit

Building Unit: 03 311 8906

On behalf of: Waimakariri District Council

Date: 21 January 2022

Waimakariri District Council
215 High Street
Private Bag 1005
Rangiora 7440, New Zealand
Phone 0800 965 468

BUILDING UNIT

Form 6 Application for Code Compliance Certificate

Under *The Building Act 2004, Section 92*

Please submit the Application for Code Compliance Certificate, when work has been completed, by emailing to: **ccc@wmk.govt.nz**

Office use only - Date Form 6 received:

1. The Building Consent

Building consent number(s) (BC):

Issued by:

Site address: *(number/street/road/township)*

2. The Owner - All details must be the legal owner's

PLEASE NOTE - *This section is only required to be completed if the owner details have changed from the building consent.*

☐ No change to details

Name of owner: *(include preferred form of address, e.g. Mr, Mrs, Ms, Miss, Dr, if an individual)*

Contact person: *(not required if the owner is an individual. Must have a New Zealand address)*

Mailing address:

Street address/Registered office: *(if different than above)*

Phone number:

Landline: | Mobile: | Daytime: | After hours: | Fax:

Email: | Website:

The following evidence of ownership is attached to this application - **not required if details have not changed from the building consent**:

☐ **Copy of** Record of Title *(formerly Certificate of Title)* OR ☐ Council to provide *(additional charge of $15)*
(Current within 1 month of being issued and must include a deposited plan [diagram])

☐ Signed copy of Sales and Purchase Agreement *(If Record of Title is not issued)*

☐ Other document showing full name of legal owner(s) *(e.g. Rates Invoice)*

3. Agent - Only required when the application is being made on behalf of the owner

PLEASE NOTE - *Authorisation is required from the owner of the property*

Name of agent:

Contact person: *(not required if the applicant is an individual)*

Mailing address:

Street address/Registered office: *(if different than above)*

Phone number:

Landline:	Mobile:	Daytime:	After hours:	Fax:

Email: Website:

Relationship to owner: *(state details of the authorisation from the owner to make the application on the owner's behalf)*

PLEASE NOTE - *The Agent will be the first point of contact for communications with the Council/Building Consent Authority regarding this application.*

4. Application

The following field must be completed when submitting the Code Compliance Certificate application:

All building work carried out under the Building Consent specified in this form was completed on:

Restricted building work

Did the building work include any restricted building work? ☐ Yes ☐ No

The Licensed Building Practitioner(s) who carried out or supervised the restricted building work is/are as follows:

Licence class	Name	Licensed building practitioner number *(or registration number if treated as being licensed under section 291 of the Building Act 2004)*	Particular work carried out or supervised
Foundations			
Carpentry			
Exterior Plasterer			
Bricklayer			
Blocklayer			
Roofer			

Key personnel

Builder

Name: Reg. No.:

Address:

Phone No.: Email:

Designer(s)

Name: Reg. No.:

Address:

Phone No.: Email:

Certifying drainlayer

Name: Reg. No.:

Address:

Phone No.: Email:

Certifying plumber

Name: Reg. No.:

Address:

Phone No.: Email:

Certifying gasfitter

Name: Reg. No.:

Address:

Phone No.: Email:

Registered electrician

Name: Reg. No.:

Address:

Phone No.: Email:

Structural engineer

Name: Reg. No.:

Address:

Phone No.: Email:

Specified systems

The following specified systems are contained on the compliance schedule for the building and, in the opinion of the personnel who installed them, are capable of performing to the performance standards set out in the Building Consent. Tick appropriate specified systems below:

☐ **There are no specified systems in the building**

☐ SS1 Automatic systems for fire suppression
☐ SS2 Emergency warning systems
☐ SS3/1 Automatic door
☐ SS3/2 Access controlled doors
☐ SS3/3 Interfaced fire or smoke doors or windows
☐ SS4 Emergency lighting systems
☐ SS5 Escape route pressurisation systems
☐ SS6 Riser mains
☐ SS7 Automatic back-flow prevention
☐ SS8/1 Passenger carrying lifts
☐ SS8/2 Service lifts
☐ SS8/3 Escalator and moving walks
☐ SS9 Mechanical ventilation or air conditioning systems
☐ SS10 Building maintenance units
☐ SS11 Laboratory fume cupboards
☐ SS12/1 Audio loops
☐ SS12/2 FM Radio and infrared beam transmission systems
☐ SS13/1 Mechanical smoke control
☐ SS13/2 Natural smoke control
☐ SS13/3 Smoke curtains
☐ SS14/1 Emergency power systems
☐ S14/2 Signs for SS1-13
☐ SS15/1 Spoken information to facilitate evacuation
☐ SS15/2 Final exits
☐ SS15/3 Fire separations
☐ SS15/4 Signs for facilitating evacuation
☐ SS15/5 Smoke separations
☐ SS16 Cable cars

I request that you issue a Code Compliance Certificate for this work under *section 95 of the Building Act 2004.*

The Code Compliance Certificate should be sent to: ☐ Owner ☐ Agent

I wish to receive my certificate in the following format:

PLEASE NOTE - *If hard copy, please confirm if you wish to pick it up from the Council or have it posted.*

Hard copy: ☐ (post) OR ☐ (pick-up) OR ☐ Email

Terms of trade

I/We understand that:

Fees associated with the Building Consent shall be paid for i.e. development contributions, amendments, additional inspections, and extensions prior to the issue of Code Compliance Certificate.

All other accounts shall be paid by the 20th day of the month following the month in which the invoice is issued.

I/We agree to pay according to these terms for any goods or services you supply to us. Failure to meet these Terms of Trade may result in any credit arrangement being withdrawn with any balance becoming payable within seven days. Should failure to meet the terms of trade result in debt recovery and/or legal proceedings, any costs whatsoever incurred in the collection of the debt including debt collector's fees and commissions and legal costs, charges and expenses on a solicitor and own client basis will be added to the account and will be payable by me/us.

Application authorisation

By entering your name in the box below you are giving your authority for this application to proceed under Section 92 of the Building Act 2004.

Name: Date:

I am the: ☐ Owner ☐ Agent on behalf of, and with the authority of the owner

5. Attachments

The following documents are attached to this application: *(Where applicable)*

- ☐ Other documents from personnel that carried out the work
- ☐ Memoranda (records of building work) from licensed building practitioner(s) stating what restricted building work they carried out or supervised
- ☐ Certificates that relate to the energy work *(e.g. gas and electricity)*
- ☐ Evidence that the specified systems are capable of performing to the performance standards set out in the building consent
- ☐ Proof of potability of drinking water from private well, and/or rain water catchment, supply
  (Refer to New Zealand Drinking Water Standards 2005)

Important information

All the relevant information on this form is required to be provided under the *Building Act 2004* and/or *Resource Management Act 1991* for the Waimakariri District Council to assess your application. Under these Acts this information has to be made available to members of the public if requested. The information contained in this application may be made available to other units of the Council. You have the right to access the personal information held about you by the Council which can be readily retrieved. You can also request that the Council correct any personal information it holds about you.

Code compliance certificate

A Building Consent is not completed until it has been issued with a Code Compliance Certificate. The owner is required to complete a separate application for a Code Compliance Certificate as soon as practicable after the building work is completed. In any event no later than two (2) years after the granting of the Building Consent, the Council is required to decide whether or not a Code Compliance Certificate can be issued. If your project will not be completed within two years, you will need to apply for a time extension*.
*Fees apply

Inspections

During the process of construction, inspections will be necessary to confirm all work complies with your approved Building Consent documentation. Please phone the Council Building Unit on 03 311 8906 at least **48 hours in advance** of requiring an inspection. Bookings are subject to demand and availability of inspectors, **please be advised that it is not always possible to carry out an inspection within 48 hours.**

The inspections required will be set out in the Building Consent documentation issued by the Council. Failure to have a prescribed inspection carried out may put the issue of the Code Compliance Certificate at risk.

All inspections including re-inspections are subjected to a separate charge, even if carried out on the same day.

Agency

The owner may authorise an agent to submit an application on their behalf.

The Agent will be the first point of contact for all communications with the Council/Building Consent Authority regarding the application for a Code Compliance Certificate under *Section 92 of the Building Act 2004*. They will receive all correspondence and must be authorised by the owner. All amendments require new authorisation.

Fees

All work for the issue of a Code Compliance Certificate will be invoiced and needs to be paid in full as described in *Section 95 of the Building Act 2004* before the Code Compliance Certificate can be issued, refer to building services fees and charges.

Notice to fix

If a Notice to Fix is issued, it will state the building work that must be carried out and will set a timeframe in which this work must be completed. Once the work listed has been completed a further inspection needs to be booked by phoning the Council Building Unit on 03 311 8906.

WAIMAKARIRI DISTRICT COUNCIL

Private Bag 1005, Rangiora 7440
Ph 03 311 8900, 03 327 6834 Fax 03 313 4432
www.waimakariri.govt.nz

PRODUCER STATEMENT PIPEWORK TESTING

BC No.

Issued by *(Plumber)*:

At *(address)*:

For *(Owner)*:

In respect of the testing of water pipe work prior to concealment.

I hereby state that I have personally tested the water pipe work installed in the building authorised under this Building Consent by the method indicated hereunder.

☐ By pressurising the pipe work to 1500 kPa for a period of not less than 15 minutes for the hot and cold water supply and checking to see there are no leaks. (NZBC G12/AS1 7.5.1 (a), (b).)

☐ By pressurising the uPVC pipe work to 1.5 times the maximum working pressure for a period of not less than 15 minutes and checking that there are no leaks. (NZBC G12/AS1 7.5.2, NZS 7643).

Max working pressure was:

☐ By pressurising the pipe work to 1500 kPa for a period of not less than 5 minutes and checking to see there are no leaks. (NZBC G12 VM1, AS3500:Part 1.2 1998)

And believe on reasonable grounds that the pipe work has passed that test.

☐ All work complies with the NZBC

I also understand that Waimakariri District Council in accepting this producer statement will be relying on it to issue the Code Compliance Certificate at the completion of the building work.

SIGNATURE OF LICENSED CERTIFYING PLUMBER:

Signature:

Registration Number:

Company Name:

Date:

BC211794
Waimakariri District Council
215 High Street
Private Bag 1005
Rangiora 7440, New Zealand
Phone 0800 965 468

BUILDING UNIT

Form 2 Application for a Project Information Memorandum and/or Building Consent

Dwellings, Outbuildings, Swimming Pools and Other Works e.g. Septic Tank, Bridge, Retaining Wall, Amendments and Exemptions

Under The Building Act 2004, Sections 33, 45 & Schedule 1, Part 1, Clause 2

BC No.: BC211794

1. The Building

Street address (street/road/township): (*for structures that do not have a street address, state the nearest street intersection and the distance and direction from that intersection)*

25 Greengrass Crescent, Kaiapoi

Legal description of the land where the building is located: *(state legal description as at the date of application and, if the land is proposed to be subdivided, include details of relevant lot numbers and subdivision consent)*

Lot: 11 DP: 540916 Valuation Number: 2172500740 Resource Consent:

Building name: *(if applicable)* N/A

Location of building within site/block number: *(include nearest street access)*

within boundaries

Number of levels: 1 Unit/Level No.: N/A

Area: *(total floor area; indicate area affected by the building work if less than the total area)*

Existing: 0 New: 126.5 Total: 126.5

Current lawfully established use: *(include number of occupants per level and per use if more than 1)*

Bare Land

Year building first constructed: 2021 *(Approximate date is acceptable, eg 1920's)*

2. The Owner - All details must be the legal owner's

Name of owner: *(include preferred form of address, e.g. Mr, Mrs, Ms, Miss, Dr, if an individual)*

Barry Allen Marshall and Royleen Glee Marshall

Contact person: *(not required if the owner is an individual. Must have a New Zealand address)*

Royleen Marshall

Mailing address: 93a Marne Street, Hokowhitu, Palmerston North 4410

Street address/Registered office: *(if different than above)*

N/A

Phone number:

Landline:	Mobile:	Daytime:	After hours:	Fax:
N/A	027 689 9038	N/A	N/A	N/A

Email: royleenglee@gmail.com Website: N/A

BC211794

The following evidence of ownership is attached to this application:

☑ Copy of Record of Title *(formerly Certificate of Title)* OR ☐ Council to provide *(additional charge of $15)*
(Current within 1 month of being issued and must include a deposited plan [diagram])

☐ Signed copy of Sales and Purchase Agreement *(If Record of Title is not issued)*

3. Applicant - only required when the applicant is not the owner or the agent e.g. leasee/tenant

PLEASE NOTE - *Authorisation is required from the owner of the property.*

Name of applicant: *(e.g. leasee/tenant)* NDM Construction TA/ Golden Homes

Contact person: *(not required if the applicant is an individual)* Angela Bean

Mailing address: 3 Otley Street, Christchurch City, Christchurch 8013

Street address/Registered office: *(if different than above)*

3 Otley Street, Christchurch City, Christchurch 8013

Phone number:

Landline:	Mobile:	Daytime:	After hours:	Fax:
075742340	N/A	N/A	N/A	N/A

Email: consents@dinex.co.nz Website: N/A

Relationship to owner: *(state details of the authorisation from the owner to make the application on the owner's behalf)*

Builder

4. Agent – Only required when the application is being made on behalf of the owner

PLEASE NOTE - *Authorisation is required from the owner of the property.*

Name of agent: NDM Construction TA/ Golden Homes

Contact person: *(not required if the applicant is an individual)* Angela Bean

Mailing address: 3 Otley Street, Christchurch City, Christchurch 8013

Street address/Registered office: *(if different than above)*

3 Otley Street, Christchurch City, Christchurch 8013

Phone number:

Landline:	Mobile:	Daytime:	After hours:	Fax:
075742340	N/A	N/A	N/A	N/A

Email: consents@dinex.co.nz Website: N/A

Relationship to owner: *(state details of the authorisation from the owner to make the application on the owner's behalf)*

Builder

PLEASE NOTE - *The Agent will be the first point of contact for communications with the Council/Building Consent Authority regarding this application/building work*

5. Application

I request that the following (please select one) be issued for the building work described in this Application:

☐ Project Information Memorandum (PIM) only

☐ Building Consent for PIM No:

☐ Building Consent with PIM

☑ Building Consent without PIM *(Compliance Check applies)*

☐ Exemption from the need for B/C
(Refer Building Act 2004 Schedule 1, Part 1, Clause 2)

☐ Amendment to Building Consent
Please Note: *Amendments must be authorised by the owner*

☐ Building Consent for Above Ground Pool and/or Non-Exempt Small Heated Pool

I wish to receive my approved documentation in the following format:

PLEASE NOTE - *If USB or hard copy, please confirm if you wish to pick it up from the Council or have it posted.*

☑ Electronically via Sharefile Transfer Portal (You must be set up and registered for this option)

☐ USB: ☐ Post OR ☐ Pick-up

☐ Hard copy (onsite): ☐ post OR ☐ pick-up

PLEASE NOTE - *One set of "On-site" hard copy consented documents must be available at all times for inspections.*

All consent related invoices/refunds to be billed and sent to:

☐ Owner ☐ Applicant ☑ Agent ☐ Or other (If other, please complete below)

Company name: *(if applicable)* NDM Construction TA/ Golden Homes

Contact person: Craig Wearne

Mailing address: 3 Otley Street, Christchurch City, Christchurch 8013

Phone number:

Landline:	Mobile:	Daytime:	After hours:	Fax:
075742340	N/A	N/A	N/A	N/A

Email: consents@dinex.co.nz Website: N/A

PLEASE NOTE - *Any refunds are to the receipted name unless written authorisation has been received from the receipted person or company.*

Terms of trade

I/We understand that:

Building Consents shall be paid for when the consent is collected/uploaded or if the consent is not collected/uploaded within three months after the date of consent being granted, the work done to date portion i.e. admin and processing costs of the account will be due and payable. The balance of the invoice will be payable when the consent is collected/uploaded.

All other accounts shall be paid by the 20th day of the month following the month in which the invoice is issued.

I/We agree to pay according to these terms for any goods or services you supply to us. Failure to meet these Terms of Trade may result in any credit arrangement being withdrawn with any balance becoming payable within seven days. Should failure to meet the terms of trade result in debt recovery and/or legal proceedings, any costs whatsoever incurred in the collection of the debt including debt collector's fees and commissions and legal costs, charges and expenses on a solicitor and own client basis will be added to the account and will be payable by me/us.

Application authorisation

By entering your name in the box below you are giving your authority for this application to proceed under Sections 33 and 45 of the Building Act 2004.

Name: Craig Wearne Date: 30 September 2021

I am the: ☐ Owner ☐ Applicant on behalf of, and with the authority of the owner
☑ Agent on behalf of, and with the authority of the owner

6. The Project

Description of work *(e.g. dwelling, alteration/addition). If an amendment, please provide a complete description of the nature of the amendment.*

Construction of a single level 3 bedroom residential dwelling with attached single garage

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Specify the intended use of the building: *(e.g. detached dwelling, multi-unit dwelling, show home, sleepout or outbuilding - shed/garage etc.)*

Residential Dwelling

Will the building work result in a change of use of this building? ☐ Yes ☑ No

If Yes, provide details of the new use: N/A

Will hazardous substances be stored in the building? ☐ Yes ☑ No

Intended life of the building:

☑ Indefinite but not less than 50 years Or specified as _____ years

Is this a staged consent? ☐ Yes ☑ No

If staged, provide details *(e.g. Stage 1 of 3)*

N/A

List Building Consents previously issued for this building (if any): *(i.e. is this project being constructed in stages? Is this consent for a relocated or transportable building?)*

N/A

Estimated value of the building work on which the building levy will be calculated (incl. GST): *(state estimated value as defined in section 7 of the Building Act 2004)*

$ 253,000

If this is an application to amend a building consent, advise the estimated value of amended building work (incl. GST) $ N/A

Is this in addition to, or reduction from, what was stated with the original application?

☐ Addition ☐ Reduction ☐ No change

7. Restricted building work

Will the building work include any restricted building work? ☑ Yes ☐ No

If Yes, provide the following details of all Licensed Building Practitioners who will be involved in carrying out or supervising the restricted building work (if these details are unknown at the time of the application, they must be supplied before the work begins).

Licence class	Name	Licensed building practitioner number (or registration number if treated as being licensed under section 291 of the Building Act 2004)
Foundations	Franswa Jooste - RedCo	232746
Carpentry	TBA	
Exterior Plasterer	TBA	
Bricklayer	TBA	
Blocklayer	TBA	
Roofer	TBA	

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Key personnel

Builder

Name:	TBA	Reg. No.:	
Address:			
Phone No.:		Email:	

Designer(s)

Name:	Craig Wearne, RCDC Limited	Reg. No.:	LBP 101178
Address:	63 Hewletts Road, Mount Maunganui, Tauranga 3118		
Phone No.:	07 574 2340	Email:	c.wearne@zog.co.nz

Certifying drainlayer

Name:	TBA	Reg. No.:	
Address:			
Phone No.:		Email:	

Certifying plumber

Name:	TBA	Reg. No.:	
Address:			
Phone No.:		Email:	

Certifying gasfitter

Name:	TBA	Reg. No.:	
Address:			
Phone No.:		Email:	

Registered electrician

Name:	TBA	Reg. No.:	
Address:			
Phone No.:		Email:	

Structural engineer

Name:	Franswa Jooste, RedCo Limited	Reg. No.:	232746
Address:	470 Otumoetai Road, Otumoetai, Tauranga 3110		
Phone No.:	07 5717070	Email:	red@redco.co.nz

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8. Project Information Memorandum - This section is not applicable if this application is for a building consent only

The following matters are involved in the project:

- ☐ Subdivision
- ☑ Alterations to land contours
- ☑ New or altered connections to public utilities
- ☑ New or altered locations and/or external dimensions of buildings
- ☑ New or altered access for vehicles
- ☐ Building work over or adjacent to any road or public place
- ☐ Disposal of stormwater and wastewater
- ☐ Building work over any existing drains or sewers or in close proximity to wells or water mains
- ☐ Registered historic site or place, tick if applicable (only applies where a PIM has not previously been issued for the building work)
- ☐ Other matters known to the applicant that may require authorisations from the territorial authority:

Notes

Other notes or comments which you may wish to add, eg: Resource Consents

9. Building consent - This section is not applicable if this application is for a Project Information Memorandum only

The following plans and specifications are attached to this application.

Architectural and Detailing Plans
Specitifcations

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The building work will comply with the Building Code as follows: *(Note: if you are not sure what clauses are applicable, consult with your builder, designer or architect)*

Clause *(Tick relevant clause numbers of Building Code)*	**Means of compliance** *(Refer to the relevant compliance document(s) or detail of alternative solution in the plans and specifications)*	**Waiver/modification required** *(State nature of waiver or modification of building code required)*
☑ B1 Structure	CodeMark CM 70023	
☑ B2 Durability	CodeMark CM 70023	
☑ C1-C6 Protection from fire	CodeMark CM 70023	
☑ D1 Access routes	CodeMark CM 70023	
☐ D2 Mechanical installations for access		
☑ E1 Surface water	CodeMark CM 70023	
☑ E2 External moisture	CodeMark CM 70023	
☑ E3 Internal moisture	CodeMark CM 70023	
☐ F1 Hazardous agents on site		
☑ F2 Hazardous building materials	CodeMark CM 70023	
☐ F3 Hazardous substances and processes		
☑ F4 Safety from falling	CodeMark CM 70023	
☑ F5 Construction and demolition hazards	F5/AS1	
☐ F6 Visibility in escape routes		
☑ F7 Warning systems	CodeMark CM 70023	
☐ F8 Signs		
☐ F9 Means of restricting access to residential pools		
☑ G1 Personal hygiene	CodeMark CM 70023	
☑ G2 Laundering	CodeMark CM 70023	
☑ G3 Food preparation and prevention of contamination	CodeMark CM 70023	
☑ G4 Ventilation	CodeMark CM 70023	
☑ G5 Interior environment	CodeMark CM 70023	
☐ G6 Airborne and impact sound		
☑ G7 Natural light	CodeMark CM 70023	
☑ G8 Artificial light	CodeMark CM 70023	
☑ G9 Electricity	CodeMark CM 70023	
☑ G10 Piped services	CodeMark CM 70023	
☐ G11 Gas as an energy source		
☑ G12 Water supplies	CodeMark CM 70023	
☑ G13 Foul water	CodeMark CM 70023	
☐ G14 Industrial liquid waste		
☐ G15 Solid waste		
☑ H1 Energy efficiency	CodeMark CM 70023	

10. Compliance schedule - This section is not applicable if there are no specified systems or if the application is for a Project Information Memorandum

The specified systems for the building are as follows: *(specified systems are defined in regulations)*

The following specified systems are being altered, added to, or removed in the course of the building work:

☑ There are no specified systems in the building

11. Attachments

The following documents are attached to this application:

☑ Plans and specifications (list under section 9)

☑ Memoranda from licensed building practitioner(s) who carried out or supervised any design work that is restricted building work

☐ Project information memorandum

☐ Development contribution notice

☐ Certificate attached to project information memorandum

☑ Completed relevant application checklist(s) – refer to Appendix

Please continue on the Appendix as follows for further information requested by the Waimakariri District Council.

Appendix - further information requested by the Waimakariri District Council

National Environment Standard (NES)

This section relates to the National Environmental Standard for Assessing & Managing Contaminants in Soil to Protect Human Health (NES).

The NES includes regulations controlling **soil disturbance, change of use, subdivision, and removal/ replacement of fuel storage systems** on properties which have been used either now or in the past for a hazardous activity or industry (known as HAIL) that may have resulted in contamination of the soil. The table below determines whether the NES applies to your proposal.

	Yes	No
Is the application site listed on Environment Canterbury's Listed Land Use Register (LLUR)? www.llur.ecan.govt.nz If **YES**, please include a copy of the LLUR statement with your application.	☐	☑
If the site is not listed on the LLUR, is an activity described on the Hazardous Substances and Industries List (HAIL) currently being undertaken on the piece of land to which this application relates, or is it more likely than not to have ever been undertaken on the land? The HAIL list is available to view at Hazardous Activities and Industries List (HAIL)	☐	☑

Type of HAIL activity:

If the answer to either of the above questions is YES, then the NES will apply, depending on the type of activity. Please identify whether the application involves the activities below.

PLEASE NOTE - *If the answer to both of the previous questions is No, you do not need to answer the remaining questions in this section.*

	Yes	No
Has the property been recently subdivided?	☐	☐
Will the proposed activity involve the disturbance of more than 25m³ of soil (per 500m² of disturbed area)? Volume of soil disturbed:	☐	☐
Will the proposed activity involve the removal of more than 5m³ of soil (per 500m² of disturbed area) from the site? Volume of soil removal:	☐	☐
Does the application involve changing the use of the land to one which, because the land has been subject to a HAIL activity, is reasonably likely to harm human health? (e.g. orchard to a residence)	☐	☐
Does the application involve replacing or removing fuel storage systems or parts of it?	☐	☐

If the answer to any of the above activity questions is also YES, then the NES will apply and you will need to establish whether the proposed activity complies with the NES.

- Changing the land use will require resource consent if the permitted activity requirements of the NES are not complied with. These include provision of a Preliminary Site Investigation carried out by a suitably qualified and experienced practitioner.
- Soil disturbance or removal exceeding the specified volumes require resource consent.
- Removal or replacement of a fuel storage system will require consent if the permitted activity requirements of the NES are not complied with.

Does the proposed activity require resource consent under the NES? If **YES**, a resource consent is required and with the application an assessment under the NES must be provided. A Detailed Site Investigation may be required.	☐	☐

Vehicle crossing

Is a new vehicle crossing required or an existing crossing altered for this project?

☐ Yes ☑ No ☐ Resource consent applied for

If yes, please complete and submit the Vehicle Crossing Application Form **and send to** office@wmk.govt.nz

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Application form

(One copy)

Office use only

These have been provided:

- ☑ All sections fully completed as applicable to the project
- ☑ Means of Compliance with NZBC - designer to complete
- ☑ Provide the correct legal description (Council can help with this)
- ☑ Provide one copy of the current Record of Title, or Sales and Purchase Agreement - not more than one month old
- ☑ Give name and contact numbers of contact person (if not the owner)
- ☑ State the project location (street address or location details as near as possible if no address)
- ☑ Application authorised and dated
- ☑ Agent relationship to owner stated (where applicable)
- ☑ Certificate/s of design work (LBP) ☐

Bookmarks

PLEASE NOTE - *Our current software does not enable us to maintain bookmarks within the consent documents during processing and granting. (This may be reviewed once a software solution becomes available.)*

Project Information Memorandum (PIM)

This section must be completed if you are applying for a PIM. **DO NOT** *complete this section if a PIM has already been issued. The following documents are attached to this application:*

- ☐ Site plan, Floor plans, Elevations for proposed building (electronic preferred or if hard-copy minimum size A3)
- ☐ Record of Title, or Sales and Purchase Agreement if Record of Title is not issued. Current Record of Title required (current within one month of application)
- ☐ Application fee (as per Council Fees and Charges Schedule) ☐

Building consent

This section must be completed if you are applying for a building consent. **DO NOT** *complete this section if the Application is for a Project Information Memorandum only.*

The following documents are attached to this application:

- ☑ 1 copy - building plans (site plans, floor plans, elevation plans. All plans to be dimensioned, scaled and accurate electronic preferred or if hard-copy minimum size A3)
- ☑ 1 copy of each - specifications, producer statements, truss details (refer below)
- ☑ 1 copy - Record of Title or Sale and Purchase Agreement if Record of Title is not issued. Current Record of Title required (current within one month of application)
- ☑ Restricted building work - see page 4
- ☑ Key personnel - see page 5
- ☑ Building work compliance with the Building Code - see page 7 ☐

PLEASE NOTE - *Swimming Pool document checklist on the following page to be completed if applicable.*

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Swimming pools (as applicable)

Office use only

These have been provided:

- ☐ Site plan, showing location of pool and existing buildings, location of fence, boundaries and existing waterways
- ☐ Fence construction. Show the height, gates, self-closing device, construction type etc (see "A Guide to Pool Fencing")
- ☐ Also show how any doors or windows that form part of the fence will comply

Brand and model of pool:

Size of the pool:

- ☐ Drainage plan. Show discharge point
- ☐ Producer statement (where applicable)
- ☐ Installation instructions/manual
- ☐ Show filling point for pool (tap) and backflow protection ☐

Design basis

(To be completed by the designer)

Please list the following basis for the building design:

☑ Wind zone	High
☑ Earthquake zone	2
☑ Snow zone/altitude	3 / 1kPa
☑ Corrosion zone (if applicable)	C

- ☐ Building is specifically engineer-designed
- ☐ Complies with NZS 3604:2011
- ☑ Both specific design and NZS 3604:2011 ☐

Design documents

(One copy)

- ☑ Weather tightness risk matrix
- ☑ Truss design layout ~~and Producer Statement~~
- ☑ Bracing ~~calculations~~/plan
- ☐ H1 Energy efficiency calculations ☐

Site plan

(One copy, electronic preferred or if hard-copy minimum size A3)

- ☑ Overview of site showing legal boundaries as per current Record of Title
- ☑ Showing proposed and existing structures (including swimming pools)
- ☑ Distances to boundaries
- ☑ Proposed and existing site levels
- ☑ North point
- ☑ Utility infrastructure (sewer, water pipelines, septic tanks etc) where applicable
- ☑ Water races, drains, topographic features ☐

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Drainage layout

(One copy to scale usually 1:100 or 1:50, electronic preferred or if hard copy minimum size A3)

- ☑ Foul water - showing waste pipes, sizes, grades, venting
- ☑ Foul water to discharge point
- ☑ Storm water - pipe sizes, grades, downpipe locations
- ☑ Storm water drain to discharge point

Office use only

These have been provided:

☐

Foundation layout

(One copy to scale usually 1:100 or 1:50, electronic preferred or if hard copy minimum size A3)

- ☑ Full foundation layout plan
- ☐ For timber floors, show all pile layout, pile types and bracing location
- ☑ Slab thickenings, shrinkage control joints and reinforcing rebates

☐

Floor plans

(One copy to scale usually 1:100 or 1:50, electronic preferred or if hard copy minimum size A3)

- ☑ Layout of all floors fully dimensioned. For alterations and/or additions provide both new and existing floor plans
- ☑ Doors and window positions and sizes
- ☑ Layout of amenity areas (laundry etc)
- ☑ Main structural beams that are not shown elsewhere
- ☑ Lintel sizes
- ☑ HWC location
- ☑ Roof space access
- ☐ Gas cylinder location
- ☑ Room names
- ☑ Location of smoke alarms
- ☑ Location of heating unit (if applicable)

☐

Exterior elevations

(One copy to scale usually 1:100 or 1:50, electronic preferred or if hard copy minimum size A3)

- ☑ Elevations of all external walls showing claddings
- ☑ Doors and windows showing opening sections
- ☑ Show location of solar panels
- ☑ Accurate ground levels existing and proposed
- ☑ Subfloor ventilation for timber floors
- ☑ Show roof bracing on elevations if not shown elsewhere

☐

Cross section and construction details

(One copy to scale usually 1:50 or 1:20 for sections and 1:10 for details - minimum scale, electronic preferred or if hard copy minimum size A3)

- ☑ Roof lines, overhangs, floor levels, ground levels
- ☑ Major vertical dimensions
- ☑ Foundation, wall and roof structure materials
- ☐ Upper level decks or balconies over lower level room must be fully detailed including the stormwater disposal and overflow precautions

- ☐ Stairs, handrails and balustrade showing pitch and head clearances
- ☑ Structural connections, posts to footings, beams to posts, trusses or beams to walls
- ☑ Component fixing information is to be provided for all structural and framing components
- ☑ Foundation and footing details and reinforcing. Show height from finished floor to ground level
- ☐ Pile details for timber floors
- ☑ Floor bracing details
- ☐ Timber grade and treatment
- ☑ Damp proof membranes, building papers and insulation systems/materials
- ☑ Flashing details and documents
- ☑ Roof penetrations
- ☑ Shower floor details and wall to shower base junction detail
- ☑ Sealing to wet area fixtures
- ☑ Water splash prevention
- ☑ All other building components that are not otherwise detailed or are unusual in any way ☐

Specification

(One copy)

The specification must be for the project. We will not accept standard specifications unless they relate directly to the building and they cover the project accurately and fully. Multi-choice specifications will not be accepted. A brief accurate specification is usually best.

- ☑ Provide a written specification to cover all of the trades involved in the project. All materials used in the project are fully specified including fixings of all materials and components
- ☑ The specification can be written on the drawings as long as all materials are fully covered ☐

Important things to include in your application

(One copy - where relevent)

- ☐ The chartered professional engineer's Producer Statement
- ☑ The engineer's monitoring schedule if the engineer chooses to do site monitoring
- ☐ All structural calculations
- ☑ Structural details showing connections and details of the components
- ☐ Solar technical details and plumbing schematic
- ☐ Log fire and flue installation instructions
- ☐ If log fire secondhand, engineer's certification required
- ☐ Current potable water test (current within 18 months)
- ☐ Effluent disposal design & ECan's copy of the submitted application form or approval
- ☐ Wastewater system designs when required to be done by a chartered professional engineer such as in a hazard zone
- ☐ Supporting manufacturer's trade literature and appraisals / certificates included ☐

Geotechnical report

- ☑ Geotechnical report provided, if applicable. Record report number: 41631 ☐

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Office use only

Further information required? ☐ Yes ☐ No

Date/time received: 1.12.2021 Officer:

Date/time vetted/accepted: 3.12.2021 Officer: Cathy Thornton

Office use only

Amount paid: $ 1635.00 Date: Officer:

☐ Fee paid on application ☑ Deposit invoice sent

Date payment processed: 07/12/2021 Receipt: dc Officer: shirley cresswell

Important information

All the relevant information on this form is required to be provided under the *Building Act 2004* and/or *Resource Management Act 1991* for the Waimakariri District Council to assess your application. Under these Acts this information has to be made available to members of the public if requested. The information contained in this application may be made available to other units of the Council. You have the right to access the personal information held about you by the Council which can be readily retrieved. You can also request that the Council correct any personal information it holds about you.

Application information

a. Project Information Memorandum (PIM):

A PIM will be issued within 20 working days provided all the required information is supplied with the application.

Processing time is stopped whenever further information is required and starts again when the correct information is received.

It is not mandatory to apply for a PIM. Applicants can choose not to apply for a PIM when they consider that the information would not be relevant for their building project.

A fee is required to accompany your PIM application (as per Council's Fees and Charges Schedule).

b. Compliance Check:

Where a PIM is not sought, a Compliance Check will be undertaken to ensure your proposal complies with the District Plan.

c. Building Consent (BC):

A Building Consent will be processed within a maximum allowable time of 20 working days provided all the information required has been supplied. Processing time is stopped whenever further information is required and starts again when the correct information is received.

Once the Building Consent has been granted, you will receive notification, which will include an invoice for the fees payable.

Once the fees are paid in full, your Building Consent will be issued. Work must not start until the Building Consent is issued, and any Resource Consent requirements have been resolved.

A Building Consent lapses and is of no effect if the building work to which it relates does not commence within 12 months after the date of issue of the Building Consent or any further period that the Building Consent Authority may allow.

d. Combined Project Information Memorandum & Building Consent Applications:

Applications for a combined PIM/BC will only be accepted when sufficient information is provided to permit the Building Consent to be processed.

If insufficient information is provided, then further information will be requested, or your application may be returned to you.

e. If the applicant does not own the land, they must provide written approval from the owner to submit this application.

Levies payable

Under *the Building Act 2004 s53, s55 s402* Council are authorised to collect levies for the MBIE (*Building Levy Order 2005*) and BRANZ (*Building Research Levy Act 1969*). Levies are only payable on building works where the construction value exceeds a prescribed amount.

Building Act 2004

Building Levy Order 2005

Building Research Levy Act 1969

Fees

The application for a PIM and/or Building Consent must be accompanied by the fees as described in *Sections 33 and 45 of the Building Act 2004*. The work to process a PIM and/or Building Consent will be invoiced and needs to be paid in full before the PIM and/or Building Consent can be granted, refer to building services fees and charges.

Inspections

During the process of construction, inspections will be necessary to confirm all work complies with your approved Building Consent documentation. Please phone the Council Building Unit on 03 311 8906 at least **48 hours in advance** of requiring an inspection. Bookings are subject to demand and the availability of Inspectors, **please be advised that it is not always possible to carry out an inspection within 48 hours.**

The inspections required will be set out in the Building Consent documentation issued by the Council. Failure to have a prescribed inspection carried out may put the issue of the Code Compliance Certificate at risk.

All inspections including re-inspections are subjected to a separate charge, even if carried out on the same day.

Resource consent

Your application will be assessed by the Planning Unit of the Council to determine whether your project complies with the relevant District Plan requirements.

If your application does not comply with District Plan requirements, you will need to either amend your proposal to comply or apply for a Resource Consent. A Certificate will be attached to your Project Information Memorandum to notify that a Resource Consent is required prior to building work commencing. It is recommended that you phone the Planning Unit on 0800 965 468 to discuss the process.

Code compliance certificate

A Building Consent is not completed until it has been issued with a Code Compliance Certificate. The owner is required to complete a separate application for a Code Compliance Certificate as soon as practicable after the building work is completed. In any event no later than two (2) years after the granting of the Building Consent, Council is required to decide whether or not a Code Compliance Certificate can be issued. If your project will not be completed within two years, you will need to apply for a time extension*.
*Fees apply

Agency

The owner may authorise an agent to submit an application on their behalf.

The Agent will be the first point of contact for all communications with the Council/Building Consent Authority regarding this application under *Sections 33 and 45 of the Building Act 2004*. They will receive all correspondence and must be authorised by the Owner. All amendments require new authorisation.

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **913958**
Land Registration District **Canterbury**
Date Issued 13 April 2021

Prior References
919498

Estate	Fee Simple
Area	303 square metres more or less
Legal Description	Lot 11 Deposited Plan 540916

Registered Owners
Barry Allen Marshall and Royleen Glee Marshall

Interests

Land Covenant in Covenant Instrument 11615295.7 - 17.8.2020 at 11:38 am (Limited as to duration)

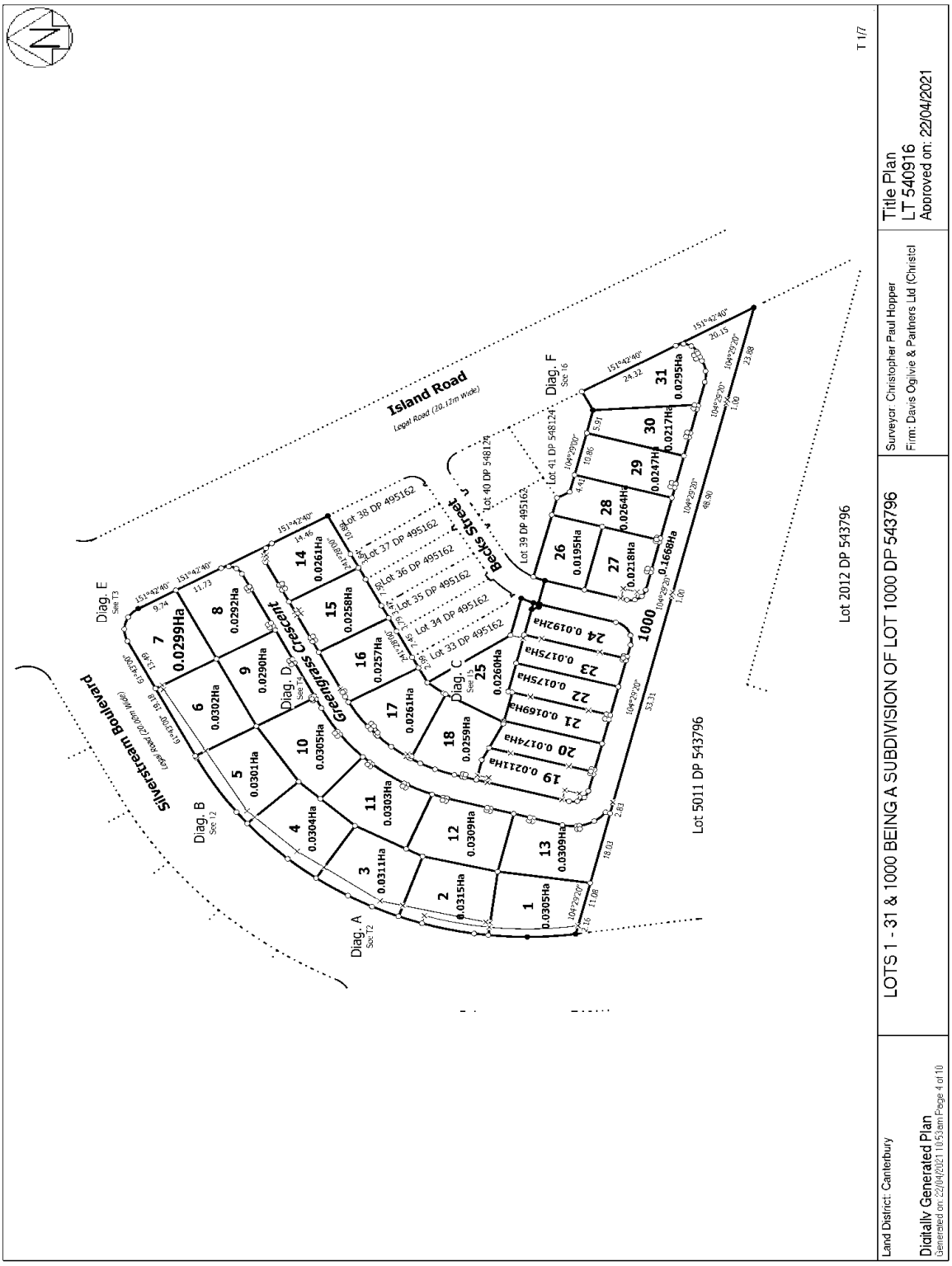
12065775.7 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 13.4.2021 at 4:51 pm

12065775.8 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 13.4.2021 at 4:51 pm

12065775.9 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 13.4.2021 at 4:51 pm

12065775.11 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 13.4.2021 at 4:51 pm

Identifier **913958**



BC211794

Plan Approval Process Summary

SILVERSTREAM

Plan Approval No: 20215466 Lot No: 11 Date: 22/04/2021

Client: R & B Marshall Email: royleenglee@gmail.com Phone: 027 6899038

Builder: Golden Homes Contact: Judy Graham Phone: 021 675635

Email: judy.graham@goldenhomes.co.nz

Please allow 10 working days for Design Approval, however we will endeavour to approve plans immediately if possible. Incomplete applications will delay this process.

BUILDERS DEED & BOND - A builders Deed & Bond must be signed and paid to the Developers Solicitors Trust Account prior to commencement of any build within Silverstream. Full plan approval will not be given without a deed and bond in place	☑
Step 1 **Submit one set of your conceptual plans -** include floor, exterior elevations, site plan to Silverstream Office, Shop 1, 42 Silverstream Boulevard, or email: denise.pheloung@limedl.co.nz. ☑ Setbacks to be dimensioned ☑ Roof material, exterior cladding, and exterior materials specified. ☑ All plans to be dimensioned including recession planes ☑ Section number on plan with owners contact details. ☑ Square meterage areas. ☑ Submit a copy of this application with your plans with all contact detail as above provided. ⊟ Submit a Resource Consent if required, with your application. Do not proceed with working drawings and a full specification until signed confirmation is received from the Developer, stating "Developer Approval – Step 1" is completed.	☑ Initial 22/04/2021
Step 2 **Exterior Colour Scheme** – Include full exterior colours for roof, aluminium joinery and all types of exterior cladding being used. One-page exterior specification including samples of colours to be submitted. Upon approval, signed confirmation for "Developer Approval – Step 2" will be sent. Building not to commence until steps 1 - 4 are submitted.	☐ Initial / /

Plan Approval Process Summary

BC211794

SILVERSTREAM

Step 3

Council Stamped Consented Plans – Submit the stamped council consented plans, to allow review that the final design is consistent with the conceptual design approved in Step 1.

Upon approval signed confirmation for "Developer Approval – Step 3" will be sent. Building not to commence until steps 1- 4 are submitted.

☐

Initial
/ /

Step 4
Landscape Plan – Submit a detailed landscape plan by a professional designer and set out as per the landscape guidelines.

Upon approval email confirmation for "Developer Approval – Step 4" will be sent. Building not to commence until steps 1 - 4 are submitted.

☐

Initial
/ /

Note: Any revisions to site plan, elevations, or exterior must be re-submitted and re-stamped by the Developer. Homes cannot breach the Council boundary setbacks.

Developer use only:

Site inspected and undamaged. Developer approval steps 1-4 completed ☐

Site approved for builder bond release: ..... ☐
Development Manager

FULL PLAN APPROVAL NOW COMPLETE

Date: / /

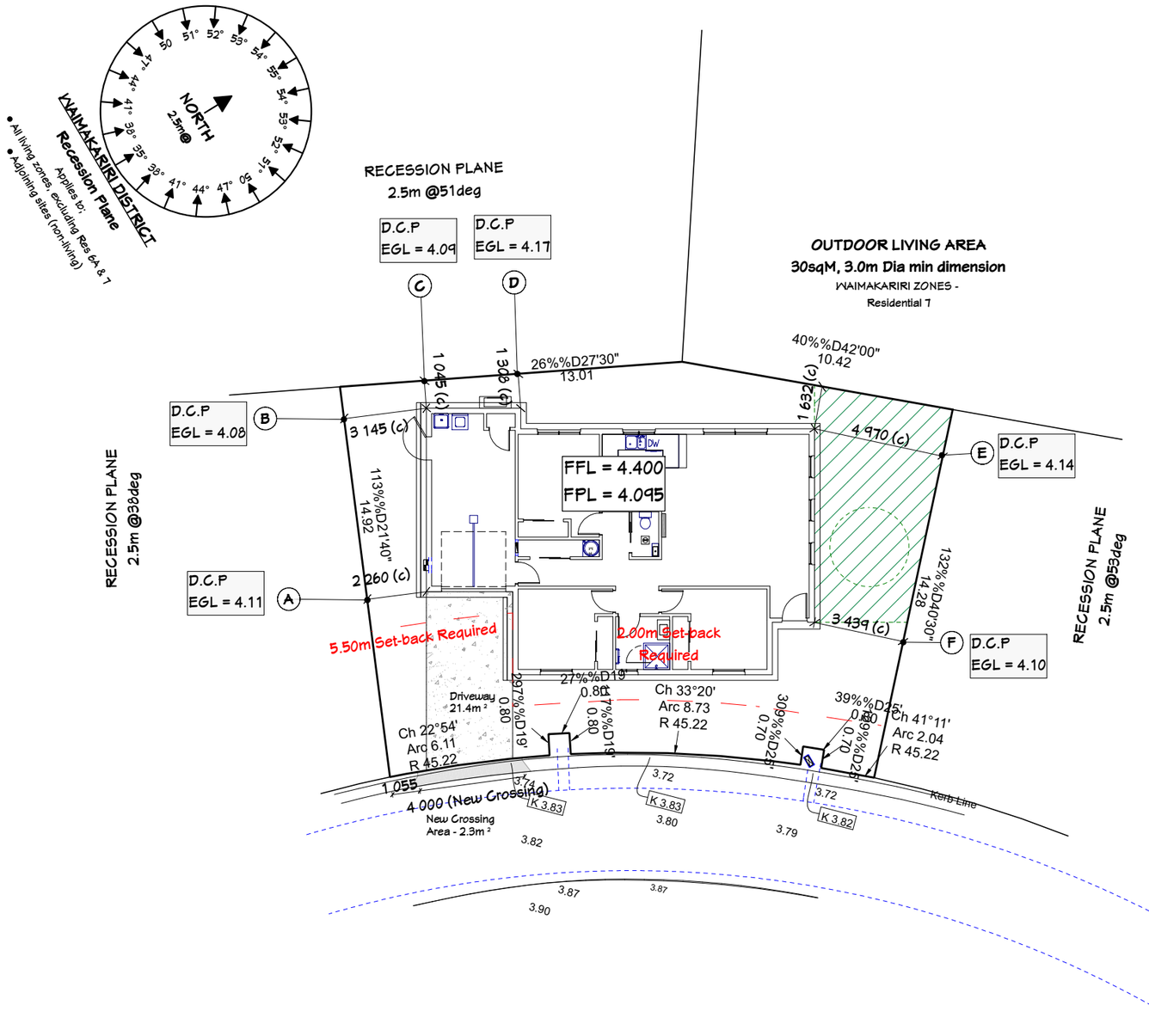
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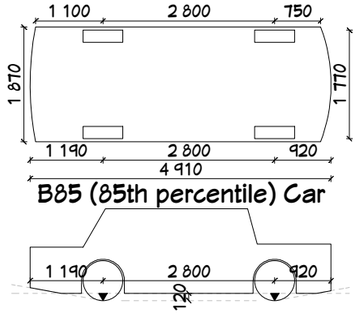
Confirmed by: ..... Signed: .....

BC211794

COVERAGE

Site area	= 303m ²	
Footprint (over cladding)	= 126.5m ²	= 41.7%





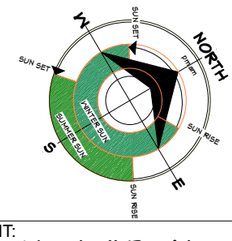
Plan Name - © GOLDEN HOMES HOLDINGS LTD

GOLDEN HOMES™

NOTES:

KEY

FFL = Finished floor level
FGL = Finished ground level
FPL = Finished platform level
EGL = Existing ground level
D.C.P = Daylight control point
(f) = Dimension to foundation
(c) = Dimension to cladding
(g) = Dimension to gutter/eave
= Bubble Up Chamber
= Type 1 sump
= Type 2 sump
= Drainage channel
= Overland flow path
= Fall of paving



CLIENT:
Marshall Residence
Lot 11, DP 540916
Greengrass Crescent
Silverstream B9, Kaiapoi,
Canterbury

TERRITORIAL AUTHORITY:
Waimakariri District Council
Residential Zone 7

SITE DATA (for zones upto & including):

Sub-soil Classification:	E
Soil Classification	REF GEOTECH
Wind Zone:	High
Earthquake Zone:	2
Exposure Zone:	C
Climate Zone:	3
Rain Intensity (10%AEP):	47.6mm/hr
Snowload:	1.0kPa

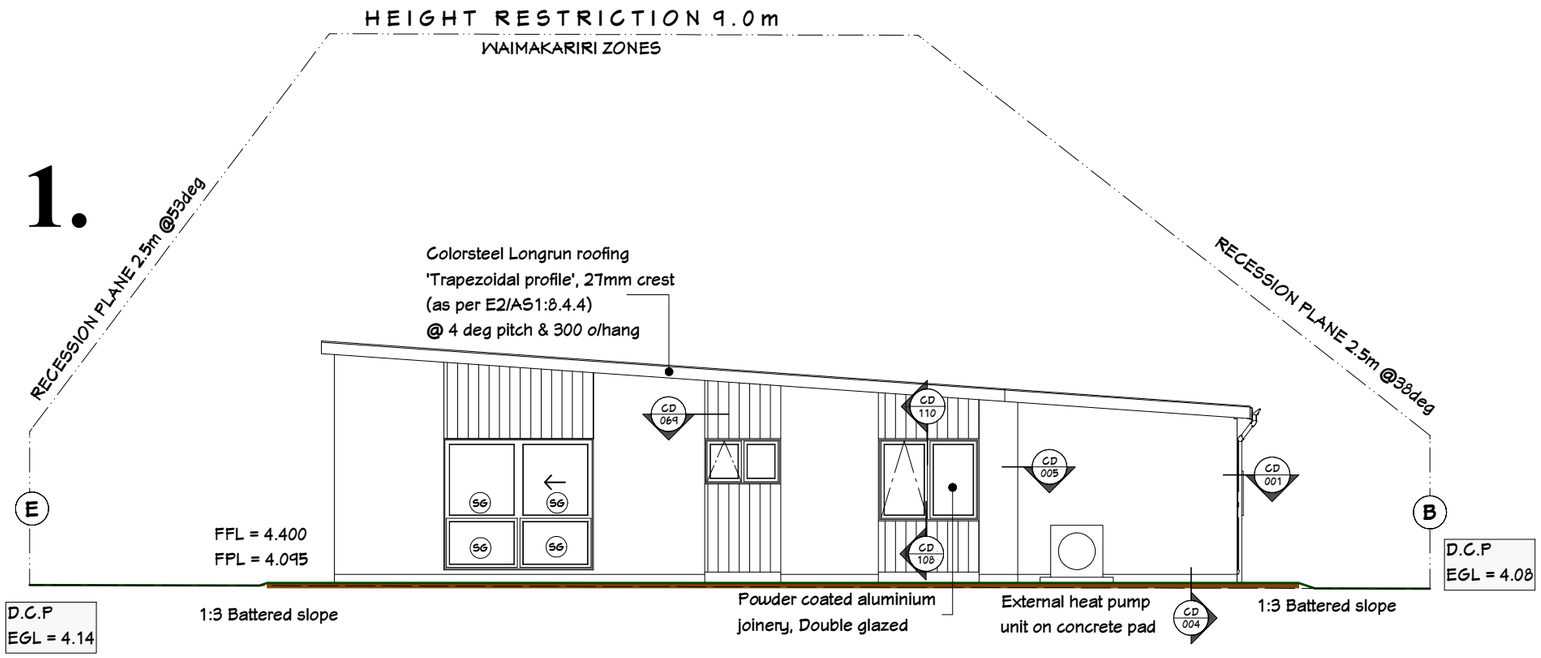
Site Planning

JOB No:	97723	SALES:	Aaron
LBP:	C.Wearne 101178		
DRAWN:	Katherine	DATE:	04/08/2021
SCALE:	1:200	SHEET No.	4 OF 11

BC211794

Plan Name - © GOLDEN HOMES HOLDINGS LTD

1.



2.

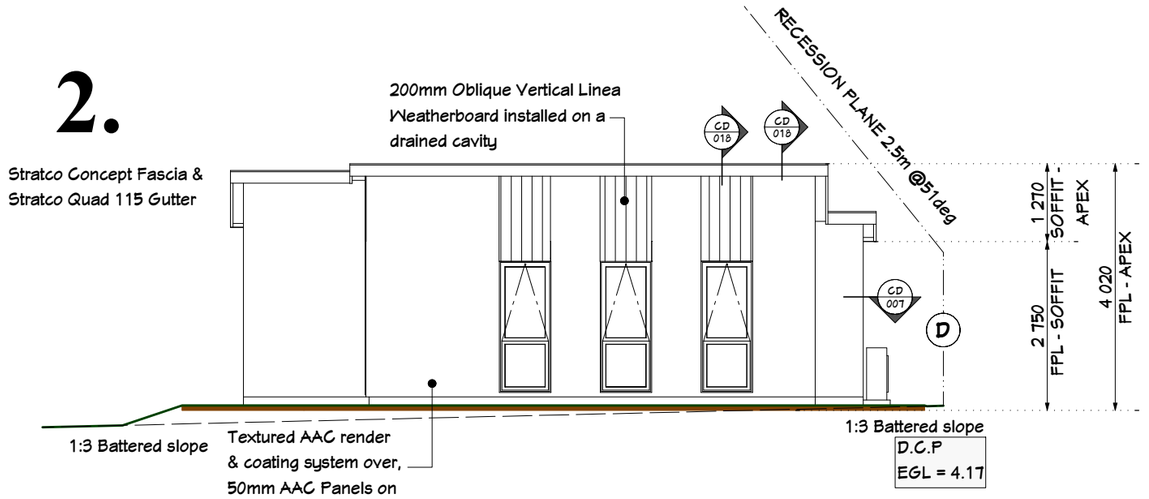


Table 2	Building envelope risk matrix Paragraph 3.1.2. Figure 1				
All Walls	Risk Severity				
Risk factor	Low	Med	High	Very High	Subtotals for each risk factor
Wind zone (per NZS 3604)	0	0	1	2	1
Number of storeys	0	1	2	4	0
Roof/wall intersection design	0	1	3	5	3
Eaves width	0	1	2	5	2
Envelope complexity	0	1	3	6	2
Deck Design	0	2	4	6	0
				Total Risk Score	8

GOLDEN HOMES™

NOTES:

- If windows & doors are shown upto soffit, window and door sizes are to be measured on site prior to the manufacture of those units.

FFL = Finished Floor Level
FGL = Finished Ground Level
FPL = Finished Platform Level
EGL = Existing Ground Level

SG Indicates safety glass

Safety Glazing

- All glazing is to be in accordance with the NZ Building Code Handbook and NZS.4223, Parts 1, 2, & 3 Code of Practice for Glazing in Buildings.
- All glazing panels to bathrooms and toilets to have safety glazing to the interior panel only
- All gazing to be confirmed by the manufacturer prior to construction

CLIENT:
Marshall Residence
Lot 11, DP 540916
Greengrass Crescent
Silverstream B9, Kaiapoi,
Canterbury

TERRITORIAL AUTHORITY:
Waimakariri District Council
Residential Zone 7

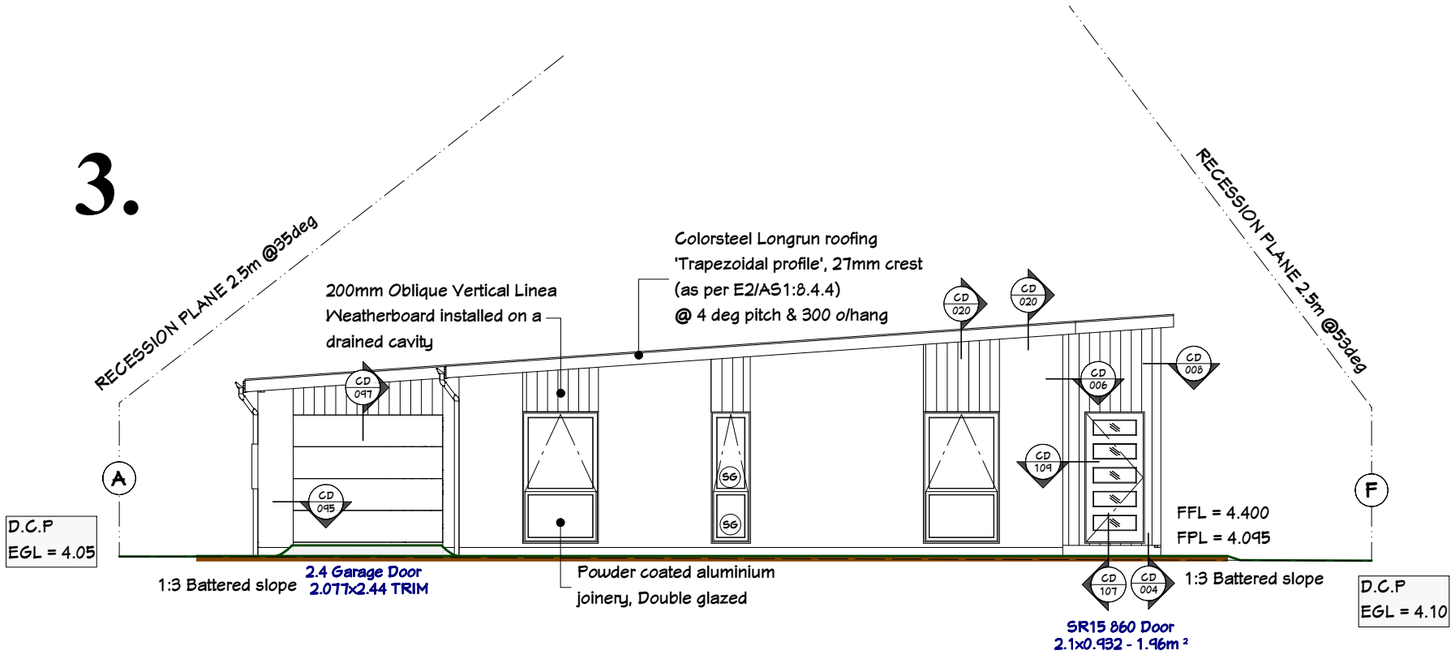
SITE DATA (for zones upto & including):

Sub-soil Classification:	E
Soil Classification	REF GEOTECH
Wind Zone:	High
Earthquake Zone:	2
Exposure Zone:	C
Climate Zone:	3
Rain Intensity (10%AEP):	47.6mm/hr
Snowload:	1.0kPa

Elevations .1

JOB No:	97723	SALES:	Aaron
LBP:	C.Wearne 101178		
DRAWN:	Katherine	DATE:	04/08/2021
SCALE:	1:100	SHEET No.	9 OF 11

3.



4.

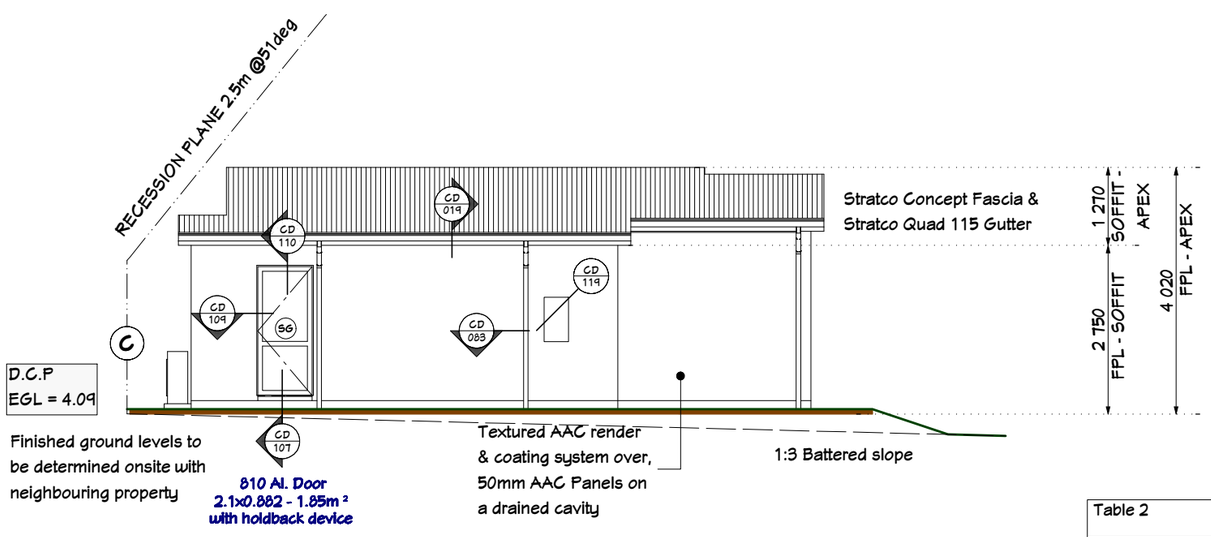


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Roof/wall intersection design	0	1	3	5	3
Eaves width	0	1	2	5	2
Envelope complexity	0	1	3	6	2
Deck Design	0	2	4	6	0
				Total Risk Score	8

Plan Name - © GOLDEN HOMES HOLDINGS LTD

GOLDEN HOMES™

NOTES:

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- All gazing to be confirmed by the manufacturer prior to construction

CLIENT:
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Lot 11, DP 540916
Greengrass Crescent
Silverstream B9, Kaiapoi,
Canterbury

TERRITORIAL AUTHORITY:
Waimakariri District Council
Residential Zone 7

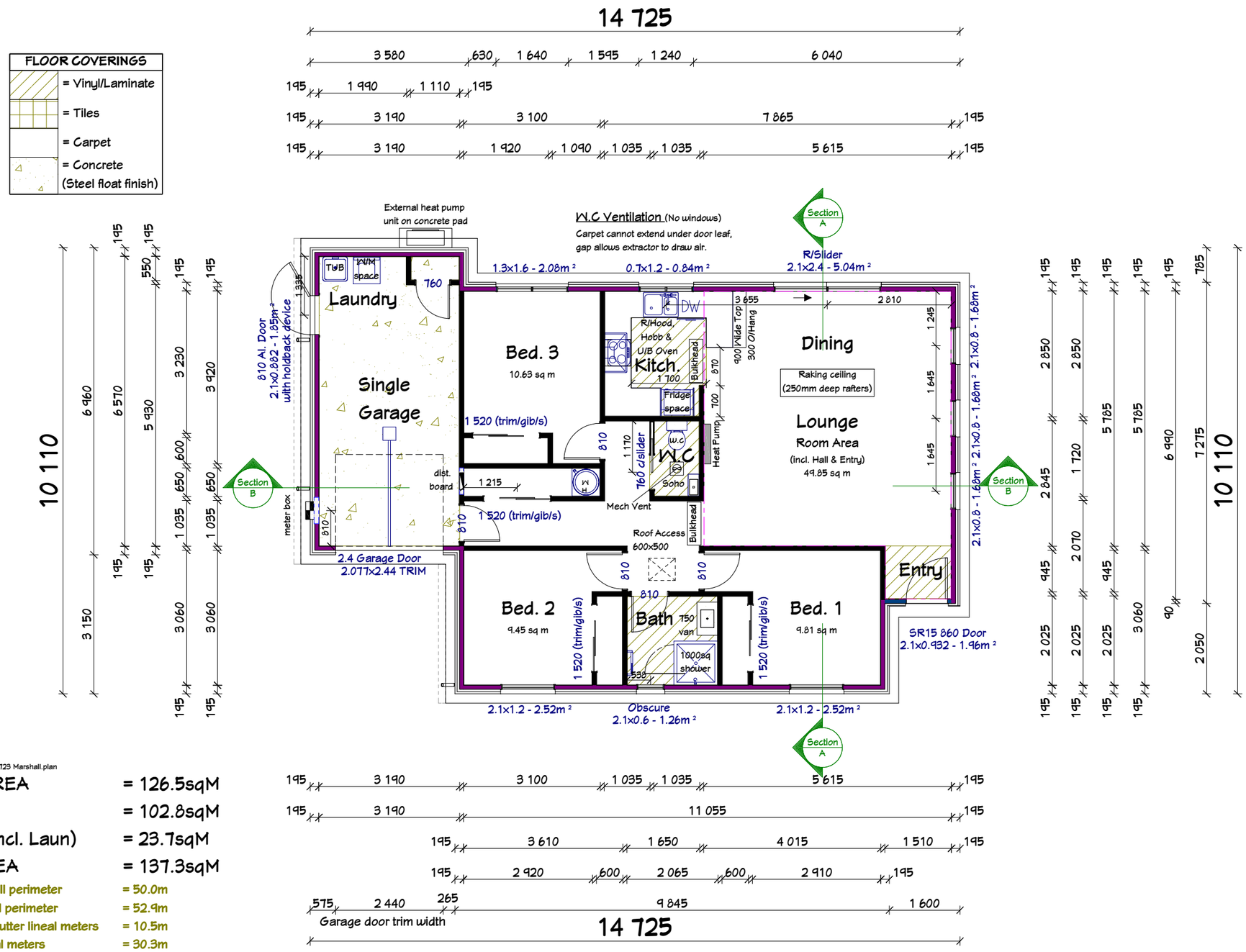
SITE DATA (for zones upto & including):

Sub-soil Classification:	E
Soil Classification	REF GEOTECH
Wind Zone:	High
Earthquake Zone:	2
Exposure Zone:	C
Climate Zone:	3
Rain Intensity (10%AEP):	47.6mm/hr
Snowload:	1.0kPa

Elevations .2

JOB No:	97723	SALES:	Aaron
LBP:	C.Wearne 101178		
DRAWN:	Katherine	DATE:	04/08/2021
SCALE:	1:100	SHEET No.	10 OF 11

BC211794



J:\97000 NDM Construction\97723 Marshall\97723 Marshall.plan

TOTAL FLOOR AREA	= 126.5sqM
LIVING AREA	= 102.8sqM
GARAGE AREA (incl. Laun)	= 23.7sqM
TOTAL ROOF AREA	= 137.3sqM
APPROXIMATE Exterior wall perimeter	= 50.0m
APPROXIMATE Interior wall perimeter	= 52.9m
APPROXIMATE Fascia & Gutter lineal meters	= 10.5m
APPROXIMATE Barge lineal meters	= 30.3m

Stud height - 2.42m throughout
Truss heel height - 180mm
Interior door leaf height - 1980

Note: It is important to understand that these plans are not assessed by an engineer for structural integrity until the working drawings process. Due to this there may be extra costs for structural steel requirements unidentified by the design team.

Plan Name - © GOLDEN HOMES HOLDINGS LTD

GOLDEN HOMES™

NOTES:

89x41mm ZOG® framing

- Natural lighting is provided via glazing to 10% of floor areas for individual rooms
- Natural ventilation is provided via exterior openings of no less than 5% of floor area for individual rooms
- Internal and external walking surfaces to comply with NZBC D1/AS1 2.1.1 - 2.1.3, and Table 2
- External Access Routes surface is either; brushed concrete, exposed crushed aggregate concrete, profiled timber with the profile across the direction of travel, or be flooring selected by the client with a wet slip coefficient of no less than 0.4, refer to the specification for compliance procedure in such situations
- Where FFL is greater than 1.0m from FGL and the bottom of the opening is closer than 760mm to the FFL or a climbable fixture, a restrictor stay is to be fitted to limit the maximum opening so that a 100mm dia sphere cannot pass through it.
- All access routes are to be protected by dangerous projections as shown in D1/AS1, Fig 6

ELEVATION GUIDE

CLIENT:

Marshall Residence
Lot 11, DP 540916
Greengrass Crescent
Silverstream B9, Kaiapoi,
Canterbury

TERRITORIAL AUTHORITY:
Waimakariri District Council
Residential Zone 7

SITE DATA (for zones upto & including):

Sub-soil Classification:	E
Soil Classification	REF GEOTECH
Wind Zone:	High
Earthquake Zone:	2
Exposure Zone:	C
Climate Zone:	3
Rain Intensity (10%AEP):	47.6mm/hr
Snowload:	1.0kPa

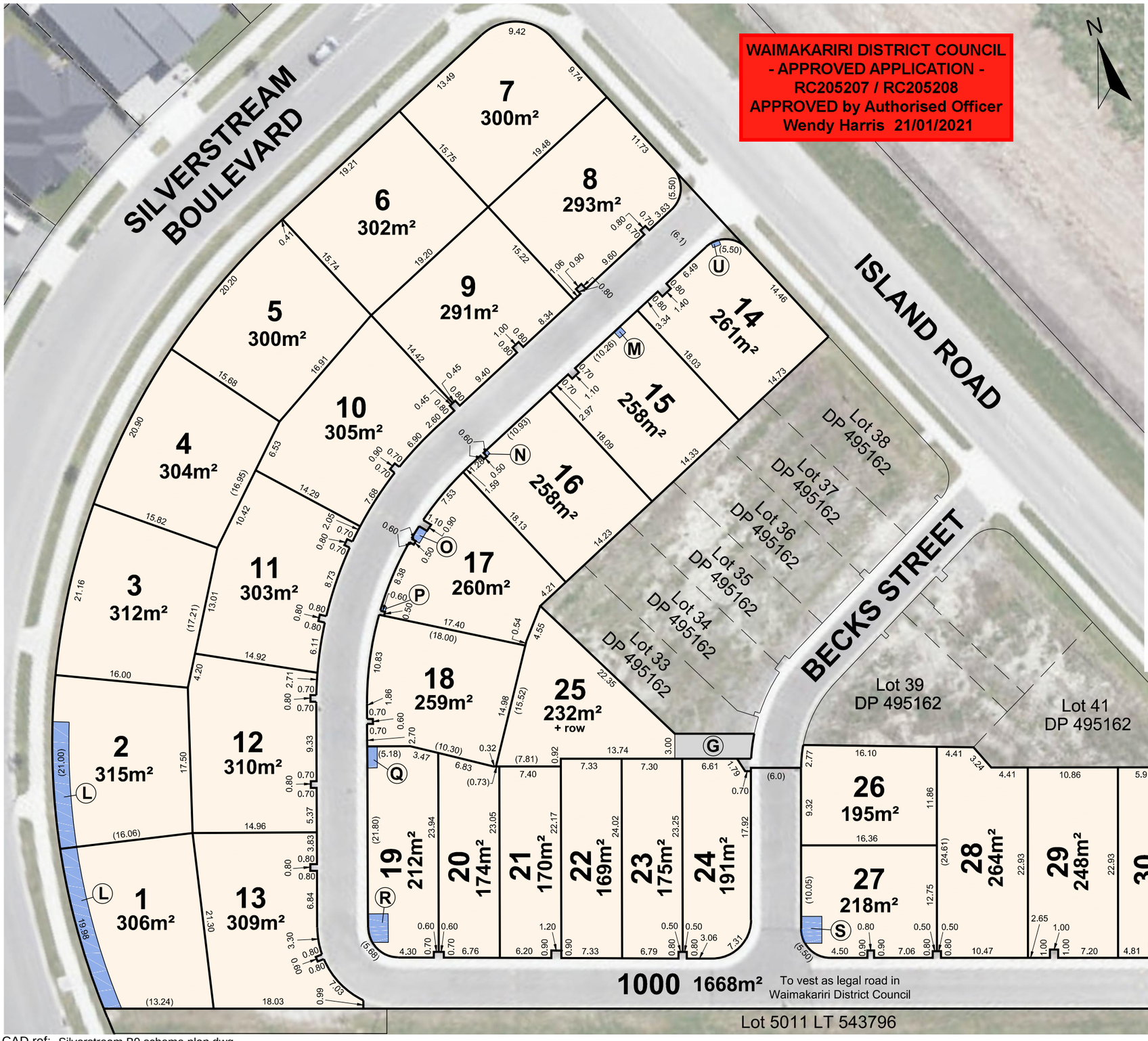
Floor Plan

JOB No:	97723	SALES:	Aaron
LBP:	C.Wearne 101178		
DRAWN:	Katherine	DATE:	04/08/2021
SCALE:	1:100	SHEET No.	11 OF 11

Disclaimer: This document shall only be reproduced in full with approval from a Davis Ogilvie engineer

contractor to locate all existing services & verify all dimensions before commencing work

BC211794



issue	date	reason	approved
-	07/20	Draft	RB

Legal description: Lot 1000 LT 543796
Comprised In: RT 919498 (Title not issued)
Total Area: 9714m²
Owner(s): H Investments Ltd

Areas and dimensions are subject to survey.

A full assessment of easements will be undertaken after engineering design is complete. This may result in additional easements to those already shown.

Underyliing Lot 1000 is subject to C.N11370712.6 relating to floor levels.

EXISTING EASEMENTS

NATURE	BURDENED LAND LOT NO	BURDENED LAND SHOWN	DOCUMENT
RIGHT OF WAY	Lot 25	G	EI 11370712.2
RIGHT TO DRAIN WATER (IN GROSS)	Lot 1	L	EI 11370712.4
	Lot 2		
RIGHT TO CONVEY ELECTRICITY (IN GROSS)	Lot 1	L	EI 11370712.3
	Lot 2		
	Lot 14	U	
	Lot 15	M	
	Lot 16	N	
	Lot 17	O, P	
	Lot 19	Q, R	
	Lot 27	S	
RIGHT TO CONVEY ELECTRICITY (IN GROSS)	Lot 14	U	EI 11370712.4
	Lot 19	Q	

PLEASE NOTE: The existing right to convey electricity in gross in E.I.11370712.3 and right to drain water in gross in E.I.11370712.4 are to be part cancelled in the areas shown as H on LT 543796.

CAD ref: Silverstream B9 scheme plan.dwg

DAVIS OGILVIE
ENGINEERS / SURVEYORS / PLANNERS
Davis Ogilvie & Partners Limited
Level 1, 24 Moorhouse Avenue, Addington, Christchurch 8140
Office 0800 999 333 Email hello@do.nz
www.do.nz

Proposed Subdivision of Lot 1000 LT 543796
Silverstream B9

design	drawn	QA check
RG	RG	RB
scale @ A3	date	file
1:500	07/20	31891

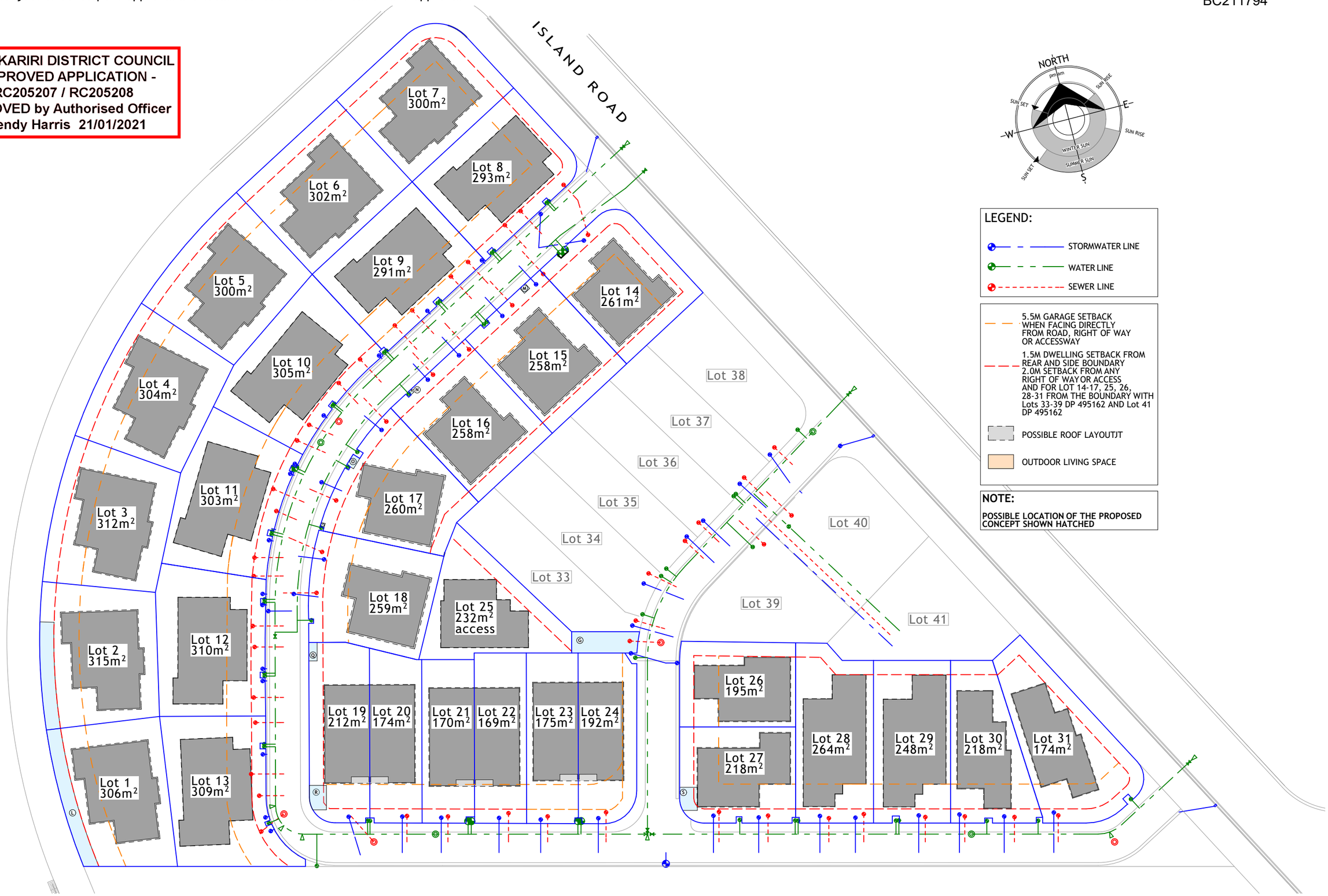
dwg 321 - issue -

NOTE: This Plan is subject to developer's approval and local district council verification and approval.

CONSENT ISSUED BC211794 - Page 42 of 316

BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LEGEND:

- STORMWATER LINE
- WATER LINE
- SEWER LINE

- 5.5M GARAGE SETBACK WHEN FACING DIRECTLY FROM ROAD, RIGHT OF WAY OR ACCESSWAY
- 1.5M DWELLING SETBACK FROM REAR AND SIDE BOUNDARY 2.0M SETBACK FROM ANY RIGHT OF WAY OR ACCESS AND FOR LOT 14-17, 25, 26, 28-31 FROM THE BOUNDARY WITH Lots 33-39 DP 495162 AND Lot 41 DP 495162
- POSSIBLE ROOF LAYOUTJT
- OUTDOOR LIVING SPACE

NOTE:

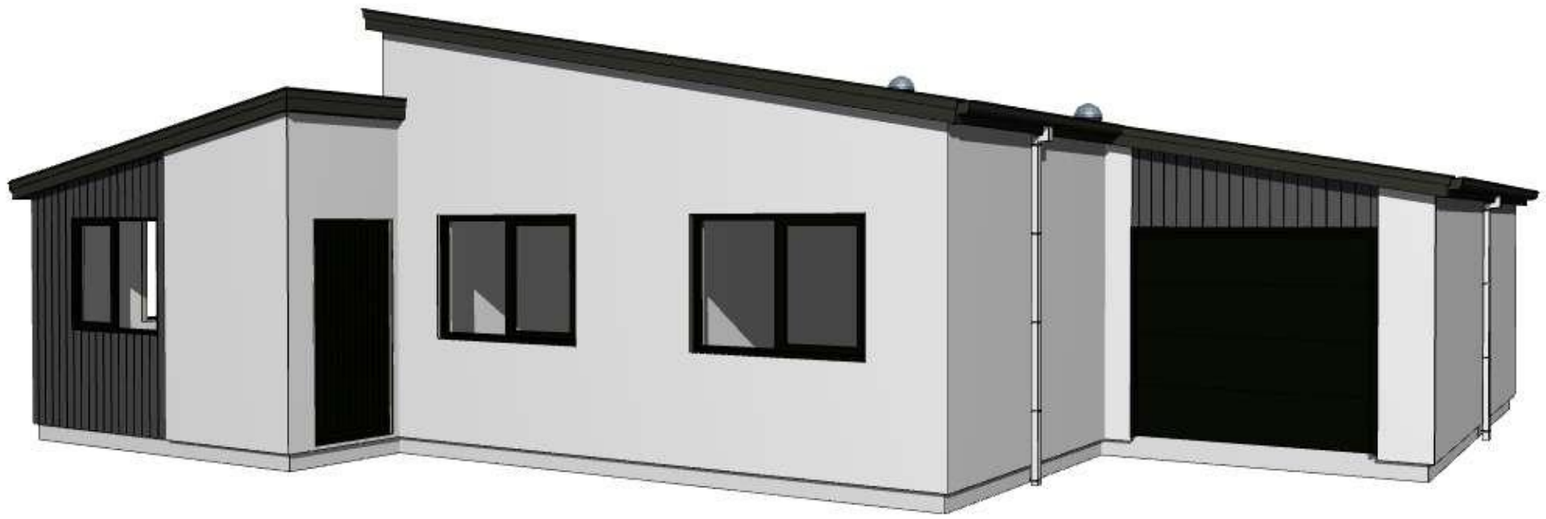
POSSIBLE LOCATION OF THE PROPOSED CONCEPT SHOWN HATCHED

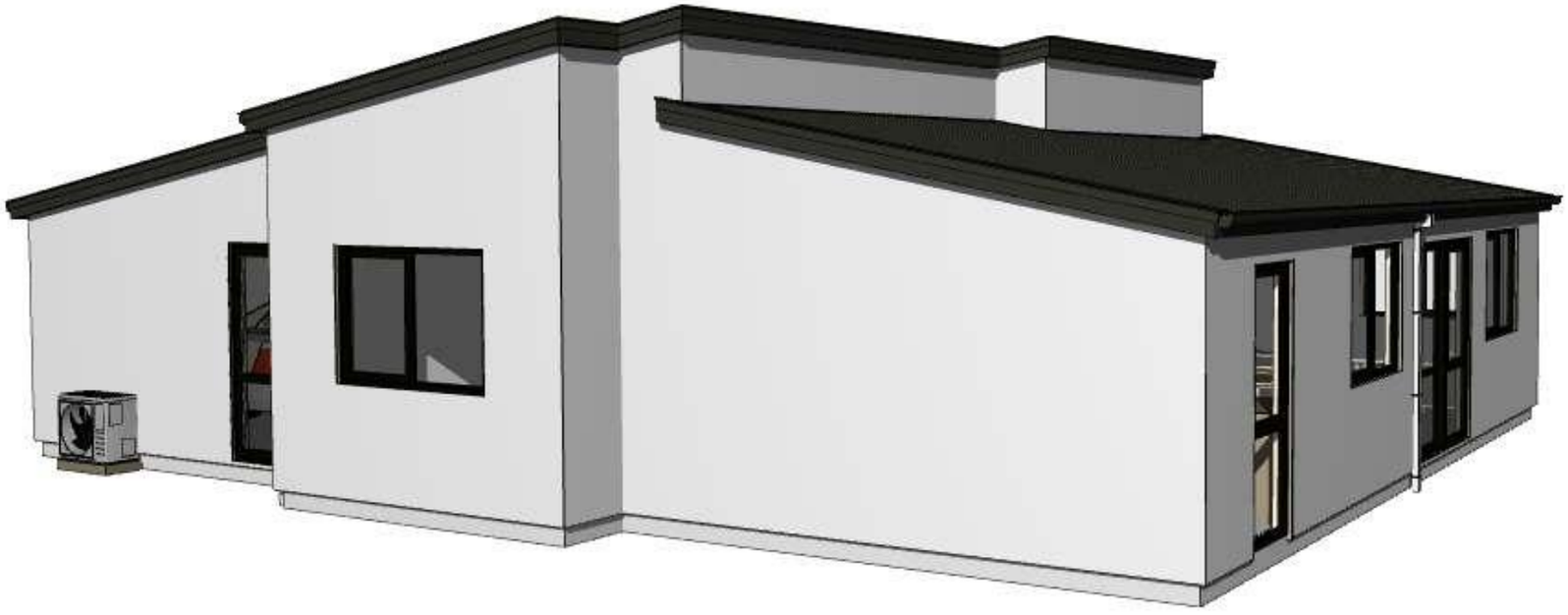
Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** MASTER PLAN	**LEGAL DESCRIPTION:** LOT: TBC DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:**	**DESIGNER:** DMG **VERSION:**	**SCALE:** 1:500 **JOB#:** 20073	**SHEET:** 1

BC211794

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 1 - SILVERSTREAM BLVD.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
COVER PAGE	01
SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





press design + drafting

DATE:	30 NOV 20	SHEET:	1/04
JOB #:	20073		

COVER PAGE

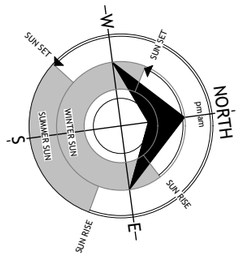
SCALE: NOT TO SCALE

NOTE: This Plan is subject to developer's approval and local district council verification and approval.

CONSENT ISSUED BC211794 - Page 44 of 316

BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LOT 1 DP TBC
306m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
CORROSION ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	125.54m²
SITE COVERAGE:	41.02% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

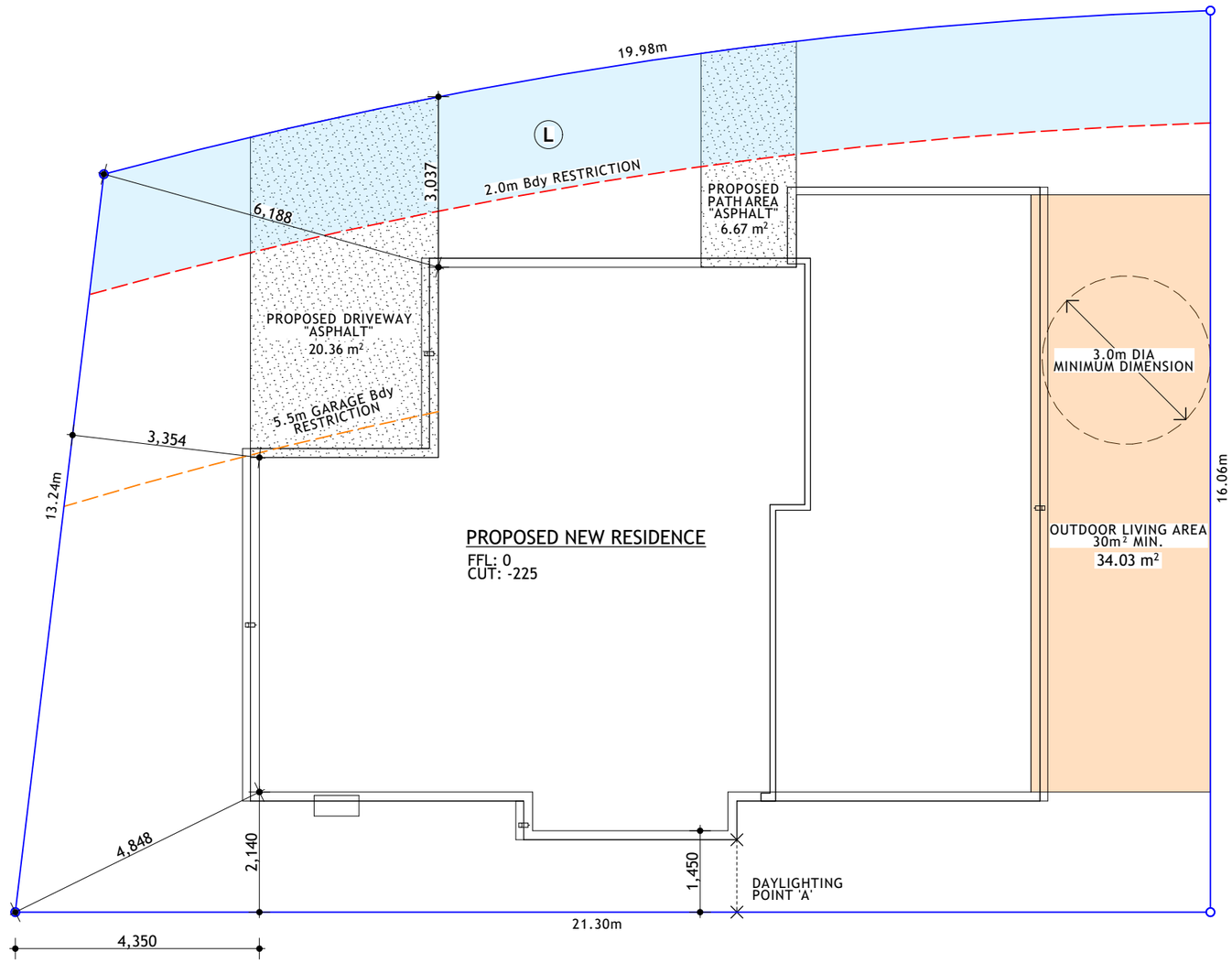
IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY, A BARRIER COMPLYING WITH TABLE 1, NZBC F5/AS1 IS AN ACCEPTABLE SOLUTION

- PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON / MAIN PRIVATE STAIRWAYS TO BE 190mm.

EXISTING EASEMENT

NATURE	BURDENED LAND		DOCUMENT
	LOT NO	SHOWN	
RIGHT TO DRAIN WATER (IN GROSS)	LOT 1	L	EI 11370712.4
RIGHT TO CONVEY ELECTRICITY (IN GROSS)	LOT 1	L	EI 11370712.3

SILVERSTREAM BOULEVARD



press design + drafting	JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: SITE PLAN	LEGAL DESCRIPTION: LOT: 1 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	NOTES: Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	DATE OF ISSUE: 30 NOV 20 / AMENDMENT DATE: / VERSION: SC-01	DESIGNER: JAM / DRAWN: JAM / CHECKED:	SCALE: 1:100 / JOB#: 20073	SHEET: 2 / 04

NOTE: This Plan is subject to developer's approval and local district council verification and approval.

CONSENT ISSUED BC211794 - Page 45 of 316

BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION

ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS

DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

- PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2.
MAXIMUM STEP HEIGHT TO COMMON / MAIN PRIVATE STAIRWAYS TO BE 190mm.

*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

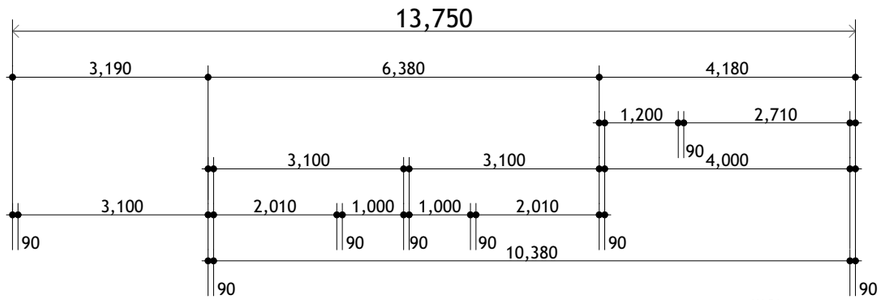
TOTAL AREA OVER FRAME

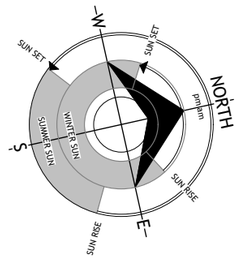
LIVING AREA:	103.22m²
GARAGE AREA:	22.32m²
TOTAL AREA:	125.54m²
ROOF PLAN AREA:	134.64m²

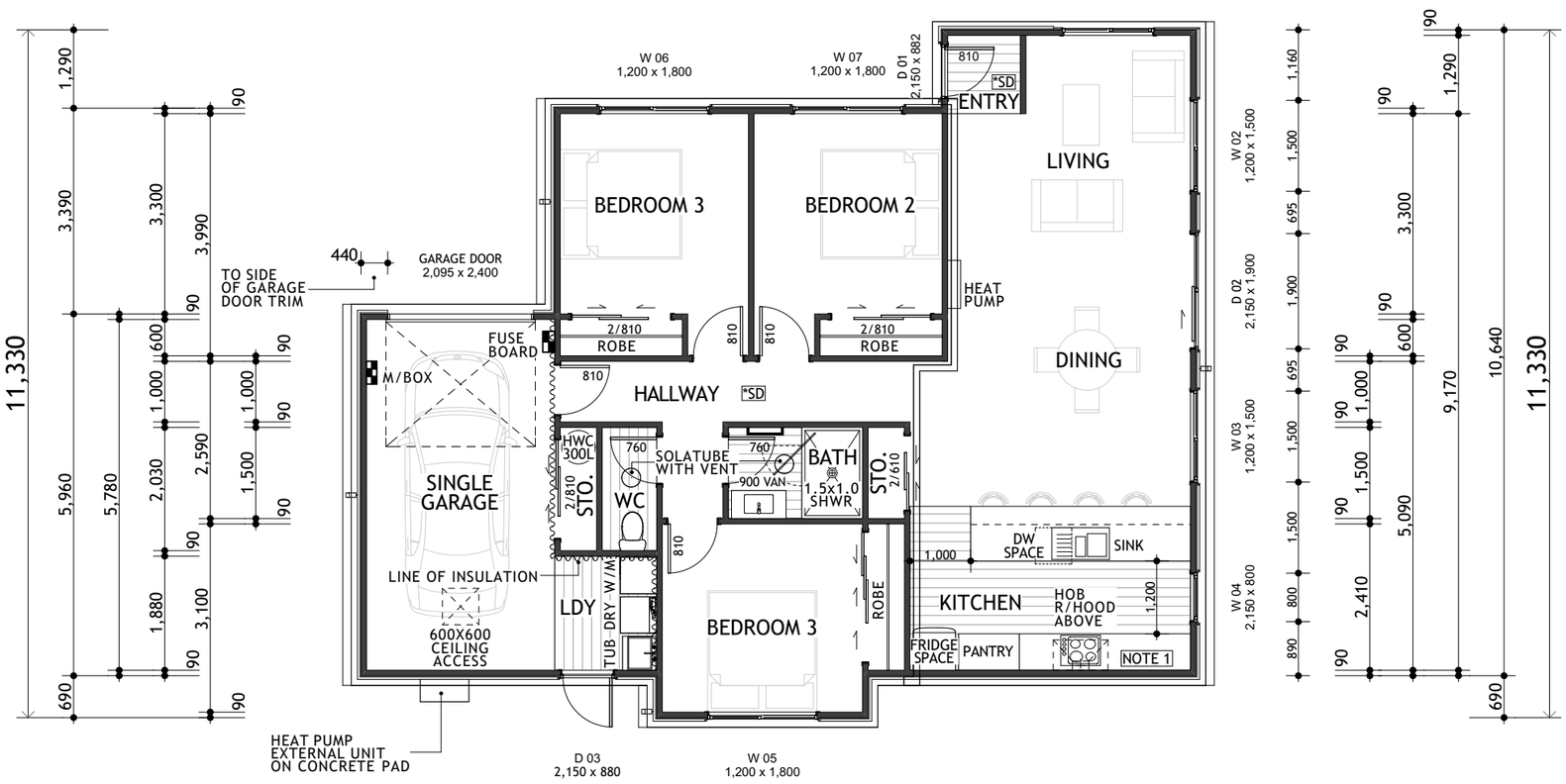
NOTES

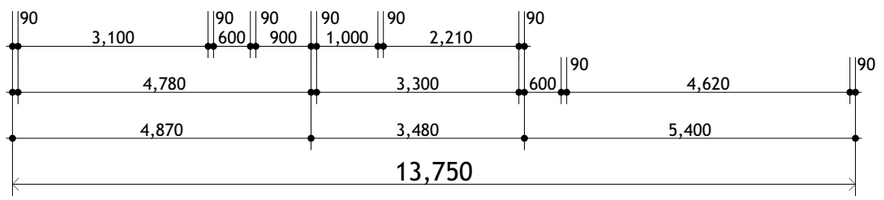
NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAIN IN A HYGIENIC CONDITION

ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030mm HIGH









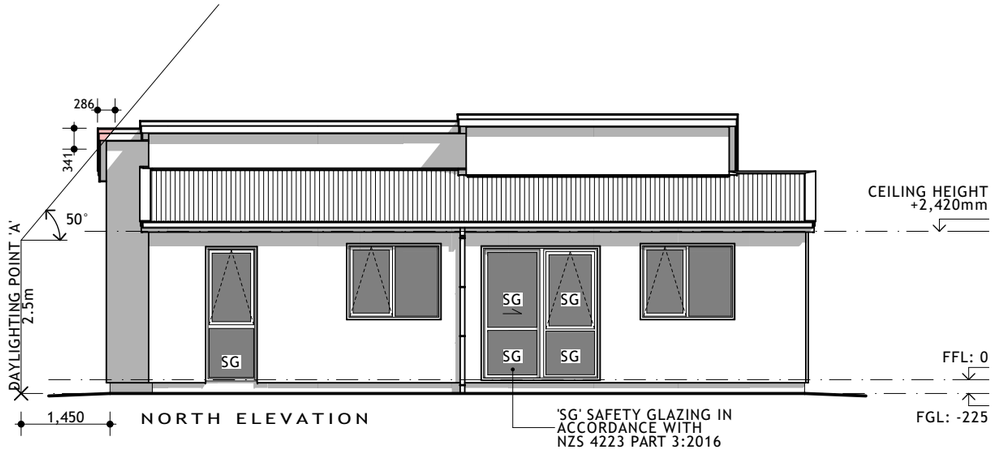
JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: FLOOR PLAN	LEGAL DESCRIPTION: LOT: 1 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	NOTES: Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	DATE OF ISSUE: 30 NOV 20 AMENDMENT DATE: VERSION: SC-01	DESIGNER: JAM DRAWN: JAM CHECKED:	SCALE: 1:100 JOB#: 20073	SHEET: 3 / 04

NOTE: This Plan is subject to developer's approval and local district council verification and approval.

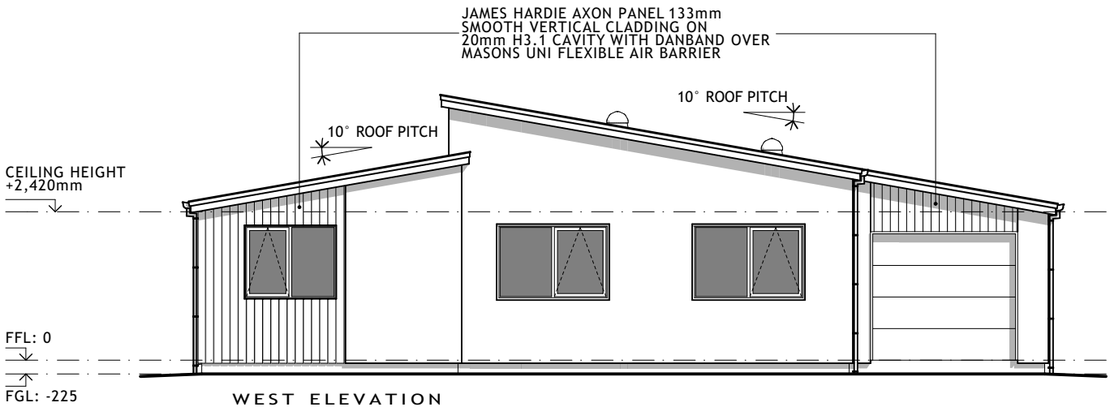
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BC211794

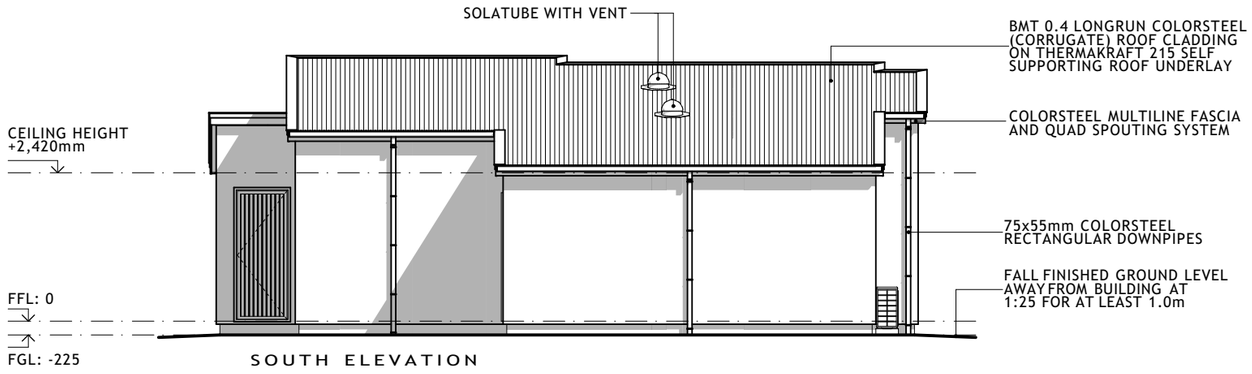
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RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



NORTH ELEVATION

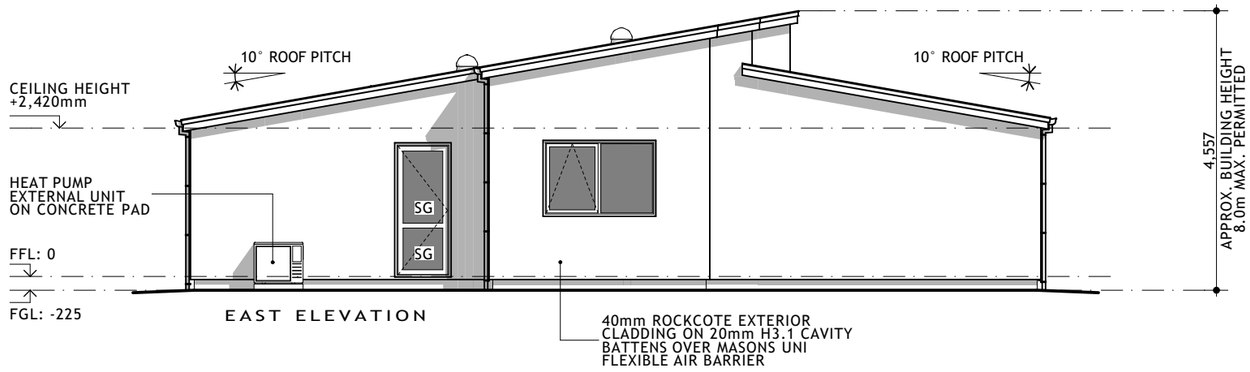


WEST ELEVATION



SOUTH ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	High risk	2
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**5**



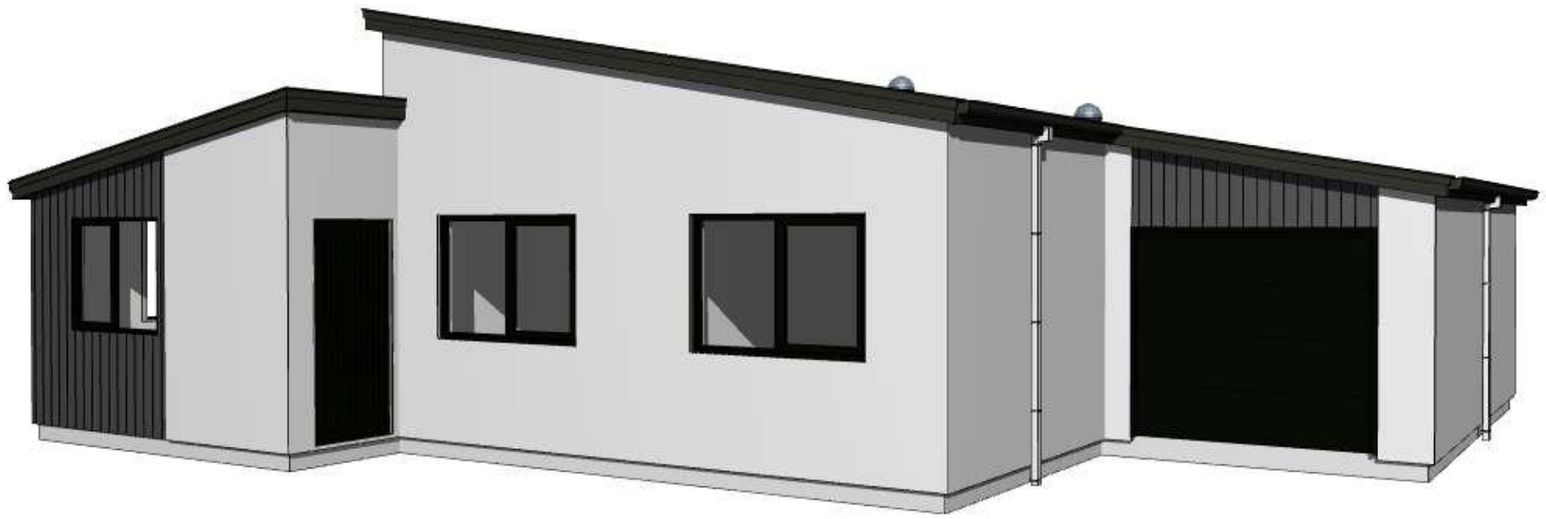
EAST ELEVATION

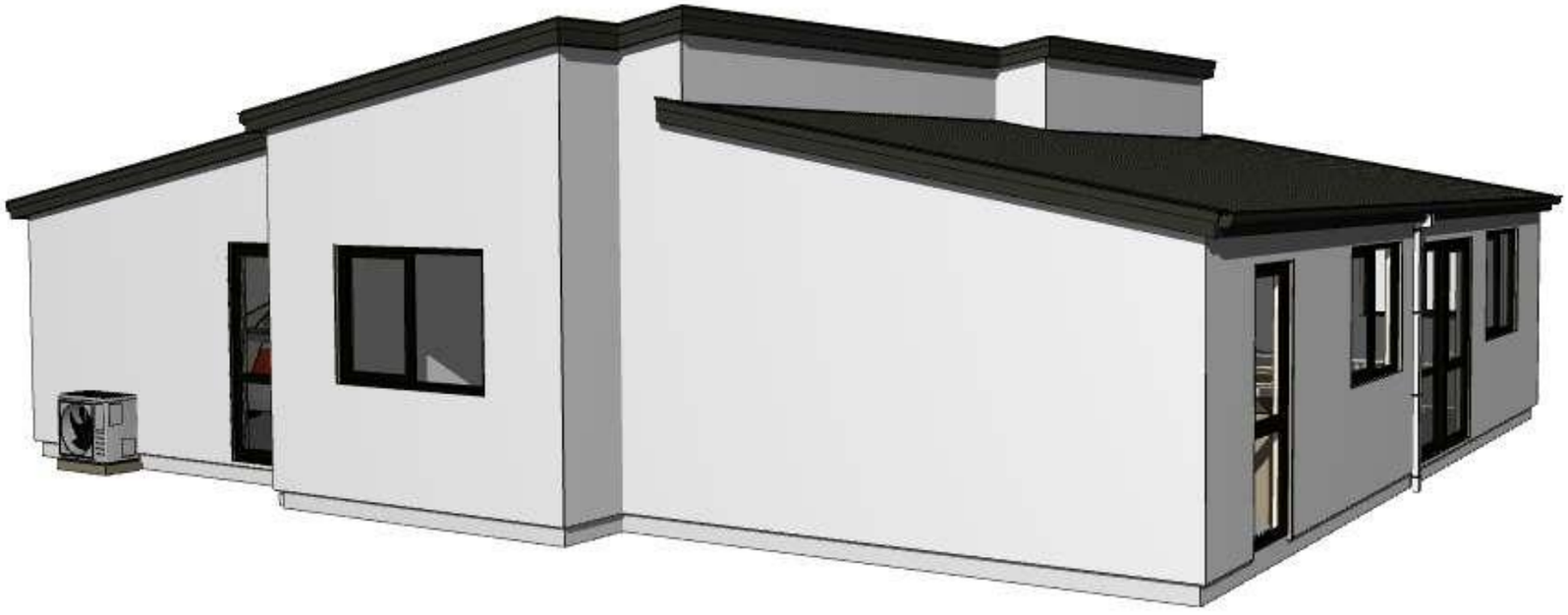
Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 1 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 30 NOV 20	**DESIGNER:** JAM	**SCALE:** 1:100	**SHEET:** 4
					AMENDMENT DATE:	**DRAWN:** JAM	**JOB#:** 20073	/04
					VERSION: SC-01	**CHECKED:**		

BC211794

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 2 - SILVERSTREAM BLVD.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
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FLOOR PLAN	03
ELEVATIONS	04





press design + drafting

DATE:	30 NOV 20	SHEET:	1/04
JOB #:	20073		

COVER PAGE

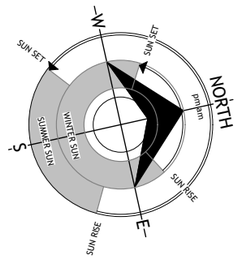
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Wendy Harris 21/01/2021



LOT 2 DP TBC
315m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
CORROSION ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	125.54m²
SITE COVERAGE:	39.85% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

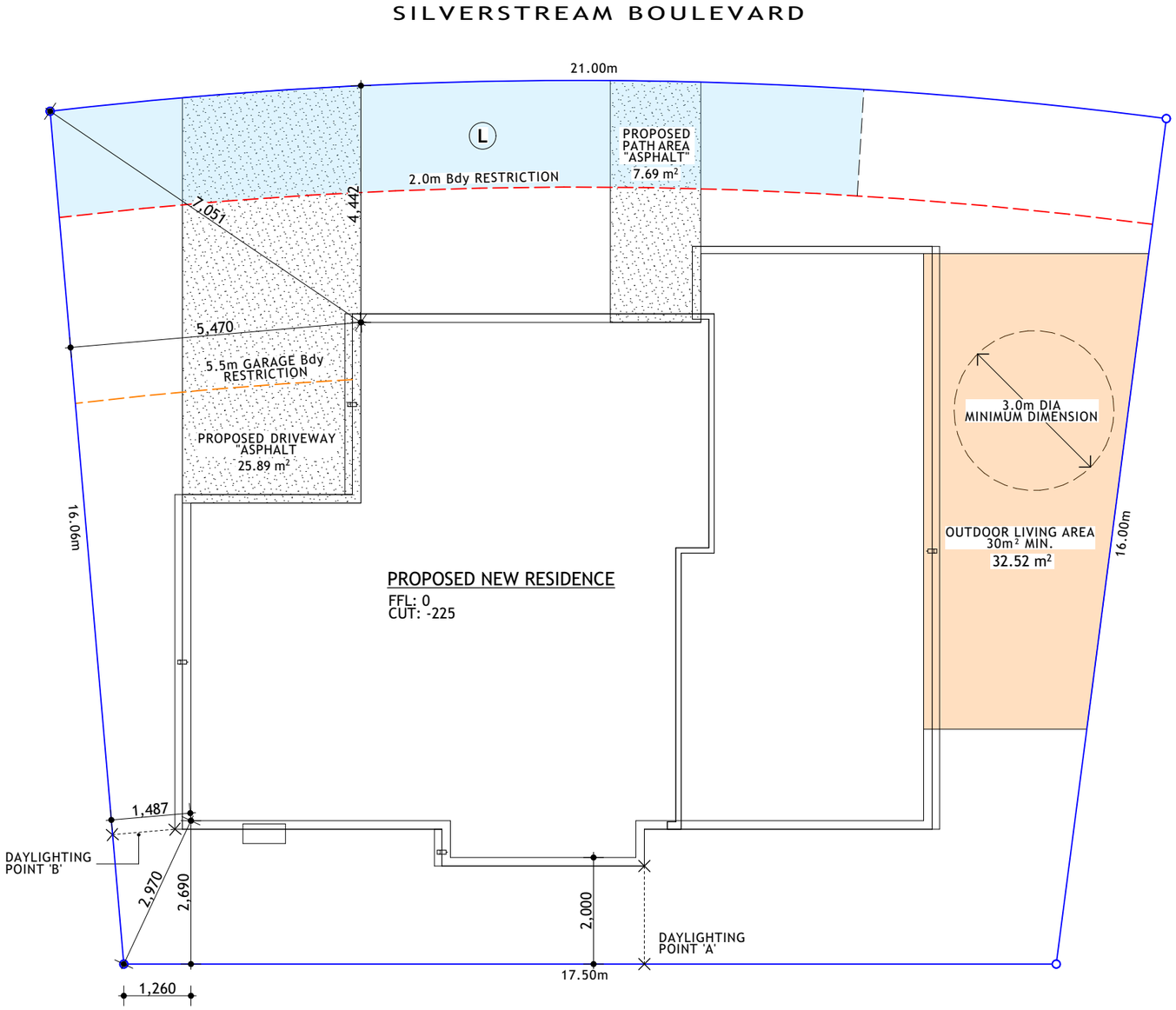
NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY, A BARRIER COMPLYING WITH TABLE 1, NZBC F5/AS1 IS AN ACCEPTABLE SOLUTION

- PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON / MAIN PRIVATE STAIRWAYS TO BE 190mm.

EXISTING EASEMENT

NATURE	BURDENED LAND		DOCUMENT
	LOT NO	SHOWN	
RIGHT TO DRAIN WATER (IN GROSS)	LOT 2	L	EI 11370712.4
RIGHT TO CONVEY ELECTRICITY (IN GROSS)	LOT 2	L	EI 11370712.3



Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 2 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** SC-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 2 / 04

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WAIMAKARIRI DISTRICT COUNCIL
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EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION

ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS

DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

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*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

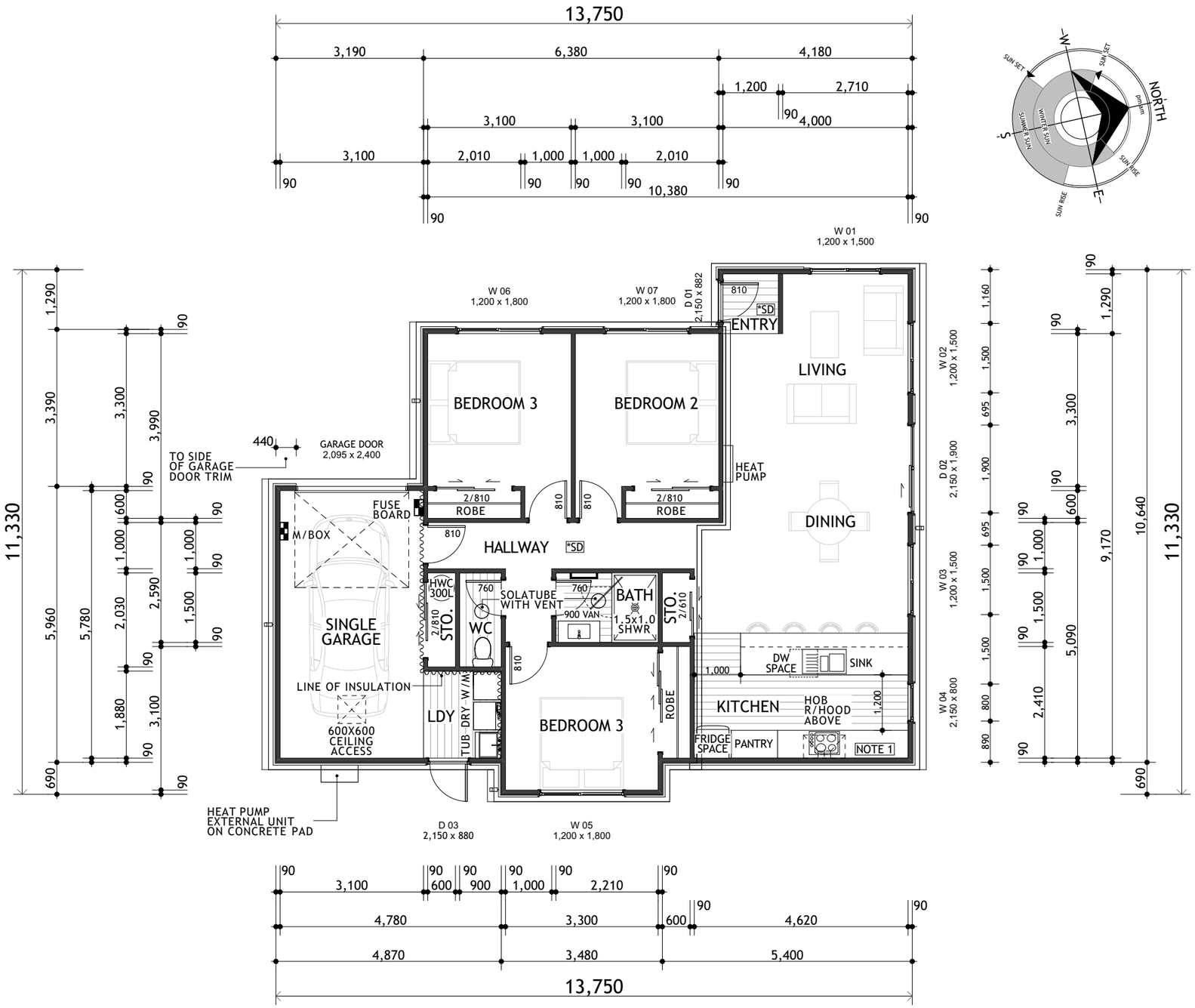
TOTAL AREA OVER FRAME

LIVING AREA:	103.22m²
GARAGE AREA:	22.32m²
TOTAL AREA:	125.54m²
ROOF PLAN AREA:	134.64m²

NOTES

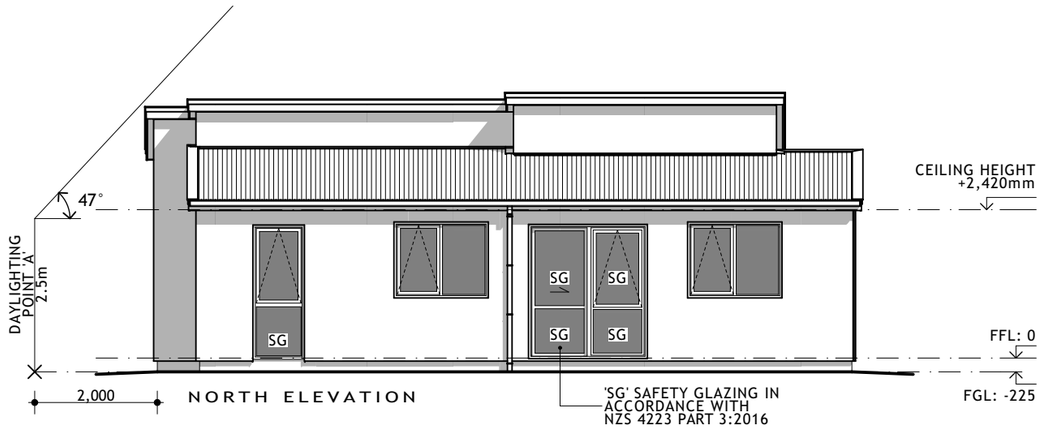
NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAIN IN A HYGIENIC CONDITION

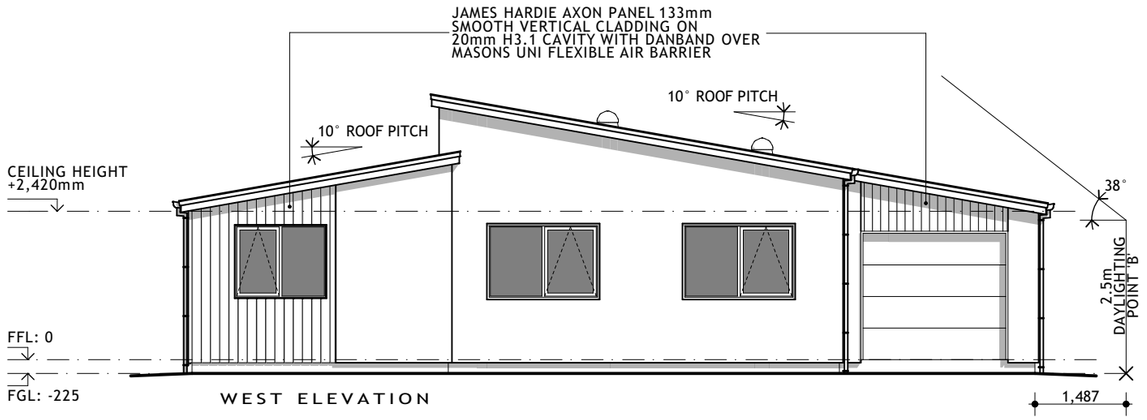
ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030mm HIGH

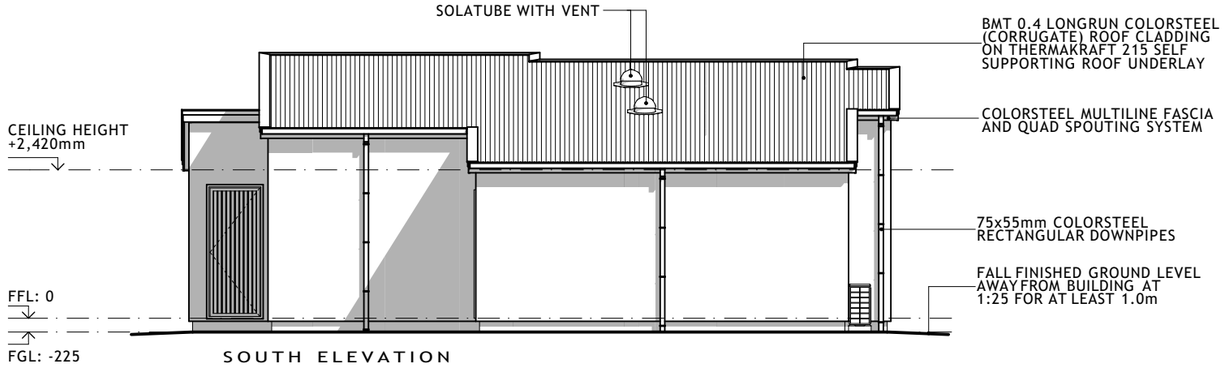


press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** FLOOR PLAN	**LEGAL DESCRIPTION:** LOT: 2 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** SC-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 3 / 04

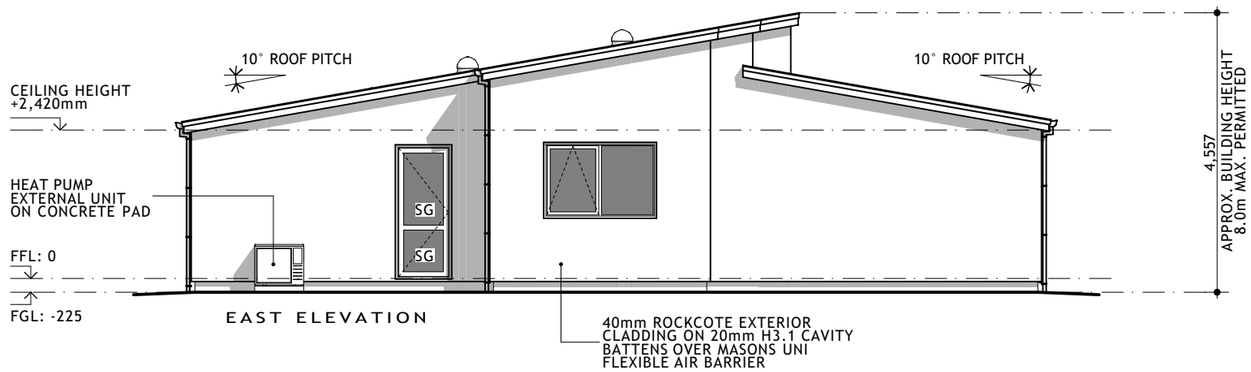
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RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021







BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	High risk	2
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**5**

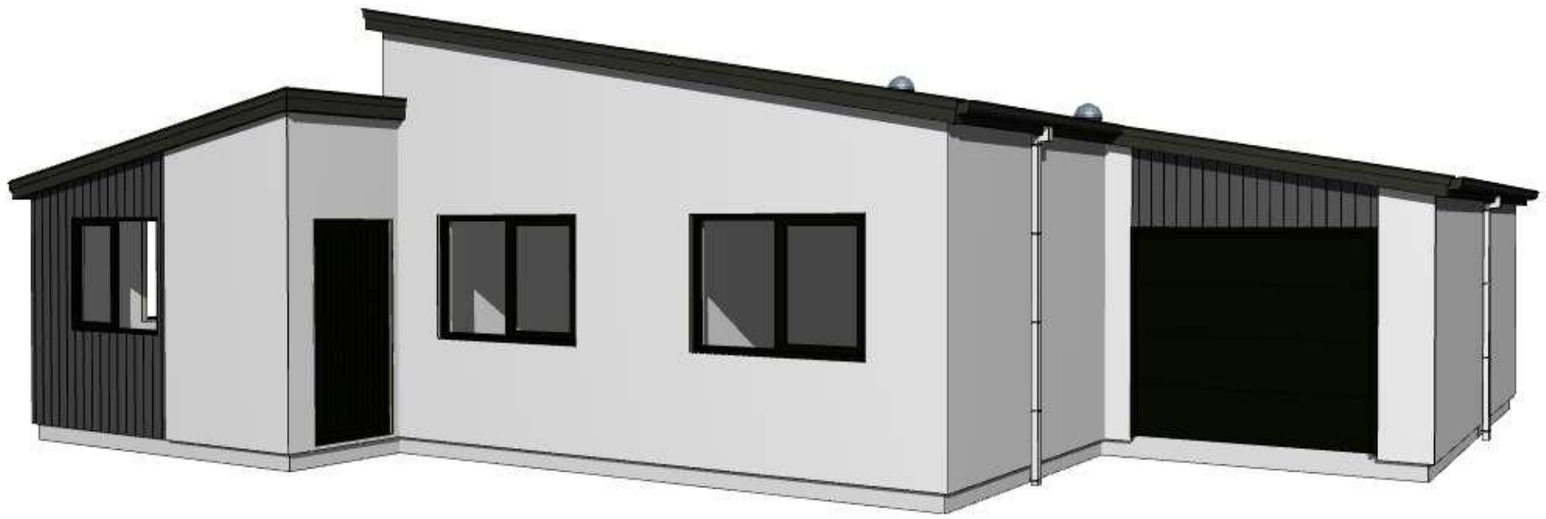


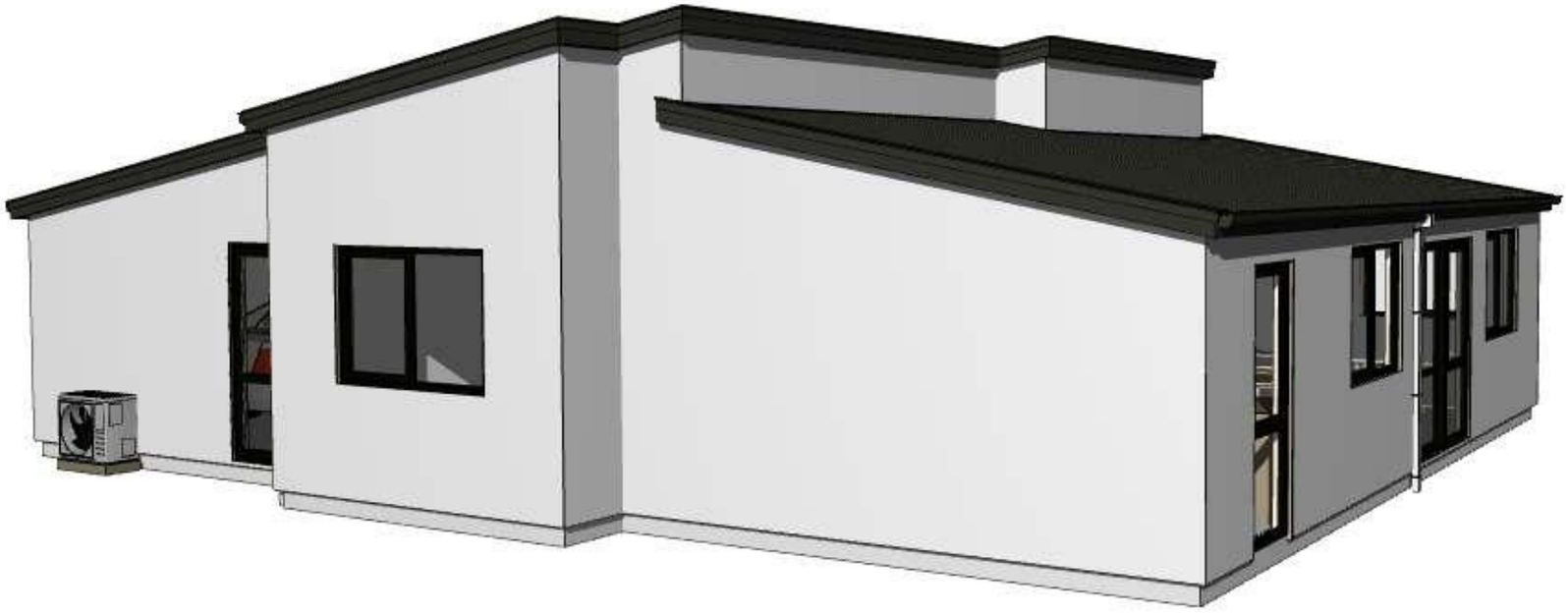
press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 2 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 30 NOV 20	**DESIGNER:** JAM	**SCALE:** 1:100	**SHEET:** 4
					AMENDMENT DATE:	**DRAWN:** JAM	**JOB#:** 20073	/04
					VERSION: SC-01	**CHECKED:**		

BC211794

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 3 - SILVERSTREAM BLVD.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
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FLOOR PLAN	03
ELEVATIONS	04





press design + drafting

DATE:	30 NOV 20	SHEET:	1/04
JOB #:	20073		

COVER PAGE

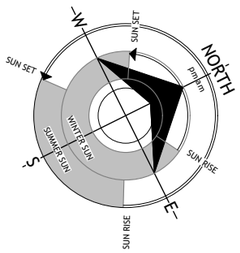
SCALE: NOT TO SCALE

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SILVERSTREAM BOULEVARD



LOT 3 DP TBC
312m²

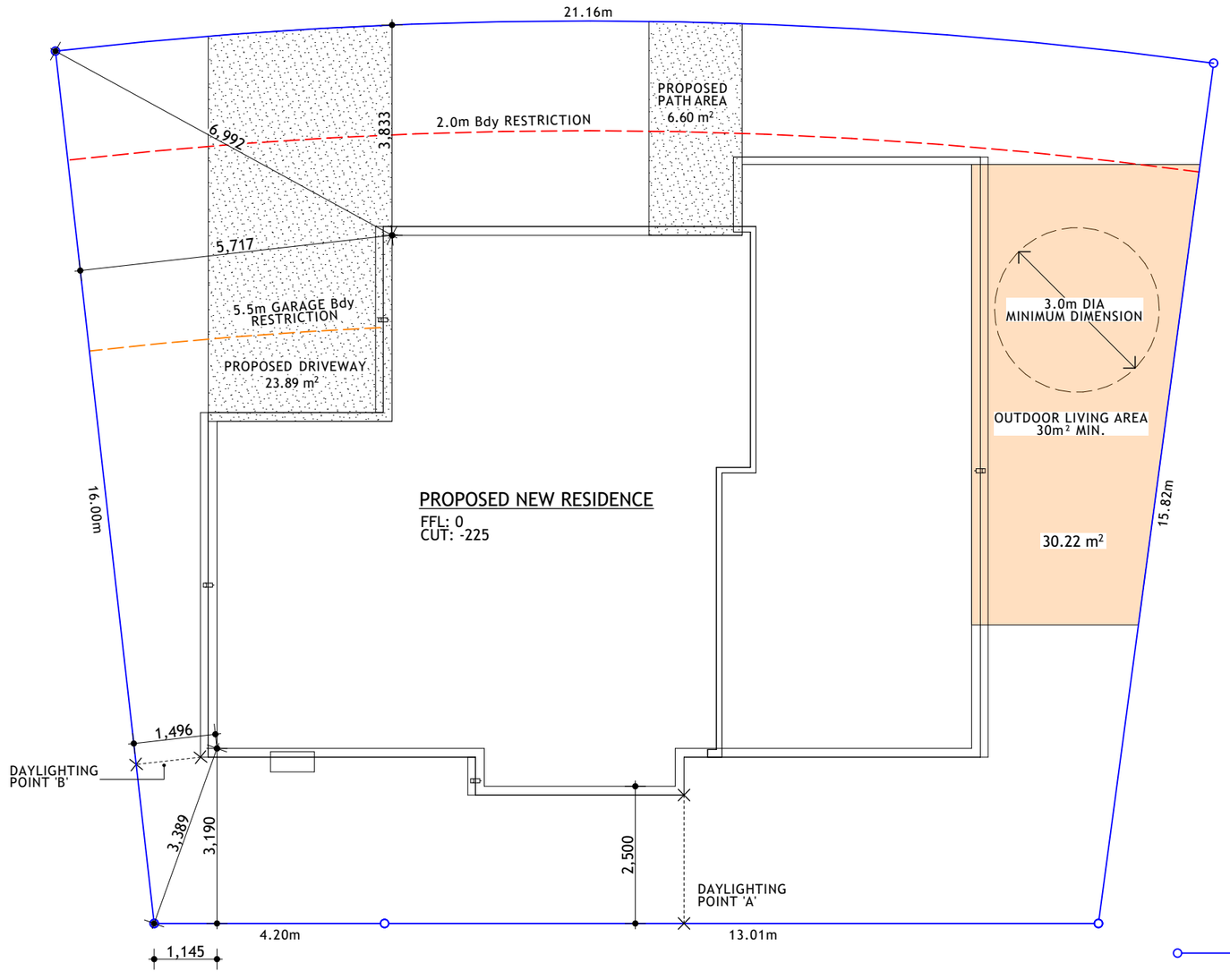
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
CORROSION ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	125.54m²
SITE COVERAGE:	40.23% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

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Wendy Harris 21/01/2021

Xpress design + drafting	JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: SITE PLAN	LEGAL DESCRIPTION: LOT: 3 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	NOTES: Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	DATE OF ISSUE: 30 NOV 20 / AMENDMENT DATE: / VERSION: SC-01	DESIGNER: JAM / DRAWN: JAM / CHECKED:	SCALE: 1:100 / JOB#: 20073	SHEET: 2 / 04

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- APPROVED APPLICATION -
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Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

INTERIOR FRAMING
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(SINGLE OR TOP STOREY)

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NOTES
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TOWEL RAIL

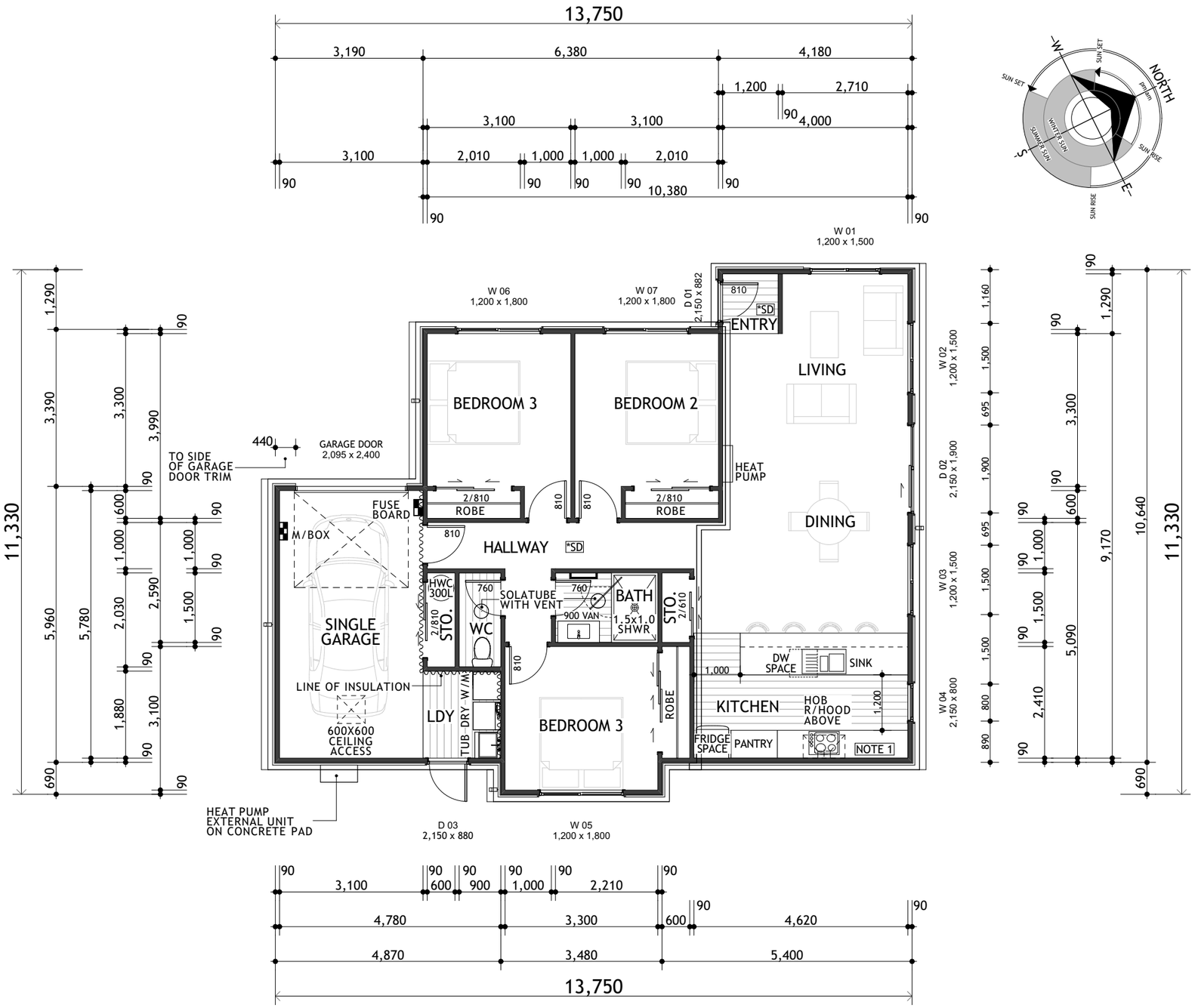
TOTAL AREA OVER FRAME

LIVING AREA:	103.22m²
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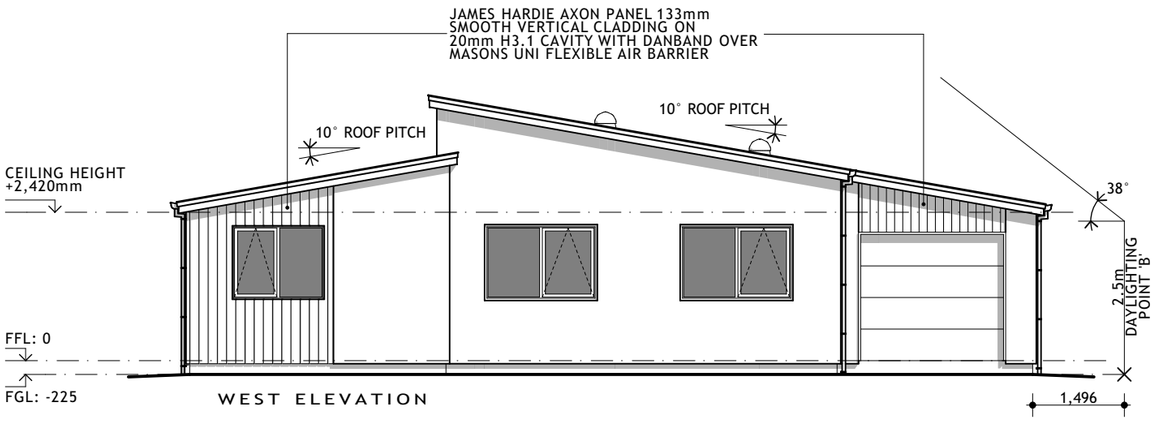
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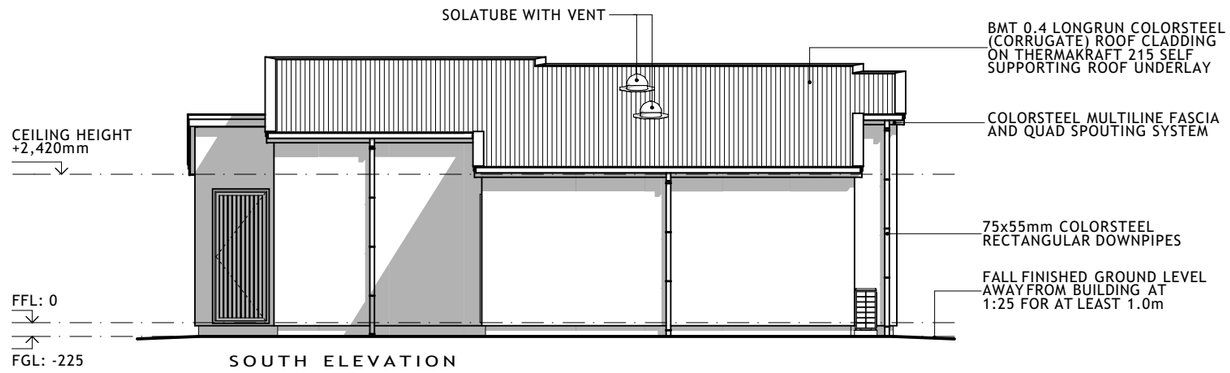
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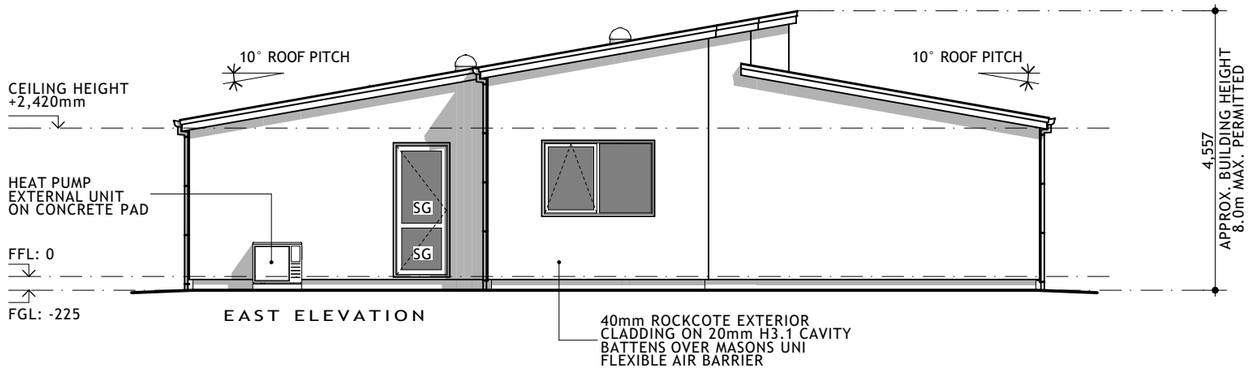
WAIMAKARIRI DISTRICT COUNCIL
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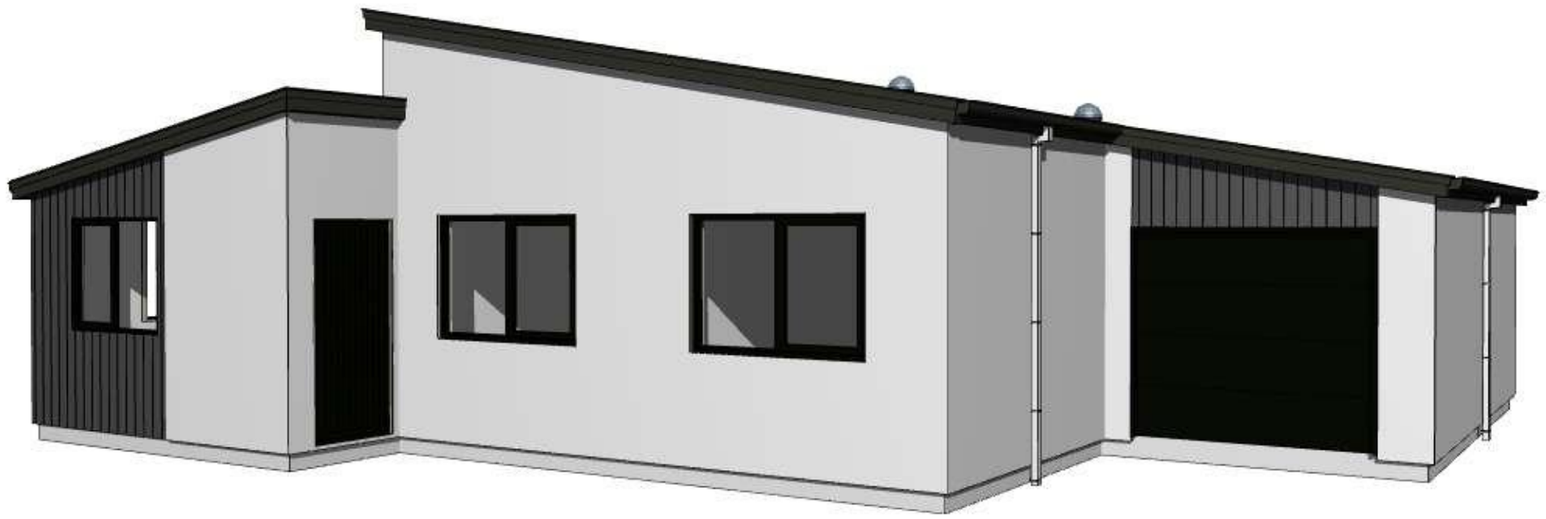
BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
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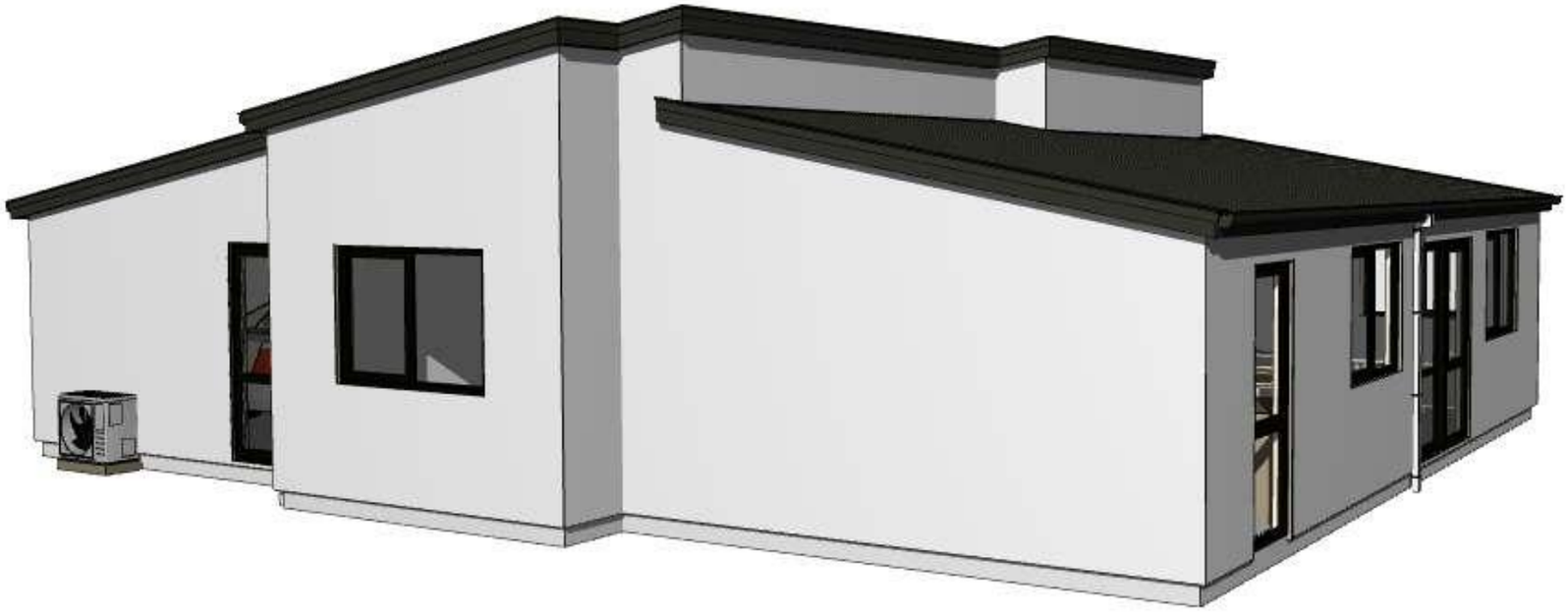


Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 3 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** SC-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 /04

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 4 - SILVERSTREAM BLVD.
AT
SILVERSTREAM KAIAPOI

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press design + drafting

DATE:	30 NOV 20	SHEET:	1/04
JOB #:	20073		

COVER PAGE

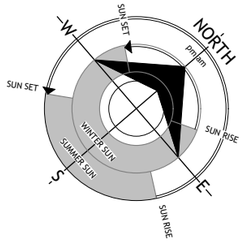
SCALE: NOT TO SCALE

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Wendy Harris 21/01/2021



LOT 4 DP TBC
304m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
CORROSION ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	125.54m²
SITE COVERAGE:	41.29% (TBC MAX)

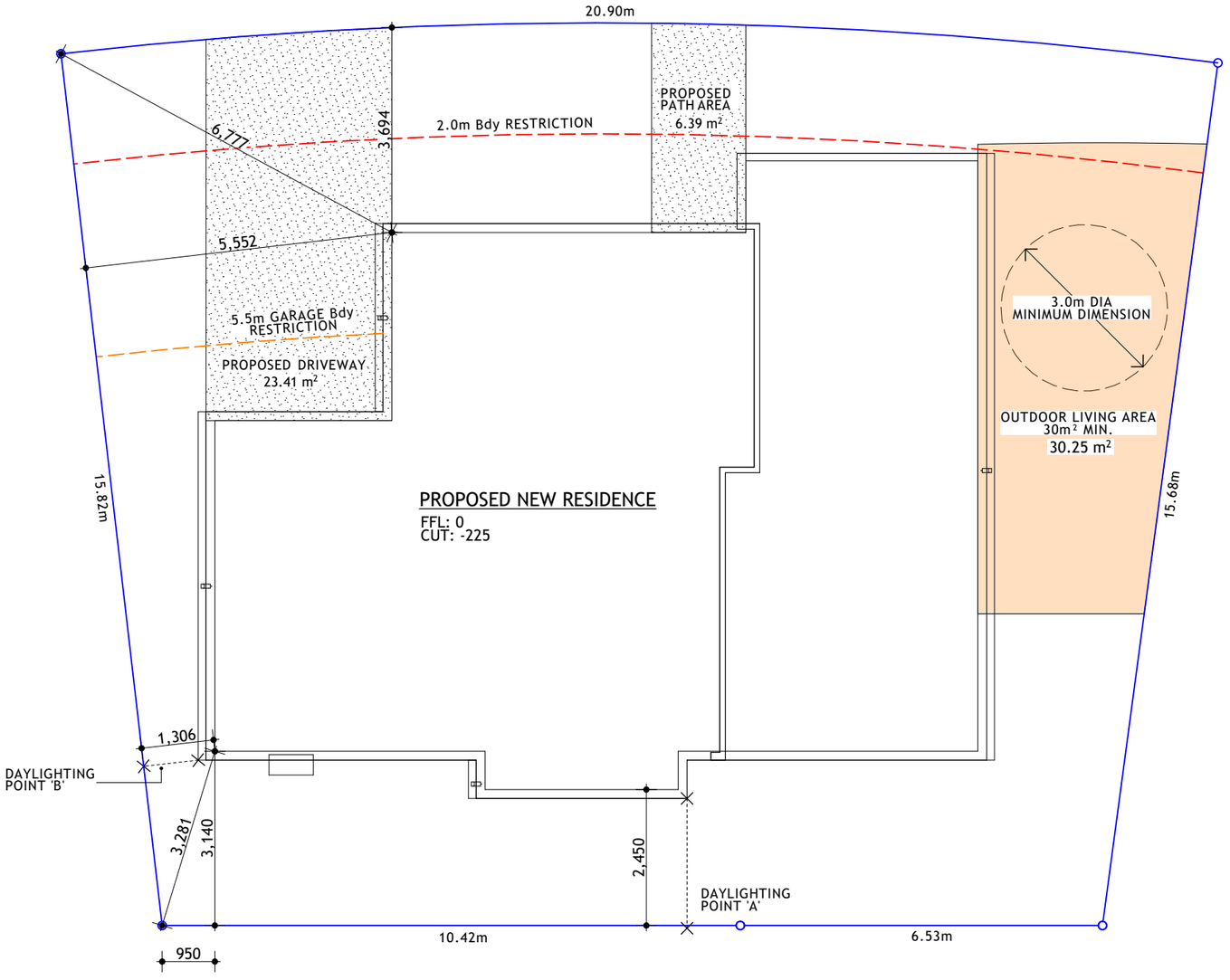
RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

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SILVERSTREAM BOULEVARD



JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: SITE PLAN	LEGAL DESCRIPTION: LOT: 4 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	NOTES: Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	DATE OF ISSUE: 30 NOV 20	DESIGNER: JAM	SCALE: 1:100	SHEET: 2 / 04
				AMENDMENT DATE:	DRAWN: JAM	JOB#: 20073	
				VERSION: SC-01	CHECKED:		

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APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

INTERIOR FRAMING
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NOTES
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ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS

DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
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*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

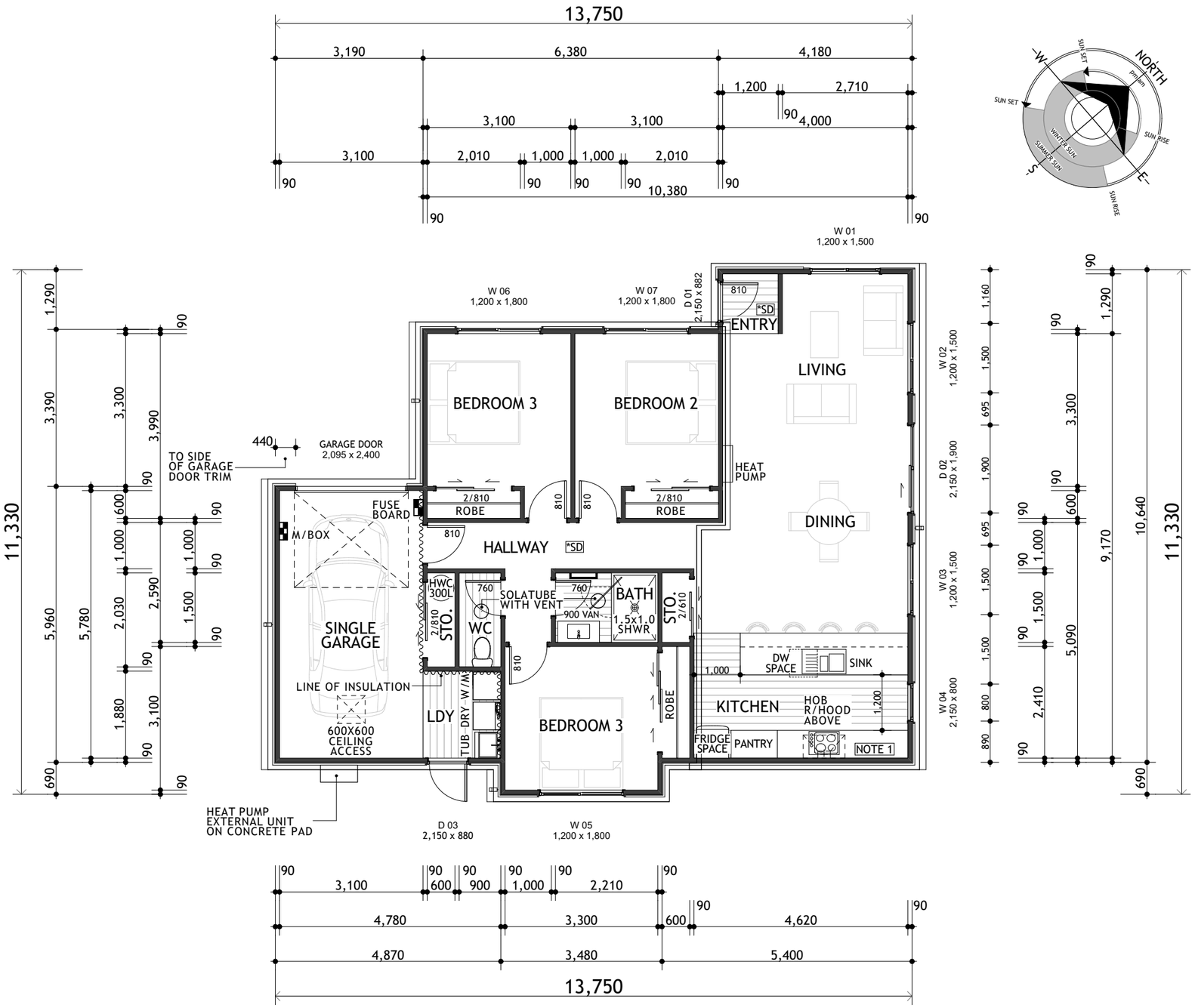
TOTAL AREA OVER FRAME

LIVING AREA:	103.22m²
GARAGE AREA:	22.32m²
TOTAL AREA:	125.54m²
ROOF PLAN AREA:	134.64m²

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NOTE 1:
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press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** FLOOR PLAN	**LEGAL DESCRIPTION:** LOT: 4 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** SC-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**

SCALE:	**SHEET:**
1:100	3
JOB#: 20073	04

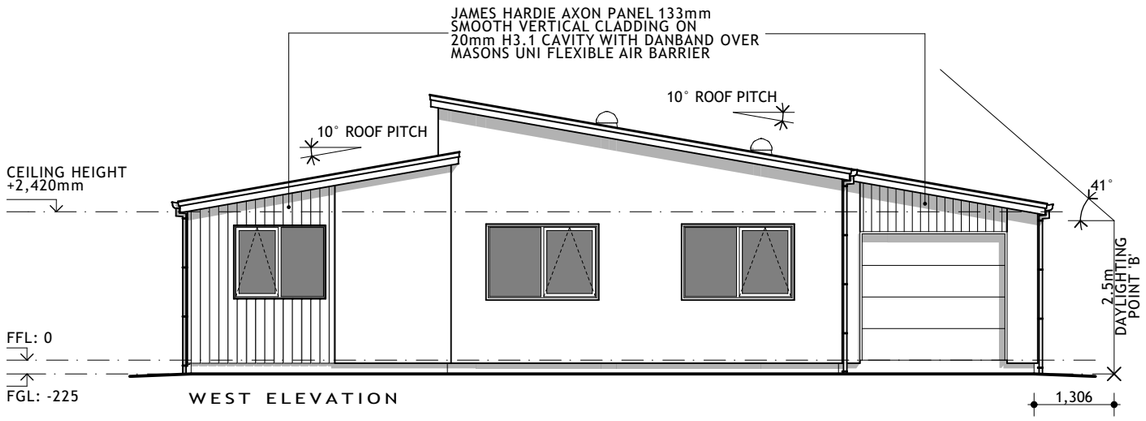
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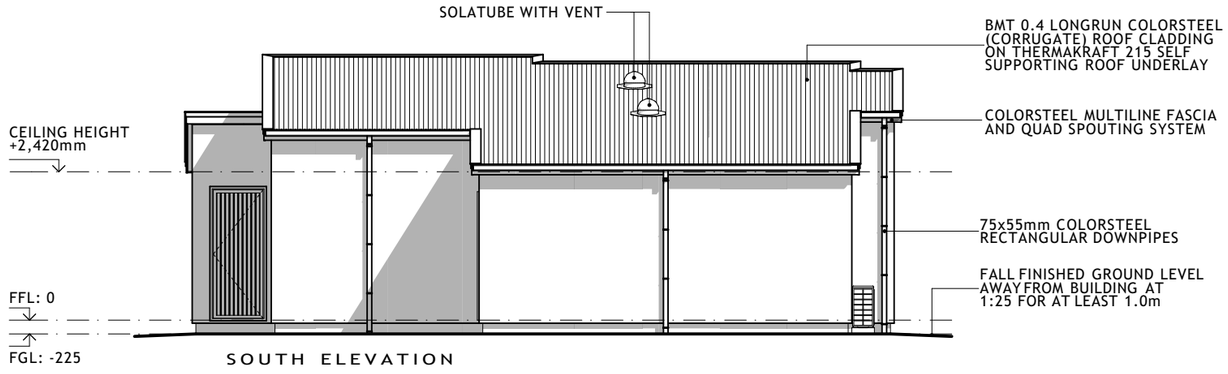
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BC211794

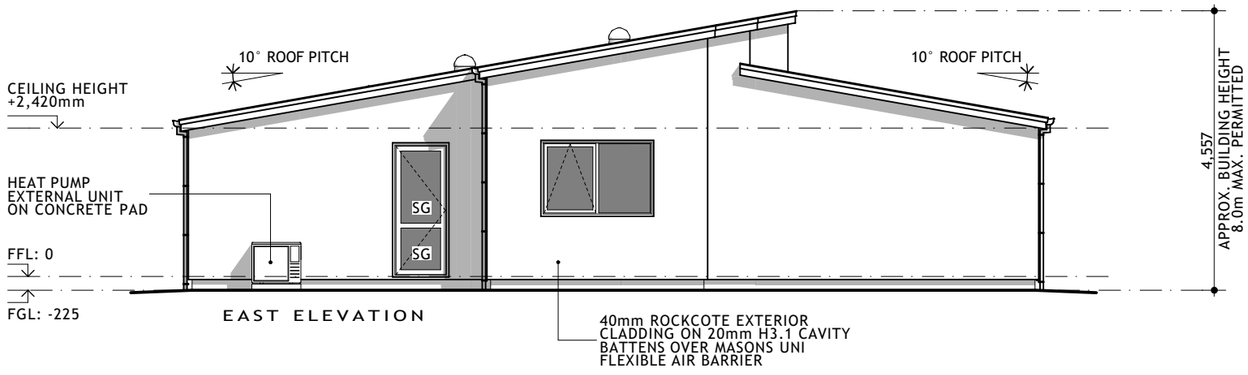
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RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021







BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	High risk	2
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**5**

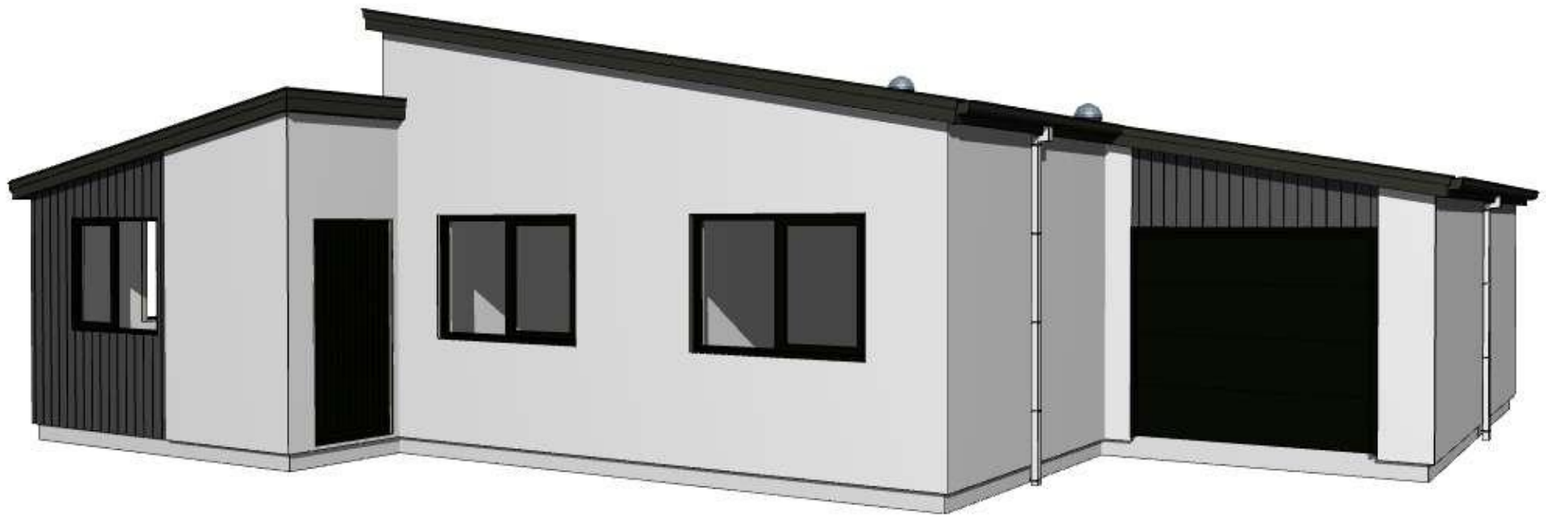


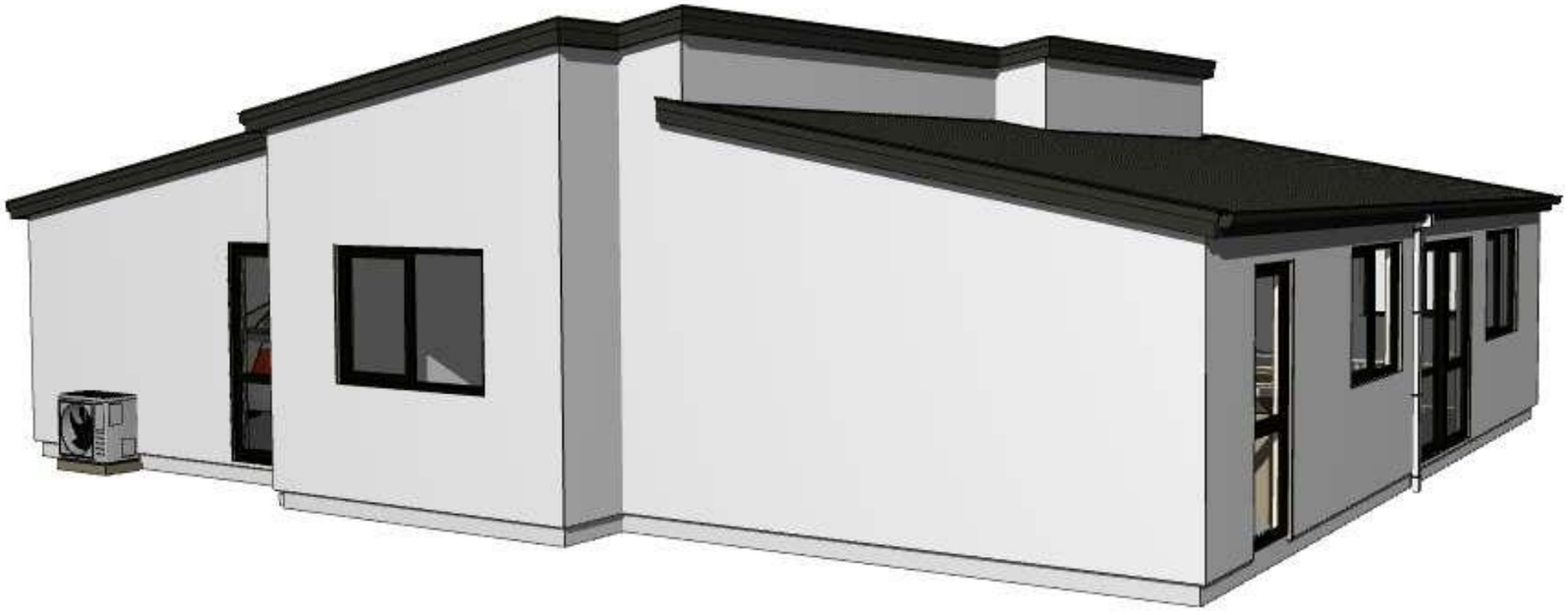
press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 4 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** SC-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

BC211794

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 5 - SILVERSTREAM BLVD.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
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SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





press design + drafting

DATE:	30 NOV 20	SHEET:	1/04
JOB #:	20073		

COVER PAGE

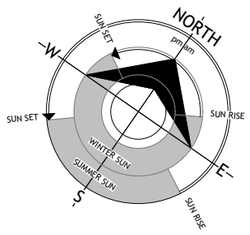
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LOT 5 DP TBC
300m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
CORROSION ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	125.54m²
SITE COVERAGE:	41.84% (TBC MAX)

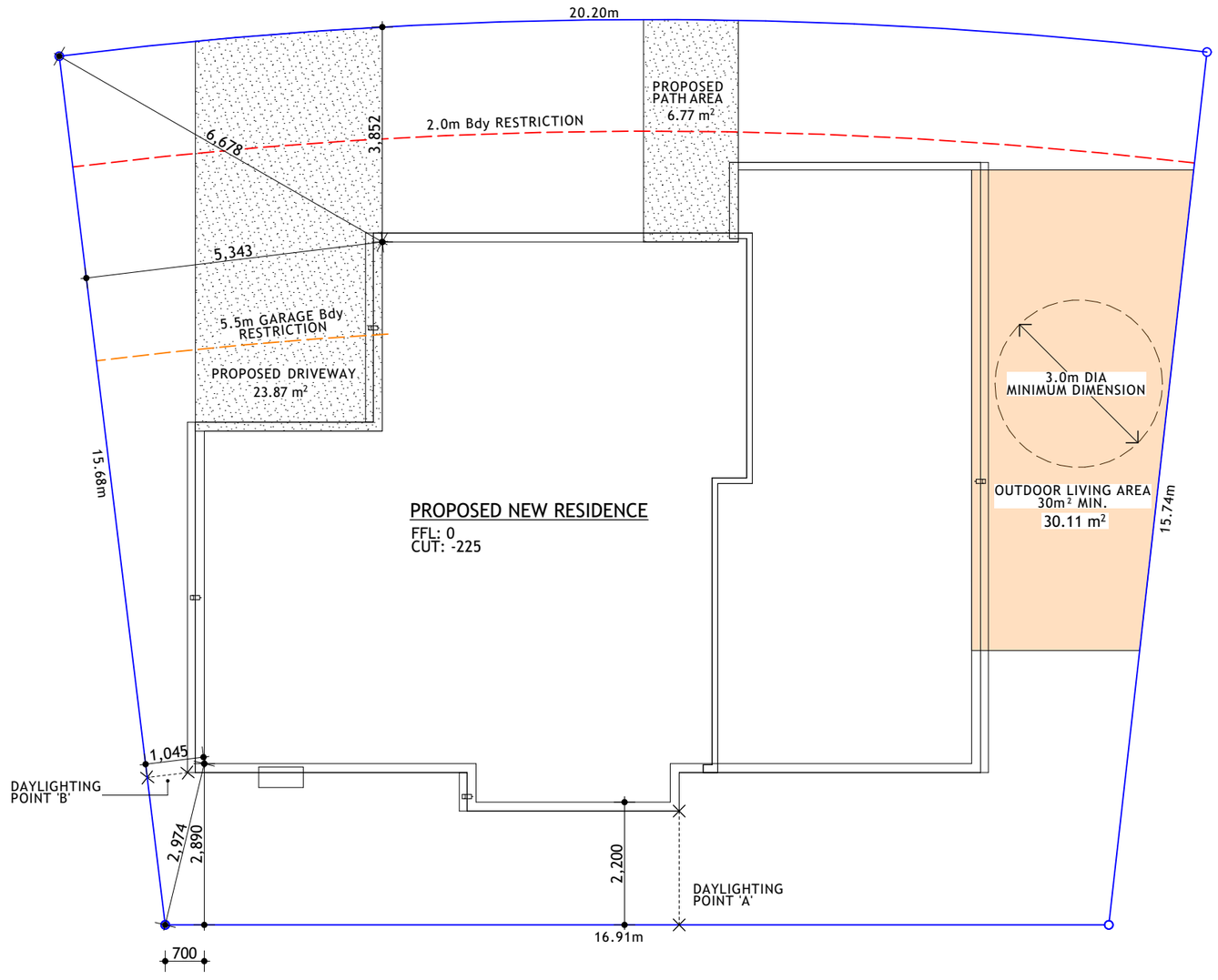
RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

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SILVERSTREAM BOULEVARD



press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 5 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** SC-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 2 / 04

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
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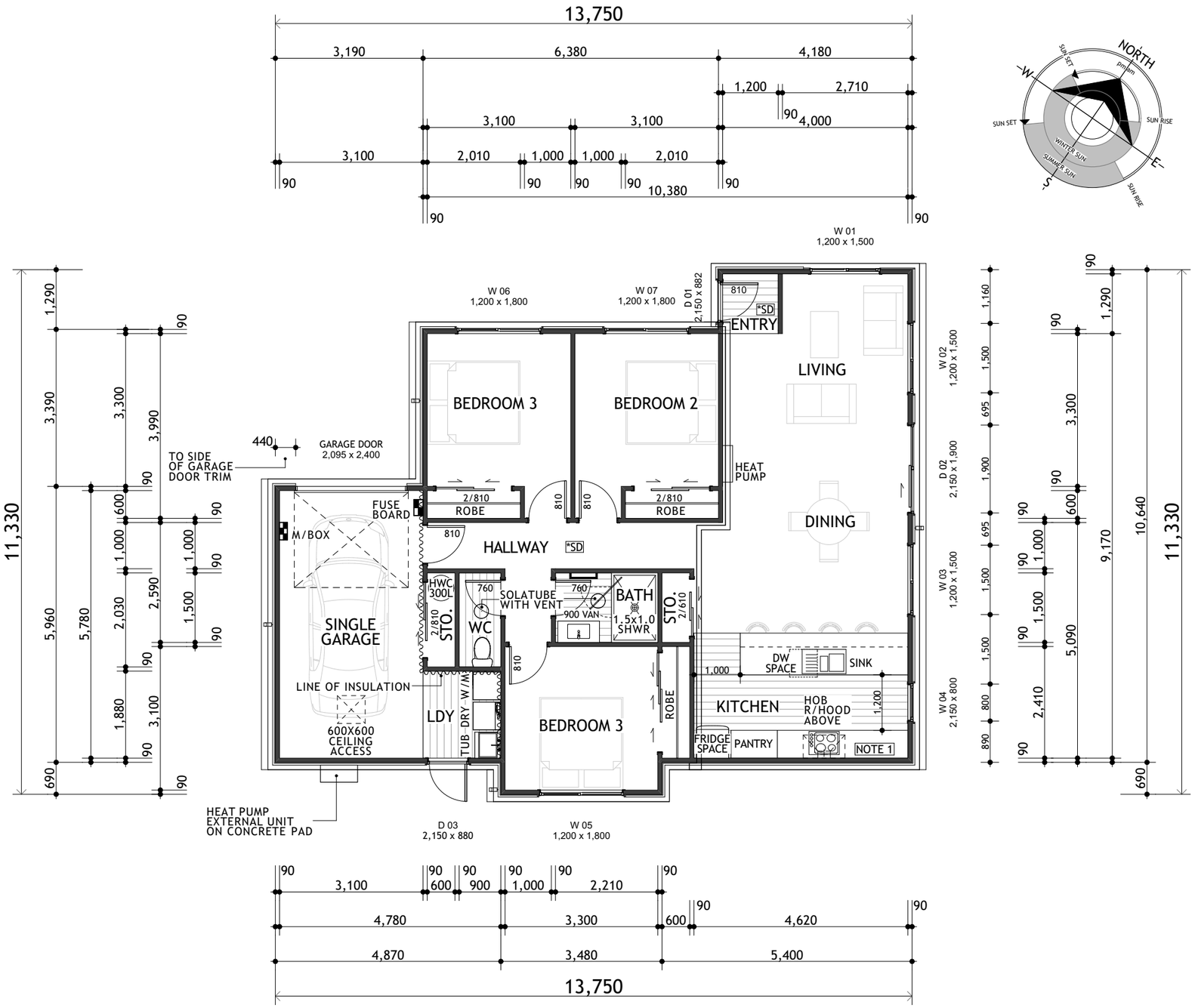
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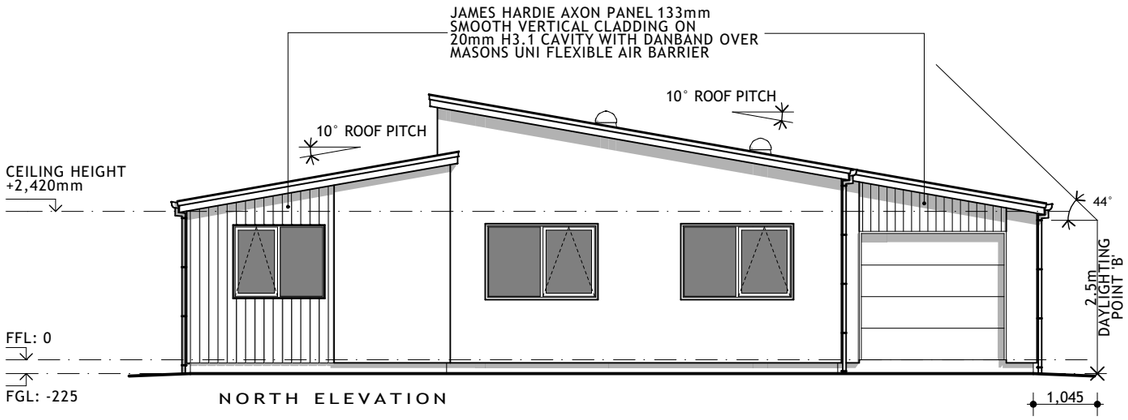
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					VERSION: SC-01	**CHECKED:**		

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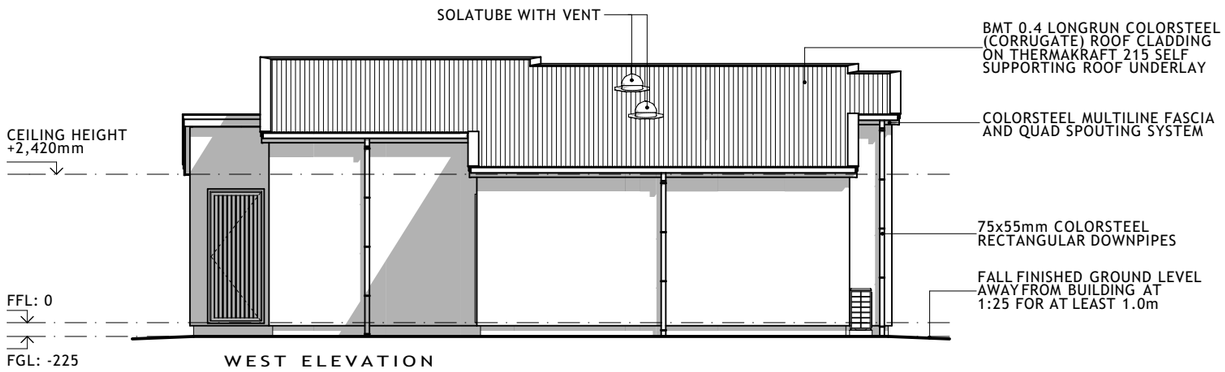
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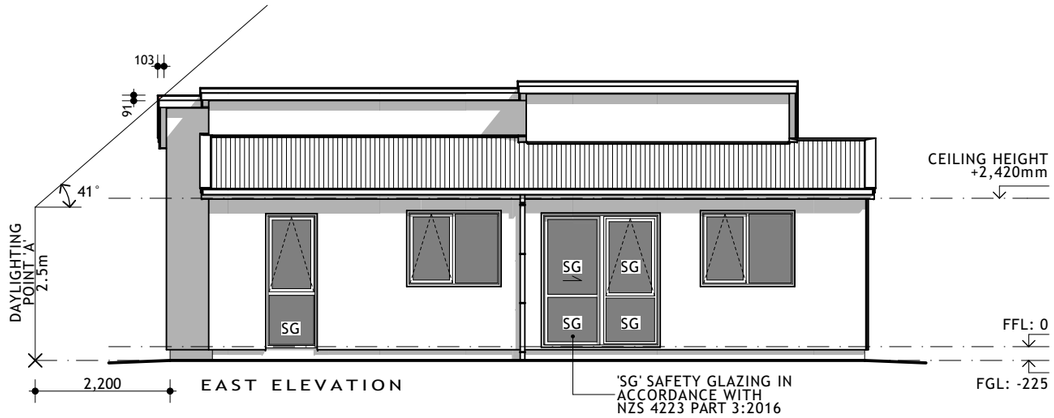
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- APPROVED APPLICATION -
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APPROVED by Authorised Officer
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NORTH ELEVATION

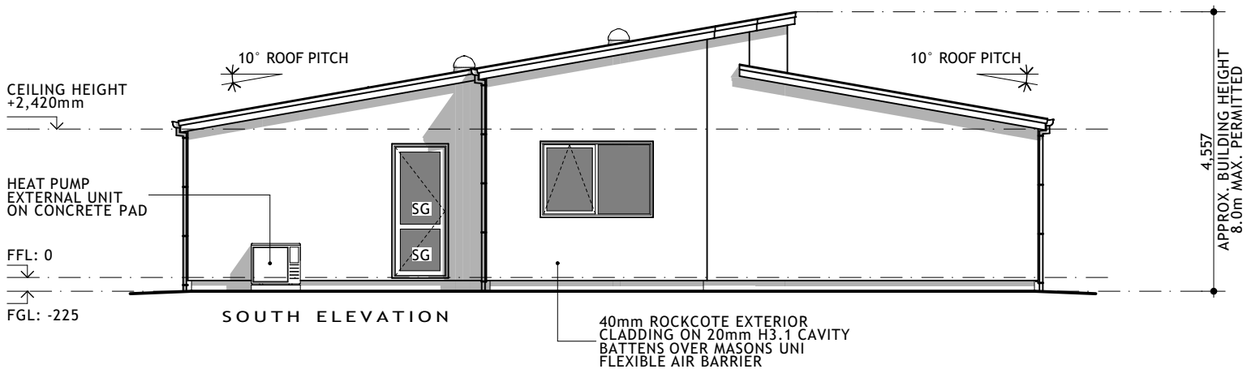


WEST ELEVATION



EAST ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	High risk	2
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**5**



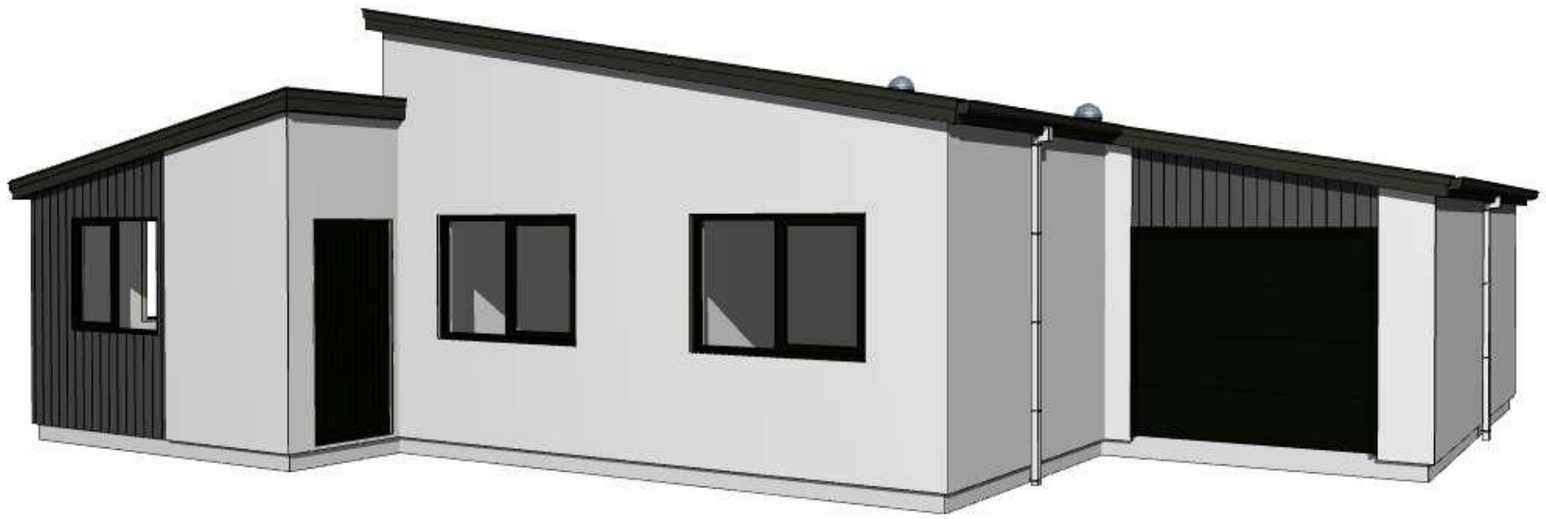
SOUTH ELEVATION

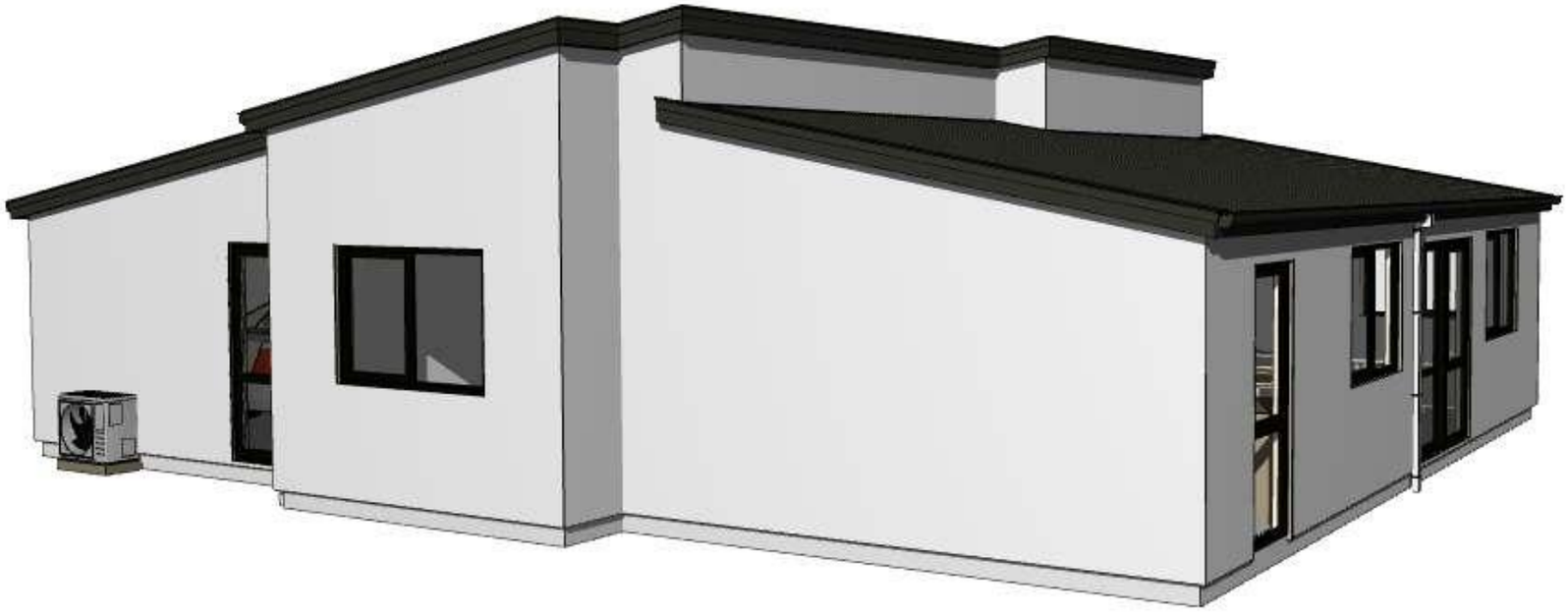
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					VERSION: SC-01	**CHECKED:**		

BC211794

PROPOSED NEW DWELLING FOR B9 DEVELOPMENT LOT 6 - SILVERSTREAM BLVD. AT SILVERSTREAM KAIAPOI

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SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





press design + drafting

DATE: 30 NOV 20	SHEET: 1/04
JOB #: 20073	

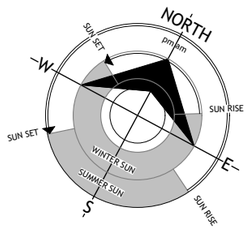
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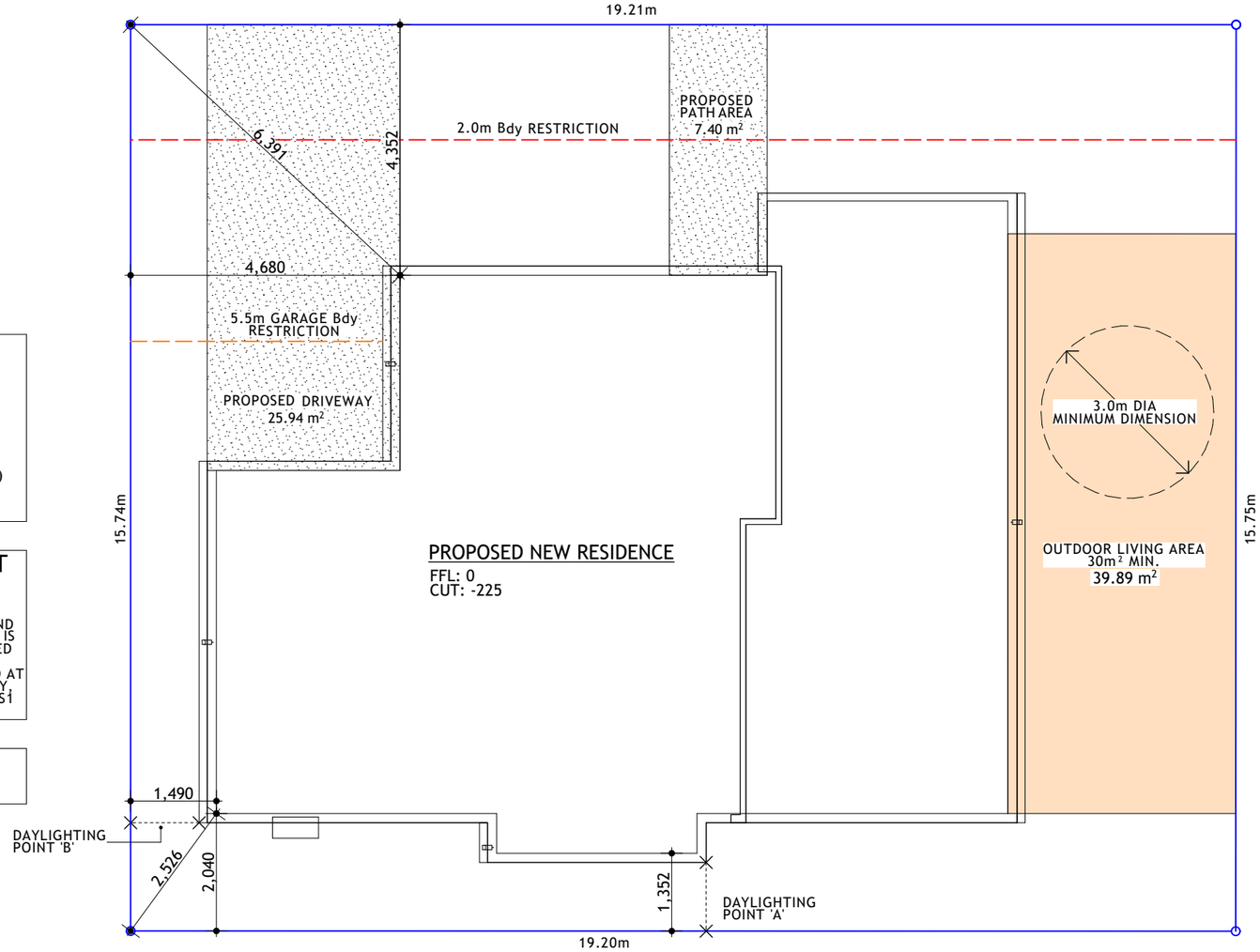
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SILVERSTREAM BOULEVARD





LOT 6 DP TBC
302m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
CORROSION ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	125.54m²
SITE COVERAGE:	41.57% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

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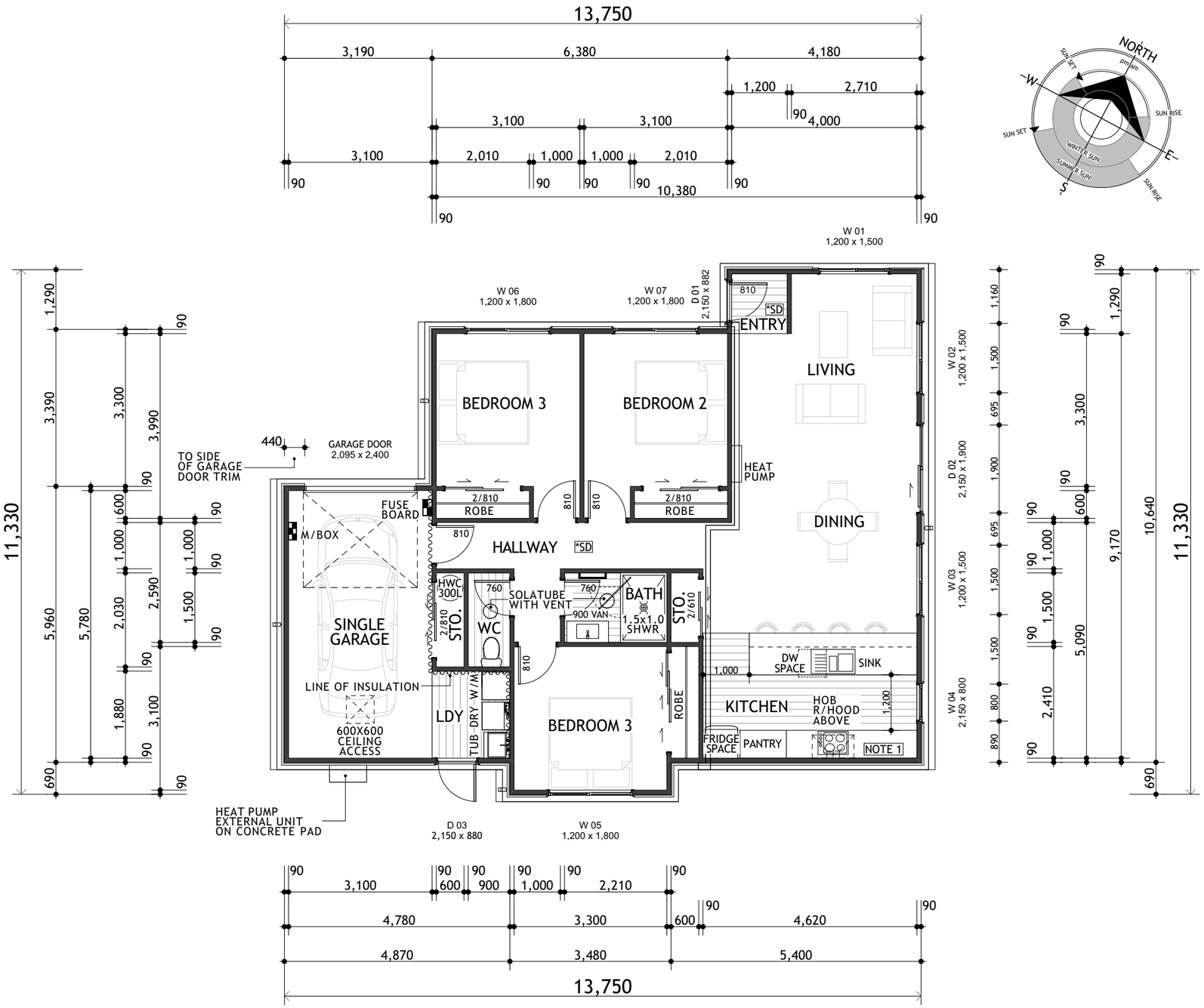
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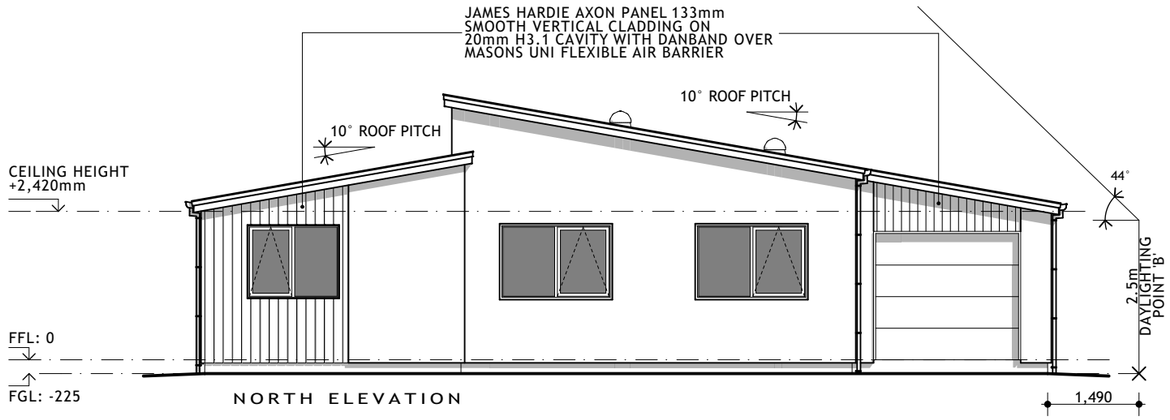
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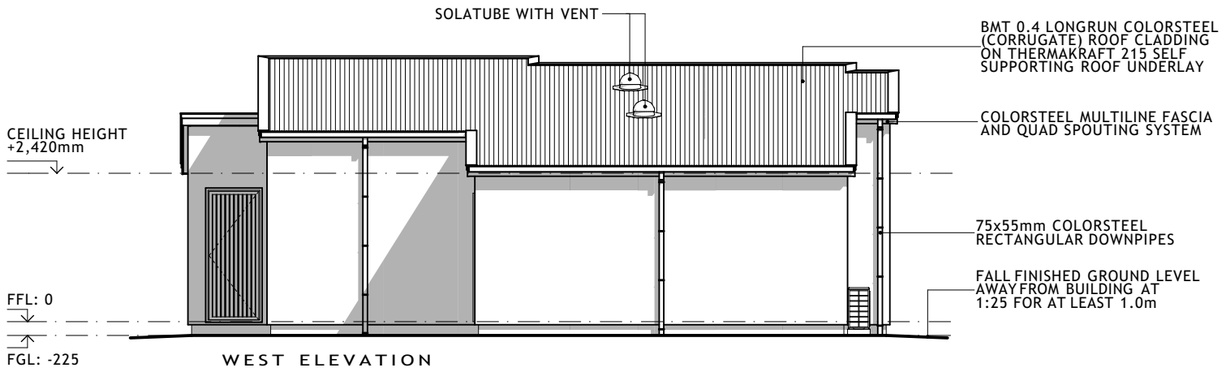
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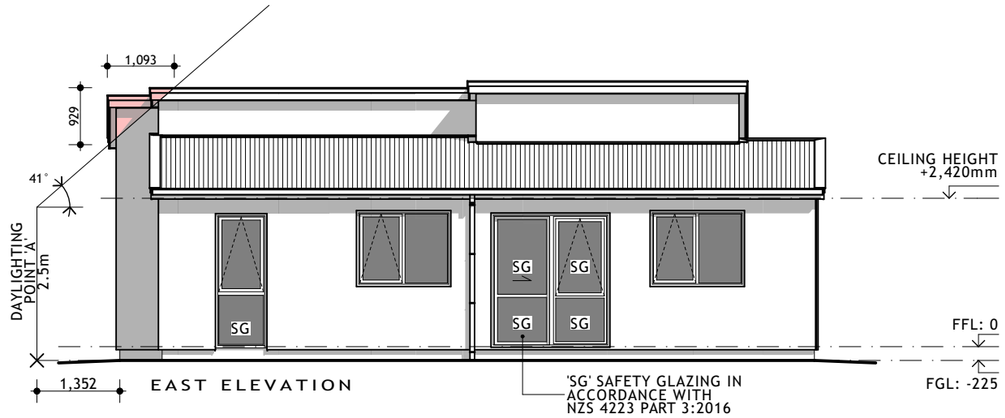
CONSENT ISSUED BC211794 - Page 66 of 316

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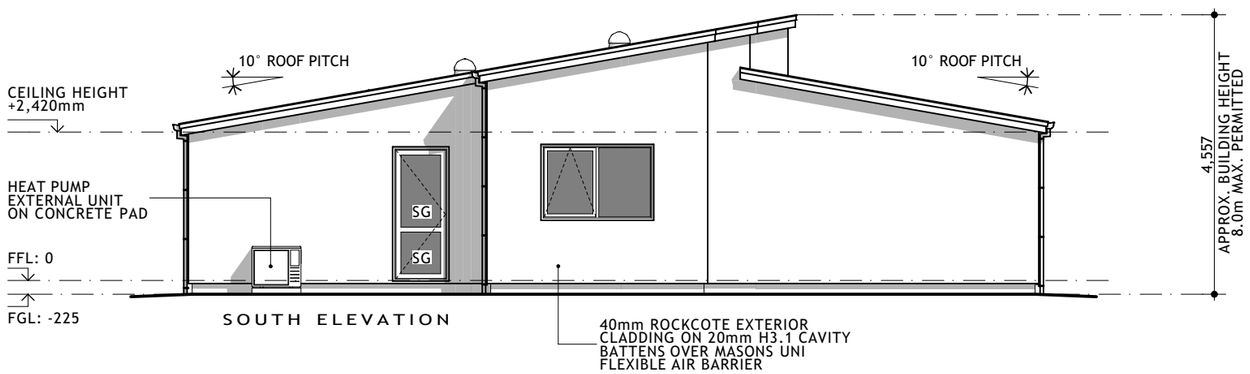
WAIMAKARIRI DISTRICT COUNCIL
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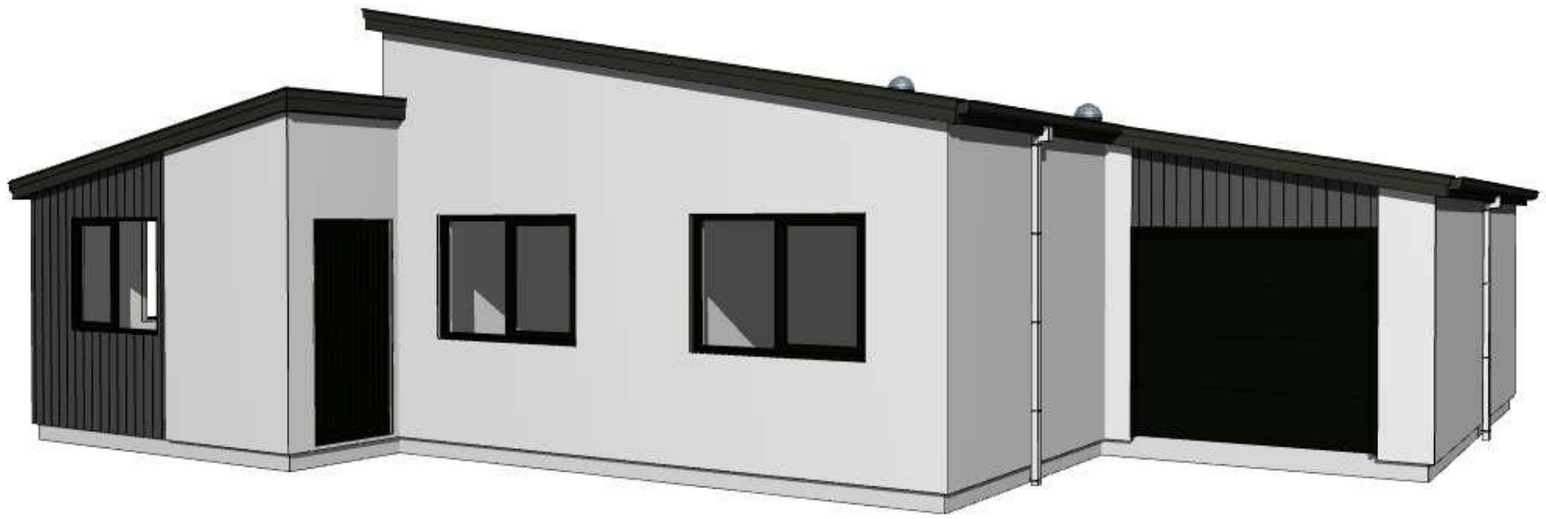
press design + drafting

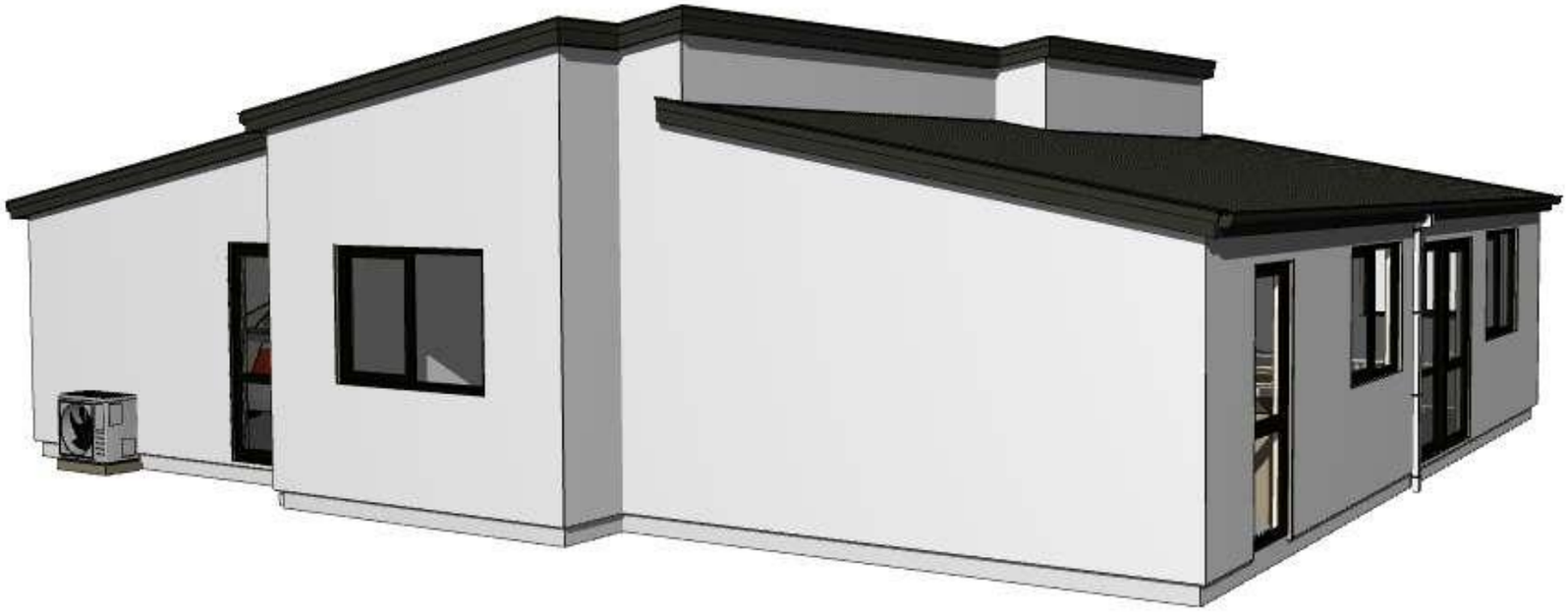
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BC211794

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 7 - SILVERSTREAM BLVD.
AT
SILVERSTREAM KAIAPOI

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press design + drafting

DATE:	30 NOV 20	SHEET:	1/04
JOB #:	20073		

COVER PAGE

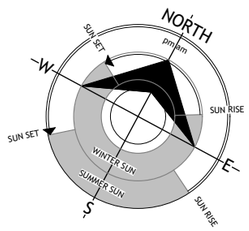
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NOTE: This Plan is subject to developer's approval and local district council verification and approval.

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BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LOT 7 DP TBC
300m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
CORROSION ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	125.54m²
SITE COVERAGE:	41.84% (TBC MAX)

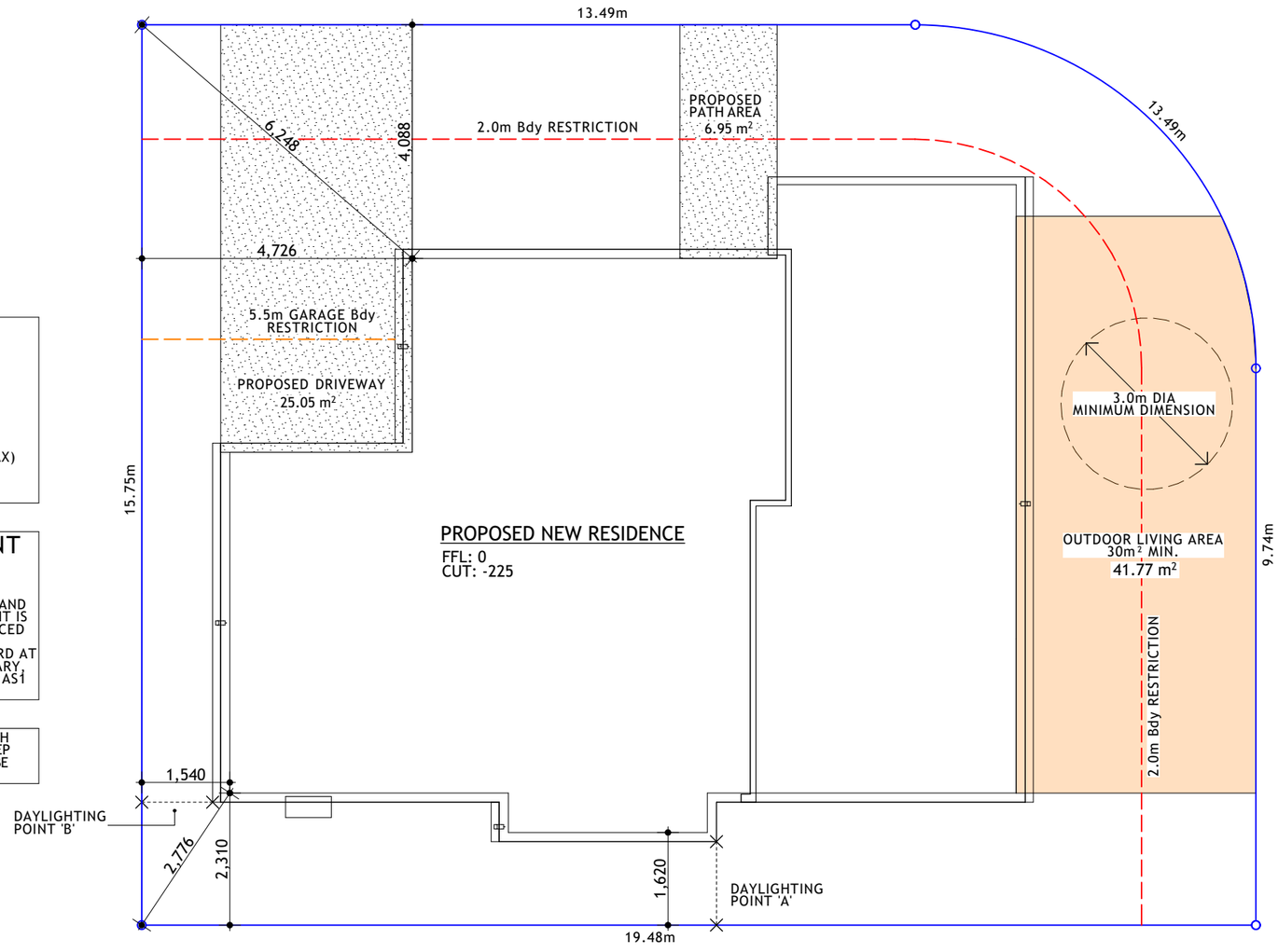
RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY, A BARRIER COMPLYING WITH TABLE 1, NZBC F5/AS1 IS AN ACCEPTABLE SOLUTION

- PATIOAND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON / MAIN PRIVATE STAIRWAYSTO BE 190mm.

SILVERSTREAM BOULEVARD



Xpress design + drafting	JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: SITE PLAN	LEGAL DESCRIPTION: LOT: 7 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	NOTES: Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	DATE OF ISSUE: 30 NOV 20 AMENDMENT DATE: VERSION: SC-01	DESIGNER: JAM DRAWN: JAM CHECKED:	SCALE: 1:100 JOB#: 20073	SHEET: 2 / 04

NOTE: This Plan is subject to developer's approval and local district council verification and approval.

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BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION

ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS

DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

- PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2.
MAXIMUM STEP HEIGHT TO COMMON / MAIN PRIVATE STAIRWAYS TO BE 190mm.

*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

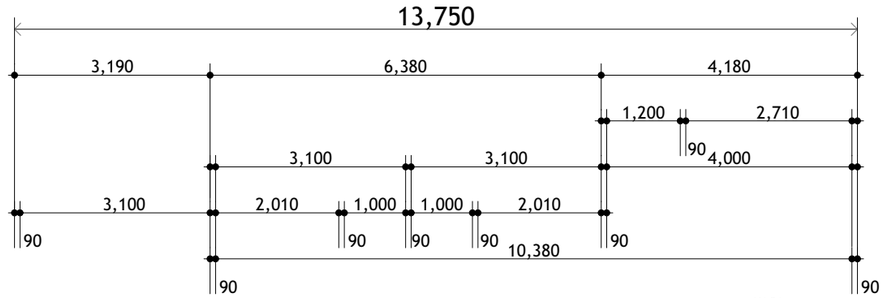
TOTAL AREA OVER FRAME

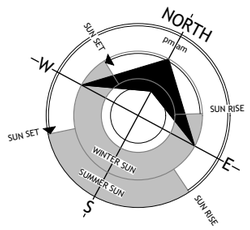
LIVING AREA:	103.22m²
GARAGE AREA:	22.32m²
TOTAL AREA:	125.54m²
ROOF PLAN AREA:	134.64m²

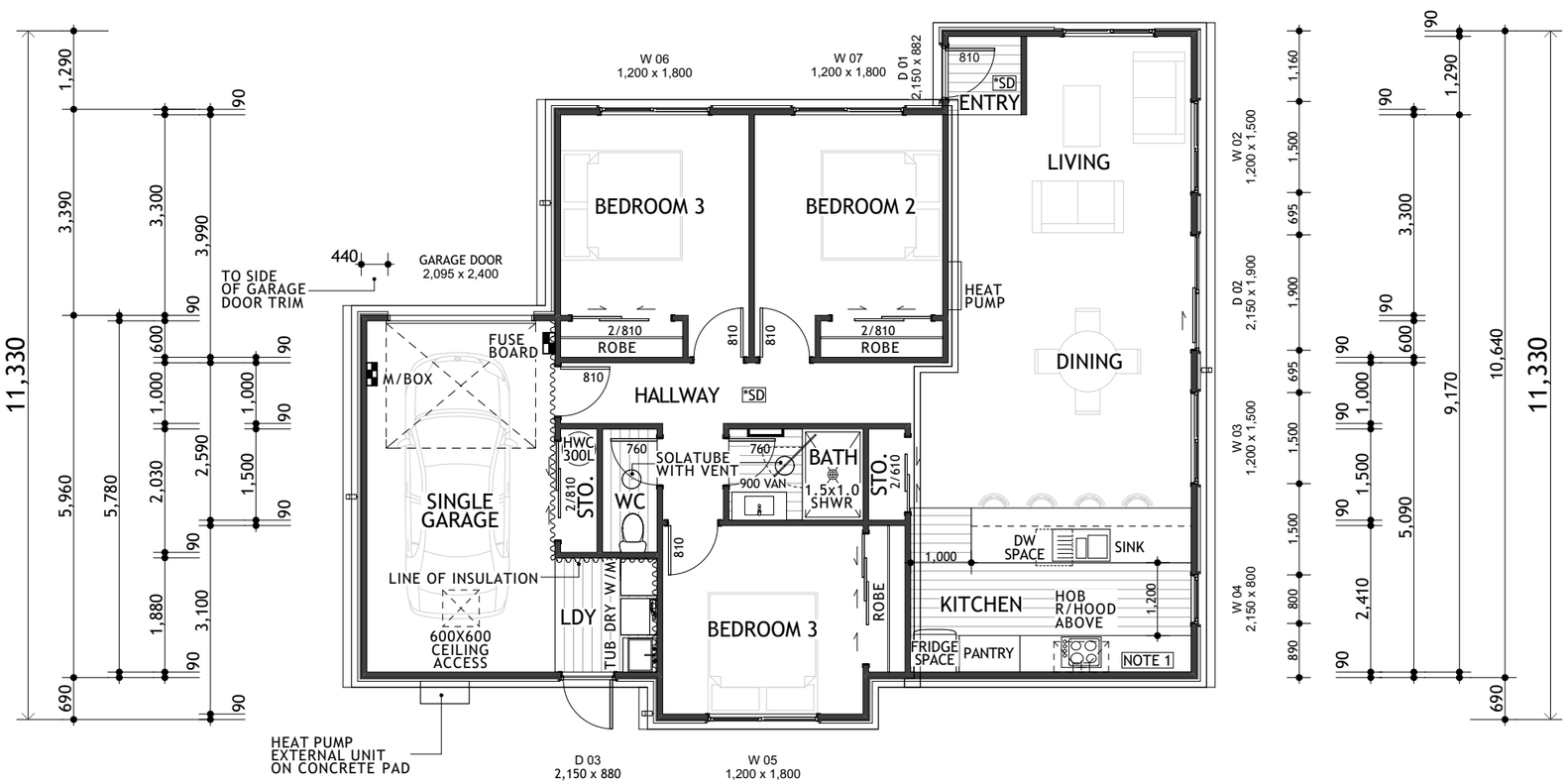
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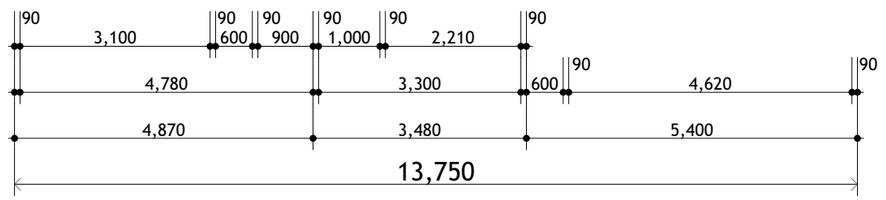
NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAIN IN A HYGIENIC CONDITION

ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030mm HIGH









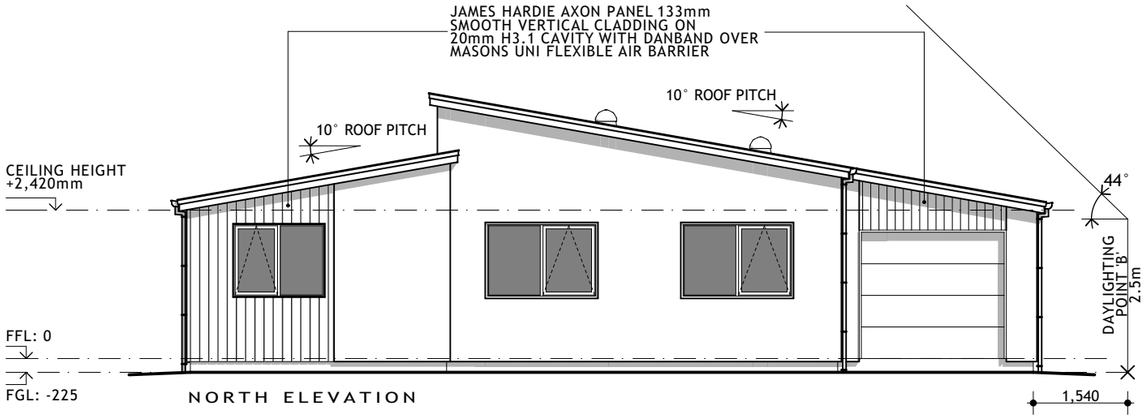
Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** FLOOR PLAN	**LEGAL DESCRIPTION:** LOT: 7 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** SC-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 3 / 04

NOTE: This Plan is subject to developer's approval and local district council verification and approval.

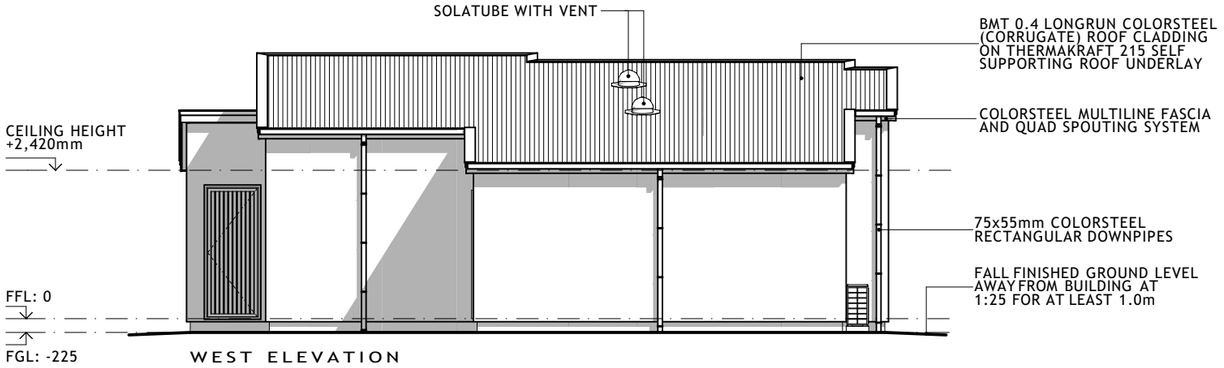
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BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



NORTH ELEVATION

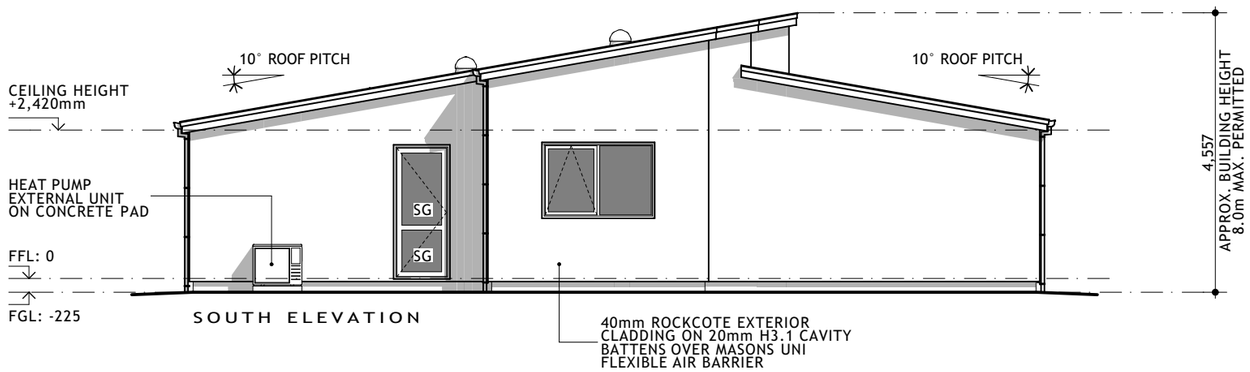


WEST ELEVATION



EAST ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	High risk	2
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**5**



SOUTH ELEVATION

Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 7 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 30 NOV 20	**DESIGNER:** JAM	**SCALE:** 1:100	**SHEET:** 4
					AMENDMENT DATE:	**DRAWN:** JAM	**JOB#:** 20073	04
					VERSION: SC-01	**CHECKED:**		

BC211794

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 8 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
COVER PAGE	01
SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





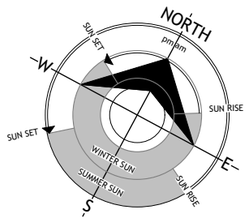
Xpress design + drafting

DATE: 30 NOV 20	SHEET: 1/04
JOB #: 20073	

COVER PAGE

SCALE: NOT TO SCALE

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LOT 8 DP TBC
293m²

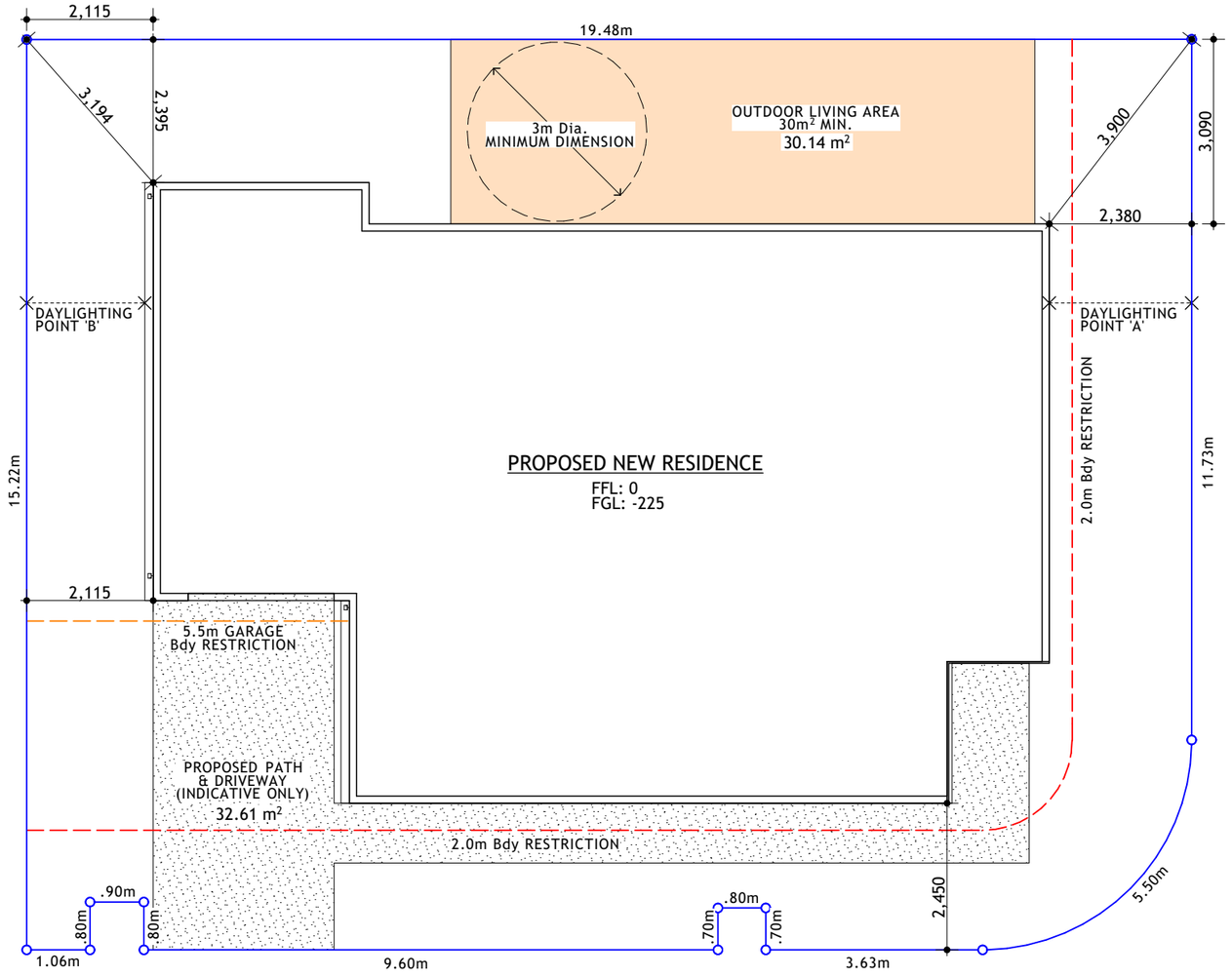
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	132.52m²
SITE COVERAGE:	45.23% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY. A BARRIER COMPLYING WITH TABLE 1 , NZBC F5/ AS1 IS AN ACCEPTABLE SOLUTION.

PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON/ MAIN PRIVATE STAIRWAYS TO BE 190mm .



GREENGRASS CRESCENT

Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 8 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** BERT **DRAWN:** **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 2 / 04

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
DWANGS @ 800mm crs
(SINGLE OR TOP STOREY)

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)
DWANGS @ 800mm crs

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION
ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS
DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE
OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

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*SD	SMOKE DETECTOR WITH HUSH BUTTON
	TOWEL RAIL

TOTAL AREA OVER FRAME

LIVING AREA:	104.77m²
GARAGE AREA:	22.20m²
TOTAL AREA:	126.97m²
ROOF PLAN AREA:	132.64m²

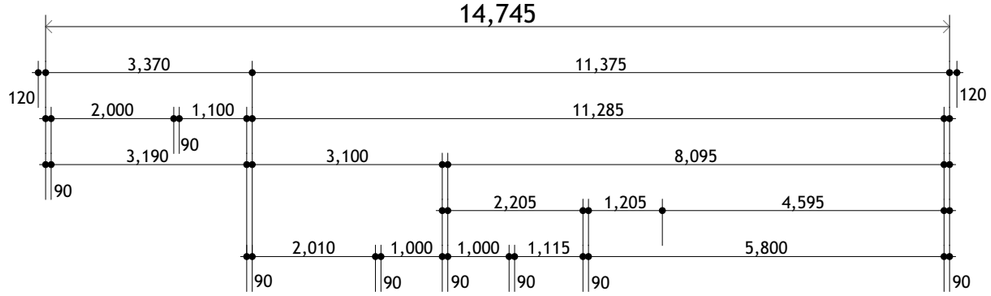
ADDITIONAL AREAS

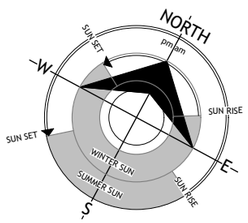
AREA OVER BRICK:	132.52m²

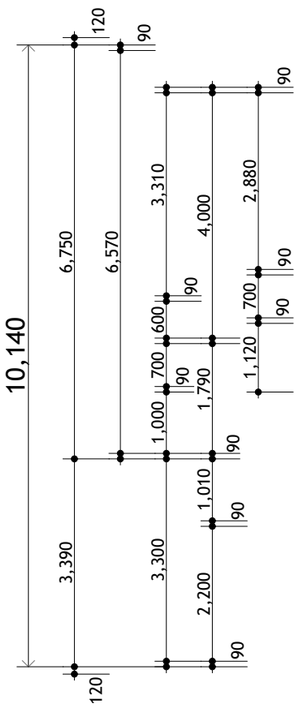
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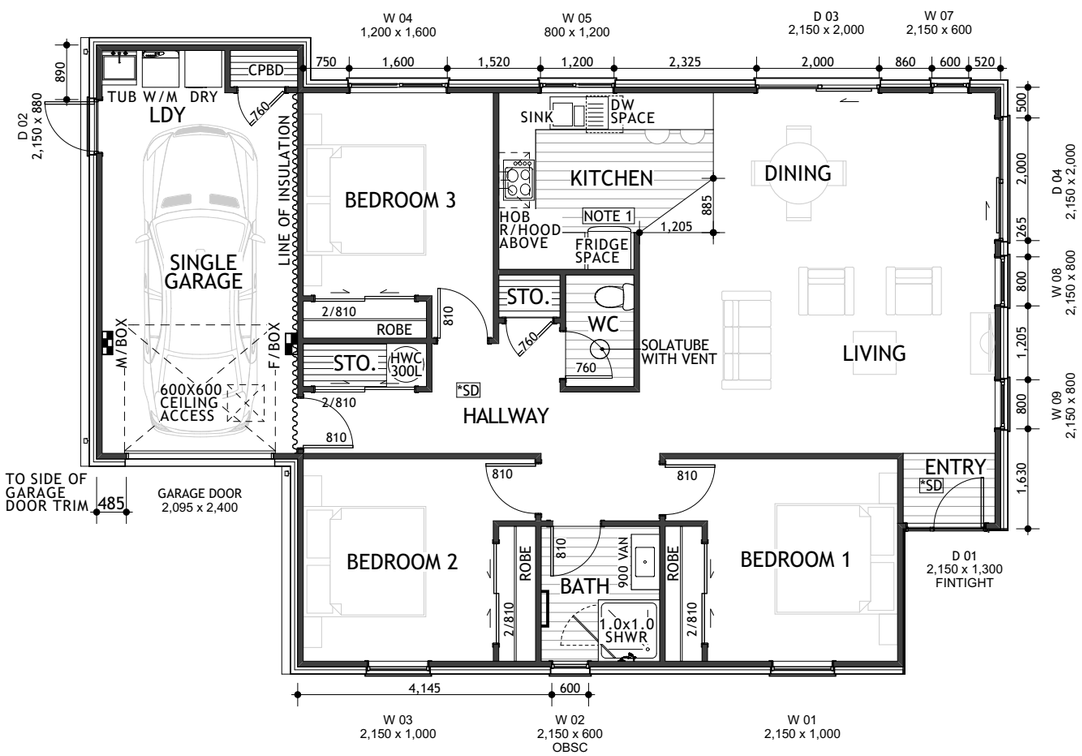
NOTE 1:
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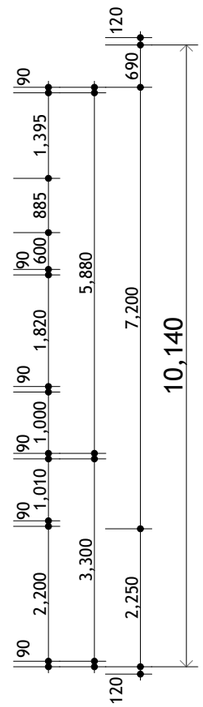
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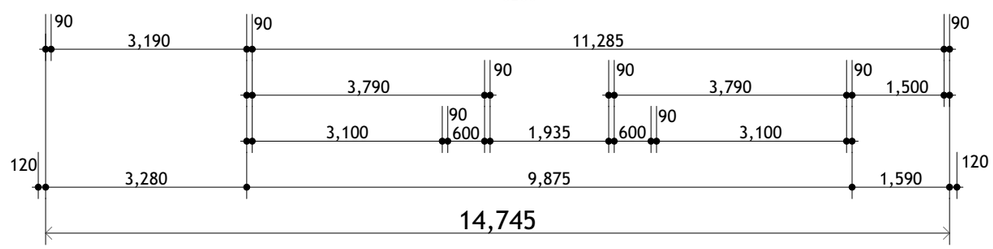








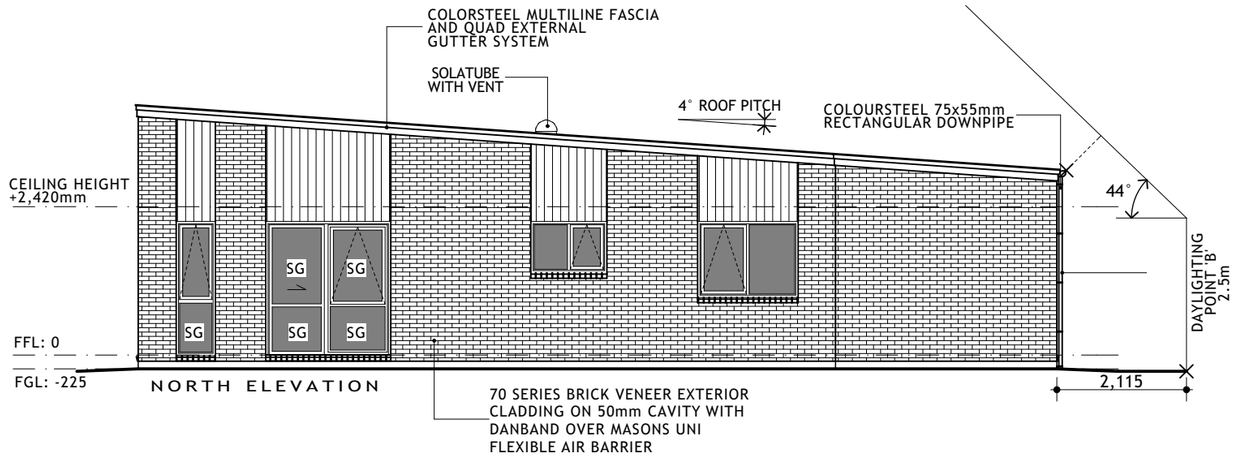


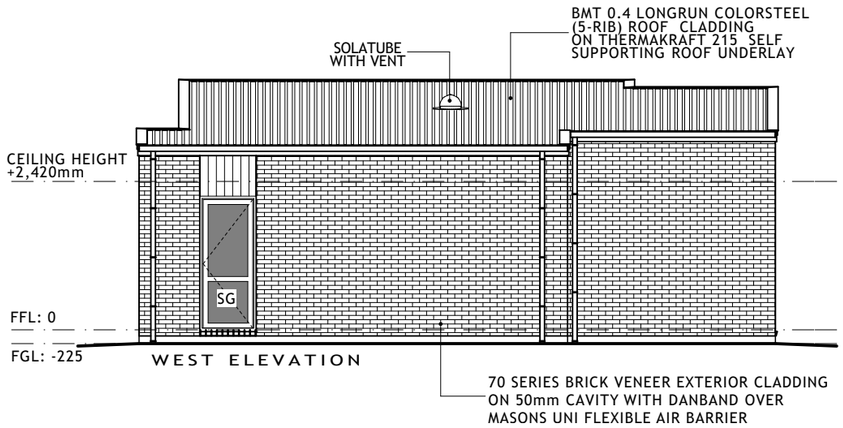


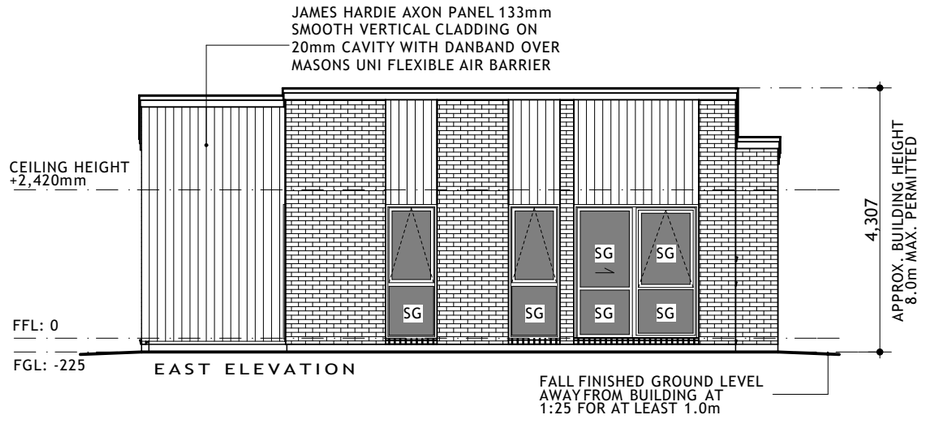
press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** FLOOR PLAN	**LEGAL DESCRIPTION:** LOT: 8 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 30 NOV 20 / **AMENDMENT DATE:** / **VERSION:** PL-01	**DESIGNER:** BERT / **DRAWN:** / **CHECKED:**	**SCALE:** 1:100 / **JOB#:** 20073	**SHEET:** 3 / 04

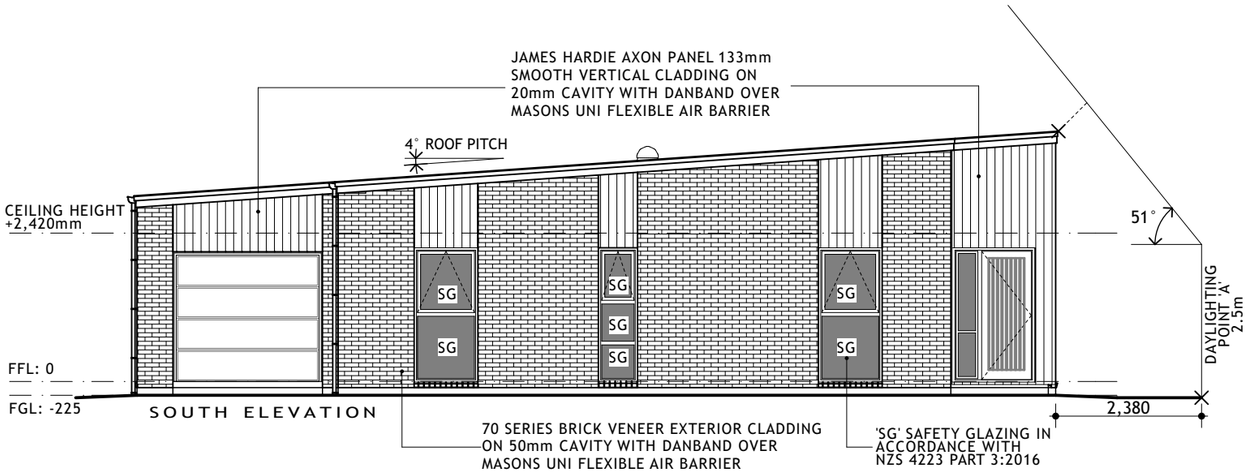
BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021









BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**8**

Xpress design + drafting

JOB TITLE: B9 DEVELOPMENT CONCEPT

DRAWING TITLE: ELEVATIONS

LEGAL DESCRIPTION:
LOT: 8
DP: TBC
ADDRESS: SILVERSTREAM KAIAPOI

NOTES:
- Subject to council approval
- All measurements to be confirmed on site by the contractor prior to the commencement of work.
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DATE OF ISSUE: 30 NOV 20
AMENDMENT DATE:
VERSION: PL-01
DESIGNER: BERT
DRAWN:
CHECKED:
SCALE: 1:100
JOB#: 20073
SHEET: 4 / 04

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 9 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
COVER PAGE	01
SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





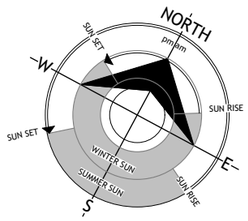
press design + drafting

DATE: 30 NOV 20	SHEET: 1/04
JOB #: 20073	

COVER PAGE

SCALE: NOT TO SCALE

WAIMAKARIRI DISTRICT COUNCIL
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APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LOT 9 DP TBC
291m²

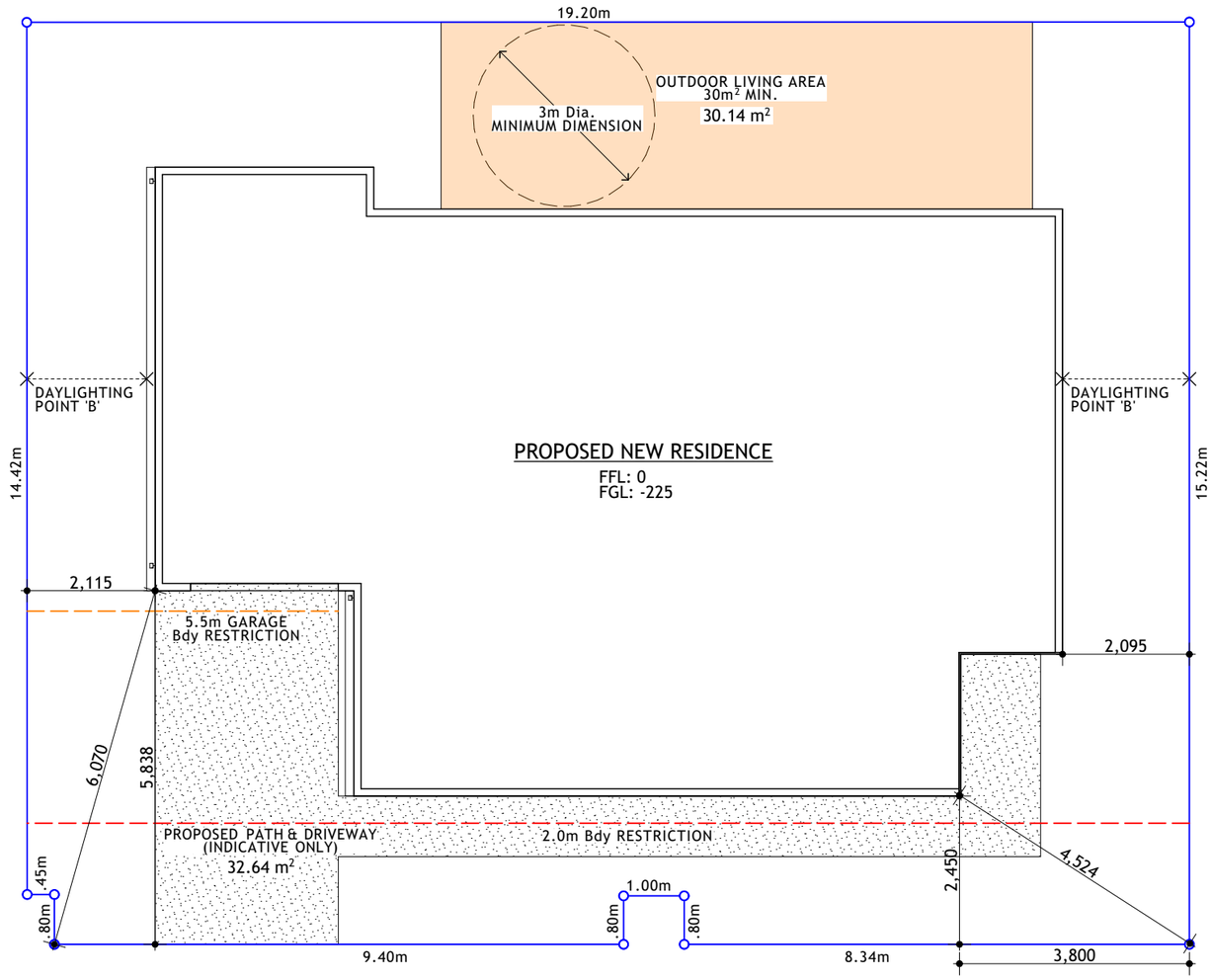
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	132.52m²
SITE COVERAGE:	45.54% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

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Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 9 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** BERT **DRAWN:** **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 2 / 04

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
DWANGS @ 800mm crs
(SINGLE OR TOP STOREY)

INTERIOR FRAMING
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*SD	SMOKE DETECTOR WITH HUSH BUTTON
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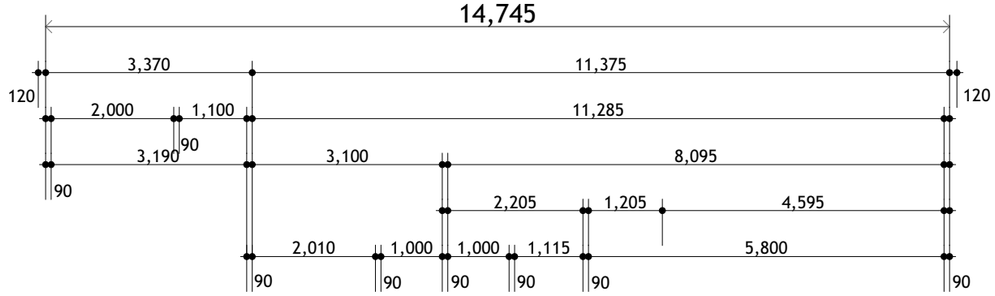
ADDITIONAL AREAS

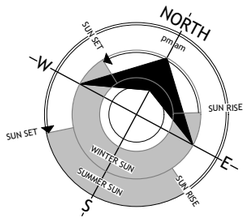
AREA OVER BRICK:	132.52m²

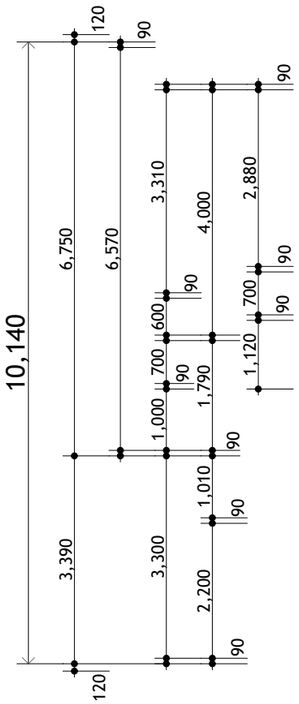
NOTES

NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAINED IN A HYGIENIC CONDITION

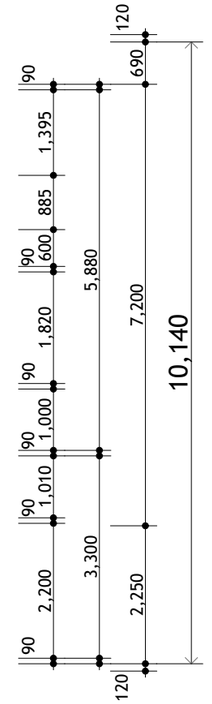
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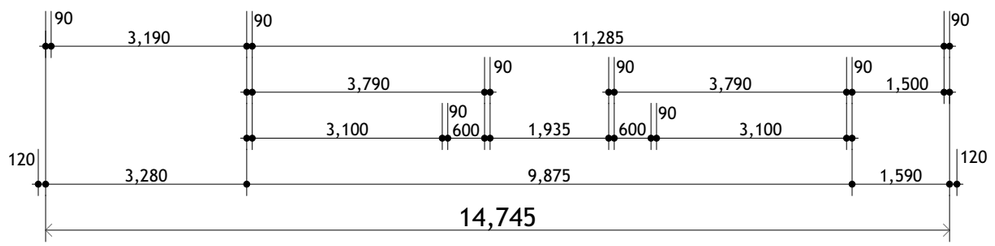








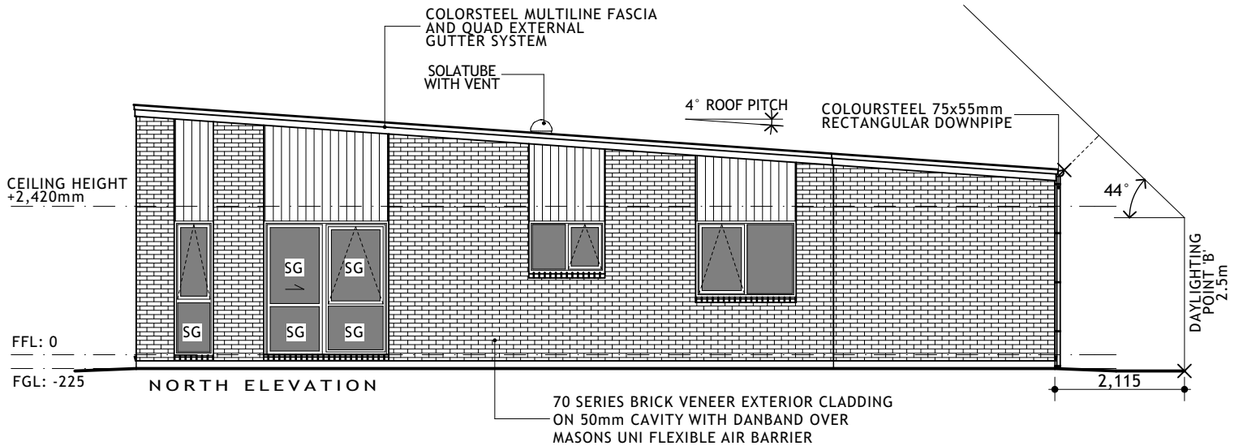


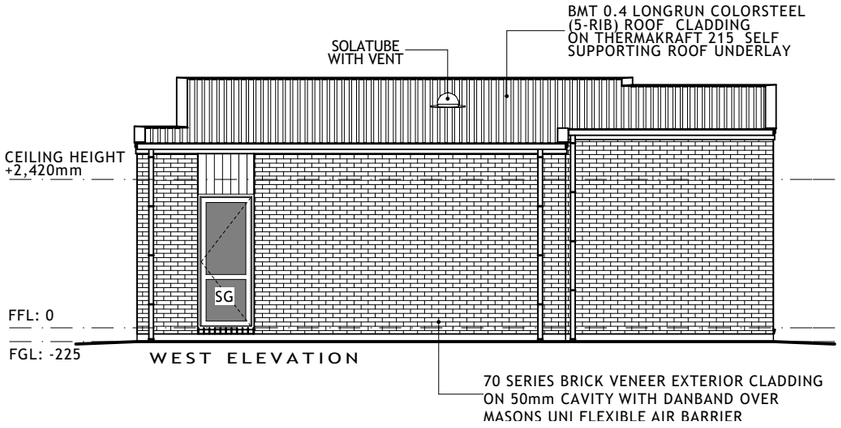


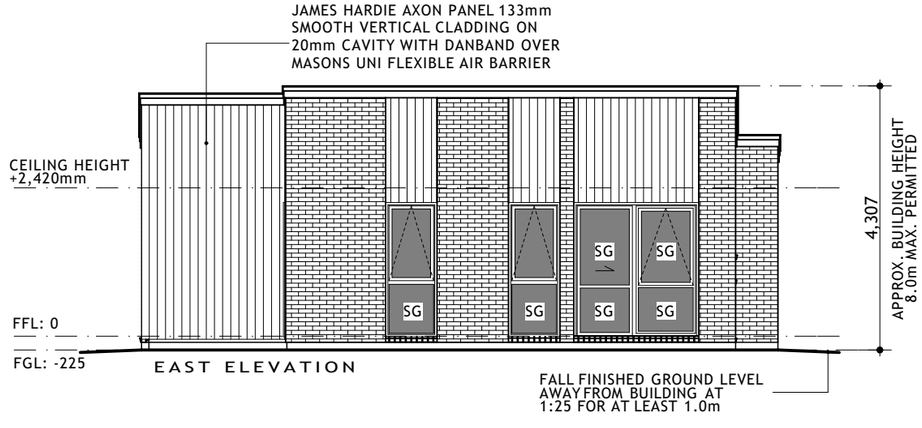
press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** FLOOR PLAN	**LEGAL DESCRIPTION:** LOT: 9 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** BERT **DRAWN:** **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 3 / 04

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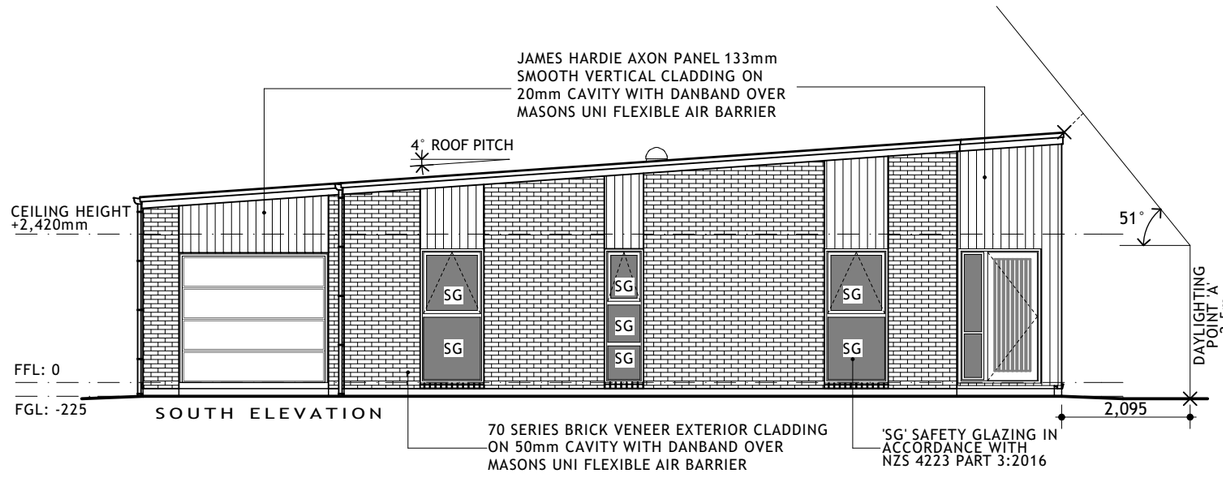
WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021







BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**8**



press design + drafting

JOB TITLE: B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 9 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** BERT **DRAWN:** **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

BC211794

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 10 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
COVER PAGE	01
SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





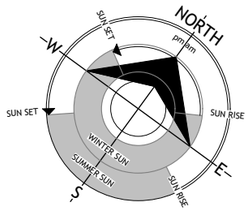
Xpress design + drafting

DATE: 30 NOV 20	SHEET: 1/04
JOB #: 20073	

COVER PAGE

SCALE: NOT TO SCALE

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- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LOT 10 DP TBC
305m²

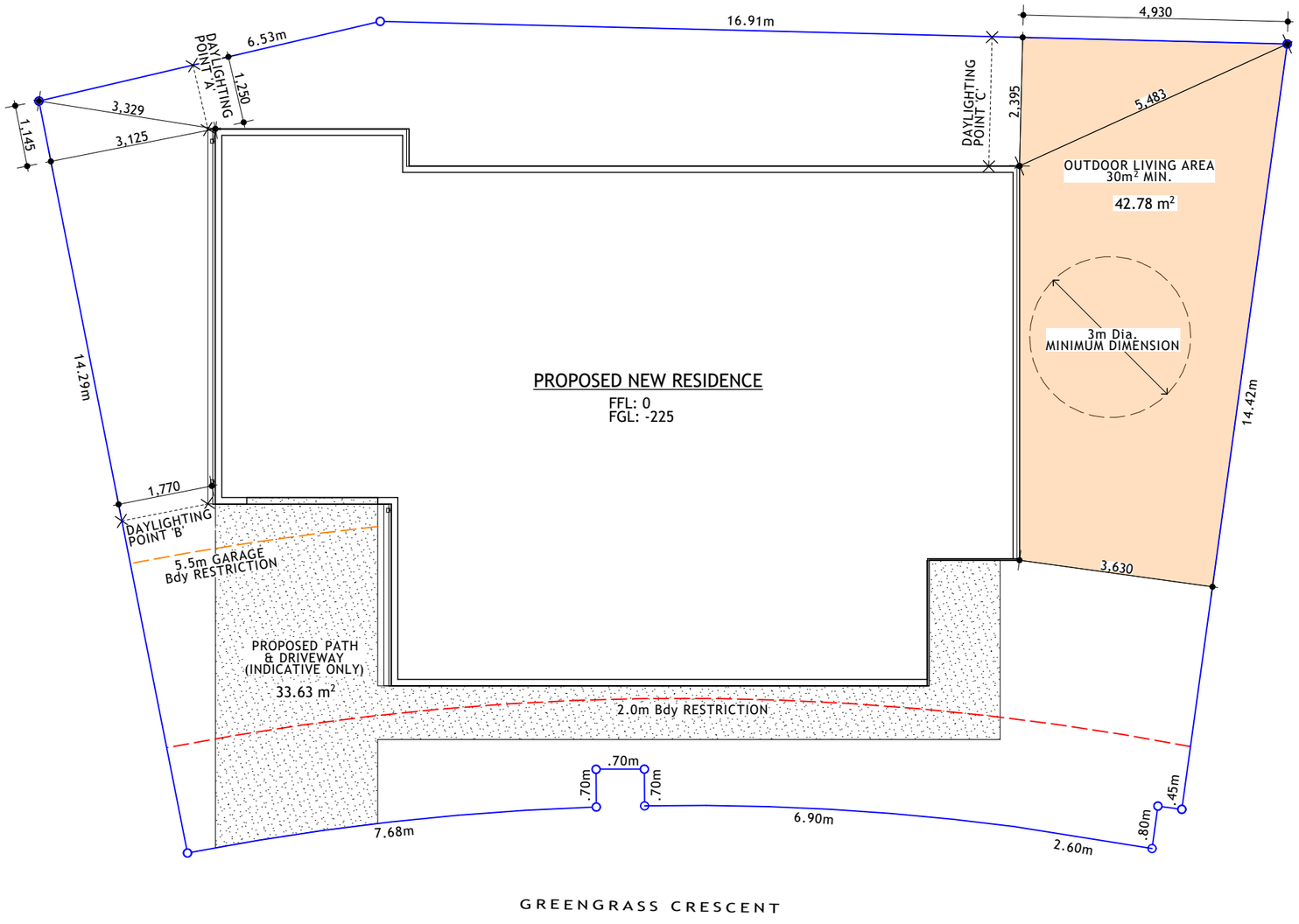
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	132.52m²
SITE COVERAGE:	43.45% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY. A BARRIER COMPLYING WITH TABLE 1 , NZBC F5/ AS1 IS AN ACCEPTABLE SOLUTION.

PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON/ MAIN PRIVATE STAIRWAYS TO BE 190mm .



Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 10 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** BERT **DRAWN:** **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 2 / 04

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
DWANGS @ 800mm crs
(SINGLE OR TOP STOREY)

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)
DWANGS @ 800mm crs

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION
ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS
DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE
OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

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*SD	SMOKE DETECTOR WITH HUSH BUTTON
	TOWEL RAIL

TOTAL AREA OVER FRAME

LIVING AREA:	104.77m²
GARAGE AREA:	22.20m²
TOTAL AREA:	126.97m²
ROOF PLAN AREA:	132.64m²

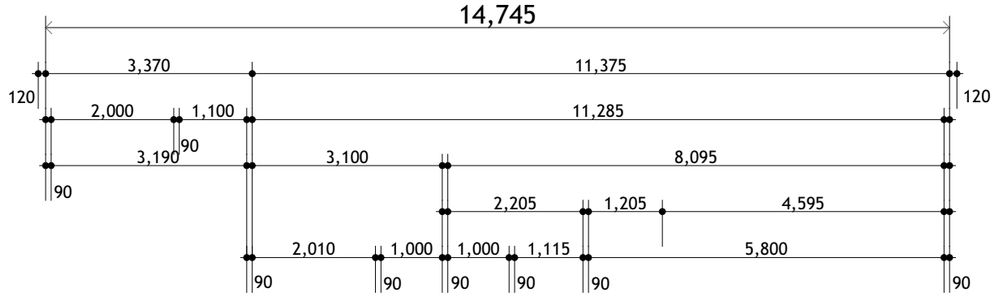
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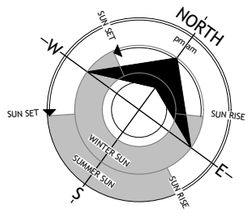
AREA OVER BRICK:	132.52m²

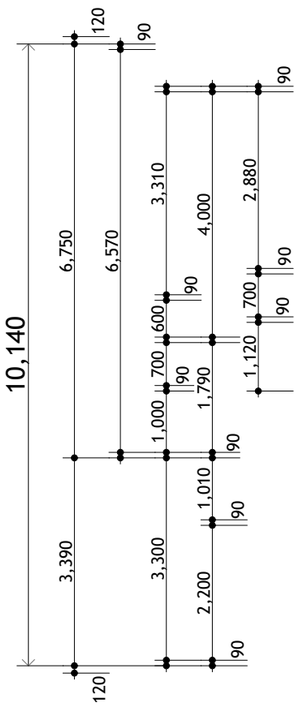
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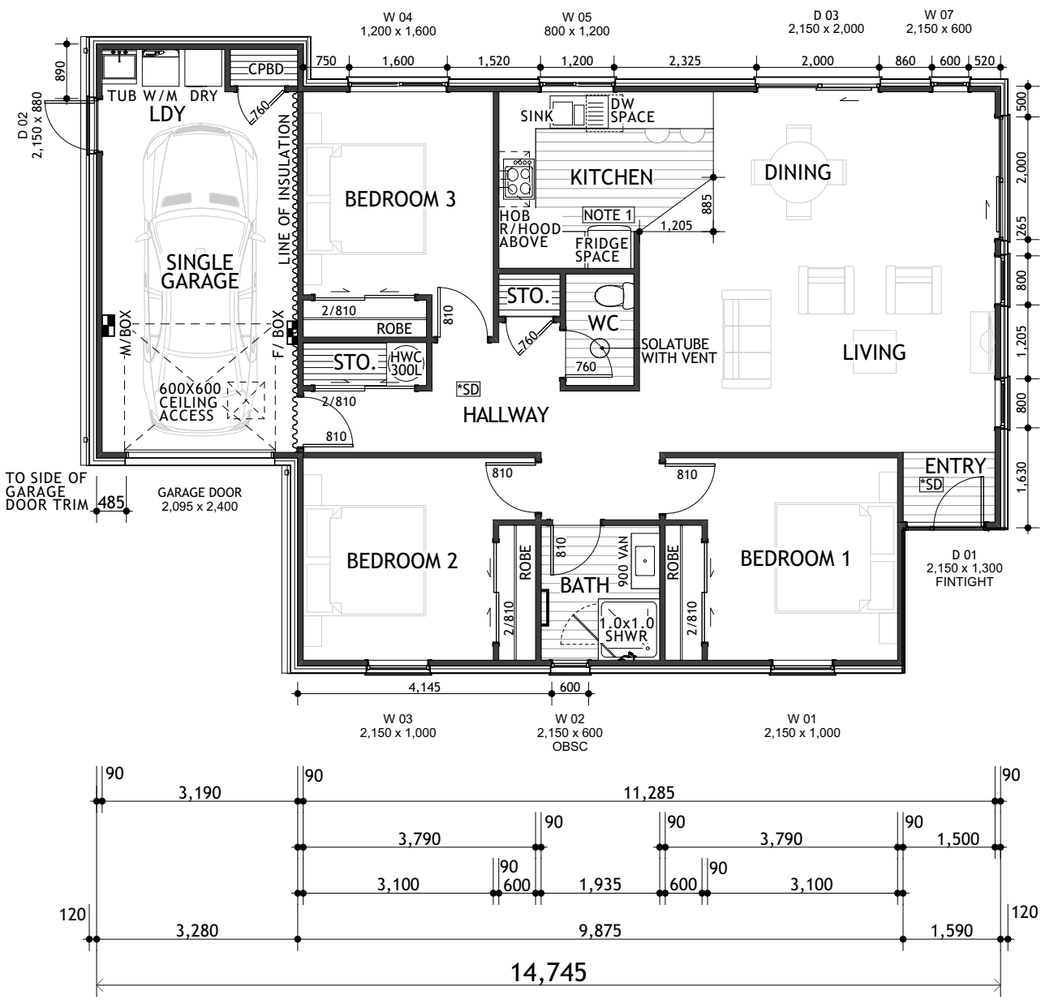
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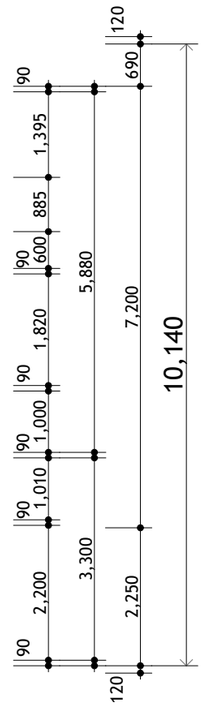
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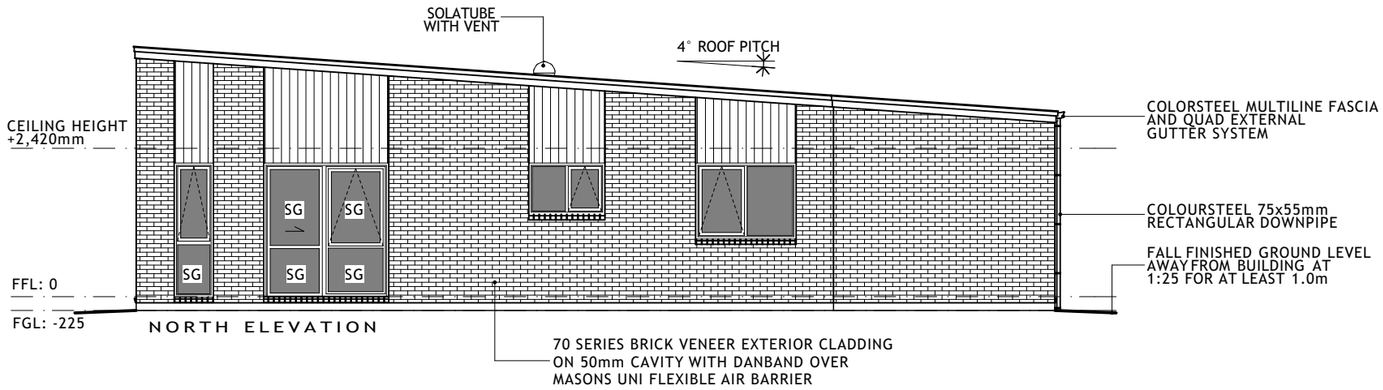


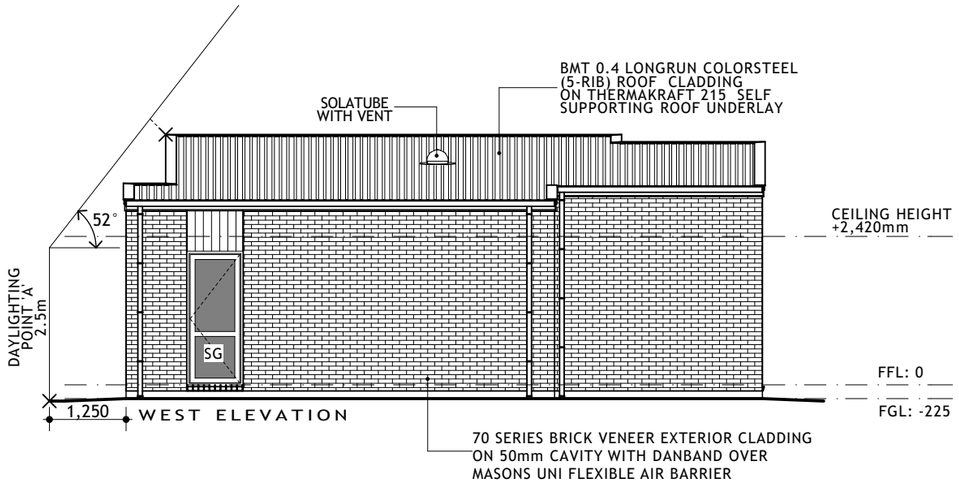


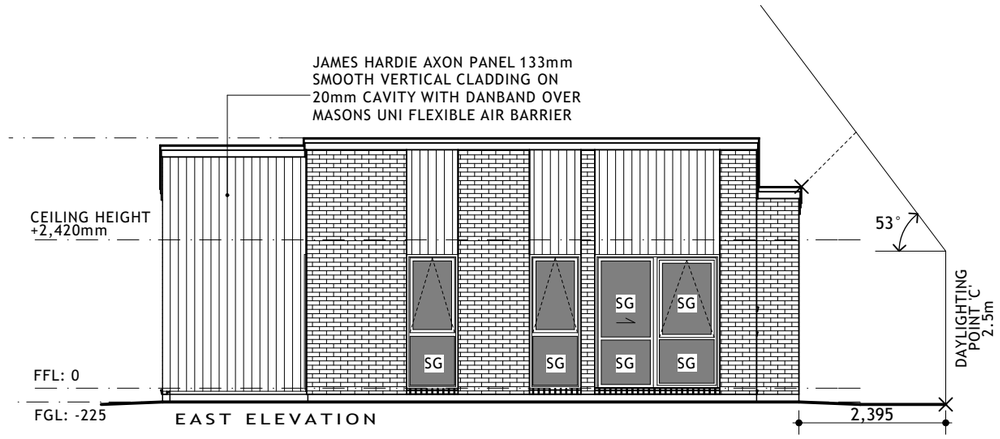
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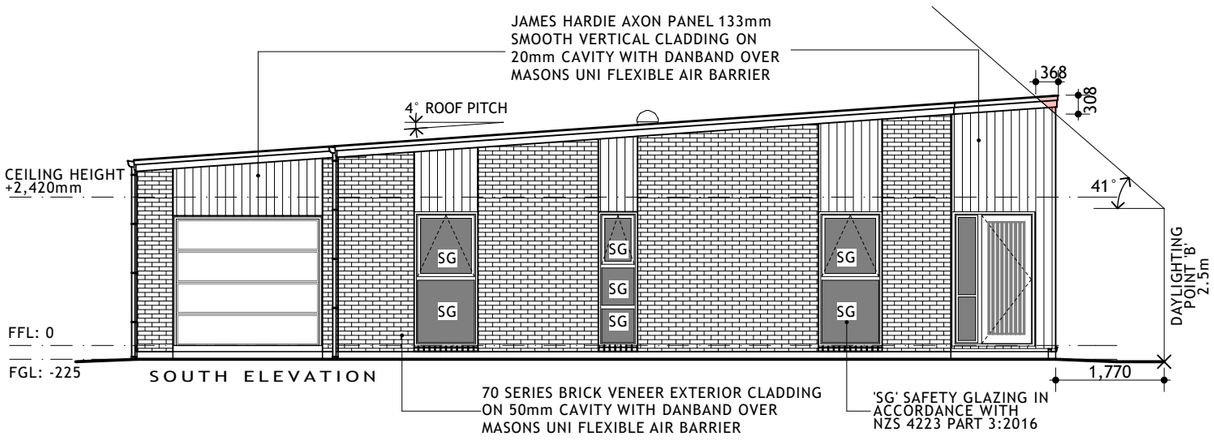
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RC205207 / RC205208
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Wendy Harris 21/01/2021









'ILING HEIGHT
,420mm

FFL: 0
FGL: -225

press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 10 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** BERT **DRAWN:** **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

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PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 11 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
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SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





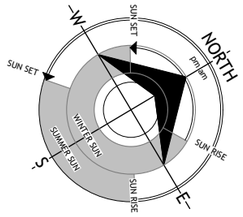
Xpress design + drafting

DATE: 30 NOV 20	SHEET: 1/04
JOB #: 20073	

COVER PAGE

SCALE: NOT TO SCALE

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
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Wendy Harris 21/01/2021



LOT 11 DP TBC
303m²

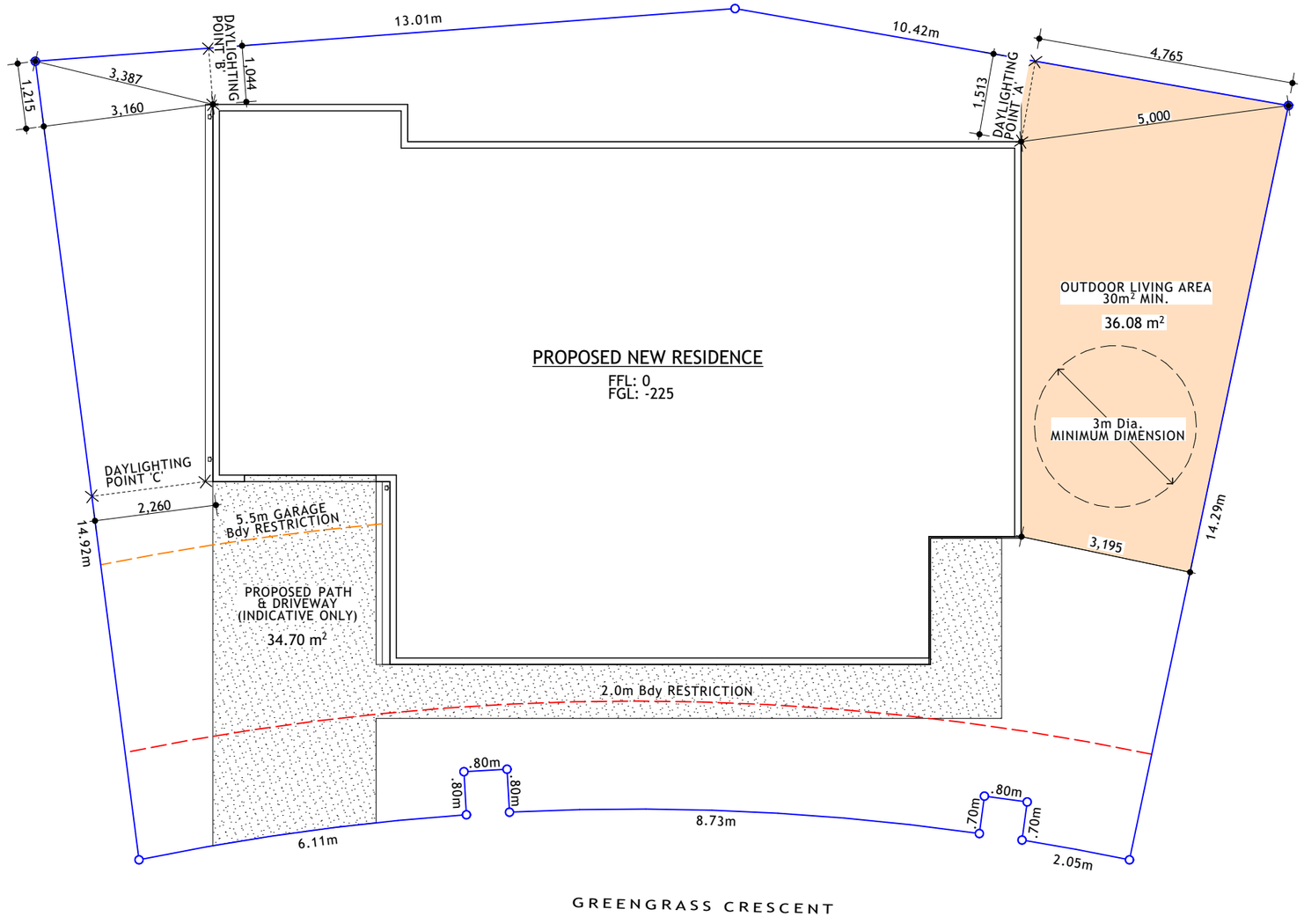
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	132.52m²
SITE COVERAGE:	43.74% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
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EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
DWANGS @ 800mm crs
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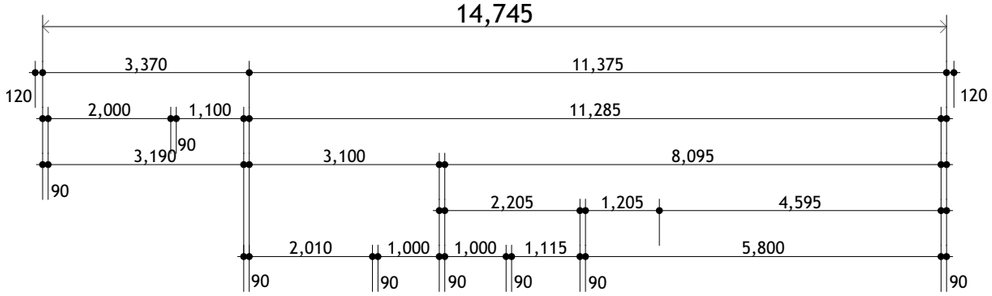
ADDITIONAL AREAS

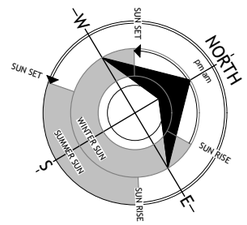
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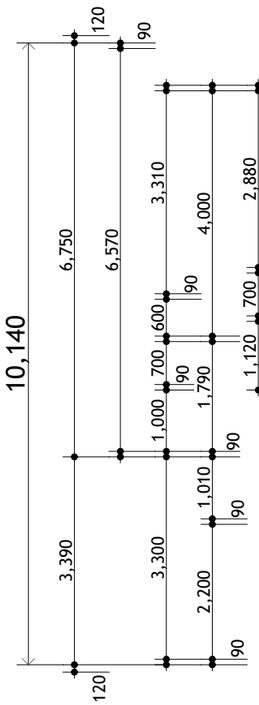
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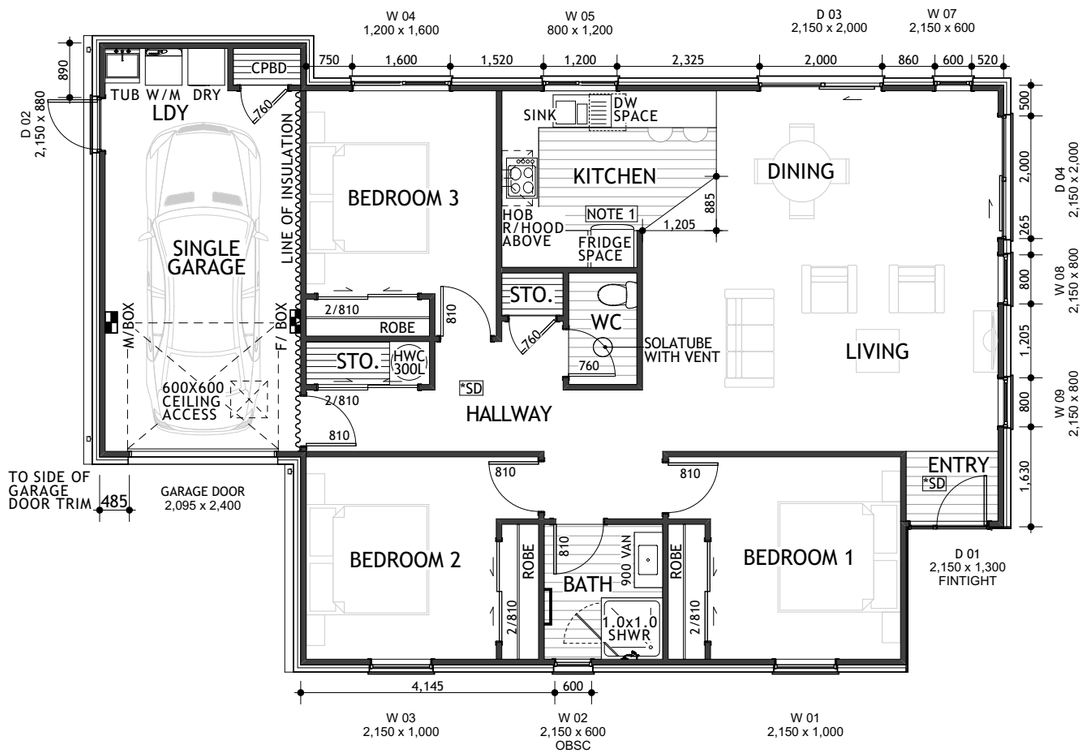
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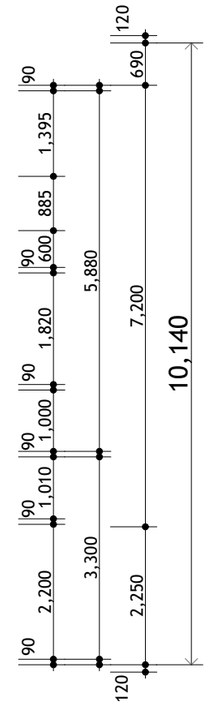
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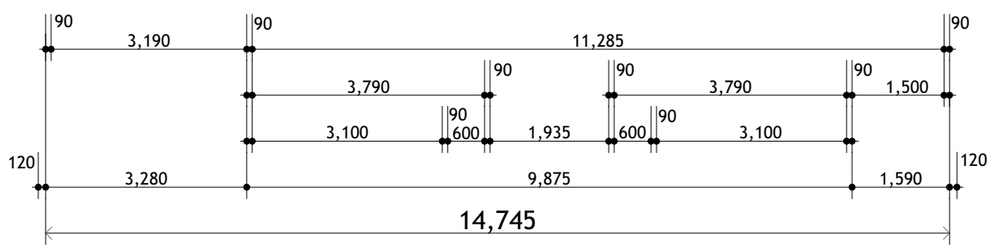








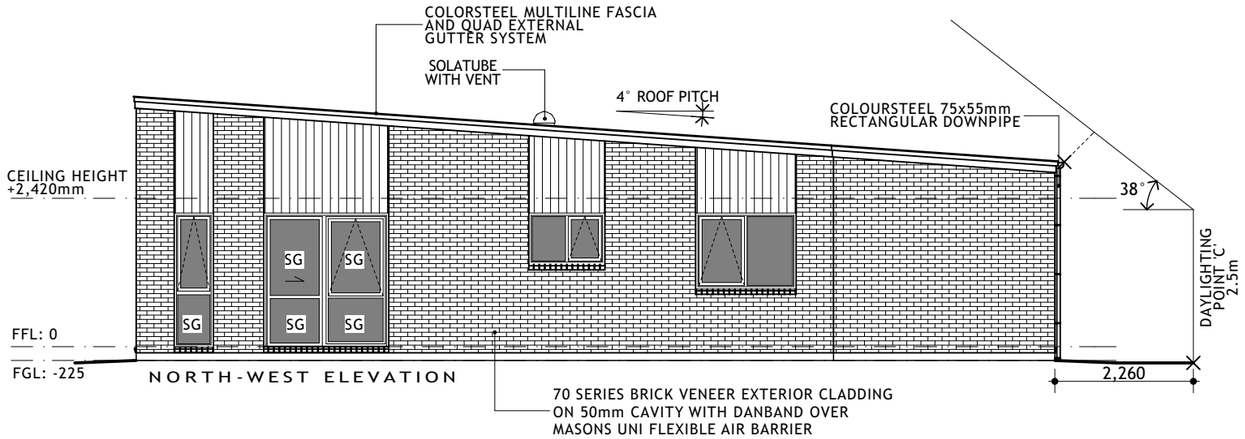


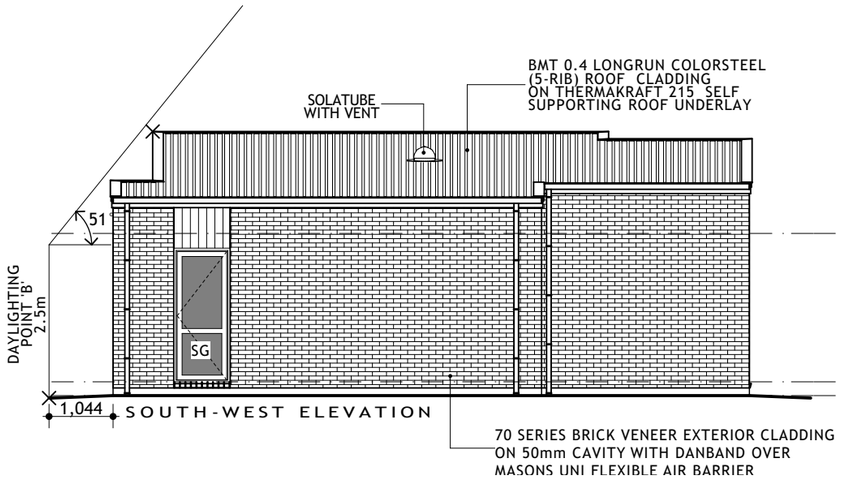


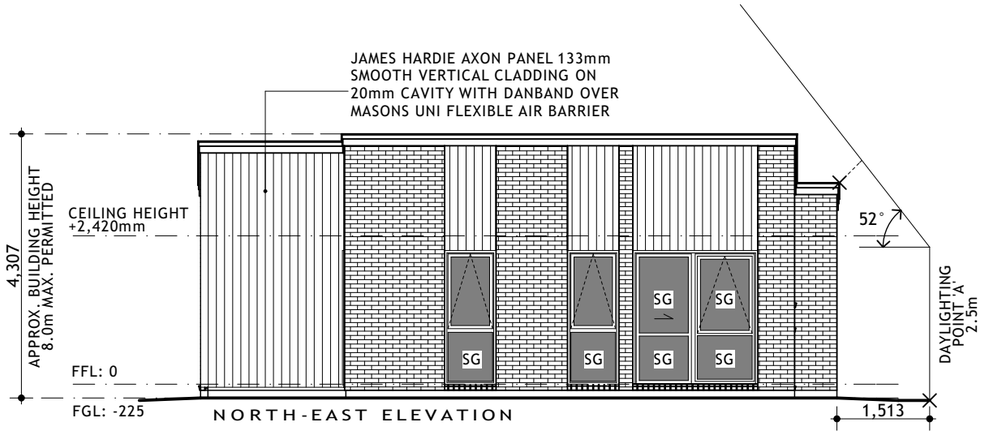
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				VERSION: PL-01	CHECKED:		

BC211794

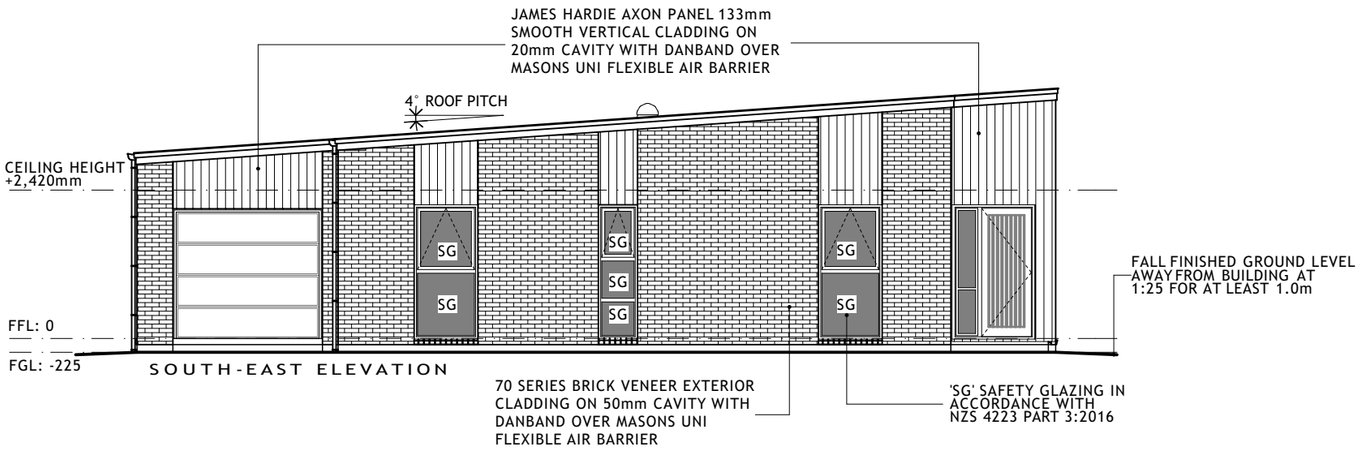
WAIMAKARIRI DISTRICT COUNCIL
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Wendy Harris 21/01/2021







BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**8**



press design + drafting

JOB TITLE: B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 11 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** BERT **DRAWN:** **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

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PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 12 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI

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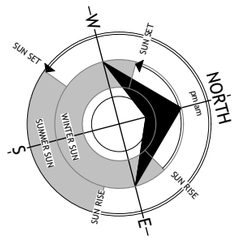
Xpress design + drafting

DATE: 30 NOV 20	SHEET: 1/04
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COVER PAGE

SCALE: NOT TO SCALE

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- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LOT 12 DP TBC
310m²

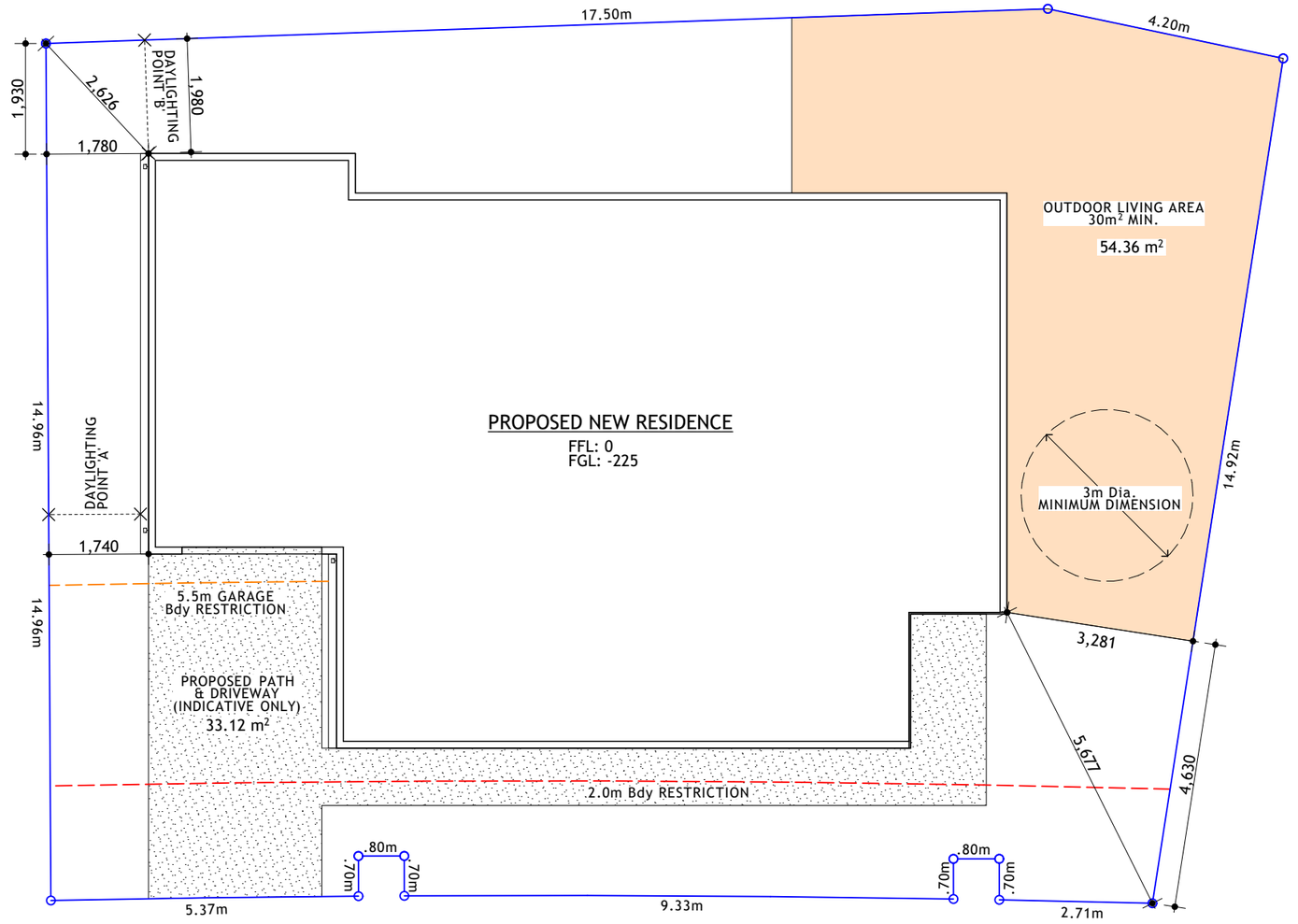
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	132.52m²
SITE COVERAGE:	42.75% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY. A BARRIER COMPLYING WITH TABLE 1 , NZBC F5/ AS1 IS AN ACCEPTABLE SOLUTION.

PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON/ MAIN PRIVATE STAIRWAYS TO BE 190mm .



GREENGRASS CRESCENT

Xpress design + drafting	JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: SITE PLAN	LEGAL DESCRIPTION: LOT: 12 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	DATE OF ISSUE: 30 NOV 20 / AMENDMENT DATE: / VERSION: PL-01	DESIGNER: BERT / DRAWN: / CHECKED:	SCALE: 1:100 / JOB#: 20073	SHEET: 2 / 04

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
DWANGS @ 800mm crs
(SINGLE OR TOP STOREY)

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)
DWANGS @ 800mm crs

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION
ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS
DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE
OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

- PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON / MAIN PRIVATE STAIRWAYS TO BE 190mm.

*SD	SMOKE DETECTOR WITH HUSH BUTTON
	TOWEL RAIL

TOTAL AREA OVER FRAME

LIVING AREA:	104.77m²
GARAGE AREA:	22.20m²
TOTAL AREA:	126.97m²
ROOF PLAN AREA:	132.64m²

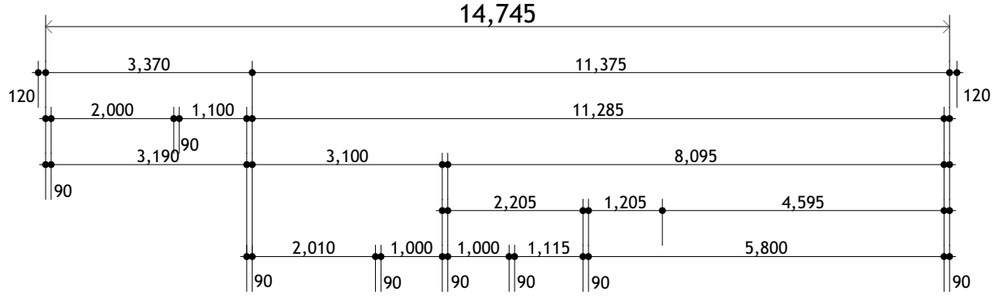
ADDITIONAL AREAS

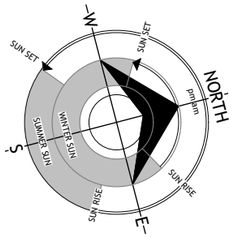
AREA OVER BRICK:	132.52m²

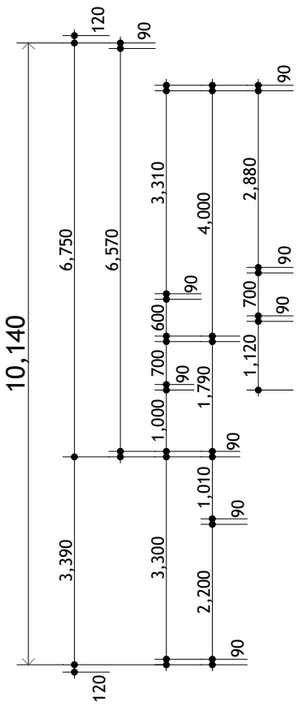
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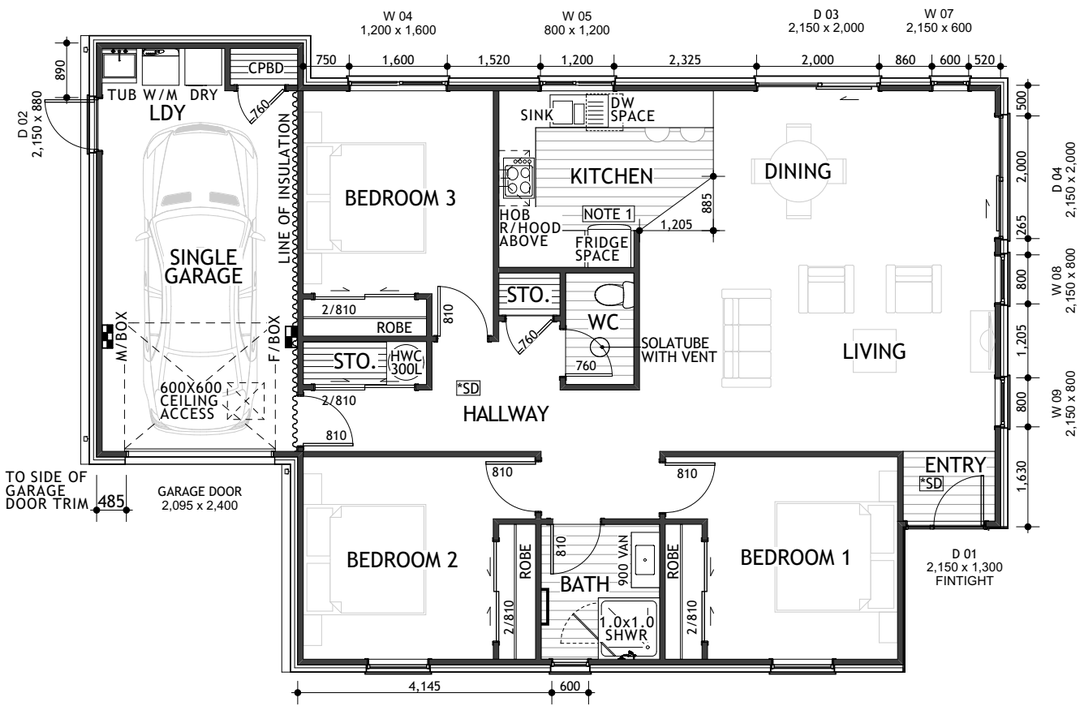
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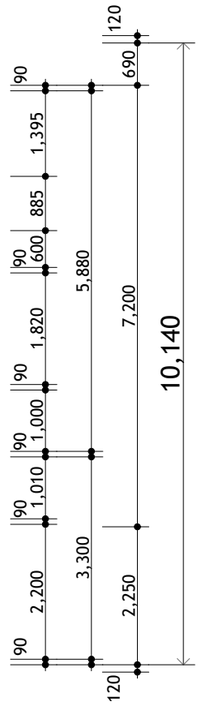
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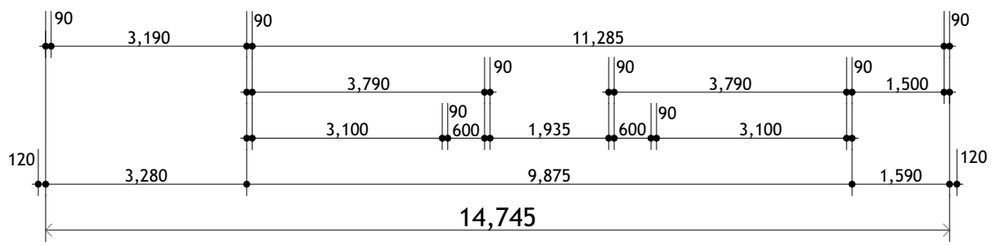








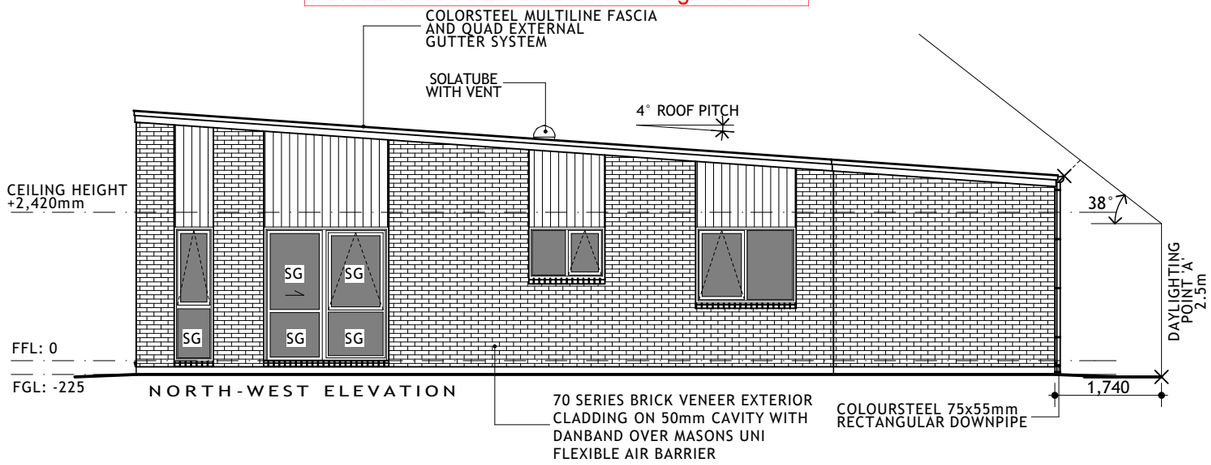


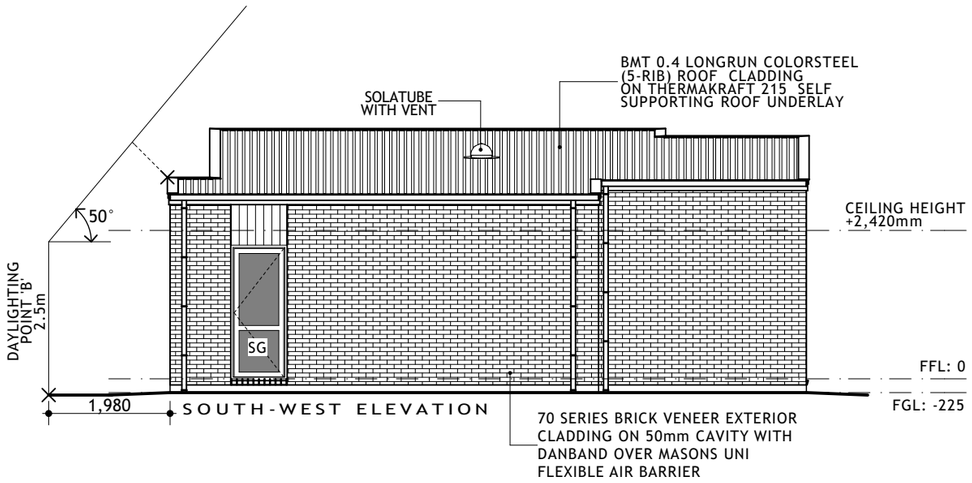


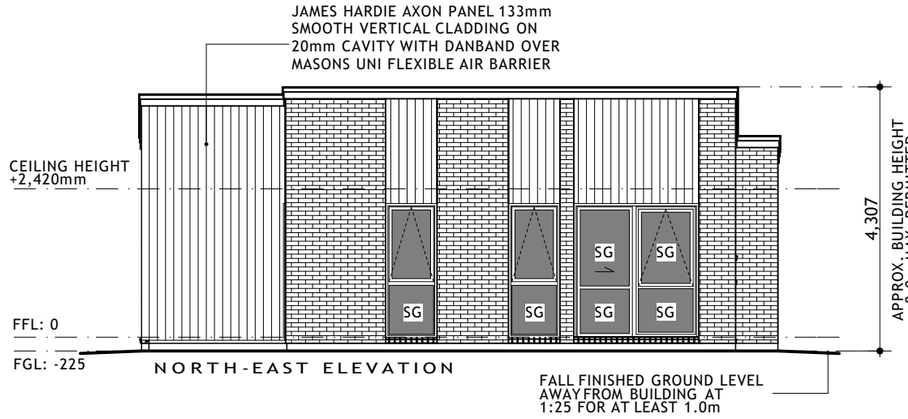
press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** FLOOR PLAN	**LEGAL DESCRIPTION:** LOT: 12 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** BERT **DRAWN:** **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 3 / 04

BC211794

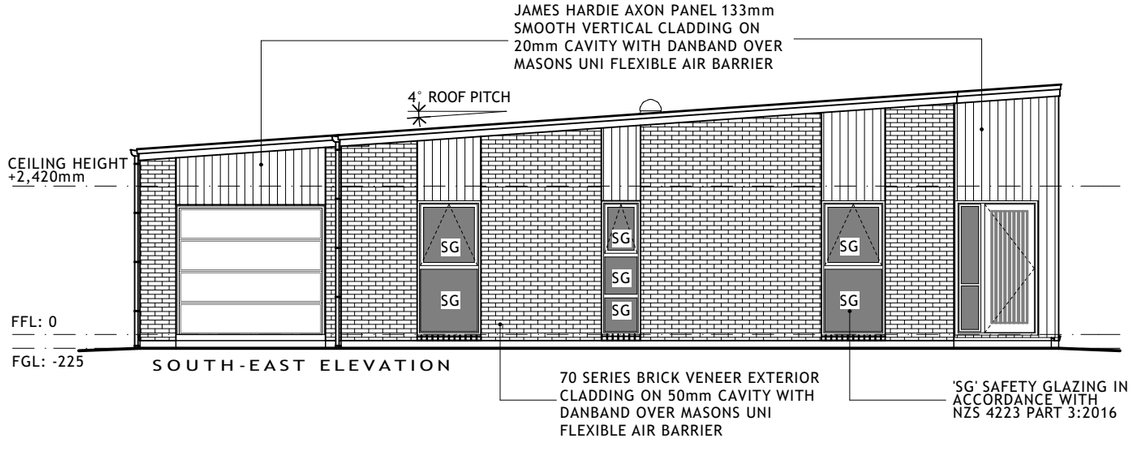
WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021







BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**8**



press design + drafting

JOB TITLE: B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 12 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 30 NOV 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** BERT **DRAWN:** **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

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PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 13 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
COVER PAGE	01
SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





Xpress design + drafting

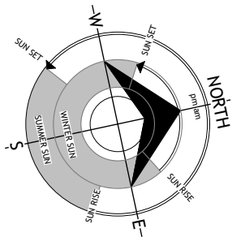
DATE: 30 NOV 20	SHEET: 1/04
JOB #: 20073	

COVER PAGE

SCALE: NOT TO SCALE

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LOT 13 DP TBC
309m²

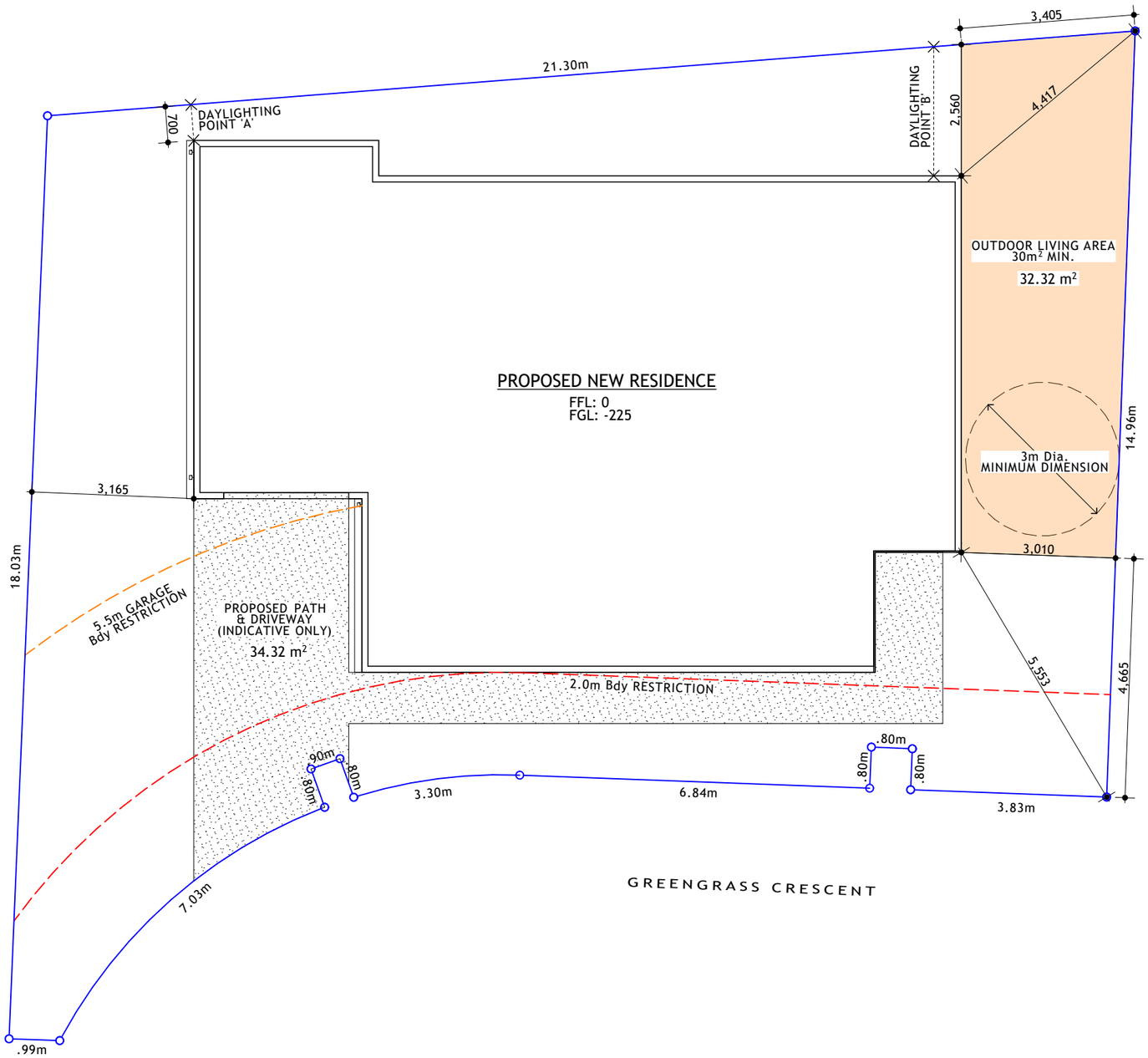
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	132.52m²
SITE COVERAGE:	42.89% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY. A BARRIER COMPLYING WITH TABLE 1 , NZBC F5/ AS1 IS AN ACCEPTABLE SOLUTION.

PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON/ MAIN PRIVATE STAIRWAYS TO BE 190mm .



press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 13 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 30 NOV 20 / **AMENDMENT DATE:** / **VERSION:** PL-01	**DESIGNER:** BERT / **DRAWN:** / **CHECKED:**	**SCALE:** 1:100 / **JOB#:** 20073	**SHEET:** 2 / 04

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BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
DWANGS @ 800mm crs
(SINGLE OR TOP STOREY)

INTERIOR FRAMING
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*SD	SMOKE DETECTOR WITH HUSH BUTTON
	TOWEL RAIL

TOTAL AREA OVER FRAME

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GARAGE AREA:	22.20m²
TOTAL AREA:	126.97m²
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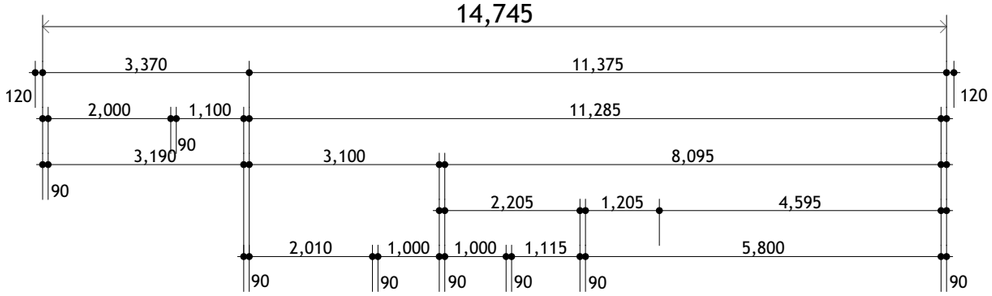
ADDITIONAL AREAS

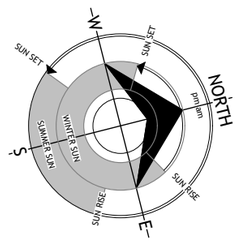
AREA OVER BRICK:	132.52m²

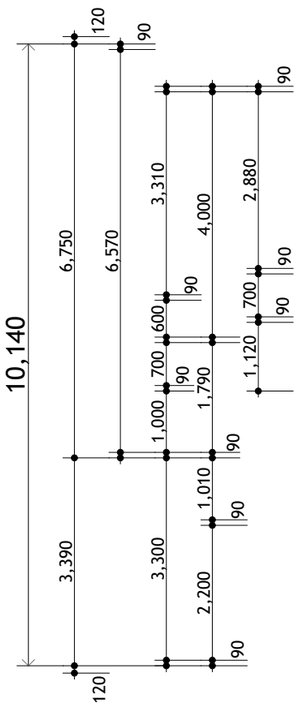
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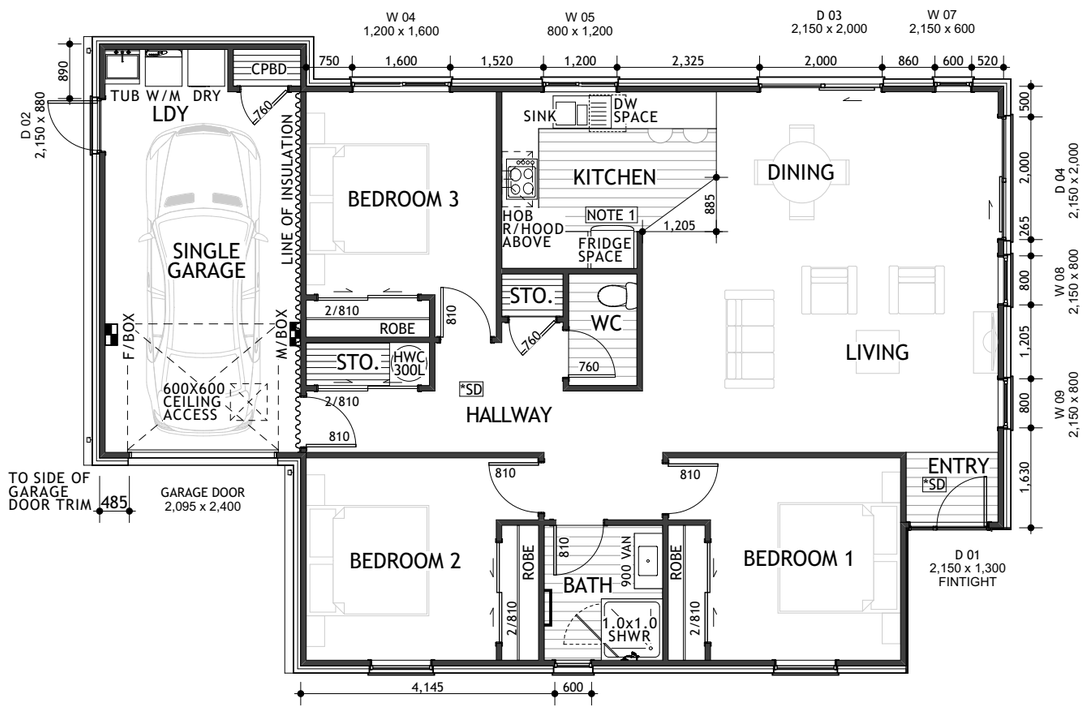
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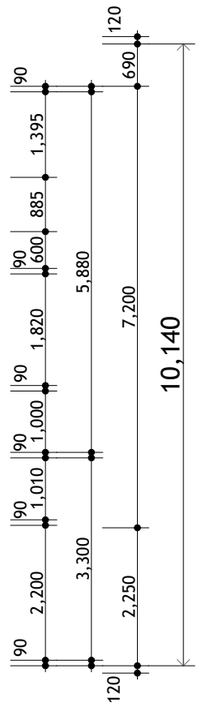
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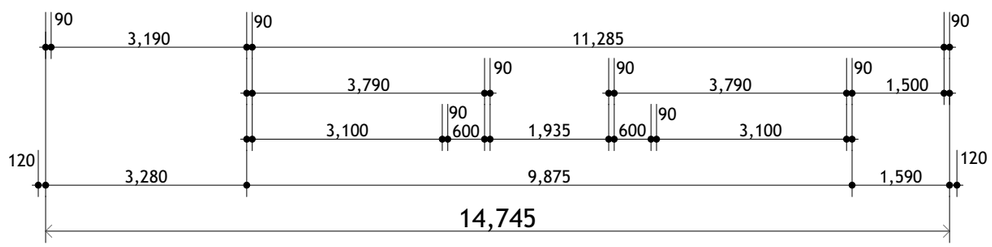






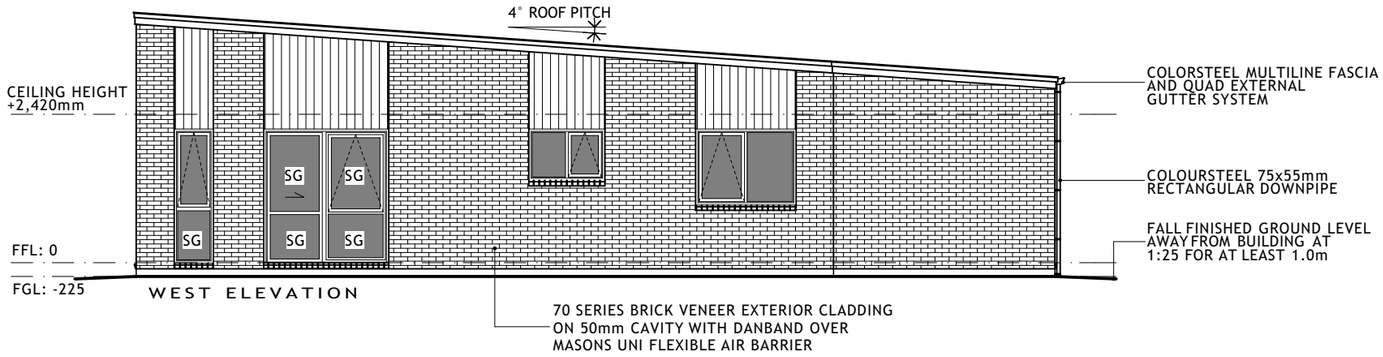


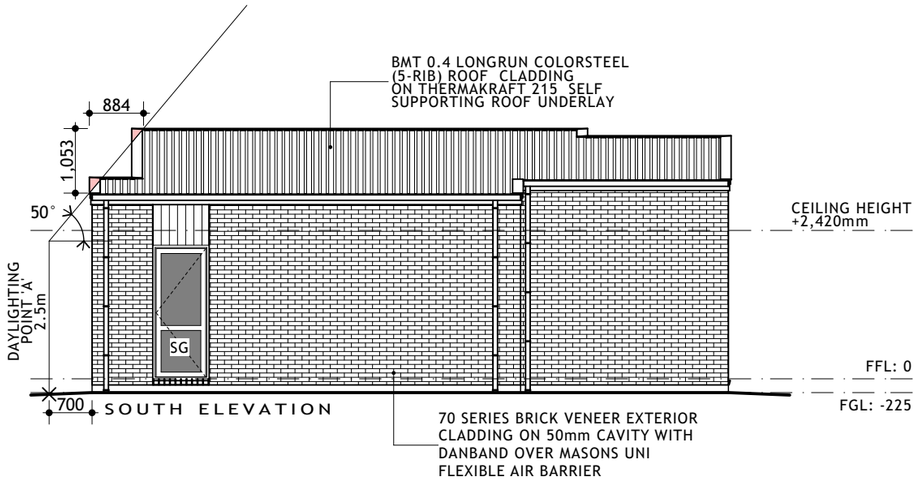


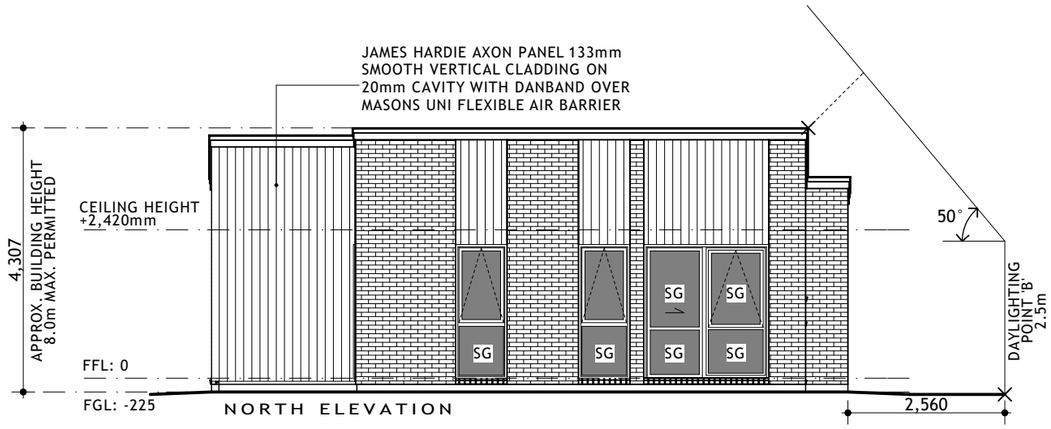


press design + drafting	JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: FLOOR PLAN	LEGAL DESCRIPTION: LOT: 13 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	DATE OF ISSUE: 30 NOV 20 / AMENDMENT DATE: / VERSION: PL-01	DESIGNER: BERT / DRAWN: / CHECKED:	SCALE: 1:100 / JOB#: 20073	SHEET: 3 / 04

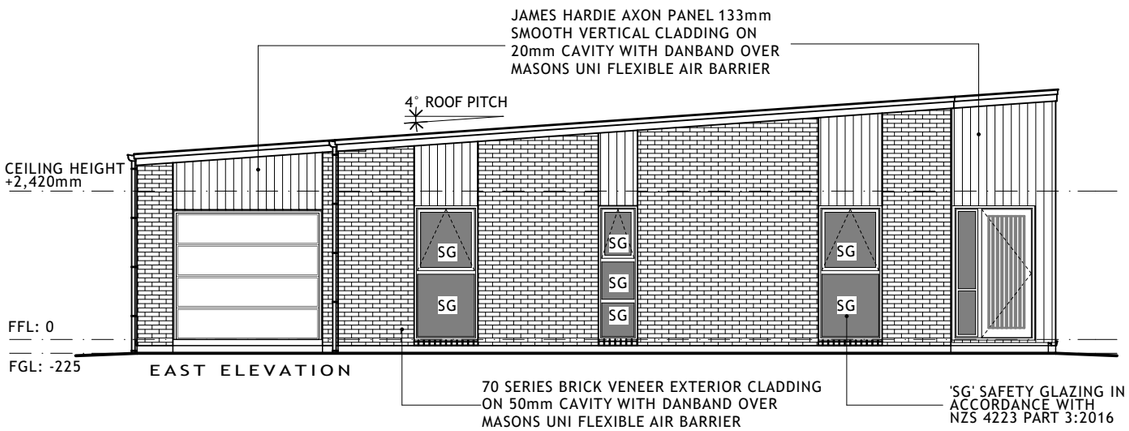
WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
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Wendy Harris 21/01/2021







BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**8**



press design + drafting

JOB TITLE:	DRAWING TITLE:	LEGAL DESCRIPTION:	NOTES:	DATE OF ISSUE:	DESIGNER:	SCALE:	SHEET:
B9 DEVELOPMENT CONCEPT	ELEVATIONS	LOT: 13 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	- Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	30 NOV 20 AMENDMENT DATE: VERSION: PL-01	BERT DRAWN: CHECKED:	1:100 JOB#: 20073	4 / 04

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PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 14 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI





PLAN SET INDEX	SHEET
COVER PAGE	01
SITE	02
FLOOR PLAN	03
ELEVATIONS	04

press design + drafting

DATE: 01 DEC 20	SHEET: 1/04
JOB #: 20073	

COVER PAGE

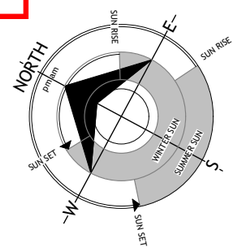
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NOTE: This Plan is subject to developer's approval and local district council verification and approval.

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BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LOT 14 DP TBC
261m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	101.5m²
SITE COVERAGE:	38.88% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

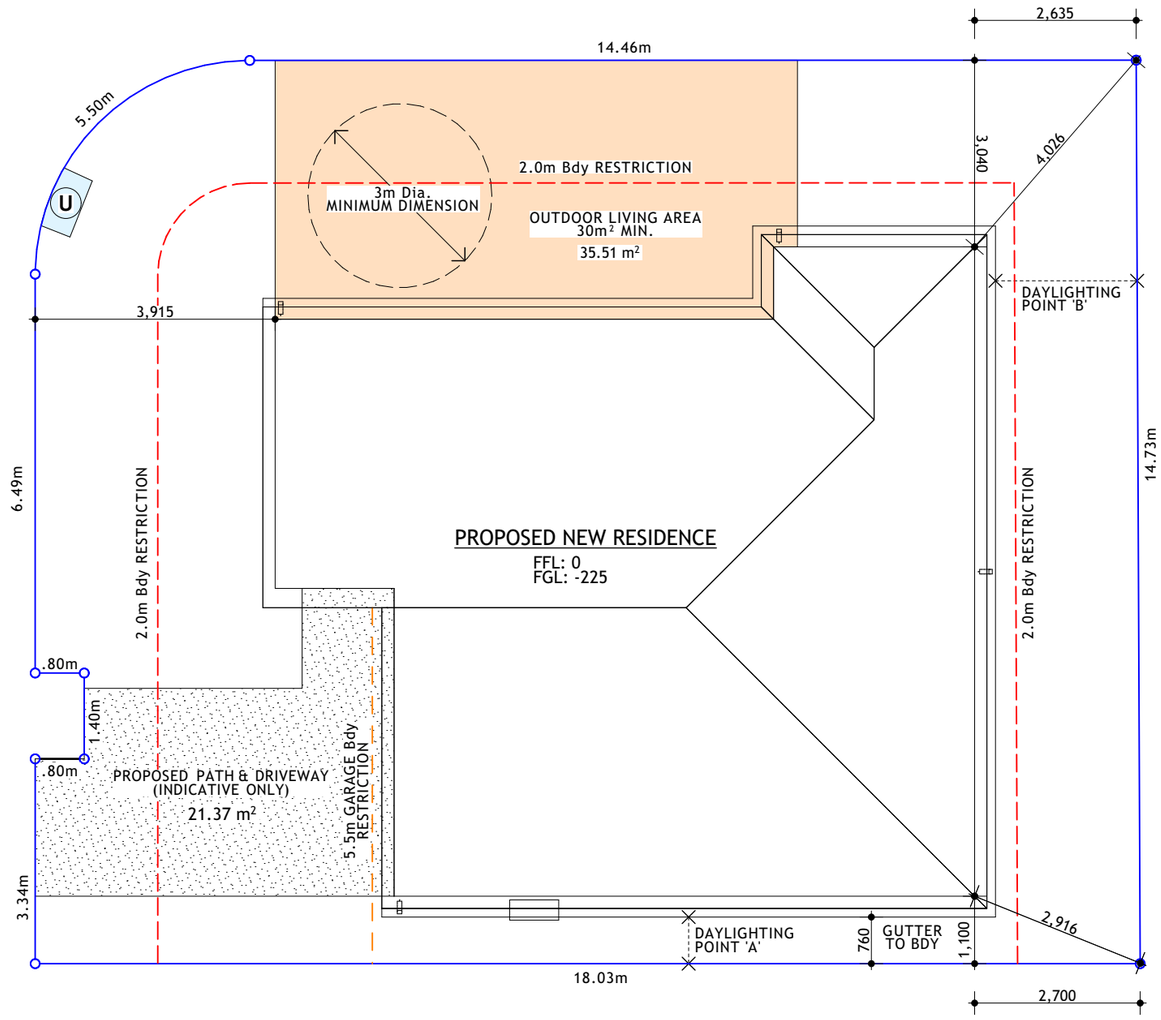
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PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON/ MAIN PRIVATE STAIRWAYS TO BE 190mm .

EXISTING EASEMENT

NATURE	BURDENED LAND		DOCUMENT
	LOT NO	SHOWN	
RIGHT TO CONVEY ELECTRICITY(IN GROSS)	LOT 14	U	EI 11370712.3
RIGHT TO CONVEY ELECTRICITY (IN GROSS)	LOT 14	U	EI 11370712.4

GREENGRASS CRESCENT



Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE	**LEGAL DESCRIPTION:** LOT: 14 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20 / **AMENDMENT DATE:** / **VERSION:** PL-01	**DESIGNER:** XDD / **DRAWN:** DMG / **CHECKED:**	**SCALE:** 1:100 / **JOB#:** 20073	**SHEET:** 2/04

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BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
DWANGS @ 800mm crs MAX.
(SINGLE OR TOP STOREY)

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs MAX.

NOTES
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OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

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*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

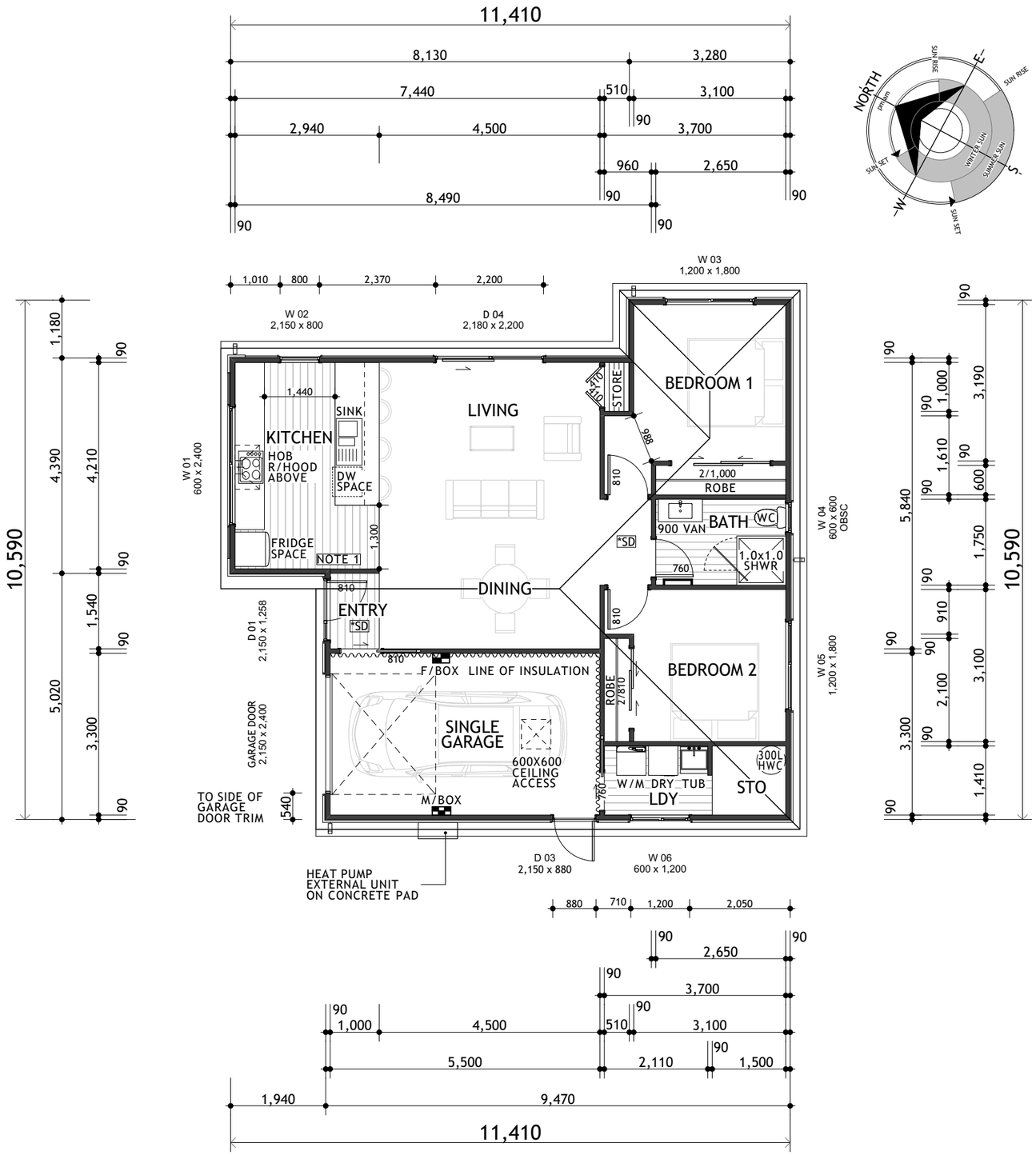
TOTAL AREA OVER FRAME

LIVING AREA:	82.55m²
GARAGE AREA:	18.95m²
TOTAL AREA:	101.5m²
ROOF PLAN AREA:	110.68m²

NOTES

NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAINED IN A HYGIENIC CONDITION

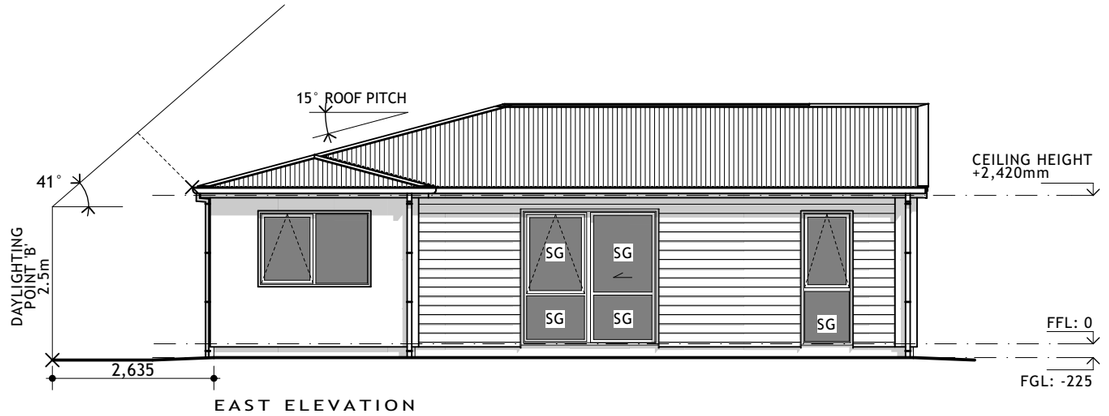
- ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030mm HIGH



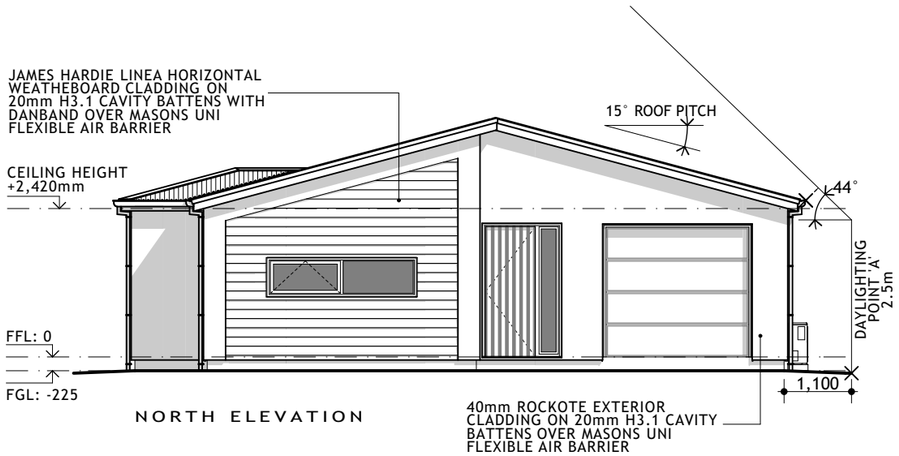
JOB TITLE: B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** FLOOR PLAN	**LEGAL DESCRIPTION:** LOT: 14 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20	**DESIGNER:** XDD	**SCALE:** 1:100	**SHEET:** 3 /04
				AMENDMENT DATE:	**DRAWN:** DMG	**JOB#:** 20073	
				VERSION: PL-01	**CHECKED:**		

NOTE: This Plan is subject to developer's approval and local district council verification and approval.
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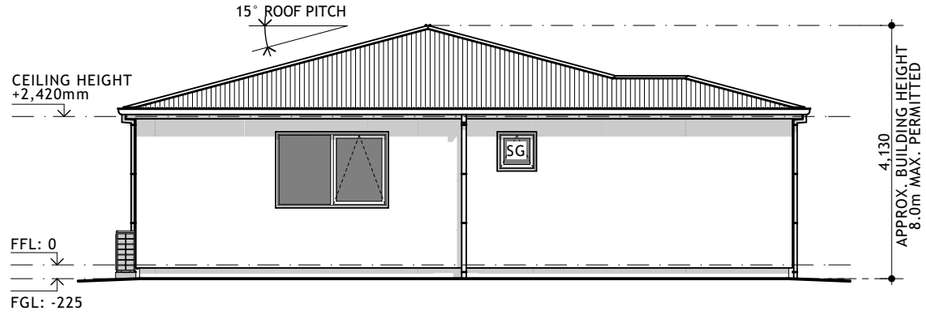
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- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



EAST ELEVATION

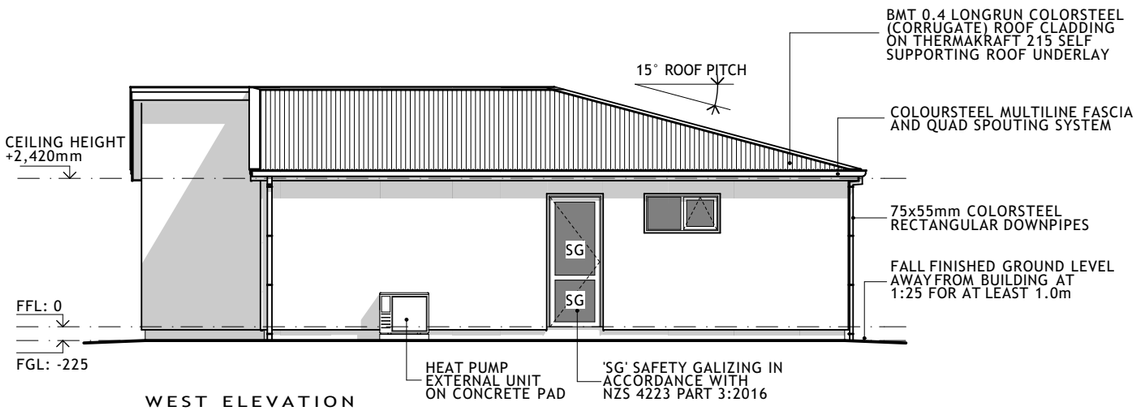


NORTH ELEVATION



SOUTH ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**4**



WEST ELEVATION

press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 14 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20	**DESIGNER:** XDD	**SCALE:** 1:100
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					VERSION: PL-01	**CHECKED:**	**SHEET:** 4 / 04

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PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 15 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI





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FLOOR PLAN	03
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press design + drafting

DATE: 01 DEC 20	SHEET: 1/04
JOB #: 20073	

COVER PAGE

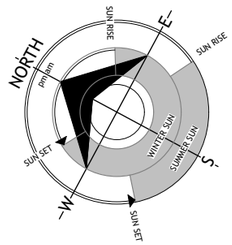
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Wendy Harris 21/01/2021



LOT 15 DP TBC
258m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	101.5m²
SITE COVERAGE:	39.34% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

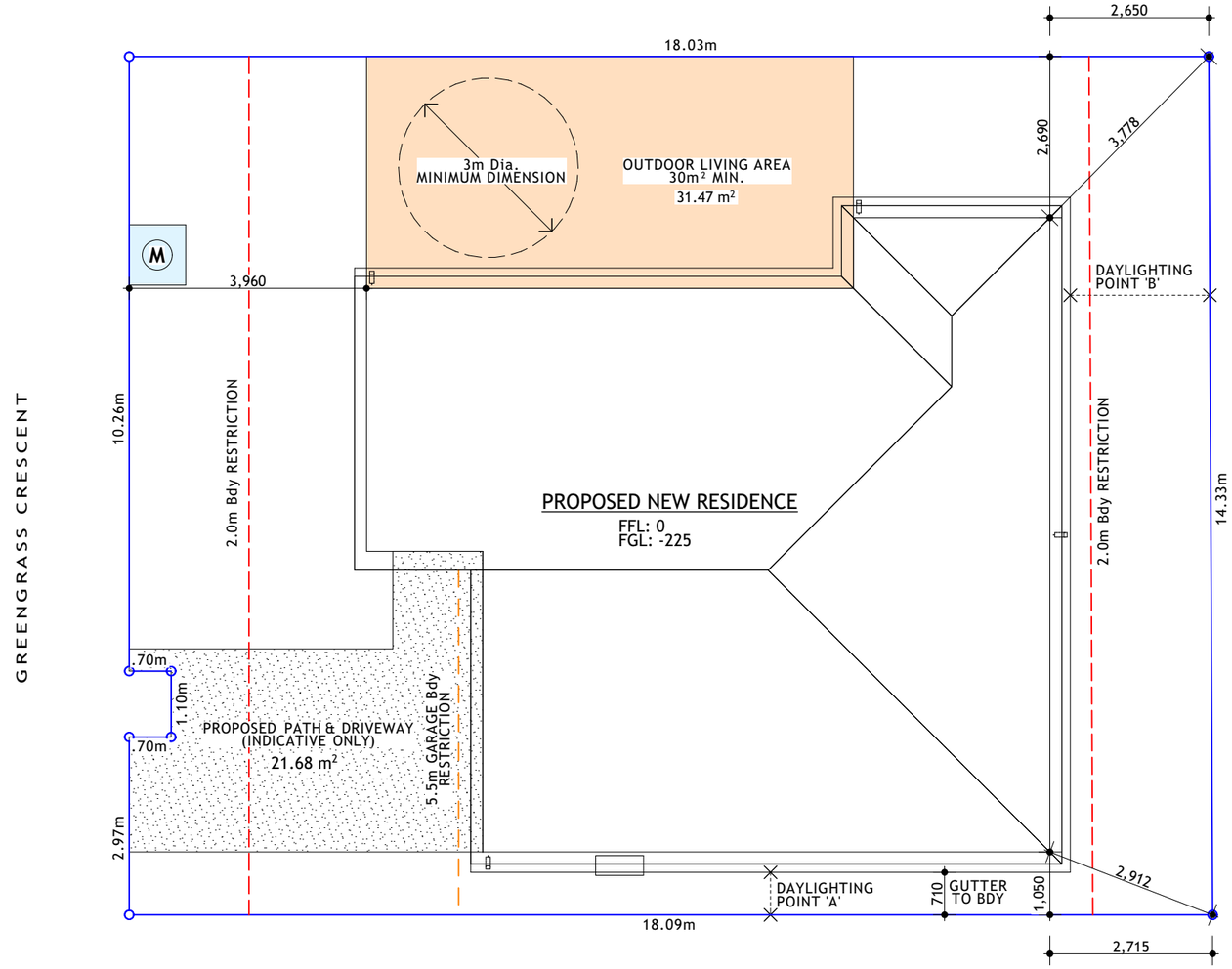
NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY. A BARRIER COMPLYING WITH TABLE 1 , NZBC F5/ AS1 IS AN ACCEPTABLE SOLUTION.

PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON/ MAIN PRIVATE STAIRWAYS TO BE 190mm .

EXISTING EASEMENT

NATURE	BURDENED LAND		DOCUMENT
	LOT NO	SHOWN	
RIGHT TO CONVEY ELECTRICITY(IN GROSS)	LOT 15	M	EI 11370712.3



JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: SITE	LEGAL DESCRIPTION: LOT: 15 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	DATE OF ISSUE: 01 DEC 20	DESIGNER: XDD	SCALE: 1:100	SHEET: 2 / 04
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				VERSION: PL-01	CHECKED:		

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
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APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
DWANGS @ 800mm crs MAX.
(SINGLE OR TOP STOREY)

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs MAX.

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION

ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS

DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

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*SD SMOKE DETECTOR WITH HUSH BUTTON
TOWEL RAIL

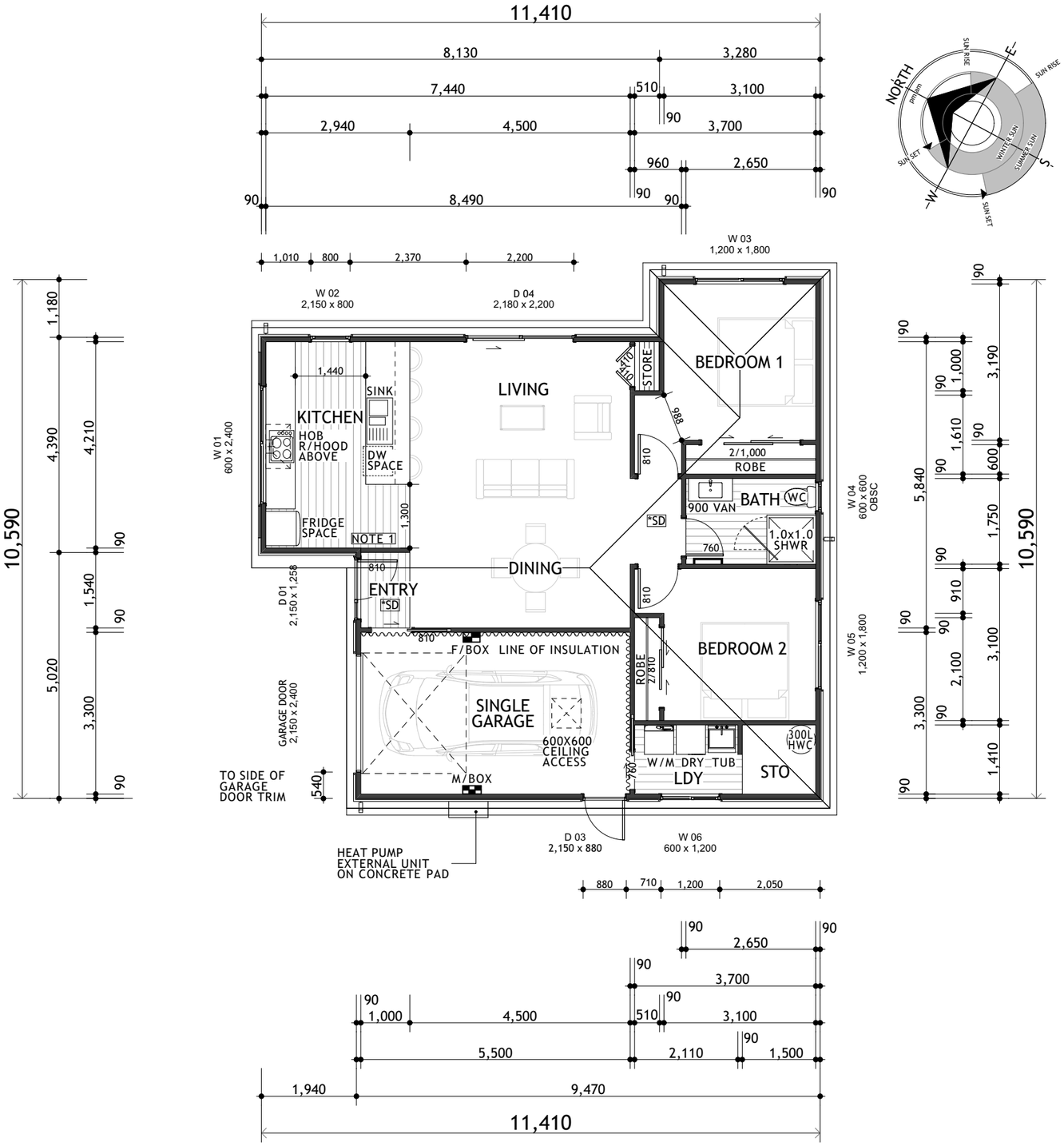
TOTAL AREA OVER FRAME

LIVING AREA:	82.55m²
GARAGE AREA:	18.95m²
TOTAL AREA:	101.5m²
ROOF PLAN AREA:	110.68m²

NOTES

NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAINED IN A HYGIENIC CONDITION

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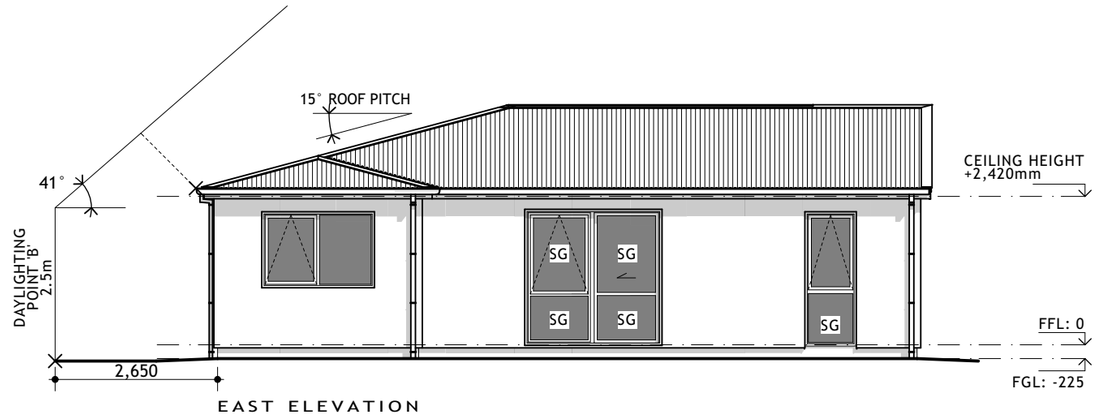


press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** FLOOR PLAN	**LEGAL DESCRIPTION:** LOT: 15 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20	**DESIGNER:** XDD	**SCALE:** 1:100	**SHEET:** 3 / 04
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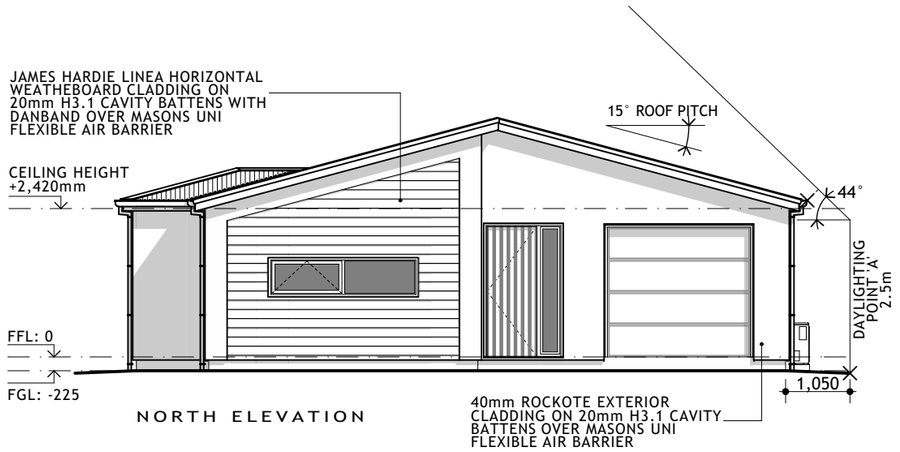
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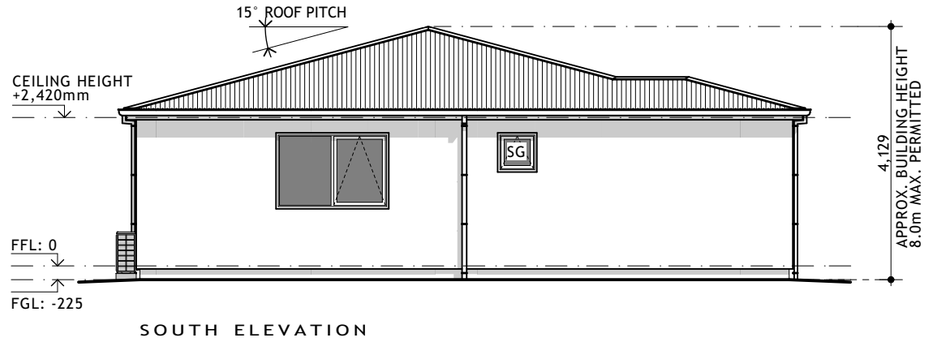
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EAST ELEVATION

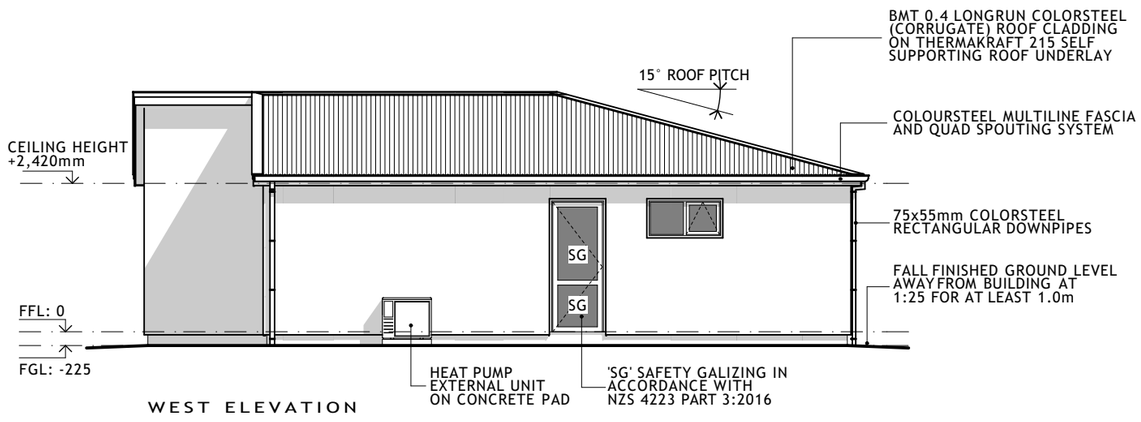


NORTH ELEVATION



SOUTH ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
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WEST ELEVATION

Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 15 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** XDD **DRAWN:** DMG **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 /04

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PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 16 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI





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press design + drafting

DATE: 01 DEC 20	SHEET: 1/04
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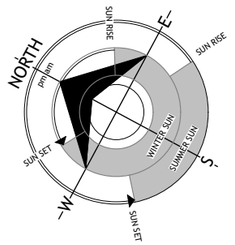
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SCALE: NOT TO SCALE

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LOT 16 DP TBC
258m²

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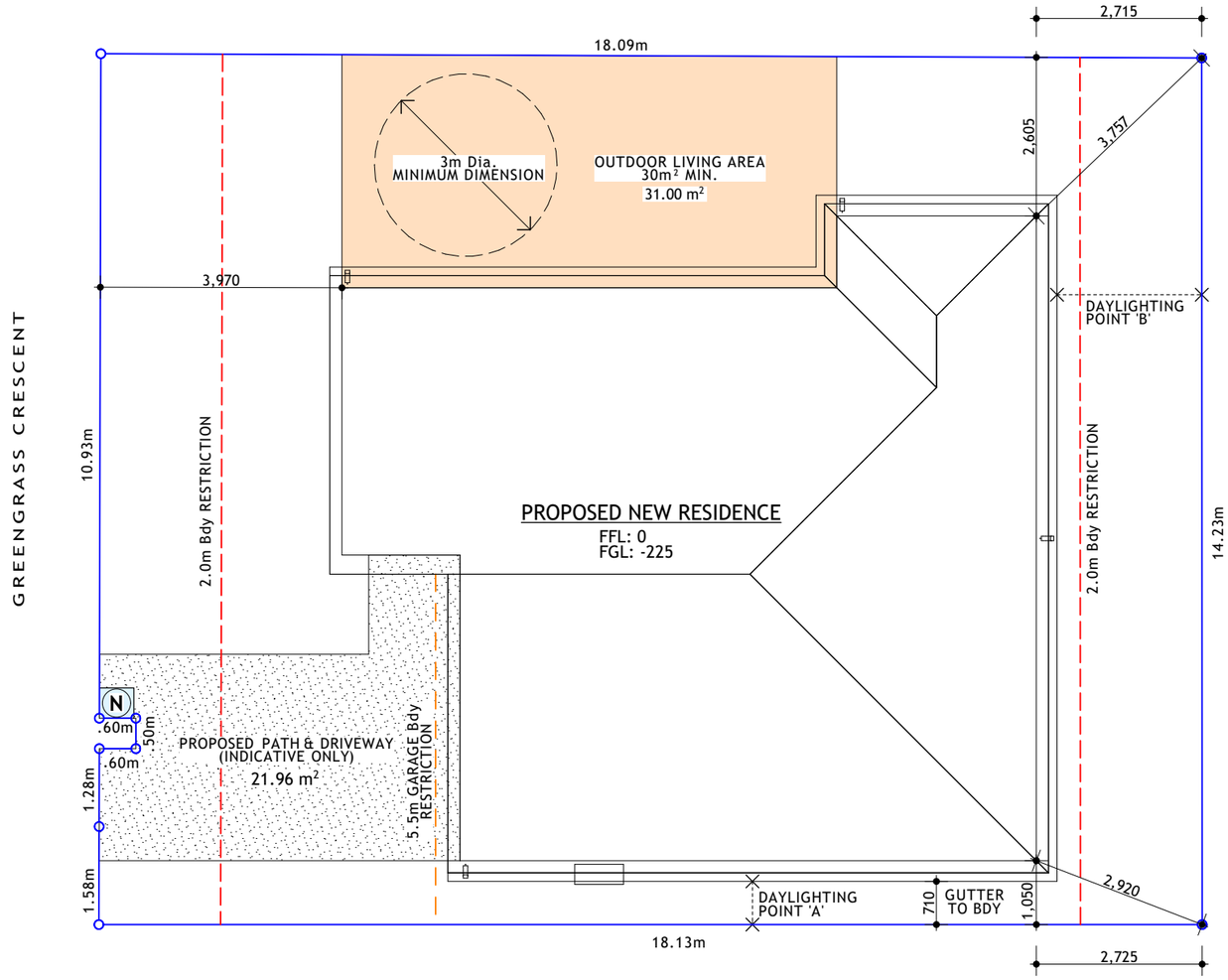
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Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE	**LEGAL DESCRIPTION:** LOT: 16 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20	**DESIGNER:** XDD	**SCALE:** 1:100
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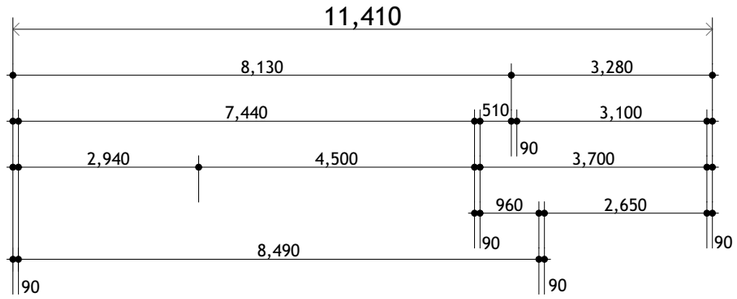
TOTAL AREA OVER FRAME

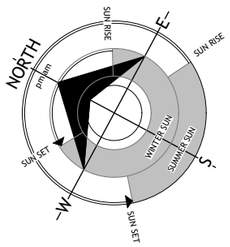
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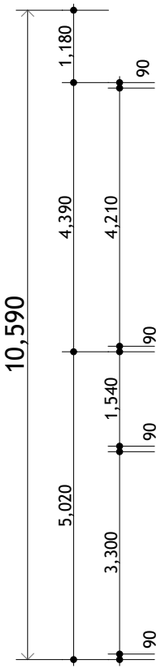
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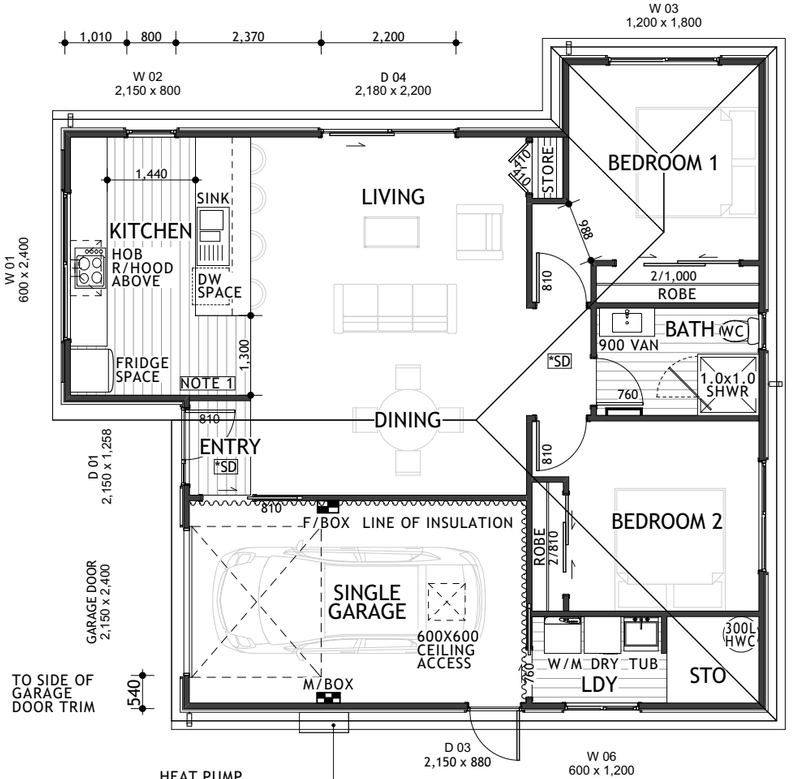
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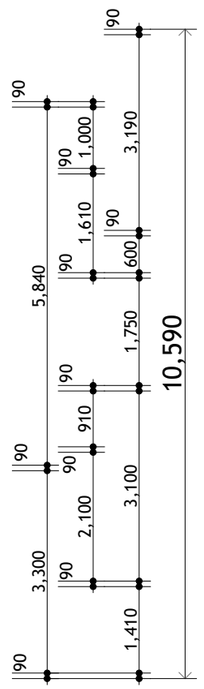
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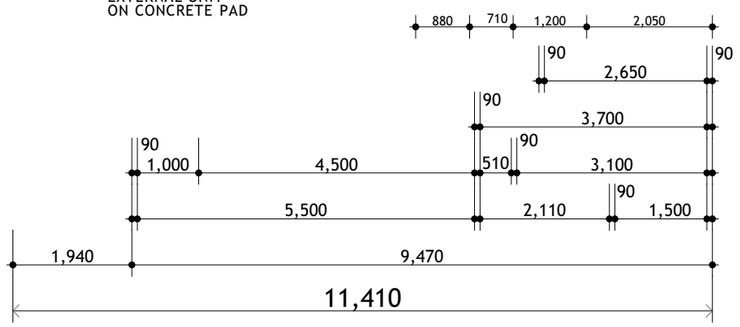










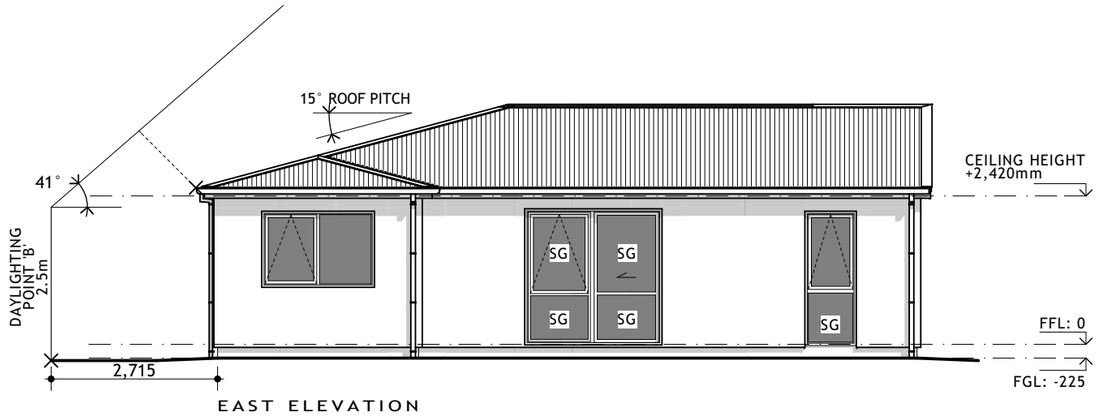


press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** FLOOR PLAN	**LEGAL DESCRIPTION:** LOT: 16 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** XDD **DRAWN:** ZB **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 3 /04

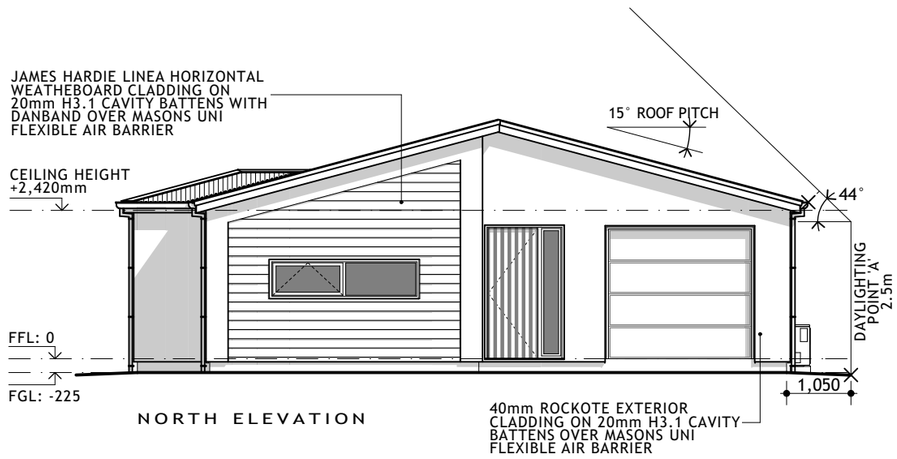
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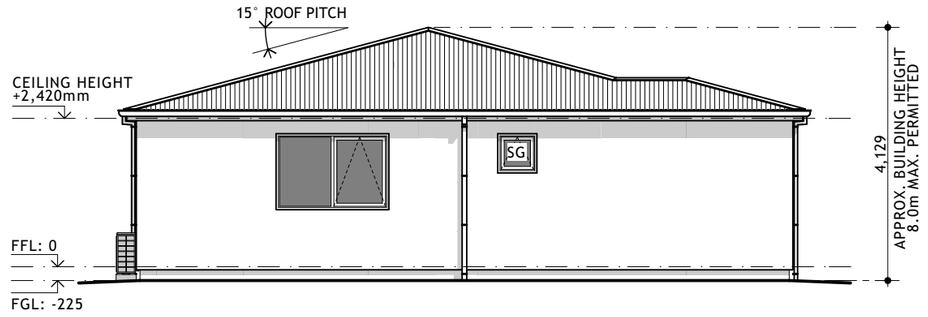
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RC205207 / RC205208
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EAST ELEVATION

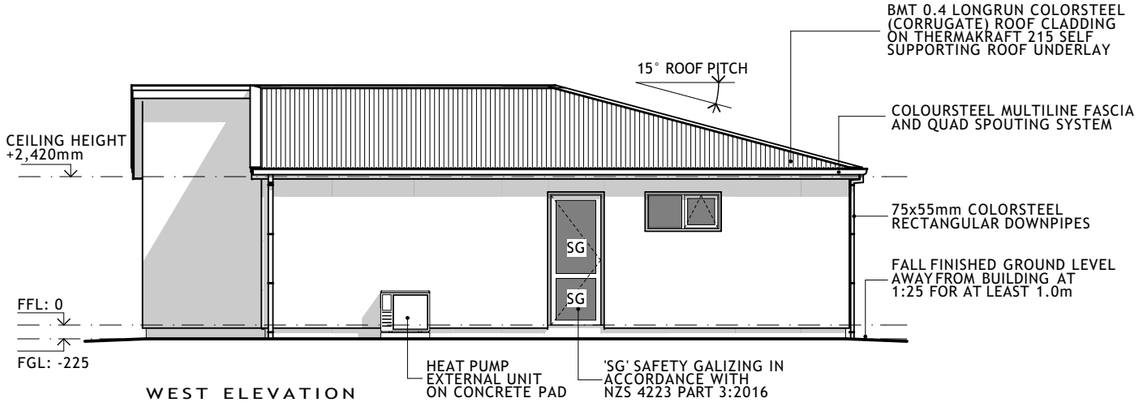


NORTH ELEVATION



SOUTH ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**4**



WEST ELEVATION

Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 16 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** XDD **DRAWN:** ZB **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 /04

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PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 17 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI

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press design + drafting

DATE: 01 DEC 20	SHEET: 1/04
JOB #: 20073	

COVER PAGE

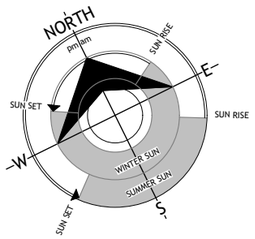
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LOT 17 DP TBC
260m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	98.41m²
SITE COVERAGE:	37.85% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

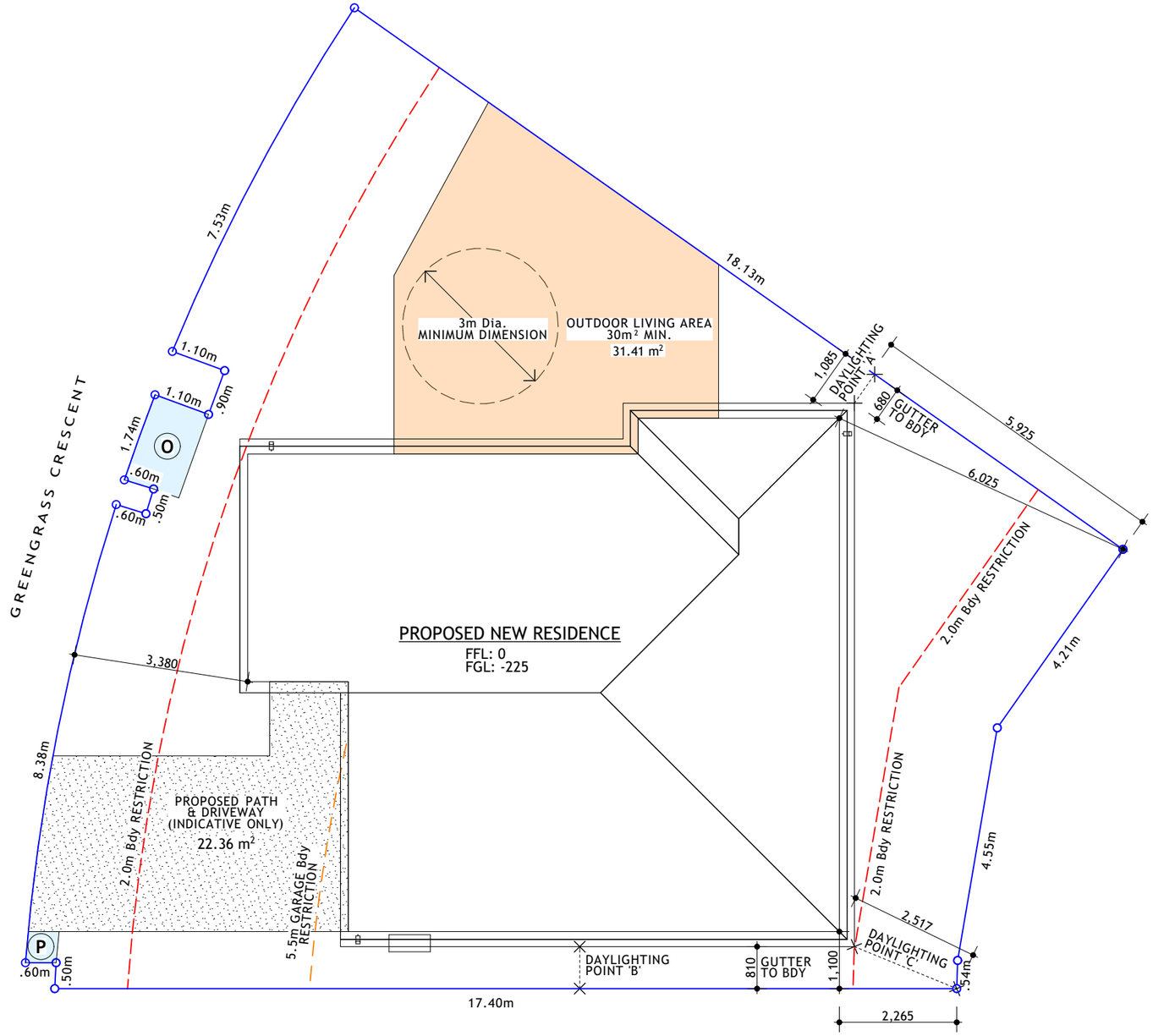
NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

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PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON/ MAIN PRIVATE STAIRWAYS TO BE 190mm .

EXISTING EASEMENT

NATURE	BURDENED LAND		DOCUMENT
	LOT NO	SHOWN	
RIGHT TO CONVEY ELECTRICITY (IN GROSS)	LOT 17	O,P	EI 11370712.3



Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 17 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** XDD **DRAWN:** DMG **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 2 /04

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NOTE: This Plan is subject to developer's approval and local district council verification and approval.

BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
DWANGS @ 800mm crs MAX.
(SINGLE OR TOP STOREY)

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

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NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION

ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS

DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

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*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

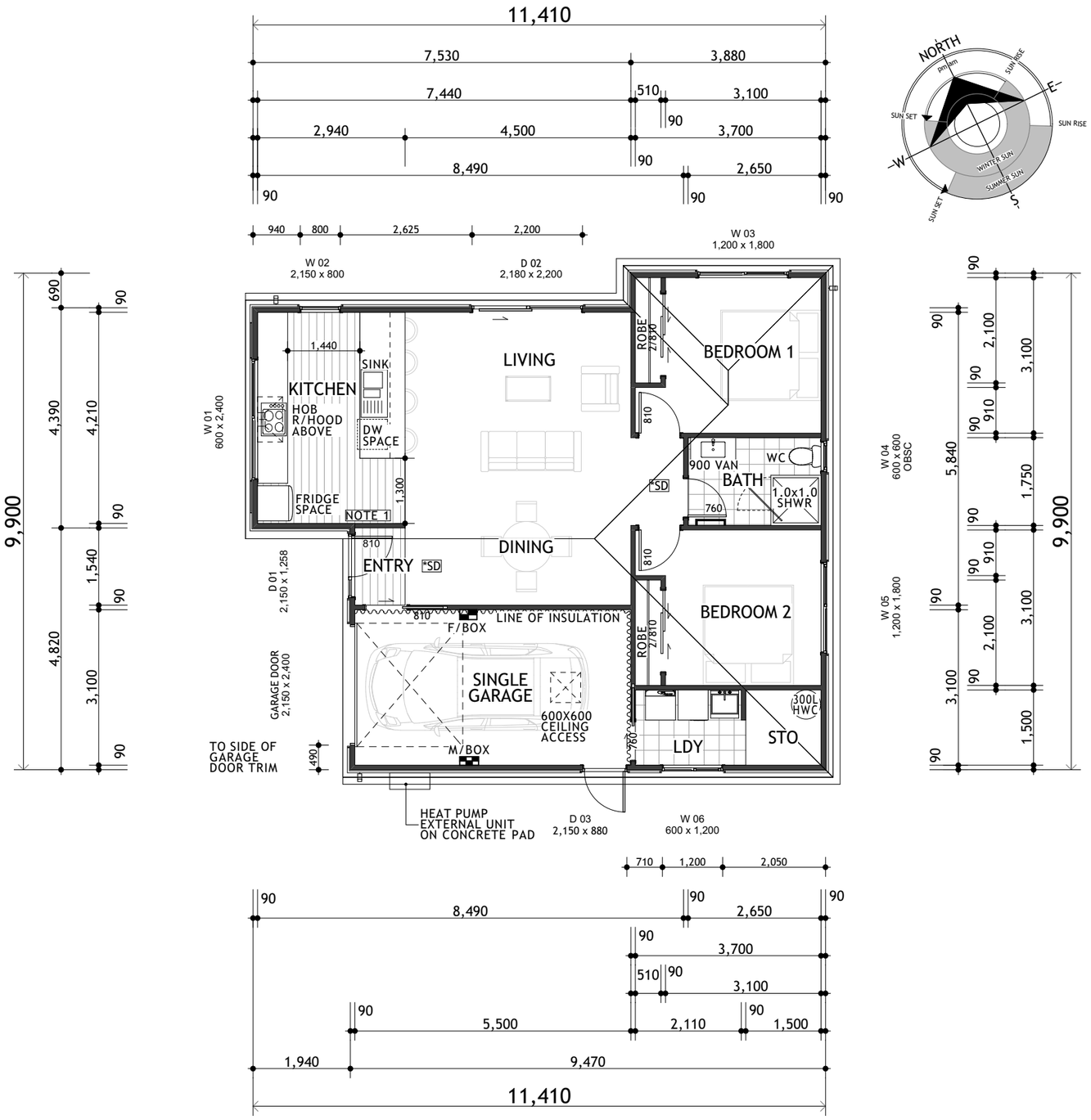
TOTAL AREA OVER FRAME

LIVING AREA:	79.78m²
GARAGE AREA:	18.63m²
TOTAL AREA:	98.41m²
ROOF PLAN AREA:	104.90m²

NOTES

NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAINED IN A HYGIENIC CONDITION

- ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030mm HIGH



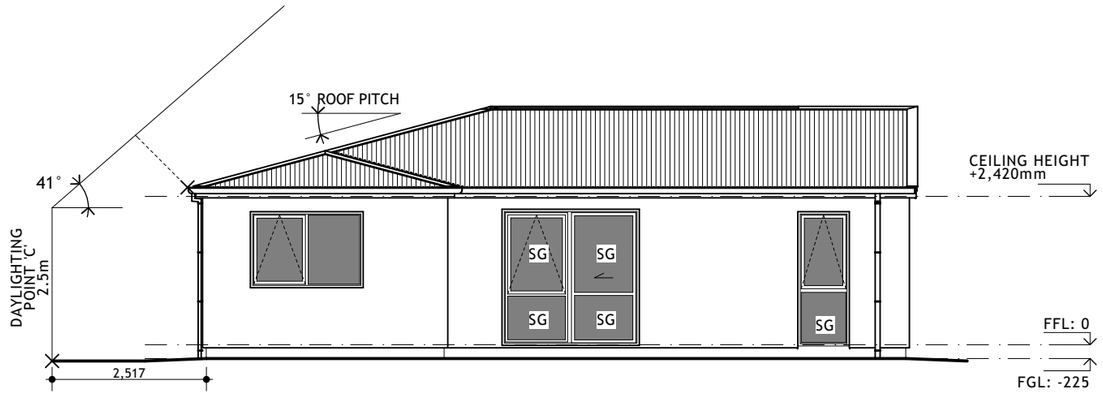
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					AMENDMENT DATE:	**DRAWN:** DMG	**JOB#:** 20073	
					VERSION: PL-01	**CHECKED:**		

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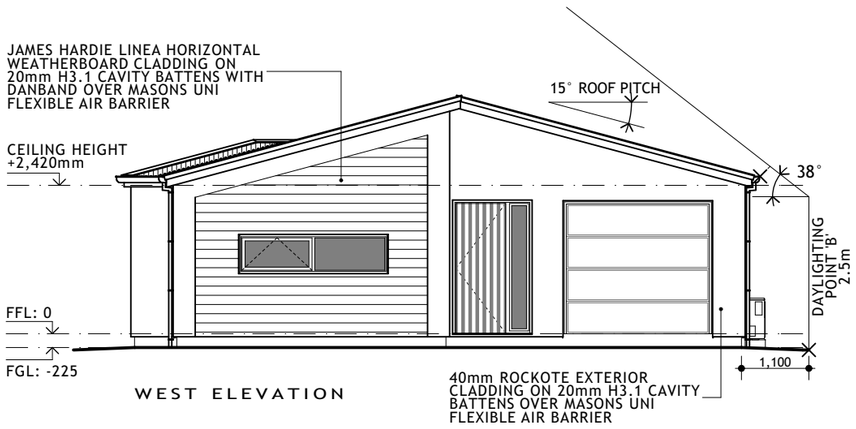
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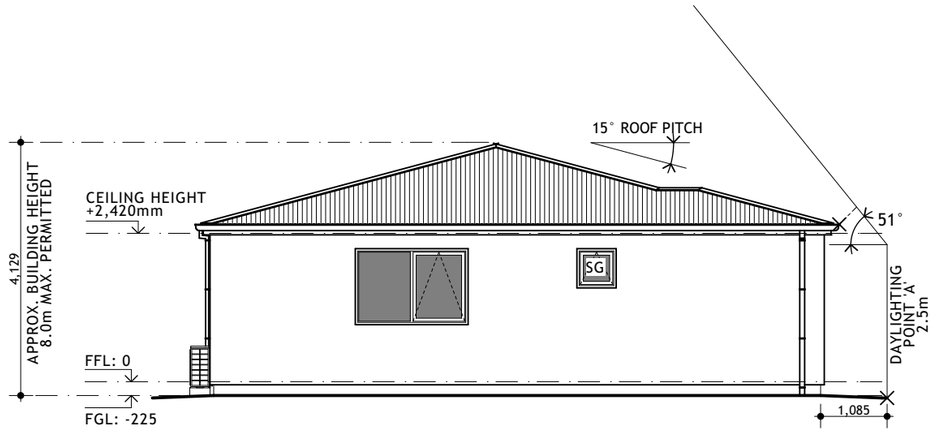
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NORTH ELEVATION

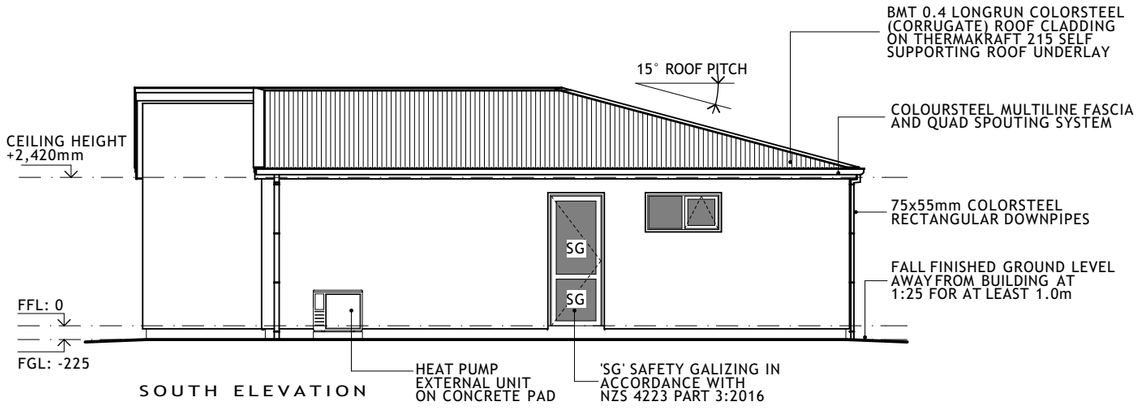


WEST ELEVATION



EAST ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**4**



SOUTH ELEVATION

Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 17 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** XDD **DRAWN:** DMG **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

BC211794

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 18 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
COVER PAGE	01
SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





press design + drafting

DATE: 01 DEC 20	SHEET: 1/04
JOB #: 20073	

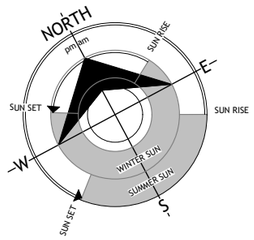
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SCALE: NOT TO SCALE

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
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Wendy Harris 21/01/2021



LOT 18 DP TBC
259m²

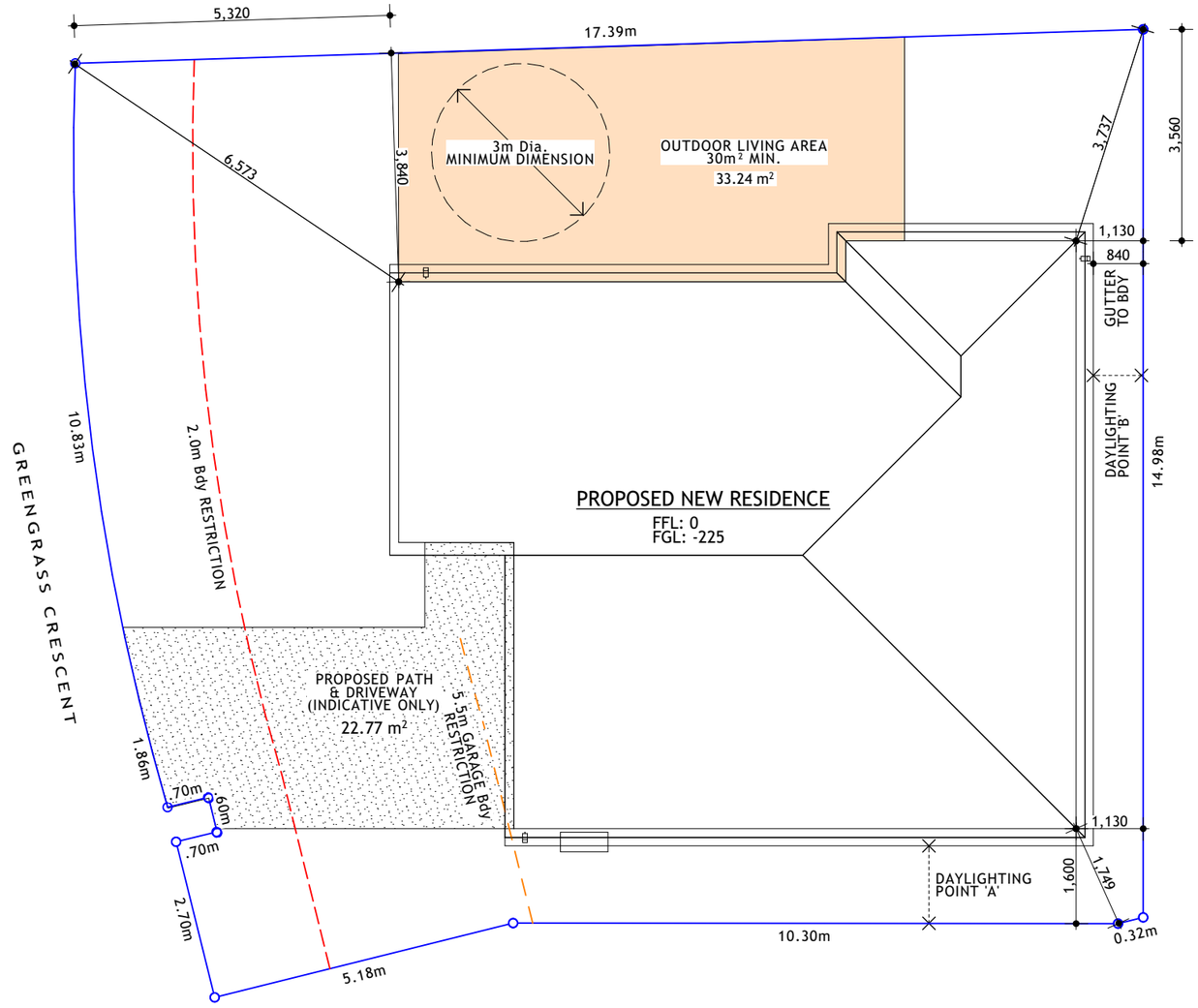
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	98.41m²
SITE COVERAGE:	38.00% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

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WAIMAKARIRI DISTRICT COUNCIL
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TOWEL RAIL

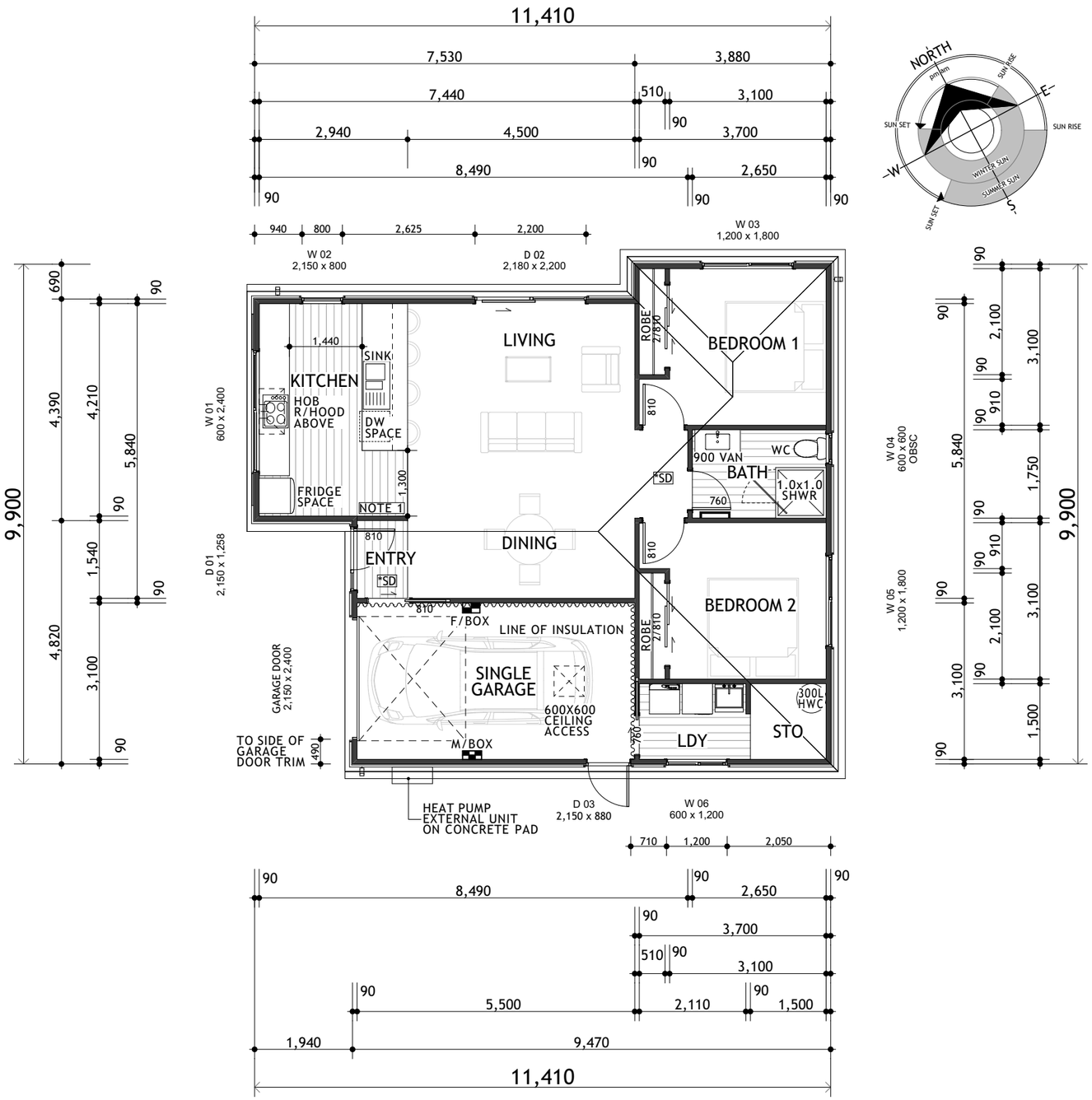
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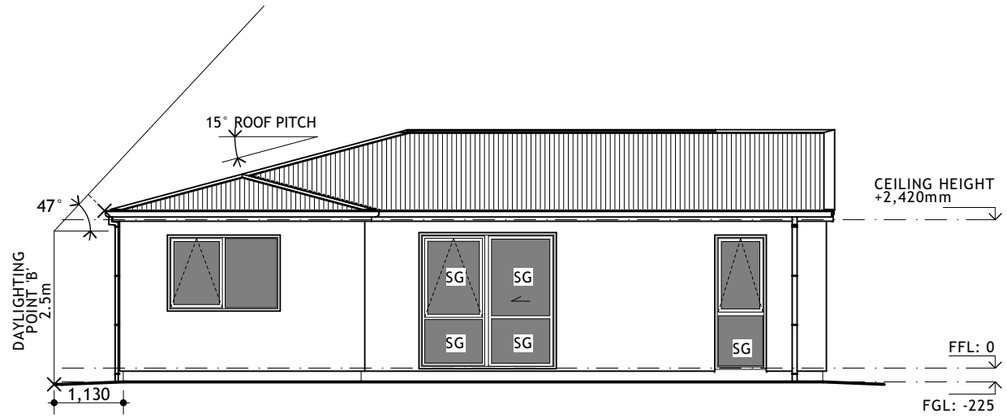
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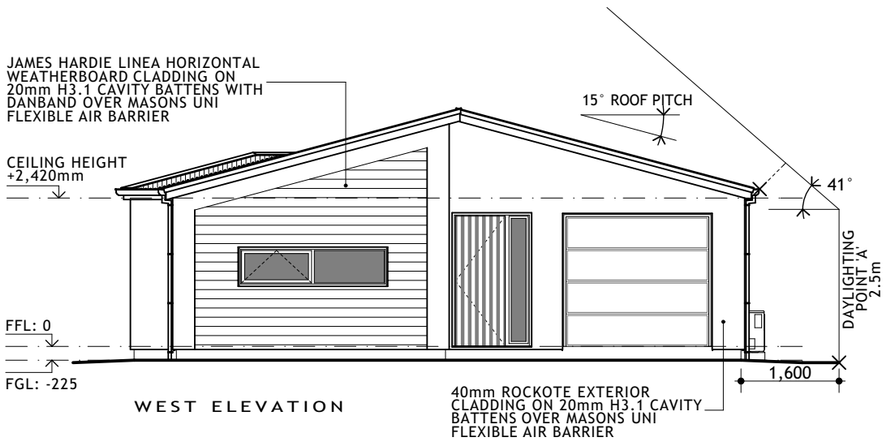
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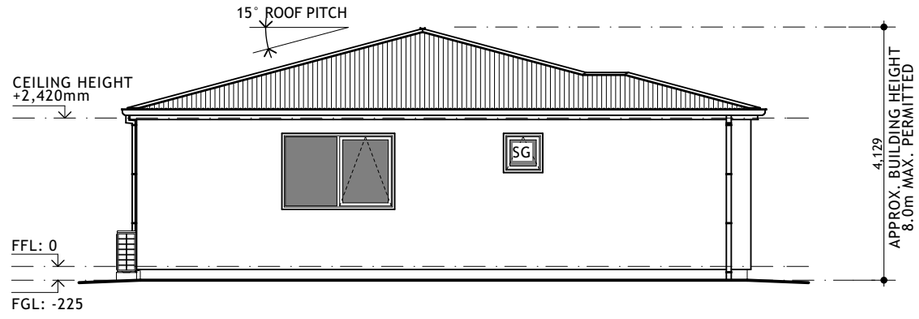
WAIMAKARIRI DISTRICT COUNCIL
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NORTH ELEVATION

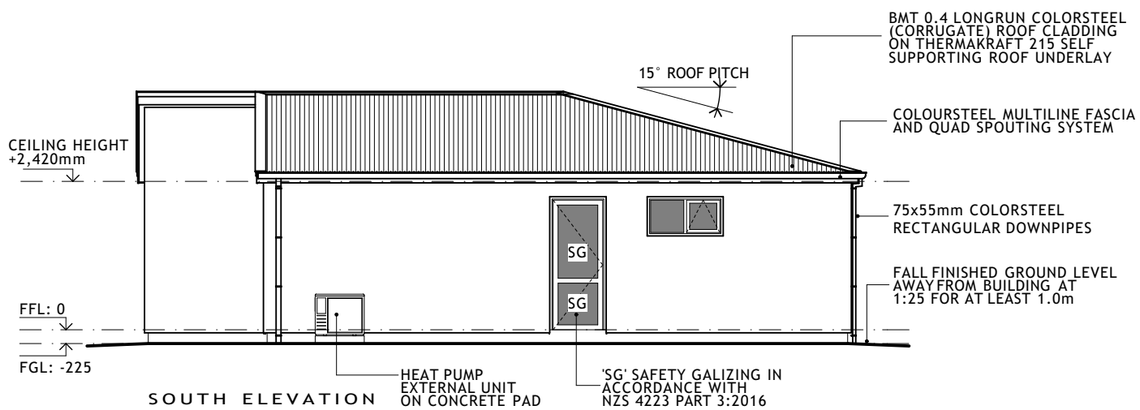


WEST ELEVATION



EAST ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**4**



SOUTH ELEVATION

press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 18 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20	**DESIGNER:** XDD	**SCALE:** 1:100	**SHEET:** 4
					AMENDMENT DATE:	**DRAWN:** DMG	**JOB#:** 20073	04
					VERSION: PL-01	**CHECKED:**		

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOTS 19 & 20 - GREENGRASS CRESCENT
AT
SILVERSTREAM KAIAPOI





PLAN SET INDEX	SHEET
COVER PAGE	01
SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04

press design + drafting

Date: 01 DEC 20	SHEET: 1/04
Job #: 20073	

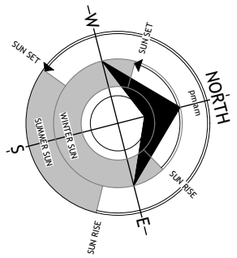
COVER PAGE

SCALE: NOT TO SCALE

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LOT 19 DP TBC
212m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	84.67m²
SITE COVERAGE:	39.93% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

LOT 20 DP TBC
174m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	84.67m²
SITE COVERAGE:	48.66% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

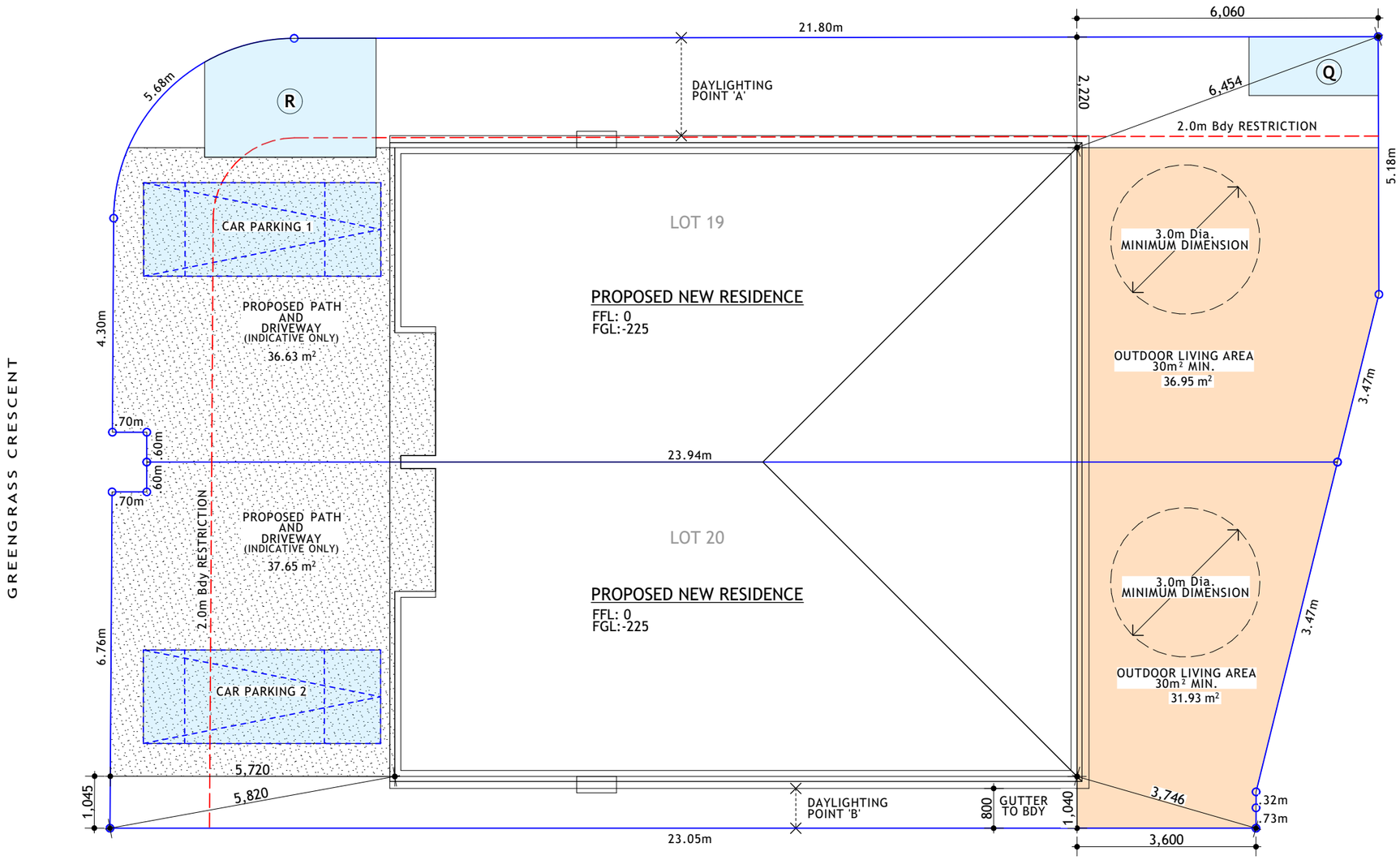
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EXISTING EASEMENT

NATURE	BURDENED LAND		DOCUMENT
	LOT NO	SHOWN	
RIGHT TO CONVEY ELECTRICITY (IN GROSS)	LOT 19	Q,R	EI 11370712.3
RIGHT TO CONVEY ELECTRICITY (IN GROSS)	LOT 19	Q	EI 11370712.4



press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 19 & 20 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** **DRAWN:** JLE **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 2 / 04

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EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)
DWANGS AT 800mm crs

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
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*SD	SMOKE DETECTOR WITH HUSH BUTTON
	TOWEL RAIL

TOTAL AREA OVER FRAME (PER UNIT)

LIVING AREA:	81.76m²
ROOF PLAN AREA:	88.83m²

ADDITIONAL AREAS (PER UNIT)

AREA OVER BRICK:	84.67m²
COVERED ENTRY AREA:	1.88m²
TOTAL ADDITIONAL AREA:	86.55m²

NOTES

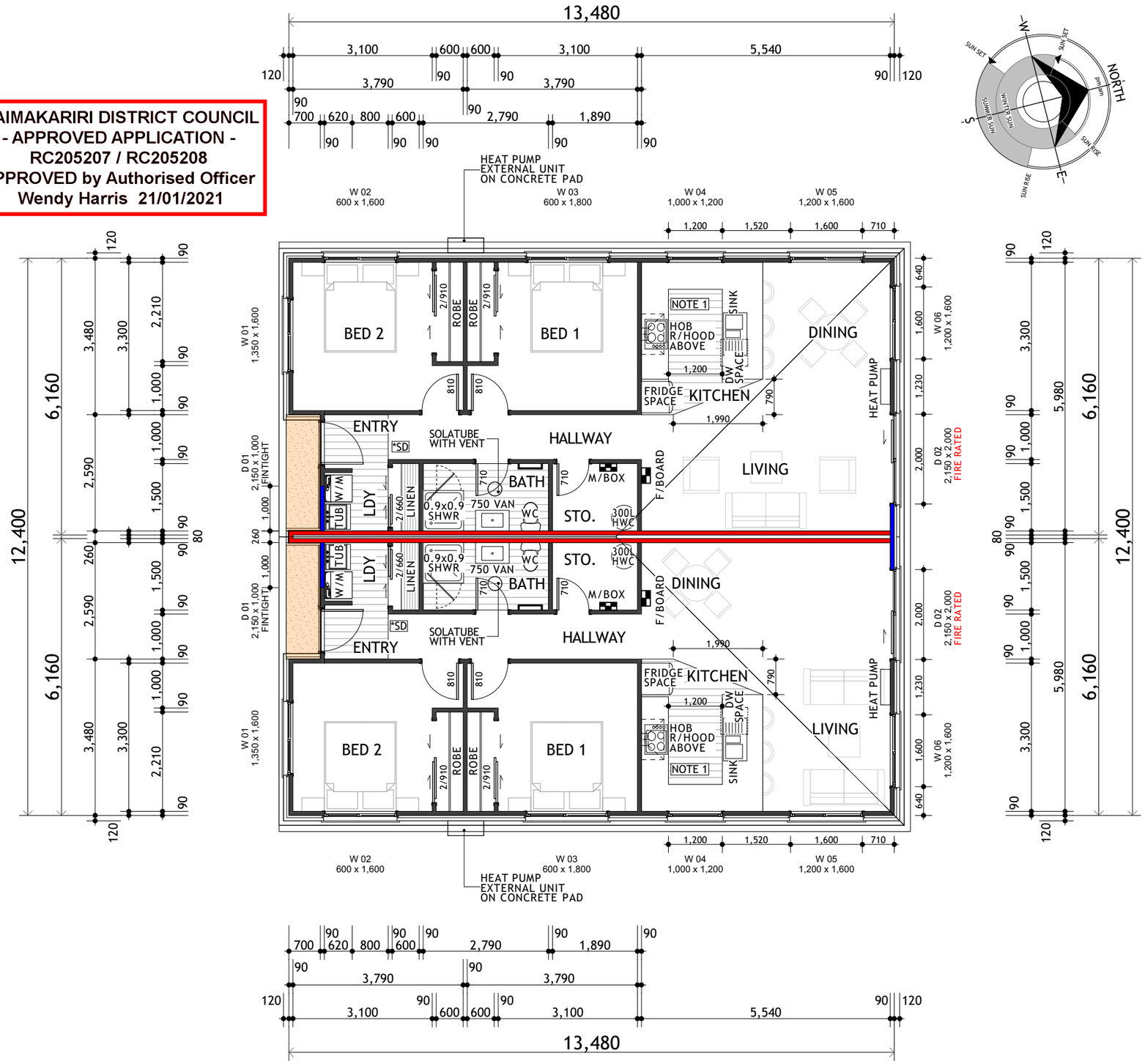
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-ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030 HIGH

FIRE RATED KEY

- GBTLAB60b FIRE RATED WALL
- GBUW 30a FIRE RATED WALL
- FIRE RATED SOFFIT (6.0mm HARDIEFLEX SOFFIT LINING)

WAIMAKARIRI DISTRICT COUNCIL
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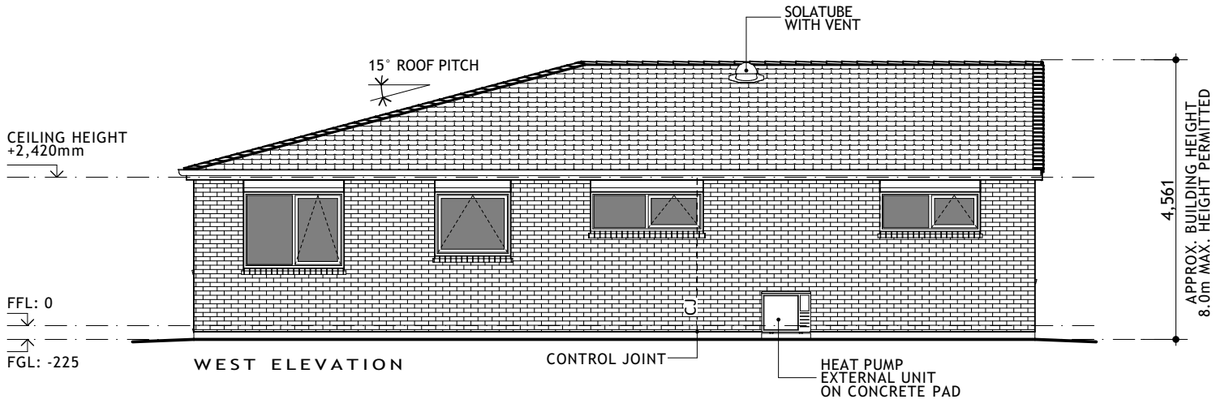
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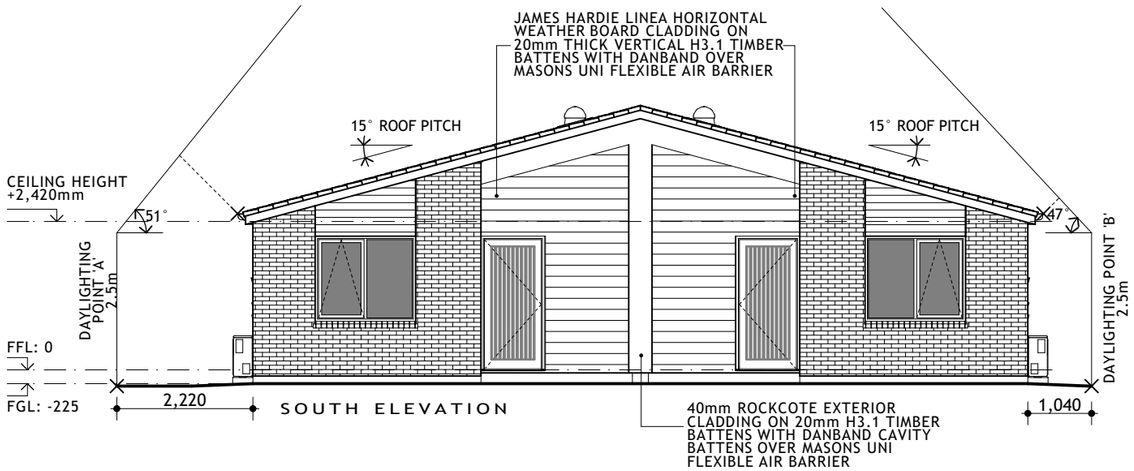
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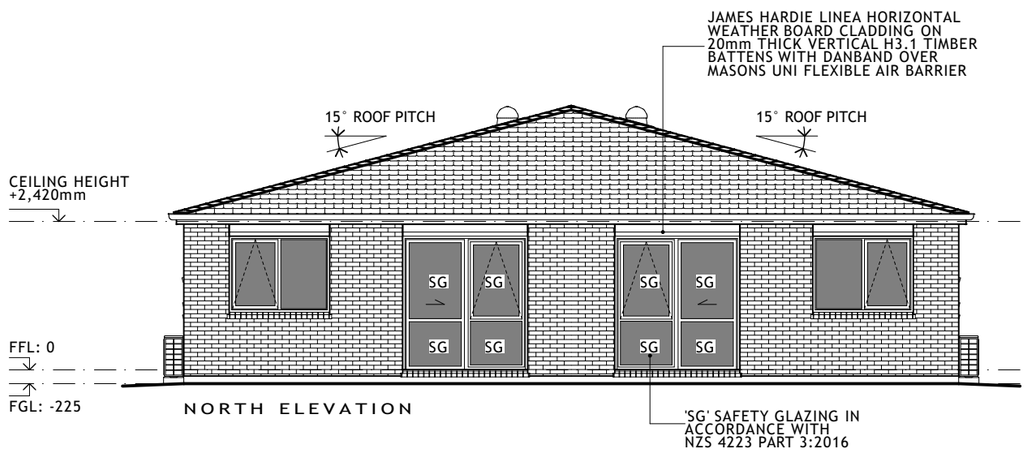
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WEST ELEVATION

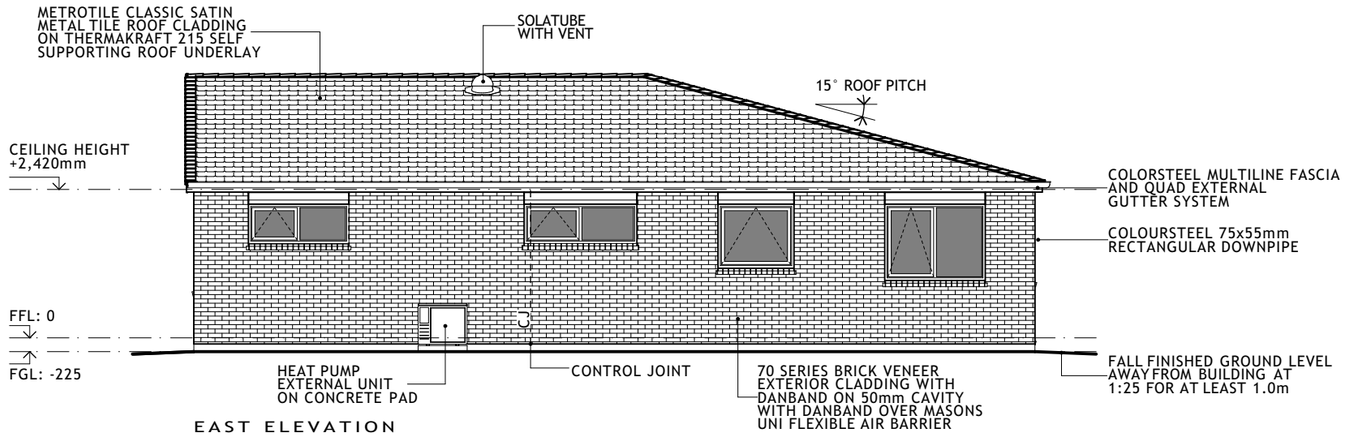


SOUTH ELEVATION



NORTH ELEVATION

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Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	High risk	3
Deck design	Low risk	0
Total Risk Score:		**10**



EAST ELEVATION

press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 19 & 20 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** **DRAWN:** JLE **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

BC211794

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOTS 21 & 22 - GREENGRASS CRESCENT
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
COVER PAGE	01
SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





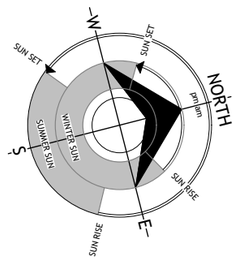
press design + drafting

Date: 01 DEC 20	SHEET: 1/04
Job #: 20073	
COVER PAGE	
SCALE: NOT TO SCALE	

NOTE: This Plan is subject to developer's approval and local district council verification and approval.

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BC211794



WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

LOT 21 DP TBC
170m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	84.67m²
SITE COVERAGE:	49.80% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

LOT 22 DP TBC
169m²

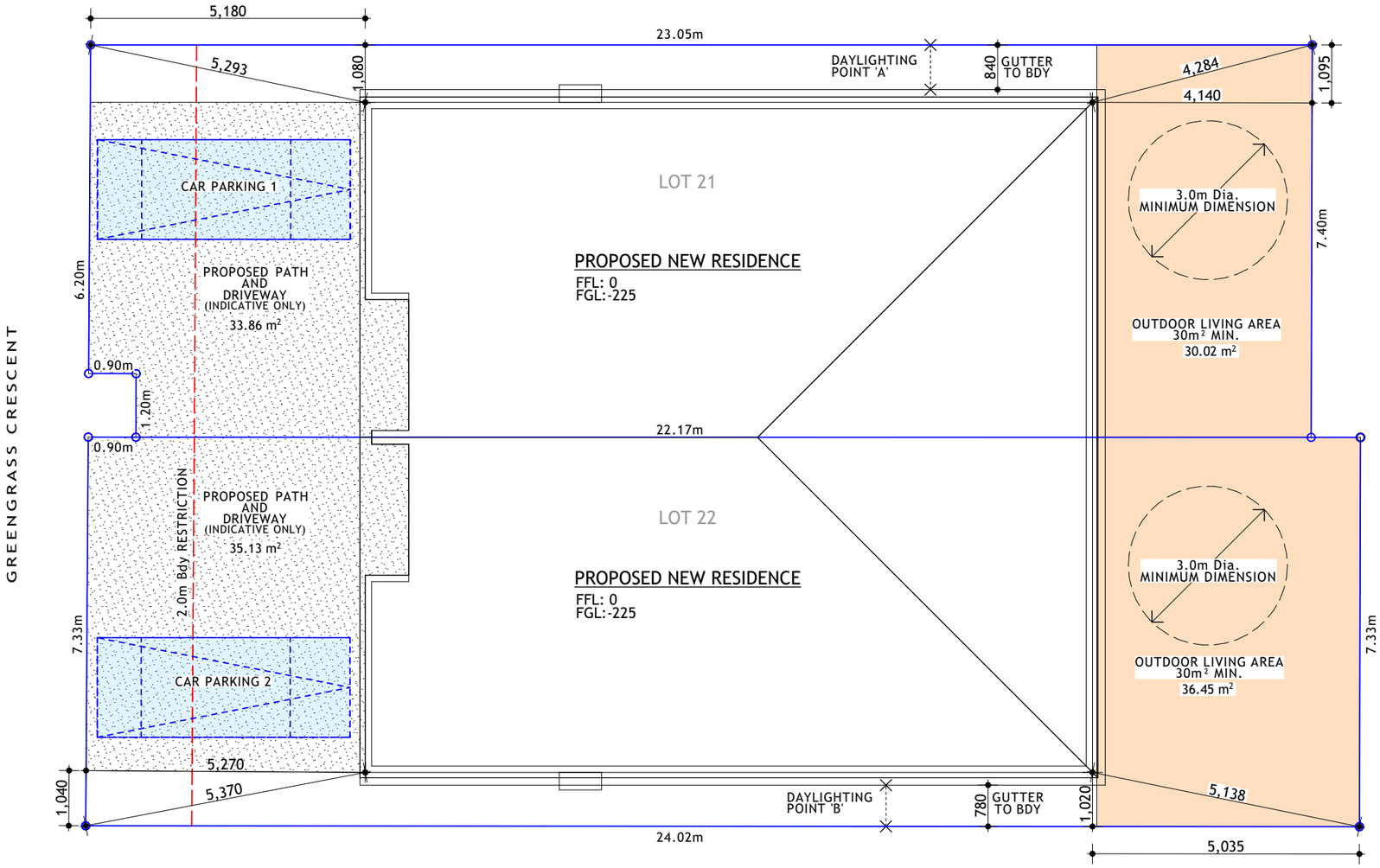
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	84.67m²
SITE COVERAGE:	50.70% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY. A BARRIER COMPLYING WITH TABLE 1 , NZBC F5/ AS1 IS AN ACCEPTABLE SOLUTION.

PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON/ MAIN PRIVATE STAIRWAYS TO BE 190mm .



press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 21 & 22 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** **DRAWN:** JLE **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 2 / 04

NOTE: This Plan is subject to developer's approval and local district council verification and approval.
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EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)
DWANGS AT 800mm crs

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)
DWANGS AT 800mm crs

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION

ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS

DOUBLE GLAZING TO ALL EXTERIOR JOINERY

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

- PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON / MAIN PRIVATE STAIRWAYS TO BE 190mm.

*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

TOTAL AREA OVER FRAME (PER UNIT)

LIVING AREA:	81.76m²
ROOF PLAN AREA:	88.83m²

ADDITIONAL AREAS (PER UNIT)

AREA OVER BRICK:	84.67m²
COVERED ENTRY:	1.88m²
TOTAL ADDITIONAL AREA:	86.55m²

NOTES

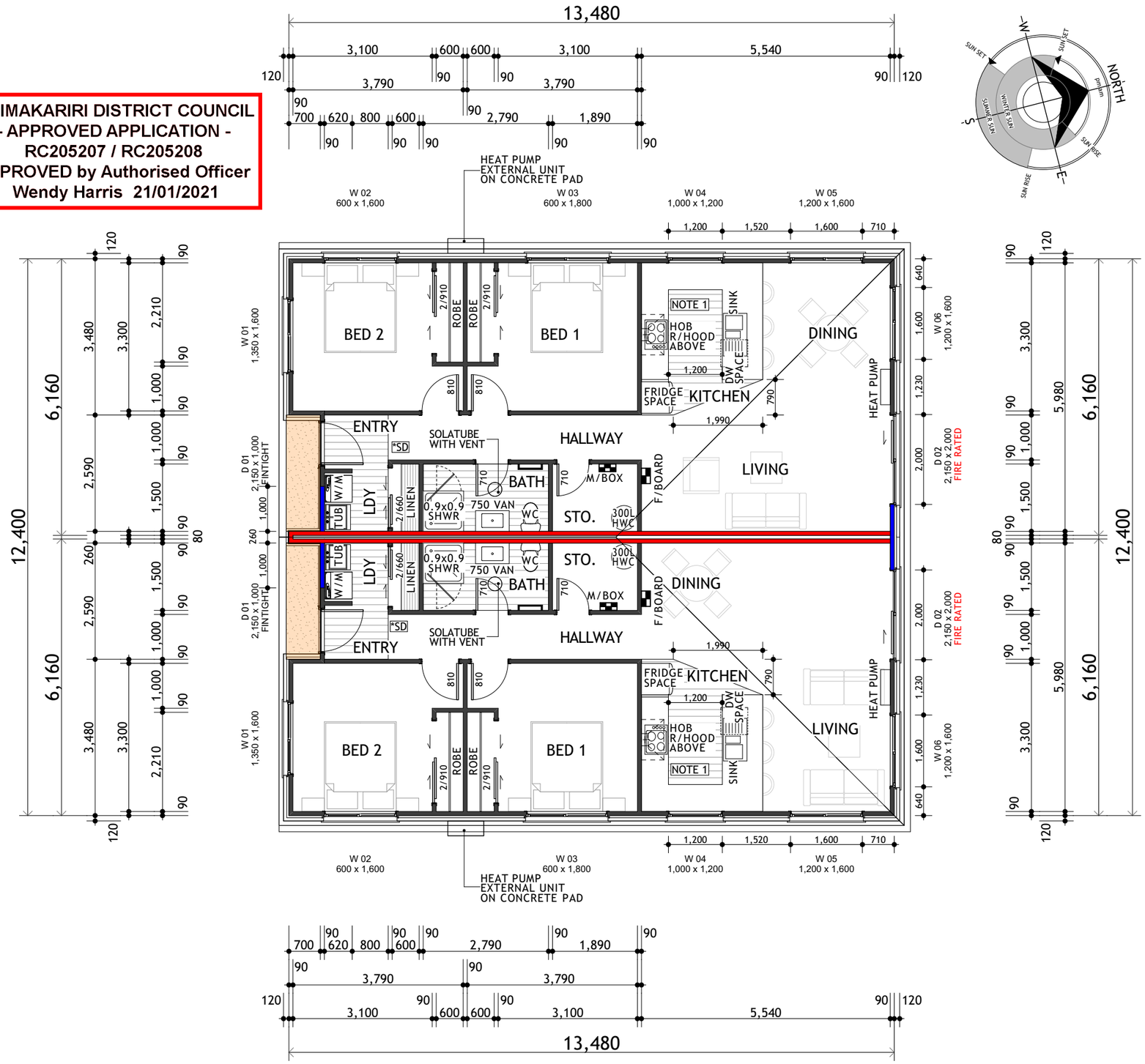
NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAINED IN A HYGIENIC CONDITION

-ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030 HIGH

FIRE RATED KEY

GBTLAB60b FIRE RATED WALL
GBUW 30a FIRE RATED WALL
FIRE RATED SOFFIT
(6.0mm HARDIEFLEX SOFFIT LINING)

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



JOB TITLE: B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** FLOOR PLAN	**LEGAL DESCRIPTION:** LOT: 21 & 22 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.

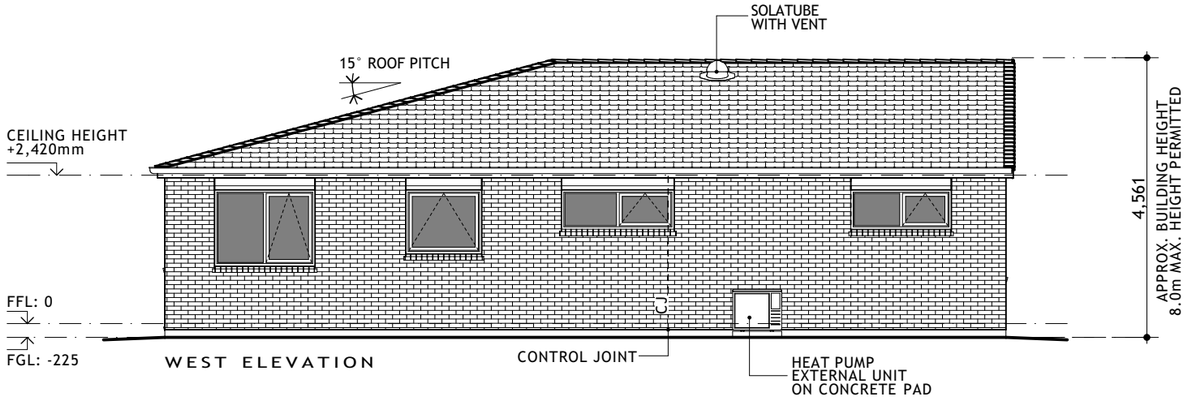
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AMENDMENT DATE:	**DRAWN:** JLE	**JOB#:** 20073	
VERSION: PL-01	**CHECKED:**		

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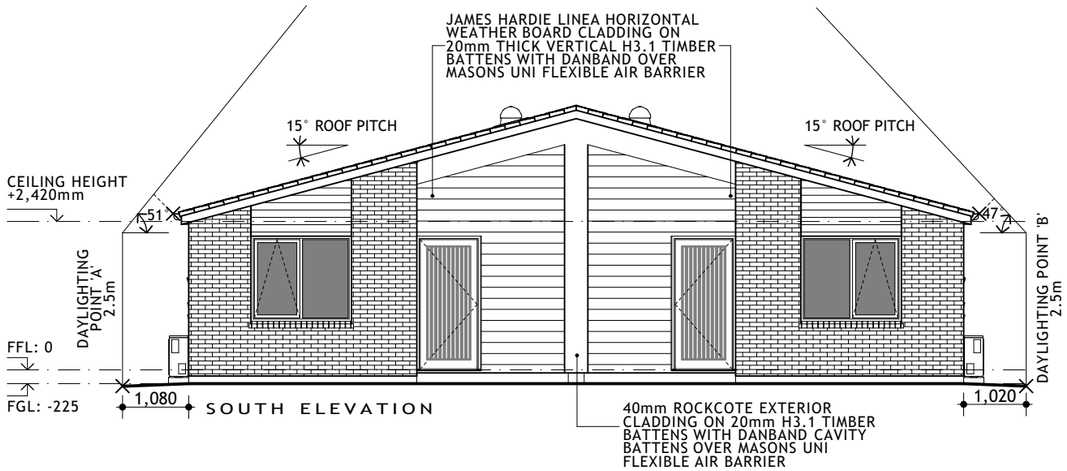
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BC211794

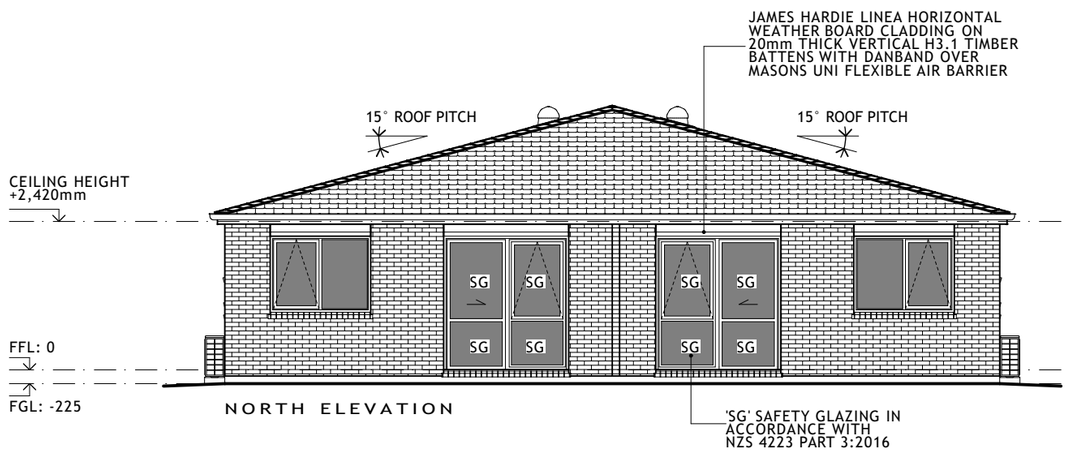
WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



WEST ELEVATION

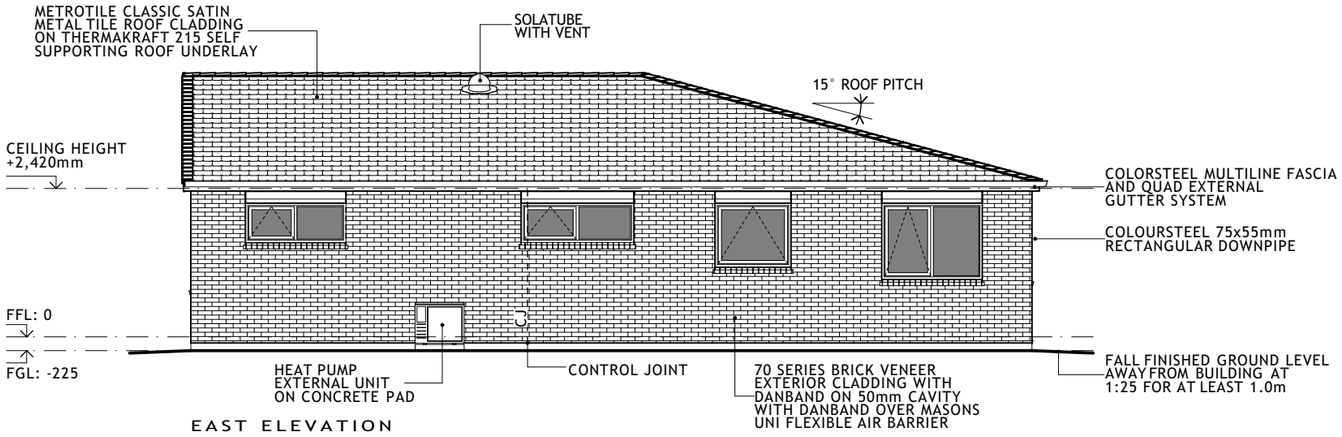


SOUTH ELEVATION



NORTH ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	High risk	3
Deck design	Low risk	0
Total Risk Score:		**10**



EAST ELEVATION

Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 21 & 22 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** **DRAWN:** JLE **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

BC211794

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOTS 23 & 24 - GREENGRASS CRESCENT
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
COVER PAGE	01
SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





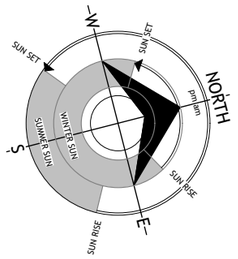
press design + drafting

Date: 01 DEC 20	SHEET: 1/04
Job #: 20073	
COVER PAGE	
SCALE: NOT TO SCALE	

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NOTE: This Plan is subject to developer's approval and local district council verification and approval.

BC211794



WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

LOT 23 DP TBC
175m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	84.67m²
SITE COVERAGE:	48.38% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

LOT 24 DP TBC
191m²

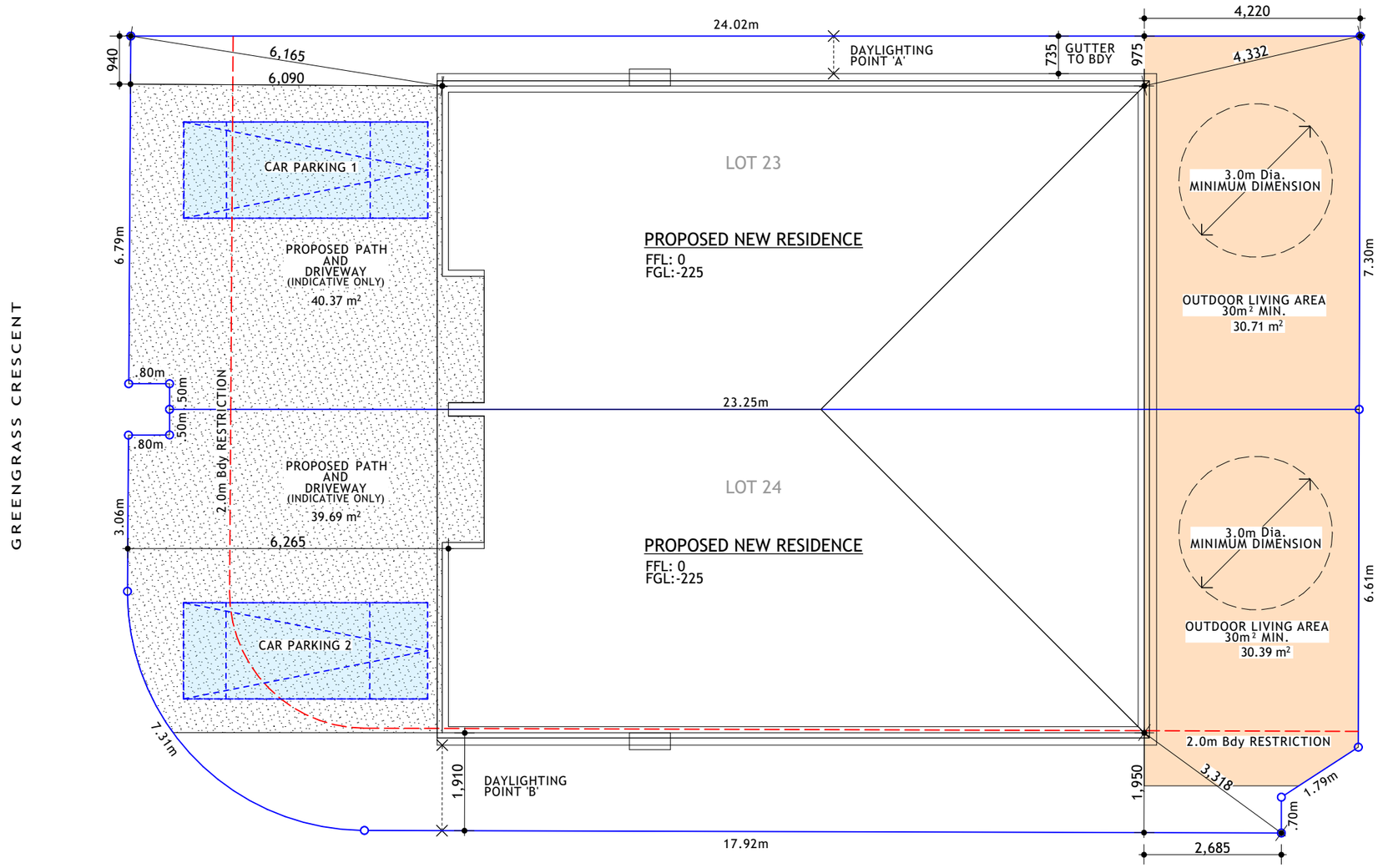
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	84.67m²
SITE COVERAGE:	44.32% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY. A BARRIER COMPLYING WITH TABLE 1 , NZBC F5/ AS1 IS AN ACCEPTABLE SOLUTION.

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press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 23 & 24 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20	**DESIGNER:**	**SCALE:** 1:100
					AMENDMENT DATE:	**DRAWN:** JLE	**JOB#:** 20073
					VERSION: PL-01	**CHECKED:**	**SHEET:** 2 / 04

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EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)
DWANGS AT 800mm crs

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
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NOTES
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INDICATES VINYL PLANK FLOORING NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

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*SD	SMOKE DETECTOR WITH HUSH BUTTON
	TOWEL RAIL

TOTAL AREA OVER FRAME (PER UNIT)

LIVING AREA:	81.76m²
ROOF PLAN AREA:	88.83m²

ADDITIONAL AREAS (PER UNIT)

AREA OVER BRICK:	84.67m²
COVERED ENTRY AREA:	1.88m²
TOTAL ADDITIONAL AREA:	86.55m²

NOTES

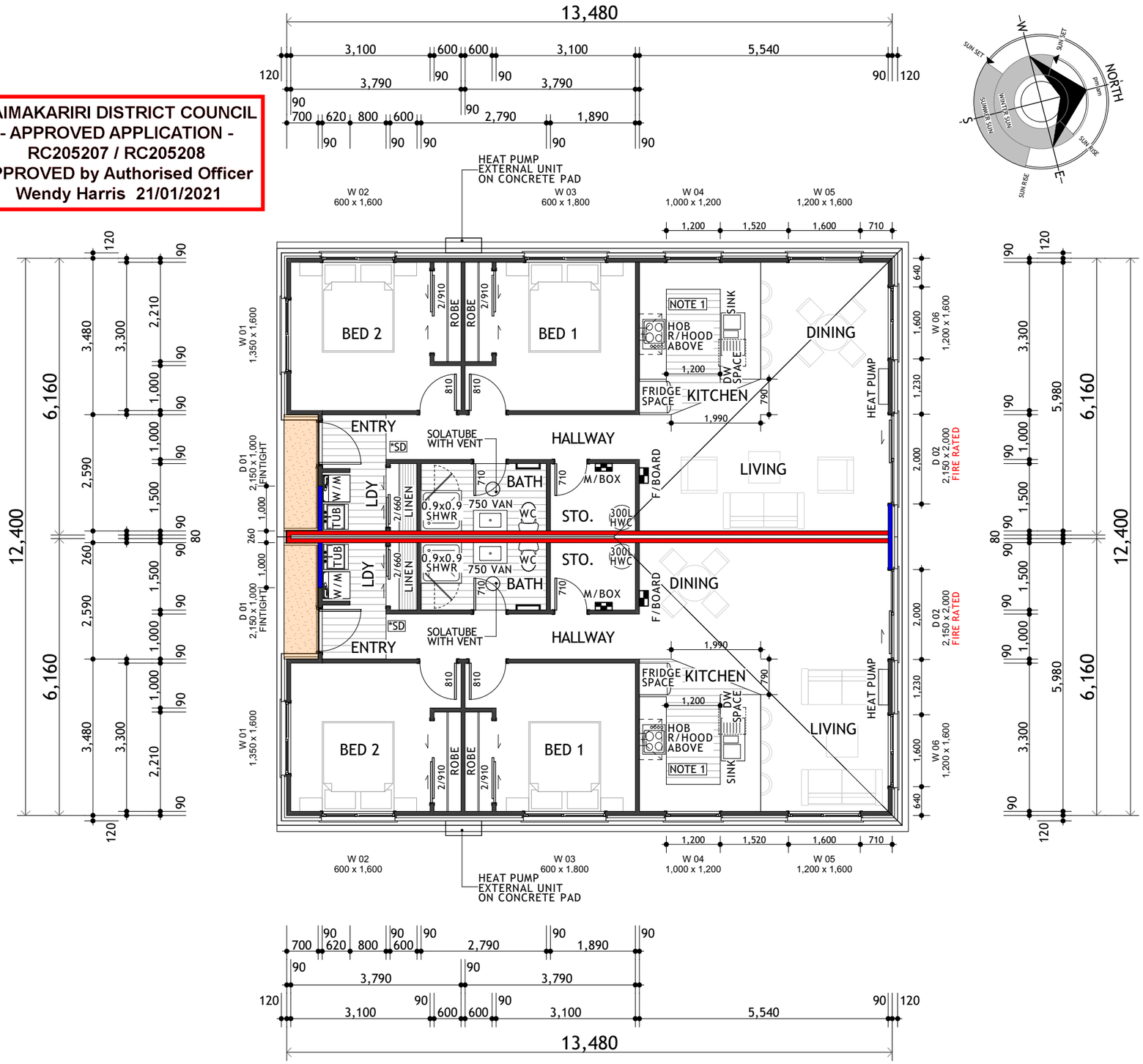
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FIRE RATED KEY

- GBTLAB60b FIRE RATED WALL
- GBUW 30a FIRE RATED WALL
- FIRE RATED SOFFIT (6.0mm HARDIEFLEX SOFFIT LINING)

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



JOB TITLE: B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** FLOOR PLAN	**LEGAL DESCRIPTION:** LOT: 23 & 24 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.

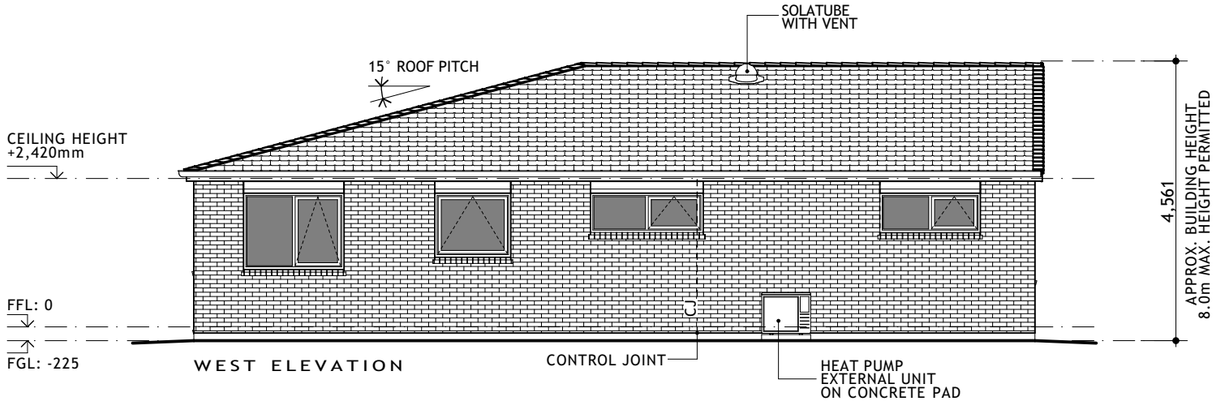
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VERSION: PL-01	**CHECKED:**		

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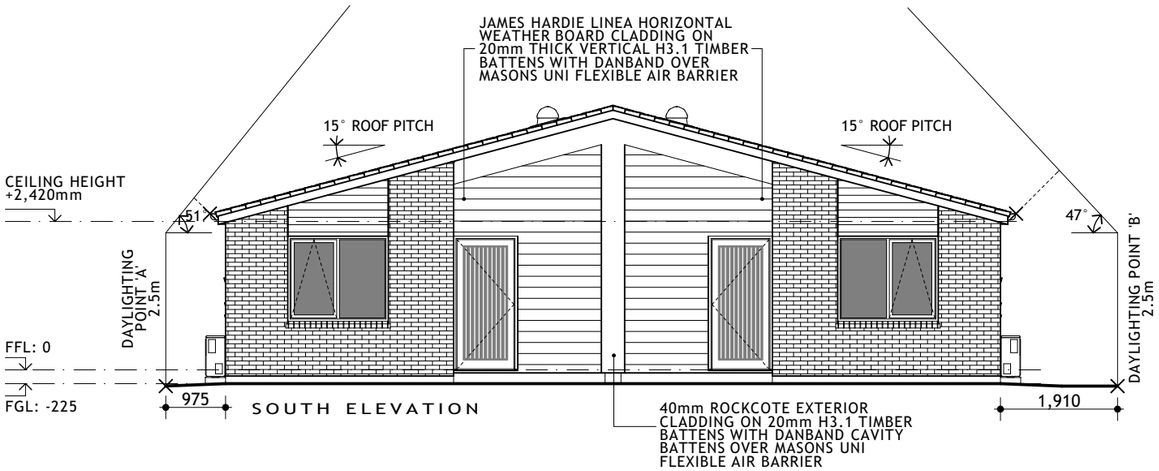
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BC211794

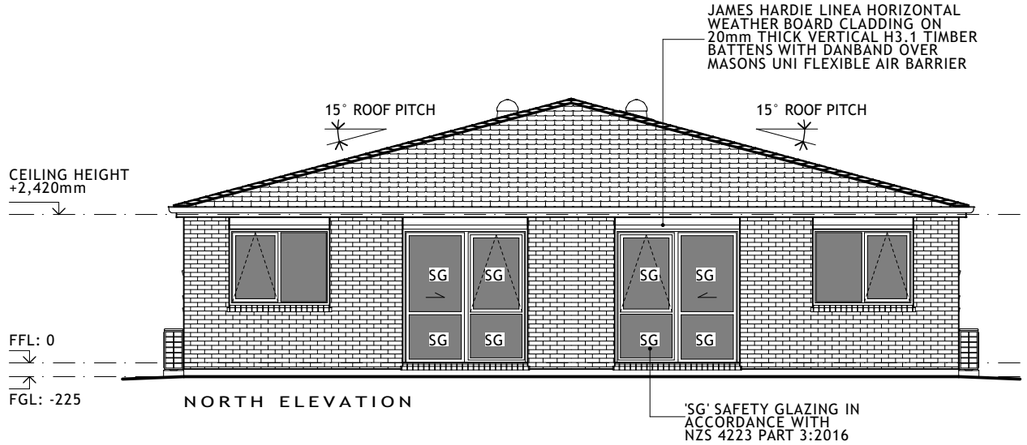
WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
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APPROVED by Authorised Officer
Wendy Harris 21/01/2021



WEST ELEVATION

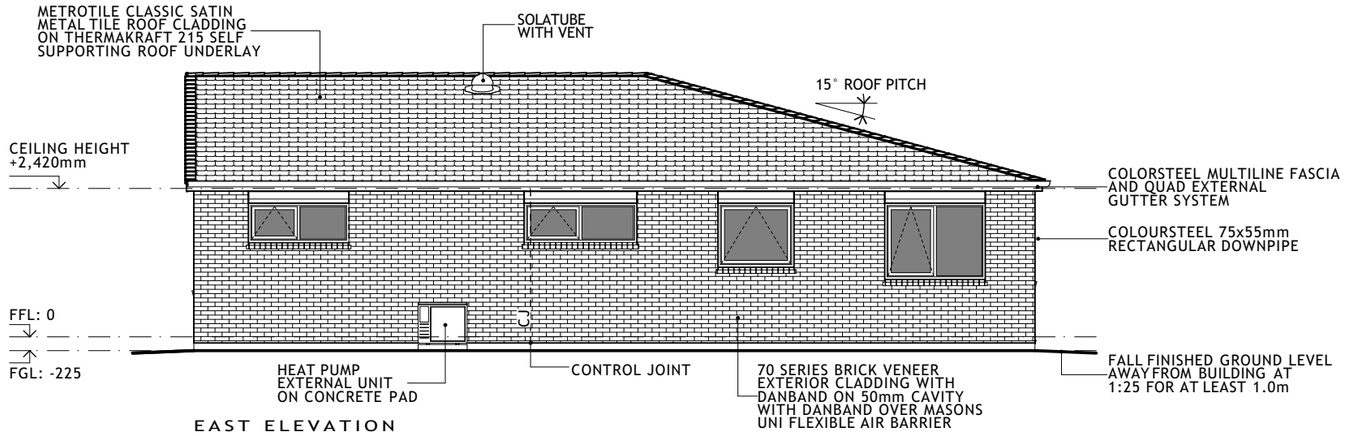


SOUTH ELEVATION



NORTH ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	High risk	3
Deck design	Low risk	0
Total Risk Score:		**10**



EAST ELEVATION

Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 23 & 24 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** **DRAWN:** JLE **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

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PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 25 - BECKS STREET
AT
SILVERSTREAM KAIAPOI

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COVER PAGE	01
SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





press design + drafting

Date: 01 DEC 20	SHEET: 1/04
Job #: 20073	

COVER PAGE

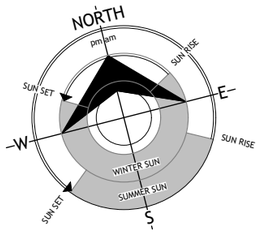
SCALE: NOT TO SCALE

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BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LOT 25 DP TBC
232m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	98.46m²
SITE COVERAGE:	42.43% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

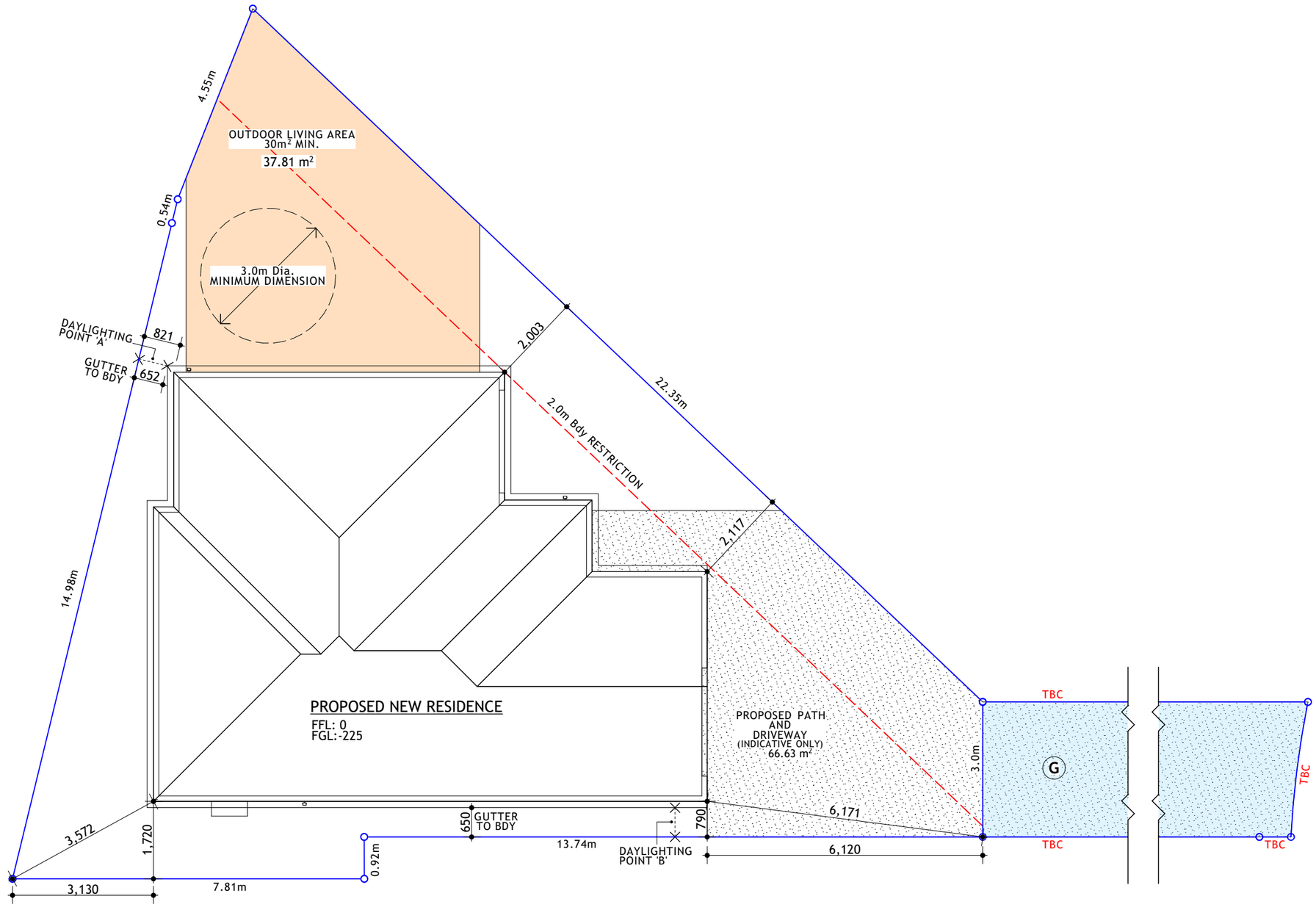
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PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2.
MAXIMUM STEP HEIGHT TO COMMON/ MAIN
PRIVATE STAIRWAYS TO BE 190mm .

EXISTING EASEMENT

NATURE	BURDENED LAND		DOCUMENT
	LOT NO	SHOWN	
RIGHT OF WAY	LOT 25	G	EI 11370712.2



JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: SITE PLAN	LEGAL DESCRIPTION: LOT: 25 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	DATE OF ISSUE: 01 DEC 20	DESIGNER: JLE	SCALE: 1:100	SHEET: 2/04
				AMENDMENT DATE:	DRAWN: JE	JOB#: 20073	
				VERSION: PL-01	CHECKED:		

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BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS AT 800mm crs

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS AT 800mm crs

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION

ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS

DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

- PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON / MAIN PRIVATE STAIRWAYS TO BE 190mm.

*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

TOTAL AREA OVER FRAME

LIVING AREA:	76.01m²
GARAGE AREA:	17.83m²
ROOF AREA:	99.02m²
TOTAL AREA:	93.84m²

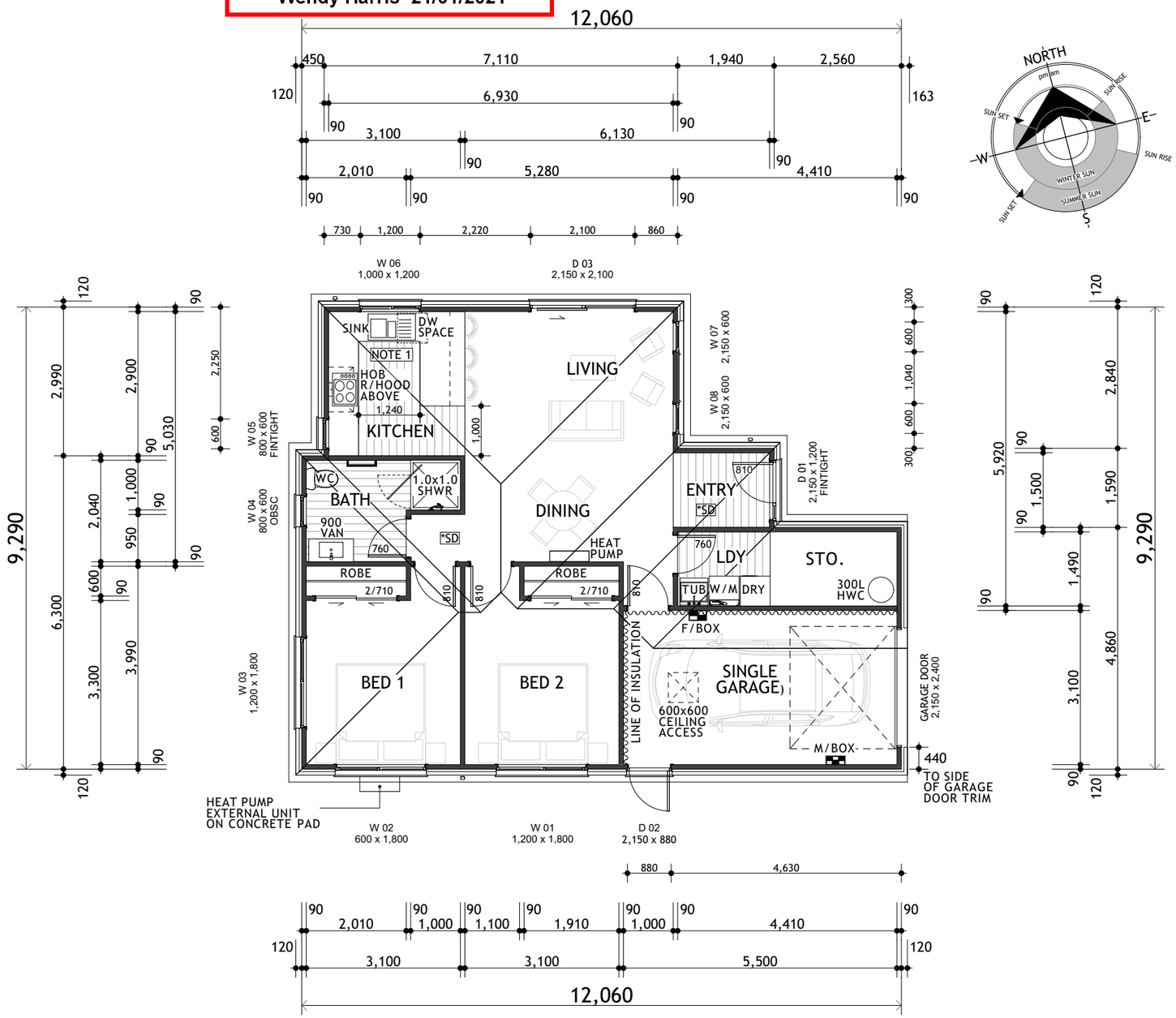
ADDITIONAL AREAS

AREA OVER BRICK:	98.46m²

NOTES

NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAINED IN A HYGIENIC CONDITION

-ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030 HIGH



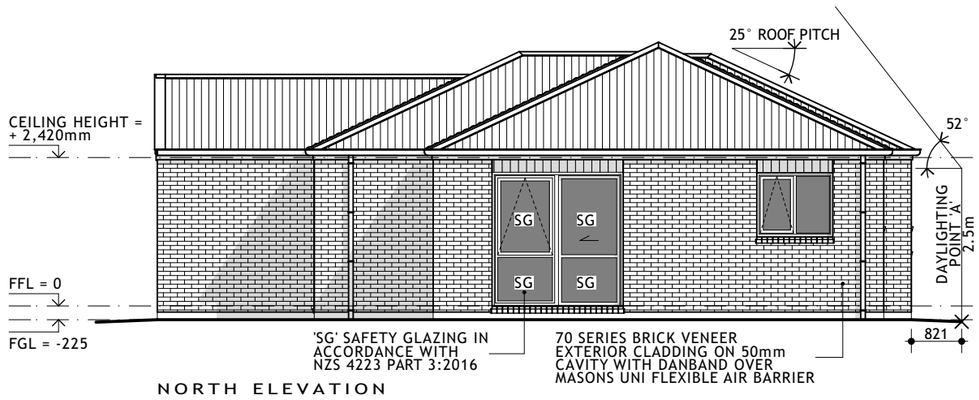
JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: FLOOR PLAN	LEGAL DESCRIPTION: LOT: 25 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	DATE OF ISSUE: 01 DEC 20	DESIGNER: JLE	SCALE: 1:100	SHEET: 3 / 04
				AMENDMENT DATE:	DRAWN: JE	JOB#: 20073	
				VERSION: PL-01	CHECKED:		

NOTE: This Plan is subject to developer's approval and local district council verification and approval.

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BC211794

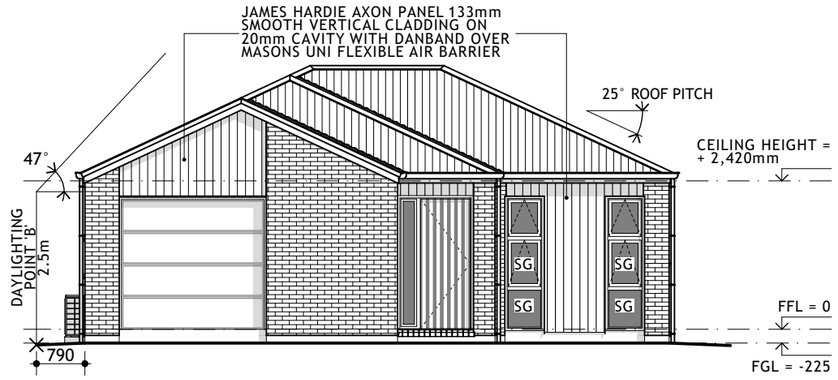
WAIMAKARIRI DISTRICT COUNCIL
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RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



NORTH ELEVATION

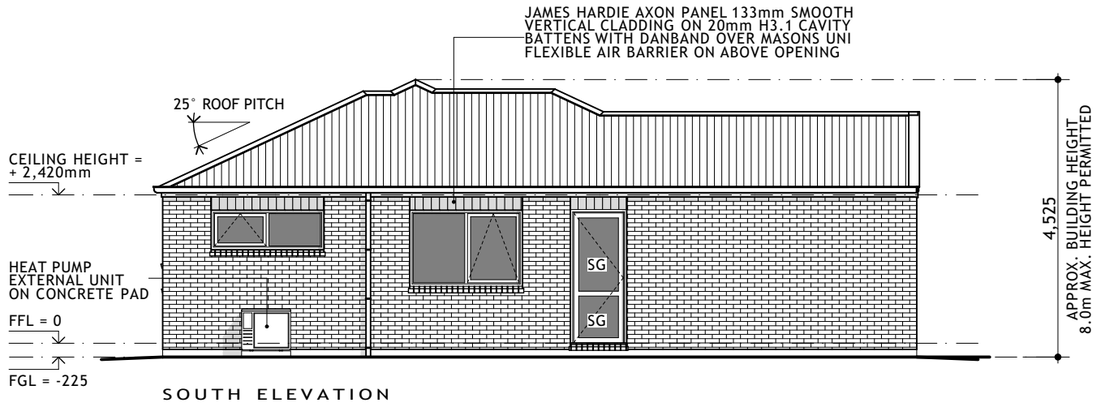


WEST ELEVATION



EAST ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**8**



SOUTH ELEVATION

press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 25 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20	**DESIGNER:** JLE	**SCALE:** 1:100	**SHEET:** 4
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					VERSION: PL-01	**CHECKED:**		

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PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 26 - BECKS STREET
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
COVER PAGE	01
SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





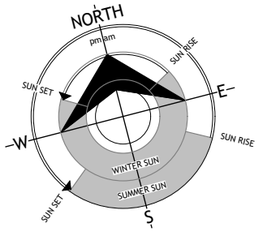
press design + drafting

DATE: 01 DEC 20	SHEET: 1/04
JOB #: 20073	

COVER PAGE

SCALE: NOT TO SCALE

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LOT 26 DP TBC
195m²

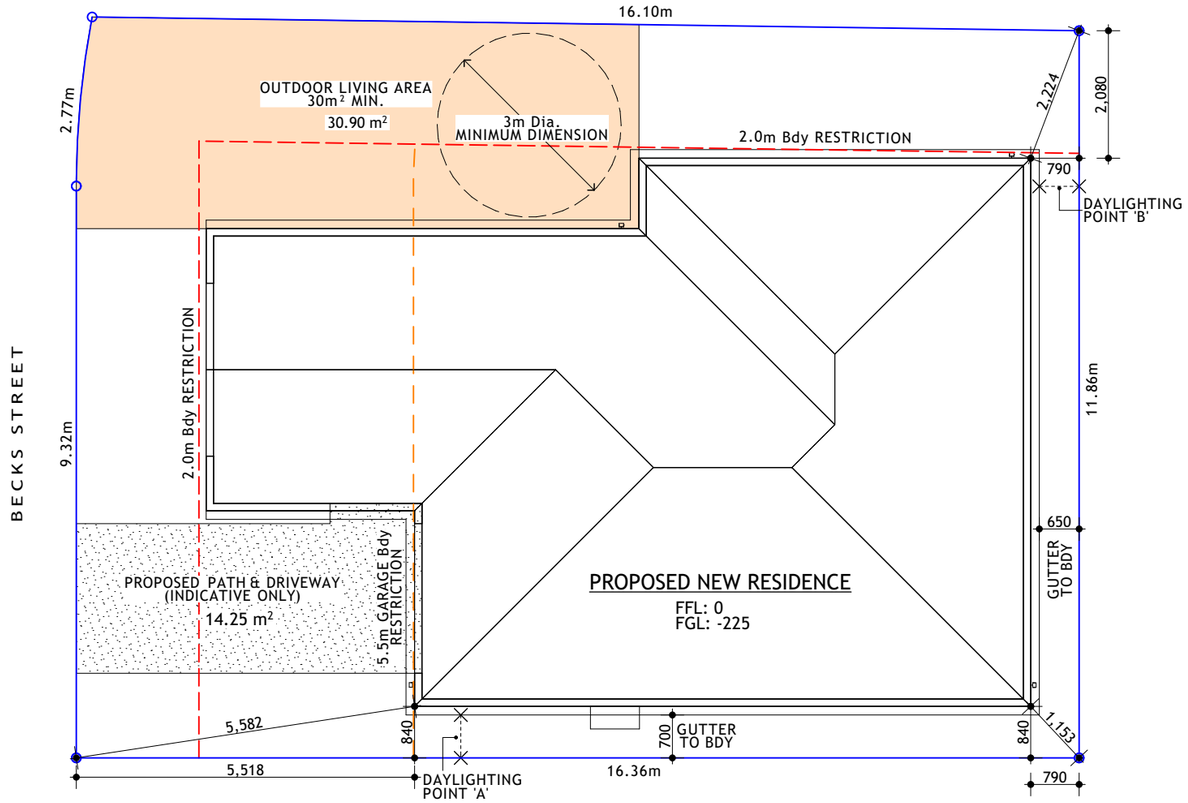
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	100.62m²
SITE COVERAGE:	51.60% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY. A BARRIER COMPLYING WITH TABLE 1 , NZBC F5/ AS1 IS AN ACCEPTABLE SOLUTION.

PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON/ MAIN PRIVATE STAIRWAYS TO BE 190mm .



press design + drafting

JOB TITLE: B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 26 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20	**DESIGNER:** BERT	**SCALE:** 1:100	**SHEET:** 2 / 04
				AMENDMENT DATE:	**DRAWN:**	**JOB#:** 20073	
				VERSION: PL-01	**CHECKED:**		

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
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APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
DWANGS @ 800mm crs
(SINGLE OR TOP STOREY)

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION

ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS

DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

- PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON / MAIN PRIVATE STAIRWAYS TO BE 190mm.

*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

TOTAL AREA OVER FRAME

LIVING AREA:	75.01m²
GARAGE AREA:	20.96m²
TOTAL AREA:	95.97m²
ROOF PLAN AREA:	101.28m²

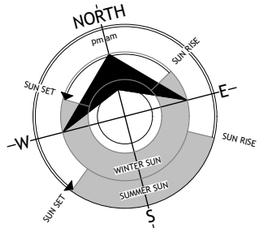
ADDITIONAL AREAS

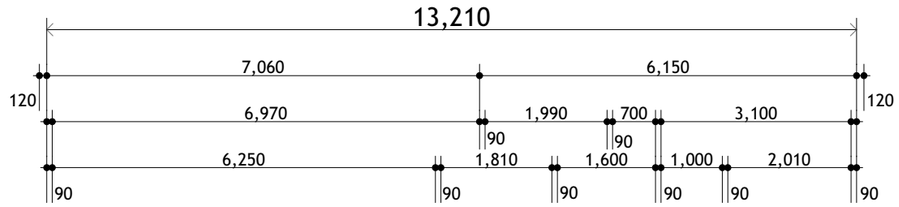
AREA OVER BRICK:	100.62m²

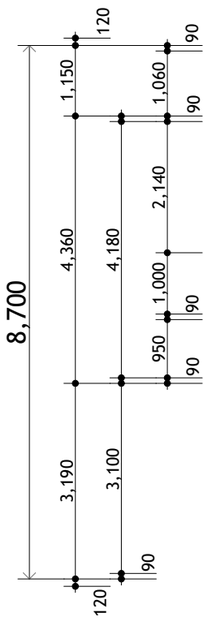
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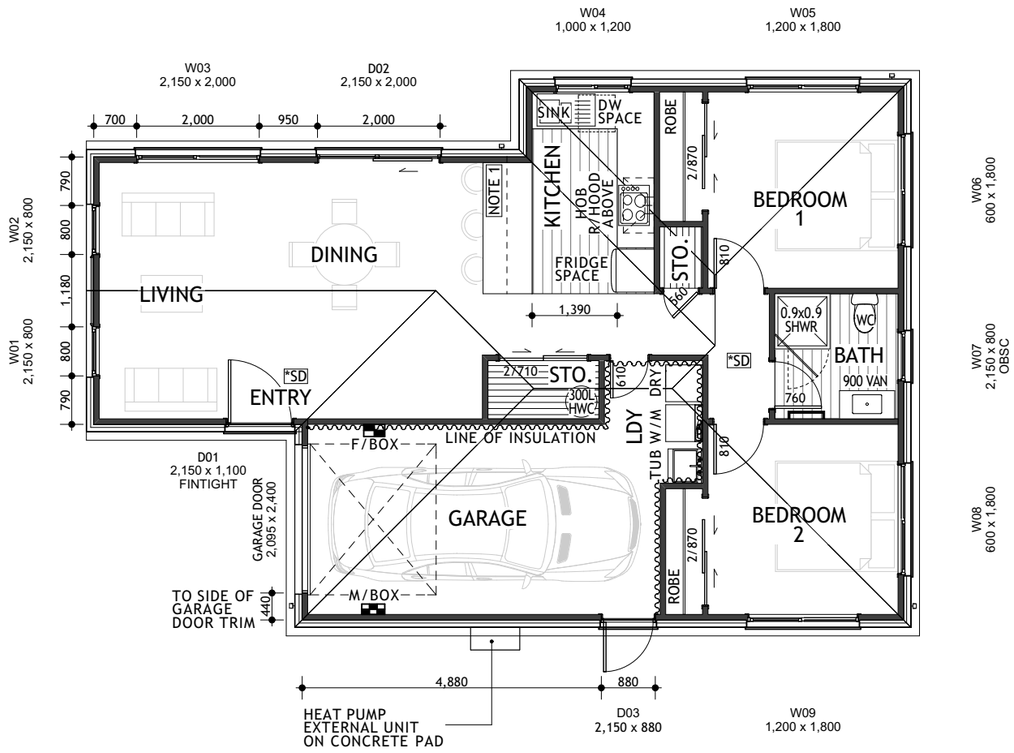
NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAINED IN A HYGIENIC CONDITION

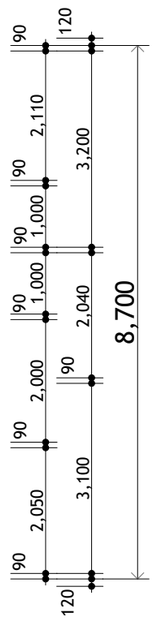
- ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030mm HIGH

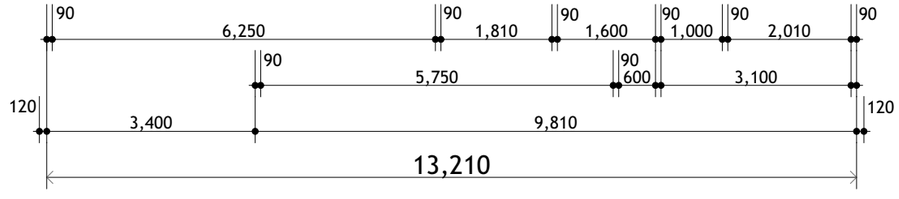








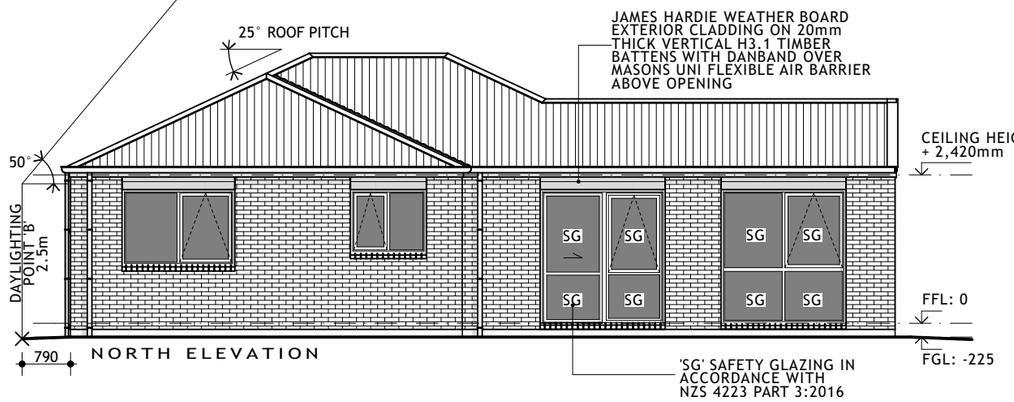


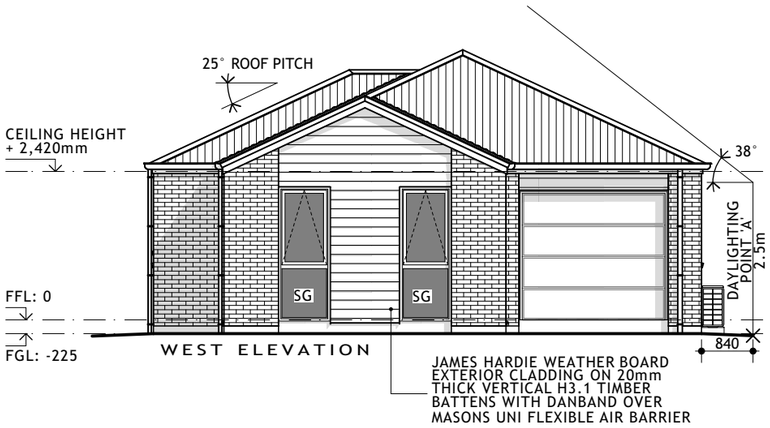


JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: FLOOR PLAN	LEGAL DESCRIPTION: LOT: 26 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	DATE OF ISSUE: 01 DEC 20	DESIGNER: BERT	SCALE: 1:100	SHEET: 3 / 04
				AMENDMENT DATE:	DRAWN:	JOB#: 20073	
				VERSION: PL-01	CHECKED:		

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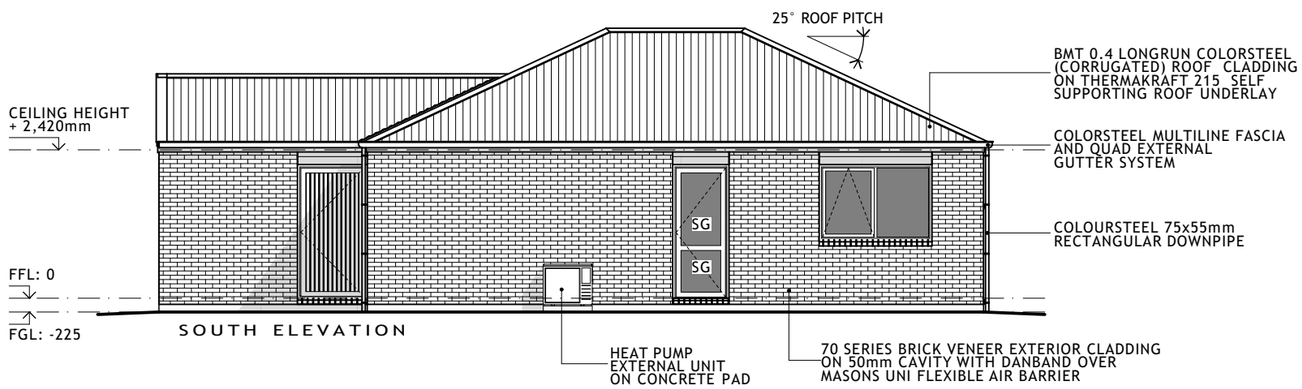
WAIMAKARIRI DISTRICT COUNCIL
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RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021







BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**8**



Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 26 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** BERT **DRAWN:** **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

BC211794

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 27 - BECKS STREET
AT
SILVERSTREAM KAIAPOI

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SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





Xpress design + drafting

Date: 01 DEC 20	SHEET: 1/04
Job #: 20073	

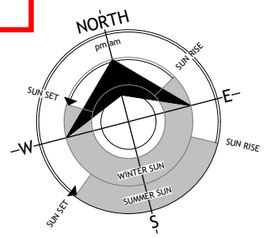
COVER PAGE

SCALE: NOT TO SCALE

NOTE: This Plan is subject to developer's approval and local district council verification and approval.

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RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LOT 27 DP TBC
218m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	101.07m²
SITE COVERAGE:	46.36% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

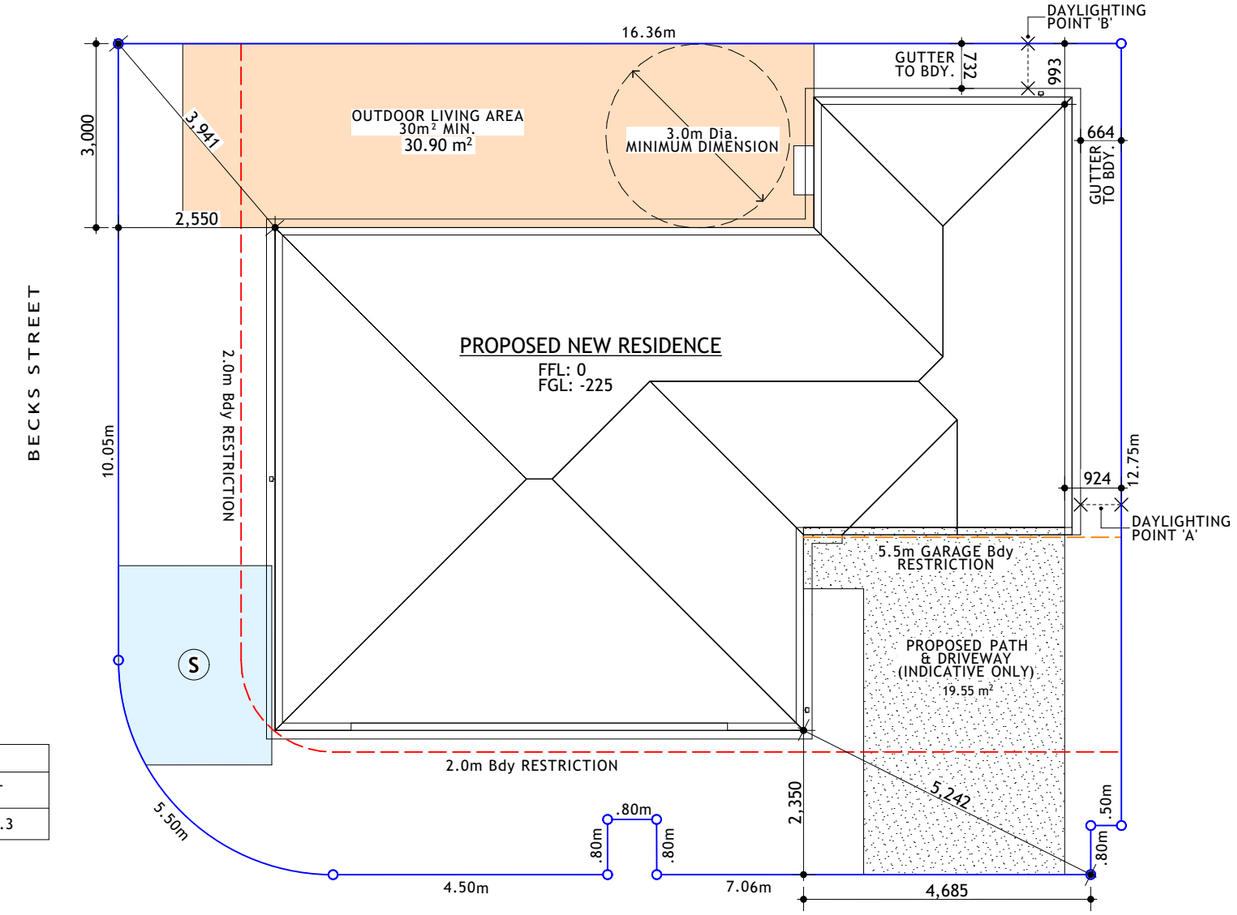
NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY. A BARRIER COMPLYING WITH TABLE 1 , NZBC F5/ AS1 IS AN ACCEPTABLE SOLUTION.

PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON/ MAIN PRIVATE STAIRWAYS TO BE 190mm .

EXISTING EASEMENT

NATURE	BURDENED LAND		DOCUMENT
	LOT NO	SHOWN	
RIGHT TO CONVEY ELECTRICITY (IN GROSS)	LOT 27	S	EI 11370712.3



press design + drafting	JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: SITE PLAN	LEGAL DESCRIPTION: LOT: 27 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	DATE OF ISSUE: 01 DEC 20 / AMENDMENT DATE: / VERSION: PL-01	DESIGNER: / DRAWN: DMG / CHECKED:	SCALE: 1:100 / JOB#: 20073	SHEET: 2 / 04

NOTE: This Plan is subject to developer's approval and local district council verification and approval.

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
DWANGS @ 800m crs MAX.
(SINGLE OR TOP STOREY)

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800m crs MAX.

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION

ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS

DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

INDICATES GARAGE CARPET FLOORING

- PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON / MAIN PRIVATE STAIRWAYS TO BE 190mm.

*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

TOTAL AREA OVER FRAME

LIVING AREA:	72.38m²
GARAGE AREA:	23.67m²
TOTAL AREA:	96.05m²
ROOF PLAN AREA:	101.58m²

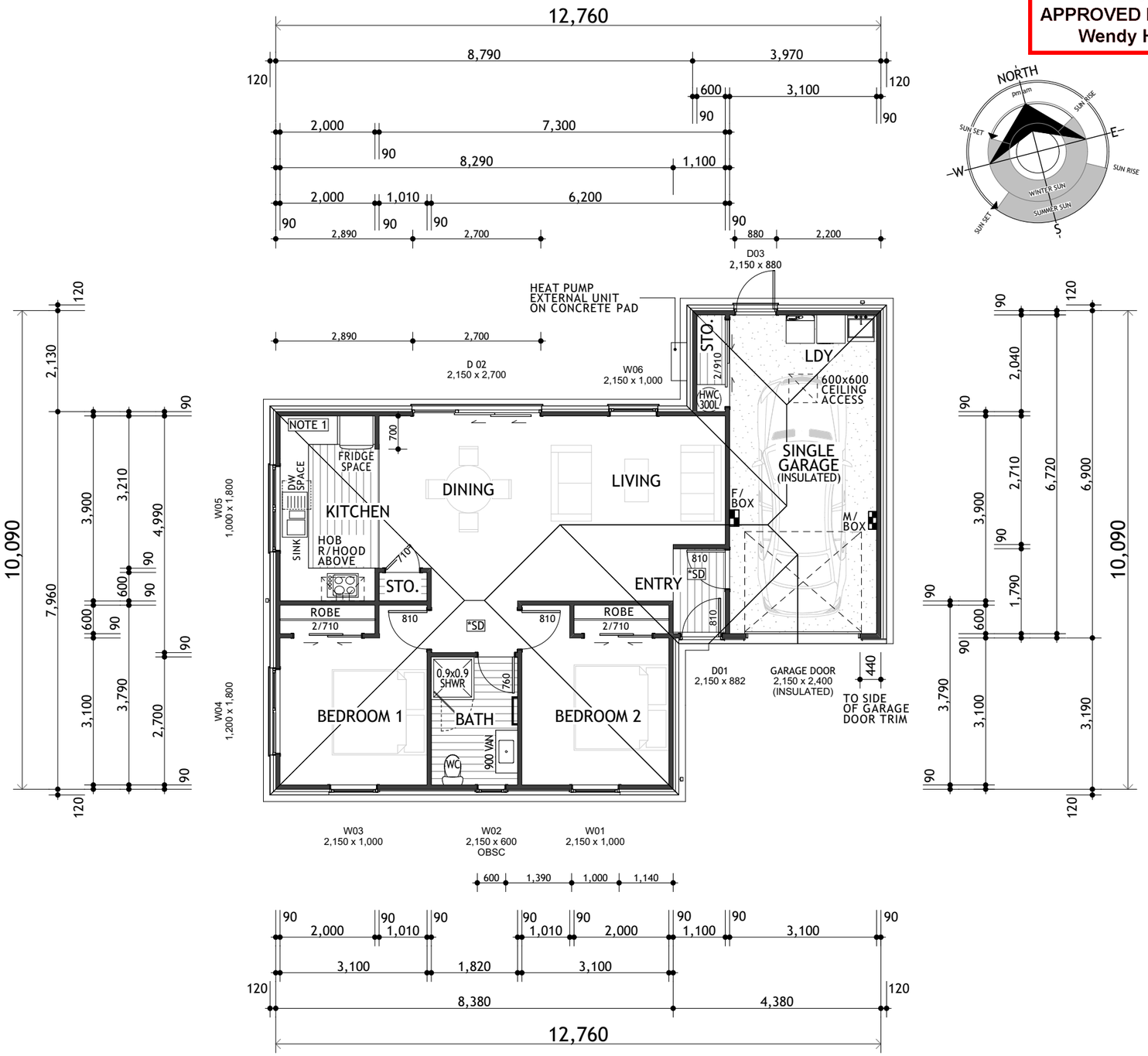
ADDITIONAL AREA

AREA OVER BRICK :	101.07m²

NOTES

NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAINED IN A HYGIENIC CONDITION

-ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030mm HIGH



xpress design + drafting	JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: FLOOR PLAN	LEGAL DESCRIPTION: LOT: 27 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	DATE OF ISSUE: 01 DEC 20 / AMENDMENT DATE: / VERSION: PL-01	DESIGNER: / DRAWN: DMG / CHECKED:	SCALE: 1:100 / JOB#: 20073	SHEET: 3 / 04

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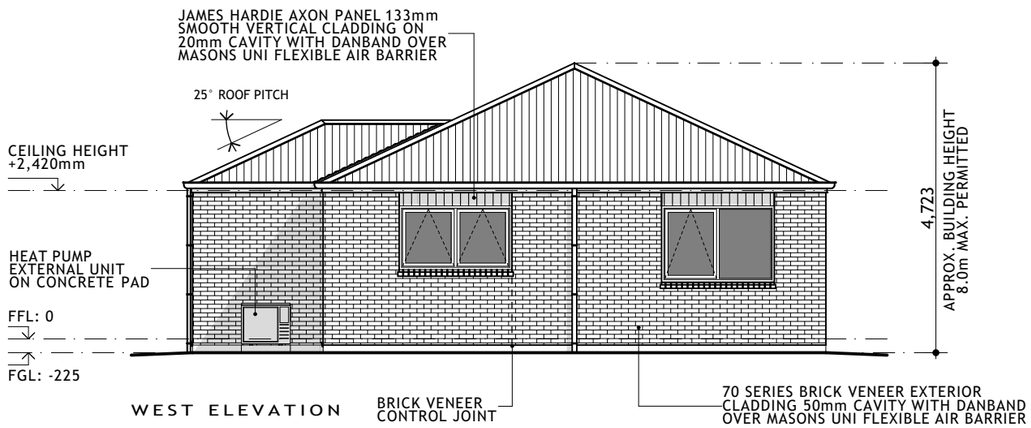
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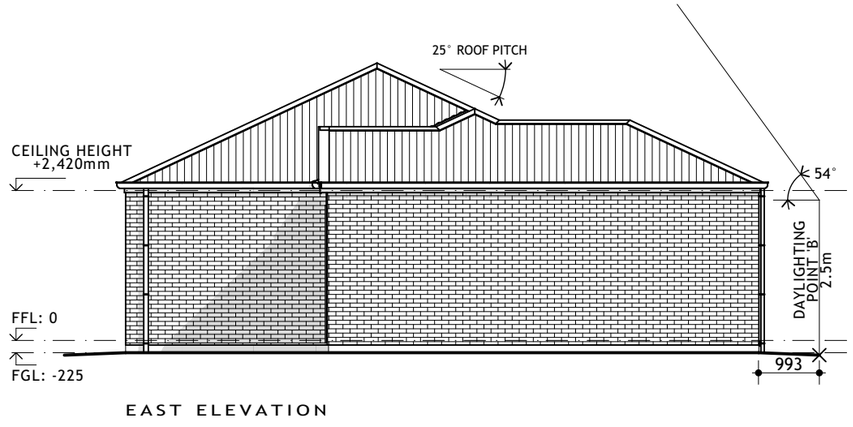
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- APPROVED APPLICATION -
RC205207 / RC205208
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Wendy Harris 21/01/2021



NORTH ELEVATION

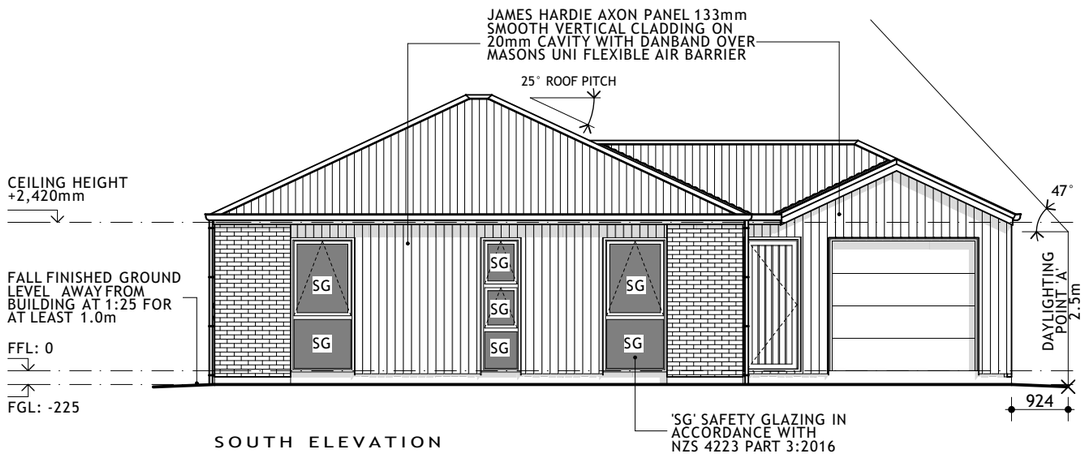


WEST ELEVATION



EAST ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**8**



SOUTH ELEVATION

press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 27 DP: TBC ADDRESS: SILVERSTREAM KAIAPOI	NOTES: - Subject to council approval - All measurements to be confirmed on site by the contractor prior to the commencement of work. - All construction to comply with the NZBC/NZS:3604, alongside with all standards alike.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** **DRAWN:** DMG **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 28 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
COVER PAGE	01
SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





press design + drafting

DATE:	01 DEC 20	SHEET:	1/04
JOB #:	20073		

COVER PAGE

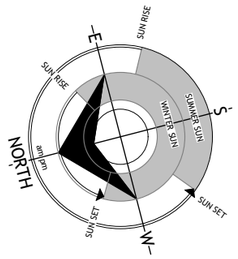
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NOTE: This Plan is subject to developer's approval and local district council verification and approval.

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
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Wendy Harris 21/01/2021



LOT 28 DP TBC
264m²

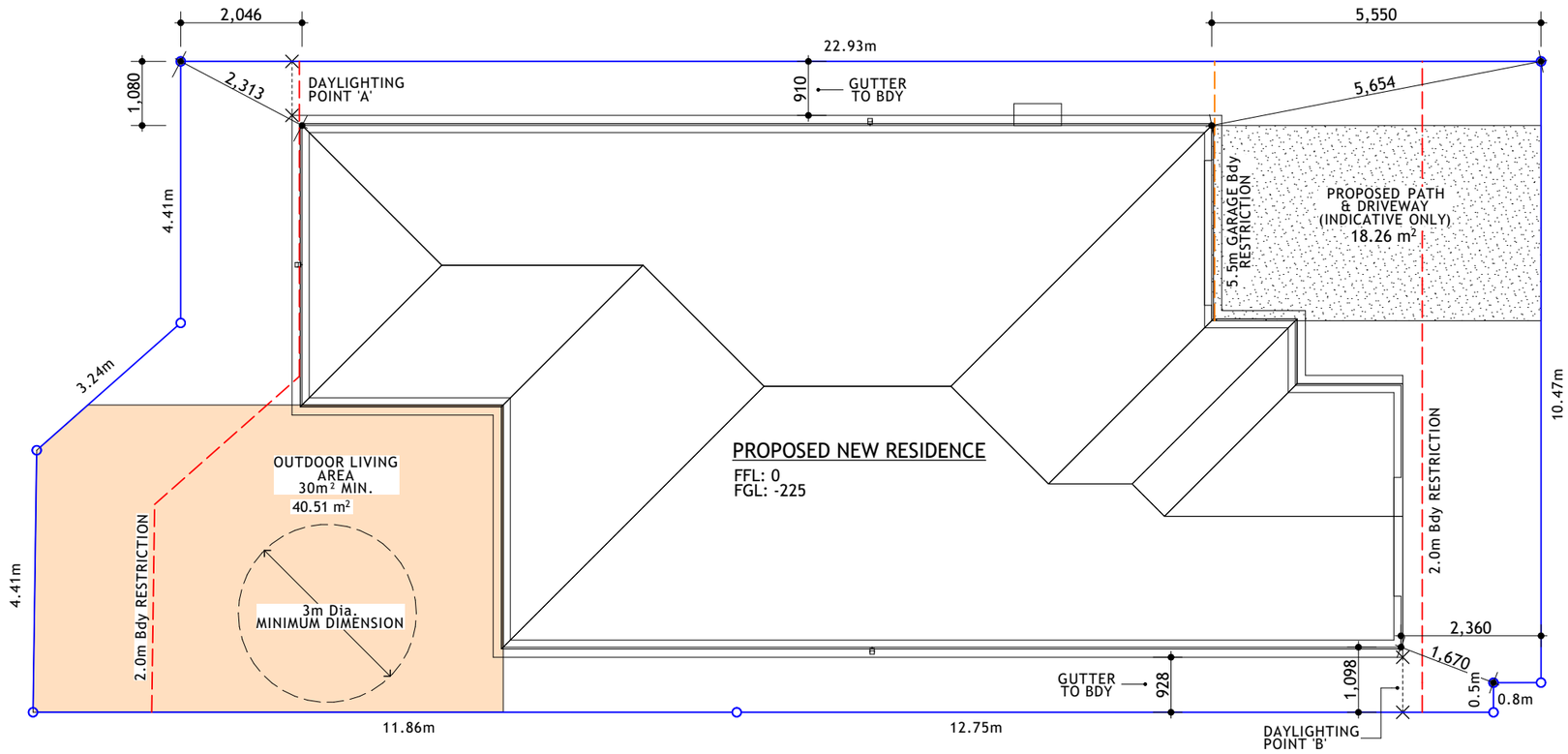
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	135.99m²
SITE COVERAGE:	51.51% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY. A BARRIER COMPLYING WITH TABLE 1 , NZBC F5/ AS1 IS AN ACCEPTABLE SOLUTION.

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press design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 28 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 2 / 04

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WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
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APPROVED by Authorised Officer
Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION

ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS

DOUBLE GLAZING TO ALL EXTERIOR JOINERY, EXCLUDING GARAGE SPACE

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

- PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON / MAIN PRIVATE STAIRWAYS TO BE 190mm.

*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

TOTAL AREA OVER FRAME

LIVING AREA:	111.64m²
GARAGE AREA:	18.39m²
TOTAL AREA:	130.92m²
ROOF PLAN AREA:	138.17m²

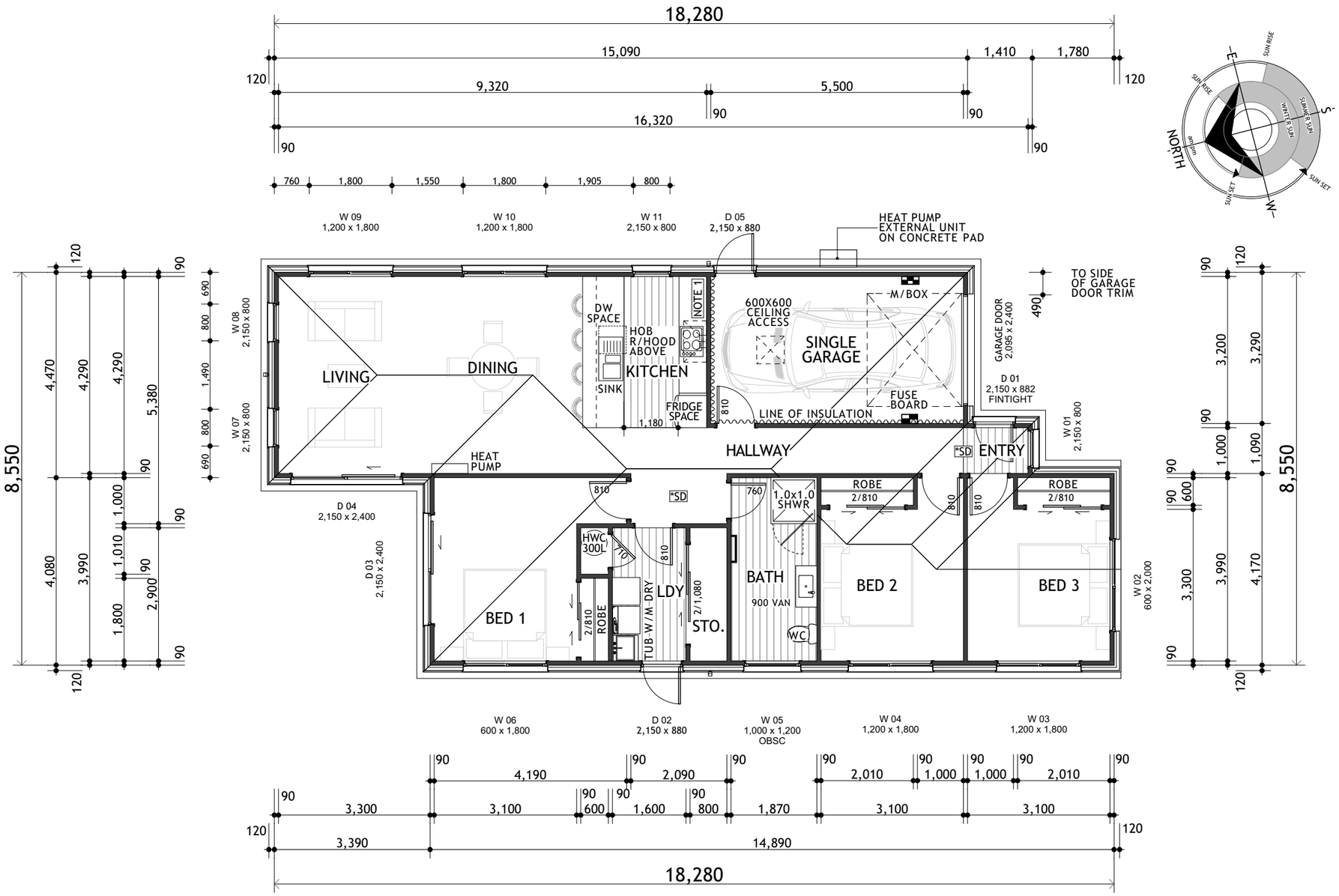
ADDITIONAL AREAS

AREA OVER BRICK:	135.99m²

NOTES

NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAIN IN A HYGIENIC CONDITION

ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030mm HIGH



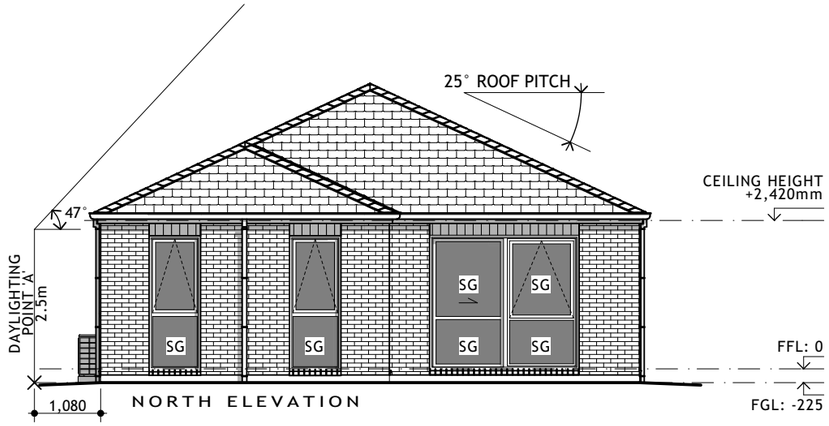
JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: FLOOR PLAN	LEGAL DESCRIPTION: LOT: 28 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	NOTES: Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	DATE OF ISSUE: 01 DEC 20	DESIGNER: JAM	SCALE: 1:100	SHEET: 3 / 04
				AMENDMENT DATE:	DRAWN: JAM	JOB#: 20073	
				VERSION: PL-01	CHECKED:		

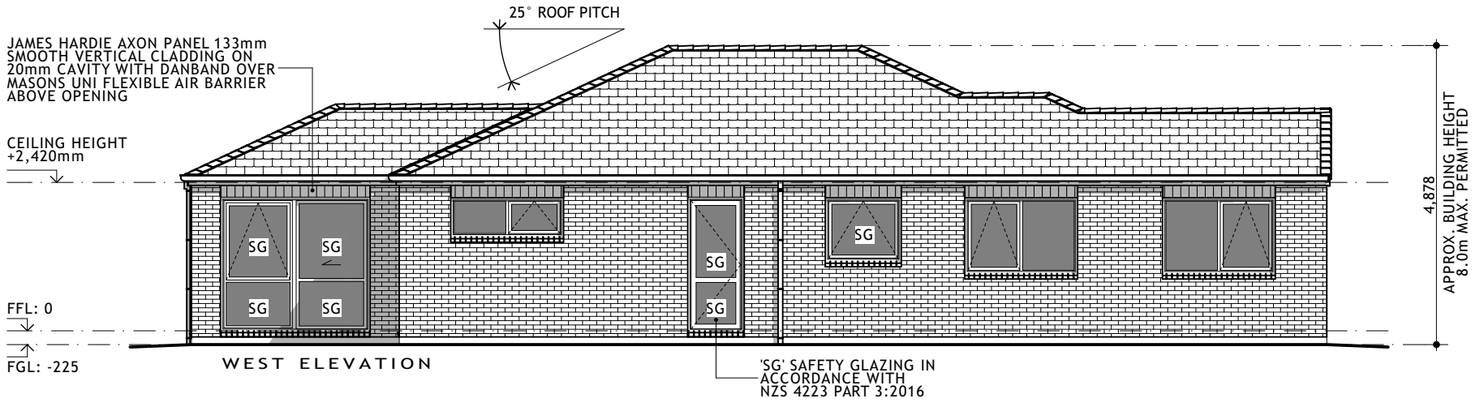
NOTE: This Plan is subject to developer's approval and local district council verification and approval.

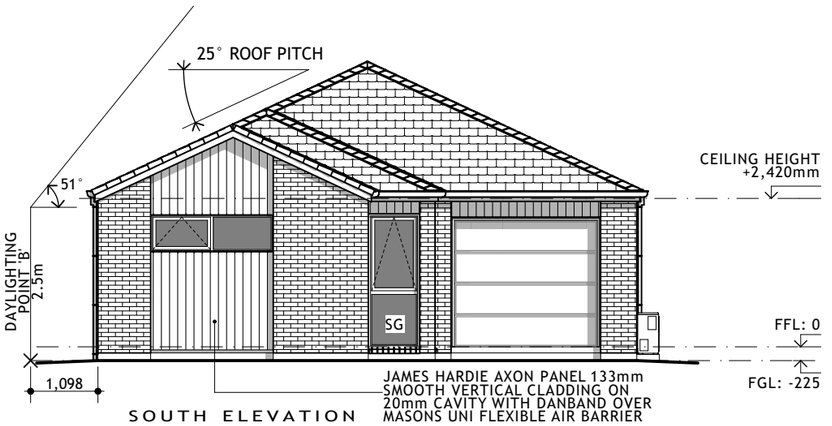
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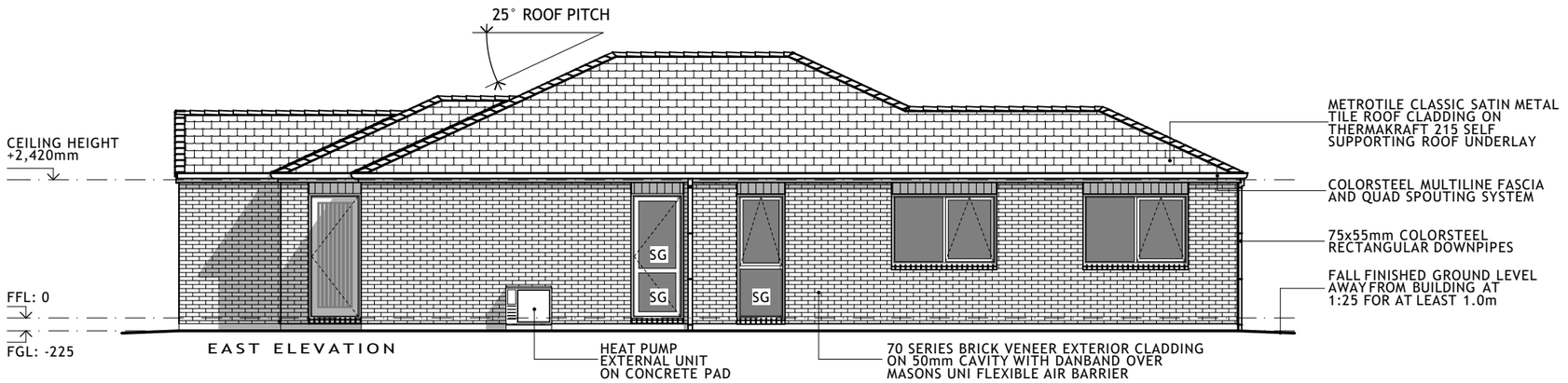
WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021







BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Low risk	0
Eaves width	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**3**



Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 28 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 29 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
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SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





press design + drafting

DATE:	01 DEC 20	SHEET:	1/04
JOB #:	20073		

COVER PAGE

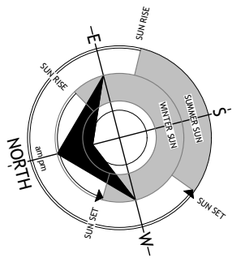
SCALE: NOT TO SCALE

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LOT 29 DP TBC
248m²

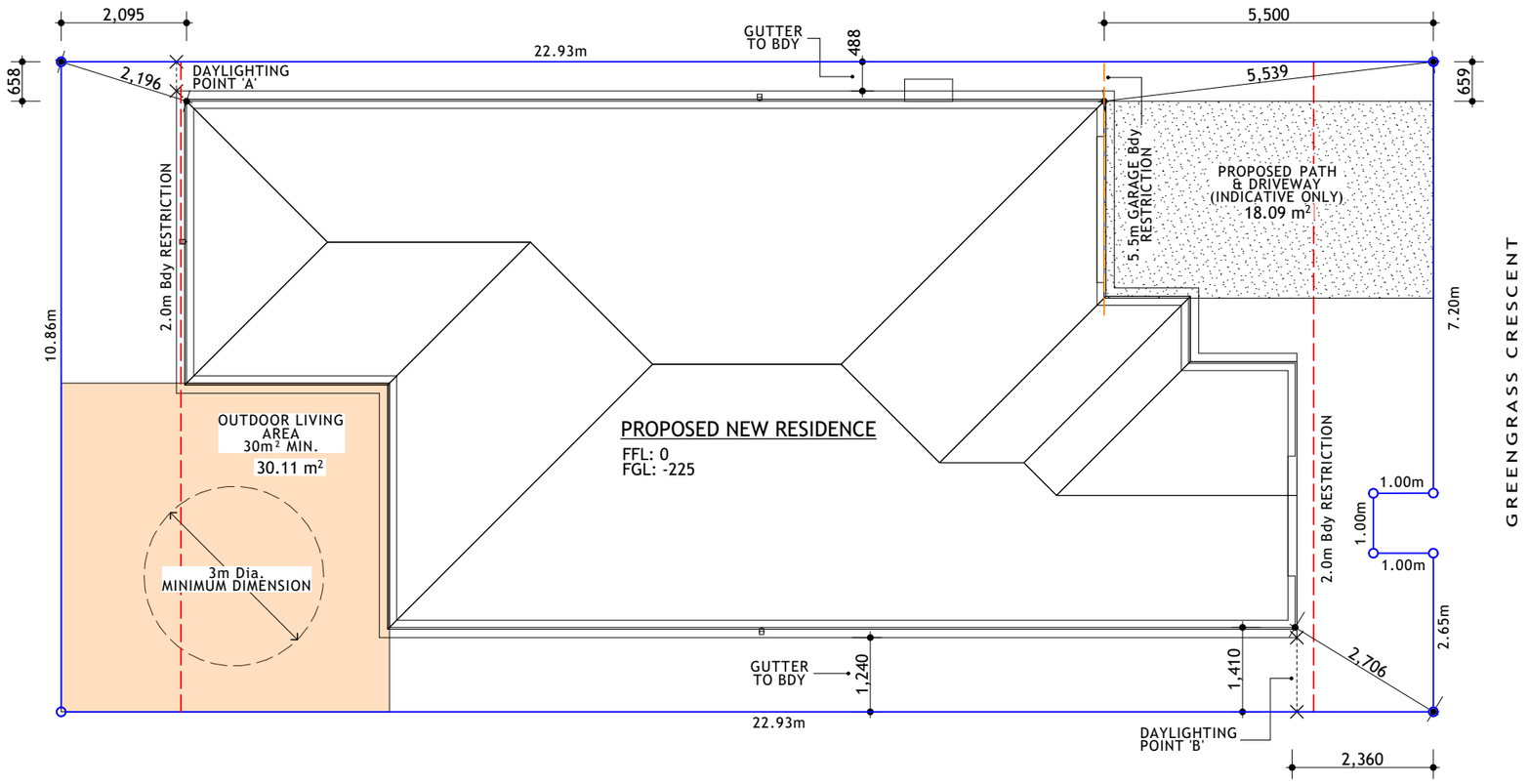
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	135.99m²
SITE COVERAGE:	54.83% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

IF A WORK SITE IS NOT COMPLETELY ENCLOSED AND UNAUTHORISED ENTRY BY CHILDREN IS LIKELY, IT IS ACCEPTABLE FOR SPECIFIC HAZARDS TO BE FENCED ONLY WHEN WORKERS ARE ABSENT FROM THE IMMEDIATE VICINITY WHERE A POTENTIAL HAZARD AT A WORK SITE MAKES A SAFETY BARRIER NECESSARY, A BARRIER COMPLYING WITH TABLE 1 , NZBC F5/ AS1 IS AN ACCEPTABLE SOLUTION.

PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON/ MAIN PRIVATE STAIRWAYS TO BE 190mm .



Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 29 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** PL-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 2 / 04

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- APPROVED APPLICATION -
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Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

NOTES
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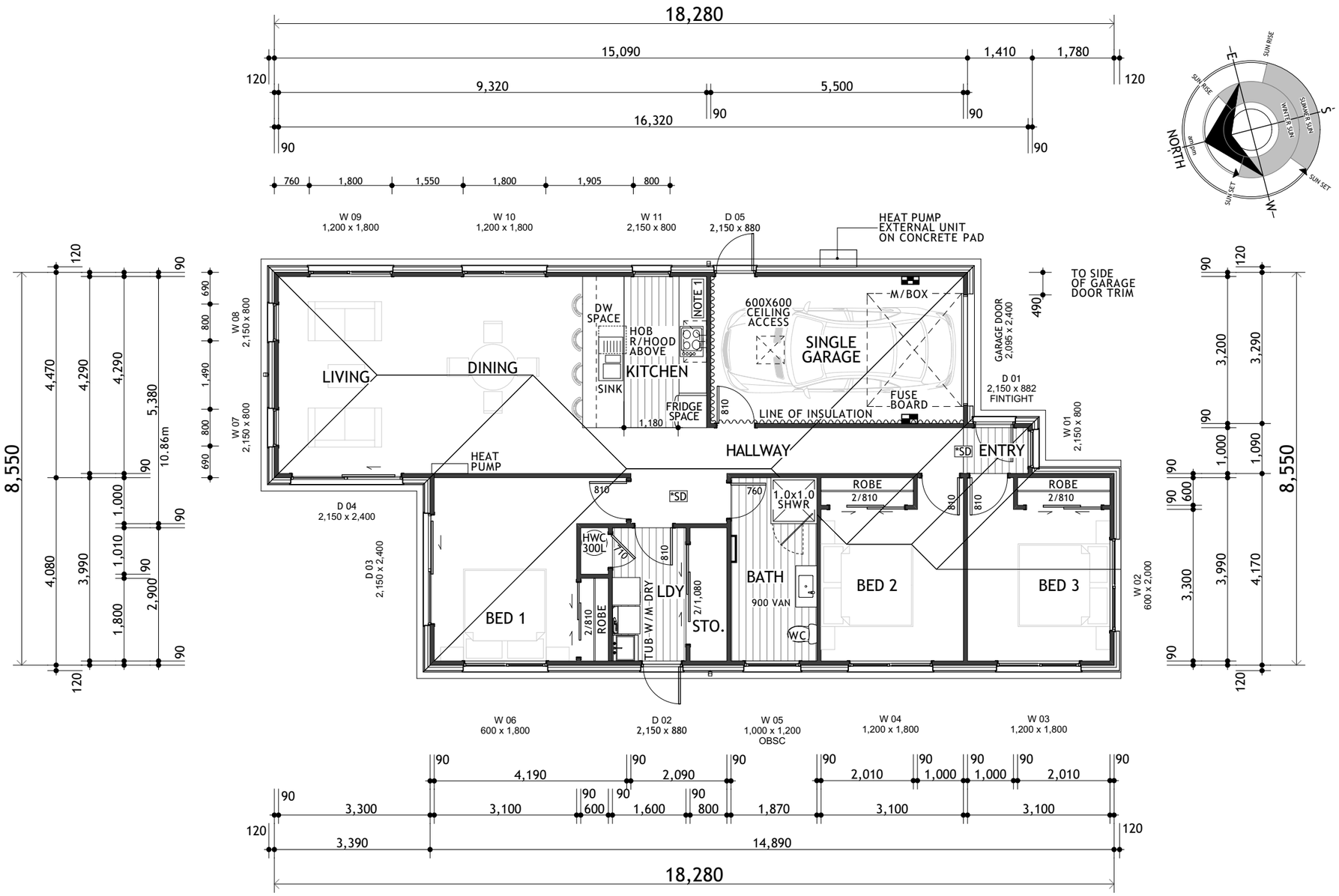
ADDITIONAL AREAS

AREA OVER BRICK:	135.99m²

NOTES

NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAIN IN A HYGIENIC CONDITION

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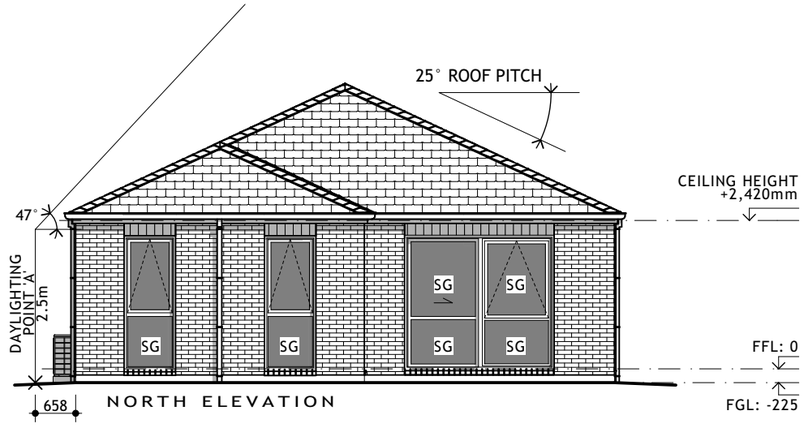
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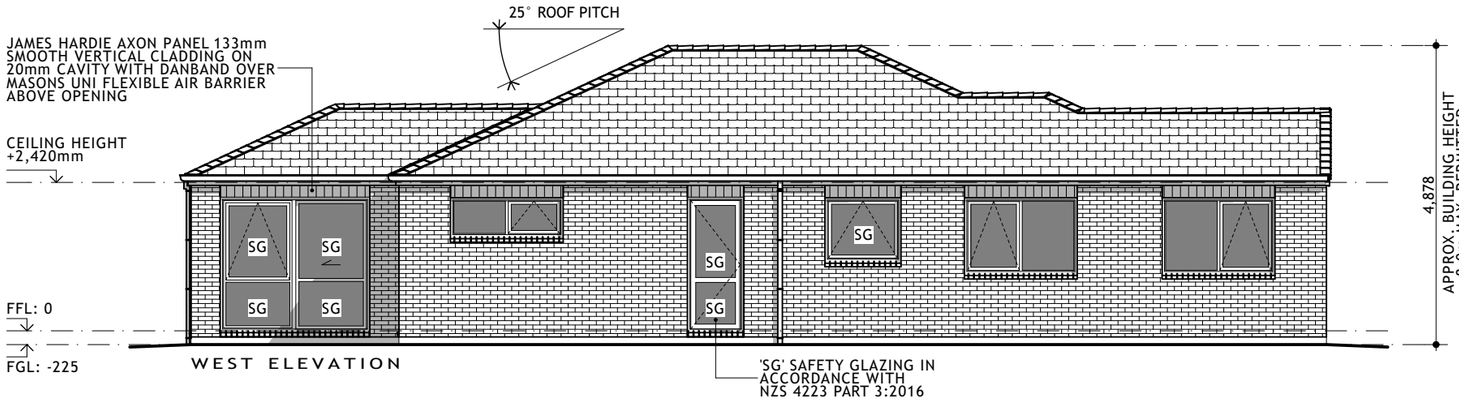
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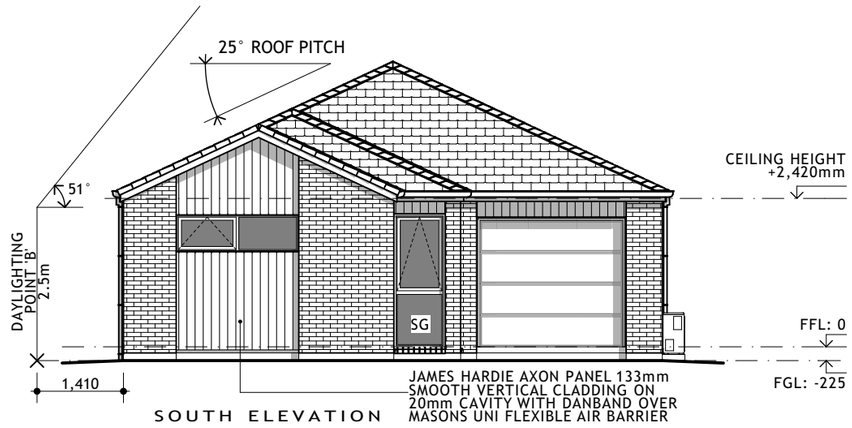
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- APPROVED APPLICATION -
RC205207 / RC205208
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Wendy Harris 21/01/2021



NORTH ELEVATION

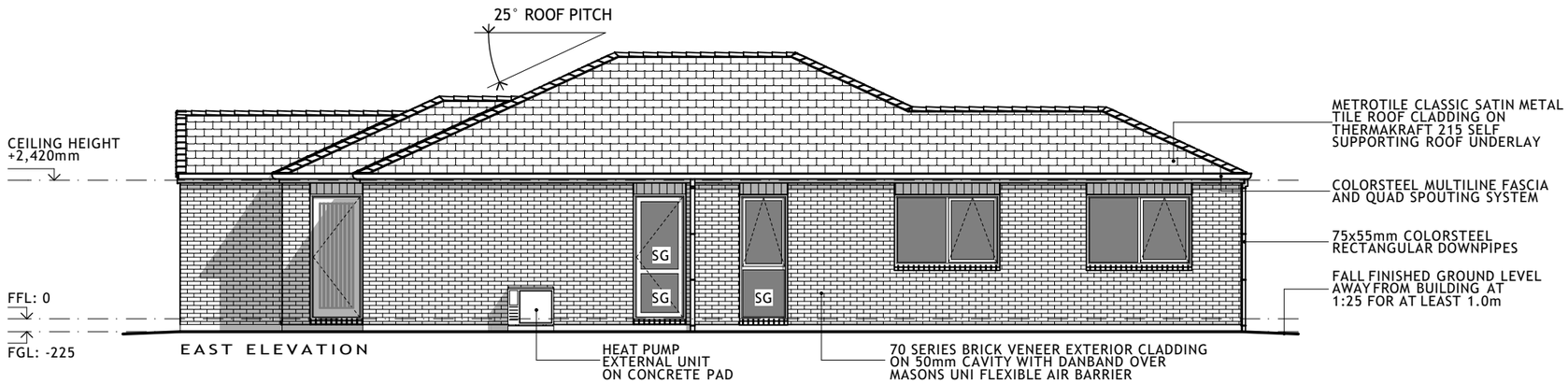


WEST ELEVATION



SOUTH ELEVATION

BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Low risk	0
Eaves width	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**3**



EAST ELEVATION

Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 29 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 / **AMENDMENT DATE:** / **VERSION:** PL-01	**DESIGNER:** JAM / **DRAWN:** JAM / **CHECKED:**	**SCALE:** 1:100 / **JOB#:** 20073	**SHEET:** 4 / 04

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 30 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI





PLAN SET INDEX	SHEET
COVER PAGE	01
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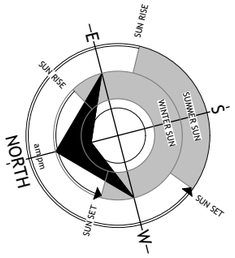
Xpress design + drafting

DATE:	01 DEC 20	SHEET: 1/04
JOB #:	20073	

COVER PAGE

SCALE: NOT TO SCALE

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- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021



LOT 30 DP TBC
218m²

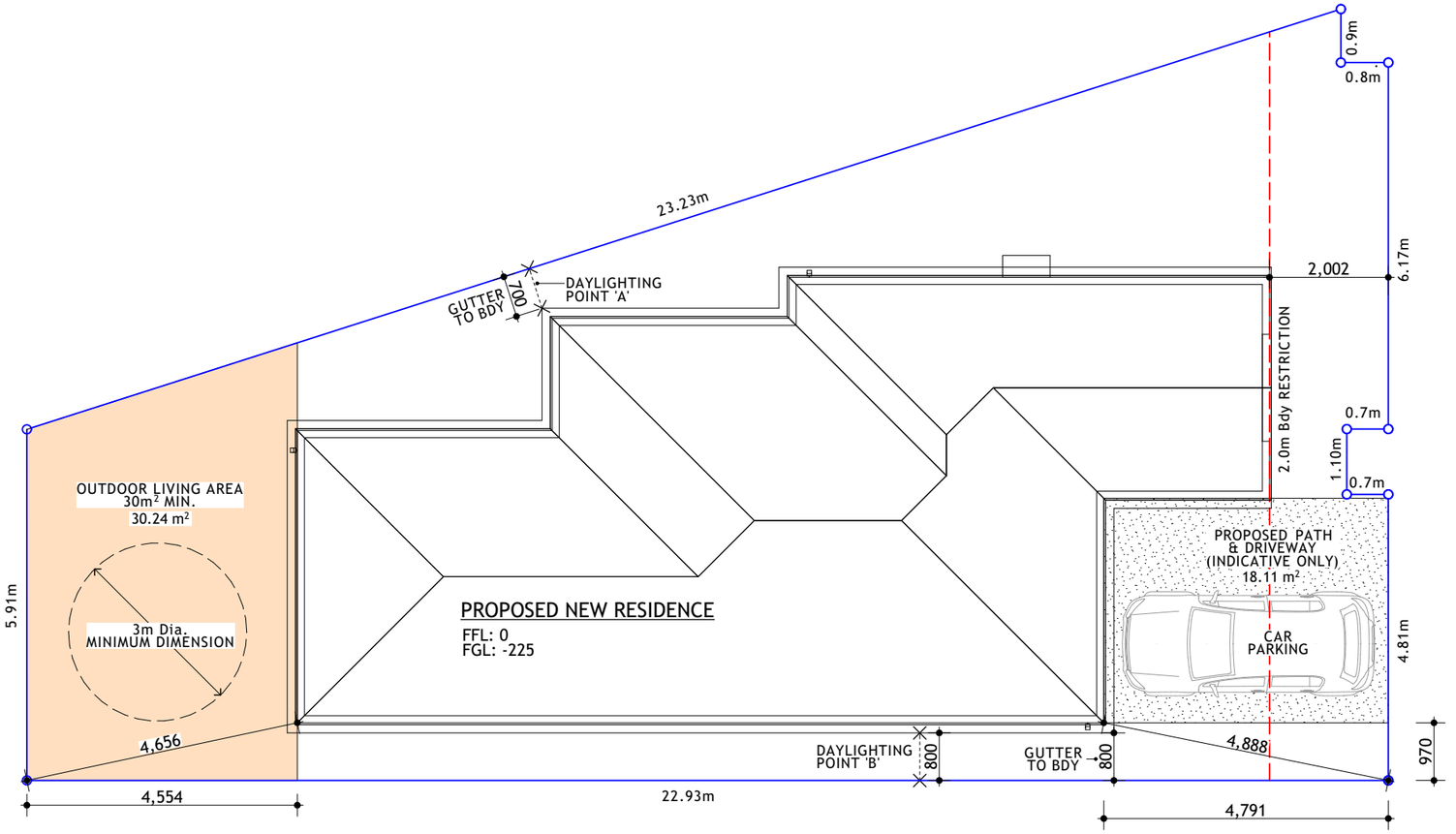
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	98.19m²
SITE COVERAGE:	45.04% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

NOTE: HAZARD MANAGEMENT TEMPORARY FENCING

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Xpress design + drafting	JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: SITE PLAN	LEGAL DESCRIPTION: LOT: 30 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	NOTES: Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	DATE OF ISSUE: 01 DEC 20 AMENDMENT DATE: VERSION: SC-01	DESIGNER: JAM DRAWN: JAM CHECKED:	SCALE: 1:100 JOB#: 20073	SHEET: 2/04

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BC211794

WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
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Wendy Harris 21/01/2021

EXTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
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*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

TOTAL AREA OVER FRAME

LIVING AREA:	92.74m²
ROOF PLAN AREA:	99.84m²

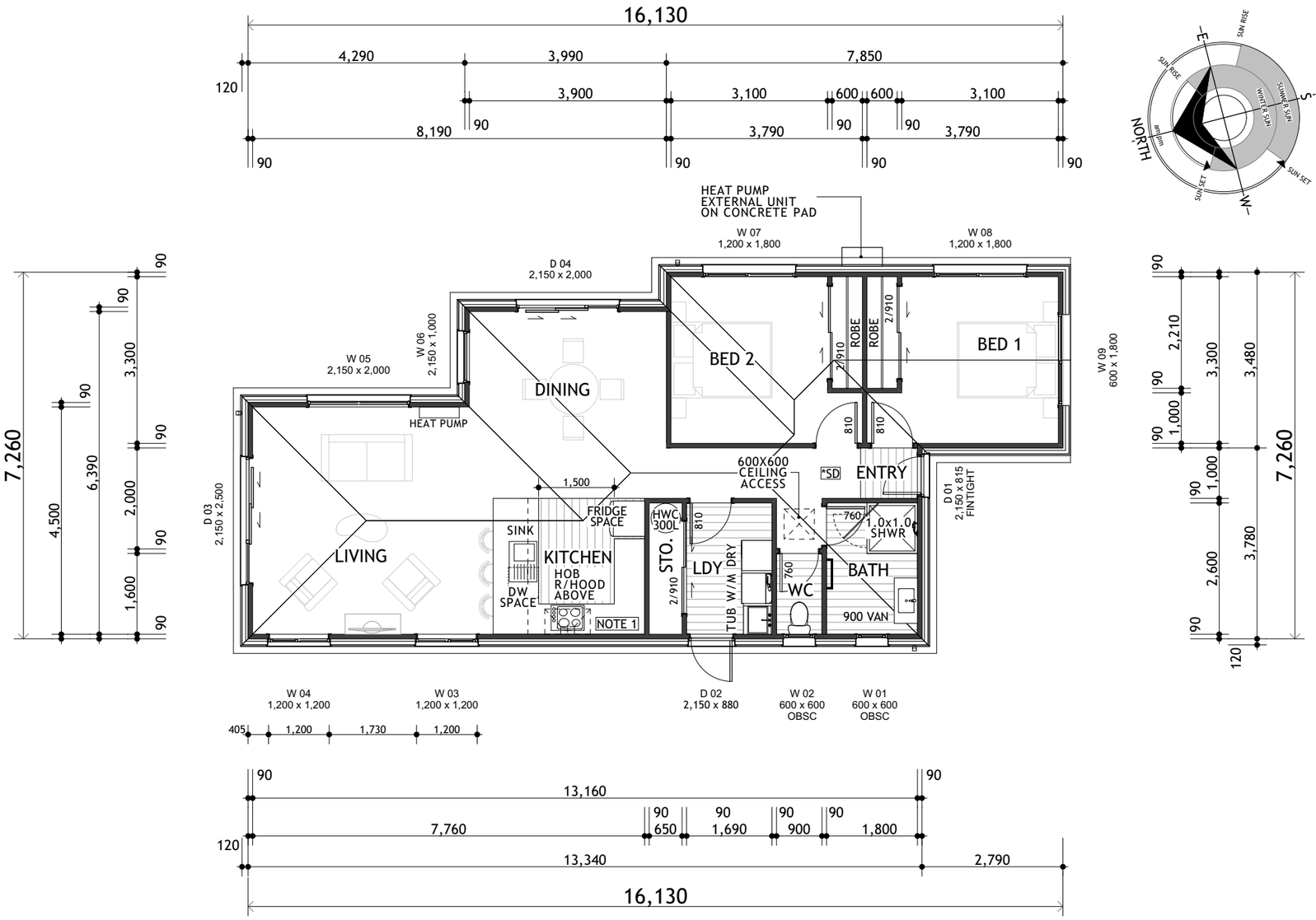
ADDITIONAL AREAS

AREA OVER BRICK:	98.19m²

NOTES

NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAIN IN A HYGIENIC CONDITION

ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030mm HIGH



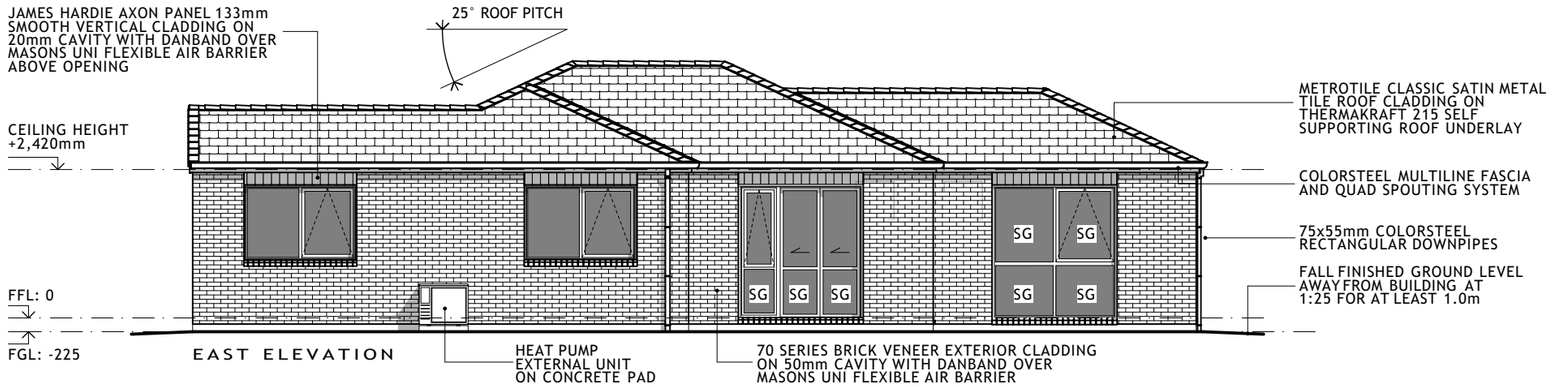
press design + drafting	JOB TITLE: B9 DEVELOPMENT CONCEPT	DRAWING TITLE: FLOOR PLAN	LEGAL DESCRIPTION: LOT: 30 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	NOTES: Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	DATE OF ISSUE: 01 DEC 20 / AMENDMENT DATE: / VERSION: SC-01	DESIGNER: JAM / DRAWN: JAM / CHECKED:	SCALE: 1:100 / JOB#: 20073	SHEET: 3 / 04

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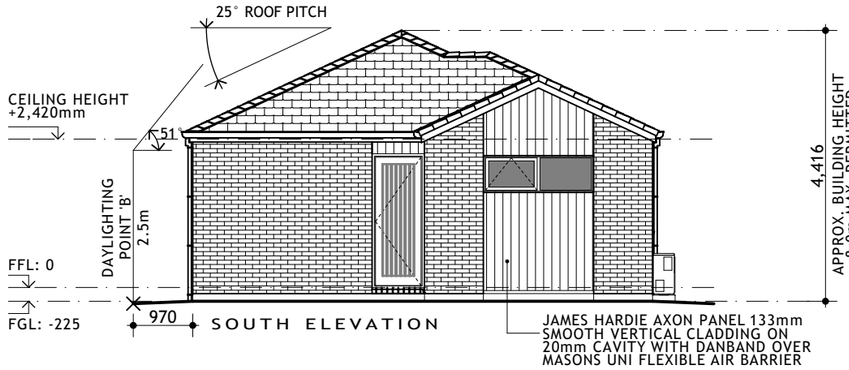
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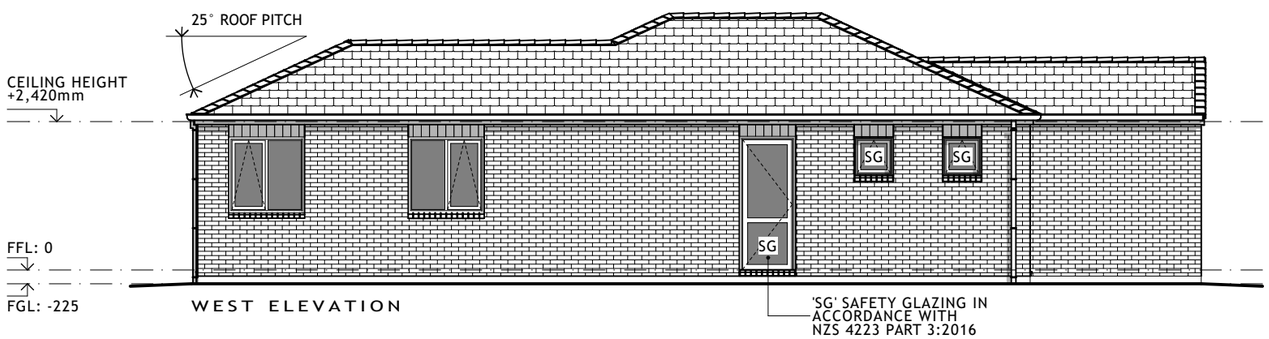
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Wendy Harris 21/01/2021





BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**8**





Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 30 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** SC-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

PROPOSED NEW DWELLING
FOR
B9 DEVELOPMENT
LOT 31 - GREENGRASS CRES.
AT
SILVERSTREAM KAIAPOI

PLAN SET INDEX	SHEET
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SITE PLAN	02
FLOOR PLAN	03
ELEVATIONS	04





press design + drafting

DATE:	01 DEC 20	SHEET:	1/04
JOB #:	20073		

COVER PAGE

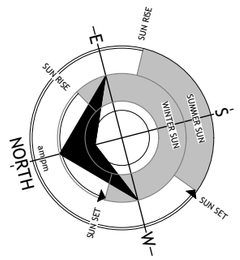
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Wendy Harris 21/01/2021



LOT 31 DP TBC
295m²

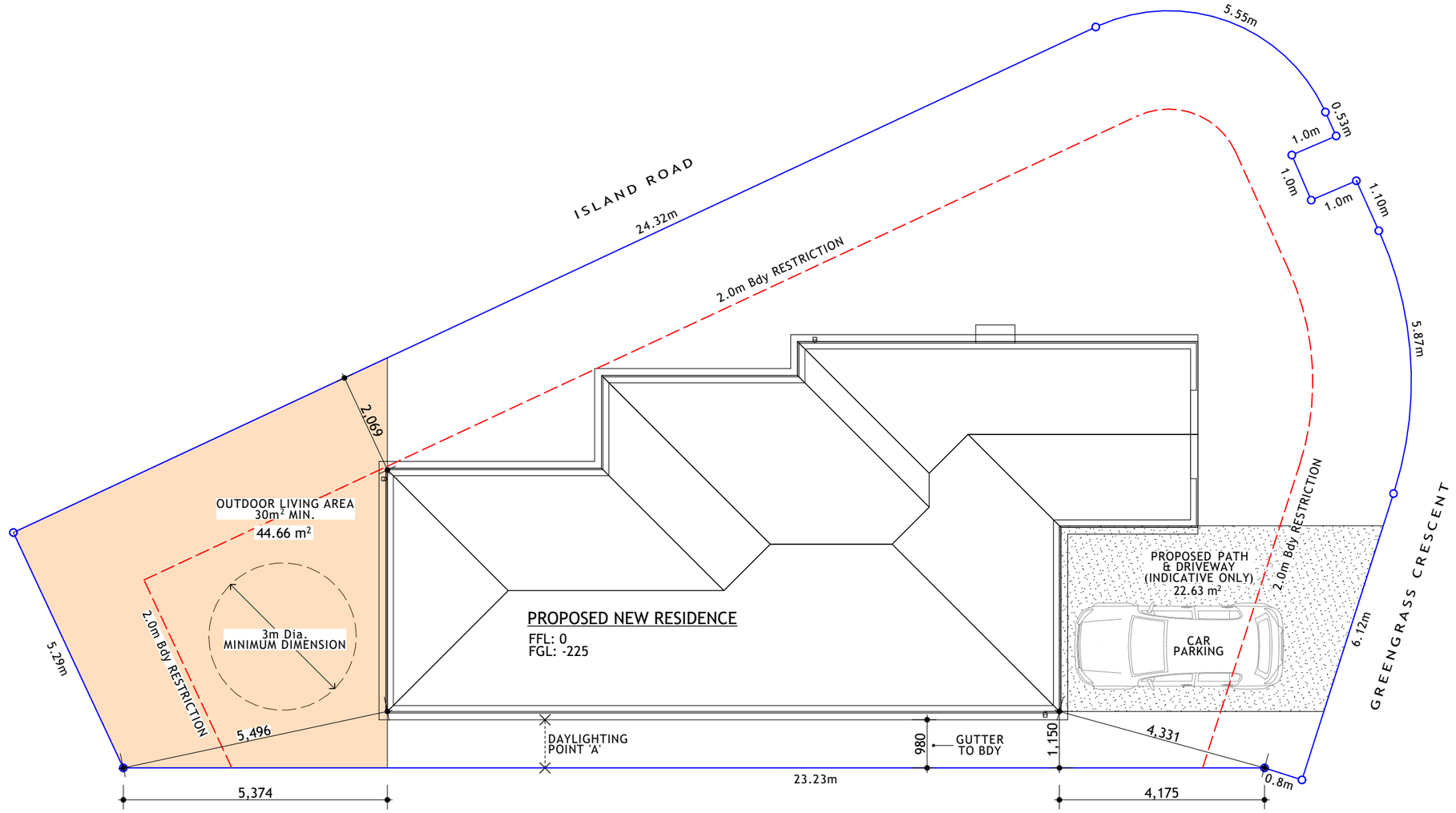
WIND ZONE	HIGH
EARTHQUAKE ZONE	2
EXPOSURE ZONE	C
SNOW LOADING	N4
BUILDING FOOTPRINT:	98.68m²
SITE COVERAGE:	33.45% (TBC MAX)

RESIDENTIAL LIVING Z
WAIMAKARIRI DISTRICT COUNCIL

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Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** SITE PLAN	**LEGAL DESCRIPTION:** LOT: 31 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** SC-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 2 / 04

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BC211794

WAIMAKARIRI DISTRICT COUNCIL
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EXTERIOR FRAMING
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(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

INTERIOR FRAMING
90x45 STUDS UP TO 2.42m - AT 600mm crs
(SINGLE OR TOP STOREY)

DWANGS @ 800mm crs

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION

ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS

DOUBLE GLAZING TO ALL EXTERIOR JOINERY

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS AND BE SEALED WITH A WATERPROOF APPLIED COATING

- PATIO AND PAVING TO FRONT DOOR TO COMPLY WITH NZBC D1 2.1 SLIP RESISTANCE TABLE 2. MAXIMUM STEP HEIGHT TO COMMON / MAIN PRIVATE STAIRWAYS TO BE 190mm.

*SD SMOKE DETECTOR WITH HUSH BUTTON

TOWEL RAIL

TOTAL AREA OVER FRAME

LIVING AREA:	93.20m²
ROOF PLAN AREA:	106.60m²

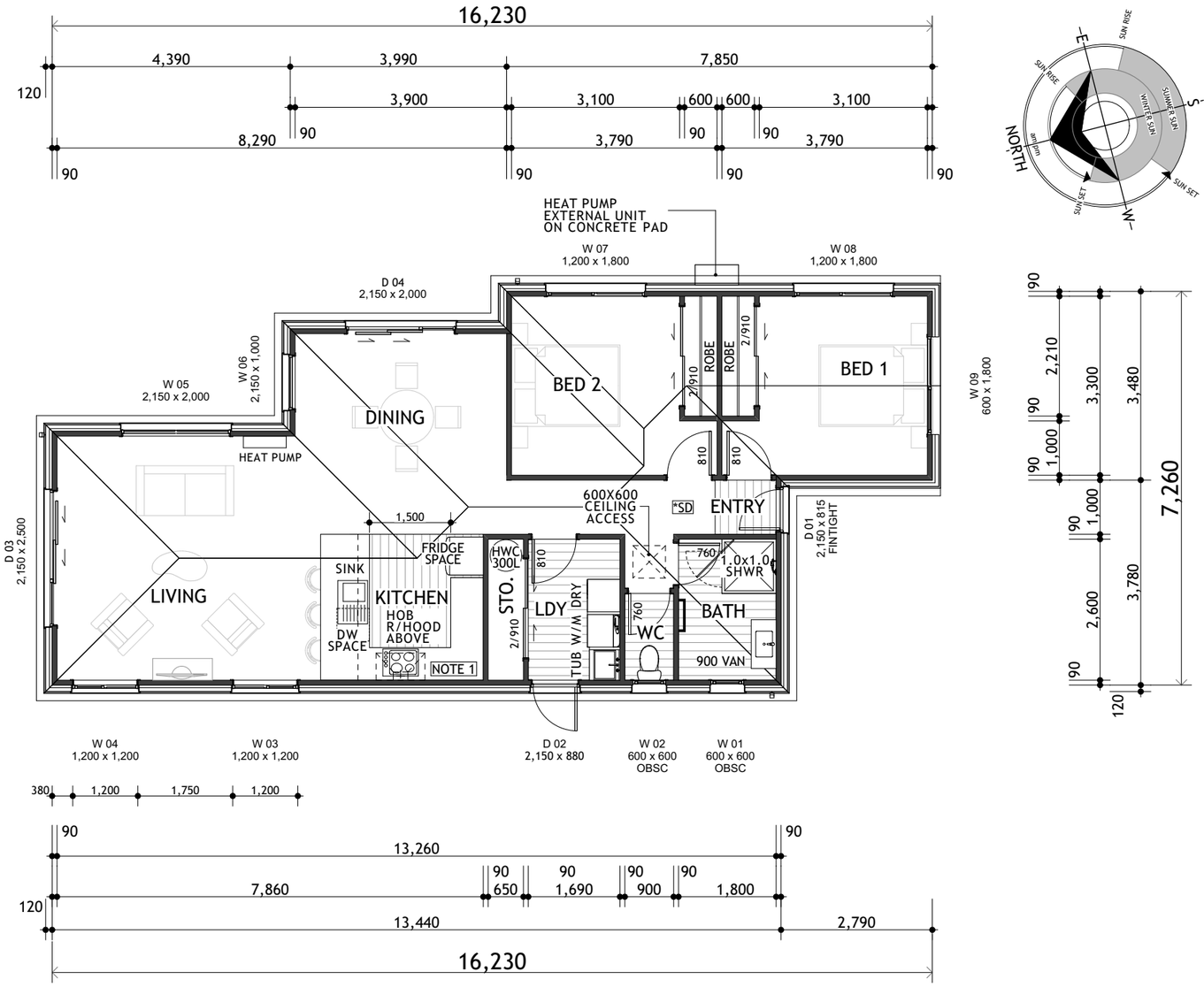
ADDITIONAL AREAS

AREA OVER BRICK:	98.68m²

NOTES

NOTE 1:
WALL LINING ADJACENT TO KITCHEN APPLIANCES AND FACILITIES SHALL HAVE IMPERVIOUS SURFACES THAT CAN BE EASILY CLEANED AND MAINTAIN IN A HYGIENIC CONDITION

ALL INTERNAL DOORS TO BE 1,980mm HIGH EXCEPT ROBES & STORAGE TO BE 2,030mm HIGH



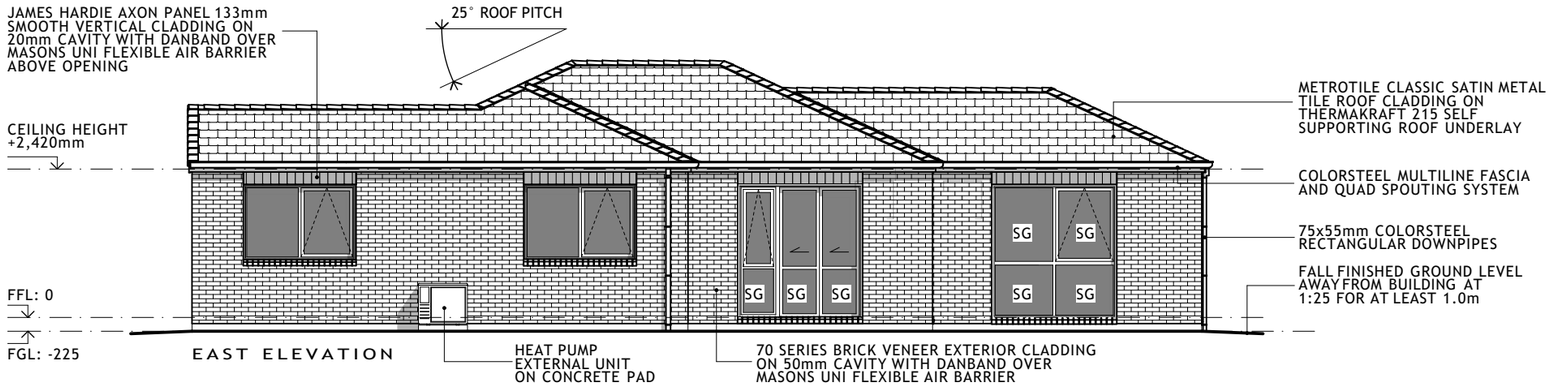
Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** FLOOR PLAN	**LEGAL DESCRIPTION:** LOT: 31 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** SC-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 3 / 04

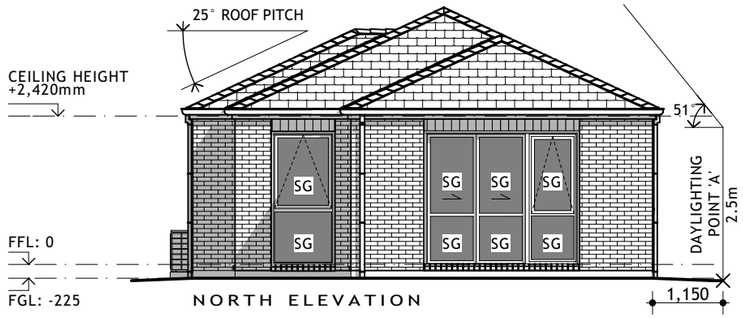
NOTE: This Plan is subject to developer's approval and local district council verification and approval.

CONSENT ISSUED BC211794 - Page 154 of 316

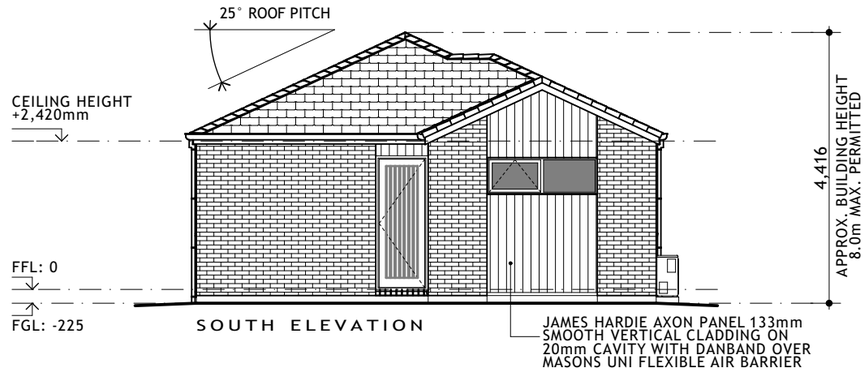
BC211794

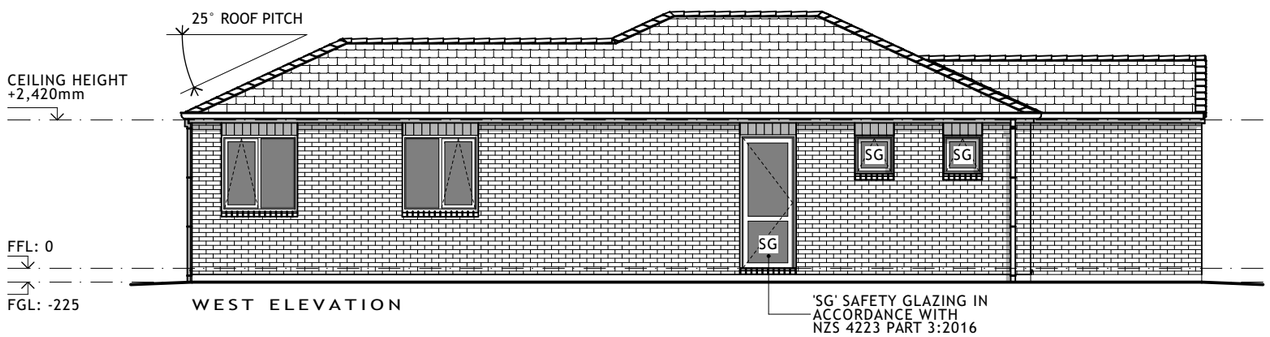
WAIMAKARIRI DISTRICT COUNCIL
- APPROVED APPLICATION -
RC205207 / RC205208
APPROVED by Authorised Officer
Wendy Harris 21/01/2021





BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**8**





Xpress design + drafting	**JOB TITLE:** B9 DEVELOPMENT CONCEPT	**DRAWING TITLE:** ELEVATIONS	**LEGAL DESCRIPTION:** LOT: 31 DP: TBC ADDRESS:SILVERSTREAM KAIAPOI	**NOTES:** Do not scale from these plans. All dimensions to be confirmed on site. Any discrepancies to be notified to the designer. Foundation is designed as per NZS 3604. Builder to refer to Geotech report to verify suitable foundation design.	**DATE OF ISSUE:** 01 DEC 20 **AMENDMENT DATE:** **VERSION:** SC-01	**DESIGNER:** JAM **DRAWN:** JAM **CHECKED:**	**SCALE:** 1:100 **JOB#:** 20073	**SHEET:** 4 / 04

Form 2A

Memorandum from licensed building practitioner: Certificate of design work

Section 30C or 45, Building Act 2004

Please fill in the form as fully and correctly as possible.
If there is insufficient room on the form for requested details, please continue on another sheet and attach the additional sheet(s) to this form.

THE BUILDING			
Street address:	Lot 11 DP 540916, 25 Greengrass Crescent		
Suburb:	Kaiapoi		
Town/City:	Canterbury	Postcode:	7630

THE OWNER(S)			
Name(s):	Barry Allen Marshall and Royleen Glee Marshall		
Mailing address:	93a Marne Street		
Suburb:	Hokowhitu	PO Box/Private Bag:	N/A
Town/City:	Palmerston North	Postcode:	4410
Phone number:	027 689 9038	Email address:	royleenglee@gmail.com

BASIS FOR PROVIDING THIS MEMORANDUM

I am providing this memorandum in my role as the: Please tick the option that applies ✓

☐	**sole** designer of all of the RBW design outlined in this memorandum – I carried out all of the RBW design work myself – no other person will be providing any additional memoranda for the project
☐	**lead** designer who carried out some of the RBW design myself but also supervised other designers – this memorandum covers their RBW design work as well as mine, and **no other** person will be providing any additional memoranda for the project
☑	**lead** designer for all but specific elements of RBW – this memorandum only covers the RBW design work that I carried out or supervised and the **other** designers will provide their own memorandum relating to their specific RBW design
☐	**specialist** designer who carried out specific elements of RBW design work as outlined in this memorandum – other designers will be providing a memorandum covering the remaining RBW design work

IDENTIFICATION OF DESIGN WORK THAT IS RESTRICTED BUILDING WORK (RBW)

I *Craig Wearne* carried out / supervised the following design work that is restricted building work

PRIMARY STRUCTURE: B1

Design work that is RBW	Description of RBW	Carried out or supervised	Reference to plans and specifications
Tick ✓ if included. Cross ☒ if excluded	If appropriate, provide details of the RBW	Tick ✓ whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
All RBW design work relating to B1 ☐ ☒		○ Carried out ☐ Supervised	
Foundations and subfloor framing ☐ ☒		○ Carried out ☐ Supervised	

Design work that is RBW	Description of RBW	Carried out or supervised	Reference to plans and specifications
Tick ✓ if included. Cross ✗ if excluded	If appropriate, provide details of the RBW	Tick ✓ whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
Walls ☐ ☒		○ Carried out ☐ Supervised	
Roof ☐ ☒		☐ Carried out ☐ Supervised	
Columns and beams ☐ ☒		○ Carried out ☐ Supervised	
Bracing ☑ ☐	Roof Bracing	○ Carried out ☑ Supervised	Refer to Roof Truss Fixing and Bracing
Other ☐ ☒		○ Carried out ☐ Supervised	

Design work that is RBW	Description of RBW	Carried out or supervised	Reference to plans and specifications
Tick ✓ if included. Cross ✗ if excluded	If appropriate, provide details of the RBW	Tick ✓ whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
EXTERNAL MOISTURE MANAGEMENT SYSTEMS: E2			
All RBW design work relating to E2 ☒		○ Carried out ☐ Supervised	
Damp proofing ☑	Damp proof membrane to underside of floor slab	○ Carried out ☑ Supervised	Refer to Foundation Details page
Roof cladding or roof cladding system ☑	Profiled Metal Roofing on underlay	☐ Carried out ☑ Supervised	Refer to Elevations, Cross Section and Roof Cladding Details pages
Ventilation system (for example, subfloor or cavity) ☑	Cavity to Wall Cladding	○ Carried out ☑ Supervised	Refer to Cross Section and Cladding Details pages
Wall cladding or wall cladding system ☑	Weatherboard AAC Panel	○ Carried out ☑ Supervised	Refer to Cross Section and Wall Cladding Details pages
Waterproofing ☒	N/A	○ Carried out ☐ Supervised	
Other ☒	N/A	☐ Carried out ☐ Supervised	

Design work that is RBW	Description of RBW	Carried out or supervised	Reference to plans and specifications
Tick ✓ if included. Cross ✗ if excluded	If appropriate, provide details of the RBW	Tick ✓ whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
FIRE SAFETY SYSTEMS: C1 - C6			
☑ Emergency warning systems	Domestic Smoke Detectors	☐ Carried Out ☑ Supervised	Refer Electrical Plan
☑ Evacuation and fire service operation systems	Domestic Escape Path <25m	☐ Carried Out ☑ Supervised	Refer Electrical Plan
☐ Suppression or control systems		☐ Carried Out ☐ Supervised	
☒	N/A		
☐ Other		☐ Carried Out ☐ Supervised	
☒	N/A		

Note: The design of fire safety systems is only restricted building work when it involves small-to-medium apartment buildings as defined by the Building (Definition of Restricted Building Work) Order 2011.

WAIVERS AND MODIFICATIONS

Waivers or modifications of the Building Code are required. ☐ Yes ☑ No

If Yes, provide details of the waivers or modifications below:

Clause	Waiver/modification required
List relevant clause numbers of building code	Specify nature of waiver or modification of building code required

ISSUED BY

Name and contact details of the licensed building practitioner who is licensed to carry out or supervise design work that is restricted building work.

Name: **Craig Wearne**	LBP or Registration number: **BP101178**
The practitioner is a: ☑ Design LBP ○ Registered architect ☐ Chartered professional engineer	
Design Entity or Company (optional): **RCDC Limited**	
Mailing address (if different from below): **P.O Box 4411**	
Street address/Registered office: **63 Hewletts Road**	
Suburb: **Mount Maunganui**	Town/City: **Tauranga**
PO Box/Private Bag: **4411**	Postcode: **3149**
Phone number: **07 574 2340**	Mobile:
After hours:	Fax: **07 574 9537**
Email address: **tauranga@zog.co.nz**	Website: **N/A**

DECLARATION

I ***Craig Wearne*** LBP, state that I have applied the skill and care reasonably required of a competent design professional in carrying out or supervising the Restricted Building Work (RBW) described in this form, and that based on this, I also state that the RBW:

- Complies with the building code, or
- ~~Complies with the building code subject to any waiver or modification of the building code recorded on this form~~

Signature: 

Date: 27/08/2021

Form 2A

Memorandum from licensed building practitioner: Certificate of design work

Section 30C or 45, Building Act 2004

Please fill in the form as fully and correctly as possible.
If there is insufficient room on the form for requested details, please continue on another sheet and attach the additional sheet(s) to this form.

THE BUILDING			
Street address:	Lot 11 DP 540916, 25 Greengrass Crescent		
Suburb:	Kaiapoi		
Town/City:	Canterbury	Postcode:	7630

THE OWNER(S)			
Name(s):	Barry Allen Marshall and Royleen Glee Marshall		
Mailing address:	93a Marne Street		
Suburb:	Hokowhitu	PO Box/Private Bag:	N/A
Town/City:	Palmerston North	Postcode:	4410
Phone number:	027 689 9038	Email address:	royleenglee@gmail.com

BASIS FOR PROVIDING THIS MEMORANDUM

I am providing this memorandum in my role as the: Please tick the option that applies ✓

☐	**sole** designer of all of the RBW design outlined in this memorandum – I carried out all of the RBW design work myself – no other person will be providing any additional memoranda for the project
☐	**lead** designer who carried out some of the RBW design myself but also supervised other designers – this memorandum covers their RBW design work as well as mine, and **no other** person will be providing any additional memoranda for the project
☐	**lead** designer for all but specific elements of RBW – this memorandum only covers the RBW design work that I carried out or supervised and the **other** designers will provide their own memorandum relating to their specific RBW design
☑	**specialist** designer who carried out specific elements of RBW design work as outlined in this memorandum – other designers will be providing a memorandum covering the remaining RBW design work

IDENTIFICATION OF DESIGN WORK THAT IS RESTRICTED BUILDING WORK (RBW)

I *Franswa Jooste* ~~carried out~~ / supervised the following design work that is restricted building work

PRIMARY STRUCTURE: B1

Design work that is RBW	Description of RBW	Carried out or supervised	Reference to plans and specifications
Tick ✓ if included. Cross ✗ if excluded	If appropriate, provide details of the RBW	Tick ✓ whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
All RBW design work relating to B1 ☐ ☒		○ Carried out ☐ Supervised	
Foundations and subfloor framing ☑ ☐	Foundation and slab	○ Carried out ☑ Supervised	Refer to DINEX job 97723 (13-15 of 38)

Design work that is RBW	Description of RBW	Carried out or supervised	Reference to plans and specifications
Tick ✓ if included. Cross ✗ if excluded	If appropriate, provide details of the RBW	Tick ✓ whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
Walls ☑	Light steel framing to walls	○ Carried out ☑ Supervised	Refer to DINEX job 97723 (10-12 & 17 of 38); Framing (D01-D03 of D09)
Roof ☑	Light steel frame trusses with purlins / battens	○ Carried out ☑ Supervised	Refer to DINEX job 97723 (10-12 of 38); Framing (D04 of D09)
Columns and beams ☑	Light steel frame lintels and beams	○ Carried out ☑ Supervised	Refer to DINEX job 97723 (10-12 & 17 of 38); Framing (D01-D03 of D09)
Bracing ☑	Light steel frame bracing and sheet bracing where shown	○ Carried out ☑ Supervised	Refer to DINEX job 97723 (17 of 38)
Other ☒		○ Carried out ☐ Supervised	

Design work that is RBW	Description of RBW	Carried out or supervised	Reference to plans and specifications
Tick ✓ if included. Cross ✗ if excluded	If appropriate, provide details of the RBW	Tick ✓ whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
EXTERNAL MOISTURE MANAGEMENT SYSTEMS: E2			
All RBW design work relating to E2 ☐ ☒		○ Carried out ○ Supervised	
Damp proofing ☐ ☒		○ Carried out ○ Supervised	
Roof cladding or roof cladding system ☐ ☒		○ Carried out ☐ Supervised	
Ventilation system (for example, subfloor or cavity) ☐ ☒		○ Carried out ○ Supervised	
Wall cladding or wall cladding system ☐ ☒		○ Carried out ○ Supervised	
Waterproofing ☐ ☒		○ Carried out ○ Supervised	
Other ☐ ☒		○ Carried out ☐ Supervised	

Design work that is RBW	Description of RBW	Carried out or supervised	Reference to plans and specifications
Tick ✓ if included. Cross ✗ if excluded	If appropriate, provide details of the RBW	Tick ✓ whether you carried out this design work or supervised someone else carrying out this design work	If appropriate, specify references
FIRE SAFETY SYSTEMS: C1 - C6			
Emergency warning systems Evacuation and fire service operation systems ☐ Suppression or control systems ☒ Other		○ Carried out ☐ Supervised	

Note: The design of fire safety systems is only restricted building work when it involves small-to-medium apartment buildings as defined by the Building (Definition of Restricted Building Work) Order 2011.

WAIVERS AND MODIFICATIONS

Waivers or modifications of the Building Code are required. ☐ Yes ☑ No

If Yes, provide details of the waivers or modifications below:

Clause	Waiver/modification required
List relevant clause numbers of building code	Specify nature of waiver or modification of building code required

ISSUED BY

Name and contact details of the licensed building practitioner who is licensed to carry out or supervise design work that is restricted building work.

Name: Franswa Jooste	LBP or Registration number: CPEng 232746
The practitioner is a: ◯ Design LBP ◯ Registered architect ☑ Chartered professional engineer	
Design Entity or Company (optional): **Redco NZ Limited**	
Mailing address (if different from below):	
Street address/Registered office: **470 Otumoetai Road**	
Suburb: **Otumoetai**	Town/City: **Tauranga**
PO Box/Private Bag:	Postcode: **3110**
Phone number: **07 571 7070**	Mobile:
After hours:	Fax: 07 571 7080
Email address: **red@redco.co.nz**	Website: www.redco.co.nz

DECLARATION

I Franswa Jooste LBP, state that I have applied the skill and care reasonably required of a competent design professional in carrying out or supervising the Restricted Building Work (RBW) described in this form, and that based on this, I also state that the RBW:

- Complies with the building code, or
- ~~Complies with the building code subject to any waiver or modification of the building code recorded on this form~~

Signature: 

Date: 01/09/2021

Redco Job: 22244

RCDC Ltd Job: 97723 - Marshall Residence

adding 'enginuity' to building projects

CONSTRUCTION MONITORING SCHEDULE

Client: **RCDC Limited** **29 Aug '21**

Project: **97723 - Marshall Residence** Project No. **22244**

Construction Monitoring Schedule

We recommend Building Consent Authority to carry out construction monitoring on the following items:
Foundations & Slab
Light Steel Framing and Connections

Note:
Number of inspections depend on the builders construction sequence.

Section 2
Geotech, ~~Engineer~~ Reports & Conditions
PS1 & 2s

- Calculations
- A4 Details

File No.: 41631

9 June 2021

WAIMAKARIRI DISTRICT COUNCIL
Plans and specifications APPROVED in accordance with the Building Act 2004, clause 49 and the Building Regulations 1992, Clause 3
BC211794 20/01/2022 Chrisk

NDM Construction Ltd
3 Otley Street
Christchurch Central
CHRISTCHURCH 8013

Attention: Mary Jayne Johnson

Email: maryjayne.johnson@goldenhomes.co.nz

Dear Mary Jayne,

GEOTECHNICAL FOUNDATION STRATEGY LETTER: 25 GREENGRASS CRESCENT SILVERSTREAM ESTATES SUBDIVISION, KAIAPOI, CANTERBURY (LOT 11 DP 540916)

1.0 INTRODUCTION

Davis Ogilvie & Partners Ltd. (Davis Ogilvie) has been commissioned by NDM Construction Ltd to confirm the subsurface soil conditions at the aforementioned lot, and to provide recommendations for ground bearing capacity and suitable foundations for a new residential dwelling on the lot.

2.0 BACKGROUND INFORMATION

The 303 m^2 lot is in Block B9 of Silverstream Estates Subdivision (Lot 1000 DP 543796), located between Silverstream Boulevard and Island Road within Silverstream Stage 4. The current scheme plan[1] proposes subdivision of Block B9 into 31 lots with access via Greengrass Crescent and Becks Street.

Technical categorisation and geotechnical reporting for Stage 4 was carried out by Golder Associates (Golder)[2] in May 2012. Golder recommended a Ministry of Business, Innovation and Employment (MBIE) Technical Category (TC) of TC2 be assigned to all lots within Stage 4[3].

[1] Davis Ogilvie (15/03/2021) CSD Plan, Lots 1 – 31 & 1000 Being a Subdivision of Lot 1000 DP 543796.
[2] Golder Associates (May 2012) Geotechnical Assessment Report, Silverstream Estates, Kaiapoi, Stage Four. Report number 1178102492-R005b-R-Rev1.
[3] Ministry of Business, Innovation & Employment (MBIE): Guidance for Repairing and Rebuilding Houses Affected by the Canterbury Earthquakes (December 2012), Reference Material.

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The published geology of the site is identified as “alluvial silt and fluvial gravel (Springston Formation)”[4] which was subsequently confirmed by Golder’s geotechnical investigations for Stage 4.

Davis Ogilvie undertook engineering design, supervision and fill certification throughout the construction of the B9 block[5]. The ground was prepared, and shallow ground improvement carried out to mitigate against the effects of liquefaction induced by seismic shaking, and to meet necessary ground level requirements. Records indicate up to 3.03 m of engineered gravel fill has been placed on this lot in accordance with NZS 4431:1989 *Earthfill for Residential Development*[6]. The engineering design fill plan for Block B9 (DWG FP B9A) is appended to this report.

3.0 GROUND CONDITIONS SUMMARY

The soil profile for lots within Block B9 consist of certified engineered gravel fill overlying natural silt and clayey silt.

Prior to filling, site inspections and in situ testing was undertaken by Davis Ogilvie to confirm suitability of the natural silt subgrade soils. Inspections confirmed the subgrade comprised adequate soil material and bearing capacity for engineered filling to proceed, and any unsuitable soils were stripped and backfilled with engineered gravel in general accordance with NZS 4431.

We note that no recent geotechnical testing has been undertaken following verification of the certified engineered fill materials placed. However, a site walkover confirms that no topsoil has been placed over the engineered gravel fill on Block B9. The exposed engineered fill is therefore expected to be sufficiently dense and adequately thick for the proposed residential development.

4.0 FOUNDATION RECOMMENDATION

Due to the TC2 categorisation, specific engineering design, observation and certification will be required for the development of the lot. TC2 concrete slab foundation options outlined in Section 5.3 of the MBIE 2012 guidance document are considered suitable for this site.

According to MBIE, the ground immediately beneath the foundation slab must have a minimum static geotechnical ultimate bearing capacity (GUBC) of 200 kPa[7]. Based on supervision and construction records, a GUBC of at least 200 kPa is expected to be available on the surface of the certified gravel fill material.

[4] Forsyth, P.J., Barrell, D.J.A., Jongens, R. (2008) (compilers), Geology of the Christchurch Area, Institute of Geological and Nuclear Sciences 1:250 000 geological map 16. 1 sheet. Lower Hutt, New Zealand. GNS Science. ISBN 987-0-478-19649-8
[5] Davis Ogilvie (2018) Geotechnical Completion Silverstream Subdivision – Residential Stage B9. Job No 37891. Dated 3 September 2018.
[6] NZS 4431:1989. Code of Practice for Earth Fill for Residential Development.
[7] Defined by the MBIE Guidance as 2 DCP blows/100 mm penetration. The bearing capacities presented in this report are static geotechnical ultimate bearing capacities. In accordance with MBIE guidance[7] the “structural” Ultimate Limit State (ULS) bearing capacity, to be used in conjunction with fully factored loads as per AS/NZS 1170, should be derived using a strength reduction factor of 0.5. The allowable bearing capacity to be used in conjunction with Serviceability Limit State (SLS) loads should be derived using a strength reduction factor of 0.33.

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\\dop5\jobdata\projects\41s\41631 - Stage B9 Silverstream\Geotech\003 Report\Lot 11\210608.GC.41631.B9.Lot 11.docx

CONSENT ISSUED BC211794 - Page 171 of 316

A summary of soil properties for foundation design purposes are presented in Table 1.

Table 1: Estimated Soil Properties				
Soil Description	**Unit Weight*[8] (ɤ)**	**Internal Angle of Friction[9] (Φ)**	**Cohesion (c)**	**Modulus of Subgrade Reaction[10]**
	kN/m^3	**Degrees**	**kPa**	**kPa/mm**
Sandy GRAVEL (Engineered Fill)	20 – 22	35	0	100 – 120
* Unit weight range from dry to saturated soils				

Due to the duration of the ground surface exposure at the site, minor excavation of the ground surface will be required to remove any exposed poorly graded gravel (i.e., washed out fines), vegetation and any other unsuitable materials. The subgrade surface will require compaction prior to placement of foundations and/or engineered backfill.

All excavations on site should be examined by a suitably qualified and experienced Engineer or Engineering Geologist prior to foundation construction. The Engineer must be competent to judge whether the exposed subsoils are compatible with the inferred conditions on which the report has been based.

Should soft, organic, suspect or unsuitable ground conditions be encountered onsite, the builder/contractor or owner must contact Davis Ogilvie or an appropriately qualified and experienced geo-professional to confirm foundation requirements. Please allow 24 hours' notice prior to inspections being required.

[8] Look, B.G. (2007) Handbook of Geotechnical Investigation and Design Tables, Taylor & Francis Group, London, UK.
[9] Bowles, J.E. (2001) Foundation Analysis and Design, McGraw-Hill International Editions – 5th Edition, Table 2-6 pp108.
[10] NZS 4404:2010 Land development and subdivision infrastructure.

This report may not be read or reproduced except in its entirety.

5.0 CLOSURE

Should you have any queries regarding this report or wish to arrange a subgrade inspection at the time of construction, please contact the undersigned.

Yours faithfully,
DAVIS OGILVIE & PARTNERS LTD.

Prepared By:
MARK SELLARS
Engineering Geologist
BCom, BSc, PG Dip

Email: mark@do.nz

Reviewed By:
BJORN RAASCH
Senior Engineering Geologist
BSc (Hons), CMEngNZ (PEngGeol)

Email: bjorn@do.nz

Enclosed:
1 x Engineering Design Fill Plan (DWG FPB9A)

Limitations
Davis Ogilvie did not complete an assessment of all possible conditions or circumstances that may exist at the site. The report and findings are based on the information provided. Conditions may exist which were undetectable given the limited investigation of the site. Variations in conditions may occur, and there may be conditions onsite which have not been revealed by the investigation, which have not been taken into account in the report. No warranty is included—either expressed or implied—that the actual conditions will conform to the assessments contained in this report. If any unexpected suspect soils are encountered during earthworks onsite, Davis Ogilvie should be notified to confirm or reassess the foundation recommendations.

This report has been prepared solely for the purposes of NDM Construction Ltd. The information contained herein is confidential, and shall not be passed on to any third party without prior written permission of Davis Ogilvie & Partners Ltd. No responsibility is accepted for any use outside the scope of this report. This report does not cover suitability of the site (e.g., flooding), or potential future liquefaction.

This report may not be read or reproduced except in its entirety.

BC211794

Disclaimer: This document shall only be reproduced in full with approval from a Davis Ogilvie engineer

contractor to locate all existing services & verify all dimensions before commencing work

/ issue	/ date	/ reason	/ approved
A	25/05/21	Fill Plan	–



Levels Table			
Number	Minimum Level	Maximum Level	Color
1	0.300	1.000	
2	1.000	1.250	
3	1.250	1.500	
4	1.500	1.750	
5	1.750	2.000	
6	2.000	2.371	

STAGE B9

CUT/FILL LEGEND	
Lot No.	Max site fill
1	2.00
2	1.92
3	2.08
4	2.04
5	2.26
6	2.37
7	2.03
8	2.05
9	2.15
10	2.04
11	2.15
12	2.10
13	2.10
14	1.91
15	1.82
16	1.94
17	2.03
18	2.03
19	1.98
20	1.84
21	2.09
22	2.10
23	2.09
24	2.10
25	2.03
26	2.05
27	2.04
28	2.08
29	2.09
30	2.10
31	2.23
32	2.00

Denotes certified fill certificate –

Technical Category TC2

Comparison between subgrade levels and finished levels

CAD ref: 41631.B9 Fill Plan.geotech.dwg.2021

DAVIS OGILVIE
ENGINEERS / SURVEYORS / PLANNERS
Davis Ogilvie & Partners Limited
Level 1, 24 Moorhouse Avenue, Addington, Christchurch 8140
Office 0800 999 333 Email hello@do.nz
www.do.nz

SILVERSTREAM B9: WEST KAIAPOI DEVELOPMENTS

ENGINEERING DESIGN
FILL PLAN

/ design	/ drawn	/ QA check	/ dwg
DB	GC	BVB	FP B9
/ scale @ A1	/ date	/ file	/ issue
1:250	06/21	41631	A

Section 3
Truss Details & Bracing Details

- **Manufacturers bracing instruction and construction documentation**
- **Design IT Calcs**
- **Hyspan etc.**

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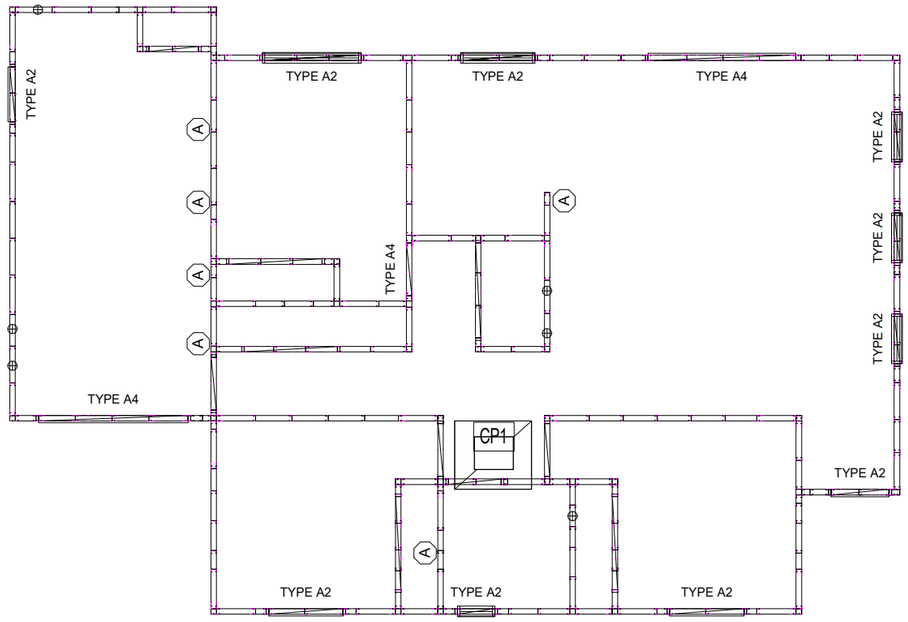
4° - Roof Pitch
High - Wind Zone
0.15 kPa - Roof Dead Load
0.15 kPa - Ceiling Dead Load
0.25 kPa - Roof Live Load
1 kPa - Ground Snow Load

ALL FIXINGS AND HOLD DOWNS MUST BE COMPLETED BEFORE INSTALLING ROOF CLADDING

INTERNAL LINERS: 19mm TIMBER

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NOTES

REFER TO THE FRAME PLACEMENT PAGE FOR STANDING FRAMES

REFER TO THE HOLD DOWN PAGE FOR HOLD DOWN TYPES
ADDITIONAL LINTEL HOLD DOWN TYPES NOTED LIKE SHOWN: (TYPE)

FORTYPE E/F PLATE DETAILS REFER TO THE CONSENT PLANS. THE E/F PLATES MUST EXTEND PAST THE BEAM/LINTEL ENDS AND BE FIXED TO THE FRAMING EITHER SIDE

LOAD BEARING WALLS ARE LABLED WITH AN "L"
NON LOAD BEARING WALLS ARE LABLED WITH AN "N"
THIS LAYOUT IS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL PLANS
ANY DISCREPANCIES TO BE REPORTED IMMEDIATELY TO ZOG MANUFACTURING

WALL FRAME LINTEL & FIXINGS

Frames by: zog® steel frames of the future today

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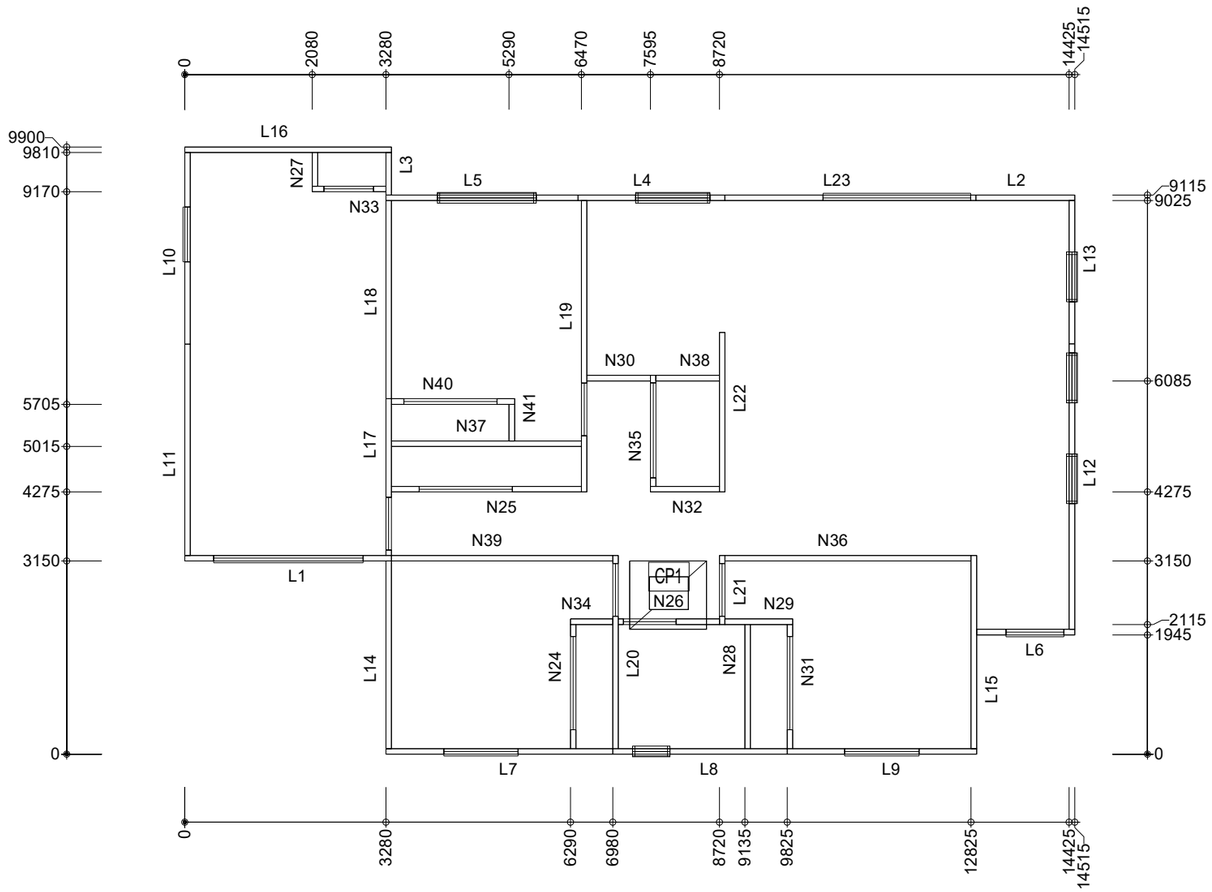
Lot 11 DP 540916
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Christchurch 7630

NOTES

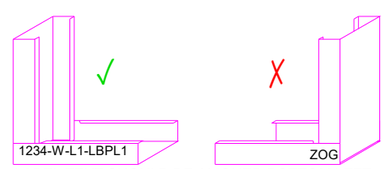
Cutting, Drilling, Rubbings

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Cold galv paint must be applied on site by contractors in all situations where the galvanised protection has been compromised by rubbing, or by heat creating construction techniques such as, but not limited to, high speed drilling or high speed cutting.



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LABEL TEXT SHOULD BE ALIGNED BOTTOM LEFT

THIS PAGE MUST ONLY BE USED FOR FRAME PLACEMENT

WALL TYPES: LOAD BEARING MARKED "L", NON-LOAD BEARING MARKED "N"

ORIENTATION OF FRAMES CAN BE DETERMINED USING BOTTOM PLATE LABELS
LABELS ON THIS PAGE SHOW DIRECTION THAT BOTTOM PLATE LABEL MUST FACE
IF BOTTOM PLATE "ZOG" MARK IS FACING PLAN LABEL THEN ORIENTATION IS WRONG

FRAME PLACEMENT

Frames by: zog® steel frames of the future today

NO MODIFICATIONS TO WALL FRAMES OR ROOF TRUSSES ARE TO BE UNDERTAKEN WITHOUT OBTAINING WRITTEN INSTRUCTION FROM "ZOG" MANUFACTURING

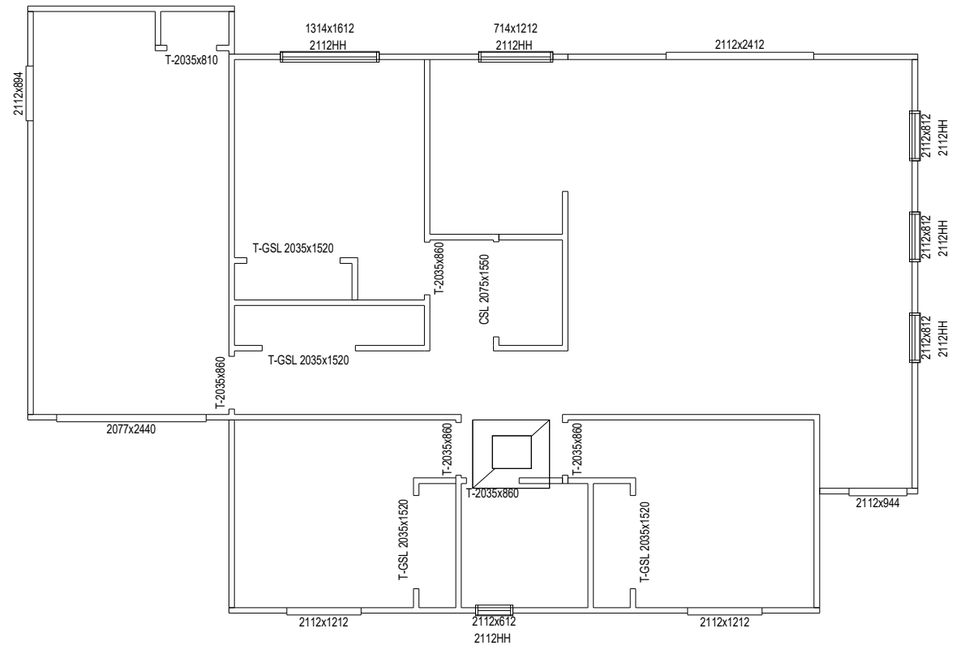
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OPENING TRIMS

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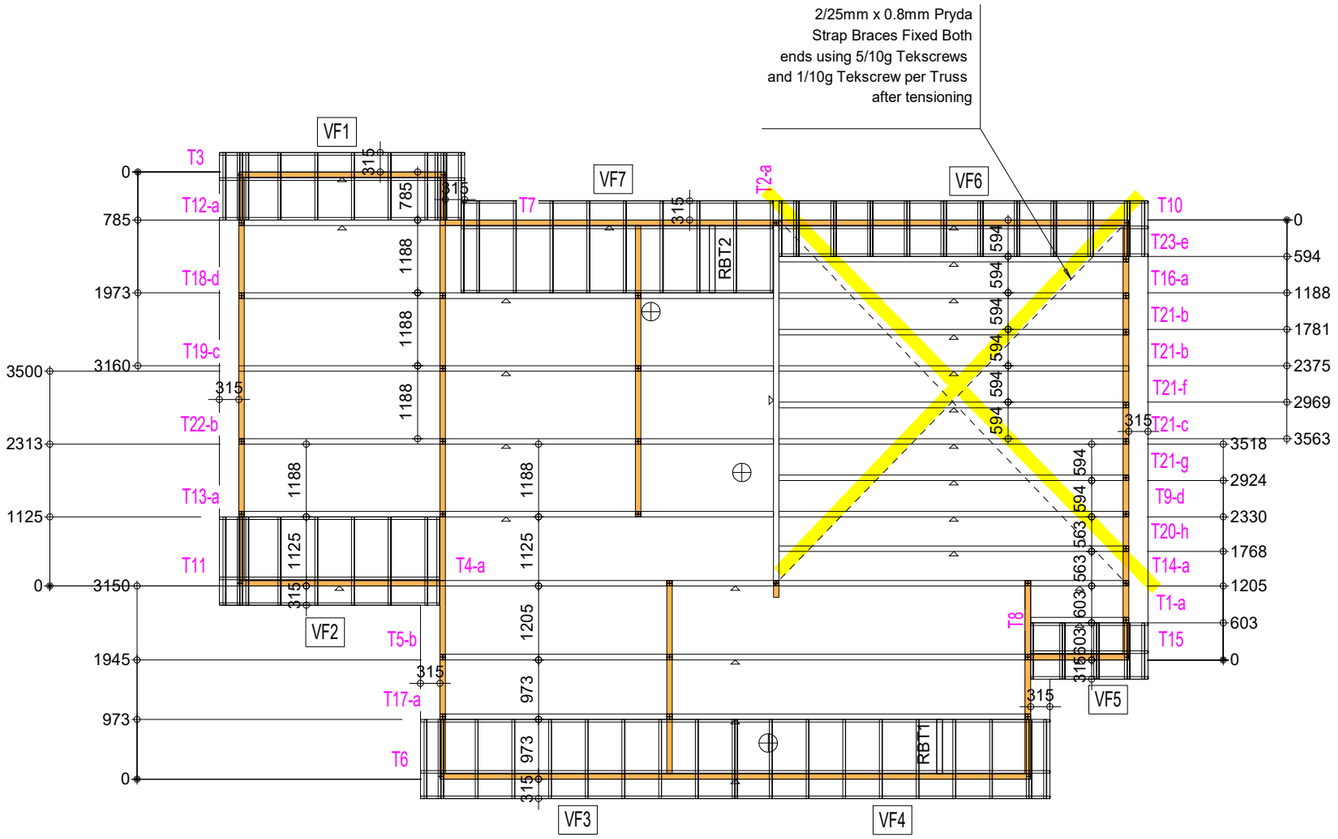
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ALL FIXINGS AND HOLD DOWNS MUST BE COMPLETED BEFORE INSTALLING ROOF CLADDING

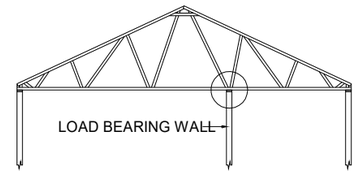
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4° - Roof Pitch
High - Wind Zone
0.15 kPa - Roof Dead Load
0.15 kPa - Ceiling Dead Load
0.25 kPa - Roof Live Load
1 kPa - Ground Snow Load



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FACTORY CHECK:
LOADED:
MADE BY:
CHECKED:
DRIVER CHECK:



POSITION TRUSS SO THAT WEBS ARE ABOVE THE LOAD BEARING WALL

ROOF TRUSS SETOUT

Frames by: zog® steel frames of the future today

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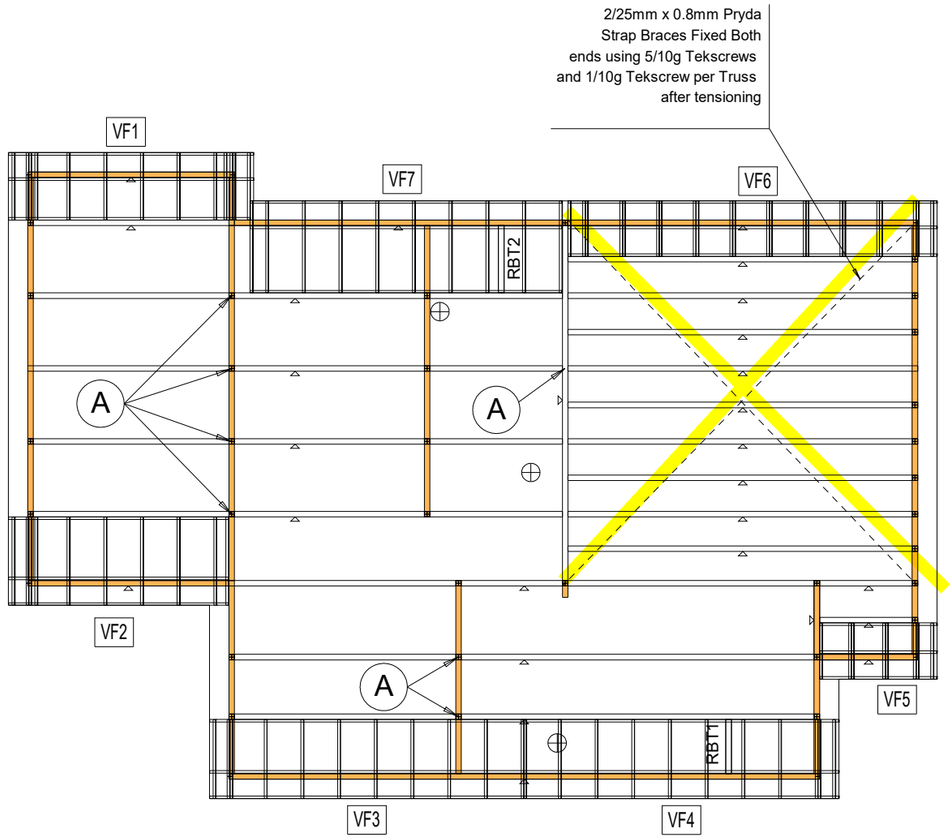
TYPE	S	A	B	C	C2	D
ZOG BRACKET TO TRUSS - SCREWS	2	4	6	8	8	12
ZOG TRUSS TO TRUSS - SCREWS	2	4	6	8	8	12
ZOG BRACKET TO TOP PLATE - SCREWS	2	4	6	8	8	12
EXTRA STUD GROUP SCREWS AT TOP PLATE		1	2	4	4	8
EXTRA STUD GROUP SCREWS AT BOTTOM PLATE		1	2	4	4	8
8x75 ANCHOR SCREW BOLT & WASHER	1	1				
10x100 ANCHOR SCREW BOLT & WASHER			1		2	
16x150 ANCHOR SCREW BOLT & WASHER				1		2
ZOG BOTTOM PLATE ANCHOR	N/A	1	1	1	2	2

ANCHOR BOLTS MUST BE WITHIN 100mm FROM CENTRE OF STUD
ALL ONSITE SCREW CONNECTIONS ARE TO BE 10GX16TPI SCREWS

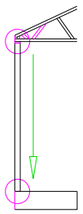
4° - Roof Pitch
High - Wind Zone
0.15 kPa - Roof Dead Load
0.15 kPa - Ceiling Dead Load
0.25 kPa - Roof Live Load
1 kPa - Ground Snow Load

REFER TO THE LATEST ZOG MANUAL FOR ALL HOLD-DOWN AND TRUSS CONNECTION DETAILS

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HOLD DOWN TYPES:



TRUSS HOLD DOWNS:
ALL FIXINGS ARE TYPE S UNLESS NOTED ON THIS PAGE

WALL BOTTOM PLATE HOLD DOWNS TO BE THE GREATER OF:
- STANDARD TYPE S HOLD DOWN
- TYPE TRANSFERRED DOWN FROM TRUSS TO SUPPORTING STUD
- BRACE WHERE REQUIRED (TYPE A INTERNAL, TYPE B EXTERNAL)
- IF DISPLAYED USE TYPES NOTED ON FLOOR FRAMING PAGE

NOTES
SCREWS MUST BE FIXED IN SHEAR FOR CORRECT KN



THE DETAIL TO THE LEFT INDICATES LOCATION OF LUMBERLOK STRIP BRACE WITH TENSIONERS (IN ACCORDANCE WITH NASH 3405:2006 Section 10.4)

RBT

DETAIL TO THE LEFT INDICATES LOCATION OF ROOF BRACE TRUSS. RBT TO BE FIXED TO INTERSECTING TRUSS WITH 2/10G SCREWS TO THE TOP AND BOTTOM.

ROOF TRUSS FIXING & BRACING

Frames by: zog® steel frames of the future today

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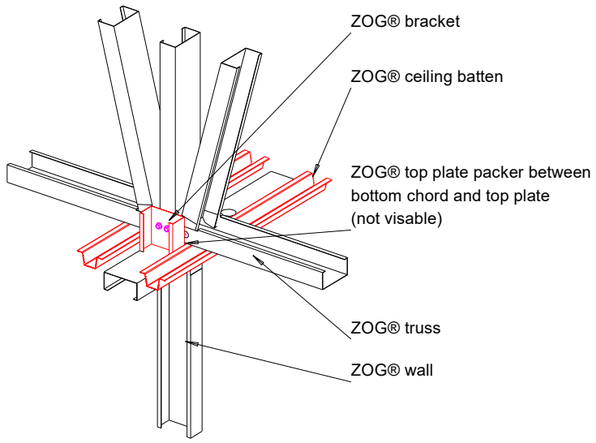
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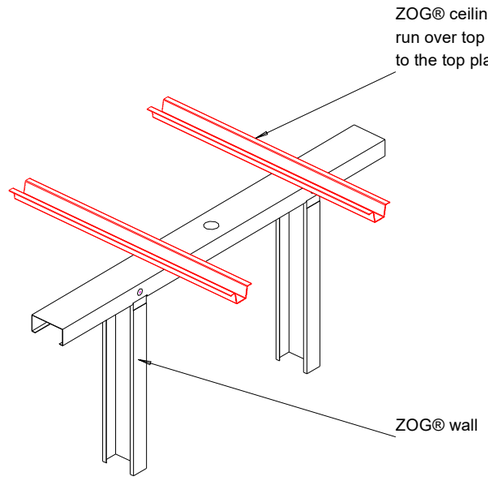
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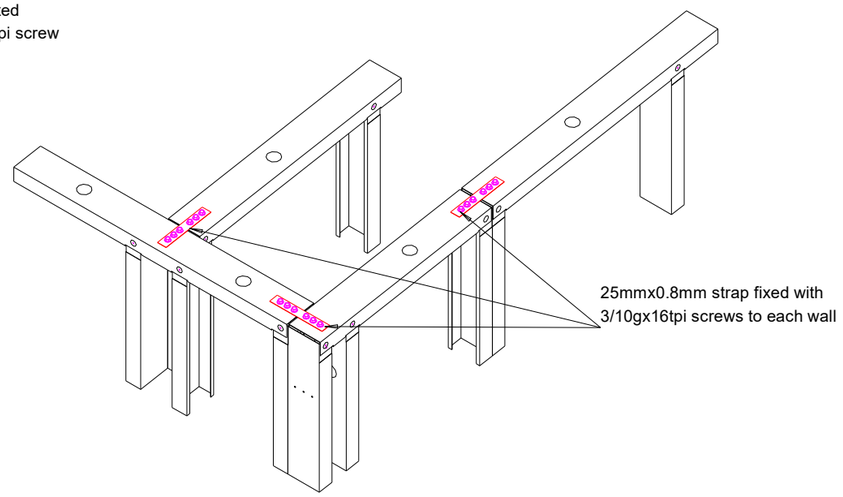
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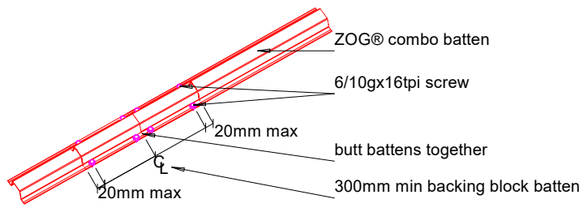
Top Plate System
Load-bearing Walls

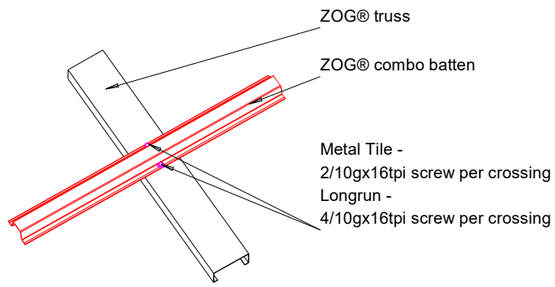


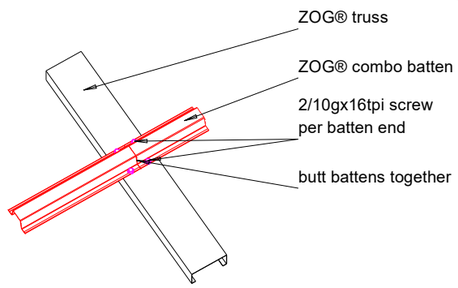
Top Plate System
Non Load-bearing Walls



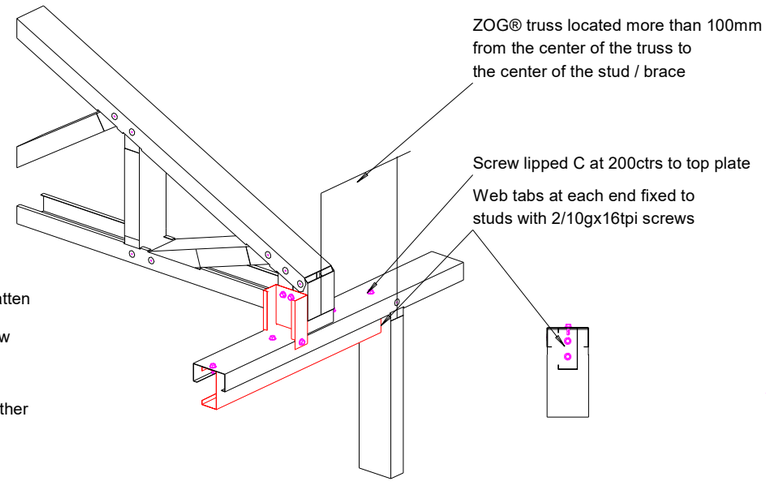
Top Plate System
Wall Intersection (6kN)







Ceiling / Roof Batten Connections



NOTE:
Top plate stiffeners are required for truss spans over 2.0m and if the truss is located further than 100mm from the center of the truss to the center of the stud / brace. A top plate stiffener isnt required if the top plate is boxed by ZOG manufacturing.

Top Plate Stiffener

Wall Frame Details - Top Plate

Frames by: zog® steel frames of the future today

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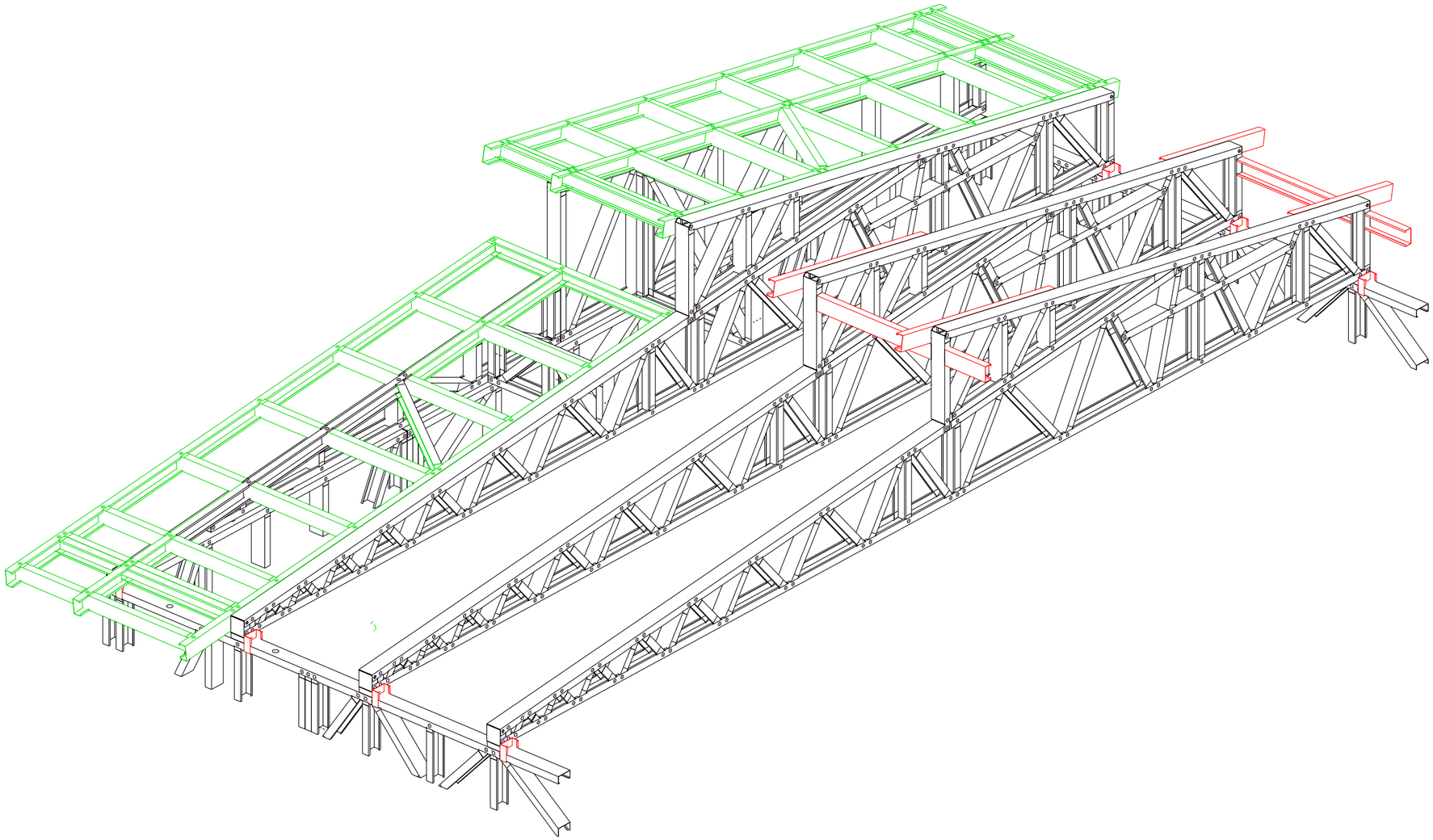
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Roof Details 3D - reference only

Frames by:

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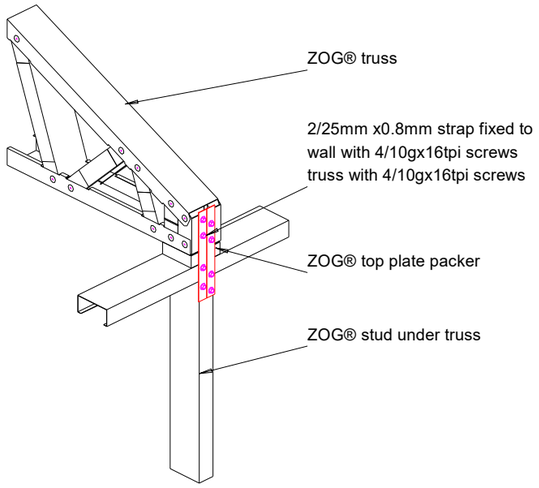
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	JOB 97723	SCALE N.T.S.	

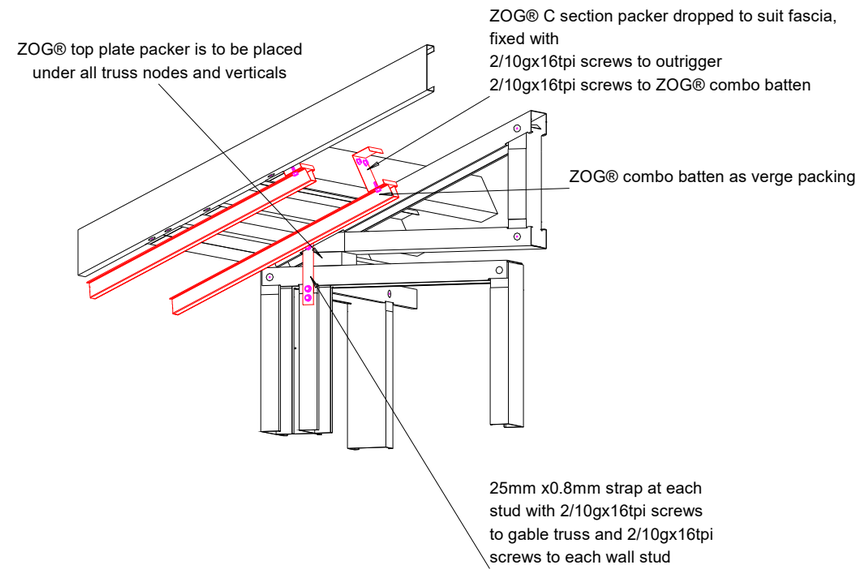
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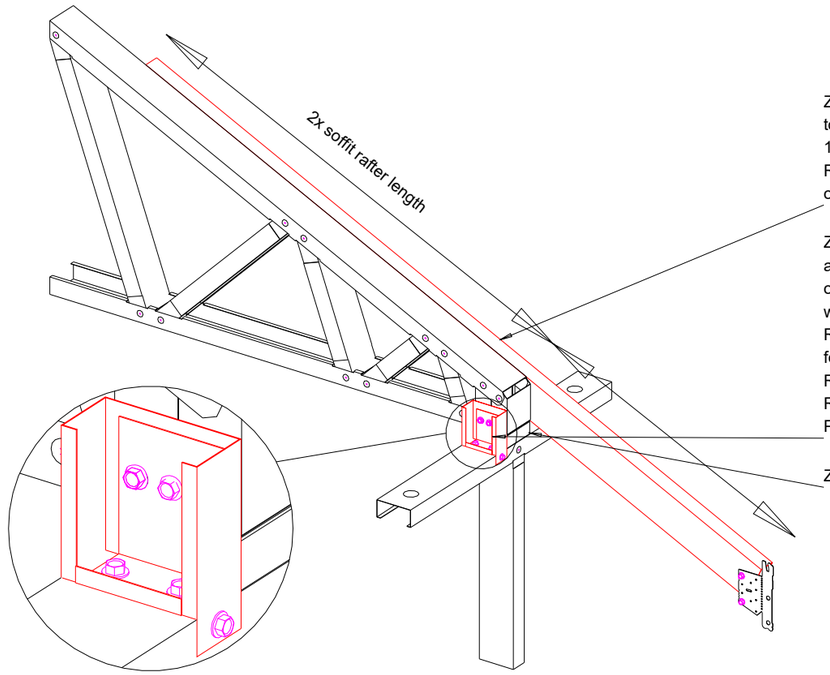
	Sgl Bracket			Dbl Bracket	
Type	S	A	B	C	D
Rating	5kN	10kN	15kN	20kN	30kN
Screws to Truss	2	4	6	8	12
Screws to Top Plate (half each side)	2	4	6	8	12
Bottom Plate Hold Down Type	S	A	B	C	D



Detail 16
Alternative Truss To Top Plate
Type A (10kN)

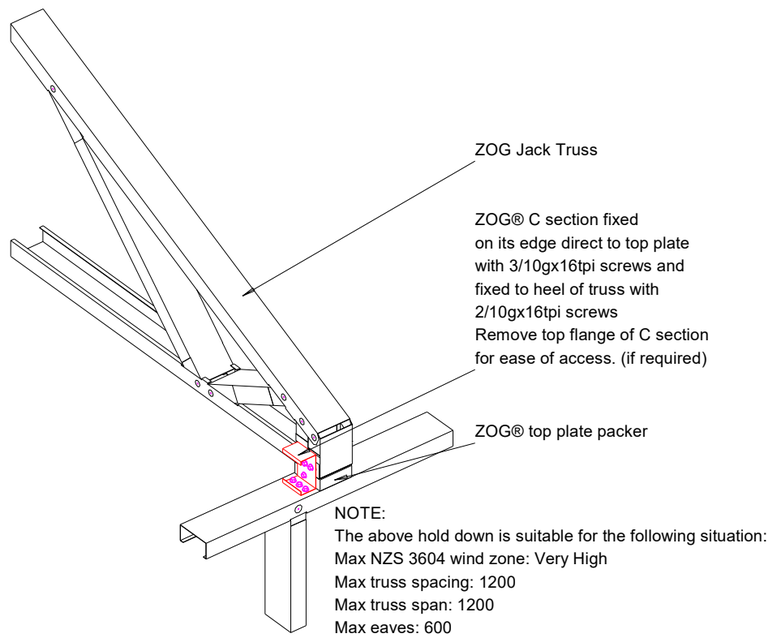


Detail 25
Gable Truss Heel



Detail 2
Soffit Method - Raking

NOTE:
For the framing set-out of 601mm to 1200mm wide soffits and for Extra High wind zones ZOG® soffit sprockets are required at 600crs max



NOTE:
The above hold down is suitable for the following situation:
Max NZS 3604 wind zone: Very High
Max truss spacing: 1200
Max truss span: 1200
Max eaves: 600

Jack Truss Hold Down

Roof Frame Details On Site 1

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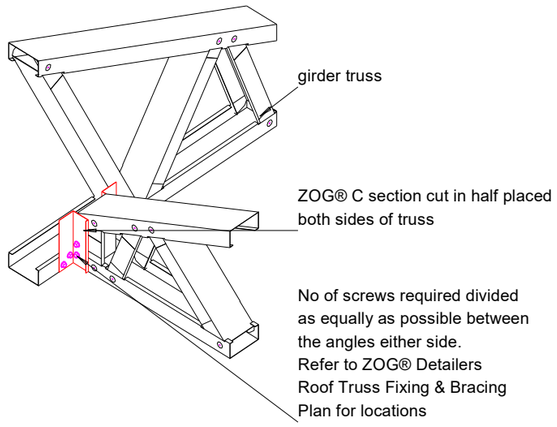
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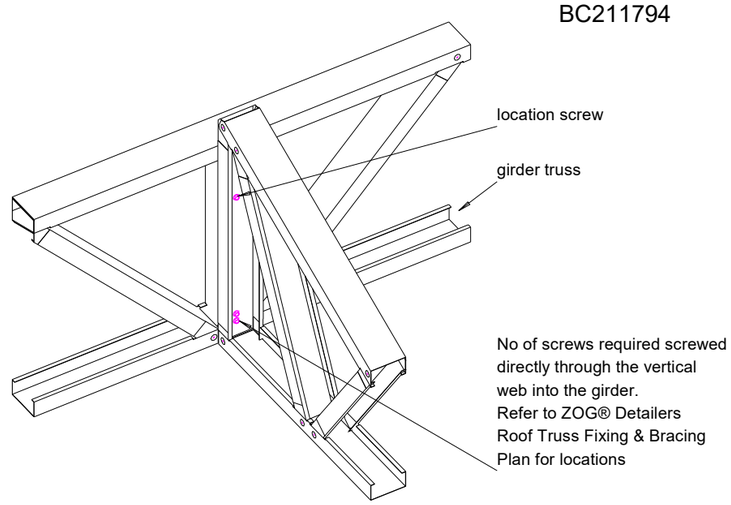
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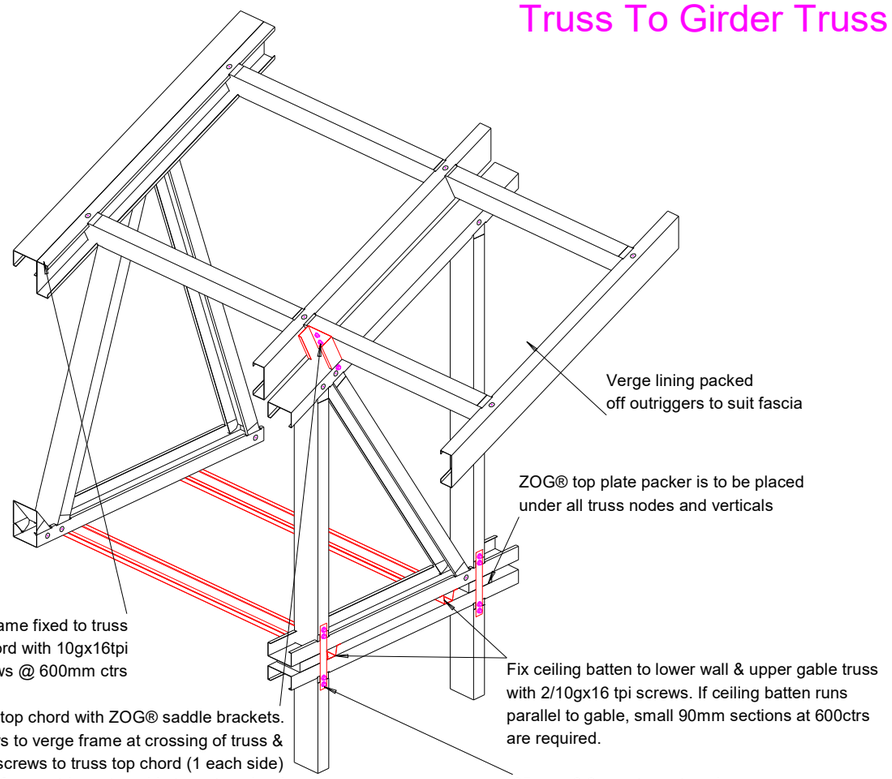
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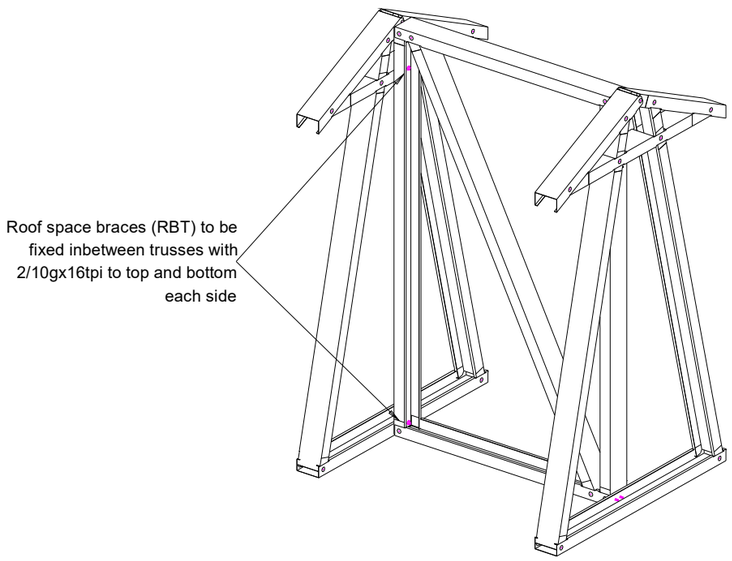
Detail 13
Truss To Girder Truss - Option 1



Detail 14
Truss To Girder Truss - Option 2



Detail 31
Gable and Verge



Detail 29
Roof Brace Truss

Roof Frame Details On Site 2

Frames by: zog® steel frames of the future today

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Section 4

H1 Calculations on page 36

Risk Matrix on page 10 & 11

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PRODUCT CERTIFICATE

DINEX Building Design Method

CERTIFICATE NO: CM70023 Rev1
Date of issue: 26 October 2021

KEY INFORMATION

1 CERTIFICATE HOLDER DETAILS

DINEX Limited
63 Hewletts Road
Mount Maunganui, 3116
New Zealand

Email: codemark@dinex.co.nz
Ph: 021 730 400 / 07 574 2340

2 PRODUCT CERTIFICATION BODY

Bureau Veritas Australia Pty Ltd
3/435 Williamstown Road
Port Melbourne VIC 3207
Australia

Ph: 1800 855 190
www.bureauveritas.com.au

Bureau Veritas Australia Pty Ltd

The complaints process for this certificate can be found here:
www.bureauveritas.com.au/your-feedback

3 SUMMARY OF DESCRIPTION OF BUILDING METHOD OR PRODUCT

The DINEX Building Design Method is a controlled design method for creating site-specific plans and specifications, as defined by section 7 of the Building Act 2004, for building consent applications, and post consent alterations.

Continuation of description can be found in item 9. Supporting Information about Description of Building Product or Method.
Matters that should be taken into account in the use or application of the building method or product can be found in item 6. Conditions and Limitations of Use.

4 SUMMARY OF INTENDED USE OF BUILDING METHOD OR PRODUCT

The DINEX Building Design Method shall only be applied to buildings of the following classified uses:

- Housing (Building Code Clauses A1 2.0.2, 2.0.3, 2.0.4)
- Communal Residential (Building Code Clause A1 3.0.2 (Community service))
- Outbuildings (Building Code Clause A1 7.0.1) limited to garages, carports.
- Ancillary (Building Code Clause A1 8.0.1) limited to retaining walls, fences (excluding fencing of a swimming pool), free standing outdoor fireplace, and detached decking and pergolas

And shall meet ALL of the following requirements

- Building height less than 10m, design risk score ≤20 when calculated using the E2/AS4 risk matrix
- For all seismic, snow, wind and corrosion exposure zones, as defined in NZS3604:2011 Timber-framed buildings and all climate zones, as defined in NZS 4218:2009 Thermal insulation - Housing and small buildings

Continuation of intended use can be found in item 10. Supporting Information about Intended use of Building Product or Method.

5 BUILDING CODE PROVISIONS

The performance clauses of the New Zealand Building Code that are relevant to the intended use and with which the building method or product complies or contributes to (where used as part of a system).

B1 Structure - B1.3.1, B1.3.2, B1.3.3 (a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r), B1.3.4, B1.3.6, B1.3.7
B2 Durability - B2.3.1 (a, b, c), B2.3.2 (a, b)
C2 Prevention of fire occurring - C2.2, C2.3
C3 Fire affecting areas beyond the source - C3.4 (a, b, c), C3.6, C3.7 (a, c)
C4 Movement to a place of safety - C4.3 C4.5
C5 Access and safety for firefighting operations - C5.3 C5.4, C5.5, C5.6, C5.7, C5.8
C6 Structural stability - C6.2 (a)

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This certificate is issued by an independent certification body accredited by JAS-ANZ, the product certification accreditation body appointed by the Chief Executive of the Ministry of Business, Innovation and Employment under the Building Act 2004.
The Ministry does not in any way warrant, guarantee, or represent that the building method or product that is the subject of this certificate conforms with the New Zealand Building Code, nor accept any liability arising out of the use of the building method or product.
The Ministry disclaims to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages, and costs arising as a result of the use of the building method(s) or product(s) referred to in this certificate.

This certificate may only be reproduced in its entirety. It is advised to check that this certificate is currently valid and not withdrawn or suspended by referring to the Register of Product Certificates on the Building Performance website http://www.building.govt.nz.

PRODUCT CERTIFICATE

DINEX Building Design Method

D1 Access Routes - D1.3.1 (a, b, c), D1.3.2, D1.3.3 (a, b, c, d, e, f, g, h, i, j, k, l, m, n), D1.3.4 (a, b, d, e, f, g, h)
D2 Mechanical installations for access - D2.3.1, D2.3.2, D2.3.3 (a, b, c, d), D2.3.4, D2.3.5
E1 Surface water - E1.3.1, E1.3.2, E1.3.3
E2 External moisture - E2.3.1, E2.3.2, E2.3.3, E2.3.4, E2.3.5, E2.3.6, E2.3.7
E3 Internal moisture - E3.3.1, E3.3.2, E3.3.3, E3.3.4, E3.3.5, E3.3.6
F2 Hazardous building materials - F2.3.1, F2.3.2, F2.3.3
F4 Safety from falling - F4.3.1, F4.3.2, F4.3.4
F5 Construction and demolition hazards - F5,
F6 Visibility in escape routes - F6.3.1, F6.3.2, F6.3.3, F6.3.4, F6.3.5, F6.3.6
F7 Warning systems - F7.3.1, F7.3.2, F7.3.3
F8 Signs - F8.3.1, F8.3.2, F8.3.3, F8.3.4, F8.3.5
G1 Personal hygiene - G1.3.1, G1.3.2, G1.3.3, G1.3.4
G2 Laundering - G2.3.1, G2.3.2, G2.3.3, G2.3.4
G3 Food preparation and prevention of contamination - G3.3.1, G3.3.2, G3.3.3, G3.3.4, G3.3.5
G4 Ventilation - G4.3.1, G4.3.2, G4.3.3 (a, b, c, i), G4.3.4, G4.3.5
G5 Interior environment - G5.3.1, G5.3.2, G5.3.3, G5.3.4, G5.3.5
G6 Airborne and impact sound - G6.3.1, G6.3.2
G7 Natural light - G7.3.1, G7.3.2
G8 Artificial light - G8.3
G9 Electricity - G9.3.1, G9.3.2, G9.3.3, G9.3.4
G10 Piped services - G10.3.1, G10.3.2, G10.3.3, G10.3.4, G10.3.5, G10.3.6, G10.3.5, G10.3.6
G11 Gas as an energy source- G11.3.1, G11.3.2, G11.3.3, G11.3.4, G11.3.5, G11.3.6
G12 Water supplies- G12.3.1, G12.3.2 G12.3.3, G12.3.4, G12.3.5, G12.3.6, G12.3.7, G12.3.8), G12.3.9, G12.3.10
G13 Foul water- G13.3.1, G13.3.2, G13.3.3, G13.3.4
G15 Solid waste - G15
H1 Energy efficiency - H1.3. H1.3.2E, H1.3.3, H1.3.4, H1.3.5

How the building method or product complies or contributes can be found in item 12. Basis for Certification. Any qualifications on the extent of that compliance can be found in item 6. Conditions and limitations of use.

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PRODUCT CERTIFICATE

DINEX Building Design Method

6 CONDITIONS AND LIMITATIONS OF USE

1. The Dinex Building Design Method is certified for creating site specific plans and specifications, as defined by section 7 of the Building Act 2004, for building consent applications, and post consent alterations, provided:
   a. each page of the plans and specifications produced under this certificate and submitted for building consent shall bear the mark of conformity and certificate number, and the building consent application shall include a signed and dated DINEX Design Summary/Declaration, which includes a confirmation that producer statements have been provided by relevant engineers to Dinex,
   b. each page of the plans and specifications produced under this certificate and submitted as a post-consent alteration shall bear the mark of conformity and certificate number, and shall include a signed and dated DINEX Design Summary/Declaration – Post Consent Alteration,
2. Compliance with Clauses E1.3.3 (e) and G13.3.3 is subject to the approvals of the relevant network utility operators for surface water drainage systems affecting an outfall, and connections to sewer.

NOTE: Together, items 3, 4, 5 and 6 define scope of use.

7 HEALTH AND SAFETY INFORMATION

The compliance with any manufacturer's installation instructions, maintenance, OH & S statements, MSDS's and other Health and Safety declarations will provide the necessary Health and Safety Information pertaining to the product.

8 SIGNATURES

Sam Guindi
Product Certification Manager

For and on behalf of
Bureau Veritas Australia Pty Ltd

Craig Wearne
Director

For and on behalf of
DINEX Ltd

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DINEX Building Design Method

SCHEDULE: INFORMATION THAT SUPPORTS KEY INFORMATION

9 SUPPORTING INFORMATION ABOUT DESCRIPTION

Nil

10 SUPPORTING INFORMATION ABOUT INTENDED USE

Swimming pool design and fencing of a swimming pool are excluded from the scope of this certificate.

11 SUPPORTING INFORMATION ABOUT CONDITIONS AND LIMITATIONS OF USE

Nil

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DINEX Building Design Method

12 BASIS FOR CERTIFICATION

- B1 Structure - By testing and comparison with Acceptable Solution B1/AS1, Verification Method B1/VM1 and referenced standard NASH Standard Part 2 Light Steel Framed Buildings
- B2 Durability - By comparison with Acceptable Solution B2/AS1 and Verification Method B2/VM1
- C2 Prevention of fire occurring - By analysis and comparison with Acceptable Solutions C/AS1 and C/AS2
- C3 Fire affecting areas beyond the fire source - By analysis and comparison with Acceptable Solution C/AS1 and C/AS2
- C4 Movement to place of safety - By analysis and comparison with Acceptable Solution C/AS1 and C/AS2
- C5 Access and safety for firefighting operations - By analysis and comparison with Acceptable Solution C/AS1 and C/AS2
- C6 Structural stability - By analysis and comparison with Acceptable Solution C/AS1 and C/AS2
- D1 Access - By analysis and comparison with Acceptable Solution D1/AS1
- D2 Mechanical installations for access - By analysis and comparison with Acceptable Solution D2/AS1
- E1 Surface water - By comparison with Acceptable Solution E1/AS1
- E2 External moisture - By comparison with Acceptable Solution E2/AS4
- E3 Internal moisture - By comparison with Acceptable Solution E3/AS1
- F2 Hazardous building materials - By comparison and analysis with the performance requirements of Code clause F2.3.1 and Acceptable Solution F2/AS1
- F4 Safety from falling - analysis and comparison with Acceptable Solution F4/AS1
- F7 Warning systems- analysis and comparison with Acceptable Solution F7/AS1
- G1 Personal hygiene- analysis and comparison with Acceptable Solution G1/AS1
- G2 Laundering - analysis and comparison with Acceptable Solution G2/AS1
- G3 Food preparation and prevention of contamination - analysis and comparison with Acceptable Solution G3/AS1
- G4 Ventilation - By analysis and comparison with Acceptable Solution G4/AS1
- G5 Interior environment – By analysis and comparison with Acceptable Solution G5/AS1
- G6 Airborne and impact sound - By analysis and comparison with Acceptable Solution G6/AS1
- G7 Natural light - By analysis and comparison with Acceptable Solution G7/AS1
- G8 Artificial light - By analysis and comparison with Acceptable Solution G8/AS1
- G9 Electricity - By analysis and comparison with Acceptable Solution G9/AS1
- G10 Piped services - By analysis and comparison with Acceptable Solution G10/AS1
- G11 Gas as an energy source - By analysis and comparison with Acceptable Solution G11/AS1
- G12 Water supplies - By analysis and comparison with Acceptable Solution G12/AS1
- G13 Foul water - By analysis and comparison with Acceptable Solution G13/AS1
- H1 Energy efficiency - By analysis and comparison with Acceptable Solution H1/AS1

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PRODUCT CERTIFICATE

DINEX Building Design Method

13 SUPPORTING DOCUMENTATION FOR CERTIFICATION

1. Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B1 Structure First edition (Amendment 19), 28 November 2019
2. Acceptable Solutions and Verification Methods For New Zealand Building Code Clause B2 Durability (Amendment 12), 28 November 2019
3. C/VM1 Verification Method for Solid Fuel Appliances C/AS1 Acceptable Solution for Buildings with Sleeping (residential) and Outbuildings (Risk Group SH) For New Zealand Building Code Clauses C1-C6 Protection from Fire (Amendment 5), 5 November 2020
4. C/AS2 Acceptable Solution for Buildings other than Risk Group SH for New Zealand Building Code Clauses C1-C6 Protection from Fire First edition (Amendment 2), 5 November 2020
5. Acceptable Solutions and Verification Methods for New Zealand Building Code Clause D1 Access Routes Second edition (Amendment 6), 1 January 2017
6. Acceptable Solutions and Verification Methods For New Zealand Building Code Clause D2 Mechanical Installations for Access Second edition (Amendment 7), 1 January 2017
7. Acceptable Solutions and Verification Methods for New Zealand Building Code Clause E1 Surface Water 1st Edition (Amendment 11), 5 November 2020
8. Verification Methods E2/VM1 and Acceptable Solutions E2/AS1, E2/AS2 and E2/AS3 for New Zealand Building Code Clause E2 External Moisture Third edition (Amendment 10), 5 November 2020
9. Acceptable Solution E2/AS4 Light steel framing weathertight solution for buildings up to 3 storeys or of 10m or less in height with a floor area not exceeding 300m^2), 28 November 2019
10. Acceptable Solutions and Verification Methods For New Zealand Building Code Clause E3 Internal moisture 2nd edition (Amendment 7), 5 November 2020
11. Acceptable Solutions and Verification Methods for New Zealand Building Code Clause F2 Hazardous building materials First edition (Amendment 3), 1 January 2017
12. Acceptable Solutions and Verification Methods For New Zealand Building Code Clause F4 Safety from Falling Third edition (Amendment 2), 1 January 2017
13. Compliance Document for New Zealand Building Code Clause F7 Warning Systems 4th edition, 10 April 2012
14. Compliance Document for New Zealand Building Code Clause G1 Personal Hygiene Second Edition amendment 6, 10 October 2011
15. Acceptable Solutions and Verification Methods For New Zealand Building Code Clause G2 Laundering First edition (Amendment 3), 1 January 2017
16. Acceptable Solutions and Verification Methods For New Zealand Building Code Clause G3 Food Preparation and Prevention of Contamination First edition (Amendment 2), 1 January 2017
17. Acceptable Solutions and Verification Methods for New Zealand Building Code Clause G4 Ventilation Fourth edition, 27 June 2019
18. Compliance Document for New Zealand Building Code Clause G5 Interior Environment First edition (Amendment 2), 10 October 2011
19. Compliance Document for New Zealand Building Code Clause G6 Airborne and Impact Sound First edition (Amendment 2), 1 December 1995
20. Acceptable Solutions and Verification Methods for New Zealand Building Code Clause G7 Natural Light First edition (Amendment 2), 14 February 2014
21. Acceptable Solutions and Verification Methods For New Zealand Building Code Clause G8 Artificial Light First edition (Amendment 2), 14 January 2014
22. Acceptable Solutions and Verification Methods for the New Zealand Building Code Clause G9 Electricity First edition (Amendment 7), 5 November 2020
23. Acceptable Solutions and Verification Methods For New Zealand Building Code Clauses G10 Piped Services, First edition (Amendment 8), 1 January 2017
24. Acceptable Solutions and Verification Methods For New Zealand Building Code Clause G11 Gas as an Energy Source First edition (Amendment 6), 1 January 2017
25. Acceptable Solutions and Verification Methods Acceptable Solutions and Verification Methods For New Zealand Building Code Clause G12 Water Supplies Third edition (Amendment 12), 27 June 2019
26. Acceptable Solutions and Verification Methods For New Zealand Building Code Clause G13 Foul Water Second edition (Amendment 9), 5 November 2020
27. Acceptable Solutions and Verification Methods for New Zealand Building Code Clause H1 Energy Efficiency Fourth edition (Amendment 4), 28 November 2019
28. NASH Standard Part 2 Light Steel Framed Buildings 2019
29. NASH Envelope Solutions 2019
30. Peer Review of Lightweight Steel Frame Engineering Designs using Zog Steel Framing DBcon Consulting Engineers 21st June 2014

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DINEX Building Design Method

14 CONDITIONS RELATING TO NOTIFICATION

(a) the certificate holder notifies the product certification body (Bureau Veritas) in writing of any intended change to any of the following particulars:
(i) the name, address, or contact details of the certificate holder:
(ii) any address of a location where a certified product is produced or manufactured:

(b) the certificate holder notifies the product certification body (Bureau Veritas) in writing of any intended change, modification, or alteration to any of the following:
(i) the certified building method or product:
(ii) the method of its production or manufacture:
(iii) the product quality plan prepared in respect of the certified building method or product:
(iv) the application or installation instructions for the certified building method or product:
(v) any documentation relating to the use and maintenance of the certified building method or product:

(c) if the certificate holder has any reason to suspect that the certified building method or product does not comply with the Building Code, the certificate holder notifies the product certification body (Bureau Veritas) in writing of the reason for that suspicion:

(d) if the certificate holder or the product certification body (Bureau Veritas) finds that a certified building method or product that has been released on the market does not comply with the Building Code, the certificate holder discloses that fact in disclosure statements published in a form that is acceptable to the product certification body and to the chief executive:

(e) if the certificate is suspended or revoked, the certificate holder—
(i) notifies all customers to whom the building method or product is regularly supplied; and
(ii) immediately ceases using the certificate, the mark of conformity, and any reference to the number of the certificate.

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CERTIFICATE V1.3

BC211794

DINEX Design Summary/ Declaration

Project Marshall

Job code 97723

Job name Marshall

Address

Lot 11 DP 540916
25 Greengrass Crescent
Silverstream B9
Kaiapoi
Canterbury 7630

CODEMARK™
CM70023 Rev1

The building falls within the following Classified Use:
Housing (detached dwellings)

The building height is less than 10m:	ACTUAL 4020
The risk E2/AS1 matrix is <20:	ACTUAL 8
RISK CATEGORY	
Wind Zone	High
Earthquake Zone	2
Exposure Zone	C
Climate Zone	3
Snowload	1.0kPa

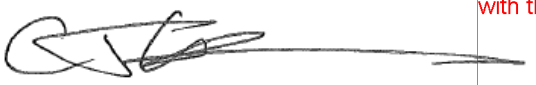
The signatory of this declaration confirms that:

- the plans and specifications have been prepared in accordance with the DINEX Building Design Method; and

- there are no additional code obligations that are not covered by the Codemark Certificate CM70023.

- the producer statements have been provided by relevant engineers to DINEX.

Dated: 01 Dec 2021
Approved Signatory of DINEX Limited



WAIMAKARIRI DISTRICT COUNCIL
Plans and specifications APPROVED in accordance with the Building Act 2004, clause 49 and the Building Regulations 1992, Clause 3
BC211794 20/01/2022 Chrisk

CRAIG WEARNE

CONSENT ISSUED BC211794 - Page 193 of 316

Section 5
Specifications

SPECIFICATION of work to be done and materials to be used in carrying out the works shown on the accompanying drawings

97723

Lot 11, DP 540916, Greengrass Crescent, Silverstream B9, Kaiapoi, Canterbury

WAIMAKARIRI DISTRICT COUNCIL
Plans and specifications APPROVED in accordance with the Building Act 2004, clause 49 and the Building Regulations 1992, Clause 3
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1220 PROJECT

1. GENERAL

This general section describes the project including:
- A description of the work
- Site description, features and restrictions
- Design parameters for design by contractor
- Archaeological discovery

1.1 READ ALL SECTIONS TOGETHER
Read all general sections together with all other sections.

Description of the work

1.2 SCOPE OF THE WORK
New Dwelling as per Drawings

1.3 RESTRICTED BUILDING WORK
This project includes Restricted Building Work.

Site

1.4 SITE
The site Refer to drawings

1.5 LEGAL DESCRIPTION
The site of the works, the street address and the legal description are shown on the drawings.

Site environment - Wind

1.6 WIND DESIGN PARAMETERS - NON SPECIFIC DESIGN
The design wind pressures are to NZS 3604, Table 5.4 Determination of wind zone, up to and including Extra High Wind Zone.
Building wind zone Refer to drawings (refer to NZS 3604, table 5.4)

Site environment - Durability

1.7 EXPOSURE ZONE
The exposure zone is to NZS 3604, Section 4 Durability, 4.2 Exposure zones and NZBC E2/AS1.
The site zone is: Refer to drawings

Site environment - Seismic

1.8 EARTHQUAKE ZONE - NON SPECIFIC DESIGN
The zone is to NZS 3604, Section 5 Bracing design, 5.3 Earthquake bracing demand.
The earthquake zone is: Refer to drawings

Archaeological discovery

1.9 ANTIQUITIES AND ITEMS OF VALUE
Report the finding of any fossils, antiquities and other items of value, to the Contract Administrator. All to remain undisturbed until approval is given for removal.

Pre-1900, items or evidence of human activity on the site, come under the Heritage New Zealand Pouhere Taonga Act 2014. If such items or evidence is discovered work must stop immediately and the Contract Administrator must be notified immediately. The site may be classified as an Archaeological Site under the Act, and the Contract Administrator or Owner must contact the Heritage New Zealand for authority to proceed.

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Post-1900 items remain the property of the owner, pre-1900 items may remain the property of the owner or the Crown subject to what is found.

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1232 INTERPRETATION & DEFINITIONS

1. GENERAL

This general section relates to definitions and interpretation that are used in this specification.

1.1 DEFINITIONS

Required:	Required by the documents, the New Zealand Building Code or by a statutory authority.
Proprietary:	Identifiable by naming the manufacturer, supplier, installer, trade name, brand name, catalogue or reference number.
Provide and fix:	"Provide" or "fix" or "supply" or "fix" if used separately mean provide and fix unless explicitly stated otherwise.
Review:	Review by the contract administrator is for general compliance only. Review does not remove the need for the contractor to comply with the stated requirements, details and specifications of the manufacturers and suppliers of individual components, materials and finishes. Neither can the review be construed as authorising departures from the contract documents.
Working day:	Working day means a calendar day other than any Saturday, Sunday, public holiday or any day falling within the period from 24 December to 5 January, both days inclusive, irrespective of the days on which work is actually carried out.
Workplace:	Workplace means the place where work is being carried out, or is customarily carried out, for a business or undertaking including any place where a worker goes, or is likely to be, while at work (under Health and Safety at Work Act 2015).

1.2 PERSONNEL

Owner:	The person defined as "owner" in the New Zealand Building Code.
Principal:	The person defined as "principal" in the conditions of contract.
Contractor:	The person contracted by the principal to carry out the contract.
Contract administrator:	The person appointed by the principal to administer the contract on the principal's behalf. Where no person has been appointed by the Principal, it means the Principal or the Principal's representative.

1.3 ABBREVIATIONS

The following abbreviations are used throughout the specification:

AAMA	American Architectural Manufacturers Association
AS	Australian Standard
AS/NZS	Joint Australian/New Zealand Standard
ASTM	American Society for Testing and Materials
AWCINZ	Association of Wall and Ceiling Industries of New Zealand Inc.
BCA	Building Consent Authority
BRANZ	Building Research Association of New Zealand
BS	British Standard
COP	Code of practice
CSIRO	Commonwealth Scientific and Industrial Research Organisation
HERA	Heavy Engineering Research Association
LBP	Licensed Building Practitioner
MBIE	Ministry of Business, Innovation and Employment
MPNZA	Master Painters New Zealand Association Inc
NZBC	New Zealand Building Code
NZS	New Zealand Standard
NZS/AS	Joint New Zealand/Australian Standard
NZTA	New Zealand Transport Agency
NUO	Network Utility Operator
PCBU	Person Conducting a Business or Undertaking (under Health and Safety at Work Act 2015)
OSH	Occupational Safety and Health
TA	Territorial Authority

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TNZ	Transit New Zealand(Transit New Zealand is now New Zealand Transport Agency NZTA - some specifications are still prefixed TNZ)
RBW	Restricted Building Work
SARNZ	Scaffolding and Rigging New Zealand Inc
SED	Specific Engineering Design

1.4 DEFINED WORDS
Words defined in the conditions of contract, New Zealand Standards, or other reference documents, to have the same interpretation and meaning when used in their lower case, title case or upper case form in the specification text.

1.5 WORDS IMPORTING PLURAL AND SINGULAR
Where the context requires, words importing singular only, also include plural and vice versa.

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1233 REFERENCED DOCUMENTS

1. GENERAL

1.1 REFERENCED DOCUMENTS

Throughout this specification, reference is made to various New Zealand Building Code Compliance Documents (NZBC __), acceptable solutions (__ AS_) and verification methods (__ VM_) for criteria and/or methods used to establish compliance with the New Zealand Building Code.

Reference is also made to various standards produced by Standards New Zealand (NZS, AS/NZS, NZS/AS), overseas standards and to listed Acts, Regulations and various industry codes of practice and practice guides. The latest edition (including amendments and provisional editions) at the date of this specification applies unless stated otherwise.

It is the responsibility of the contractor to be familiar with the materials and expert in the techniques quoted in these publications.

Documents cited both directly and within other cited publications are deemed to form part of this specification. However, this specification takes precedence in the event of it being at variance with the cited documents.

1.2 DOCUMENTS

Documents referred to in the GENERAL sections are:

NZBC F4/AS1	Safety from falling
NZBC F5/AS1	Construction and demolition hazards
AS/NZS 1170.2	Structural design actions - Wind loads
AS/NZS 3012	Electrical installations - Construction and demolition sites
NZS 1170.5	Structural design actions - Earthquake actions - New Zealand
NZS 3109	Concrete construction
NZS 3114	Specification for concrete surface finishes
NZS 3404:1997	Steel structures standard
NZS 3602	Timber and wood-based products for use in building
NZS 3604	Timber-framed buildings
NZS 4210	Masonry construction: Materials and workmanship
NZS 6803	Acoustics - Construction Noise

Building Act 2004

Building Regulations 1992

Health and Safety at Work Act 2015

Health and Safety at Work (General Risk and Workplace Management) Regulations 2016

Health and Safety at Work (Hazardous Substances) Regulations 2017

Health and Safety in Employment Regulations 1995 (reprint 4 April 2016)

New Zealand Building Code

Heritage New Zealand Pouhere Taonga Act 2014

Resource Management Act 1991

Smoke-free Environments Act 1990

WorkSafe NZ	Guidelines for the provision of facilities and general safety in the construction industry
WorkSafe NZ	Good Practice Guidelines - Excavation Safety
WorkSafe NZ	Scaffolding in New Zealand - Good Practice Guidelines
SARNZ	Best practice guideline for scaffolding in New Zealand

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1234 DOCUMENTATION

1. GENERAL

This general section relates to documentation required by the Territorial Authority/Building Consent Authority for compliance with the New Zealand Building Code. It also includes documentation relating to:
- Substitutions
- Manufacturers documents

Building Consent Authority documentation

1.1 BUILDING CONSENT
Obtain the building consent forms and documents from the owner and keep them on site. Liaise with the BCA for all notices to be given and all inspections required during construction to ensure compliance. Return the consent form and documents to the owner on completion.

1.2 BUILDING CONSENT COMPLIANCE
It is an offence under the Building Act 2004
- to carry out any work not in accordance with the building consent.
- to carry out Restricted Building Work by anyone other than a Licensed Building Practitioner licensed for that type of work.

The resolution of matters concerning building code compliance to be referred to the contract administrator for a direction and then if required to the BCA for consent.

Where any alteration is requested by the territorial authority or any other authority, do not undertake such alteration until the matter has been referred to the contract administrator for direction.

1.3 PROJECT PERSONNEL
Provide names and contact details of the contractor's key personnel and tradespersons who are involved with the project. Review the list once a month and reissue it if changes have been made.

Licensed Building Practitioner documentation

1.4 LICENSED BUILDING PRACTITIONERS
Provide LBP details. Provide names, LBP numbers, areas of practice and contact information. Provide this information to the BCA before commencing work on the Restricted Building Work in the form required by the BCA. Advise the BCA of any change to an LPB previously advised.

Include the following as applicable
- Site LBP
- Carpenter
- Foundations Concrete foundation walls and concrete slab-on-ground constructor
- Roofing Profiled metal roofer and/or wall cladding installer
- External plastering Proprietary Plaster Cladding Systems (PPCS) plasterer *(If required, refer to drawings)*

Also provide names and contact details of the following
- Registered drainlayer
- Registered plumber
- Registered electrician

1.5 PRODUCER STATEMENTS
When producer statements verifying construction are required, provide copies to both the Building Consent Authority and the Contract Administrator. Provide producer statements in the form required by the BCA.

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1.6 RECORD OF WORK
Where Restricted Building Work is carried out by a LBP, on completion provide a Record of Work. Provide copies to both the BCA and the Contract Administrator.

Compliance information

1.7 DOCUMENTATION REQUIRED FOR CODE COMPLIANCE
Information may be required either as a condition of the contract documents or as a condition of the building consent. It may include the following:
- Applicators approval certificate from the manufacturer / supplier
- Manufacturer's / supplier's warranty
- Installer / applicator's warranty
- Producer Statement - Construction from the applicator / installer
- Producer Statement - Construction review from an acceptable suitably qualified person

Refer to the general sections for the requirements for compliance information to be provided by the contractor.

Refer to the building consent for the requirements for compliance information to be provided by the contractor.

Obtain required documents from the relevant parties for delivery to the contract administrator after the final inspection has been carried out by the BCA.

1.8 NO SUBSTITUTIONS
Where specifically stated in a section, substitutions are not permitted to any of the specified systems, components and associated products listed in that section.

1.9 PROPOSED SUBSTITUTIONS
A substitution may be proposed where specified products are not reasonably available. A substitution may also be proposed by the contractor where the contractor considers a proposed substitution to be an alternative to the specified product. Except where a specified product is not available, the contract administrator is not bound to accept any substitutions. Where branded work sections are included in this specification, substitution of those products or systems will not be allowed.

1.10 NOTIFICATION OF SUBSTITUTIONS
Notify proposed substitution of specified products. Notification to include but not be limited to:
- Product identification
- Manufacturer's name, address, telephone number, website and email address
- Detailed comparison between the properties and characteristics of the specified product and the proposed substitution
- Statement of NZBC compliance including durability
- Details of manufacturer warranties

Plus an assessment of:
- Any changes required to the programme including any extension of time required
- Any consequential effects of the proposed substitution
- Any effect the substitution may have on Health & Safety requirements
- Allowance for time and cost for re-design and documentation (if applicable)
- Allowance for time and cost for obtaining an amendment to the Building Consent (if applicable)
- Any change in cost associated with the proposed substitution

and if requested:
- All current manufacturer's literature on the product
- Accreditations and appraisals available
- Reference standards
- Product limitations
- Samples
- List of existing installations in the vicinity of the project

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1.11 ACCEPTANCE OF SUBSTITUTIONS
The Contract administrator must advise of acceptance of substitutions in writing.

Variations to issued Building Consent

1.12 CONTRACTOR VARIATION TO BUILDING CONSENT
Where the contractor has sought acceptance of a substitution or a variation which is for the contractor's own convenience and the substitution or variation requires an amendment to the Building Consent, the contractor must apply for and obtain the required amendment.

The contractor must:
- Obtain approval for substitutions from the contract administrator.
- Prepare and provide to the BCA all documentation required for the variation.
- Pay all fees and other costs associated with this amendment.
- Where the amendment affects other approved plans, also amend those plans.

1.13 PRINCIPALS VARIATION TO BUILDING CONSENT
Where the principal is proposing a substitution or a variation which requires an amendment to the Building Consent, the contractor must provide to the principal information that the contractor has that is required for the amendment.

The principal will:
- Prepare and provide to the BCA all documentation required for the amendment.
- Pay all fees and other costs associated with this amendment.
- Where the amendment affects other approved plans, also amend those plans.

Manufacturer's documents

1.14 BRANDED WORK SECTIONS
Branded sections may be included in this specification relating to specific products and systems to be installed as part of the contract works. Where branded sections are included, substitutions to the branded products and systems will not be allowed.

1.15 MANUFACTURER'S AND SUPPLIER'S INSTALLATION REQUIREMENTS
Manufacturers and supplier's requirements, instructions, specifications or details means those issued by them for their particular material, product or component and are the latest edition.

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1240 ESTABLISHMENT

1. GENERAL

This general section relates to site establishment including:
- Notices and approvals
- Site preparation

Notices and approvals

1.1 STATUTORY OBLIGATIONS
Comply with all statutory obligations and regulations of regulatory bodies controlling the execution of the works.

1.2 BUILDING CONSENT AUTHORITY AND NETWORK UTILITY APPROVALS
Attend on Building Consent Authority officers, statutory and network utility inspectors, as necessary to obtain approvals (in addition to building consent approval) for and the satisfactory completion of, the works.

1.3 NOTIFY NETWORK UTILITY OPERATORS
Notify all network utility operators of proposed works before commencing site operations. Ascertain location of services or confirm that none exist in the vicinity of the works. Take all necessary precautions to avoid damage to existing services.

Inspections

Site preparation

1.4 SITE ACCESS
Refer to the Drawings

1.5 SITE AND SOIL SURVEYS
Carry out all investigations necessary and peruse all information available to determine ground conditions and likely ground performance both on the site and adjacent to it. Also refer to the territorial authority project information memorandum (PIM).

1.6 GROUND CONDITIONS
Refer to the soils investigation report included with this specification.

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1270 CONSTRUCTION

1. GENERAL

This GENERAL section relates to common requirements for construction issues including: -
- Quality assurance
- Noise and nuisance
- Set out
- Common execution requirements
- Common materials requirements
- Supply of spare materials
- Common requirements for samples and tests
- Final presentation and cleaning
- Commissioning

Quality control and assurance

1.1 QUALITY ASSURANCE

Carry out and record regular checks of material quality and accuracy, including:
- Concrete quality and finish.
- Dimensional accuracy of structural column locations (following completion of foundations).
- All perimeter columns and frames for plumb.
- Levels of all floors relative to the site datum.
- Framing timber moisture content.

Where any material, quality or dimension falls outside specified or required tolerances, obtain written direction from the contract administrator. Where building consent approval is affected, confirm remedial action with the Building Consent Authority.

Provide all materials, plant, attendances, supervision, inspections and programming to ensure the required quality standards are met by all project personnel.

Noise and nuisance

1.2 LIMIT CONSTRUCTION NOISE

Minimise the effects of noise generation by including in the planning of the work such factors as placing of plant, programming the sequence of operations and other management functions. Limit construction noise to comply with the requirements of NZS 6803, the requirements of the Resource Management Act sections 326, 327 and 328 and the Health and Safety in Employment Regulations clause 11.

1.3 ACCEPTABLE NOISE LEVELS

Refer to NZS 6803 Tables 2 and NZS 6803, tables 3 for the upper limits of construction work noise in residential and industrial areas over the various time periods, particularly 0730 to 1800 hours. Note also the allowed adjustments and exemptions in NZS 6803, 6. Do not exceed these limits.

1.4 PROVIDE INFORMATION TO NEIGHBOURS

Provide information to neighbours of any noise generation from the site liable to constitute a problem. Explain to them the means being used to minimise excessive noise and establish with them the timings most suitable for the noise generating work to be carried on.

Discuss with any complainant the measures being used to minimise noise. Where possible modify these measures to accommodate particular circumstances. Finally, determine the sound level at the location under discussion using methods and observation reporting as laid down in NZS 6803. If the noise level is above the upper limits of NZS 6803, tables 2 and NZS 6803, tables 3, cease the noise generating operation and remedy the problem.

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1.5 INCONVENIENCE TO OTHERS
When the works are to be carried out in or around occupied premises, ascertain the nature and times of occupation and use. Carry out the works in a manner to minimise inconvenience, nuisance and danger to occupants and users.

1.6 DIRT AND DROPPINGS
Remove dirt and droppings deposited on public or private thoroughfares from vehicles servicing the site to the satisfaction of the appropriate authorities and the contract administrator.

1.7 DAMAGE AND NUISANCE
Take all precautions to prevent damage and nuisance from water, fire, smoke, dust, rubbish and all other causes resulting from the construction works.

Set-out and tolerances

1.8 SURVEY INFORMATION
Locate and verify survey marks and datum points required to set out the works. Record and maintain their position. Re-establish and replace disturbed or obliterated marks.

1.9 SET-OUT AND DATUM
Set out the work to conform with the drawings. Establish a permanent site datum to confirm the proposed building ground floor level and its relationship to all other existing and new building levels.

1.10 CONFIRM HEIGHT IN RELATION TO BOUNDARY
When required, provide a certificate prepared by a licensed cadastral surveyor that the building has been constructed within the allowed height in relation to boundary. Provide the certificate to the local authority. Provide a copy of the certificate to the contract administrator

1.11 USE OF SET-OUT INSTRUMENTS
Permit without charge, the use of instruments already on site for checking, setting out and levels.

1.12 CHECK DIMENSIONS
Check all dimensions both on drawings and site, particularly the correlation between components and work in place. Take all dimensions on drawings to be between structural elements before linings or finishes, unless clearly stated otherwise.

1.13 TOLERANCES
All work to be level, plumb, and true to line and face. Unless otherwise specified in specific work sections of this specification, tolerances for structural work shall comply with the following:

Concrete construction:	To NZS 3109 Concrete construction Clause 3.9 Tolerances for reinforcement Table 5.1 Tolerance for precast components Table 5.2 Tolerance for in situ construction To NZS 3114 Concrete surface finishes
Masonry construction:	To NZS 4210 Masonry construction: Materials and workmanship Clause 2.6.5 Tolerances Table 2.2 Maximum tolerances
Structural steelwork:	To NZS 3404:1997 Steel structures standard Section 14.4 Tolerances (after fabrication) Section 15.3 Tolerances (erection)
Timber framing:	To NZS 3604 Timber-framed buildings Clause 2.2 Tolerances Table 2.1 Timber framing tolerances

Refer to work sections for tolerance requirements for finishes.

Execution

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1.14 EXAMINE PREVIOUS WORK
Before commencing any part of the work carefully examine the previous work on which it may depend. Report in writing to the contract administrator defects that may affect the quality of the proposed work and obtain instructions. Commencing work on any part means that previous work is accepted as being satisfactory for work of the required standard.

1.15 WORKER QUALIFICATIONS
All work to be level, plumb, and true to line and face. Employ only experienced workers familiar with the materials and techniques specified.

1.16 MINIMISE DELAYS DUE TO WEATHER
Use appropriate techniques and methods to prevent damage and minimise delays due to weather.

Materials

1.17 NEW PRODUCTS AND MATERIALS
Materials and products to be new unless stated otherwise, of the specified standard, and complying with all cited documents.

1.18 COMPATIBILITY OF MATERIALS AND FINISHES
Ensure all parts of a construction or finish are compatible and their individual use approved by the manufacturers and suppliers of other parts of the system. Source all parts of a system from a single manufacturer or supplier.

1.19 STORING PRODUCTS AND MATERIALS
Take delivery of and store products, materials and components in accordance with codes of practice and the product manufacturer's or supplier's stated requirements. Maintain the proper condition of any protective packaging, wrappings or supports during delivery, unloading and storage.

1.20 HANDLING PRODUCTS AND MATERIALS
Handle products, materials and components in accordance with codes of practice and the manufacturer's or supplier's stated guidelines. Avoid distortion and any contact with potentially damaging surfaces or conditions.

1.21 SUBSTRATE CONDITIONS
Ensure substrate conditions are within the manufacturer's or supplier's stated guidelines both before and during the installation of any material, product or system. Obtain written instructions on the necessary action to rectify unsatisfactory conditions.

1.22 INSTALLING PRODUCTS AND MATERIALS
Install in accordance with the manufacturer's or supplier's technical literature. Ensure that all installers are familiar with the required substrate conditions and the manufacturer's or supplier's specified preparation, fixing and finishing techniques.

1.23 COMPLY WITH STANDARDS
Comply with the relevant and/or cited Standard for any material or component. Obtain certificates of compliance when requested by the contract administrator.

1.24 CONDITION OF MATERIALS AND COMPONENTS
To be in perfect condition when incorporated into the work.

1.25 INCOMPATIBLE MATERIALS AND METALS
Separate incompatible materials and metals with separation layers, sleeves or gaskets of plastic film, bituminous felt or mastic or paint coatings, installed so that none are visible on exposed surfaces.

Samples and tests

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1.26 CONTROL STANDARD
Obtain the contract administrator's confirmation of material, component and work samples which then become the quality control standard. Remove from the site any rejected samples. Retain confirmed samples with care on site for comparison throughout the contract. Remove from the site when no longer required.

Spares

1.27 SPARES
Collect, protect and store safely all spare materials required under the contract. Give the contract administrator an inventory of all spares.

Final presentation and cleaning

1.28 REMOVE TEMPORARY PROTECTION
Remove all temporary markings, coverings, labels and protective wrappings unless instructed otherwise.

1.29 REPLACE DAMAGED MATERIALS
Replace all materials or component damaged during the works to the standard of and integral with the original.

1.30 COMPLETE ALL SERVICES
Ensure all services are complete and operational, with all temporary labelling removed, required labelling fixed and service instructions provided.

1.31 CLEANING BY CONTRACTOR
Clear the contract works of all construction materials, waste, dirt and debris. Clean the contract works including:
- Wipe all surfaces to remove construction dust
- Clean out service ducts and accessible concealed spaces
- Clean out all gutters and rainwater heads
- Wipe dust from both sides of glass. Take particular care when removing paint or cementitious materials to not damage the glass.
- Remove adhesive residue left by labels and other temporary protection/markings
- Clean out the interior of all cabinetry
- Wash down external concrete including driveways and concrete masonry. Take care when waterblasting to not cause damage to the surface or allow water to enter the building.
- Remove rubbish and building material from the area immediately adjacent to the contract works

1.32 CLEANING BY COMMERCIAL CLEANER
Use a commercial cleaning firm to clean the whole of the interior of the building, including all appliances, equipment, fittings, surfaces and finishes to leave it without any blemish. Cleaning to include:
- Clean and wash down all external surfaces to remove dirt, debris and marking.
- Clean all interior surfaces including cabinetwork, joinery, sanitary and hardware items.
- Vacuum or polish all floor finishes.
- Clean and polish all glass, both sides.

Commissioning

1.33 MOVING PARTS
Adjust, ease and lubricate all doors, windows, drawers, hardware, appliances, controls and all moving parts to give easy and efficient operation.

1.34 SECURITY AT COMPLETION
Remove any temporary lock cylinders and complete final keying prior to handing over keys to the principal on completion of the works. Leave the works secure with all accesses locked. Account for all keys/cards/codes and hand to the principal along with an itemised schedule, retaining a duplicate schedule signed by the principal as a receipt.

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2210 PREPARATION & GROUNDWORK

1. GENERAL

This section relates to the clearance, excavation and backfilling of the site area in preparation for:
- footings and floor slabs
- backfilling behind basement retaining walls

Documents

1.1 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZS 3604	Timber-framed buildings
NASH 3405	An alternative solution for steel framed buildings
WorkSafe NZ	Good Practice Guidelines - Excavation Safety

1.2 SITE SAFETY
Provide adequate support for all excavations. Cover holes and fence off open trenches and banks.

1.3 ARCHAEOLOGICAL DISCOVERY
If fossils, antiquities and other items of value are found refer to the general section 1220 PROJECT for actions to be taken with archaeological discovery.

2. PRODUCTS

2.1 EXCAVATED CLEAN FILL
Clean, free of contamination, mineral soil from other formations in the excavation which may be selected and approved as suitable for filling by having grading and moisture content properties that will allow recompaction to 95% of maximum density.

2.2 SAND FILL
Clean sand of such grading in particle size to achieve mechanical compaction to 90% maximum density.

2.3 HARD FILL
Scoria or crushed rock to GAP (General All Passing) 40 grading.

2.4 GRANULAR FILL
Approved screened crushed gravel or scoria, graded in size from 20mm to 7mm, clean. When tested with a standard sieve of 4.75 opening no material is to pass.

2.5 DRESSING COURSE
Scoria to GAP 20 grading, or "dirty footpath scoria", or equivalent "all in" graded crushed metal aggregate.

2.6 FREE-DRAINING AGGREGATE
Scoria or crushed gravel graded 50 to 14 clean.

3. EXECUTION

3.1 EXCAVATION GENERALLY
Carry out excavation, using plant suitable for the purpose, to the guidelines set by the WorkSafe NZ, Good Practice Guidelines - Excavation Safety.

3.2 BURNING OF MATERIALS
Burning of materials is not permitted on site.

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3.3 PROTECT EXISTING WORK
Protect from damage existing buildings, structures, roads, paving and services nominated on the drawings as being retained.

3.4 PROTECT EXISTING TREES, PLANTING, OR LANDSCAPE FEATURES
Protect from damage trees, shrubs, natural site features and existing landscaped areas nominated on the drawings as being retained. Ensure existing levels are undisturbed beneath the dripline of retained trees.

3.5 EROSION CONTROL
Ensure measures are in place to contain silt dislodged as a result of water infiltration and to prevent it being carried off site with stormwater.

3.6 SURFACE PREPARATION
Comply with NZS 3604, section 3.5, **Site preparation**. Remove all turf, vegetation, trees, topsoil, stumps, uncontrolled fill and rubbish from the area to be built on.

3.7 UNDERGROUND ELEMENTS AND SERVICES
Break out and remove old foundations, slabs, drainage pipes, manholes, tanks, cables and redundant services. Report for instructions when any unexpected voids, made-up ground or services are encountered. Seal off the ends of drains or remove to territorial authority approval.

3.8 STOCKPILE TOPSOIL
Stockpile excavated topsoil on site where directed. Keep separate from other excavated materials. Spread and level where directed before completion of the works.

3.9 SHORING AND UNDERPINNING (IF REQUIRED)
Carry out shoring and underpinning shown on the drawings and as necessary to prevent subsidence of adjoining public or private property and to ensure the safety of the public and site personnel. Maintain protection throughout the progress of the works, or until foundations and subgrade structures have been completed and the stability of adjoining public and private property secured.

3.10 GENERAL EXCAVATION
Trim ground to required profiles, batters, falls and levels. Remove loose material. Protect cut faces from collapse. Keep excavations free from water.

3.11 ROCK EXCAVATION
If rock is found at any level above the underside of the structural foundations, or above required base levels for site service trenches, immediately notify the owner. Obtain written instructions from the owner on the proposed approach to rock excavation, or consequent alterations to subgrade construction. Confirm any changes with the territorial authority.

3.12 FOUNDATION EXCAVATION
Take foundation excavations to depths shown. Keep trenches plumb and straight, bottoms level and free of soft spots, stepped as detailed and clean and free of water.

3.13 INADEQUATE BEARING
If bearing is not to NZS 3604, 3.1.2 **Foundations** and 3.1.3 **Determination of good ground**, then excavate further and backfill with material as follows. Confirm any changes with the territorial authority.
Below slabs on grade: Hardfill compacted in 150mm layers
Below footings: 10 MPa concrete
Service trenches: Hardfill compacted in 150mm layers

If excavation exceeds the required depths, backfill and compact to the correct level with material as listed.

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3.14 STANDARD OF COMPACTION
Place fill in layers of not more than 150mm and compact to achieve 95% of maximum dry density. For granular fill material, the fill shall be compacted to 80% of saturated dry density.

3.15 GRANULAR BASE FOR SLABS
To conform to NZS 3604, section 7.5.3, **Granular base**. Consolidate with a vibrating roller. Blind the surface with 20mm of coarse sand or sand/cement and roll ready to receive a damp-proof membrane.

3.16 GENERAL BACKFILLING
Obtain written confirmation from the owner before using any excavated material. Compact approved backfilling in 150mm layers with the last 200mm in clean topsoil, lightly compacted and neatly finished off.

3.18 SURPLUS MATERIAL
Remove surplus and excavated material from the site.

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3155 RAFT FLOOR SYSTEM

1. GENERAL

This section relates to a raft floor system, a specific Engineer designed reinforced concrete waffle raft floor slab-on-ground.

1.1 DOCUMENTS
Documents referred to in this section are:

NZBC B1/VM1	Structure
NZS 3104	Specification for concrete production
NZS 3109	Concrete construction
NZS 3114	Specification for concrete surface finishes
NZS 3604	Timber-framed buildings
NZS 4229	Concrete masonry buildings not requiring specific engineering design
AS/NZS 4671	Steel reinforcing materials

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

Requirements

1.2 QUALIFICATIONS
Tradespeople to be competent, experienced and familiar with the raft floor system materials and techniques specified.

1.3 QUALITY RECORDS
Keep accurate records relating to strength and quality of materials used during construction. Include records of workmanship during construction and photographs of as-built details. Make the information available to the Building Consent Authority inspector on request.

Performance

1.4 INSPECTION NOTIFICATION REQUIREMENTS
Refer to Inspection Schedule

2. PRODUCTS

Materials

2.1 BLINDING
50mm maximum compacted GAP 7.

2.2 TIMBER FORMWORK
No. 2 framing and dressing or merchantable grade radiata pine boards to NZS 3631.

2.3 DAMP-PROOF MEMBRANE
0.25mm minimum polyethylene to NZS 3604: clause 7.5.4, Damp-proof membrane (DPM). Refer to SELECTIONS.

2.4 POLYSTYRENE PODS
Proprietary purpose made polystyrene pods.

2.5 REINFORCEMENT
Bars to AS/NZS 4671. Grade 500E deformed, other than for ties, stirrups and spirals, unless shown otherwise on the drawings.

2.6 INTERNAL CORNER REINFORCEMENT
Minimum 2 x D10 bars Grade 300E to AS/NZS 4671.

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2.7 MESH
Welded reinforcing mesh to AS/NZS 4671 as modified by NZS B1/VM1, generally, Class E, minimum to NZBC B1/AS1 - Grade 500E, 2.27kg/m2 (1.14kg/m2 in each direction). Minimum SE62 500E mesh or the equivalent.

2.8 TYING WIRE
Mild drawn steel wire not less than 1.2mm diameter.

2.9 CONCRETE - RAFT APPLICATIONS
Refer to drawings

Components

2.10 SPACERS
Proprietary spacers.

3. EXECUTION

Conditions

3.1 STORAGE
Take delivery of and accept all materials and accessories dry and undamaged. Store on timber fillets on hard ground protected from weather, contamination and damage in a secure area clear of any building operation.

Handle and store reinforcing steel and accessories without damage or contamination. Ensure reinforcement is clean and remains clean so that at the time of placing concrete it is free of all loose mill scale, loose rust and any other contamination that may reduce bonding capacity. Store steel fabric flat.

3.2 HANDLING
Avoid distribution and contact with damaging substances. Do not drag sheets across each other and other materials. Protect edges and surface finishes from damage.

Application - raft floor system

3.3 SITE CLEARANCE
Clear the slab area of any vegetation and topsoil down to the subgrade level.

3.4 BUILDING PLATFORM
Create a building platform to a level surface approximately 330mm below finished floor level. Cut and/or fill sloping sites. Confirm finished floor level.

3.5 POST-CUT INSPECTION
Inspect and confirm that the soil conditions are as anticipated by the geotechnical investigation and report and conform to the requirements of the raft system supplier manual.

3.6 TEMPORARY BUILDING PLATFORM DRAINAGE
Construct suitable drainage to keep excessive ground water off the building platform during and after construction as required.

3.7 HARDFILL
Place hardfill and ensure it is spread and compacted with mechanical compaction.

3.8 UNDERGROUND SERVICES
Ensure underfloor services are installed in the subsoil or hardfill in locations as shown on the drawings and according to the raft floor system manufacturer's requirements.

3.9 WATER PIPES / CABLES IN SLAB
Water pipes and electrical cables which are under or in concrete floor slab shall be run in a PVC conduit.

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3.10 BLINDING LAYER

Spread GAP 7 blinding layer to a minimum 500mm past the outside edge of the slab, compact to a level layer no greater than 50mm thick and no higher than 305mm below finished floor level.

3.11 FORMWORK

Construct formwork as required, well braced and tied to remain in position, straight and plumb during construction. Ensure formwork will provide for the topping depth, including rebates and the required concrete finish.

3.12 INSTALL DAMP-PROOF MEMBRANE

Apply DPM to the prepared basecourse extending to the outside of all edge beams or fold and staple up the inside of the formwork. Overlap all joints in the DPM sheets a minimum 150mm. Tape laps and penetrations with 50mm wide pressure sensitive plastic tape. Ensure DPM is not damaged during the construction process. Repair all damage to DPM before proceeding with following procedures.

3.13 PLACE POLYSTYRENE PODS

Place polystyrene pods in a regular waffle pattern using the spacers in the specified grid pattern to fit the floor plan. Cut pods on site with a saw or suitable hot wire as required. Cut holes for services and trim around piles as required on site.

3.14 INSTALL SPACERS

Install spacers and locations to the raft floor system manufacturer's requirements.

Form standard ribs between pods using 100mm spacers. Place the spacers at a minimum of one spacer along each edge of each pod or part pod. The ribs in both directions form a waffle pattern throughout the slab.

Form the edge beam using 300mm spacers. Place the spacers at 1200mm centres maximum along the perimeter of the slab at least and one spacer per pod or part pod.

Form ribs to support load bearing walls using 300mm spacers. Place the spacers at a minimum of one spacer along the edge of each pod or part pod.

3.15 PLACE REINFORCING STEEL: RIB STEEL

Place rib reinforcing steel in the bottom of the internal ribs and supported in the correct position by spacers. Lap all steel 720mm minimum, and hook all plain bars. At the junction with the edge beam, each rib steel bar shall sit on top of the edge beam bars and extend to the outermost bar. Allow for 75mm cover to the edge of the beam. Place 1 x H12 bar in each 100mm wide rib and 2 x H12 bars in each 300mm wide rib.

3.16 PLACE REINFORCING STEEL: EDGE BEAM STEEL

Place the two edge beam reinforcing bars in the bottom of the edge beam and supported in the correct position by the spacers. Tie one edge beam bar below the mesh at the perimeter of the area covered by the polystyrene pods. Lap all steel 720mm minimum, and hook all plain bars. At corners, the inner bottom bars and the top bars cross each other and extend to 75mm from the outside face of the edge beam. Tie these bars together where they cross. Tying of edge beam steel is only required at corners.

3.17 PLACE REINFORCING STEEL: RE-ENTRANT CORNER STEEL

Place two D10 bars, 1200mm in length across the corner. Tie to the top of the mesh at re-entrant corners at 200mm centres with 50mm side cover from the internal corner.

Install specified steel to raft floor system manufacturer's requirements. Ensure specified minimum cover requirements are maintained.

3.18 PLACE REINFORCING MESH AND CHAIRS

Place reinforcing mesh over the pods and support on the mesh chairs spaced at 1200mm centres minimum, with two mesh chairs minimum placed per pod and with one mesh chair minimum per part pod.

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3.19 MESH LAPS
Welded reinforcing mesh to be lapped and tied, such that the outermost wires overlap by the greater of:
- the spacing of the cross wires plus 50mm
- 150mm or
- manufacturer's requirements

Do not count bar extensions beyond the outermost cross wire.

3.20 FORM SLAB AND OPENING REBATES
Form rebates, as detailed on drawings.

Form a minimum 50mm rebate in slab for masonry veneer construction with a width dependent on the veneer width, cavity width and overhang. Waterproof the rebate with a bituminous sealer on both the vertical and horizontal faces.

3.21 TOPPING SLAB DEPTH
85mm minimum (plus additional cover as required for in-floor heating or ground exposed concrete finishes)

3.22 PRE-PLACEMENT INSPECTION
Arrange for excavations, formwork and reinforcement to be inspected and passed by the Building Consent Authority.

3.23 CONCRETE PLACEMENT AND COMPACTION
Ensure the rib and edge beam canals are clean, free of debris. Pour the floor in a single pour ensuring that the pods remain in position during placing. Pour concrete onto the top of each pod prior to filling the ribs around the pod to help prevent them from floating and lifting.

Compact concrete using a suitable poker vibrator for the ribs and ground beams and into all corners of the formwork. Screed as required. Confirm levels with a laser level.

3.24 CONCRETE FINISHING
Float and trowel to provide a U3 finish to NZS 3114: table 2, Classes of floor, exterior pavement and invert finishes.

3.25 CONCRETE CURING
Curing of the concrete slab must take place immediately after finishing the concrete to NZS 3109 by one of the following curing methods:
- ponding or continuous sprinkling of water
- placing a wet covering or plastic membrane over the slab
- the use of liquid membrane curing compounds

Finishing

3.26 STRIKE FORMWORK
Strike formwork at least 12 hours after the slab has been finished without damaging or overloading structure.

3.27 SURFACE DEFECTS
Make good surface defects immediately after forms are stripped. Make good hollows or bony areas with suitable patching mortar, finished to the same tolerances as the parent concrete. Fill any tie rod holes with 1:2 mortar.

Completion

3.28 LEAVE
Leave work to the standard required by following procedures.

3.29 CLEAN UP
Clean up surrounding areas following completion of the concrete placement.

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3.30 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 DAMP-PROOF MEMBRANE
Type: 0.25mm Polythene

4.2 POLYSTYRENE PODS
Brand: As Supplied
Size: 1100mm x 1100mm x 200mm (nominal)

4.3 CONCRETE SURFACE FINISH
Location: Refer plans
Finish class: U3 (interior)

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3421AX AXXIS STEEL FOR FRAMING

1. GENERAL

This section relates to the supply and erection of light steel framing using New Zealand Steel **AXXIS® Steel For Framing**, roll formed and fabricated as a framed structure, or as part of a flush-lined partitioning system;
- for load bearing structures
- and non-load bearing partitioning

1.1 ABBREVIATIONS AND DEFINITIONS
Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.
The following abbreviations apply specifically to this section:

NASH	National Association of Steel-framed Housing Inc. Web site www.nashnz.org.nz.

Documents

1.2 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

AS/NZS 1170.0	Structural design actions - General principles
AS/NZS 1170.2	Structural design actions - Wind actions
AS 1397	Continuous hot-dip metallic coated steel sheet and strip - Coatings of zinc and zinc alloyed with aluminium and magnesium
NZS 2295	Pliable, permeable building underlays
NZS 3604	Timber-framed buildings
AS/NZS 4600	Cold formed steel structures
NZ NASH Standard	Residential and low-rise steel framing Part 1: Design Criteria
NASH N-11	House Insulation Guide
NASH 3405	An alternative solution for steel framed buildings
ZOG	ZOG Steel Framing Specification and Site Manual

1.3 MANUFACTURER/SUPPLIER DOCUMENTS
Manufacturer's and supplier's documents relating to this part of the work:
AXXIS® Steel For Framing A better way to build
Durability statement for Galvsteel™ (galvanised steel) and AXXIS® steel manufactured by New Zealand Steel Limited and used for structural building elements.
Steel frame Fabricators documents:

Manufacturer/supplier contact details

Company:	**AXXIS® Steel For Framing**
Web:	www.axxis.co.nz
Email:	info@nzsteel.co.nz
Telephone:	09 375 8999
Facsimile:	09 375 8213

Requirements

1.4 QUALIFICATIONS
Work to be carried out by trades people experienced, competent and familiar with the materials and techniques specified.

1.5 NO SUBSTITUTIONS
Substitutions are not permitted to the **AXXIS®Steel** material selection, the specified steel framing fabricators associated components and accessories, and associated products listed in this section.

1.6 CO-ORDINATION
Ensure details and fixings required are provided for in the steel fabricators framing system. Refer to all drawings and calculations.

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1.7 INSTALLATION
Install **AXXIS®** roll formed framing to any technical recommendations or instructions given by the steel frame fabricator.

1.8 SEPARATION
Ensure DPC between the bottom plate and concrete slab in residential construction. Ensure separation between any treated timber and **AXXIS®Steel** with DPC. Refer to the Durability statement.

1.9 DISSIMILAR METALS
Avoid contact with dissimilar metals (e.g. between copper and **AXXIS®Steel**). Refer to NZ NASH 3405 for information on the use of stainless steel fixings, and NASH Handbook, 6 **Connectors**. Ensure plumbers take care to isolate copper piping from steel framing by inserting specialised plumbing grommets into the pre punched surface holes in the studs.

1.10 THERMAL BREAKS AND CAVITY CONSTRUCTION
Install suitable thermal break and/or cavity thermal battens. Refer to NASH Handbook, 10.7 **Condensation and Thermal Break** and NASH N-10 **House Insulation Guide,** for information on the selection and installation methods for thermal break and/or cavity thermal battens.

1.11 PROVIDE INFORMATION
Provide a building consent approved producer statement (design) and supplementary drawings showing dimensions, bracing and assembly.

1.12 STEEL SECTION TOLERANCES
Web thickness: 0.50 to 1.00mm: ± 0.06mm
1.15 to 3.00mm: ± 0.07mm

Flange thickness: 0.50 to 1.00mm: ± 0.06 mm
1.15 to 3.00mm: ± 0.07 mm

1.13 STRAIGHTNESS
Hold within L/600. (Approximately 5mm in 3 metres).

1.14 LOAD-CARRYING MEMBERS
Using the specified steel frame fabricatorsdesign data, NASH 3405 and NZ NASH Standard Residential and low-rise steel framing Part 1: Design Criteria, select sections that will satisfy the transverse, dead and live load requirements.

Compliance information

1.15 DURABILITY
The work covered by this part of the specification has been designed and constructed to achieve a durability of 50 years. Refer to the following:
NASH Handbook, **8 Durability**.

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Performance

1.16 LOADING CODE REQUIREMENT
To NZBC B1/VM1, AS/NZS 1170.0, AS/NZS 1170.1, AS/NZS 1170.2, AS/NZS 1170.3, NZS .1170.5, AS/NZS 4600.

1.17 SECTION TOLERANCES
To NASH Standard D1 Manufacturing and Assembly Tolerances.

Performance - Wind (design by contractor)

1.18 DESIGN PARAMETERS - NON SPECIFIC DESIGN
Design the installation to the wind zone parameters of NZS 3604, table 5.1.
Refer to general section 1220 PROJECT for details.

Performance - Seismic (design by contractor)

1.19 SEISMIC - NON SPECIFIC DESIGN
Design the system and its anchorages/fixings to resist the earthquake loads of the earthquake zone in accordance with NZS 3604, 5.3 **Earthquake bracing demand**. Refer to general section 1220 PROJECT for details.

2. PRODUCTS

Materials

2.1 STEEL STRIP
NZ Steel AXXIS® coil,
Galvanized AS 1397: 275g/m² (Z 275)
Steel thickness range: 0.50 to 2.25mm (Galvanised)
Steel grade range: G550 for BMT < 1.00mm, G500 for BMT >1.0 < 1.5mm, G450 for BMT>1.5mm

2.2 STEEL SECTIONS
Cold roll-formed steel sections to AS/NZS 4600, NZ NASH Standard: Residential and low-rise steel framing, Part 1: Design Criteria. To consist of all members required to complete the framing and all to dimensions that satisfy AS/NZS 1170.0.

2.3 CAVITY BATTENS
Battens to suit application. Refer to SELECTIONS for options.

2.5 DAMP-PROOF COURSE
Heavy kraft strip laminate saturated and coated with bitumen. Refer to 4161 UNDERLAYS, FOIL AND DPC.

2.6 UNDERLAYS
Breather type, waterproof to NZS 2295. Refer to 4161 UNDERLAYS, FOIL AND DPC.

Components

2.7 SCREWS
Self-drilling class to suit member, connection method and location and to NASH Handbook, and the fabricators stated requirements.
Screw corrosion protection to NASH Handbook, **6 Connectors**.

3. EXECUTION

Conditions

3.1 CONCRETE SLAB
Screed the concrete surface by straight edge or vibrating screed immediately after compaction and to tolerances in NZS 3109: table 5.2, **Tolerances for in situ construction**.

3.2 HANDLE AND STORE
Handle and store channels and accessories to avoid damage. Keep dry in transit, store clear of the ground allowing full circulation.

3.3 PREFABRICATED FRAMES AND TRUSSES
Do not bring on to site until the subfloor is complete and members can be temporarily stacked on it and from there immediately erected and fixed.

3.4 SUBSTRATE
Ensure substrate is plumb, level and in true alignment. Do not start erection if the substrate will not allow work of the required standard. Complete any remedial work found necessary before starting light steel framing erection.

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3.5 COMMENCING THIS WORK
Commencing this work means the substrate is accepted as allowing work of the required standard.

Fabrication

3.6 FABRICATION GENERALLY
To NASH Standard and Nash Handbook,

Installation - steel framing

3.7 INSTALLATION GENERALLY
To Nash Handbook and Axxis requirements, and as per drawings

3.8 INSTALL WALL FRAMING
From one corner erect the first two panels, Tek screwing the corner studs together. Continue each panel to complete the longer external wall with another return panel and screw together. Check dimensions and fit and bolt or screw the first corner to the subfloor. Continue with the erection from out of the first corner, Tek screwing studs together and checking dimensions before bolt or screw fixing to the subfloor. Leave all this work plumb, square and true to line and face.

3.11 ERECT ROOF
Erect trusses and rafters screwing them to framing to leave them square and true to line and plane. Fit and screw fix purlins and ceiling battens lapped and cut to length.

3.13 INSTALL THERMAL BREAKS
Install thermal breaks to Nash Handbook, ZOG Specification, and to Axxis requirements.

Completion

3.14 LEAVE
Leave work to the standard required by following procedures.

3.15 REMOVE
Remove all debris, unused materials and elements from the site.

4. SELECTIONS

For further details on selections go to www.axxis.co.nz.
Substitutions are not permitted to the following, unless stated otherwise.

4.1 SYSTEM
Type: **AXXIS® Steel For Framing**
System: ZOG Steel Frame (Frame cad)

4.2 STEEL SECTION - EXTERIOR

Member	Dimensions	Centres
Bottom plates	89 x 39x 0.75 mm thick	
Top plates	89 x 39 x 0.75 mm thick	
Studs	89 x 39 x 0.75 mm thick	refer drawings
Nogs	89 x 39 x 0.75 mm thick	refer drawings

4.3 STEEL SECTION - INTERIOR

Member	Dimensions	Centres
Bottom plates	89 x 39 x 0.75 mm thick	
Top plates	89 x 39 x 0.75 mm thick	
Studs	89 x 39 x 0.75 mm thick	refer drawings
Nogs	89 x 39 x 0.75 mm thick	refer drawings

4.4 TRUSS

Member	Dimensions	Centres
Chords	89 x 39 x 0.75 mm thick	

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Web	89 x 39 x 0.75 mm thick	

4.5 CEILING BATTENS

Member	Dimensions	Centres
Type	30 x 0.75 mm thick	refer drawings

4.6 ROOF BATTENS

Member	Dimensions	Centres
Type	30 x 0.75 mm thick	refer drawings

4.7 EXTERIOR THERMAL BREAK - HOMERAB THERMAL BREAK

Studs and plates: HomeRab Thermal Break(10mm Black Pearl Polystyrene adhered to 4.5mm James Hardie HomeRab Rigid Air Barrier)

4.9 CAVITY BATTENS

Type: Refer Drawings

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4121CF CONCRETE PLUS FOSROC LIQUID TANKING

1. GENERAL

This section relates to the supply and application of **Concrete Plus Limited** liquid applied damp proof coating **Mulseal Plus**, over concrete and masonry substrates.
It includes:
- Waterproofing of Cladding Rebate to Floor Slab

Documents

1.1 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:
Health and Safety at Work Act 2015
Hazardous Substances Regulations 2001

1.2 MANUFACTURER/SUPPLIER DOCUMENTS
Manufacturer's and supplier's documents relating to this part of the work:
Concrete Plus Construction Products Product Guide
Parchem Technical Data sheets
Parchem Material Safety Data sheets

Manufacturer/supplier contact details
Company: **Concrete Plus Limited**
Web: www.concreteplus.co.nz
Email: phil.manins@concreteplus.co.nz
Telephone: 0508 FOSROC (367762)

Warranties

1.3 WARRANTY - MANUFACTURER/SUPPLIER
Provide a material manufacturer/supplier warranty:
10 years: For materials

- Provide this warranty on Concrete Plus Limited standard form.
- Commence the warranty from the date of practical completion of the contract works.

1.4 WARRANTY - INSTALLER/APPLICATOR
Provide an applicator warranty:
5 years: For workmanship

- Provide this warranty on the applicator standard form.
- Commence the warranty from the date of practical completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

Requirements

1.5 QUALIFICATIONS
Applicators to be experienced in the application and approved by Concrete Plus Limited. If requested provide evidence of qualification / experience prior to commencing work.

1.6 NO SUBSTITUTIONS
Substitutions are not permitted to any of the specified systems, components and associated products listed in this section.

1.7 HEALTH AND SAFETY
Follow the requirements of the appropriate Concrete Plus Limited Material Safety Data sheets and safety advice on package labels.

Compliance information

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1.8 INFORMATION REQUIRED FOR CODE COMPLIANCE

Provide the following compliance documentation: -

- Applicators approval certificate from Concrete Plus Limited
- Concrete Plus Limited warranty
- Applicator's warranty
- Producer Statement - Construction from the applicator.
- Other information required by the BCA in the Building Consent Approval documents.

Quality control and assurance

1.9 QUALITY ASSURANCE

The approved applicator to provide a Quality Assurance plan before commencing work. This is to include a list of the personnel to work on the project, proposed preparation of the substrate and method of application to specific details such as construction joints, and internal and external corners.

A Quality Assurance check list is to be completed each day, identifying the specific area of project to be coated that day, the type and amount of coating applied and the batch numbers of the product used that day. The dry film thickness (DFT) of the applied membrane, the weather conditions and the names of the applicators.

After application of the coating, the membrane dry film thickness (DFT) to be checked every 5m². Record the thickness on the QA record sheets. The hole created by the checking to be repaired by filling recommended by Concrete Plus Limited.

2. PRODUCTS

Materials

2.1 DAMP PROOFING COATING

Mulseal Plus**,** a liquid single component damp proof membrane formulated on a blend of natural rubber latex and bitumen emulsions and other chemicals to ease application and impart longevity.

3. EXECUTION

Conditions - general

3.1 DELIVERY, STORAGE AND HANDLING

Take delivery of materials and goods and store on site and protect from damage. Store under cover in a cool dry place, within a temperature range of 5°C to 25°C and under conditions complying with the Hazardous Substances Regulations. Keep containers sealed.
Protect finished surfaces, edges and corners from damage.
Move/handle goods in accordance with manufacturer's requirements.
Reject and replace goods that are damaged or will not provide the required finish.

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3.2 CHECK SUBSTRATE

Check that the substrate will allow work of the required standard. Any remedial work identified to be completed before any work is commenced.

3.3 CURING OF NEW CONCRETE

Allow concrete and masonry to dry to Concrete Plus Limited requirements before applying waterproofing membrane. Minimum curing of new concrete to be 28 days, sand/cement screeds 7 days.

3.4 PRE-COATING/FINISHING REQUIREMENTS

Check work previously carried out and confirm it is of the required standard for specified finish. Carry out such additional preparatory work as required to bring the substrate to suitable condition.

3.5 WEATHER CONDITIONS
Apply waterproofing membrane only in fair weather with temperature between 5°C to 30°C and relative humidity levels of less than 90%. Ensure that curing conditions are maintained until the coating is cured. Ensure substrate is dry enough to avoid blowing and delaying of the curing.

3.6 HANDLING, SOLVENT BASED PRODUCTS - CLEANING
Handle and apply to Concrete Plus Limited recommended safety precautions and to the requirements of the Health and Safety at Work Act 2015.

3.7 LIMITATIONS OF USE
Do not use Emer-Proof Ecoflex and Mulseal Plus in conditions of continuous water immersion or as a membrane on internal walls subject to back pressure. Do not expose products to UV on a permanent basis, cover them as soon as practicable.

Conditions -surface preparation

3.8 ENSURE SUBSTRATE
Ensure all surfaces are free from voids, spalled areas, loose particles, and sharp protrusions. Ensure no projections of sharp materials exist that will cause damage to tanking. Check that masonry joints are struck off flush.

Ensure form oils or release agents, curing compounds, wax residues, algae, moss, grime, animal fats or grease are completely removed.

Application - surface preparation

3.9 PREPARE SUBSTRATE
Remove any projections, wire-brush and remove debris, leaving the surface dust-free, oil-free and clean, with nothing that could diminish the adhesion of primers/coating. Fill tie holes flush and smooth with Concrete Plus Limited recommended filler. Grind off steps or sharp protrusions caused by formwork joints. Rough concrete should be "faired up" before application.

3.10 CLEAN SURFACES
Clean surfaces with a broom or compressed air to remove all dust, loose particles and material that could affect bonding.

3.11 CRACKS AND VOIDS
Repair cracks and voids to Concrete Plus Limited requirements.

3.12 RADIUS - EMER-PROOF ECOFLEX / MULSEAL PLUS
Radius internal corners 40mm to Concrete Plus Limited requirements. Allow to cure.

Application - Mulseal Plus

3.13 PRIMING - POROUS / DUSTY SURFACES
Apply Mulseal Plus as a primer with one coat of product diluted 1:1 with water when substrate is porous and dusty; refer to Concrete Plus Limited requirements. After priming at least one coat of full strength Mulseal Plus should be applied.

3.14 APPLY MULSEAL PLUS
Apply Mulseal Plus using a brush, broom or squeegee. Use a squeegee or soft broom for horizontal surfaces, a turks head brush for vertical surfaces. Lay product on to the surface in one direction. It must not be brushed out. For application by roller or spray systems consult with Concrete Plus Limited for particular requirements.

3.15 RECOATING
Apply top coat to achieve a dry film thickness of approximately 1mm thickness. Coverage will depend on the porosity and condition of the substrate. Allow between 12 and 36 hours between coats for drying.

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3.16 WASH BROOMS
Wash brooms and brushes regularly when using them to apply the coating. Refer to Concrete Plus Limited for detailed requirements.

3.17 APPLY FINISHING TO COATING - UV PROTECTION
Apply paint finish to Mulseal Plus, when coating is subject to UV exposure, in accordance with Concrete Plus Limited requirements. Do not use paints containing organic solvents. In situations of direct sunlight sand-blind the freshly applied topcoat, allow this to dry thoroughly, and then paint over with a suitable bitumen compatible emulsion paint.

Application - protection

3.18 ROUTINE CLEANING
Carry out routine trade cleaning of this part of the work including periodic removal all debris, unused and temporary materials and elements from the site.

3.19 DEFECTIVE OR DAMAGED WORK
Repair damaged or marked elements. Replace damaged or marked elements where repair is not possible or will not be acceptable.

3.20 LEAVE
Leave this work in a sound, coherent, without voids and impermeable smooth condition, completely waterproof, free of any defect and with protection sheets firmly in place.

4. SELECTIONS
For further details on selections go to www.concreteplus.co.nz
Substitutions are not permitted to the following, unless stated otherwise.

Materials - Mulseal Plus

4.1 MULSEAL PLUS DAMP PROOF COATING
Location: Rebate for cladding to Concrete Floor Slab
Substrate: Concrete

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4161 3M ALL WEATHER FLASHING TAPE 8067

1. GENERAL

This section relates to the application of:
- Flexible Flashing Tape

1.1 RELATED WORK

Refer to 4161P Paul Industries underlays, foil and DPC for Building Wrap

1.2 ABBREVIATIONS AND DEFINITIONS

Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

Documents

1.3 DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC E2/AS1	External moisture
NZS/AS 1530.2	Methods for fire tests on building materials, components and structures - Test for flammability of materials
NZS 2295	Pliable, permeable building underlays
AS/NZS 2904	Damp-proof courses and flashings
NZS 3604	Timber-framed buildings
AS/NZS 4200.1	Pliable building membranes and underlays
AS/NZS 4347.0	Damp-proof courses and flashings - Methods of test - General introduction, list of methods and test specimen requirements

1.4 MANUFACTURER/SUPPLIER DOCUMENTS

Manufacturer's and supplier's documents related to this part of the work:

Manufacturer/supplier contact details

Company:	3M New Zealand Limited
Web:	www.solutions.3mnz.co.nz/
E-mail:	
Telephone:	(09) 477-4040

Requirements

1.5 INSTALLATION SKILL LEVELS

Installers to be familiar with the Drawings and Specifications

2. PRODUCTS

Accessories

2.1 WINDOW DOOR SEALING SYSTEM

3M All Weather Flashing Tape 8067 in accordance with the drawings

2.2 HEAD FLASHING UPSTANDS

3M All Weather Flashing Tape 8067 in accordance with the drawings

2.3 PIPES AND SERVICE PENETRATIONS

3M All Weather Flashing Tape 8067 in accordance with the drawings

2.4 HOMERAB THERMAL BREAK RIGID AIR BARRIER

3M All Weather Flashing Tape 8067 in accordance with the drawings

3. EXECUTION

Conditions

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3.1 GENERAL REQUIREMENTS
Note: Care should be taken not to expose 3M All Weather Flashing Tape for to the weather or ultra violet light for more than 90 days.

3.2 STORAGE
Handling and storage of all materials supplied by 3M New Zealand Limited, whether on or off site, is under control of the installer. 3M All Weather Flashing Tape 8067 must be protected from damage and weather. Rolls must be stored under cover, in clean, dry conditions away from direct exposure to sunlight.

3.3 INSPECTION
Before starting work, check that the framing will allow work of the required standard. Carry out remedial work identified before laying flashing tape.

3.4 INSTALLATION
Installation of the 3M All Weather Flashing Tape 8067 must be installed in accordance with the drawings.

Completion

3.5 CLEAN UP
Clean up as the work proceeds.

3.6 LEAVE
Leave work to the standard required by following procedures.

3.7 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

Accessories

4.1 WINDOW/DOOR SEALING SYSTEM
Brand / type: 3M All Weather Flashing tape 8067

4.2 HEAD FLASHING UPSTANDS
Brand / type: 3M All Weather Flashing tape 8067

4.3 PIPES AND SERVICE PENETRATIONS
Brand / type: 3M All Weather Flashing tape 8067

4.4 RIGID AIR BARRIER - HOMERAB THERMAL BREAK SHEET JOINS
Brand / type: 3M All Weather Flashing tape 8067

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4161P PAUL INDUSTRIES UNDERLAYS, FOIL AND DPC

1. GENERAL

This section relates to the application of **Paul Industries** products:
It includes;
- DPC
- roofing underlays

1.1 ABBREVIATIONS AND DEFINITIONS
Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

Documents

1.2 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC E2/AS1	External moisture
NZS 2295	Pliable, permeable building underlays
AS/NZS 2904	Damp-proof courses and flashings
NZS 3604	Timber-framed buildings
AS/NZS 4200.1	Pliable building membranes and underlays - Materials
AS/NZS 4347.0	Damp-proof courses and flashings - Methods of test - General introduction, list of methods and test specimen requirements
AS/NZS 4389	Roof safety mesh
AS/NZS 4534	Zinc and zinc/aluminium-alloy coatings on steel wire

1.3 MANUFACTURER/SUPPLIER DOCUMENTS
Manufacturer's and supplier's documents relating to this part of the work:
Paul IndustriesSpec Sheets
BRANZ Appraisal 715 - Fast Wrap FlameSpec SS Roof Underlay

Manufacturer/supplier contact details

Company:	**Paul Industries**
Web:	www.paulindustries.co.nz
Email:	info@paulindustries.co.nz
Telephone:	0800 330 320 / 07 578 8209
Facsimile:	07 928 5244

Requirements

1.4 QUALIFICATIONS
Installers to be experienced, competent trades people familiar with the manufacturer's materials and techniques specified and the NZMRM CoP NZ metal roof and wall cladding Code of Practice.

1.5 NO SUBSTITUTIONS
Substitutions are not permitted to any of the **Paul Industries** specified systems, components and associated products listed in this section.

2. PRODUCTS

Materials

DPC

2.1 BITUMINOUS IMPREGNATED DPC
Pauloid Bituminous Damp Proof Course (DPC), heavy kraft impregnated with high grade bitumen and coated with higher heat resistant bitumen to AS/NZS 2904 and to the appropriate test methods set out in AS/NZS 4347.

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Roofing Underlay

2.3 POLYOLEFIN ROOF UNDERLAY
Fast Wrap FlameSpec Roof Underlay, a synthetic fire retardant roof underlay made from a micro-porous water resistant film laminated to two layers of non woven spun bonded polyolefin. Refer to SELECTIONS for options.

3. EXECUTION

Conditions

3.1 GENERAL REQUIREMENTS
To NZBC E2/AS1 Table 23 Properties of Roof Underlays and Wall Underlays; and to Paul Industries technical literature.
NOTE: Care should be taken not to expose the underlay to continuous wet and windy conditions.

3.2 STORAGE
Store building underlays and accessory materials, under conditions that ensure no deterioration or damage. Store rolls in an upright position on a smooth floor and protected from sunlight, UV radiation and moisture.

3.3 INSPECTION
Before starting work, check that the framing will allow work of the required standard. Carry out remedial work identified before laying underlay.

Application - DPC

3.4 BITUMINOUS DPC TO STEEL FRAMES
Lay **Pauloid Bituminous DPC** under all Steel framed walls on concrete, in a single layer with 50mm overlaps at joints to provide a waterproof barrier.

3.5 DPC TO MASONRY AND BRICK VENEER
Lay **Pauloid Bituminous DPC** along base of cavity and fix top edge to studs with galvanized clouts. Turn DPC out over concrete rebate under bottom course of veneer.

3.6 DPC BETWEEN DISSIMILAR MATERIALS
Lay **Pauloid Bituminous DPC** between dissimilar materials where required.

Completion

3.9 CLEAN UP
Clean up as the work proceeds.

3.10 LEAVE
Leave work to the standard required by following procedures.

3.11 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

For further details on selections go to www.paulindustries.co.nz.
Substitutions are not permitted to the following, unless stated otherwise.

DPC

4.1 PAULOID BITUMINOUS DPC
Location: Bottom Plates
Brand/type: **Pauloid Bituminous DPC**

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Roofing Underlay

4.4 FIRE RETARDANT SYNTHETIC ROOF UNDERLAY
Location: All Roof areas
Type: Fast Wrap FlameSpec SS Roof Underlay, self supporting

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4161T THERMAKRAFT UNDERLAYS, FOILS & DPC

1. GENERAL

This section relates to the application of **Thermakraft Ltd**, DPC, DPM, wall underlays, roofing underlays and accessories.

1.1 ABBREVIATIONS AND DEFINITIONS
Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

NZMRM	New Zealand Metal Roofing Manufacturers Inc.

The following definitions apply specifically to this section:

Wall underlay	the same meaning as defined in NZBC E2/AS1, covering kraft based and synthetic wall underlays, sometimes called, wall wraps, building wraps or building papers.

Documents

1.2 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC C/AS1-AS7	Protection from fire
NZBC E2/AS1	External moisture
AS 1530.2	Methods for fire tests on building materials, components and structures - Test for flammability of materials
NZS 2295	Pliable, permeable building underlays
AS/NZS 2904	Damp-proof courses and flashings
NZS 3604	Timber-framed buildings
NZS 4214	Methods of determining the total thermal resistance of parts of buildings
AS/NZS 4389	Roof safety mesh
AS/NZS 4534	Zinc and zinc/aluminium-alloy coatings on steel wire
NZMRM CoP	NZ metal roof and wall cladding Code of Practice

1.3 MANUFACTURER/SUPPLIER DOCUMENTS
Thermakraft documents relating to work in this section are:
Thermakraft product manual and technical data sheets.
BRANZ Appraisal 329 - Supercourse 500™ Damp-Proof Course and Concealed Flashing

Manufacturer/supplier contact details

Company:	**Thermakraft Ltd**
Web:	www.thermakraft.co.nz
Email:	info@thermakraft.co.nz
Telephone:	0800 806 595

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Warranties

1.4 WARRANTY - MANUFACTURER/SUPPLIER
Warrant this work under normal environmental and use conditions against failure of materials and execution. Thermakraft Ltd warrant performance of products if design and installation complies with relevant technical literature, NZBC, and recognised industry Codes of Practice. Copy of Thermakraft™ Product Warranty available on request.

Requirements

1.5 NO SUBSTITUTIONS
Substitutions are not permitted to any specified materials, or associated products, components or accessories.

1.6 INSTALLATION SKILL LEVELS
Installers to be experienced in the installation of Thermakraft™ products and familiar with Thermakraft™ technical literature and the related documents listed in this design i.e. NZMRM CoP NZ metal roof and wall cladding Code of Practice.

2. PRODUCTS

Materials

DPC

2.1 EMBOSSED POLYETHYLENE
Supercourse 500™ hi-impact polyethylene film to AS/NZS 2904 and embossed on both sides. Thickness 500 microns minimum, manufactured for use as a damp-proof course and concealed flashings around doors and windows and to BRANZ Appraisal 329. Refer to SELECTIONS for type of jointing tape.

3. EXECUTION

Conditions

3.1 GENERAL REQUIREMENTS
Design application and installation of **Thermakraft** Building products to NZBC E2/AS1, BRANZ Appraisals, **Thermakraft** Technical Literature and Industry Codes of Practice.

3.2 STORAGE
Store building underlays and accessory materials, under conditions that ensure no deterioration or damage. Store rolls in an upright position on a smooth floor and protected from sunlight, UV radiation and moisture.

3.3 INSPECTION
Before starting work, check that the building construction phase will allow work of the required standard. Carry out remedial work identified before laying underlay.

Application DPC

3.4 DPC TO LOSP/CCA TREATED TIMBER
Lay Supercourse 500™ DPC under LOSP or CCA treated bottom plate of all timber framed walls on concrete, in a single layer with 50mm overlaps at joints to provide a waterproof barrier.

3.5 DPC TO STEEL
Lay Supercourse 500™ DPC under the bottom plate of all steel framed walls on concrete, in a single layer with 50mm overlaps at joints to provide a waterproof barrier. Refer to SELECTIONS for type.

Completion

3.6 CLEAN UP
Clean up as the work proceeds.

3.7 LEAVE
Leave work to the standard required by following procedures.

3.8 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

For further details on selections go to www.thermakraft.co.nz.
Substitutions are not permitted to the following, unless stated otherwise.

Damp Proof Course

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4.1 THERMAKRAFT - SUPERCOURSE 500™ DPC
Location: Refer Drawings
Type: Supercourse 500™ DPC

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4231HL JAMES HARDIE® LINEA™ CLADDING

1. GENERAL

This section relates to the supply and fixing of the following fibre cement products:
- James Hardie® Linea™ Oblique™ Weatherboard cladding

Documents

1.1 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC E2/AS1	External moisture
NZBC E2/VM1	Weathertightness
AS/NZS 1170.2	Structural design actions - Wind actions
AS/NZS 2908.2	Cellulose-cement products - Flat sheet
NZS 3602	Timber and wood-based products for use in building
NZS 3604	Timber-framed buildings

1.2 MANUFACTURER/SUPPLIER DOCUMENTS
James Hardie® documents relating to this part of the work:
Linea™ Oblique™ Weatherboard Vertical Installation Technical Specification
James Hardie® Technical Supplement - James Hardie® Claddings Installation to Steel Framing
James Hardie® Fire and Acoustic Design Manual
James Hardie® Bracing Design Manual
BRANZ Appraisal 897 - Linea™ Oblique™ Weatherboard (Vertical) Cavity Cladding
CodeMark™ GM-CM30059 James Hardie® Linea™ Oblique™ Weatherboard Cavity Cladding

Manufacturer/supplier contact details

Company:	James Hardie® New Zealand
Web:	www.jameshardie.co.nz
Email:	info@jameshardie.co.nz
Telephone:	Ask James Hardie™ on 0800 808 868

BRANZ appraisal is available at www.branz.co.nz.
CodeMark™ Certificate is available at www.building.govt.nz

Warranties

1.4 WARRANTY - MANUFACTURER/SUPPLIER - LINEA™ OBLIQUE™ WEATHERBOARD
Provide a material manufacturer/supplier warranty:

25 years:	Linea™ Oblique™ Weatherboard product (refer to James Hardie® product warranty)
15 year:	For accessories supplied by James Hardie® (refer to James Hardie® product warranty)
From:	Date of purchase

- Provide this warranty on the manufacturer's standard form.

Refer to the general section 1237 WARRANTIES for additional requirements.

Requirements

1.5 QUALIFICATIONS - NON-CODEMARK INSTALLATION
Workers / Installers / applicators to be experienced, competent trades people familiar with the materials and techniques specified.

1.6 NO SUBSTITUTIONS
Substitutions are not permitted to any specified system, or associated components and products.

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1.7 SAFE WORKING
To James Hardie® requirements for safe working practices with James Hardie® products, particularly with regards to cutting and drilling.

1.8 INFORMATION FOR OPERATION AND MAINTENANCE
Provide relevant James Hardie® maintenance requirements at completion of the work. Refer to the general section 1239 OPERATION & MAINTENANCE for provision of the information.

1.9 QUALIFICATIONS - LINEA™ INSTALLER
Installer to be experienced in the application and;
- A Licenced Building Practitioner; or,
- A person with a trade certificate being a current member of a Building Trade Association.

If requested provide evidence of qualification prior to commencing work.

1.10 LINEA™ WEATHERBOARD INSTALLATION CHECKLIST
Installer to complete, sign and provide a James Hardie® Installation Checklist incorporating the Certificate of Installation requirements of Global-Mark CodeMark Certification program. Contact James Hardie® for a copy of the Installation Checklist.

Requirements - Linea™ Oblique™ weatherboard

1.13 LINEA™ OBLIQUE™ VERTICAL WEATHERBOARD INSTALLATION INFORMATION
Installer to comply with all the relevant information in;
- Linea™ Oblique™ Weatherboard Vertical Installation Technical Specification
- BRANZ Appraisal 897

1.14 LINEA™ OBLIQUE™ WEATHERBOARD INSTALLATION CHECKLIST
Installer to complete, sign and provide a James Hardie® Installation Checklist. Contact James Hardie® for a copy of the Installation Checklist.

Performance

1.15 PERFORMANCE, WIND
The design wind zones are to NZS 3604, up to and including Extra High Wind Zone. James Hardie® Technical Specifications are suitable for these conditions.

1.16 SPECIFIC DESIGN, WIND
The design wind pressures are to AS/NZS 1170.2, for specific design wind pressures up to 2.5kPa, as per James Hardie® design details included in the Technical Specification.

2. PRODUCTS

Materials

2.2 LINEA™ OBLIQUE™ WEATHERBOARDS
James Hardie® Linea™ Oblique™ Weatherboards, rusticated profile, 16mm thick, pre-primed, manufactured from a reduced density cellulose fibre cement formulation and cured by high pressure autoclaving, manufactured to AS/NZS 2908.2, tested to NZBC E2/VM1 for weathertightness and complying with the NZBC.

2.3 RIGID AIR BARRIERS
Refer to section 4171HRTB JAMES HARDIE RIGID AIR BARRIERS.

2.4 EXTERIOR CAVITY BATTENS
Radiata pine battens, minimum 45mm wide x 18mm thick, H3.1 treated, height to match timber framing studs. To NZS 3602, Table 1, reference 1D.10, Requirements for wood-based building components to achieve a 50-year durability performance.

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Components - Linea™ Oblique™ Weatherboards vertically fixed

2.18 JAMES HARDIE® HORIZONTAL CAVITY BATTEN
Proprietary profiled radiata pine battens, minimum 45mm wide x 20mm thick, H3.1 treated to NZS 3602, Table 1, reference 1D.10, Requirements for wood-based building components to achieve a 50-year durability performance.

2.19 EXTERIOR CAVITY CLOSER/VERMIN-PROOFING
Perforated uPVC, with upstands.

2.20 OBLIQUE™ TRIMLINE JOINT FLASHING
Aluminium flashing extrusion used behind cladding at horizontal joints.

2.21 TRIMLINE JOINTERS
Aluminium jointers to joint Oblique™ Trimline Joint Flashings at flashing ends, external corners and internal corners.

2.22 FLEXIBLE SEALANT
Bostik Seal N Flex-1, Sikaflex AT Facade or Sikaflex MS sealants.

2.23 JH WEATHERBOARD INTERNAL "W" CORNER
Anodised aluminium extrusion to flash behind cladding at internal corners.

2.24 LINEA™ OBLIQUE™ WEATHERBOARD EXTERNAL BOX CORNER
Anodised aluminium extrusion to flash behind cladding at external corners.

2.25 FASTENER TYPE
Fasteners to minimum durability requirements of the NZBC. Refer to NZS 3604, section 4, **Durability**, for requirements for fixing's material to be used in relation to the exposure conditions.

Refer to NZBC E2/AS1, Table 20, Material selection, and NZBC E2/AS1, Table 21, Compatibility of materials in contact, for selection of suitable fixing materials and their compatibility with other materials.

Zone	**Fixings Material**
Zone D, Zone E / Microclimates (incl. Geothermal)	Grade 316 Stainless
Zone B, Zone C	Hot-dipped galvanized

Check against SED (specific engineering design) requirements for microclimate conditions. For fastener type refer to following clause(s).

2.26 CAVITY BATTEN SCREWS
for fixing timber cavity battens and aluminium flashings.

2.27 FIXINGS TO STEEL FRAME
30mm x 7 gauge stainless steel HardieDrive screws

Accessories

2.28 SEALANT
Silaflex AT-Facade sealant.

3. EXECUTION

Conditions

3.1 STORAGE
Take delivery of products dry and undamaged on pallets, and keep on pallet. Protect edges and corners from damage and cover to keep dry until fixed.

3.2 HANDLING
Avoid distortion and contact with potentially damaging surfaces. Carry weatherboards on edge. Do not drag weatherboards across each other, or across other materials. Protect edges, corners and surface finish from damage.

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3.3 SUBSTRATE - STEEL FRAMING
Do not commence work until the substrate is of the standard required by James Hardie® for the specified finish; plumb, level and in true alignment. Steel framing to Nash Standard Residential and low-rise steel framing Part 1: Design Criteria.

Application - particular installations

3.4 FIRE RESISTANCE RATING (IF REQUIRED REFER TO DRAWINGS)
Refer to project drawings for FRR system construction details and James Hardie Fire and Acoustic Design Manual for further information.

3.5 BRACING SYSTEM
Fix Linea™ Weatherboards to James Hardie® Bracing Design Manual.

Application - generally

3.6 INSTALL CAVITY BATTENS
Install 18mm minimum thick cavity battens to NZBC E2/AS1: 9.0 **Wall claddings**, where required. Fix vertical cavity battens to wall framing studs. The battens are fixed by the cladding fixings which will penetrate the wall framing studs under the wall underlay. Seal the top of the cavity and install cavity closer/vermin-proofing at base of walls, open horizontal (or raking) junctions, over openings (windows, meters etc). Do not use horizontal cavity battens. Use cavity spacers where fixing is required between cavity battens.

3.7 INSTALL CAVITY BATTENS - LINEA™ OBLIQUE VERTICAL WEATHERBOARDS
Install 20mm thick James Hardie® Horizontal Cavity Battens. Fix horizontal cavity battens to wall framing nogs, fix vertically to studs at corners and openings. The battens are fixed by the cladding fixings which will penetrate the wall framing nogs and studs under the wall underlay. Seal the top of the cavity and install cavity closer/vermin-proofing at base of walls, open horizontal (or raking) junctions, over openings (windows, meters etc).

3.8 PENETRATIONS AND FLASHINGS
Confirm that exterior wall openings have been prepared ready for the installation of all window and door frames and other penetrations through the cladding. Required preparatory work includes the following:
- Wall underlay appropriately incorporated with penetration and junction flashings.
- Materials lapped in a way that water tracks down to the exterior face of the wall underlay.
- Wall underlay to openings finished and dressed off ready for the installation of window and door frames and other penetrations.
- Required holes in cladding accurately formed and cut to James Hardie® requirements, ensure (if required) services penetration grommets/sleeves/seals/tapes are in place prior to cladding installation.
- Claddings neatly finished off to all sides of openings
- Installation of flashings (those required to be installed prior to installation of penetrating elements).

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3.11 INSTALL LINEA™ OBLIQUE™ WEATHERBOARDS - VERTICAL INSTALLATION
Cut weatherboards to required lengths. Fit joint flashing, internal corners and external corners and fix weatherboards as per Linea™ Oblique™ Weatherboard Vertical technical specifications.

3.12 INSTALL FLASHINGS
Install flashings at all wall openings, penetrations, junctions, connections, window sills, heads and jambs to NZBC E2/AS1.

Completion

3.13 REPLACE
Replace all damaged or marked elements.

3.14 LEAVE
Leave work to the standard required for following procedures.

3.15 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS
For further details on selections go to www.jameshardie.co.nz.
Substitutions are not permitted to the following, unless stated otherwise.

4.1 CAVITY BATTENS
Timber species: Radiata pine
Treatment: H3.1

Linea® Oblique Weatherboards vertically fixed

4.10 JAMES HARDIE LINEA™ OBLIQUE WEATHERBOARDS VERTICALLY FIXED
Location: Refer Drawings
Brand/type: James Hardie Linea® Oblique Weatherboards
Thickness: 16mm
Width: Refer Drawings
Construction: Cavity fix
Fixing: Refer to Drawings

4.11 JAMES HARDIE HORIZONTAL CAVITY BATTENS
Supplier: James Hardie
Timber species: Radiata pine
Treatment: H3.1

4.12 JAMES HARDIE LINEA™ OBLIQUE ALUMINIUM EXTERNAL BOX CORNER
Location: Refer Drawings
Brand/Type: Oblique Aluminium External Box Corner
Finish: Etched primed aluminium extrusion

4.13 OBLIQUE TRIMLINE JOINT FLASHING
Location: Refer Drawings
Brand/type: Oblique Trimline Joint Flashing
Finish: Etched primed aluminium extrusion

4.14 PRIMER TO CUT ENDS
Type: Resene Quick Dry

Finishing

4.15 PAINTING
Refer to painting section(s) for details.

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4282RI RCS INTEGRA LIGHTWEIGHT CONCRETE FACADE SYSTEM

1. GENERAL

This section relates to the supply and fixing of **Resene Construction Systems** Integra Lightweight Concrete Facade System, cavity based exterior wall cladding system based on Integra AAC light weight concrete panels fixed over a drained cavity to timber framing and with an applied textured surface finish.

1.1 ABBREVIATIONS AND DEFINITIONS
Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

PPCS	Proprietary Plaster Cladding Standard
MPNZA	Master Painters New Zealand Association
LRV	Light Reflectance Value

Documents

1.2 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC B2/AS1	Durability
NZBC E2/AS1	External moisture
AS/NZS 1170.2	Structural design actions - Wind actions
AS 3566	Self-drilling screws for the building and construction industries
NZS 3602	Timber and wood-based products for use in building
NZS 3604	Timber-framed buildings
WorkSafe NZ	Guidelines for the provision of facilities and general safety in the construction industry
MPNZA	Health and Safety Programme

Health and Safety at Work Act 2015

1.3 MANUFACTURER/SUPPLIER DOCUMENTS
Manufacturer's and supplier's documents related to this section are:
- Resene Construction Systems Technical Manual
- Resene Construction Systems Trade Spec™
- Resene Construction Systems Project Guide
- Resene Total Colour System

BRANZ Appraisal 681 - Integra Light Weight Facade System

Materials and execution to Resene Construction Systems specification except where varied by this specification and supported by architectural detailing.

Manufacturer/supplier contact details

Company:	**Resene Construction Systems**
Web:	www.reseneconstruction.co.nz
Email:	help@reseneconstruction.co.nz
Telephone:	0800 50 70 40

Contact details for Resene literature is 0800 RESENE (0800 737 363) or web site www.resene.co.nz.

Warranties

1.4 WARRANTY - MANUFACTURER/SUPPLIER
Provide a material manufacturer/supplier warranty:
15 years: For materials by Resene Construction Systems

- Provide this warranty on the Resene Construction Systems standard form.
- Commence the warranty from the date of practical completion of the contract works.

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1.5 WARRANTY - INSTALLER/APPLICATOR
Provide an installer/applicator warranty:
5 years: For execution/workmanship - by Registered Plasterer

- Provide this warranty on the Resene Construction Systems standard form.
- Commence the warranty from the date of practical completion of the contract works.

Requirements

1.6 QUALIFICATIONS
Use only PPCS (Proprietary Plaster Cladding Standard) registered applicators licensed to apply the Resene Construction Systems exterior render systems.

1.7 NO SUBSTITUTIONS
Substitutions are not permitted to any specified Resene Construction Systems exterior render system.

1.8 FINISH SAMPLE
Submit one 300mm x 300mm sample of the selected texture finish and colour for approval. Obtain signature of acceptance on sample and return to the Registered Plasterer.

1.9 INFORMATION FOR OPERATION AND MAINTENANCE
Provide Resene Construction Systems Maintenance Guide on or before practical completion of the contract for issuing to the building owner. Resene Construction Systems Maintenance Guide to be provided on request. Provide ongoing maintenance instructions to meet the performance requirements of NZBC B2/AS1.

1.10 HEALTH AND SAFETY
Refer to the requirements of the Health and Safety at Work Act 2015 and WorkSafe NZ: Guidelines for the provision of facilities and general safety in the construction industry.
If the elimination or isolation of potential hazards and risks is not possible then minimise hazards and risks in this work on site by using the proper equipment and techniques as required in the MPNZA Health and Safety Programme. Supply protective clothing and equipment. Inform employees and others on site of the hazards and risks, and put into place procedures for dealing with emergencies. Obtain from Resene Construction System the material safety data sheets for each product. Keep sheets on site and comply with the required safety procedures.

1.11 PRODUCER STATEMENT
Provide the producer statement compiled by the licensed applicator in the form as required by the Building Consent Authority.

Performance

1.12 PERFORMANCE
Accept responsibility for the structural and weather-tight performance of the cladding installation.

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1.13 FIXINGS, WIND
Design the installation to the manufacturer's requirements and as appropriate for the project wind design stated in the general section 1220 PROJECT.

1.14 INSPECTIONS
Allow to inspect the whole of the work at each stage. Determine a programme for inspections including notification when each part and stage of the work is ready for inspection prior to the work commencing. Permit representatives of Resene Construction Systems to inspect the work in progress and to take samples of their products from site if requested refer to Resene Construction Systems Project Guide.

2. PRODUCTS

Materials

2.1 INTEGRA AAC 50MM PANEL
50mm thick fibre reinforced aerated concrete, 2200mm x 600mm panel.

2.2 ROCKCOTE MULTISTOP BEDDING COMPOUND
Polymer modified cement-based dry plaster mix.

2.3 ROCKCOTE PM100 QUICK RENDER
Polymer modified cement-based dry plaster mix.

2.4 RESENE LIMELOCK
Waterborne acrylic polymer dispersion.

2.5 ACRYLIC TEXTURE
100% acrylic, high-build texture coating.

2.6 RESENE X-200
Resene X-200 waterproof membrane, colour selection from Resene Total Colour System.

2.7 REINFORCING MESH
Resene Construction Systems alkali-resistant fibreglass woven mesh and sticky mesh.

Components

2.8 RESENE CONSTRUCTION SYSTEMS CAVITY BATTENS
Type: 40mm x 40mm RCS Graphex peel and stick battens

2.9 FIXINGS, STEEL FRAME
Minimum 125mm x 14 g countersunk screws for 40mm cavity. Fixings to be galvanized or zinc plated steel to AS 3566 class 3.

2.10 EXTERIOR CAVITY BASE VENTED STARTER TRACK
Perforated uPVC Resene Construction Systems ventilated starter track.

2.11 FLASHINGS AND ACCESSORIES
Resene Construction Systems proprietary profiles made from rigid uPVC for head, sill, jamb, starter strips (vermin proofing); expansion and control joints; jamb sill and head jamb soakers; corner and base exterior applications to suit the cavity width.

Accessories

2.12 SEALANT
BRANZ appraised modified silicon (MS) sealant.

2.13 PRIMING STEEL
Resene Galvo-Prime, a brush applied waterborne galvanised iron primer or Zinc rich spray pack primer / solvent borne an exterior solvent borne spray application.

3. EXECUTION

Conditions

3.1 DELIVERY
Keep plaster products dry in transit. Take delivery of plaster products dry and undamaged. Reject all damaged materials.

3.2 STORAGE
Deliver all materials in original unopened packaging with labels intact. Provide dry storage on site, stack carefully, protect from mechanical damage. Do not store PVC corner beads in direct sunlight.

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3.3 SUBSTRATE
Do not begin the application until required openings and apertures have been cut, pipes, fixtures, fixing pads and plugs have been fixed and flashings and other preparation are complete. Do not commence plastering until substrate is of the required standard. All defects in substrate must be rectified prior to application of plaster coatings commencing.

3.4 PANEL APPLICATION CONDITIONS
Carry out panel fixing to Resene Construction Systems specification under conditions which will not adversely affect the finished work. Temperature must be above 5°C, cover work to protect it from cooler temperatures, refer to Resene Construction Systems specification.

3.5 PROTECT
Before installation of Integra AAC panels and subsequent application of plaster, apply masking film and tape to all joinery, pipes, roofs and all areas likely to be marked by the plaster. Use drop cloths and ground covers to keep the working areas clean. Clean off droppings onto finished work immediately.

3.6 PLASTERING CONDITIONS
Carry out plastering to Resene Construction Systems specification under conditions which will not adversely affect the finished work.

3.7 FLASHING AND DETAILING
Comply with the Resene Construction Systems penetration flashing guidelines. Carry out to the required standard of execution to ensure water does not penetrate.

3.8 ALIGNMENT OF FRAMING
To the standard required by the Resene Construction Systems, plumb, level and in true alignment.

3.9 CONFIRM LAYOUT
Before commencing work confirm the layout of expansion joints and other visual detailing of the finished work.

Application

3.10 CAVITY BATTENS
Apply peel and stick cavity battens full length to studs, to achieve the required thickness drained cavity to NZBC E2/AS1: 9.0 Wall claddings. The battens are fixed by the cladding fixings which will penetrate the wall framing studs over the wall underlay. Seal the top of the cavity. Install cavity closer/vermin-proofing at base of walls, open horizontal (or raking) junctions, over openings (windows, meters etc). Horizontal cavity battens must be no longer than 100mm. Use cavity spacers where fixing is required between cavity battens. Fix additional battens to internal and external corners and around openings to Resene Construction Systems standard details.

3.11 PENETRATIONS
Confirm that exterior wall openings have been prepared ready for the installation of all window and door frames and other penetrations through the cladding. Required preparatory work includes the following:
- wall underlay to openings finished and dressed off ready for the installation of window and door frames and other penetrations
- claddings neatly finished off to all sides of openings
- installation of flashings (those required to be installed prior to installation of penetrating elements).
- where electrical cables pass through cladding, ensure that there is no direct contact with the Integra panel, conduit required to be installed by electrician.

3.12 PENETRATION FLASHINGS
Fix in place required uPVC trims, profiles flashings and control joints. Service penetrations such as piping and light fittings to be sealed by specific trade.

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3.13 INTEGRA AAC PANELS
Horizontally screw fix in a stretcher bond pattern to the battens to Resene Construction Systems requirements. Fixings to be a minimum of 50mm from the edge of the panel. Bond all horizontal and vertical joints with MultiStop bedding compound. Panels can cantilever beyond a stud to a maximum of 305mm.

3.14 PRIMING STEEL
Use either Resene Galvo-Prime or Zinc rich spray pack primer to make sure that all exposed steel has been spot primed.

3.15 PANEL PATCHING
Apply Rockcote MultiStop as a substrate patching to Resene Construction Systems requirements. MultiStop Bedding to bug/blow holes greater than 10mm but less than 40mm diameter. MultiStop Finishing to bug/blow holes less than 10mm.

3.16 MOVEMENT CONTROL JOINTS
Provide movement control joints in the plaster to coincide with movement joints in the background and/or junctions between dissimilar backgrounds in the same plane and / or where shown on the drawings and to Resene Construction Systems requirements. Reinforcing mesh is not continuous across control joints. Exposed control joints to be reflected through final coatings from substrate. Confirm locations in writing to the owner before work commences.

3.17 FIT FLASHINGS AND ACCESSORIES
Check and ensure head flashings have been installed. Fit flashings to jambs and sill on recessed joinery using Resene Construction Systems proprietary flashings. Reinforce bottom edges of Integra panels with uPVC channel extrusions to Resene Construction Systems technical and installation manual.

Resene Construction Systems - Integra Lightweight Concrete Facade System

3.18 BASE AND MESH COAT
Apply Rockcote PM100 Quick Render base plaster coat 5mm thickness maximum. Embed fibreglass reinforcing mesh into the wet plaster. Overlap each successive length by 100mm minimum. Apply sticky mesh around all external corners and into all window reveals. Apply diagonal reinforcement strips at all corners of windows, doors and other exterior openings.

3.19 LEVELLING COAT
Apply by trowel or pump second coat of Rockcote PM 100 Quick Render 1-2mm thickness. Trowel flat and leave to touch dry before floating off with a large plastic float and water, to remove any imperfections and leave a level surface.

Application - acrylic selection

3.20 SEAL COAT ACRYLIC TEXTURE FINISH
For texture finish seal the base coats with one coat of Resene Limelock within 14 days of applying the second base coat.

3.21 ACRYLIC TEXTURED FINISH COAT
Apply Texture coat 1mm thickness minimum to achieve the specified finish and colour (optional) to Resene Construction Systems requirements.

3.22 PROTECTIVE FINISH COAT
Apply two coats of Resene X-200 reinforced waterproof membrane to achieve a protective acrylic based finish.

3.23 FINISHING
Refer to SELECTIONS for system texture and colour.

Completion

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3.24 CLEANING
Remove debris, unused materials and elements from the site relating to the plaster system application. Replace damaged, cracked or marked elements. Leave the whole of this work to the required standard.

3.25 FINAL INSPECTION
A final inspection by Resene Construction Systems applicator and project assessor of the entire finished cladding to take place immediately after completion of the wall cladding work and any defects or subsequent damage made good immediately.

4. SELECTIONS
For further details on selections go to www.reseneconstruction.co.nz.
Substitutions are not permitted to the following, unless stated otherwise.

4.1 RESENE CONSTRUCTION SYSTEMS CAVITY BATTENS
Type: 40mm x 40mm polystyrene battens
40mm x 40mm H3.2 timber (to gables and window heads)

4.2 RESENE CONSTRUCTION SYSTEMS UPVC VENTILATED STARTER TRACK
Type: Resene Construction Systems uPVC ventilated starter track

4.3 RESENE CONSTRUCTION SYSTEMS INTEGRA AAC PANEL FIXINGS
Type/finish (class): 14g x 125mm Class 3 screw

4.4 RESENE CONSTRUCTION SYSTEMS INTEGRA LIGHTWEIGHT CONCRETE FACADE SYSTEM - ACRYLIC FINISH
Location: Refer to drawings
Substrate: 50mm Integra AAC Panel
Panel bonding: Rockcote MultiStop Bedding compound
Panel patching: Rockcote MultiStop Bedding
Panel sealing: RCS RenderPrep
Base (1st) coat: Rockcote PM100 Quick Render; plus fibreglass mesh
Second coat: Rockcote PM100 Quick Render
Sealer coat: Resene Limelock
Texture coat: Acrylic Texture
Texture finish: as selected by client
Texture colour: as selected by client
Paint coat: Resene X-200
Paint colour: as selected by client

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4311 PROFILED METAL ROOFING

1. GENERAL

This section relates to the supply and fixing of proprietary overlap rigid sheet metal profiled roofing complete with accessories.

1.1 ABBREVIATIONS
Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

BMT	Base metal thickness
NZMRM	New Zealand Metal Roofing Manufacturers Inc
MS	Modified silyl

Documents

1.2 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC E2/AS1	External Moisture
AS/NZS 1170.2	Structural design actions - Wind actions
AS 1397	Continuous hot-dip metallic coated steel sheet and strip - Coatings of zinc and zinc alloyed with aluminium and magnesium
AS 3566	Self-drilling screws for the building and construction industries
NZS 3604	Timber-framed buildings
AS/NZS 4534	Zinc and zinc/aluminium-alloy coatings on steel wire
NZMRM CoP	NZ metal roof and wall cladding Code of Practice

Warranties

1.3 WARRANTY - INSTALLER/APPLICATOR
Warrant this work under normal environmental and use conditions against weatherproofing failure.

5 years:	from the date of completion of the roof
Form:	Roofing installers standard form

Include a copy of the roofing manufacturers' maintenance requirements with the warranty.

1.4 WARRANTY - MANUFACTURER/SUPPLIER
Warrant this work under normal environmental and use conditions against materials failure.

15 years	For failure of coating adhesion
15 years	For weatherproofing by material penetration
Form:	Roofing manufacturers standard form

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Requirements

1.5 QUALIFICATIONS
Carry out work with experienced, competent installers familiar with the products being used and with appropriate qualifications such as the National Certificate in Metal Roofing and Cladding.

Performance

1.6 CO-ORDINATE
Co-ordinate to ensure substrate and preparatory work is complete and other work programmed in the order required for access and completion of the roof. Ensure that all necessary members are positioned so that flashings can be fastened at both edges through the roof profile or cladding to the primary structure.

1.7 PERFORMANCE
Accept responsibility for the weather-tight performance of the completed roofing system, including penetrations through the roof and junctions with walls and parapets.

1.8 FIXINGS, WIND
Design and use the fixings appropriate for the design loads of this site; refer to general section 1220 PROJECT for details of wind zone. Allow for specific loadings at corners and the periphery of the roof, where localised pressure factors apply.

Performance - Wind (design by contractor)

1.9 DESIGN PARAMETERS - NON SPECIFIC DESIGN
Design the installation to the wind zone parameters of NZS 3604, table 5.4.
Refer to drawings for details.

2. PRODUCTS

Materials

2.1 UNDERLAY
Breather type synthetic underlay to NZS 2295.

2.2 PRE-FINISHED HOT-DIPPED ALUMINIUM/ZINC COATED STEEL
Formability G550 steel sheet coated to AS 1397.

2.3 FLASHINGS GENERALLY
To E2/AS1, 4.0 **Flashings**.
Formable grade 0.55mm BMT for galvanized, aluminium/zinc-coated and pre-painted steel, and 0.9mm for aluminium (or 0.7mm for small aluminium flashings) to the same standards as the profiled sheets, notched where across profile or provided with a soft edge.

Fixings

2.4 FASTENERS GENERALLY
Minimum Class 4 and durability not less than the roofing material being fixed. Screw fasteners to be head stamped identifying the manufacturer and class.

2.5 FIXING SCREWS
To AS 3566. Screws appropriate to the roofing material and the supporting structure, as required by the roofing manufacturer and with a minimum Class 4 durability and not less than the material being fixed. Screws into timber to penetrate by minimum 30mm.

2.6 RIVETS
Sealed aluminium, minimum diameter 4mm, for use with zinc coated, zinc/aluminium coated or aluminium roofing.

Accessories

2.7 SEALANT
Neutral Curing silicone or MS polymer sealant as required by the roofing manufacturerand used as directed.

2.8 CLOSURE STRIPS
Compressible, closed cell profiled foam strips to fit the sheet profile.

2.9 LAP SEALING TAPE
Closed cell self adhesive nitrile tape.

3. EXECUTION

Conditions

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3.1 INSPECTION
Inspect the roof framing and supporting structure to ensure that it is complete and fully braced ready for roofing and free from any misalignments or protrusions that could adversely affect the roofing.

3.2 STORAGE
Take delivery of and accept packs of roofing undamaged on delivery. Reject all damaged material. Store on a level firm base with packs well ventilated and completely protected from weather and damage. Do not allow moisture to build up between sheets. If sheet packs become wet, fillet or cross stack to allow air movement between sheets.

3.3 HANDLING
Avoid distortion and contact with damaging substances, including cement. Do not drag sheets across each other and other materials. Protect edges and surface finishes from damage. Use soft, flat soled shoes when fixing and for all other work on the roof.

3.4 SEPARATION
Place isolators between dissimilar metals, also separate roofing from treated timber and cement based materials. Do not use unpainted lead sheet or copper in contact with or allow water run-off onto galvanized or Zincalume® materials.

Application

3.5 SET-OUT
Carefully set out with consideration of the position of side laps to take account of the line of sight. Ensure all sheets are square and oversailing the gutter true to line. Check during fixing to eliminate creep or spread and string lines along purlin centres to keep fastenings in line.

3.6 END LAPS
End laps are not permitted, except where specifically detailed.

3.7 MOVEMENT JOINTS
Fixing and jointing to conform with the roofing manufacturer's requirements for thermal movement.
Over timber framing, transverse flashings (those running long continuous framing members) to have expansion joints at maximum 12 centres.

3.8 FIXING GENERALLY
Install and fix in accordance with the NZMRM CoP requirements, and to roofing manufacturer's recommendations. Paint colour matched fixings and accessories before installation.

3.9 MARKING AND CUTTING
Cut only by shearing tools. Do not use black lead pencils for marking aluminium/zinc coated products.

3.10 FIX SHEETS
Fix sheets in place using the fastening system required by the roofing manufacturerfor specified profiles, making due allowance for dynamic local wind pressures on the building and thermal movement in the sheet.

3.11 STOP ENDS AND DOWNTURNS
Form stop-ends at the upper end of sheets. Form downturns at the gutter line where the roof pitch is less than 8 degrees. Form using purpose made tools.

3.12 FLASHINGS
Flash roof to parapets, walls and penetrations to detail. Where no detail is provided flash to NZMRM CoP recommendations and the roofing manufacturer's requirements. Cut accurately and fix using sealant and rivets to detail and to the roofing manufacturer's requirements to form a weatherproof cover. For highly visible flashings, plan joints/junction to take account of the aesthetic requirements.

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3.13 USE OF SEALANTS
Select and use sealants only as recommended by the roofing manufacturer. Apply sealant in two narrow beads transversely across flashing intersections, close to the two edges. Avoid exposing sealant on outside surfaces.

3.14 FLASHING PENETRATIONS
Flash all penetrations through the roof. Fit pipe flashings with a proprietary collar flashing to manufacturer's requirements, with other penetrations flashed as detailed and to provide a weathertight installation. Ensure that flashings are set to avoid any ponding of water.

3.15 INSTALL RIDGING
Install ridging by fastening to the purlins through the leading edge of the roofing to manufacturer's requirements.

Completion

3.16 REPLACE
Replace damaged or marked elements.

3.17 LEAVE
Leave this work complete with all necessary flashings, undercloaks, valleys, ridges and hips all properly installed as the work proceeds so the finished roof is completely weathertight.

3.18 REMOVE
Remove trade rubbish and unused materials from the roof and surrounds daily during the work. Sweep down at the end of each day, and clean out spoutings, gutters and rainwater pipes on completion of the roof. Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 ROOFING UNDERLAYS
Brand/type: Fastwrap FlameSpec SS

Roofing

4.2 PRE-FINISHED HOT-DIPPED ALUMINIUM/ZINC COATED STEEL
Brand/profile: Refer to Product Schedule page in plans
BMT: 0.40mm
Coating grade: Colorcote ZR8 (Exposure Zones B & C) or Colorcote ZRX (Exposure Zone D)
Colour: As per Golden Homes Standard Selections

Accessories

4.3 FLASHINGS - GENERALLY
Material/thickness: Prefinished Alum/Zinc coated steel 0.55mm or 0.75mm

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4521GH NALCO RESIDENTIAL ALUMINIUM WINDOWS AND DOORS

1. GENERAL

This section relates to the fabrication, supply and installation of **National Aluminium Ltd** (**NALCO**) residential aluminium windows and doors, manufactured by **Bradnam's Windows & Doors NZ** to Golden Homes
It includes:
- WeatherTight™ residential/light commercial aluminium windows and doors
- Hardware and furniture
- Flashings and sealants

1.1 ABBREVIATIONS AND TERMS

SLS	Serviceability limit state
ULS	Ultimate limit state
WANZ	Windows Association of Zealand
PQAS	Powder Coating Quality Assurance System

Documents

1.2 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC B2/AS1	Durability
NZBC E2/AS1	External moisture
NZBC E2/VM1	External moisture
NZBC F4/AS1	Safety from falling
NZBC H1/VM1	Energy efficiency
NZBC H1/AS1	Energy efficiency
AS/NZS 1580.108.1	Methods of test for paints and related materials - Determination of dry film thickness on metallic substrates - Non destructive methods
AS/NZS 1170.2	Structural design actions - Wind loads
AS/NZS 1734	Aluminium and aluminium alloys - Flat sheet, coiled sheet and plate
AS/NZS 1866	Aluminium and aluminium alloys - Extruded rod, bar, solid and hollow shapes
AAMA 2604.05	Performance requirements and test procedures for high performance organic coatings on aluminium extrusions and panels
NZS 3604	Timber-framed buildings
AS 3715	Metal finishing - Thermoset powder coatings for architectural applications
BS 3900	Methods of tests for paints, Part C5: Determination of film thickness
NZS 4211	Specification for performance of windows
NZS 4223.3	Glazing in buildings - Human impact safety requirements
AS/NZS 4680	Hot-dip galvanized (zinc) coatings on fabricated ferrous articles
WANZ Installation Guide	The WANZ Guide to Window Installation as described in E2/AS1 Amendment 6
WANZ PQAS	Powder Coating Quality Assurance System
WANZ SFA 3503-03	Anodic Oxide coatings on wrought aluminium for external architectural application (2005)
BRANZ BU 337	Protecting Window Glass from Surface Damage

US Federal Specification

TT-S-001543A	Sealing compound, silicone rubber base (for caulking, sealing and glazing in buildings and other structures)
TT-S-00230C	Sealing compound, elastomeric type, single component (for caulking, sealing and glazing in buildings and other structures)

1.3 MANUFACTURER/SUPPLIER DOCUMENTS
Manufacturer's and supplier's documents relating to this part of the work.

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National Aluminium Ltd product literature
Nulook Windows & Doors Specifier's Guide
Bradnam's Windows & Doors NZ Specifier's Guide

Manufacturer/supplier contact details:
Company: **NALCO**
Web: www.nalco.co.nz
www.bradnams.co.nz
Email: janet.grosse@nalco.co.nz
Telephone: 09 272 1702

Warranties

1.4 WARRANTY - MANUFACTURER/SUPPLIER
Provide a material manufacturer/fabricator warranty:
5 years: For fabrication

1.5 WARRANTY - INSTALLER/APPLICATOR
Provide an installer warranty:
2 years: For installation

- Provide this warranty in the installer standard form.

Requirements

1.6 NO SUBSTITUTIONS
Substitutions are not permitted to any specified **NALCO** aluminium system, or associated components and products.

1.7 QUALIFICATIONS
Work to be carried out by trades people experienced, competent and familiar with the materials and techniques specified.

1.8 COMPLIANCE
Windows and doors to be manufactured and installed to NZBC E2/AS1 and Golden Homes Installation Procedure.

1.9 SHOP DRAWINGS
Shop drawings to show the general arrangement of the aluminium joinery including, but not be limited to:
Construction details (minimum scale 1:5) showing the interface between joinery elements and the building structure including: -
- Jointing details and method of fixing between individual elements and between this installation and adjacent work
- Interaction between claddings and linings
- Flashing details
- Sealants and air seals
- Non standard fixing details including bracketing

And where required the following: -
- Design calculations
- Producer Statement in the form PS1 Producer Statement Design
- Rebate sizes
- Dimensions of all typical elements and of any special sizes and shapes
- Provision for the exclusion and/or drainage of moisture
- Provision for adjustment of fixings to ensure true alignment of windows and doors
- Sealant types and full size sections of all sealants and backing rods
- Provision for thermal movement
- Provision for seismic movement and movement under wind loads
- Sequence of installation
- Glazing specification and details

Where requested provide the following additional information

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- Information of Professional Indemnity Insurance held by the person providing the calculations and shop drawings

Complete shop drawing review before commencing fabrication.

1.10 CERTIFICATION
Provide evidence of a certificate by a laboratory accredited by International Accreditation of New Zealand that the windows and doors offered comply with the requirements of NZS 4211.

Performance

1.11 PERFORMANCE - WINDOWS AND DOORS
To NZS 4211, including:
- deflection, opening sashes, air infiltration, water penetration, ultimate strength, torsional strength of sashes, marking.

Refer to SELECTIONS.

1.12 STRUCTURAL/WEATHER-TIGHTNESS
The structural and weather-tight performance of the completed joinery, the glazing and infill panels is the responsibility of the window fabricator.

Performance - Wind (design by contractor)

1.13 DESIGN PARAMETERS - NON SPECIFIC DESIGN
Design the installation to the wind zone parameters of NZS 3604, table 5.4.
Refer to SELECTIONS for wind zone.

Finishes

1.14 CERTIFY COATINGS - POWDER COATING
Certify on request, compliance with this specification and support with control and sampling records. Test for film thickness to BS 3900, part C5, method No. 4, using method (b) or to AS/NZ 1580.108.1 for certifying thickness and method (a) where any dispute arises as to the thickness provided.
The coating should be applied by an applicator who can certify that the coating has been applied in accordance with the specification.

2. PRODUCTS

2.1 WINDOWS
Refer to SELECTIONS for type and finish.

2.2 DOORS
Refer to SELECTIONS for type and finish.

Materials

2.4 ALUMINIUM EXTRUSIONS
Alloy designation to comply with AS/NZS 1866. Branded and extruded for anodising or powder coating.

2.5 ALUMINIUM SHEET AND STRIP
Complying with AS/NZS 1734 of suitable thickness. Rolled for anodising or powder coating.
Alloy designation: 5251 - H16 or 5005 - H16

2.6 STAINLESS STEEL SHEET AND STRIP
Type: 316 austenitic steel
Finish grade: 2B (satin lustre)

2.7 GLASS
Refer to the glazing section for glass types and installation.

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Reveals

2.8 REVEALS - TIMBER PAINTED
Timber reveals for paint finish with all sides primed grooved for wall linings or flush finished for architraves.

2.9 REVEALS - ALUMINIUM
Aluminium reveals fitted to frame via thermal break where non thermally broken aluminium frames are specified. Where thermally broken frames are specified the addition of a thermal break is not required.

Flashings

2.10 FLASHINGS GENERALLY
To NZBC E2/AS1, 9.1.10 **Windows and Doors**. Material, grade and colour of head flashings to match the window frames. Ensure that materials used for head, jamb and sill flashings are compatible with the window frame materials and fixings and cladding materials.

Components for installation - cavity systems

2.12 STANDARD CAVITY CLOSER
A device constructed from either aluminium or PVC to close the cavity above the window or door unit, between the cladding and head flashing, to provide ventilation in accordance with NZBC E2/AS1 to the spaces above the window or door.

2.13 SILL SUPPORT BAR
Extruded aluminium support bar with built in drainage and ventilation to NZBC E2/VM1, NZBC B2/AS1 and BRANZ Evaluation Method EM6, to provide continuous support to the window unit. Size to suit cladding type.

Components

2.14 GLAZING GASKETS
Thermoplastic rubber. Do not stretch glazing gaskets during installation. Measure and cut gaskets 5-10% over length before installation.

2.15 HARDWARE AND FURNITURE
Hinges, stays, catches, fasteners, latches, locks and furniture as offered by the window and door manufacturer. Refer to SELECTIONS for type and finish. Key alike all lockable window hardware able to be keyed alike.

2.16 SAFETY STAYS
Stainless steel non releasable restrictors to limit window opening to NZBC F4/AS1, Table 2, Acceptable opening sizes for barriers.

2.17 FIXING BRACKETS
Designed by manufacturer to specific design.

2.18 WEATHERING/INSTALLATION SEALANT
Building sealant used in accordance with manufacturer's instructions for weather sealing aluminium frames to the cladding, complying with US Federal Specification TT S 0011534A, or a one-part polyurethane moisture curing, elastic joint sealant of medium modulus (± 25% movement) to US Federal Specification TT S 00230C.

Finishes

2.19 INTERPON D1000 POWDER COATING
Single coat polyester based powder coating to AS 3715, AIMF Qualicoat Class 1.5, AAMA 2603 and WANZ Specification for powder coatings on architectural aluminium products. Refer to SELECTIONS for finish and colour.

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2.20 INTERPON D1010 PREMIUM POWDER COATING
High durability polyester powder coatings for architectural aluminium extrusions, components and products to exceed AS3715, AAMA 2603 and WANZ on architectural aluminium products. Refer to SELECTIONS for finish and colour.

2.21 INTERPON D2015 ULTRIVA™ POWDER COATING
Advanced durability polyester powder coatings for architectural aluminium providing levels of weathering resistance exceeding AAMA 2604 for powder coatings on architectural aluminium extrusions, components and products. Refer to SELECTIONS for finish and colour.

3. EXECUTION

Conditions - generally

3.1 DO NOT DELIVER
Do not deliver to site any elements which cannot be unloaded immediately into suitable conditions of storage.

3.2 UNLOAD WINDOW JOINERY
Unload, handle and store elements in accordance with the window manufacturer's requirements.

3.3 AVOID DISTORTION
Avoid distortion of elements during transit, storage and handling.

3.4 PREVENT DAMAGE
Store windows and doors on site in a clean and dry environment in such a manner as to prevent damage to prefinished surfaces. Stack the units in a vertical position resting on their sills, with layers interleaved between to prevent rubbing. Keep paper and cardboard wrappings dry.

3.5 PROPRIETARY ELEMENTS
Fix in accordance with the window manufacturer's requirements and Golden Homes Installation Procedure.

3.6 PROTECTIVE COVERINGS
Retain protective coverings and coatings to BRANZ BU 337 and keep in place during the fixing process. Provide protective coverings and coatings where required to prevent marking of surfaces visible in the completed work and to protect aluminium joinery from following trades. Remove protection on completion.

3.7 ADDITIONAL PROTECTION
Supply and fix additional protection as necessary to prevent marking of surfaces which will be visible on completed work.

Conditions - fixings and fastenings

3.8 SUPPLY OF FIXINGS
Use only fixings and fastenings recommended by the manufacturer of the component being fixed and to comply with the ULS wind pressure stated in SELECTIONS. Ensure fixings and fastenings exposed to the weather are of aluminium, or Type 316 stainless steel or if not exposed to the weather may they be hot-dip galvanized steel with a coating weight of 610 g/m² complying with AS/NZS 4680.

3.9 INSTALLATION FIXING
Fix to Golden Homes Joinery and Interior Door Installation Procedure Sections 1.3 & 2.1, Installation Procedure and Installation of Full Height Joinery. Fix Windows through window liner, and for sills additionally through support bar, into the framing at 50mm from the corners and maximum 250mm centres thereafter using 8g x 25mm Tek Screws. For Full height joinery fixed to sill shall be 8g screws with Ram plugs into concrete 50mm from corners and maximum 250mm centres thereafte. For Doors, additional fixings to the head are required either side of mullions.

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Install packers to head and jambs as per Golden Homes Installation Procedure

Assembly

3.10 FABRICATION
Fabricate frames as detailed on shop drawings. Install glazing, hinges, stays and running gear as scheduled. Provide temporary bracing and protection. Temporarily secure all opening elements for transportation.

3.11 HARDWARE GENERALLY
Factory fit all required and scheduled hardware. Account for all keys and deliver separately to the site manager.

3.12 SAFETY STAYS
Factory fit safety stays to all windows scheduled for safety stays and to all windows where safety stays are required to comply with NZBC F4/AS1 4.0, Opening windows.

Installation - windows and doors

3.13 SUPPLY OF FIXINGS
Use only fixings and fastenings recommended by the manufacturer of the component being fixed and to comply with the ULS wind pressure stated in SELECTIONS.

3.14 EXPOSED FIXINGS AND FASTENINGS
Ensure fixings and fastenings exposed to the weather are of aluminium, or Type 304 stainless steel.

3.15 PROTECTED FIXINGS AND FASTENINGS
Fixings and fastenings not exposed to the weather may be hot-dip galvanized steel with a coating weight of 610 g/m² complying with AS/NZS 4680.

3.16 CORROSION PROTECTION
Before fixing, apply suitable barriers of bituminous coatings, stops or underlay between dissimilar metals in contact, or between aluminium in contact with concrete.

3.17 CONFIRM PREPARATION OF EXTERIOR WALL OPENINGS
Confirm that exterior wall openings have been prepared ready for the installation of all window and door frames. Do not proceed with the window and door installation until required preparatory work has been completed.

Required preparatory work includes the following:
- wall cladding Rigid Air Barrier openings finished and dressed off ready for the installation of window and door frames to be in accordance with the drawings.
- claddings neatly finished off to all sides of openings
- installation of flashings (those which are required to be installed prior to frames).
- application of waterproof sealer to all door and window sills in concrete floor or concrete sill situations. To door sills only, apply a suitable membrane over the sealer
- all in accordance with the shop drawings, where applicable.

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3.18 INSTALLATION
Fix to comply with the reviewed shop drawings and installation details including flashings and bedding compounds, pointing sealants and weathering sealants.

3.19 INSTALLATION CAVITY CONSTRUCTION
Install as per Golden Homes Joinery and Interior Door Installation Procedure details and drawings including cavity closers, sill support bars and support angles.

3.20 INSTALL FLASHINGS
Install flashings to heads, jambs and sills of frames as supplied and required by the window manufacturer and as detailed on the drawings. Finish head flashings to match window finish.

Place all flashings so that the head flashing weathers the jamb flashings, which in turn weathers over the upstand of the sill flashing. Ensure that sill flashings drain to the outside air.

Except where window/door frames are recessed, ensure that head flashings over-sail unit by 20mm minimum plus any jamb scriber width at each end.

3.21 COMPLETE AIR SEAL
Form an air-tight seal by means of proprietary sealants used with continuous packer or support bar, applied between the window / door liner and structural framing, to provide a continuous air tight seal to the perimeter of the window or door in accordance with the drawings.

3.22 FIX HARDWARE
Fix all sash and door hardware and furniture as scheduled.

Application - jointing and sealing

3.25 SEAL FRAMES ON SITE
Seal frames to each other and to adjoining structure and finishes, all as required by the window and sealant manufacturer and to make the installation weathertight.

In Very High and Extra High wind zones, seal between underside of head flashing and top edge of window head flange in accordance with NZBC E2/AS1 9.1.10.4 **Head flashings** Fig 71 (c). Do not seal the junction between the sill member and the cladding or sill flashing which must remain open.

3.26 PREPARE JOINTS
Ensure joints are dry. Remove loose material, dust and grease. Prepare joints in accordance with the sealant manufacturer's requirements, using required solvents and primers where necessary. Mask adjoining surfaces which would be difficult to clean if smeared with sealant.

3.27 BACK UP
When using back-up materials do not reduce depth of joint for sealant to less than the minimum required by the manufacturer of the sealant. Insert polyethylene rod or tape back-up behind joints being pointed with sealant.

3.28 SEALANT FINISH
Tool sealant to form a smooth fillet with a profile and dimensions required by the sealant manufacturer. Remove excess sealant from adjoining surfaces, using the cleaning materials nominated by the sealant manufacturer and leave clean.

Cleaning

3.29 REMOVE TRADE DEBRIS
Remove trade debris by appropriate means on a floor by floor basis as each floor is completed and again before any work is covered up by others. Arrange for general removal.

3.30 TRADE CLEAN
Trade clean window frames, operable windows and doors, glass and other related surfaces inside and out at the time of installation to remove marks, dust and dirt, to enable a visual inspection of all surfaces.

Completion

3.31 PROTECTIVE COVERINGS
Retain protective coverings and coatings and keep in place during the fixing process. Provide protective coverings and coatings where required to prevent marking of surfaces visible in the completed work and to protect aluminium joinery from following trades. Remove protection on completion.

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3.32 REPLACE
Replace damaged, cracked or marked elements.

3.33 PROTECTION
Protect finishes against damage from adjacent and following work.

3.34 IN-SITU TOUCH-UP TO POWDER COATED ALUMINIUM
In situ touch-up of polyester or fluoropolymer coated aluminium is only permitted to minor surface scratching. Otherwise replace all damaged material.

3.35 SAFETY
Indicate the presence of transparent glasses for the remainder of the contract period, with whiting, tape or signs compatible with the glass type. Indicators other than whiting must not be applied to the glass surface. Masking tape must not be used for this purpose.

3.36 MANIFESTATIONS
To NZS 4223.3, 2.2 Manifestation (making glass visible).

4. SELECTIONS

For further details on selections go to www.nalco.co.nz
Substitutions are not permitted to the following, unless stated otherwise.

4.1 NOMINATED FABRICATOR
The nominated fabricators for this section of work are;
Brand: Bradnams Windows and Doors NZ

4.2 SUPPLY AND INSTALLATION
Supply and installation of the specified **NALCO** aluminium joinery system by one of the following options.
Supply only: By fabricator
Supply and installation: By fabricator
Installation only: By main contractor

Performance

4.3 THERMAL PERFORMANCE
R-value: Refer Drawings Insulation Calculation page (as determined from NZBC H1/VM1 or H1/AS1)

4.4 AIR INFILTRATION
For NZS 4211, table 3 **Air infiltration**.
Non-air conditioned zones: Refer Drawinmgs
Air conditioned zones: Refer Drawings

Performance - Wind (design by contractor)

4.5 DESIGN PARAMETERS – NON SPECIFIC DESIGN
Building wind zone Refer Drawings (to NZS 3604, table 5.4)

Finishes

4.6 POWDER COAT FINISH
Manufacturer: Interpon Powder Coatings
Brand/type: One of - D1000, D1010 Premium, D2015 Ultriva
Thickness: As per Golden Homes Standard Selections
Finish: As per Golden Homes Standard Selections
Colour: as selected by client

Glazing

4.7 GLASS
Type/thickness: Refer to supplied schedule by Bradnams.

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Hardware

4.8 WINDOW HARDWARE
Window fastener: Refer to supplied schedule by Bradnams.

4.9 DOOR HARDWARE
Locks & handles: Refer to supplied schedule by Bradnams.

4.10 HARDWARE FINISH
Finish: Powder coat
Colour: Refer to supplied schedule by Bradnams.

Flashings and Sealant

4.11 FLASHINGS
Material/type: Powder Coat Aluminium
Pattern: Formed to suit details provided

4.12 WEATHERING SEALANT
Type: 1-part polyurethane moisture curing, elastic joint sealant
Colour: To Suit

Reveals

Window and door system - WeatherTight™

4.13 WINDOWS & DOORS
Suite: **WeatherTight™**
Glazing system: Refer Window Schedule Provided by Bradnams

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4610 GLAZING RESIDENTIAL

1. GENERAL

This section relates to the supply and fixing of glass products for external and internal joinery in residential type buildings and includes:
- windows and doors
- mirrors and mirror frames

1.1 ABBREVIATIONS AND DEFINITIONS
Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

PVB	Polyvinyl Butyral
CIP	Cast in place

Documents

1.2 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC F4/AS1	Safety from falling
NZBC F9/AS1	Means of restricting access to residential pools
NZBC H1/AS1	Energy Efficiency
AS/NZS 1170.2	Structural design actions - Wind loads
NZS 3604	Timber-framed buildings
NZS 4211	Specification for performance of windows
NZS 4218	Thermal insulation - Housing and Small Buildings
NZS 4223.1	Glazing in buildings - Glass selection and glazing
NZS 4223.Supp1	Glazing in buildings - Supplement 1 to NZS 4223.1:2008 and NZS 4223.4:2008
NZS 4223.2	Glazing in buildings - Insulating glass units
NZS 4223.3	Glazing in buildings - Human impact safety requirements
NZS 4223.4	Glazing in buildings - Wind, dead, snow and live action
AS/NZS 2208	Safety glazing materials in buildings
AS/NZS 4666	Insulating glass units
BRANZ BU 337	Protecting window glass from damage

Warranties

1.3 WARRANTY - MANUFACTURER/SUPPLIER
Warrant glass under normal environmental and use conditions against failure of materials.

10 years:	for insulating glass units
10 years:	for laminated glass
10 years:	for toughened glass

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Performance

1.4 ENERGY EFFICIENCY
Provide glazing to meet the energy requirements of NZS 4218 and NZBC H1/AS1 for housing small buildings.
Refer to SELECTIONS and schedules for location and type of glazing.

2. PRODUCTS

Materials

2.1 CLEAR FLOAT GLASS
Clear ordinary annealed transparent float glass for general window glazing. Thickness to NZS 4223.1 and NZS 4223. Supp 1.

2.2 TEXTURED, PATTERNED OR OBSCURE GLASS
Translucent, annealed, rolled glass with a decorative pattern on one surface.

2.3 LAMINATED GLASS
Grade A Safety Glass to AS/NZS 2208 with PVB or CIP resin interlayer.

2.4 TOUGHENED GLASS
Grade A Safety Glass to AS/NZS 2208.

2.5 TINTED FLOAT GLASS
Body tinted float glass.

2.6 REFLECTIVE AND COATED FLOAT GLASS
Either coated float glass incorporating both solar and thermal insulation properties; or coated float glass with only the thermal insulation properties.

2.7 INSULATING GLASS UNITS (IGU'S)
To AS/NZS 4666, NZS 4223.2 and the IGU Manufacturers Association (IGUMA) requirements.
Marking to NZS 4223.2 as modified by NZBC B2/AS1, 3.5.

Materials, mirrors

2.8 MIRROR GLASS
Clear annealed mirror float glass, including silver, activation, passivation and two protective coats.

2.9 SAFETY MIRROR GLASS
4mm, 5mm and 6mm annealed float glass mirror vinyl back safety glazing material to AS/NZS 2208.

Materials, screens

2.10 GLASS SCREENS SHOWER
Proprietary shower / bath screens, formed to shape before toughening, complete with matching hardware.

Components, aluminium and uPVC glazing

2.11 GLAZING TAPE AND GASKETS
Single/double sided pressure sensitive self-adhesive low/medium/high density foam tapes/butyl tapes selected to suit the glazing detail to window manufacturers' requirements.

2.12 SETTING BLOCKS
Santoprene/Neoprene, 80-90 Shore A hardness, set at quarter points or to detail, to support the weight of glass panes.

Components, wall mounted glass (mirrors and splashbacks)

2.13 GLASS ADHESIVE
Adhesive mirror-mastic and double-sided adhesive tape.

2.14 GLASS MOUNTING CHANNELS
Refer to SELECTIONS/drawings for type and finish.

3. EXECUTION

Conditions

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3.1 GENERAL REQUIREMENTS
To NZS 4223.1, NZS 4223.3, NZS 4223.4. All external glazing to be wind and watertight on completion.

3.2 DELIVERY
Keep glass dry and clean during delivery and bring on to site when ready to glaze directly into place. Comply also with the storage requirements set out in BRANZ BU 337.

3.3 GLASS CONDITION
All glass to have undamaged edges and surfaces.

3.4 GLASS THICKNESS
If not specifically stated in the glazing schedule determine the minimum thickness of glass for each sheet as required by NZS 4223.1, NZS 4223.3, NZS 4223.4 and NZS 4223. Supp 1. For windows tested to NZS 4211, ensure glass meets the requirements of the window testing.
Determine the final glass thickness based on whether wind loading or human impact considerations govern.

3.5 REBATE DIMENSIONS
Provide rebates for glazing to the widths and depths necessary for each situation including minimum glass edge cover to NZS 4223.1, Section 4 Glazing.

3.6 JOINTING, PUTTY AND SEALING MATERIAL COMPATIBILITY
Ensure jointing, putty and sealing materials are compatible with glass substrates. Confirm compatibility with laminated glass, IGUs and coatings.

Conditions - human impact safety requirements

3.7 SAFETY GLAZING, GENERAL REQUIREMENTS
Glazing of doors, side panels, low level and window seat glazing, bathrooms, stairwell landings and similar locations, to NZS 4223.3 for thickness and maximum areas of safety glass.

3.8 SAFETY GLAZING MATERIAL
Use only safety glazing materials defined in NZS 4223.3, that also comply with the relevant requirements of AS/NZS 2208. Ensure material is permanently marked and if cut by the distributor or installer mark each piece to NZS 4223.3, 2.8 Identification.

3.9 CONTAINMENT
Edge cover to comply with NZS 4223.1, Section 4 Glazing, table 5. Otherwise to NZS 4223.3, 2.3 Edge cover.

Assembly

3.10 WORKING OF GLASS
All working of glass as required in NZS 4223.1.

3.11 INSTALL SAFETY GLASS
To NZS 4223.3.

Application aluminium

3.12 INSTALL GLASS TO ALUMINIUM FRAMES
Install glass to NZS4223.1.
- Bead glaze to Section 4 Glazing.
- Channel glaze to Section 4 Glazing, and Section 5 for Framed, Unframed, Partly Framed Glass Assemblies.

Application - wall mounted glass (mirrors and splashbacks)

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3.13 WALL MOUNTED GLASS, CHANNEL MOUNTED
For mirrors and splashbacks,fix with proprietary mounting channels, to the channel manufacturer's requirements.

3.14 WALL MOUNTED GLASS, ADHESIVE FIXED
For mirrors and splashbacks, fix with adhesive mirror-mastic and double-sided adhesive tape. Adhesive area 0.2 m2 per 1 m2 of glass to NZS 4223.3.

Application miscellaneous

3.15 INSTALL GLASS SHOWER & BATH SCREENS
Install shower and bath screens and doors to manufacturer's requirements.

Finishing

3.16 SAFETY
Indicate the presence of transparent glass for the remainder of the construction period, with whiting, tape or signs compatible with the glass type.

Completion

3.17 TRADE CLEAN
Clean off or remove safety indicators at completion of the building.

3.18 REPLACE
Replace damaged, cracked or marked glass.

3.19 LEAVE
Leave work to the standard required by following procedures.

3.20 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

Performance - wind

4.1 WIND ZONE - NON-SPECIFIC DESIGN
Building wind zone: Refer plans (as determined from NZS 3604, NZS 4223.4)

Glass by type

4.2 GLASS - WINDOW AND DOOR JOINERY
Location: Refer plans
Brand/type: Bradnams. - refer to manufacturers schedule.

Mirrors

4.3 MIRRORS
Location: Bathrooms in general
Dimensions: to suit location
Thickness: 4-6 mm
Fixing method: Adhesive

Splashbacks

4.4 SPLASHBACKS
Location: Kitchen (if included in Golden Homes Selections)
Dimensions: to suit location
Thickness: 4-6 mm
Fixing method: Adhesive

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4.5 GLASS SHOWER SCREENS AND DOORS

Location: Refer Drawings

Brand/type: As per Golden Homes Standard selections

Glass: Safety glass complying to AS/NZS 2208

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4710 INSULATION

1. GENERAL

This section relates to materials installed, laid, hung or fitted as thermal and/or acoustic insulation.

1.1 RELATED WORK
Refer to 4161 UNDERLAYS, FOIL AND DPC for wall underlays and roofing underlays and foils.
Refer to roofing sections for roofing underlays.

1.2 ABBREVIATIONS AND DEFINITIONS
Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

BIB	Building Insulation Blanket
EPS	Expanded polystyrene sheets

Documents

1.3 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC H1/AS1	Energy efficiency
AS/NZS 3000	Electrical installations
NZS 4218	Thermal insulation - Housing and small buildings
NZS 4246	Energy efficiency - Installing bulk thermal insulation in residential buildings
AS/NZS 4534	Zinc and zinc/aluminium-alloy coatings on steel wire
AS/NZS 60598.2.2:2001	Luminaires- Particular Requirements - Recessed luminaires
AS/NZS 60695.11.5	Fire hazard testing - Test flames - Needle-flame test method - Apparatus, conformity test arrangement and guidance
Health and Safety at Work Act 2015	

Requirements

1.4 QUALIFICATIONS
Work to be carried out by trades people experienced, competent and familiar with the specified insulation materials and techniques specified.

2. PRODUCTS

Materials

2.1 GLASS FIBRE THERMAL INSULATING PADS
Glass fibres bonded with a thermosetting resin to form a rectangular insulating pad.
NOTE: When insulation abutting or covering recessed downlights is intended to be in contact with IC, CA 80, CA 135 luminaries the insulation must withstand a 30s Needle Flame test to AS/NZS 60695.11.5.

Components

2.2 NAILS
Galvanized steel clouts, 25mm gauge.

2.3 STAPLES
Stainless steel gauge and length to suit application and to manufacturer's requirements.

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2.4 STRAPPING TAPES
Proprietary plastic strapping tape, stapled over framing to retain insulation in unlined wall, ceiling and underfloor locations.

2.5 ADHESIVE TAPE
Adhesive tapes to compliment the underlay. Pressure sensitive aluminium foil tapes for joining foil insulation and vapour barriers.

3. EXECUTION

3.1 DELIVERY
Keep insulation dry in transit. Take delivery of insulation dry and undamaged and store in a location that protects them from the weather and damage. Reject all damaged materials.

3.2 STORAGE
Accept materials undamaged and dry and store in a location that protects them from the weather and damage. Avoid distortion, stretching, puncturing and damage to edges of sheet materials. Do not use damaged sheets.

3.3 HANDLING
Wear protective clothing as necessary and when handling, avoid delamination or distortion of the rectangular form. Maintain full thickness unless compression is an installation system requirement.

3.4 HAZARD & RISK MANAGEMENT
To Health and Safety at Work Act 2015 and take all safety precautions necessary to reduce potential hazards and risks.

3.5 INSPECTION
Before starting installation of blankets and pads, check that the location and framing are free from moisture, that the cavities are not interconnected and that mesh, wall underlay and vapour barriers are in place.

Application - general

3.6 INSTALL INSULATION - GENERAL
Lay, install, fit and fix to NZBC H1/AS1: Energy efficiency, 2.0 Building thermal envelope, and to manufacturer's requirements. Install in housing to NZS 4218 and NZS 4246. Install in large buildings to NZS 4243.1 and NZS 4220. Allow insulation to re-loft/relax prior to installation. Do not cover vents. Allow a clear gap around metal flues as recommended by the fireplace manufacturer. Lift up electrical wires, lighting transformers/controllers and lay the insulation underneath.

3.7 RECESSED LIGHT FITTINGS - CLEARANCE
Residential applications;
- Ensure new recessed downlights are one of the new classes classified in AS/NZS 60598.2.2; CA 80, CA 135, IC and IC - F
- Classification type CA 80, CA 135, to AS/NZS 60598.2.2; insulation can abut the sides (wrapping around the sides)
- Classification type IC and IC - F, to AS/NZS 60598.2.2; insulation can abut and cover over the top of the downlight
- Provide larger clearances where required by the light manufacturer.
- In a retrofit situation where recessed downlights are unclassified or unknown, ensure 100mm clearance from the insulation to AS/NZS 3000, figure 4.9.

3.8 CLEARANCE TO ROOFING UNDERLAY
Ensure a minimum 25mm clearance is maintained between the insulation and any non-rigid roofing underlay.

3.9 FIT GLASS FIBRE THERMAL INSULATING PADS
Friction fit insulating pads in place to completely fill the whole of the cavities. Carefully scribe cut insulating pads slightly oversize to maintain friction fit to each other, to smaller

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spaces and around penetrations. Leave no gaps between, and maintain full thickness of the insulating pads over the whole of the installation. Do not cover vents and cut around metal flues to the safety requirements of the fireplace manufacturer.

Completion

3.10 CLEAN UP
Clean up as the work proceeds, so no spare offcuts or any other matter or item remain behind claddings or linings.

3.11 CHECK WALL WRAPS AND ROOF UNDERLAYS
Ensure these are dry, clean, undamaged and free of debris before being covered.

3.12 LEAVE
Leave work to the standard required by following procedures.

3.13 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS
Substitutions are not permitted to the following, unless stated otherwise.

4.1 GLASS FIBRE INSULATION
Location: Refer Drawings
Brand: Pink Batts
R Value: Refer Drawings

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5113G GIB® PLASTERBOARD LININGS

1. GENERAL

This section relates to the supply, fixing and jointing of GIB® plasterboard linings and accessories to timber and steel framed walls and ceilings to form:
- standard systems
- bracing systems
- fire rated wall systems (if required, refer to drawings)

1.1 ABBREVIATIONS AND DEFINITIONS
Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

AWCINZ	Association of Wall and Ceiling Industries New Zealand

Documents

1.2 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC C/AS2-AS6	Protection from fire
NZBC E2/AS1	External moisture
AS 1397	Continuous hot-dip metallic coated steel sheet and strip - Coatings of zinc and zinc alloyed with aluminium and magnesium
AS/NZS 2588	Gypsum plasterboard
AS/NZS 2589	Gypsum linings - Application and finishing
NZS 3604	Timber-framed buildings
AS/NZS 4600	Cold-formed steel structures
ISO 5660.1	Reaction-to-fire tests - Heat release, smoke production and mass loss rate - Part 1: Heat release rate (cone calorimeter method)
ISO 5660.2	Reaction-to-fire tests - Heat release, smoke production and mass loss rate - Part 2: Smoke production rate (dynamic measurement)
BRANZ Technical Paper P21	BRANZ Technical Paper P21: A wall bracing test and evaluation procedure (2010)
NASH	Residential and Low-Rise Steel Framing Part 1 2010 Design Criteria

1.3 MANUFACTURER/SUPPLIER DOCUMENTS
Manufacturer's and supplier's documents relating to this part of the work:
- GIB® Site Guide (Dec 2014)
- GIB® Ezybrace® Systems (2016)
- GIBFix® Framing System (2016)
- GIB-Cove®
- GIB® Goldline™ Platinum Tape-on Trims (Jan 2006)

BRANZ Appraisal 294 (2011) - GIB Ezybrace® Systems
BRANZ Appraisal 928 (2016) - GIB Ezybrace® Systems 2016

GreenTag Certification WWLCG001-001-A-2015 - GreenTag™ GreenRate/Level C for:
- GIB® Standard (10mm & 13mm)

Copies of the above literature are available at

Company:	Winstone Wallboards
Web:	www.gib.co.nz
Telephone:	0800 100 442

Requirements

1.4 NO SUBSTITUTIONS
Substitutions are not permitted to any specified GIB® systems, GIB® system components, GIB® plasterboard, associated GIB® products or GIB® accessories.

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1.5 INSTALLER WORK SKILLS AND QUALIFICATIONS
GIB® plasterboard fixers and plasterers to be experienced competent workers, familiar with GIB® plasterboard lining systems installation and finishing techniques. Submit evidence of experience on request. For example:
- National Certificate of Interior Systems; or
- Certified Business member of AWCINZ.

Performance

1.6 INSPECTIONS AND ACCEPTANCE
Allow for inspection of the finished plasterboard surface:
- before applying sealer and
- before applying finish coatings or decorative papers,
so that after assessment of the type and/or angle of illumination and its effect on the completed decorative treatment, group approval and acceptance of the surface can be given.

2. PRODUCTS

Materials

2.1 GIB® PLASTERBOARD
Gypsum plaster core encased in a face and backing paper formed for standard and water resistance use to AS/NZS 2588. Refer to SELECTIONS for location, type, thickness and finish.
GIB® Standard plasterboard

2.2 GIB® COVING
GIB-Cove® plasterboard coving. Refer to SELECTIONS for profile and size.

Components

2.3 CEILING BATTENS
ZOG® Combo Batten (refer to Axxis Steel Frame Section)

2.4 SCREWS
GIB® Grabber® drywall screws.

2.5 TAPE ON TRIMS AND EDGES
GIB® Goldline® tape-on trims

2.6 CONTROL JOINTS
GIB® Goldline® tape-on trims

Accessories

2.7 ADHESIVE
Timber frame and/or steel frame:
GIBFix® All-Bond solvent based wallboard adhesive

2.8 JOINTING COMPOUND

Bedding compound:	GIB Tradeset®, GIB Lite Blue®, GIB MaxSet®, GIB ProMix® All Purpose, GIB Plus 4®
Finishing compound:	GIB ProMix® All Purpose, GIB® Trade Finish®, GIB® Trade Finish® Lite, GIB ProMix® Lite, GIB® U-Mix, GIB Plus 4®, GIB Trade Finish® Multi
Cove:	GIB-Cove® Bond

2.9 JOINTING TAPE
GIB® paper jointing tape.

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2.10 GAP FILLER
GIB® Gap Filler ultra low VOC multi-purpose acrylic flexible filler

3. EXECUTION

Conditions

3.1 STORAGE
Store GIB® plasterboard sheets and accessories in dry conditions stored indoors out of direct sunlight in neat flat stacks on either an impervious plastic sheet or clear of the floor with no sagging and avoiding damage to ends, edges and surfaces. Reject damaged material. Refer to GIB® Site Guide (Dec 2014).

3.2 LEVELS OF PLASTERBOARD FINISH
Provide the selected plasterboard surfaces to the pre decorative levels of finish specified in AS/NZS 2589.

3.3 CONFIRM LEVELS OF PLASTERBOARD FINISH ACCEPTANCE
Before commencing work, agree in writing upon the surface finish assessment procedure towards ensuring that the quality of finish expectations are reasonable and are subsequently obtained and acceptable.

Do not apply decorative treatment until it is agreed by the contractor, subcontractors and decorator that the specified plasterboard Level of Finish has been achieved.

"Levels of plasterboard finish" is a tool for specifying the required quality of finish when installing and flush stopping GIB® plasterboard **prior** to the application of a range of decorative finishes under various lighting conditions. Refer to **AS/NZS** 2589.

3.4 SUBSTRATE
Do not commence work until the substrate is plumb, level and to the standard required by the sheet manufacturer's requirements. Refer to GIB® Site Guide (Dec 2014).

3.5 METAL FRAMING
Metal framing, to which gypsum lining is fixed, shall comply with AS 1397, AS/NZS 4600, or NASH Residential and Low-Rise Steel Framing Part 1 2010 Design Criteria, as applicable. Where adhesion of gypsum linings is required, surfaces shall be free of oil, grease, dust and other foreign materials. Refer to the metal framing manufacturers specifications where high density gypsum linings (>800 kg/m³) such as GIB Braceline® and GIB Noiseline® are specified for fixing to light gauge steel framing.

3.6 PROTECTION
Protect surfaces; cabinetwork, fittings, equipment and finishes already in place from the possibility of water staining and stopping damage. Refer to GIB® Site Guide (Dec 2014).

Application

3.7 INSTALL CEILING BATTENS
Install to ZOG® Ceiling Batten Systems.

3.8 LINING WALLS AND CEILINGS GENERALLY
Form to GIB® Site Guide (Dec 2014). Ensure bulk insulation thickness shall not exceed that of the wall framing.

3.9 BOARD ORIENTATION
Minimise joints by careful sheet layout using the largest sheet sizes possible, and generally fixing horizontally. Where part sheets are required for various stud heights they should be positioned so the cut sheet is as low as possible to keep joints below eye level.

3.10 FORM CONTROL JOINTS
Form control joints to GIB® Site Guide (Dec 2014) requirements.

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3.11 INSTALL COVES
Install to GIB-Cove® literature using GIB-Cove® Bond.

3.12 INSTALL TAPE-ON TRIMS
Install to GIB® Goldline™ Tape-on trims literature and/or GIB® Ultraflex high impact corner mould literature.

Finishing

3.13 FINISHING GENERALLY
To GIB® Site Guide (Dec 2014) and AS/NZS 2589.

Completion

3.14 REPLACE
Replace damaged sheets or elements.

3.15 CLEAN DOWN
Clean down completed surfaces to remove irregularities and finally sand down with fine paper to the sheet manufacturer's requirements, to leave completely smooth and clean.

3.16 REMOVE
Remove debris, unused materials and elements from the site.

3.17 LEAVE
Leave work to the standard required by following procedures.

4. SELECTIONS

Plasterboard

4.1 STANDARD SYSTEMS WALLS - REFER TO PRODUCT SCHEDULE PAGE FOR PLASTERBOARD TYPE

Location	Plasterboard type / Lining requirements	Thickness	Finish Level
Walls	GIB® Standard plasterboard	10mm	4

4.2 STANDARD SYSTEMS CEILINGS - REFER TO PRODUCT SCHEDULE PAGE FOR PLASTERBOARD TYPE

Location	Plasterboard type / Lining requirements	Thickness	Finish Level
Ceilings	GIB® Standard plasterboard	10mm	4

Accessories

4.4 CORNICE - REFER TO PRODUCT SCHEDULE PAGE FOR CORNICE TYPE (IF REQUIRED)
Size/brand/type: 50mm GIB-Cove® Alto or 55mm GIB-Cove® Classic

4.5 CEILING BATTENS
Brand/type: ZOG® Combo Ceiling Batten

4.6 TAPE ON EDGE OR CORNER TRIMS
Brand/type: GIB® Goldline® tape-on trims

4.7 EDGE PROFILES
Brand/type: GIB® Goldline® tape-on trimsGIB® Slimline Capping (Rondo Casing Bead) to garage door architrave

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6211 WALL TILING

1. GENERAL

This section relates to the supply and installation of ceramic wall tiles.
It includes:
- cement render walls
- concrete masonry walls
- timber substrate walls

1.1 RELATED WORK
Refer to 6221 FLOOR TILING for floor tiling.

Documents

1.2 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

AS 3740	Waterproofing of wet areas within residential buildings
AS 3958.1	Ceramic tiles - Guide to the installation of ceramic tiles
AS ISO 13007.1	Ceramic tiles - Grouts and adhesives: Terms, definitions and specifications for adhesives
AS ISO 13007.3	Ceramic tiles - Grouts and adhesives: Terms, definitions and specifications for grouts
BRANZ	Good practice guide - Tiling

Warranties

1.3 WARRANTY - MANUFACTURER/SUPPLIER
Provide a material manufacturer/supplier warranty:
2 years: For materials

- Provide this warranty on the manufacturer/supplier standard form.
- Commence the warranty from the date of practical completion of the contract works.

1.4 WARRANTY - INSTALLER/APPLICATOR
Provide an installer/applicator warranty:
2 years: For execution

- Provide this warranty on the installer/applicator standard form.
- Commence the warranty from the date of practical completion of the contract works.

Requirements

1.5 QUALIFICATIONS
Tilers to be experienced, competent trades people familiar with the materials and techniques specified.

1.6 NO SUBSTITUTIONS
Substitutions are not permitted to any of the specified systems, components and associated products listed in this section.

1.7 ADHESIVES COMPATIBILITY
Adhesives selected for use on proprietary substrates or waterproof membranes to have documented compatibility approval from the respective manufacturers.

2. PRODUCTS

Materials

2.1 WALL TILES
Refer to SELECTIONS for product selection.

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Accessories

2.2 LIQUID WATERPROOFING MEMBRANE
To AS 3740.

2.3 SAND AND CEMENT GROUT
1 part Portland cement to 2-3 parts fine sand mixed to a paste consistency with a minimum of clean water.

2.4 GROUT
Cement based, compressible and to suit particular location/use. To AS ISO 13007.3.

2.5 TILE ADHESIVE
To AS ISO 13007.1.

2.6 MOVEMENT JOINT SEALANT
To BRANZ Good practice guide: Tiling, section 5.0.
- Neutral cured sealant for areas where waterproof membranes are used or where used against aluminium.
- Acid cured sealant except for areas where waterproof membranes are used or where used against aluminium.

Note: Check compatibility of membrane and sealant, use bond breaking tape to separate them if required.

3. EXECUTION

3.1 DELIVERY, STORAGE AND HANDLING
Take delivery of materials and goods and store on site and protect from damage.
Protect finished surfaces, edges and corners from damage.
Move/handle goods in accordance with manufacturer's requirements.
Reject and replace goods that are damaged or will not provide the required finish.

3.2 CHECK TILES
Check tiles to ensure that they are as specified, from the same batch, of a consistent colour and pattern and sufficient to complete the work. Reject tiles that vary widely in colour or pattern. Reject tiles that are damaged.

3.3 CONFIRM LAYOUT
Before commencing work confirm the proposed layout of tiles and expansion joints and other visual considerations of the finished work.

3.4 SETTING OUT
Before commencing the setting out confirm the number and location of cut tiles. Minimise in number with no cut tiles less than half size and only at the perimeter of the work.

Conditions

3.5 SERVICES AND ACCESSORIES
Ensure that all services and accessories are in place and located to suit the tile layout, and that the substrate, background and adjoining surfaces (with the preparation called for in this section) are of the quality necessary to allow tiling of the required standard.

3.6 SUBSTRATE TEMPERATURE
Do not carry out tiling where the substrate temperature is below 5°C or above 40°C.

3.7 LIGHTING
Light the tile work as closely and clearly as possible to that of the finished lighting, to ensure that differences in plane surface are highlighted during installation.

Application - preparing new surfaces

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3.8 NEW SHEET LININGS
Remove contaminants that may affect bonding or adhesion. Surface to finish clean and dry with a texture to give a complete key to the tile manufacturer's requirements and with a maximum variation in the background plane of 4mm in 2 metres.

Application - waterproof membranes

3.9 INSTALL WATERPROOFING MEMBRANE
Install waterproofing membrane between the tile adhesive and the substrate. Reinforce all junctions of the waterproofing membrane to BRANZ Good practice guide - Tiling; 7.0 Waterproofing interior wet areas. Unless otherwise specified or shown on the drawings, install waterproof membranes as follows: -

Splashback to a vanity
- To 300mm minimum up wall behind the vanity.
- To the floor level at least twice the width of the vanity and 500mm min beyond it at each end.

3.10 LIQUID WATERPROOFING MEMBRANE
Apply the selected liquid waterproof membrane system to the membrane manufacturer's requirements and in accordance with AS 3740 and to BRANZ Good practice guide - Tiling, 7.0 Waterproofing interior wet areas.

Application - tile installation

3.11 TILE FIXING GENERALLY
To AS 3958.1. Apply adhesive, prepare and fix tiles by the method required by the adhesive manufacturer and tap them firmly into place.

3.12 FITTING TILES
Ensure cut edges are smooth and installed without jagged or flaked edges. Do not install single tiles in more than one piece. Maintain the heights of wall tile work in full courses to the nearest dimension. Within allowed tolerances, ensure corners of tiles are flush and level with corners of adjacent tiles. Keep joint lines, including mitres, straight and of an even width. Fully bed trim units, moulded or shaped pieces and other accessories with an appropriate bedding material. Fix accessories level, plumb and true to the designated projection at detailed locations and heights.

3.13 MOVEMENT JOINTS
Provide movement joints with a minimum width of 4mm, carried through tile and bedding and where substantial movement is anticipated, through the rigid sheet to the structure. Install joints over expansion joints, at junctions between different backgrounds, abutting other materials, at storey heights horizontally and 3 to 4 metres vertically, at internal corners and at junctions with floors and columns. Ensure joints are clean, formed, filled and with sealant inserted to the sealant manufacturer's requirements.

3.14 TILE FINISH AND JOINTS
Ensure finished surfaces are flat and true to a tolerance of ± 4mm in 2 metres from the required plane. Clean surplus bedding material from joint spaces and tile surface. Ensure joint widths are consistent throughout the installation with 1.5mm width for dust-pressed tiles and 6mm for extruded tiles, measured at the tile face. Ensure joint alignment is consistent throughout the installation and to a tolerance of ± 4mm in 2 metres from the detailed joint alignment.

3.15 THIN BED FIXING
Apply adhesive to a maximum 3mm bed thickness with a minimum of voids.

Notched trowel method
- For internal dry applications, spread adhesive to a uniform thickness and "rib" it with a notched trowel to the adhesive manufacturer's requirements. Press tiles and beat into place to obtain adequate coverage by adhesive on the back of each tile.

Floating method

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- Apply adhesive to a uniform thickness. Apply tiles with a twisting or sliding action and tap back firmly into the floated bedding.

Buttering
- With a trowel butter adhesive evenly over the whole of the back of the tile, slightly thicker than the final required adhesive thickness. Press and tap firmly into position leaving no voids. Do not use "spot-fixing".

Occasionally remove a tile as fixing proceeds to check the maintenance of adequate contact with the adhesive.

3.16 THICK BED FIXING
Apply thick-bed cement based adhesive to an average 6mm bed thickness as a floated bed and to the tile manufacturer's requirements. Prepare and fix tiles by the method required by the tile manufacturer and beat and tap them firmly into place.

Grouting

3.17 APPLY GROUTING
Remove spacers. Apply grouting mix to as large an area as can be worked before setting commences. Work with a grouting tool back and forth until joints are completely filled with no adhesive showing. Avoid damage to the surface of tiles, using masking tape where necessary. Finish to the depth of the cushion and flush with surface to cushion edge and square edge tiles. Remove surplus grout with a damp cloth and tool the joints to finish the grout uniform in colour, smooth and without voids, pinholes or low spots.

3.18 APPLY PROPRIETARY GROUTING
Remove spacers. Prepare joints, mix and apply grout and finish off to the tile manufacturer's requirements, uniform in colour, smooth and without voids, pinholes or low spots.

Cleaning

3.19 CLEAN TILES
Upon completion of setting and grouting, thoroughly sponge and wash the tiles to leave them completely clean and without blemish. Finally polish glazed tiles with a clean dry cloth.

Completion

3.20 ROUTINE CLEANING
Carry out routine trade cleaning of this part of the work including periodic removal all debris, unused and temporary materials and elements from the site.

3.21 DEFECTIVE OR DAMAGED WORK
Repair damaged or marked elements. Replace damaged or marked elements where repair is not possible or will not be acceptable. Adjust operation of equipment and moving parts not working correctly. Leave work to the standard required for following procedures.

3.22 PROTECTION
Provide the following temporary protection of the finished work:

4. SELECTIONS
Substitutions are not permitted to the following, unless stated otherwise.

Samples

Materials

4.1 CERAMIC OR STONE TILES
Tiles As per Golden Homes Standard Selections to suit application

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4.2 TILE ADHESIVE

Manufacturer / Type As supplied by tiler in accordance with AS ISO 13007.1 & AS ISO 13007.3

4.3 GROUT

Manufacturer / Type As supplied by tiler in accordance with AS ISO 13007.1 & AS ISO 13007.3

Components

4.4 WATERPROOF MEMBRANE

Location Refer Drawings

Type: Refer to Product Schedule page of drawings.

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6411 VINYL SURFACING

1. GENERAL

This section relates to the supply and installation of vinyl surfacing including skirtings, nosings, trims and edges.
It includes:
- PVC sheet
- PVC tiles

Documents

1.1 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC C/AS2-AS7	Protection from fire
NZBC D1/AS1	Access routes
AS 4586	Slip resistance classification of new pedestrian surface materials
NZS/AS 1884	Floor coverings - Resilient sheet and tiles - Installation practices
BRANZ BU 330	Thin flooring materials - 2 Preparation and laying

Warranties

1.2 WARRANTY - MANUFACTURER/SUPPLIER
Provide a material manufacturer/supplier warranty:
1 year: For materials

- Provide this warranty on the manufacturer/supplier standard form.
- Commence the warranty from the date of practical completion of the contract works.

1.3 WARRANTY - INSTALLER/APPLICATOR
Provide an installer/applicator warranty:
1 year: For execution

- Provide this warranty on the installer/applicator standard form.
- Commence the warranty from the date of practical completion of the contract works.

Requirements

1.4 QUALIFICATIONS
Vinyl layers to be experienced, competent trades people familiar with the materials and techniques specified.

1.5 NO SUBSTITUTIONS
Substitutions are not permitted to any of the specified systems, components and associated products listed in this section.

2. PRODUCTS

Materials

2.1 VINYL SHEET
High vinyl content homogeneous monolayer flexible PVC sheet flooring.

2.2 COVINGS

Commercial applications:	Pencil cove with butterfly mitres to all external and internal corners. Fillet cove for safety flooring.
Domestic applications:	Pencil or fillet cove method.

2.3 VINYL SHEET WALL COVERING
High vinyl content homogenous flexible PVC sheet wall covering.

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2.4 WALL AND FLOOR VINYL JOINING STRIP
White PVC floor to wall finishing strip.

2.5 TRIMS AND EDGING
PVC as supplied by the sheet manufacturer to complete the work.

Accessories

2.6 ADHESIVE
Standard acrylic adhesive to suit the material and substrate and to the vinyl manufacturer's requirements.

2.7 PRIMER AND SEALER
To the adhesive manufacturer's requirements for the particular substrate.

3. EXECUTION

Conditions

3.1 GENERALLY
To manufacturer's requirements and NZS/AS 1884.

3.2 STORAGE
Maintain rolls of sheet, packages of tiles and accessories undamaged and dry. Store rolls upright with other material on level surfaces in non-traffic, non-work areas that are enclosed, clean and dry.

3.3 HANDLING
Avoid distortion, stretching, marking and damage to edges while shifting, unrolling and handling sheet, tiles and accessories. Inspect for any faulty material. Do not use faulty or damaged material.

3.4 BEFORE COMMENCING WORK
Ensure that the building is enclosed, wet work complete, doors hung and lockable, finishes and trim complete, and good lighting available, before starting work.

3.5 INSPECT
Inspect the substrate to ensure it is of the standard required for work in this section.

3.6 LAYING
Carry out the whole of the work to NZS/AS 1884, BRANZ BU 330 and to the flooring manufacturer's requirements.

3.7 LAYOUT
Before beginning the installation confirm the proposed layout of material, location of seams and other visual considerations of the finished work.

Preparing substrate

3.8 PREPARATION NEW CONCRETE
Clear substrate of debris, clean off surface contamination and carry out surface repairs using a proprietary levelling compound. Carefully feather out at perimeters of repaired areas. Grind level, then vacuum to remove all dust. Check moisture content to NZS/AS 1884, Appendix A and do not commence laying vinyl until readings for the whole area show 75% relative humidity or less..

Vinyl floor laying

3.10 PREPARATION
Check that each colour supplied is from the same batch. Follow the vinyl manufacturer's requirements for conditioning of rolls and the working temperatures and conditions before, during and after laying. Protect work from solar heat gain and switch off under-floor heating during and for 48 hours either side, of the work period.

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3.11 ADHESIVE APPLICATION
Apply approved adhesive as required by the vinyl manufacturer and without trowel marks after setting. Follow requirements for open time, taking note of substrate porosity, ambient temperature and relative humidity. Remove excess adhesive as the work proceeds using required techniques.

3.12 LAYING VINYL SHEET
Roll out, cut, leave to condition and install sheet vinyl to the vinyl manufacturer's requirements. Ensure there are no air bubbles or twisting, that the seams are kept clear of adhesive, and immediately the sheet is adhered roll with a 68 kg roller.

3.13 THERMO-WELDING VINYL SHEET
Machine groove and thermo-weld all seams in specified areas, heating the sheet and weld rod to a sufficient temperature to melt and fuse them together into a single mass. Trim the weld to leave a smooth, flush surface with the sheet.

3.14 CROSS JOINS
Plan and allow cuts to avoid cross joins. Obtain written approval of the owner before proceeding if cross joins are unavoidable. Cross joins are not acceptable in wet areas.

3.15 COVE VINYL
Pencil cove flooring to the specified height and finish off as detailed.

3.16 MITRES
Perform butterfly method to internal and external mitres. Thermo-weld mitres.

Cleaning

3.18 CLEAN VINYL
Leave vinyl flooring surfaces free of adhesive, dirt and debris.Clean and finish vinyl to manufacturer's requirements.

Completion

3.19 ROUTINE CLEANING
Carry out routine trade cleaning of this part of the work including periodic removal all debris, unused and temporary materials and elements from the site.

3.20 DEFECTIVE OR DAMAGED WORK
Repair damaged or marked vinyl flooring. Replace damaged or marked vinyl where repair is not possible or will not be acceptable. Leave work to the standard required for following procedures.

4. SELECTIONS
Substitutions are not permitted to the following, unless stated otherwise.

Materials

4.1 VINYL SHEET

Vinyl	As per Golden Homes Standard Selections Specification

Components

4.2 FLOOR LEVELLING COMPOUND

Location:	Any lower variations in floor level
Brand/type:	in accordance with BRANZ BU 360

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6511 CARPETING

1. GENERAL

This section relates to the supply and installation of carpet laid conventionally (stretched), direct stuck or double bonded (double direct stuck).
It includes:
- carpet underlay
- woven sheet carpet

Documents

1.1 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:
NZBC C/AS2-AS7 Protection from fire
AS/NZS 2455.1 Textile floor coverings - Installation practice - General

Warranties

1.2 WARRANTY - MANUFACTURER/SUPPLIER
Provide a material manufacturer/supplier warranty:
1 year: For materials

- Provide this warranty on the manufacturer/supplier standard form.
- Commence the warranty from the date of practical completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

1.3 WARRANTY - INSTALLER/APPLICATOR
Provide an installer/applicator warranty:
1 year: For execution

- Provide this warranty on the installer/applicator standard form.
- Commence the warranty from the date of practical completion of the contract works.

Requirements

1.4 QUALIFICATIONS
Carpet layers to be experienced, competent trades people familiar with the materials and the techniques specified, and with AS/NZS 2455.1.

1.5 MOISTURE CONTENT OF CONCRETE SLAB
Concrete slab is be cured and dried to a relative humidity of not exceeding 75% or until the moisture content does not exceed 5.5%, in accordance with AS/NZS 2455.1, refer to section 6192 FLOORING SUBSTRATE PREPARATION.

1.6 ACCEPTABLE PRODUCT/MATERIAL SUPPLIERS
Where a product or material supplier is named in SELECTIONS, the product/material must be provided by the named supplier. Where more than one named supplier, any one of the named suppliers will be acceptable.

1.7 NO SUBSTITUTIONS
Substitutions are not permitted to any of the specified systems, components and associated products listed in this section.

1.8 RESERVE MATERIAL
Supply reserve carpet, all suitably packaged for delivery and storage. Refer to SELECTIONS.

2. PRODUCTS

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Materials

2.1 UNDERLAY
To AS/NZS 2455.1 Soft underlay and underlays manufacturer's requirements.
Refer to SELECTIONS for product selection.

2.2 CARPET
To AS/NZS 2455.1 Textile floor coverings.
Refer to SELECTIONS for product selection.

Components

2.3 BINDER BARS
Anodised aluminium section with fluted face.

2.4 DIVIDER STRIPS
Hardwood strips 20mm x 15mm or as specified. Refer to SELECTIONS for type and size.

2.5 EDGE GRIPPER
To AS/NZS 2270.
Timber/plywood with steel grippers to carpet manufacturer's requirements, constructed of sufficient pins and nails so as to withstand a minimum stretching force of 6580N over a 1220 mm length.

Accessories

2.6 TAPE
To carpet manufacturer's requirements.

3. EXECUTION

Conditions

3.1 DELIVERY
Take delivery of materials and goods and store on site and protect from damage.
Accept rolls of carpet and accessories undamaged and dry.

3.2 HANDLE AND STORE
Handle carpet on flat dollies using carpet cradles, with probes on fork- lifts and without sharp bending or folding. Store carpet in flat bins with a maximum height of three rows.
Keep dry. Protect from damage.

3.3 INSPECTION
Before starting work inspect the substrate to ensure that it will allow work of the required standard, and that all fittings and fixtures around which the carpet is to be scribed are in place.

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3.4 PROTECTION
Protect adjoining work surfaces and finishes during the carpet installation.

3.5 TAPE
Tape for binding and seaming using type and width required by the carpet manufacturer to suit the specified carpet and the standard of performance required.

3.6 LAYOUT
Plan the general layout so that:
- seams run lengthways
- traffic runs along the seam
- light from windows is not across the seam
- pile faces away from the light source.

3.7 TEMPERATURE
Acclimatise carpet to a room temperature above 15°C through the whole of the installation.

3.8 FLOOR PREPARATION
Refer to 6192 FLOORING SUBSTRATE PREPARATION. Prepare floor and check conditions required for laying to AS/NZS 2455.1, section 2.

Application - substrate preparation

3.9 PREPARING NEW CONCRETE FLOOR
To be level, smooth, clean, cured and dry. Remove loose material and dust. Refer to 6192 FLOORING SUBSTRATE PREPARATION.

3.10 PREPARING NEW WOOD PRODUCT FLOOR
To be level, sanded smooth and dry with loose material and dust removed. Check for moisture content and do not commence laying until readings for the whole area show a moisture content of:
8 - 12% for air conditioned buildings
10 - 14% for intermittently heated buildings
12 - 16% for unheated buildings
Refer to 6192 FLOORING SUBSTRATE PREPARATION.

Application - carpet laying

3.11 INSTALLATION, UNDERLAY
Installation to underlay manufacturer's requirements. Lay at right angles to the carpet direction.

3.12 INSTALLATION, CONVENTIONAL SYSTEM
Tape carpet joints, fix grippers to floor and install underlay and carpet to AS/NZS 2455.1, section 3. Stretch carpet tight in both width and length evenly without bowing, square with walls.

3.13 FIXING TRIMS
Fix binder bars, carpet to carpet bars, and trims to all junctions with other materials and to carpet edges, to the carpet manufacturer's requirements. Ensure that junctions with other materials are neatly formed, with bars and trim securely fastened to the substrate, 20mm from each end and at a maximum of 100mm centres.

Completion

3.14 ROUTINE CLEANING
Carry out routine trade cleaning of this part of the work including periodic removal all debris, unused and temporary materials and elements from the site.

3.15 DEFECTIVE OR DAMAGED WORK
Repair damaged or marked elements. Replace damaged or marked elements where repair is not possible or will not be acceptable. Leave work to the standard required for following procedures.

4. SELECTIONS
Substitutions are not permitted to the following, unless stated otherwise.

4.1 CARPET & UNDERLAY SELECTIONS

As per Golden Homes Standard Selections	Specification (if applicable)	

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6700R RESENE PAINTING GENERAL

1. GENERAL

This section relates to the general matters related to **Resene** painting work.

1.1 RELATED WORK
Refer to 6721R RESENE PAINTING INTERIOR
Refer to 6711R RESENE PAINTING EXTERIOR

1.2 ABBREVIATIONS AND DEFINITIONS
Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

MPNZA	Master Painters New Zealand Association Inc.
SIPDS	Surface Information & Preparation Data Sheets

Documents

1.3 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

Health and Safety at Work Act 2015	
AS/NZS ISO 9001	Quality management systems - Requirements
MPNZA	Health and Safety Programme

1.4 MANUFACTURER/SUPPLIER DOCUMENTS
Manufacturer's and supplier's documents related to this section are:

Resene	Surface Information & Preparation Data Sheets (SIPDS) (hard copy or at www.resene.co.nz)
Resene	Product Data Sheets (hard copy or at www.resene.co.nz)
Resene	Putting your safety first

Copies of the above literature are available from Resene

Telephone:	0800 RESENE (0800 737 363)

Warranties

1.5 WARRANTY - MANUFACTURER/SUPPLIER
Warrant this work under normal conditions of use against failure referring to the Resene Promise of Quality in the Resene One-Line specifications and product data manual.

Requirements
This painting specification is written based on information available at the time of writing.

1.6 NO SUBSTITUTIONS
Substitutions are not permitted to any specified Resene coating system, or associated components and products. Do not combine paints from different manufacturers in a paint system.

If in the applicator's own expertise and judgement an amendment to this specification is required, or where a substrate preparation, or required painting system is not covered in this specification, this shall be brought to the attention of the contract administrator and any amendment agreed before work proceeds any further.

1.7 QUALIFICATIONS
Painters to be experienced competent workers, familiar with the materials and the techniques specified and with the Resene coating systems and be members of the Master Painters New Zealand Association Inc.

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The applicator is to have the necessary skill, experience and equipment to undertake the work. The applicator remains responsible for ensuring proper completion of the work.

Painters to be selected from the Resene Eco.Decorator programme. The Resene Eco.Decorator programme is designed to recognise a nationwide network of environmentally responsible, quality focussed painting contractors.
Refer to www.resene.co.nz/ecodecorator.htm for a list of Eco.Decorators in your area.

1.8 HEALTH AND SAFETY
Refer to and comply with the requirements of the Health and Safety at Work Act 2015 including the obligation to:

- Eliminate hazards and if hazards cannot be eliminated or isolated, then minimise the hazards in this work by using the proper equipment and techniques as required by the MPNZA Health and Safety Programme.
- Supply protective clothing and equipment.
- Inform the contractor as well as the employees and others on site of those hazards and put in place procedures for dealing with emergencies.

1.9 SAFETY DATA SHEETS
Obtain from Resene (phone 0800 RESENE, or www.resene.co.nz) the safety data sheet for each product used and comply with the required safety procedures. Keep sheets on site.

Performance

1.10 RESENE INSPECTION
Permit representatives of Resene to inspect the work in progress and to take samples of their products from site if requested. Resene will take care when inspecting the work, but does not accept any responsibility for the proper completion of the work before or after such inspection.

1.11 INSPECTION OF THE WORK
Inspection of the whole of the work at each of the stages set out in SELECTIONS may be made. Agree on a programme that will facilitate such inspection, including notification when each part and stage of the work is ready for inspection.

2. PRODUCTS

Materials

2.1 MATERIALS GENERALLY
Do not combine paints from different manufacturers in a paint system.

Use only Resene products (which are guaranteed for consistency and performance under AS/NZS ISO 9001 and APAS) prepared, mixed and applied as directed in the Resene One-Line Specifications and Product Data Manual. This specification has been written using where practical and available both low/no VOC and Environmental Choice approved products.

2.2 DARK COLOURS
Darker colours in areas of high sun exposure place significant stress on the coating and substrate. Resene 'CoolColour' technology reduces heat absorption of a wide range of colours. Contact your local Resene Representative or visit www.resene.co.nz for more information or visit www.resene.co.nz/coolcolour. View a list of Resene colours that can be made using Resene CoolColour technology at www.resene.co.nz/colourlibrary.

2.3 THINNERS/ADDITIVES
Use only if and when expressly directed by Resene for their particular product in a particular application. Always wear gloves when handling any solvents including turpentine as harmful chemicals may be absorbed into the body through the skin.

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Accessories

2.4 ACCESSORIES
Contact your local Resene ColorShop for a full range of accessories and usage advice.

3. EXECUTION

Conditions

3.1 EXECUTION
To conform to required trade practice, which shall be deemed to include those methods, practices and techniques contained in the Master Painters New Zealand Association Inc. Specification manual.

3.2 TREATED SURFACES
Where surfaces have been treated with preservatives or fire retardants, check with the treatment manufacturer that coating materials are compatible with the treatment and do not inhibit its performance. If they are not compatible, obtain instructions before proceeding.

3.3 ANCILLARY SURFACES
The descriptions of areas in schedules and elsewhere are of necessity simplified. Coat ancillary exposed surfaces to match similar or adjacent materials or areas, except where a fair-faced natural finish is required or items are completely prefinished. In cases of doubt obtain written instructions before proceeding.

3.4 HARDWARE
Do not paint hinges or hardware that cannot be removed. Before commencing work carefully remove hardware, fixtures and fittings, set aside where they cannot be damaged or misplaced and replace on completion. Refer to SELECTIONS for hardware, fixtures and fittings for removal.

3.5 PROTECTION
Supply, lay and fix drop sheets, coverings and masking necessary to protect adjoining, fixtures, fittings and spaces from paint drops, spots, spray and damage.

Application - preparatory work

3.6 SURFACE PREPARATION
Refer to the Resene Surface Information & Preparation Data Sheets (SIPDS) and product data manual for surface preparation sheets (or obtain them by phoning 0800 RESENE, or at www.resene.co.nz) listed in the materials systems schedule clauses. Carry out the preparatory work required by them for each of the substrates.

3.7 SHARP EDGES, CRACKS AND HOLES
Remove and/or repair sharp edges, cracks and holes if present, as outlined in the preamble of the Resene One-Line specifications and product data manual.

Elastomeric sealants, if used, should not be painted. The paint film will not match the flexibility of the sealant and may severely limit its effectiveness.

3.8 REMEDIAL WORK
If any substrate or surface, that even with the preparation work called for in this section, cannot be brought up to a standard that will allow painting or clear finishing of the required standard then do not proceed until remedial work is carried out.

3.9 GAP FILLING
Make good cracks, holes, indented and damaged surfaces. Use suitable gap fillers to match the surface being prepared. Any special priming requirements of the fillers must be satisfied. Allow to dry or set before sanding back level with the surface. Prime or seal timber before using putty.

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Exterior and wet areas: Use only Portland cement base or water-insoluble organic base gap fillers.

3.10 OFF-SITE WORK

Carry out this work under cover in a suitable environment with suitable lighting. Store items, both before and after coating, in a clean, dry area protected from the weather and mechanical damage, properly stacked and spaced to allow air circulation and to prevent sticking. Specific instructions for transport to site to avoid damage to the factory applied paint system may be required particularly for metallic top coat paints.

3.11 PRIMING JOINERY

Pre-treat any cut surfaces of preservative treated timber before priming. Ensure L.O.S.P. treated joinery has dried sufficiently to lose solvent odour. Pre-treat bare timber with Resene TimberLock (see Data Sheet D48) to improve the durability of subsequent coats.

Liberally coat end grain, allow to soak in and then recoat.

3.12 CONCEALED JOINERY SURFACES

Where off-site coatings are specified they must be applied to surfaces including those concealed when incorporated into the building.

3.13 CONCEALED METAL SURFACES

Apply primer to suit the coating system to surfaces which will be concealed when incorporated into the building.

3.14 EXTERNAL DOORS

Prime or seal and paint bottom edges before hanging.

Application - generally

3.15 PAINTING GENERALLY

Comply with the Resene SIPDS Surface Information & Preparation Data Sheets or Resene One-Line specifications and product data manual data sheets and the additional requirements of this work section.
Ensure large wall areas that require more than one container of paint per coat, have enough paint boxed (mixed) together to complete the final coat. This will not apply if a single factory batch of paint, rather than shop tinted paint, is applied.

3.16 MIXING

Although generally supplied ready to use, all paints must be thoroughly mixed to lift any settled pigment and ensure the paint is homogeneous.

3.17 ENVIRONMENT

Defer painting of exterior surfaces until weather conditions are favourable - warm dry days without frost or heavy dews. Avoid painting in direct sunlight any surfaces that absorb heat excessively. As far as possible apply paint in the temperature range 15°C to 25°C. If temperatures fall outside the range of 10°C and 35°C do not paint unless paints with the necessary temperature tolerance have been specified. Resene Hot Weather Additive can be added to most Resene waterborne top coats to extend open time when application is undertaken at elevated temperatures or conditions that will cause rapid loss of water from the applied wet film. Do not apply solvent borne paint if moisture is present on the surface.

3.18 SEQUENCE OF OPERATIONS

Painting work to generally follow the following sequences:
- Back painting and pre-installation painting, then post-installation exposed-face painting
- Complete surface preparation before commencing painting.
- Apply primers, sealers, stains, undercoats, paints and clear coatings in the sequences laid down by Resene.
- Allow the full drying time between coats laid down by Resene.
- Do not expose primers, undercoats and intermediate coats beyond Resene's recommendations before applying the next coat.
- Finish broad areas before painting trim.

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- Ensure batch numbers of tins are matched for whole areas.
- Internally, paint ceilings before walls and walls before joinery, trim and other items.

3.19 APPLICATION
Select brush, roller, or pad and apply coatings to the requirements of Resene to obtain a smooth, even coating of the specified thickness, uniform gloss and colour.

3.20 LIGHTLY SAND
Lightly sand primers, sealers, undercoats and intermediate coats to remove dust pick-up, protruding fibres and coarse particles. A more thorough sanding to provide a mechanical key for the new paint system may be required depending upon the condition or age of the existing paint system..

3.21 DEFECTIVE WORK
Correct defective work immediately and recoat as required, following precisely the Resene system being applied. The same applies to transportation damage to site of factory painted items.

3.22 EACH COAT
Each coat of paint and the completed paint system to have the following qualities and properties:
- Uniform finish, colour, texture, sheen and hiding power and the proper number of coats applied.
- No blemishes such as runs, sags, crinkling, fat edges, entrained paint skins, hairs, dust, bare or starved patches, cracks, significant brush marks, ladder marks and blistering.
- Proper covering of corners, crannies, thin edges, cracks, end grain and other difficult places of application.

Completion

3.23 CLEAN
Clean adjoining surfaces, glass and fittings of any paint contamination. Clean off glass indicators at the completion of the building works. Clean glass inside and out to a shining finish. Use the Resene Washwise on site 'paint equipment clean-up water' reclamation system to minimise the environmental impact of cleaning paint application tools.

3.24 LEAVE
Leave the whole of this work uniform in gloss and colour, of correct thickness, free from painting defects, clean and unmarked and to the standard required by following procedures.

3.25 REMOVE
Remove drop sheets, coverings and masking to leave surrounding surfaces and areas clean, tidy and undamaged. Remove debris, unused materials and elements from the site.

3.26 REPLACE
Replace hardware without damage to it or the adjoining surface and leave hardware properly fitted and in working order.

3.27 DISPOSAL OF PAINTS AND THINNERS
Note: The use and disposal of paint and thinners represents a significant environmental hazard.
Ensure all paint and thinners are disposed of in the following manner:
- When requested hand over part used paint containers to client for maintenance touch ups.
- Recycle leftover paint at a Resene ColorShop as part of the Resene "Paintwise programme". Contact your local Resene ColorShop for details or view information online at www.resene.co.nz/paintwise.htm.
- Donate left over paint to local community groups.
- Solvent based paints, paint thinners, turpentine, mineral spirits and solvents require special disposal procedures. Do not pour down sewer or stormwater drains, sinks or

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into the ground. If they cannot be recycled they must be disposed of in a refuse dump licensed to take toxic waste.

4. SELECTIONS

4.1 SELECTIONS

Refer to 6711R RESENE PAINTING EXTERIOR and 6721R RESENE PAINTING INTERIOR for selections.

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6711R RESENE PAINTING EXTERIOR

1. GENERAL

This section relates to the surface preparation, painting and clear finishing of new and existing exterior substrates using **Resene** architectural and decorative coating systems.

1.1 RELATED WORK
Refer to 6700R RESENE PAINTING GENERAL for general matters related to painting work.
Refer to 6721R RESENE PAINTING INTERIOR for interior paint systems.

2. PRODUCTS

Materials

2.1 PAINT TYPES GENERALLY/ THINNERS AND ADDITIVES
Refer to 6700R RESENE PAINTING GENERAL for product clauses.

3. EXECUTION

Conditions

3.1 EXECUTION
Refer to 6700R RESENE PAINTING GENERAL for execution clauses.

4. SELECTIONS

Substitutions are not permitted to the following, unless stated otherwise.

Resene exterior paint systems

4.1 EXTERIOR CEMENTITIOUS SURFACES
FIBRE CEMENT - SOFFITS

Description:	**Exterior cementitious surfaces, waterborne semi-gloss**
Surface prep:	Refer to **SIPDS No.3** Concrete and Cementitious and **Spec Sheet 3:4/1**
1st coat:	**Resene** Concrete Primer D405, waterborne primer
2nd coat:	**Resene** Sonyx 101 D30, waterborne semi-gloss
3rd coat:	**Resene** Sonyx 101 D30, waterborne semi-gloss

FIBRE CEMENT - WEATHERBOARDS (refer to drawings)

Description:	**Exterior cementitious surfaces, waterborne Semi-gloss**
Surface prep:	Refer to **SIPDS No.3** Concrete and Cementitious and **Spec Sheet 3:4A/1**
1st coat:	**Resene** Concrete Primer D405, waterborne primer;
2nd coat:	**Resene** Sonyx 101 D30, waterborne semi-gloss
3rd coat	**Resene** Sonyx 101 D30, waterborne semi-gloss

4.2 FACINGS AND TRIMS (REFER TO DRAWINGS)
FIBRE CEMENT - SYCON AXENT TRIMS (refer to drawings)

Description:	**Exterior cementitious surfaces, waterborne Semi-gloss**
Surface prep:	Refer to **SIPDS No.3** Concrete and Cementitious and **Spec Sheet 3:4/1**
1st coat:	**Resene** Concrete Primer D405, waterborne primer;
2nd coat:	**Resene** Sonyx 101 D30, waterborne semi-gloss
3rd coat:	**Resene** Sonyx 101 D30, waterborne semi-gloss
Note	**Resene** Quick Dry D45 can be substituted for Resene Concrete Primer D405 to keep minimal product changes on site if required

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TIMBER - TIMBER SCRIBERS AND SOFFIT MOULDS (refer to drawings)

Description:	**Exterior timbers, waterborne semi-gloss**
Surface prep:	Refer to **SIPDS No. 2** Timber and **Spec Sheet 2:1/1**
1st coat:	**Resene** Quick Dry D45, waterborne primer/undercoat; or
2nd coat:	**Resene** Sonyx 101 D30, waterborne semi-gloss
3rd coat:	**Resene** Sonyx 101 D30, waterborne semi-gloss

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6721R RESENE PAINTING INTERIOR

1. GENERAL

This section relates to the surface preparation, painting and clear finishing of new and existing interior substrates using **Resene** architectural and decorative coating systems.

1.1 RELATED WORK
Refer to 6700R RESENE PAINTING GENERAL for general matters related to painting work.
Refer to 6711R RESENE PAINTING EXTERIOR for exterior paint systems.

2. PRODUCTS

Materials

2.1 PAINT TYPES GENERALLY/ THINNERS AND ADDITIVES
Refer to 6700R RESENE PAINTING GENERAL for product clauses.

3. EXECUTION

Conditions

3.1 EXECUTION
Refer to 6700R RESENE PAINTING GENERAL for execution clauses.

4. SELECTIONS

Substitutions are not permitted to the following, unless stated otherwise.

Resene interior paint systems

4.1 INTERIOR TIMBER DOORS, TRIMS AND ARCHITRAVES

Description:	**Interior timber, waterborne semi-gloss**
Surface prep:	Refer to **SIPDS No.2** Timber and **Spec Sheet 2:9/1**
1st coat:	**Resene** Quick Dry D45, primer/undercoat
2nd coat:	**Resene** Lustacryl D310, waterborne semi-gloss enamel
3rd coat:	**Resene** Lustacryl D310, waterborne semi-gloss enamel

4.2 INTERIOR PLASTERBOARD

INTERIOR PLASTERBOARD WALLS - DRY AREA

Description:	**Interior paperfaced plaster, waterborne low sheen**
Surface prep:	Refer to **SIPDS No.1** Interior Wallboard and **Spec Sheet 1:1/1**
1st coat Primer/Sealer:	**Resene** Broadwall waterborne wallboard sealer D403
2nd coat:	**Resene** SpaceCote Flat D314, option 2 - **Resene** SpaceCote Low Sheen D311
3rd coat:	**Resene** SpaceCote Flat D314, option 2 - **Resene** SpaceCote Low Sheen D311

Note : Resene Spacecote Flat D314 can be substituted for Resene Spacecote Low Sheen D311

INTERIOR PLASTERBOARD WALLS - WET AREA (SpaceCote option)

Description:	**Interior paperfaced plaster, waterborne low sheen enamel**
Surface prep:	Refer to **SIPDS No.1** Interior Wallboard and **Spec Sheet 1:1/1**
1st coat (if reqd):	**Resene** Sureseal D42, pigmented sealer
2nd coat:	**Resene** SpaceCote Flat D314, option 2 - **Resene** SpaceCote Low Sheen D311K

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3rd coat:	**Resene** SpaceCote Flat D314, Low Sheen D311K	option 2 - **Resene** SpaceCote

Note : Resene Spacecote Low Sheen D311 can be substituted for Resene Spacecote Flat D314

INTERIOR PLASTERBOARD CEILINGS - DRY AREA

Description:	**Interior paperfaced plaster, waterborne low sheen**
Surface prep:	Refer to**SIPDS No.1**Interior Wallboard and**Spec Sheet 1:1/1**
1st coat Primer/Sealer:	**Resene**Broadwall waterborne wallboard sealer D403
2nd coat:	**Resene**SpaceCote Flat D314,option 2 -**Resene**SpaceCote Low Sheen D311
3rd coat:	**Resene**SpaceCote Flat D314,option 2 -**Resene**SpaceCote Low Sheen D311

INTERIOR PLASTERBOARD CEILINGS - WET AREA

Description:	**Interior paperfaced plaster, waterborne flat ENAMEL**	
System:	**Resene** One-Line Spec. No. 15i 1.5 Level 4	
Surface prep:	Refer to **SIPDS No.1** Interior Wallboard and **Spec Sheet 1:1/1**	
1st coat (if reqd):	**Resene** Sureseal D42 pigmented sealer	
2nd coat:	**Resene** SpaceCote Flat D314, SpaceCote Low Sheen D311K	option 2 - **Resene**
3rd coat:	**Resene** SpaceCote Flat D314, SpaceCote Low Sheen D311K	option 2 - **Resene**

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7120 HOT & COLD WATER SYSTEM

1. GENERAL

This section relates to piped potable water supply systems from the network utility supply authority water main to designated points and appliances, the installation of hot water heating appliances, distributing piped hot water to other appliances, and the installation of valves.

Documents

1.1 DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC B2/AS1	Durability
NZBC C/AS1-AS7	Protection from fire
NZBC G4/AS1	Ventilation
NZBC G12/VM1	Water supplies
NZBC G12/AS1	Water supplies
NZBC H1/AS1	Energy Efficiency
AS/NZS 2492	Cross Linked Polyethylene (PE-X) pipe for pressure applications
AS/NZS 2537.2	Mechanical joining fittings for use with crosslinked Polyethylene (PE-X) for pressure applications - Plastics piping systems for hot and cold water installations - Crosslinked Polyethylene (PE-X) - Fittings
AS/NZS 2642.1	Polybutylene pipe systems - Polybutylene (PB) pipe extrusion compounds
AS/NZS 2642.2	Polybutylene pipe systems - Polybutylene (PB) pipe for hot and cold water applications
AS/NZS 2642.3	Polybutylene pipe systems - Mechanical jointing fittings for use with polybutylene (PB) pipes for hot and cold water applications
AS/NZS 2845.1	Water supply - Backflow prevention devices - Materials, design and performance requirements
AS 2845.3	Water supply - Backflow prevention devices - Field testing and maintenance
AS/NZS 3500.1	Plumbing and drainage - Water services
AS/NZS 3500.4	Plumbing and drainage - Heated water services
AS/NZS 3500.5	Plumbing and drainage - Housing installations
NZS 3501	Specification for copper tubes for water, gas and sanitation
AS/NZS 4130	Polyethylene (PE) pipes for pressure applications
NZS 4305	Energy efficiency domestic type hot water systems
NZS 4602	Low pressure copper thermal storage electric water heaters
NZS 4607	Installation of thermal storage electric water heaters: valve-vented systems
NZS 4617	Tempering (3-port mixing) valves
DIN 8077	Polypropylene (PP) Pipes - PP-H, PP-B, PP-R, PP-RCT - Dimensions
DIN 8078	Polypropylene (PP) Pipes - PP-H, PP-B, PP-R, PP-RCT - General quality requirements and testing.
Plumbers, Gasfitters and Drainlayers Act 2006	
NZ Backflow Testing Standard:	NZ Backflow Testing Standard 2011, Field testing of backflow prevention devices and verification of air gaps

Requirements

1.2 QUALIFICATIONS

Plumbers to be experienced competent workers, familiar with the materials and the techniques specified. Carry out all work under the direct supervision of a certifying plumber under the Plumbers, Gasfitters and Drainlayers Act 2006.

Warranties

1.3 WARRANTY

Provide warranty for:

2 years: For the supply and installation of the plumbing system and fixtures

- Commence the warranty from the date of practical completion of the contract works.

Performance

1.4 TESTING - TO NZBC G12/AS1
Test to NZBC G12/AS1, 7.5, **Watertightness**, for hot and cold water.
- Test to a pressure of1500 kpa for period not less than 15 minutes.

Confirm the timing before carrying out any tests. Supply potable water and the apparatus needed.
Slowly fill service pipes with water to exclude air. Test and ensure there is no measurable loss of pressure for the minimum period. Slowly fill distribution pipes with water to exclude air. Ensure that with draw-off taps closed the system must remain water-tight.

1.5 TESTING - TO AS/NZS 3500
Test to AS/NZS 3500.1, Section 18, **Testing and commissioning**, for cold water.
- Test reticulation system to a pressure of 1500 kpa for period not less than 30 minutes, to AS/NZS 3500.1, 18.3.1 **Hydrostatic test**. Test storage tanks to AS/NZS 3500.1, 18.3.2 **Storage tanks.**

and
AS/NZS 3500.4, Section 9, **Testing and commissioning**, for hot water.
- Test reticulation system (excluding tanks, water heaters, and some fixtures, valves etc) to a pressure of 1500 kpa for period not less than 30 minutes, to AS/NZS 3500.4, 9 **Testing**. Test complete system (including valves, pumps, water heaters etc) under normal working conditions for a minimum of 48 hours, then check visually, to AS/NZS 3500.4, 9.3 **Testing.**

Confirm the timing before carrying out any tests. Supply potable water and the apparatus needed.
Slowly fill service pipes with water to exclude air. Test and ensure there is no measurable loss of pressure for the minimum period. Slowly fill distribution pipes with water to exclude air. Ensure that with draw-off taps closed the system must remain water-tight.

2. PRODUCTS

2.1 COPPER PIPE
To NZS 3501 complete with copper-alloy compression fittings or crox type joints and seal ring compression joints complete with fittings and accessories brand matched to the pipe manufacturer's requirements with durability to NZBC B2/AS1, Table 1 and NZBC G12/AS1, Table 1.

2.2 PVC-U PIPE
Complete with fittings and accessories brand matched to the pipe manufacturer's requirements with durability to NZBC B2/AS1 Durability, Table 1 and NZBC G12/AS1, Table 1.

2.3 POLYBUTYLENE PIPE
Polybutylene tubing to AS/NZS 2642.1, AS/NZS 2642.2 and AS/NZS 2642.3 complete with fittings and accessories brand-matched with durability to NZBC B2/AS1 Durability, table 1 and NZBC G12/AS1, table1.

2.4 POLYETHYLENE PIPE
To AS/NZS 4130 Series 1 complete with fittings and accessories brand matched to the pipe manufacturer's requirements with durability to NZBC B2 /AS1, table 1 and NZBC G12 /AS1, table1.

Materials - Hot water heating appliances

2.5 ELECTRIC HOT WATER CYLINDER, MAINS PRESSURE
To NZS 4305, ceramic-coated steel thermal storage cylinder, insulated and complete with required fittings.

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Components

2.7 INSULATION
Pre-formed pipe sections complete with bends and fittings, with fixing tape to the manufacturer's requirements and to NZBC H1/AS1.

2.8 PROTECTIVE TAPE
Plasticised PVC tape system with primer, mastic fixing and outer coating.

3. EXECUTION

3.1 EXECUTION GENERALLY
Generally carry out the whole of this work and tests to NZBC G12/VM1 or NZBC G12/AS1.

3.2 HANDLE AND STORE
Handle and store pipes, fittings and accessories to avoid damage. Store on site, under cover on a clean level area, stacked to eliminate movement and away from work in progress.

Store tapware in a shelved, dry and securely locked area. Retain tapware in the manufacturer's original packaging, complete with all fixings and installation instructions. Label each unit separately with its space/fixture number to match.

3.3 CORE HOLES AND SLEEVES
Review location and fit core holes and sleeves as needed throughout the structure in conjunction with the boxing, reinforcing and placing of concrete. Strip core holes and make good after installation of pipework.

3.4 CONCEAL
Conceal pipework within the fabric of the building unless detailed otherwise. Satin finish chrome plate exposed work, complete with matching ferrule at the surface penetration.

3.5 CORROSION
Separate all metals subject to electrolytic action from each other and from treated timber, concrete and other lime substances by space, painting of surfaces, taping, or separator strips.

3.6 THERMAL MOVEMENT
Accommodate movement in pipes resulting from temperature change by the layout of the pipe runs, by expansion joints and by sleeving through penetrations.

3.7 PIPES IN CONCRETE
Water pipes which are under or in concrete floor slab shall be run in a PVC conduit.

3.8 PIPE SIZE
Flow rates to each outlet to be no less than those given in NZBC G12/VM1 or NZBC G12/AS1, table 3, Acceptable flow rates to sanitary fixtures. Pipe size as determined in NZBC G12/AS1, table 4, Tempering valve and nominal pipe diameters.

3.9 ELECTROLYTIC ACTION
Avoid electrolytic action by eliminating contact or continuity of water between dissimilar metals.

3.10 EXCAVATE
Excavate for the water main to a firm, even trench base in straight runs. Allow to backfill.

Application - Jointing

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3.11 JOINTING COPPER PIPE
Braze pipe, fit alloy compression fittings, crox type joints and seal ring compression joints to NZBC G12/AS1.

3.12 JOINTING PVC-U PIPE
Solvent welded joints using spigots and sockets, flanged joints and seal ring compression joints to NZBC G12/AS1.

3.13 JOINTING POLYBUTYLENE PIPE
Aluminium clamped, seal ring compression or push fit "O" ring seal jointing to pipe system manufacturer's requirements.

3.14 JOINTING POLYETHYLENE PIPE
Aluminium clamped, seal ring compression or push fit "O" ring seal jointing to pipe system manufacturer's requirements.

Application - Pipework installation

3.15 POTABLE WATER SUPPLY PIPEWORK INSTALLATION
From connection point, run pipes complete with all fittings, support and fixing, joins and install to manufacturers specifications. Size the pipes and branches in straight runs to deliver the acceptable flow rate to NZBC G12/VM1 or NZBC G12/AS1, table 3, Acceptable flow rates to sanitary fixtures at each outlet. Allow for the expected concurrent use of adjoining fixtures and size the piping layout to eliminate loss of pressure at any point by simultaneous draw-off. Pipework support spacing to be firmly fixed and buffered to eliminate noise and hammer, with preformed tee-connection take-offs and branches, with machine made 3 diameter bends, complete with necessary valves and fittings. Conceal pipework and pressure test before the wall linings are fixed.

3.16 HOT WATER PIPEWORK
Use a take-off spigot to give separate branches to each fitting, lay out pipes with support spacing to NZBC G12/VM1 or NZBC G12/AS1, table 7 Water supply pipework support spacing. Fix firmly and buffer to eliminate noise and hammer, with preformed tee-connection take-offs and branches, and preformed 3 diameter bends, complete with all necessary valves and fittings

Lag all pipes with rigid insulation to the manufacturer's requirements and G12/VM1 or G12/AS1.

3.17 EQUIPOTENTIAL BONDING
Earth metallic water supply pipe and metallic sanitary fixtures to NZBC G12/AS1, 9.0.

3.18 IN-LINE FILTER
Install an in-line filter immediately adjacent to the main isolating valve at the point of entry to the building, in an accessible position to allow for easy cleaning.

Application - Hot water systems

3.19 HOT WATER CYLINDER INSTALLATION GENERALLY
Install hot water cylinders complete to the manufacturer's requirements and to NZBC G12/AS1, 6. 11, Water heater installation. Valve-vented systems to NZS 4607.

3.21 SEISMIC RESTRAINTS - NON-GAS WATER HEATING APPLIANCES
Non-gas (electric, wet-back, solar etc) water heating appliances to be restrained to manufacturer's requirements and NZBC G12/AS1, 6.11, Water Heater Installation.

3.22 INSTALLING HOT WATER PIPE INSULATION - (IF REQUIRED - REFER TO DRAWINGS)
Insulate all hot water pipes to NZBC H1/AS1, AS/NZS 3500.5, 3.33 **Water and Energy Efficiency**, and to the insulation manufacturer's instructions. Cut insulation sections tight between timber framing and tight between the webs of steel studs.

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3.23 INSTALL ELECTRIC HOT WATER CYLINDERS
Install where shown complete with all the necessary fittings to the cylinder manufacturer's requirements and in accordance with NZBC G12/AS1: 6.11. Valve-vented systems to NZS 4607.

3.25 INSTALL HOT WATER CYLINDER OVERFLOW TRAY
Install drained overflow tray to hot water cylinder to NZBC G12/AS1.

3.26 PENETRATIONS
Provide and fit collars and escutcheon plates to match the pipework at all penetrations through constructions.

Completion

3.27 LABEL
Label all pipework with permanent adhesive markers at 3 metre minimum intervals.

3.28 CLEAN IN-LINE FILTER
Clean all in-line filters on completion of works.

3.29 REPLACE
Replace damaged or marked elements.

3.30 LEAVE
Leave work to the standard required by following procedures.

3.31 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

Hot water systems

4.1 ELECTRIC HOT WATER CYLINDER, MAINS PRESSURE
Brand / Model / Size Refer to Product Schedule page in plans

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7151 SANITARY FIXTURES, TAPWARE & ACCESSORIES

1. GENERAL

This section relates to the supply and installation of sanitary fixtures, tapware and sanitary accessories.

1.1 RELATED WORK
Refer to 7120 or 7123 HOT AND COLD WATER SYSTEM for hot water cylinders.
Refer to 7420 or 7421 SANITARY SYSTEMS for the supply and fitting of waste disposal pipework
Refer to the electrical section/s for electrical connection of accessories.

Documents

1.2 DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC E3/AS1	Internal moisture
NZBC F2/AS1	Hazardous building materials
NZBC G1/AS1	Personal hygiene
NZBC G12/VM1	Water supplies
NZBC G12/AS1	Water supplies
NZBC G13/AS1	Foul water
NZBC G13/AS3	Plumbing and drainage
AS/NZS 1730	Washbasins
AS/NZS 2023	Baths for ablutionary purposes
AS/NZS 3500.1	Plumbing and drainage - water services
AS/NZS 3500.2	Plumbing and drainage - sanitary plumbing and drainage
AS/NZS 3662	Performance of showers for bathing
NZS 4223.3	Glazing in buildings - Human impact safety requirements
Plumbers, Gasfitters and Drainlayers Act 2006	

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

Requirements

1.3 QUALIFICATIONS
Plumbers to be experienced competent workers, familiar with the materials and the techniques specified. Carry out all work under the direct supervision of a Certifying Plumber under the Plumbers, Gasfitters and Drainlayers Act 2006.

2. PRODUCTS

2.1 SANITARY FIXTURES
Refer to SELECTIONS for product selection.

2.2 TAPWARE
Refer to SELECTIONS for product selection.

2.3 SANITARY APPLIANCES
Refer to SELECTIONS for product selection.

2.4 SANITARY ACCESSORIES
Refer to SELECTIONS for product selection.

2.5 ELECTRICAL SANITARY ACCESSORIES
Refer to SELECTIONS for product selection.

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3. EXECUTION

Conditions - sanitary fixtures

3.1 DELIVERY
Only deliver to the site fixtures or fittings that can be immediately unloaded into suitable storage or be placed for direct installation.

3.2 STORAGE AND HANDLING
Take delivery of and store components complete with protective casings and coverings in areas that are enclosed, clean and dry and where no work is being done. Remove protection only to the extent that will allow installation.

3.3 QUALITY STANDARDS INCLUDING NZBC G13/AS1
Installation work to comply with NZBC G1/AS1, NZBC G12/VM1, NZBC G12/AS1, NZBC G13/AS1 and the fixture manufacturer's requirements.

3.4 QUALITY STANDARDS INCLUDING AS/NZS 3500.2
Installation work to comply with NZBC G1/AS1, NZBC G12/VM1, NZBC G12/AS1, AS/NZS 3500.2, as modified by NZBC G13/AS3, and the fixture manufacturer's requirements.

3.5 SUBSTRATE
Ensure substrate and fixings will allow work of the specified standard.

3.6 CO-ORDINATION
Do not proceed if the points of supply and drainage services do not match the points of the fixtures without force or distortion.

3.7 INSTALLATION REQUIREMENTS INCLUDING NZBC G13/AS1
Install to NZBC G1/AS1, NZBC G12/VM1, NZBC G12/AS1, NZBC G13/AS1, NZBC E3/AS1 and to the fixture manufacturer's installation requirements for each component.
Carry out preparatory and assembly work, including connections to supply and drainage services and the application of slurries and sealants in sequence.
Seal between all sanitary fixtures and wall linings, fixtures and the tops they are in, the tops and wall linings, to NZBC E3/AS1, 3.2.2. Fixtures include baths, basins, tubs or sinks, Tops include, vanities, bath surrounds, sink benches, etc, and there upstands.

3.8 INSTALLATION REQUIREMENTS INCLUDING AS/NZS 3500.2
Install to NZBC G1/AS1, NZBC G12/VM1, NZBC G12/AS1, NZBC E3/AS1, AS/NZS 3500.2, as modified by NZBC G13/AS3, and to the fixture manufacturer's installation requirements for each component. Carry out preparatory and assembly work, including connections to supply and drainage services and the application of slurries and sealants in sequence.
Seal between all sanitary fixtures and wall linings, fixtures and the tops they are in, the tops and wall linings, to NZBC E3/AS1, 3.2.2. Fixtures include baths, basins, tubs or sinks, Tops include, vanities, bath surrounds, sink benches, etc, and there upstands.

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3.9 PROVIDE SUPPORT
Confirm fixing points needed for each unit and provide solid blocking at each fixing bracket location.

Conditions - tapware

3.10 RETAIN
Retain tapware in the manufacturer's original packaging and ensure that units are complete with fixings and installation instructions. Label each unit separately with its fitting name and space number.

3.11 STORE
Store tapware packages in a shelved, dry and securely locked area. Provide supervision when the secure area is unlocked and packages and cartons are being distributed; signing off each package from the schedule as released.

Conditions - sanitary accessories

3.12 RETAIN
Retain fixtures, fittings and hardware in the manufacturer's original packaging and ensure that units are complete with associated fixings and installation instructions. Label each unit separately to match the submitted and approved schedule.

3.13 PACKAGE
Package fixtures, fittings and hardware units required in clear plastic and label each to match the drawings and the submitted schedule. Place packages in cartons selected for 'level', 'location', and/or 'sector' and label the packages and the cartons similarly.

3.14 STORE
Store items in a shelved, dry and securely locked area. Provide supervision when the secure area is unlocked and packages and cartons are being distributed; signing off each package from the schedule as released.

3.15 INSPECTION
Before starting the installation of proprietary items, check relevant spaces and wall and floor finishes for any condition that would not allow the proper installation of any unit. Do not proceed until such conditions have been remedied.

Installation - sanitary fixtures

3.16 INSTALLING TOILET PAN
Carry out preparatory and assembly work, including connections to supply and drainage services and the application of slurries/bedding and sealants in sequence. Fit the toilet pan in position, plumb, level, flush and rigid without stressing the attachment points of the component. Fixings to be corrosive resistant. Fit seat.

3.17 INSTALLING CISTERNS
Fit firmly in place and connect the specified cisterns from the supply services through the flush pipes to the relative fixtures in the positions as detailed all plumb and level.

Installation - Basins

3.18 INSTALLING WASHBASINS
Install to NZBC G1/AS1, AS/NZS 1730. Set basins firmly to walls or vanities as detailed and to comply with NZBC E3/AS1. Connect to supply and drains through trap to the drainage system.

3.19 INSTALLING VANITIES - BLANK TOP
Install in accordance with the manufacturer's requirements. Cut out basin profile to basin manufacturer's template. Make penetrations for supply and drainage. Fix securely with corrosive resistant fixings. Seal top and upstand to wall surface to comply with NZBC E3/AS1.

3.20 INSTALLING VANITIES - INTEGRAL BASINS
Install in accordance with the manufacturer's requirements. Connect to supply and drains through trap to the drainage system. Seal top and upstand to wall surface to comply with NZBC E3/AS1.

Installation - Showers

3.21 INSTALLING SHOWER FITTINGS
Shower waste, mixer and rose to be install to NZBC G1/AS1 and to AS/NZS 3662.

3.22 INSTALLING SHOWER ENCLOSURES AND WALL LININGS
Install in accordance with NZBC E3/AS1. Sit tray firmly in place as detailed, to levels shown and connect to drainage service, ready for following work. Fit screen and door unit to manufacturer's details. Lining materials and finishes to comply with NZBC E3/AS1.

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3.23 INSTALLING SHOWER DOOR AND SCREEN
To NZS 4223.3 and to the product manufacturer's requirements. Set units level, plumb and true to line and required location, with moving parts and actions freely and easily operating.

Installation - Sinks

3.26 INSTALLING SINK BENCHES
Install in accordance with manufacturer's/supplier's requirements. Connect to supply and drainage services.

3.27 INSTALLING TUB UNITS
Install in accordance with manufacturer's requirements. Connect to supply and drainage services.

Installation - Miscellaneous

3.28 INSTALLING STAINLESS STEEL FIXTURES
Carry out preparatory work and fit elements in position plumb, level, flush and rigid without stressing the attachment points in sequence. Connect to supply and drainage services.

Application - tapware

3.29 GENERAL
To AS/NZS 3500.1 and in accordance with the manufacturer's requirements. Maintain safe water temperatures to comply with NZBC G12/AS1.

Application - sanitary accessories

3.30 INSTALLING ACCESSORIES
Fit specified fittings firmly in place at required dimensions relative to floor and adjoining sanitaryware fittings, all plumb and level.

3.31 LOCATE
Locate units at heights and/or locations shown on the drawings, or as required to comply with NZBC G1/AS1. For any dimension not shown or known, request direction before proceeding.

3.32 CUTTING AND FITTING
Where cutting and fitting of the substrate is necessary for installing any unit, carry out this work before the painting or finishing of that surface. Remove any hardware when required for painting, placing it in the packaging or carton originally supplied and returning it to the secure store until ready for re-installation.

3.33 INSTALLING UNITS
Install each unit in accordance with the proprietary fixture manufacturer's requirements, using the templates and tools supplied or recommended by them. Set units level, plumb and true to line and required location, with moving parts and actions freely and easily operating. Do not make any modifications to supplied units.

Completion

3.34 REPLACE
Replace damaged or marked elements.

3.35 PROTECTIVE COVERINGS
Leave fixtures, fittings and accessories clean and unblemished with stickers and protective coverings removed, with supply and drainage connections and all parts fully operating and working. Leave the whole of this work free of blemishes, undamaged and to the standard of finish required for following work.

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3.36 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 TOILETS
Location: Refer drawings
Toilet pan: Refer to product schedule page in plans

4.2 VANITY UNIT
Location: Refer drawings
Bathroom/Ensuite Vanity: Refer to product schedule page in plans
WC Vanity Refer to product schedule page in plans
Basin mixer: Refer to product schedule page in plans

4.3 SHOWER CUBICLE
Location: Refer drawings
Manufacturer: Refer to product schedule page in plans
Shower mixer and spout Refer to product schedule page in plans

4.5 LAUNDRY TUB
Location: Refer drawings
Tub model: Refer to product schedule page in plans

4.6 TAPWARE
Location: Refer Drawings
Type : Refer to product schedule page in plans

4.7 ELECTRICAL ACCESSORIES
Location: Refer drawings
Heated towel rail: Refer to product schedule in plans

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7411 RAINWATER SPOUTING SYSTEMS

1. GENERAL

This section relates to rainwater disposal systems including spouting and downpipes:
- metal
- PVC

Documents

1.1 DOCUMENTS REFERRED TO
Documents referred to in this section are:

NZBC E1/AS1	Surface water
AS 1273	Unplasticised PVC (uPVC) downpipe and fittings for rainwater
NZMRM CoP	NZ metal roof and wall cladding Code of Practice

Documents listed above and cited in the clauses that follow are part of this specification. However this specification takes precedence in the event of it being at variance with the cited document.

1.2 ABBREVIATIONS AND DEFINITIONS
The following abbreviations are used throughout this part of the specification:

BMT	Base metal thickness
MRM	New Zealand Metal Roofing Manufacturers Inc
Spouting	Roof gutter bracketed off the roof edge or fascia.
Gutter	Internal gutter or gutter formed as integral part of the roof fabric.

Requirements

1.3 QUALIFICATIONS
Work to be carried out by trades people experienced, competent and familiar with the materials and techniques specified.

Warranties

1.4 WARRANTY - INSTALLER/APPLICATOR
Warrant this work under normal environmental and use conditions against:

3 years:	For weatherproofing by substandard workmanship:
From:	Commence the warranty from the date of completion of installation
Form:	Installers standard warranty form

1.5 WARRANTY - MANUFACTURER/SUPPLIER
Warrant this work under normal environmental and use conditions:

10 Years	For failure of coating adhesion
10 Years	For weatherproofing by material penetration
Form:	Manufacturer's standard warranty form
From:	Commence the warranty from the date of completion of installation

Performance

1.6 TEST
Test the completed rainwater disposal system with water to ensure spoutings are laid to correct falls, that both spouting and downpipes are unobstructed and that no ponding occurs in spoutings.

2. PRODUCTS

Materials - metal

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2.1 SPOUTING
Complete with matching brackets to suit spouting and screws. Refer to SELECTIONS for type.

2.2 SPOUTING BRACKETS
All exposed brackets to be colour matched before installation. Brackets to be hot-dipped galvanised, zincalume, aluminium, stainless steel or brass as specified and to suit application. Electroplated components are not acceptable. Refer to SELECTIONS for type.

2.3 DOWNPIPES
Complete with stand-off brackets, screw fixed. Refer to SELECTIONS for type.

Materials - fascia/barge system

2.4 EXTERNAL FASCIA/BARGE SPOUTING SYSTEM
Fascia/barge type complete with jointing, brackets, fittings and accessories, brand matched and complete to the manufacturer's requirements. Refer to SELECTIONS for type.

Components

2.5 DROPPERS
Metal or uPVC droppers, compatible with spouting material and sized to fit inside the downpipe.

2.6 FASTENERS GENERALLY
Minimum Class 4 durability and not less than the roofing material being fixed.

2.7 RIVETS
Sealed aluminium, minimum diameter 4mm.

2.8 SEALANT
MS Polymer sealant.

3. EXECUTION

Conditions

3.1 HANDLE AND STORE
Handle and store downpipes, spouting and accessories to avoid damage. Store on site under cover, on a clean level area, stacked to eliminate movement and away from work in progress. Avoid exposure to sunlight if strippable film is still on the product.

3.2 SUBSTRATE
Check that fascias, barges or cladding are level and true to line and face and will allow work of the required standard without distortion to the product alignment. Do not proceed until they are up to standard.

3.3 THERMAL MOVEMENT
Make adequate provision in the fixing and jointing of the spouting for thermal movement in the length of the spouting. Provide an expansion joint in spouting over 18 metres in length for steel gutter.

3.4 CORROSION
Separate metals subject to electrolytic action from each other and from treated timber, concrete and other lime substances by space, painting of surfaces, taping, or separator strips. Do not allow copper downpipes to discharge onto lower galvanized or zinc aluminium coated steel roofs.

Application - metal

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3.5 INSTALLATION GENERALLY
Install to NZMRM CoP NZ metal roof and wall cladding Code of Practice recommendations where not otherwise specified.

3.6 INSTALL VALLEY GUTTERS
Attach valley gutters to valley boards by clips allowing for thermal movement to NZMRM CoP NZ metal roof and wall cladding Code of Practice, clause 8.4.5 Valley gutters. Separate valley gutter from valley boards with a layer of bituminous roof underlay.

3.7 INSTALL SECRET GUTTERS
Install secret gutters to fall allowing for thermal movement to NZMRM CoP NZ metal roof and wall cladding Code of Practice, clause 8.4.8 Secret gutters. Rivet and seal joints with MS Polymer sealant.

3.8 INSTALL PRE-PAINTED METAL SPOUTING
Establish minimum falls necessary (minimum 1:500, 2mm in 1 metre) to outlets to prevent ponding and screw fix brackets true-to-line at 750mm centres maximum for external gutters less than 175mm wide and at 600mm centres maximum for gutters 175mm to 300mm wide. In areas where snow fall is possible the centres should be reduced to 600mm maximum. Lap spouting joints a minimum of 40mm and silicone seal and pop rivet to the manufacturer's recommendations. Cut out neatly for and fit the pre-formed downpipe dropper and silicone seal around the lap joint. All installation to NZMRM CoP NZ metal roof and wall cladding Code of Practice recommendations.

3.9 INSTALL EXTERNAL FASCIA/BARGE SPOUTING SYSTEM
Install concealed fascia brackets to rafters with either screws or nails and fit fascia to a level line. Fit gutter brackets to fall to outlet. Cut and form corner junctions and barge junctions and fit spouting rigidly to brackets. Cut out neatly for and fit pre-formed downpipe droppers. Silicone seal and pop-rivet all lap joints. All installation to NZMRM CoP NZ metal roof and wall cladding Code of Practice recommendations.

3.10 INSTALL DROPPERS
Install either 2 outlets or one outlet and an overflow to each spouting section. Cut out neatly for and fit the pre-formed downpipe dropper and rivet and seal around the joint. All installation to NZMRM CoP NZ metal roof and wall cladding Code of Practice recommendations.

3.11 INSTALL METAL DOWNPIPES
Form downpipes complete with angle bends as needed with joints lapped and sealed. Screw fix with pipe clips to rigidly stand off the wall plumb and discharging into stormwater gully or inlet pipe. All installation to NZMRM CoP NZ metal roof and wall cladding Code of Practice recommendations.

3.12 INSTALL DOWNPIPE SPREADERS
Install downpipe spreaders where required to NZMRM CoP NZ metal roof and wall cladding Code of Practice, clause 8.5.1 Downpipe spreaders. Provide spreaders to downpipes that discharge on to a lower roof. Ensure spreaders do not discharge directly over fasteners or laps. Spreaders to have holes equalling twice the diameter of the downpipe.

3.13 INSTALL OUTLETS AND OVERFLOWS
Install outlets and overflows where required to NZMRM CoP NZ metal roof and wall cladding Code of Practice, clause 8.6.2 Outlets and overflows.

Completion

3.14 REPLACE
Replace damaged or marked elements.

3.15 LEAVE
Leave the whole of this work discharging completely and freely into the stormwater system and free of all debris. Leave work to the standard required by following procedures.

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3.16 REMOVE
Remove debris, unused materials and elements from the site.

4. SELECTIONS

4.1 SPOUTING
Brand / Profile / Size Refer to Product Schedule page in plans
Colour: as selected by client

4.2 DOWNPIPES
Brand / Profile / Size Refer to Drawings

Fascia/barge spouting system

4.3 EXTERNAL FASCIA/BARGE SYSTEM
Brand: Refer to Product Schedule page in plans

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7420 SANITARY SYSTEMS

1. GENERAL

This section relates to above ground gravity flow sanitary systems;
- for foul water
- from sanitary fixtures to first underground drain connection
- including system wastes, floor wastes, floor waste gullies, traps, vents and valves
- with associated components and accessories to make the system work

1.1 RELATED SECTIONS
Refer to 7151 SANITARY FIXTURES, TAPWARE & ACCESSORIES for sanitary fixtures tapware and accessories.
Refer to 7430 DRAINAGE for underground drains.

1.2 DOCUMENTS
Documents referred to in this section are:

NZBC G1/AS1	Personal hygiene
NZBC G13/AS1	Foul water - Sanitary plumbing
NZBC G13/AS3	Plumbing and drainage
AS 2887	Plastic waste fittings
AS/NZS 1260	PVC-U pipes and fittings for drain, waste and vent applications
AS/NZS 2032	Installation of PVC pipe systems
AS/NZS 3500.2	Plumbing and drainage - Sanitary plumbing and drainage

Plumbers, Gasfitters and Drainlayers Act 2006

1.3 QUALIFICATIONS
Carry out all work under the direct supervision of a certifying plumber under the Plumbers, Gasfitters and Drainlayers Act 2006.

2. PRODUCTS

2.1 PVC-U WASTE, DISCHARGE AND VENT PIPES
PVC-U pipe to AS/NZS 1260 complete with fittings brand-matched to the pipe manufacturer's requirements.

2.2 EXPOSED PIPES AND TRAPS
Chrome plate on copper pipes and associated copper and brass fittings.
White polybutylene or PVC, including all associated fittings.

3. EXECUTION

3.1 EXECUTION GENERALLY - NZBC G13/AS1
Carry out this work and complete all tests to NZBC G1/AS1: 2.0, 3.0 and NZBC G13/AS1.

3.3 ELECTROLYTIC ACTION
Avoid electrolytic action by eliminating actual contact or continuity of water between dissimilar metals.

3.4 INSTALL TRAPS, WASTE AND VENT PIPES - NZBC G13/AS1
Connect waste outlets to traps and run waste pipes and back vents concealed, sized and fixed to NZBC G13/AS1 and AS/NZS 2032. Discharge wastes into the drainage system stack, soil pipe, or gully trap as shown. Bird proof mesh to all roof vents and vermin proof mesh to all untrapped waste pipes.

3.6 PENETRATIONS
At penetrations through constructions provide and fit collars and escutcheon plates to match pipework.

3.7 TEST
Test soil and waste disposal systems to ensure no leakage exists and leave in proper working order.

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3.8 CLEAN UP
Remove labels and clean fittings. Remove unused materials from the site.

4. SELECTIONS

4.1 PVC-U WASTE, DISCHARGE AND VENT PIPES
Brand/type: Marley

4.2 EXPOSED PIPES AND TRAPS
Brand/type: Marley

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7430 DRAINAGE

1. GENERAL

This section relates to the supply and laying of gravity foul water (sewage), stormwater and groundwater drainage.

1.1 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZBC B1/AS1	Structure
NZBC E1/AS1	Surface water
NZBC G13/AS2	Foul Water
NZBC G13/AS3	Plumbing and Drainage
AS/NZS 1254	PVC-U pipes and fittings for Stormwater and Surface Water applications
AS/NZS 1260	PVC-U pipes and fittings for drain, waste and vent applications
AS/NZS 2032	Installation of PVC pipe systems
AS/NZS 2033	Installation of Polyethylene pipe systems
AS 2439.1	Perforated Plastics Drainage and Effluent Pipes and Fittings - Perforated drainage pipe and associated fittings
AS/NZS 2566.1	Buried Flexible Pipelines - Structural Design
AS/NZS 2566.2	Buried Flexible Pipelines - Installation
NZS 3104	Specification for concrete production
AS/NZS 3500.2	Plumbing and drainage - Sanitary plumbing and drainage
NZS 3604	Timber-framed buildings
NZS 4229	Concrete masonry buildings not requiring specific engineering design
AS/NZS 4671	Steel reinforcing materials
AS/NZS 5065	Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications
Plumbers, Gasfitters and Drainlayers Act 2006	

1.2 AS BUILT DOCUMENTS

Supply a 1:100 scale as-built drawing of drains and fittings to the territorial authority and to the owner on completion.

1.3 QUALIFICATIONS

Drainlayers to be experienced, competent and familiar with the materials and techniques specified. Carry out all work under the direct supervision of a certifying drainlayer under the Plumbers, Gasfitters and Drainlayers Act 2006.

2. PRODUCTS

2.1 CONCRETE

17.5 MPa prescribed mix to NZS 3104.

2.2 REINFORCEMENT

Plain round and/or deformed steel bars, Grade 300 to AS/NZS 4671.

2.3 PVC-U PIPES

PVC-U pipes bends, junctions, fittings and joints to AS/NZS 1254 and AS/NZS 1260.

Underground PVC-U pipe to be Classified as follows:

Classification	Use
SN4 - SN6	Domestic & light load areas
SN8 - SN10	Commercial & Industrial medium load areas
SN16	Public roads & high load areas

2.4 GULLY TRAPS - NZBC G13/AS2

To NZBC G13/AS2: 3.3 Gully traps, complete with grating.

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2.6 SURFACE WATER SUMP GRATINGS (IF REQUIRED - REFER TO DRAINAGE PLAN IN DRAWINGS)
Cast iron frame with lift-up grating.

2.7 STRIP DRAIN CHANNEL (IF REQUIRED - REFER TO DRAINAGE PLAN IN DRAWINGS)
Proprietary, modular, variable invert, PVC or precast concrete drainage channel sections and drainage sump, embedded in site concrete and fitted with selected metal gratings.

2.8 INSPECTION COVERS
Cast iron frame with screw-down cover.

2.9 TRENCH BACKFILLING MATERIAL - NZBC G13/AS2 & NZBC E1/AS1
Bedding: Clean granular non-cohesive material with a maximum particle size of 20 mm.
Bedding & surround: Clean granular non-cohesive material with a maximum particle size of 20 mm.
Compacted selected fill: Any Fine grain soil or granular material which is free from topsoil and rubbish and has a maximum particle size of 20 mm.
Ordinary fill: Excavated material.
Concrete: 75 mm thick concrete pad.

3. EXECUTION

3.1 EXCAVATE
Excavate for drains to a firm even base with correct gradients set in straight runs. Trenches running parallel, below and close to foundations of buildings to NZS 3604 or NZS 4229 to be separated to:
- NZBC E1/AS1, 3.9.7, **Proximity of Trench to Building**, for stormwater and subsoil drains.
- NZBC G13/AS2, 5.6, **Proximity of Trench to Building**, for foul water drains.

3.2 MANUFACTURER'S REQUIREMENTS
All drainage installations to the pipe and fitting manufacturer's requirements.

3.3 DRAINAGE GENERALLY - NZBC G13/AS2 & NZBC E1/AS1
Carry out drainage work and tests to NZBC G13/AS2 (foul water), NZBC E1/AS1 (stormwater). Lay uPVC pipe systems to relevant sections of AS/NZS 2032, NZS 2566.1 and AS/NZS 2566.2. Lay polyethylene pipes and fittings to relevant sections of AS/NZS 2033 and NZS 2566.1.

3.5 LAY FOUL WATER DRAINS
Lay drains in straight runs to correct gradients, to discharge into the network utility operator's sewer. Set inspection fittings on a concrete base.

3.7 INSTALL GULLY TRAPS
Set on concrete 50mm above the surrounding ground or paving and brought up to protect the top of the fitting. Trowel off.

3.8 LAY STORMWATER DRAINS
Confirm the required location of downpipes and finished ground levels before commencing pipework. Set downpipe bends in concrete with the concrete brought up to protect the top of the bend from damage. Lay drains in straight runs to correct gradients to discharge into the network utility operator's stormwater system.

3.9 INSTALL SURFACE WATER SUMP (IF REQUIRED - REFER TO DRAWINGS)
To NZBC E1/AS1, complete with ceramic half-siphon pipe and cast iron frame with a lift out grating.

3.11 CONCRETE ENCASEMENT
Concrete encase shallow drains and drains under driveways, on a 100mm deep 17.5 MPa concrete bed reinforced with three 10mm mild steel bars. Surround pipes with a polythene membrane to allow movement and encase in 100mm 17.5 MPa concrete.

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3.12 FIELD TEST

Field test drains for watertightness (PVC-U to AS/NZS 2032 or AS/NZS 2566. 2 Appendix N) to the satisfaction of the territorial authority inspector.

3.13 PLACING & COMPACTING TRENCH BACKFILLING MATERIAL

Granular bedding and selected fill shall be placed in layers no greater than 100 mm loose thickness and compacted. Base bedding (beneath the pipe) shall be placed and compacted before pipes are laid.

Up to 300mm above the pipe, compaction shall be by tamping by hand using a rod with a pad foot (having an area of 75 ± 25 mm by 75 ± 25 mm) over the entire surface of each layer to produce a compact layer without obvious voids, without disturbing the drains.

More than 300 mm above the pipe, compaction shall be by at least four passes of a mechanical tamping foot compactor (whacker type) with a minimum weight of 75 kg.

4. SELECTIONS

4.1 PVC-U PIPES

Brand/type: Marley

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7701 ELECTRICAL BASIC

1. GENERAL

This section relates to the wiring for domestic and small scale commercial installations, including:
- power
- lighting
- electrical automation
- security system
- complete with componentry
- electrically-powered fittings
- fire rated sealers, liners and accessories

1.1 ABBREVIATIONS AND DEFINITIONS

Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following abbreviations apply specifically to this section:

CFL	compact fluorescent lamp
ELV	extra low voltage
GLS	general lighting service
IP	international (ingress) protection classification
LCD	liquid crystal display
LED	light emitting diode
MCB	miniature circuit breaker
NUO	Network Utility Operator
PCB	printed circuit board
PIR	passive infrared
RCBO	residual current-operated circuit breaker with over current protection
RCCB	residual current-operated circuit breakers
RCD	residual current device
SIA	security integration architecture
TPS	tough plastic sheathed
TCF	Telecommunications Carriers' Forum

Documents

1.2 DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

NZBC E2/AS1	External moisture
NZBC F6/AS1	Visibility in escape routes
NZBC F7/AS1	Warning systems
NZBC G4/AS1	Ventilation
NZBC G9/AS1	Electricity
AS/NZS 1125	Conductors in insulated electric cables and flexible cord
AS/NZS 1768	Lightning protection
AS/NZS 2201.1	Intruder alarm systems - Client's premises - Design, installation, commissioning and maintenance
AS 2293.1	Emergency escape lighting and exit signs for buildings - System design, installation and operation
AS 2293.3	Emergency escape lighting and exit signs for buildings - Emergency escape luminaires and exit signs
AS/NZS 3000	Electrical installations (known as the Australian/New Zealand Wiring Rules)
AS/NZS 3008.1.2	Electrical installations - Selection of cables - Cables for alternating voltages up to and including 0.6/1 kV - Typical New Zealand installation conditions
AS/NZS 3100:2009	Approval and test specification-general requirements for electrical equipment
AS/NZS 3112	Approval and test specification - Plugs and socket-outlets
AS/NZS 3113	Approval and test specification - Ceiling roses

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AS/NZS 3190	Approval and test specification - Residual current devices (current-operated earth-leakage devices)
AS/NZS 3350.1	Safety of household and similar electrical appliances - General requirements
AS/NZS 3439.3	Low-voltage switchgear and controlgear assemblies - Particular requirements for low-voltage switchgear and controlgear assemblies intended to be installed in places where unskilled persons have access for their use - Distribution boards
AS 3786	Smoke alarms
NZS 4514	Interconnected smoke alarms for houses
AS/NZS 5000.2	Electric cables - Polymeric insulated - for working voltages up to and including 450/750v
AS/NZS 60598.2.2:2001	Luminaires - Particular requirements - Recessed luminaires
IEC 61643	Components for low voltage surge protection devices

Electricity (Safety) Regulations 2010 (Reprint as at 4 April 2016)
TCF Premises Wiring Code of Practice 2011

Warranties

1.3 WARRANTY
Warrant the complete electrical installation under normal environmental and use conditions against failure of materials and execution.
1 year: Warranty period

Requirements

1.4 COMPLY
Comply with the Electricity (Safety) Regulations 2010, AS/NZS 3000, AS/NZS 3008.1.2 and TCF Premises Wiring Code of Practice for listed and prescribed work and with the utility network operator's requirements. Apply for the service connection. Arrange for the required inspections of listed work. Pay all fees.

1.5 QUALIFICATIONS
Carry out work under the supervision of an electrical licensed supervisor.

1.6 SAFETY OF INSTALLATION - DESIGN BY ELECTRICIAN
Before installation work commences provide a Certified Design. The Certified Design is to comply with the Electrical (Safety) Regulations (2010), regulations 58. It must be signed by the designer of the installation.

1.7 ELECTRICAL CERTIFICATE OF COMPLIANCE
Supply a certificate of compliance (CoC) to the owner, and if required the NUO, as required by the Electricity (Safety) Regulations (2010), prior to connection.
- Arrange for the NUO to inspect before the meter installation, listed work inspection, polarity check and supply becoming live.
- Arrange for an inspector to inspect as required by regulation 70.

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1.8 ELECTRICAL SAFETY CERTIFICATE
Provide an Electrical Safety Certificate (ESC), as required by the Electrical (Safety) Regulations 2010, to the owner and when required the BCA. To be provided no later than 20 working days after connection and prior to Practical Completion.

2. PRODUCTS

2.1 MAINS SUPPLY, SINGLE PHASE
Tough plastic sheathed neutral screened cable to AS/NZS 4961 and AS/NZS 3008.1.2, with a minimum rating of 60 amps per phase. Include pilot cable where required by network utility company.

2.2 CABLES
Tough plastic sheathed copper conductors to AS/NZS 5000.2, stranded above 1.0mm², and to AS/NZS 3008.1.2. Minimum sizes as below. Increase sizes if the method of

installation, thermal insulation, cable length or load will reduce the cable rating below that of the MCB rating, or produce an excessive voltage drop.

Lighting circuits:	Domestic: 1.0mm² on 6 amp MCBs
Power circuits:	2.5mm² on 16 amp MCBs for domestic and unenclosed or unfilled cavity construction 2.5mm² on 16 amp MCBs for domestic insulated construction, or filled cavity 2.5mm² on 20 amp MCBs for unenclosed or unfilled cavity construction 2.5mm² on 16 amp MCBs for insulated construction, or filled cavity, or lengths over 30 metres
Hot water cylinder circuits:	Single phase: 2.5mm² on 20 amp MCBs
Range/oven/hob circuits:	Single phase: 6mm² on 32 amp MCBs

Heat resistant cable for final connections to all heated appliances, and high temperature cable in ambient conditions that may be above 35°C.

2.3 METER BOX

Proprietary manufactured, weatherproof where mounted outdoors, and complete with meter mounting, main switch and fuse.

2.4 DISTRIBUTION BOARD

Flush surface mount boards manufactured to AS/NZS 3439.3 and installed in accordance with AS/NZS 3000. Manufactured from engineering grade resin with a glow wire rating of 850°C, complete with neutral and earth busbars, and insulated comb phase bar. Distribution boards to have 20% spare capacity for future additions and alterations.

2.5 CIRCUIT PROTECTION

General requirements including main switch 63A or 100A. Residual current protection 30mA, ensure RCCBs' meet Type A and comply with AS/NZS 3190. MCBs to 4.5kA or 6kA rated.

2.6 SMOKE ALARMS

Type 1 domestic smoke alarm to NZBC F7/AS1. 1.2 **Descriptions of alarm systems**. Alarm to AS 3786. A wired 230 volt ionised smoke detector type.

2.7 SWITCHED SOCKET UNITS

10 amp, 230 volt flat 3 pin socket outlets fitted with safety shutters and manufactured to AS/NZS 3100, AS/NZS 3112 and AS/NZS 3113, single or multi gang as detailed.

2.8 WALL BOXES

Standard grid size or equivalent to be manufactured from plastic or metal, with 2 or more gang size to be metal with steel inserts for accessory securing screws. Screw fixed.

2.9 SWITCH UNITS

Single pole switches to be 16 amp minimum rated, double pole or intermediate to be 16 amp minimum rated. All switches to be 230 volt a.c. polycarbonate flushplate units. Refer to drawings/schedules for number of switches per unit, dimmer units, neon (indicator or toggle) units and 2 way units.

2.10 HOT WATER SYSTEM SWITCH

One way 20 amp switch complete with cable clamp for flexible PVC conduit to element enclosure.

2.11 SURGE PROTECTION

Protection for the homes appliances with IEC 61643 Class ll surge protection devices fitted to the switchboard. For variable electronic equipment fit IEC 61643 Class lll surge protection to switched socket outlets.

2.12 RESIDENTIAL RECESSED LIGHT FITTINGS

Residential recessed luminaires to AS/NZS 60598.2.2, types IC-F, IC, CA-80 or CA-135 only.

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2.13 EXHAUST FANS
Ceiling, wall or duct mounted exhaust fans for ventilation to NZBC G4/AS1, and compliant with AS/NZS 3350.1.

2.14 HEATED TOWEL RAILS
Fixed wired heated towel warmers, double insulated, IPX4 splash-proof, compliant with AS/NZS 3350.1, scratch resistant powdercoated or chrome finish.

3. EXECUTION

3.1 OUTDOOR SWITCHES & SOCKETS
Using materials with superior UV protection, impact strength, and addition chemical resistance when compared with interior polycarbonate fittings. Weather protected, switches to IP56 minimum, and sockets to IP53 minimum. Sockets fitted with safety shutters behind socket pins, and all products able to be padlocked off or on.

3.2 MAIN SUPPLY
Lay underground mains to the NUO requirements. Excavate trench, install cable and marker tape and backfill.

3.3 METER BOX
Fit to meter box manufacturer's and Electricity Retailer's requirements. Recess into external wall in sheltered area and flash to weatherproof to NZBC E2/AS1 fig 69. Arrange for meter installation and connection.

3.4 DISTRIBUTION BOARD
Fit to AS/NZS 3000 and board manufacturer's requirements. Recess into wall or surface mount and ensure fire containment properties of the enclosure are maintained.

3.5 CIRCUIT PROTECTION
Install MCBs at distribution board to AS/NZS3000 to protect each final sub circuit.

3.6 EARTH BONDS
Bond together and to earth all plumbing fittings not adequately isolated, to AS/NZS 3000, the Electricity (Safety) Regulations 2010 and the fitting manufacturer's requirements.

3.7 MAIN EARTH
Provide a plastic toby box to contain and protect the earth electrode. Fix the connecting earth wiring closely and securely against wall surfaces.

3.8 EARTH LEAKAGE PROTECTION
Install RCD protection to AS/NZS 3000.

3.9 RCD - DOMESTIC INSTALLATIONS
Install 30mA RCD protection at the switchboard for all final sub circuits to control outlets and lighting except for fixed or stationary cooking equipment, to AS/NZS 3000.

3.10 RCD - SPECIFIC INSTALLATIONS
Install 30mA RCDs at the distribution board.
Install fixed wired RCD protected outlets (SRCD) in the following areas:
- Wet areas: bathrooms, laundries, kitchens.
- Near pools and water features.
- Where intended for use with cleaning equipment.
- Hand-held tools subject to movement in use, i.e. work-shops, garages.

3.11 SET-OUT
The position of outlets and equipment shown on drawings is indicative of requirements. Confirm documents and site conditions are not in conflict with other services or features. Resolve conflicts and discrepancies before proceeding with work affected. Confirm on site the exact location, disposition and mounting heights of all outlets, fittings, equipment, penetrations, and use of exposed wiring. Fix outlet items level, plumb and in line.

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3.12 CABLING

Install wiring systems to AS/NZS 3000. All cabling run concealed. No TPS cable laid directly in concrete. Locate holes in framing for the passage of cables at the centre line of the member. Install cable in conduits where required to pass through concrete or underground. In walls run cabling horizontally and vertically in straight lines. In ceilings either run cabling along ceiling framing or attached to catenary wires. Clip cabling to ceiling framing/catenary wires.

All cabling installed into Zog Steel frames shall be run through plastic grommets installed into service holes.

3.13 CABLING CIRCUITS

Install all circuits with the appropriately rated cable and circuit protection. Install with a maximum of 8 light switch units or 4 double or single switched socket units on any circuit. Minimum 2 lighting circuits per floor. Separate circuits for all electric heating appliances. Kitchen sockets to be on at least two different circuits.

3.14 WALL BOXES

Mount flush in cavity construction size to fit products selected. Fix vertically mounted wall boxes to studs. Screw fix horizontally mounted switched socket outlet wall boxes to solid blocking or nogs. Fix switch panel wall boxes to solid blocking.

3.15 SWITCH AND SOCKET UNITS

Fit all single and double switch units, all sockets to the following heights (to the centre of the unit) unless shown otherwise on the drawings.

Switch Units: 1000mm above finished floor
Socket Units: 150mm above work benches
400mm above finished floor

Mount light switches and switch socket outlets vertically and socket units horizontally. Label all switch units that control electrical equipment or special lighting circuits by colour filled engraving on the switch. Use proprietary engraved switch mechanisms where applicable.

3.16 RECESSED LIGHT FITTINGS - CLEARANCE TO INSULATION

Non-residential applications;
The clearance between insulation and recessed downlights;
- Leave 100mm gap to AS/NZS 3000, figure 4.9
- Provide larger gaps where required by the downlight manufacturer

Residential applications;
- Ensure new recessed downlights are one of the new classes classified in AS/NZS 60598.2.2; CA 80, CA 135, IC and IC - F.
- Classification type CA 80, CA 135, to AS/NZS 60598.2.2; insulation can abut the sides (wrapping around the sides)
- Classification type IC and IC - F, to AS/NZS 60598.2.2; insulation can abut and cover over the top of the downlight
- Provide larger gaps where required by the light manufacturer
- In a retrofit situation where the insulation is non-approved or unknown, ensure 100mm clearance from the insulation to AS/NZS 3000, figure 4.9.

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3.17 SMOKE ALARMS

Install Type 1 domestic smoke alarm system to NZBC F7/AS1 3.0 **Domestic smoke alarms**, NZS 4514 and to the alarm manufacturer's requirements. Fit neatly and without damage to the surrounding finish.

3.18 SURGE PROTECTION

Install surge protection devices to manufacturer's requirements and in accordance with AS/NZS 3000 and AS/NZS 1768. When fitting IEC 61643 Class ll protection at the switchboard, protect the device by a dedicated MCB.

3.19 ELECTRIC POWERED FITTINGS AND EQUIPMENT

Install and wire fittings and equipment to individual fittings and equipment manufacturer's requirements. Refer to the drawings for required layouts and locations for equipment. Refer to SELECTIONS for schedules of fittings.

3.20 BATHROOM ELECTRICAL FIXTURES

Install all electrical fixtures. Connect the following bathroom and toilet electrical items:

- Heated towel rails: Install to manufacturers requirements and installed in accordance with AS/NZS 3000 and the NZBC G9/AS1
- Mirror demisters: Locate centrally above the wash hand basin(s). Connect wiring to room lighting unless specified otherwise.
- Exhaust fans: Install exhaust fans to manufacturer requirements. Installed in accordance with AS/NZS 3000 and NZBC G4/AS1.

3.21 OUTDOOR/EXTERIOR SERVICES

Install all wiring systems in accordance with AS/NZS 3000 and in accordance with the manufacturer's recommendations:
Provide circuits and connections for exterior installations, including ELV 12/24 Volt path lighting and electronic irrigation systems. Refer to drawings for connection points.
Where underground, ensure appropriate protection, such as thickness of sheathing, conduit, depth of cabling, and proximity to other services.
Use the appropriate rated fittings for power control and power supply. Weather protected switches to IP56, and sockets to IP53 as a minimum. Install to manufacturer's specifications using recommended fittings and sealants to maintain the products integrity.
Earth leakage protection to be provided for in areas where there is increased risk to human safety in the form of either RCDs at the distribution board, or socket outlet. RCDs are recommended for visible awareness of protection.

3.22 LABELLING

Include label under each controller, switch and circuit breaker on distribution boards.
Include a warning notice if light dimmers are used in the installation. List the rating of each circuit.

Completion

3.23 COMPLETION

Leave installation operating correctly, with equipment clean and operational.

4. SELECTIONS

Materials

4.1 SELECTIONS - FITTINGS AND HARDWARE

Confirm selections of all outlet fittings and hardware with the owner in writing before ordering.

4.2 METER BOX

Location:	Refer Drawings
Brand / type:	As per Golden Homes standard selections

4.3 DISTRIBUTION BOARD

Location:	Refer Drawings
Brand / type:	As per Golden Homes standard selections

Outlets - fittings

4.4 HEATED TOWEL RAILS

Location	**Brand / type**
Refer Drawings	As per Golden Homes standard selections (IP45 rated)

4.5 BATHROOM FANS

Location	**Brand / type**
Bathroom / ensuite-Extract:	As per Golden Homes standard selections

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Section 6
Technical Information

- Septic Tank & Effluent Design incl. fencing
- ECan Approval Documents
- Gas Fire
- Heating Unit
- Solar Panels
- Central Heating Systems
- Manufacturer's Literature
- A4 Details/Acceptable Solution Extract
- Well/Water Test