

HDS 1&2 Level Homes

Preliminary Design Report

Design Library Typologies Programme

Architect: Hierarchy Group

Issued: by Hierarchy Group for Kāinga Ora

Date: 05/09/2024

Nga Paerewa hoahoa whare

Design Requirements: Version 1.2



Design Library Programme

Project Brief & Scope of Work

Purpose

The purpose of the HDS Design Library work is to update, expand and improve the existing typologies used by the Hierarchy Group MBU within the HDS. This piece of work will provide typologies for Kāinga Ora that:

- Identify and add known missing typologies to the Design Library
 - Review and upgrade existing typologies where appropriate.
- In carrying out this work, the scope of changes will be created through an assessment of work undertaken to date within the MBU and cover:

1. An assessment of the suitability of existing typologies relative to the typical land development scenarios required (typical site context/shape/slope/orientation factors)
2. A review of each typology against updated Design Requirements
3. Know construction systems and methods to improve standardisation, buildability, efficiency and maintainability
4. Updated design to meet 6 Homestar version 5

Brief

As part of the design documentation, the consultant will test and analyse the items below based on cost, buildability, spatial efficiency and design outcomes. The information produced will be presented to Kāinga Ora stakeholders for approval before proceeding with next design phase.

ITEM 1: An assessment of the suitability of existing typologies relative to the typical land development scenarios required (typical site context/shape/slope/orientation factors)

ITEM 2: A review of each typology against updated Design Requirements Changes in **Ngā Paerewa Hoahoa Whare:**

1. **Tapu & Noa** (interpretation of current matrix):
 - Stacking Bathroom, WC & Laundry and away from food preparation zones-Separating WC from Bathroom and Laundry (vs combining one or all functions)
 - No direct sightlines between WC, Laundry and semi-private space, i.e. KDL
 - Creating a sense of Entry (Manaakitanga) arrival and pause between public and private space
 - Allow ability to follow tangihanga customs through spatial arrangement; entry points to allow movement of the body into the home with out crossing through kitchen space
2. **Compliance with area requirements:**
 - Where possible, explore overall GFA reduction without compromising on efficiency
 - Reduce KDL by minimum of 10%, through arrangement optimisation whilst meeting functionality requirements
3. **Circulation Space:**
 - Reduce corridor and stair widths to 1000mm
 - Optimise stair and corridor design for general area reduction where practicable
 - Compare impact of reducing interior door width to 810 leaf
 - Compare impact of reducing front door width to 860 front door

Typologies



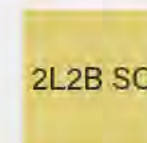
1L1B

1 LEVEL 1 BED
Replacement Design



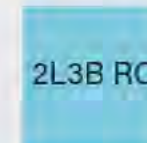
2L2B RC

2 LEVEL 2 BED RECTANGLE
Replacement Design



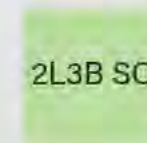
2L2B SQ

2 LEVEL 2 BED SQUARE
New Design



2L3B RC

2 LEVEL 3 BED RECTANGLE
Replacement Design



2L3B SQ

2 LEVEL 3 BED SQUARE
New Design

Design Library Programme

FINAL DESIGN TYPOLOGIES (Compliance Matrix)

Yellow = below min requirements	1L1BSQ Concept	2L2BSQ Concept	2L2BRC Concept	2L3BRC Concept	2L3BSQ Concept
B2.1 Gross Floor Area (All areas based on weatherboard cladding over 20mm cavity. NZIQS definition of GFA used)	Existing Plan: 52.82m ² Minimum: 50m ² Achieved: 47.2m ²	Existing Plan: 83.05m ² Minimum: 82m ² Achieved: 84m ²	Existing Plan: 83.05m ² Minimum: 82m ² Achieved: 84.6m ²	Existing Plan: 115.94m ² Minimum: 107m ² Achieved: 106.9m ²	Existing Plan: 115.94m ² Minimum: 107m ² Achieved: 110.1m ²
Kitchen / Dining / Living Areas (All areas exclude circulation space e.g. entry, halls, corridors etc...)	Minimum: 27m ² Achieved: 21.3m ²	Minimum: 36m ² Achieved: 25.5m ²	Minimum: 36m ² Achieved: 31.4m ²	Minimum: 46m ² Achieved: 37.1m ²	Minimum: 46m ² Achieved: 33.8m ²
Bedrooms (All areas exclude wardrobes) Main Bedroom: 10m ² Secondary Bedrooms: 9m ²	Main Bedroom: 10m ²	Main Bedroom: 10.2m ² Bedroom 2: 10.2m ²	Main Bedroom: 11.5m ² Bedroom 2: 9.8m ²	Main Bedroom: 11.7m ² Bedroom 2: 8.5m ² Bedroom 3: 8.5m ²	Main Bedroom: 10.0m ² Bedroom 2: 9.9m ² Bedroom 3: 8.2m ²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☒ ☐ ☐	☒ ☐ ☒	☒ ☐ ☐	☒ ☐ ☒	☒ ☒ ☐
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☐ ☐ ☒ ☒ ☒ ☐	☒ ☒ ☒ ☒ ☒ ☐	☒ ☒ ☒ ☒ ☒ ☐	☒ ☒ ☒ ☒ ☒ ☐	☒ ☒ ☒ ☒ ☒ ☐
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ ☒ ☒	☒ ☒ ☒	☒ ☒ ☒	☒ ☒ ☒	☒ ☒ ☒
B2.4 Storage (width combined for household and a minimum of 1.2m per wardrobe) Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	W/R = 1.6m x 0.7m (General store incl in this – 0.2m short) Linen = 0.8m x 0.7m HWC = 0.7m x 0.8m	W/R1 = 2.02m x 0.65m W/R2 = 1.2m x 0.65m Linen = 3.9m ² of storage (general + linen) HWC = 0.65m x 0.7m (old requirements) General Store = 3.9m ² of storage (general + linen)	W/R1 = 1.2m x 0.6m W/R2 = 1.36m x 0.6m Linen = 7.3m ² of storage (general + linen) HWC = 0.7m x 0.8m General Store = 7.3m ² of storage (general + linen)	W/R1 = 1.8m x 0.6m W/R2 = 1.4m x 0.6m W/R3 = 1.4m x 0.6m Linen = 1.5m ² of storage (general + linen) HWC = 0.7m x 0.8m General Store = 1.4m ² of storage (general + linen)	W/R1 = 1.8m x 0.6m W/R2 = 1.4m x 0.6m W/R3 = 1.4m x 0.6m Linen = 1.5m ² of storage (general + linen) HWC = 0.7m x 0.8m General Store = 1.4m ² of storage (general + linen)
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280mm min. tread. b. No stair winders. c. At least one handrail	910mm entry door - Circulation routes 1000mm - All internal doors reduced from 860mm leaf width to 810mm	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm

Typology Considerations

1. Weather Protection

All designs will require a covered outdoor area that is accessed off of the living room to provide a means of being able to access the outdoors while still having rain/wind protection.

Consideration needs to be addressed as to how this will be achieved as it needs to be investigated throughout developed design. To ensure the designs are easy to navigate on various sites the type of weather protection to be used on the buildings needs to be easily attached, simple and cost effective.

2. Circulation and Staircase Sizes

The final designs within this report demonstrate 1,000mm maximum width for circulation of hallways and stairwells. The min requirement as per the Nga Paerewa Hoahoa Whare guidelines is 1,050mm. The staircase type selected for the designs is a secondary private stairway in accordance with D1/AS1. The report demonstrates the differences between circulation widths and main vs secondary private stairwells.

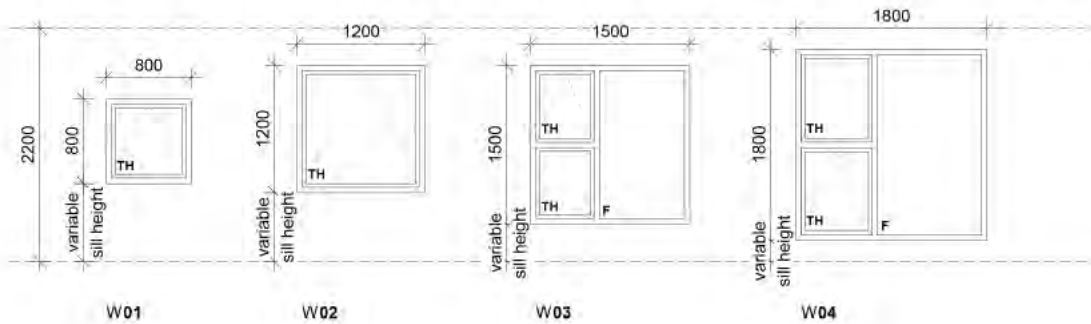
3. Wardrobe & Laundry Joinery Units

The minimum Nga Paerewa Hoahoa Whare guidelines for wardrobes are 1,200mm wide. Feedback from build partners have alerted to the width being restrictive when installing washing machines / laundry tubs especially around door jams. Costing investigation comparing traditional wardrobe and laundry spaces to joinery units is being undertaken to look into more cost effective and user-friendly options.

4. Separate Laundry

Feedback to allow for a separate laundry spaces to the typologies has ensured that no laundry areas are combined with bathrooms or opening into dining / living spaces.

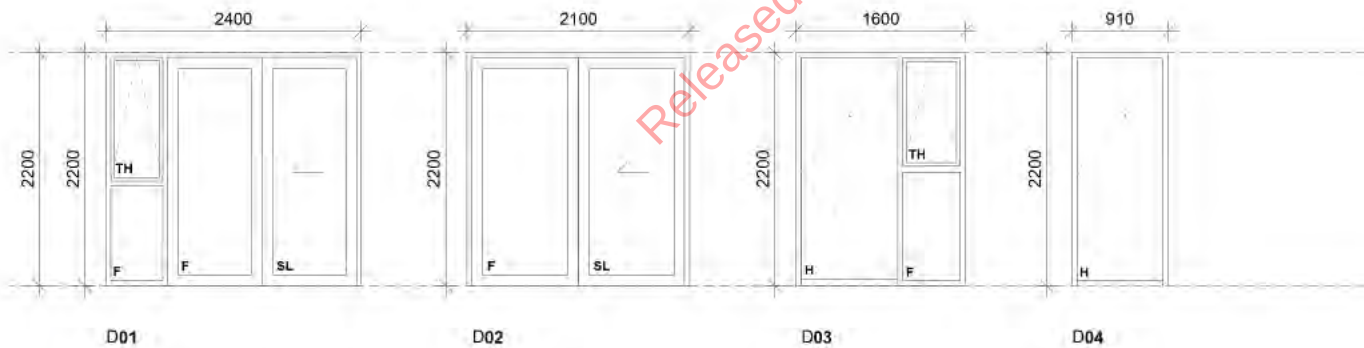
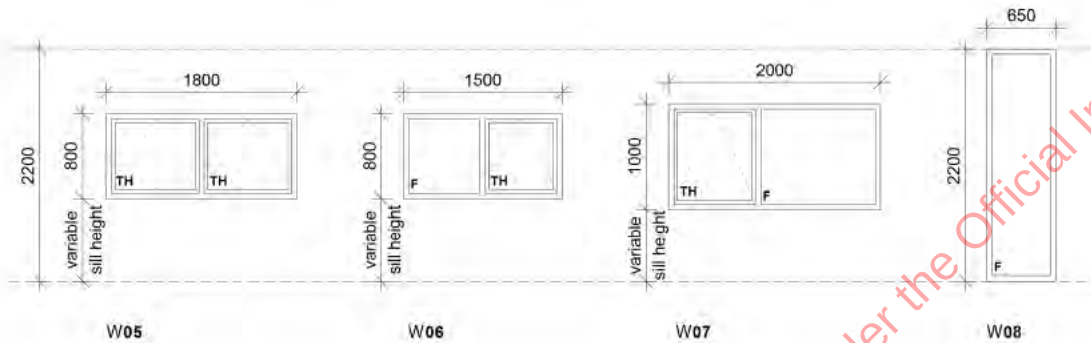
Design Library Window and Door Schedule



General Window Notes

1. All framing shall be aluminium extrusion powdercoated
2. All dimensions are indicative only for pricing purposes
3. All Glazing shall comply with NZS4223:3:2016
4. All Manifestation shall be installed in accordance with NZS4223:3:2016
 - a. Any glazed panel that can be mistaken for a doorway or unimpeded path of travel will require a manifestation.

F - Fixed
TH - Top Hung
SL - Sliding
H - Hinged



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FINAL DESIGN FLOORPLAN

1L1B | Standalone Unit



GFA: 47.2m²

GROUND FLOOR PLAN
Scale 1:100 @ A3**SUMMARY OF FINAL DESIGN:**

The following adjustments have been made to optimise the 1 level 1 bed dwelling type (1L1B) which now provides a 5.62m² GFA reduction in comparison to the existing plan (RH-A1).

1. Flexibility of design and overall spatial efficiency demonstrating good functionality of a reduced floorplan.
2. Covered entrance porch has been brought inside the roofline to incorporate built in weather protection.
3. Wardrobe moved to central wall from bathroom wall to help to reduce GFA and incorporate increased general storage area.

4. K/D/L remains reversible ensuring the design can be orientated for various sun arrangements.

5. Laundry has been swapped to left of entry to allow for more wall area to incorporate furniture arrangements for when the K/D/L is required to be flipped.

6. Laundry and bathroom have been separated to meet Tapu and Noa requirements.

7. Initial internal wall offset that accommodated the kitchen on the horizontal has been replaced with wardrobe/storage to reduce the GFA and provide an easily flippable K/D/L layout.

GROUND FLOOR PLAN
(Alternative K/D/L layout)
Scale 1:100 @ A3

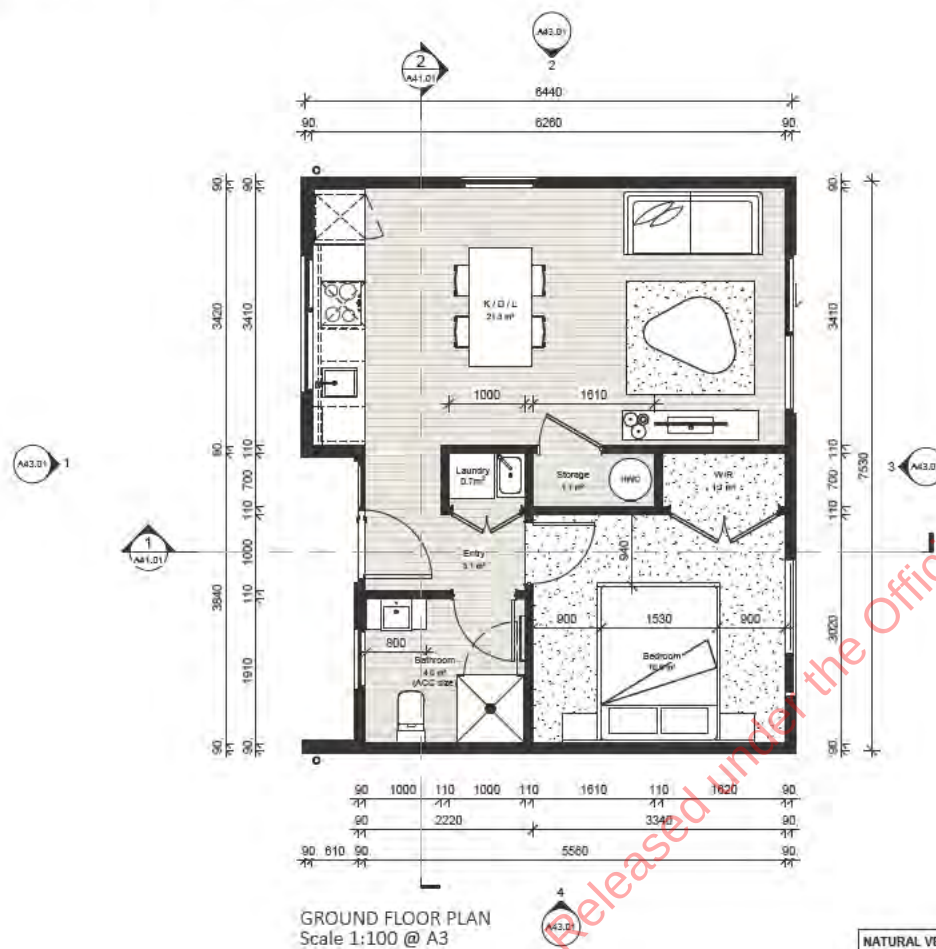


8. NZS3604:2011 Bracing requirements are achieved for a concrete foundation in all windzones (asides from extra high that will need SED input). Bracing requirements are achieved for a subfloor foundation in windzones (asides from extra high and seismic zone 4 that will require SED input).

9. Homestar compliance has been achieved from one orientation at this stage.

1 LEVEL 1 BED

CONCEPT 01



NATURAL VENTILATION NZBC G4 COMPLIANCE					
Space	Area m²	G4 - 5%	Actual	% Achieved	Comment
K/D/L	21.3m²	1.06m²	2.4m²	11.2%	
Entry	3.1m²	0.15m²	0.4m²	12.9%	
Bathroom	4m²	0.2m²	0.36m²	9%	Mech
Bedroom	10m²	0.5m²	0.53m²	5.3%	

NATURAL LIGHT NZBC G7 & HOMESTAR V5 COMPLIANCE					
Space	Area m²	G7 - 10%	H/Star V5	Actual	% Achieved
K/D/L	21.4m²	2.14m²	3.21m²	5.2m²	24%
Bedroom	10m²	1m²	1.5m²	2.2m²	22%

OUR DESIGN RESPONSE:

- The following adjustments have been made to optimise the one level one bed dwelling type from previous versions:

1. GFA.

The GFA of the design has been reduced to 47.2m². The rationale for minimising the GFA is to create a design this is as compact and user-friendly as possible, eliminating any unnecessary space and excess cost. Existing Type RA GFA: 52.82m²

2. Duplex / Terraceable / Standalone

The design is versatile; it can operate as an independent structure (pending confirmation from Kainga Ora), be part of a duplex setup, or be incorporated into a terrace layout.

3. In-built Weather Protection

The entrance has been relocated under the existing roofline, which serves as a weather shield. This eliminates the necessity for an additional canopy.

The stepped front facade provides a sense of entry, with the front door being clearly identifiable.

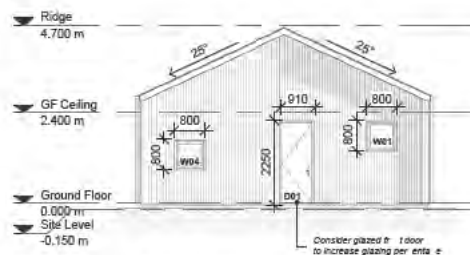
4. K/D/L Layout

The flippable interior living space has been designed so the dwelling can better respond to site constraints.

5. Storage Cupboard

By repositioning the wardrobe, it has made room for an additional storage cupboard that wasn't included in the initial design.

1 LEVEL 1 BED FINAL DESIGN



ELEVATION 01
1:200 @ A3

South Elevation

Risk Matrix	Score
Wind Zone	High 2
Stories	Low 0
Roof / Wall	Medium 1
Eave Width	Very High 5
Complexity	Low 0
Deck Design	Low 0
	8

West Elevation

Risk Matrix	Score
Wind Zone	High 2
Stories	Low 0
Roof / Wall	Medium 1
Eave Width	Very High 5
Complexity	Low 0
Deck Design	Low 0
	8

North Elevation

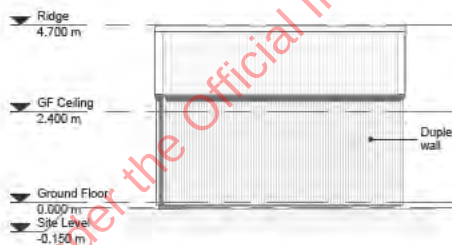
Risk Matrix	Score
Wind Zone	High 2
Stories	Low 0
Roof / Wall	Medium 1
Eave Width	Very High 5
Complexity	Low 0
Deck Design	Low 0
	8

East Elevation

Risk Matrix	Score
Wind Zone	High 2
Stories	Low 0
Roof / Wall	Medium 1
Eave Width	Very High 5
Complexity	Low 0
Deck Design	Low 0
	8



ELEVATION 02
1:200 @ A3



ELEVATION 03
1:200 @ A3

ELEVATION 04
1:200 @ A3

NATURAL VENTILATION NZBC G4 COMPLIANCE

Space	Area m²	G4 - 5%	Actual	% Achieved	Comment
K/D/L	21.3m²	1.08m²	2.76m²	12.9%	
Bathroom	4m²	0.2m²	0.38m²	9%	Mech
Bedroom	10m²	0.5m²	0.53m²	5.3%	

NATURAL LIGHT NZBC G7 & HOMESTAR V5 COMPLIANCE

Space	Area m²	G7 - 10%	H/Star V5	Actual	% Achieved
K/D/L	21.3m²	2.14m²	3.21m²	4.8m²	22%
Bedroom	10m²	1m²	1.5m²	2.2m²	22%

BRIEF RESPONSE:

TAPU & NOA

- Sight lines are not direct to W/C location from any bedrooms / living areas or entries.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- Square footprint allows for 4 zones; amenities (bathroom/laundry), bedroom, kitchen/dining and living. This helps with being able to create an entry space (manaakitanga) that allows pause between public and private spaces.
- The kitchen location has been designed to ensure the space does not act as thoroughfare and allows for ease of movement throughout the home.

COMPLIANCE WITH AREA REQUIREMENTS

- The GFA has been further reduced by 5.62m² to 47.2m²
- The K/D/L has been further reduced by 3.9m² to 21.3m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

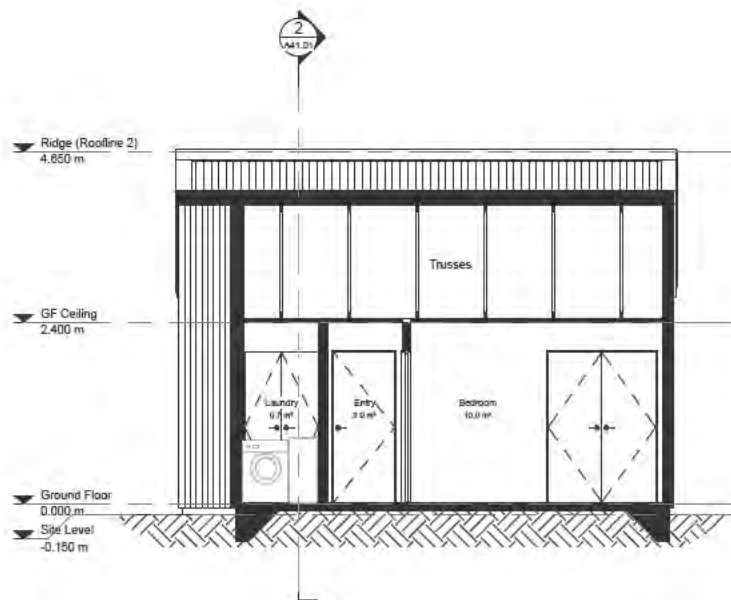
CIRCULATION SPACE

- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

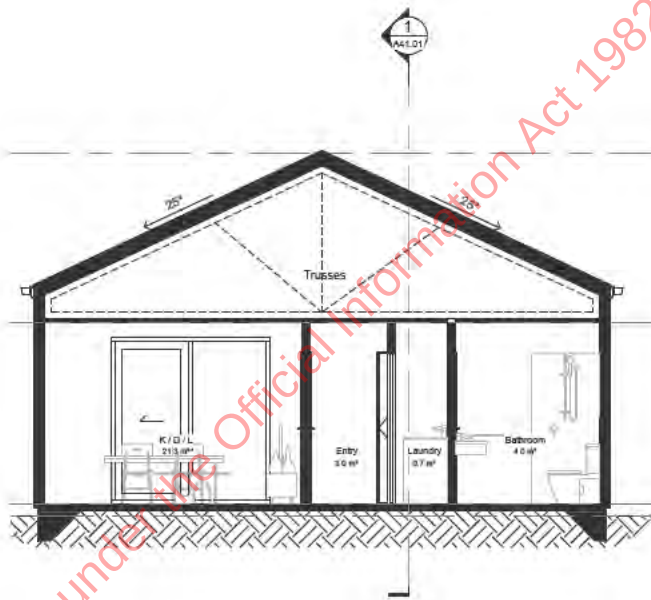
TABLE 2.01 AREA TABLE
For compliance refer to Table B3.4

ROOM TYPE	AREA (m²)
K/D/L	21.3
STORAGE	2.2
LAUNDRY	0.7
BATHROOM	4
BEDROOM	10

1 LEVEL 1 BED FINAL DESIGN



PROPOSED SECTION 01
Scale 1:100 @ A3



PROPOSED SECTION 02
Scale 1:100 @ A3

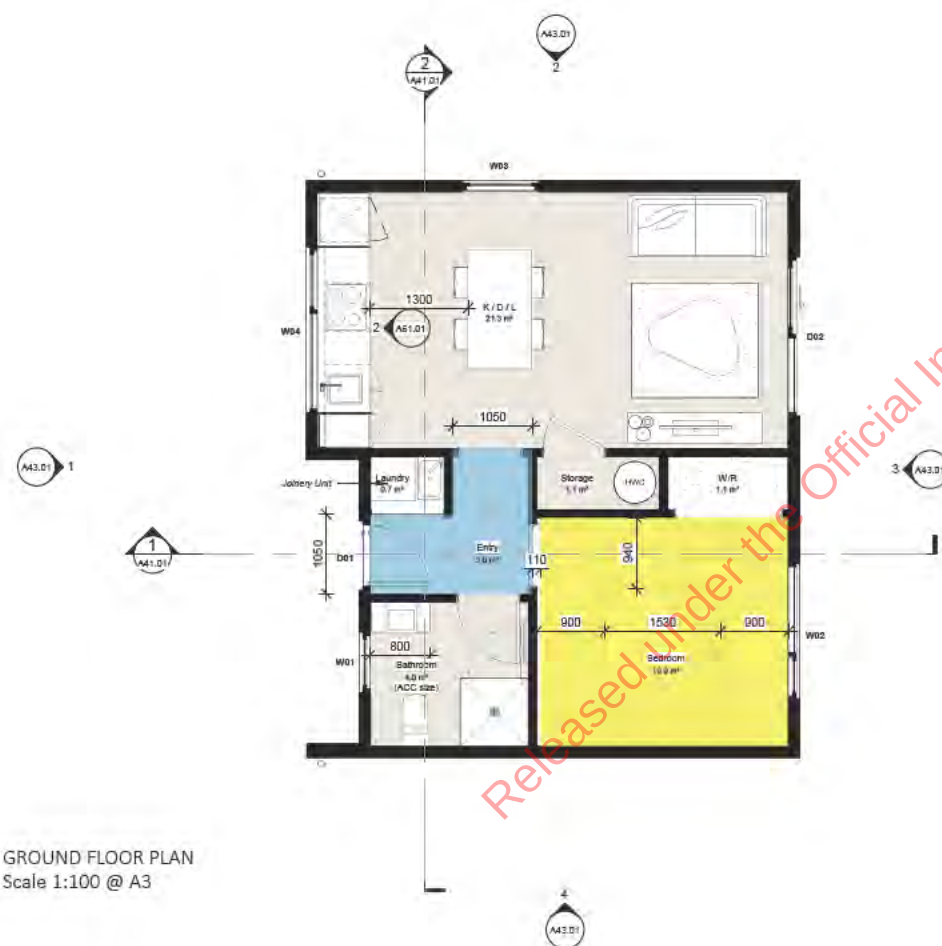
COMPLIANCE:

Yellow = Below min requirements	1L1BSQ Concept
B2.1 Gross Floor Area (All areas based on weatherboard cladding over 20mm cavity. NZIQS definition of GFA used)	Existing Plan: 52.82m ² Minimum: 50m ² Achieved: 47.2m ²
Kitchen / Dining / Living Areas (All areas exclude circulation space e.g. entry, halls, corridors etc...)	Minimum: 27m ² Achieved: 21.3m ²
Bedrooms (All areas exclude wardrobes) Main Bedroom: 10m ² Secondary Bedrooms: 9m ²	Main Bedroom: 10m ²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☒ ☐ ☐
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☐ 1.5m(L) x 0.6m(D) ☐ 2.6m(L) x 0.6m(D) ☒ 0.75m(W) x 0.7m(D) ☒ 0.45m(W) x 0.6m(D) ☒ 1x0.6m(W) ☐ 1.2m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ 0.35m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage (width combined for household and a minimum of 1.2m per wardrobe) Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	W/R = 1.6m x 0.7m (General store incl in this - 0.2m short) Linen = 0.8m x 0.7m HWC = 0.7m x 0.8m
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280mm min. tread. b. No stair winders. c. At least one handrail	910mm entry door - Circulation routes 1000mm - All internal doors reduced from 860mm leaf width to 810mm

ACCESS / EGRESS & CIRCULATION 1L1B

FINAL DESIGN

NGĀ PAEREWA HOAHOA WHARE DESIGN REQUIREMENTS



COMPARISON OF 1000mm vs 1050mm

1. Blue = 1050mm area overlay

Yellow = New area as a result of 1050mm overlay

- Increasing the entry circulation route to 1050mm from 1000mm causes direct impact to the laundry and bedroom. To keep the GFA at 47.2m² there needs to be a compromise to the laundry or the bedroom space.

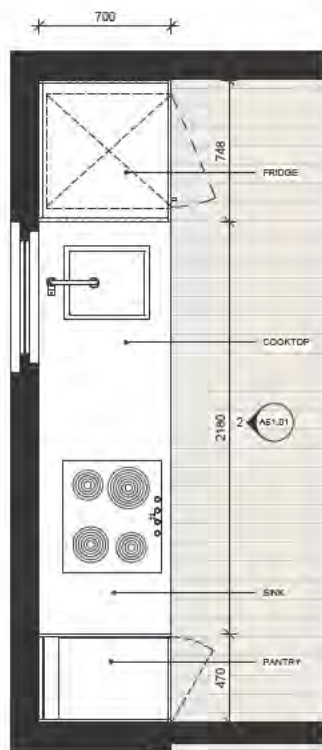
- The laundry or storage falls below the minimum Nga Paerewa Hoahoa Whare design requirements, depending on where the 50mm of area is removed.

- Due to the circulation width increase, the bedroom is also affected with minimum circulation distance around the bed falling below the minimum 900mm requirements.

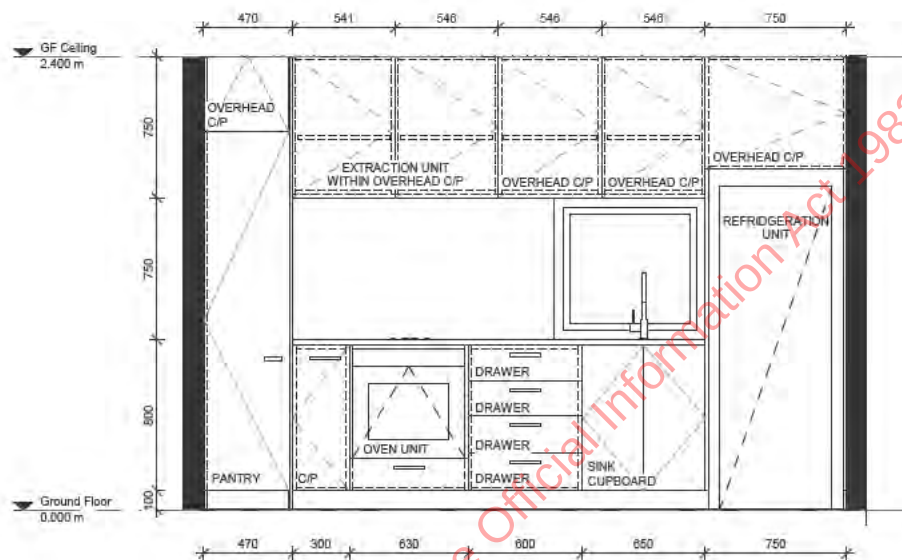
KITCHEN DESIGN

FINAL DESIGN
NGĀ PAEREWA HOAHOA WHARE DESIGN REQUIREMENTS

KITCHEN CONFIGURATION 1L1B



Plan View - Kitchen
Scale 1:40 @ A3



Elevation
Scale 1:40 @ A3

KITCHEN REQUIREMENTS (Nga Paerewa Hoahoa Whare)	Compliance		
	1 - 2 Beds	Proposed Design	Compliance
Wet bench (including sink)	1.5m (L) x 0.6m (D)	1.09m (L) x 0.7m (D)	0.41m below required
Total bench space (not including cooktop)	2.6m (L) x 0.6m (D)	1.58m (L) x 0.7m (D)	1.02m below required
Fridge space	0.75m (L) x 0.7m (D)	0.75m (L) x 0.7m (D)	compliant
Pantry	0.45m (L) x 0.6m (D)	0.45m (L) x 0.7m (D)	compliant
Stove and extract	x1	x1	compliant
Drawer banks	x1 0.6m (W)	0.6m (W)	compliant
Distance between benches	1.2m	N/A	N/A

KITCHEN SUMMARY

The 1L1B has been designed with a 'Line Kitchen' in order to provide maximum spatial efficiency and functionality.

The kitchen complies with pantry and fridge requirements but is undersized with calculating overall bench area. The design contains one drawer bank of 470mm width instead of 600mm.

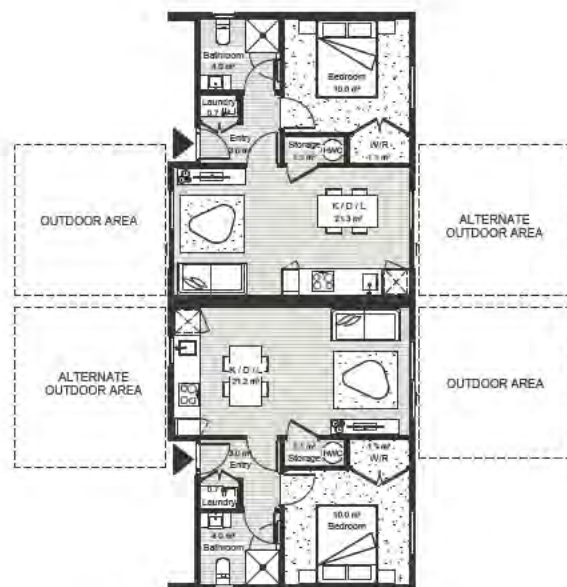
Additional components such as a microwave shelf and overhead cupboards help to maximise storage and utilise all areas of the space making the kitchen as efficient as possible.

CONFIGURATIONS

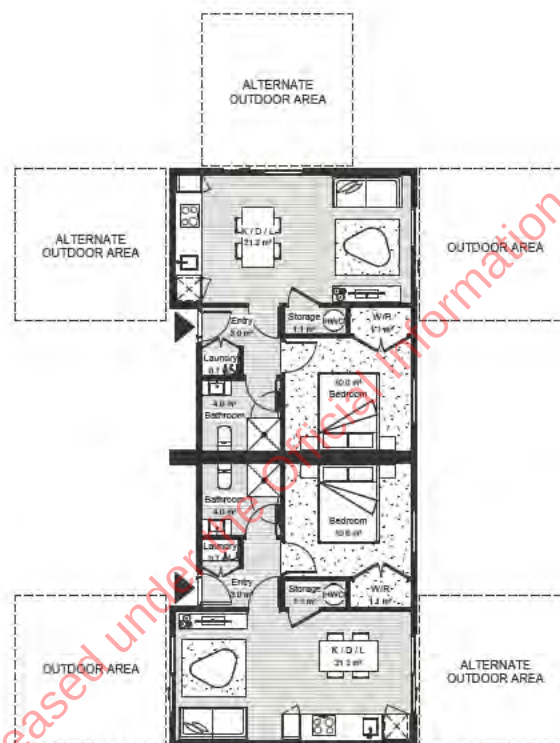
FINAL DESIGN

Typology Configuration, Groupings and Orientation Diagrams

DUPLEX OPTIONS / KDL ORIENTATIONS 1L1B



Duplexed Option 01



Duplexed Option 02

SITE SUMMARY

The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations.

1. The 1L1B floorplan allows outdoor areas to be accessed from two elevations on the dwelling. This increases the flexibility of the design and allows for the buildings to be placed on sites that face the road or have an internal joal and still provide adequately orientated outdoor living.

2. The design can be duplexed with a north loaded outdoor living area or a south loaded outdoor living area room due to the Kitchen / Dining / Living rooms being arranged so they can be mirrored.

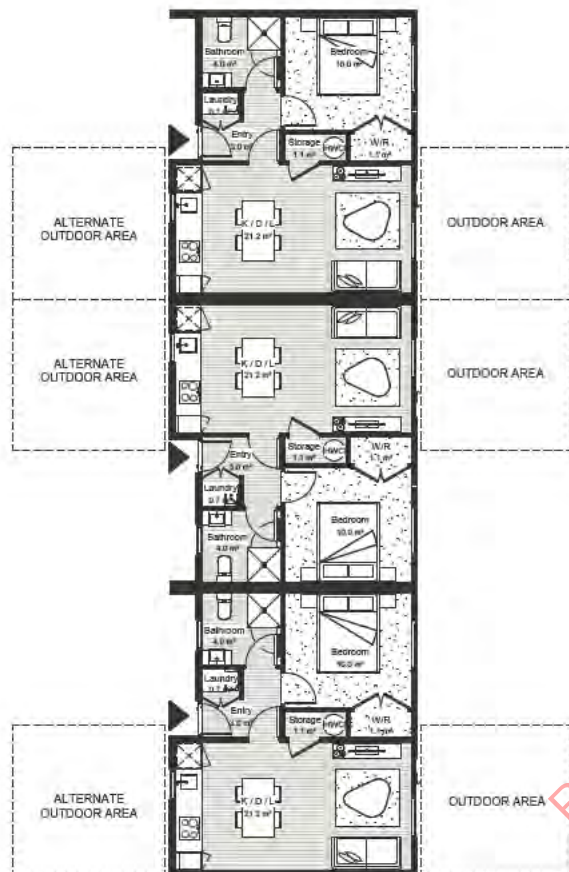
3. The duplexed arrangement can be connected on either the Kitchen / Dining / Living external wall or the Bedroom / Bathroom internal wall.

CONFIGURATIONS

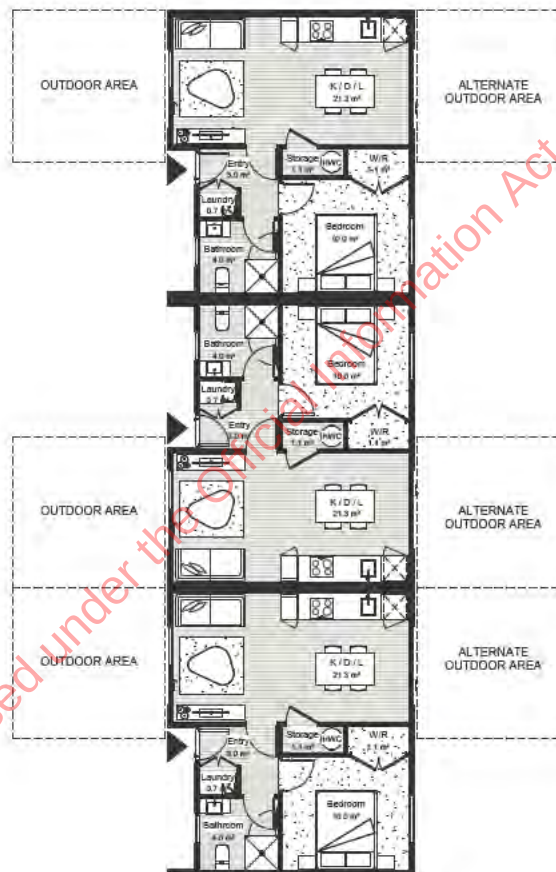
FINAL DESIGN

Typology Configuration, Groupings and Orientation Diagrams

TERRACE OPTIONS / KDL ORIENTATIONS



Terraced Option 01



Terraced Option 02

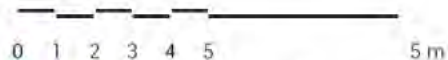
SITE SUMMARY

The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations.

1. The 1L1B floorplan allows outdoor areas to be accessed from two elevations on the end units within the terraced layout. This increases the flexibility of the design and allows for the buildings to be placed on sites that face the road or have an internal joal and still provide adequately orientated outdoor living.

2. The design can be terraced with a north loaded outdoor living area or a south loaded outdoor living area room due to the Kitchen / Dining / Living rooms being arranged so they can be mirrored.

3. The terraced arrangement can be connected on either the Kitchen / Dining / Living external wall or the Bedroom / Bathroom internal wall.





ARTIST IMPRESSION

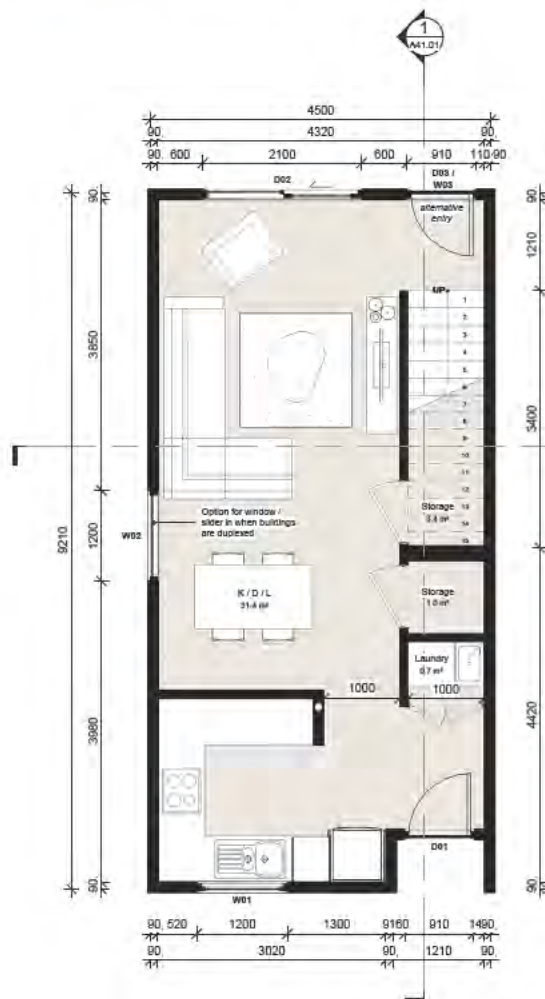
FINAL DESIGN

1L1B Duplex

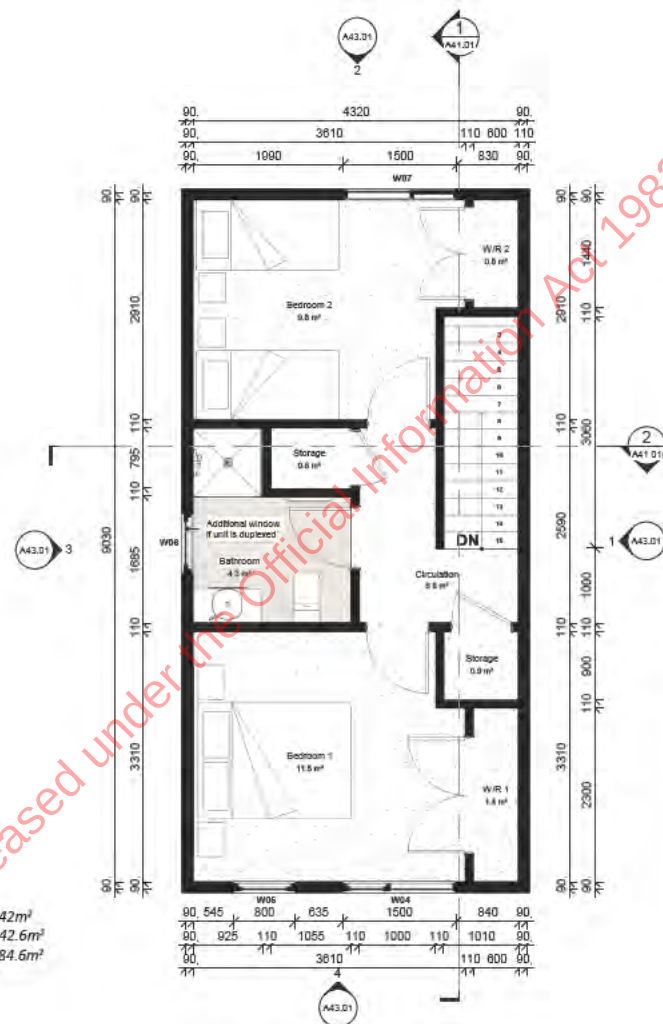


FINAL DESIGN FLOORPLAN

2L2B RC | Standalone Unit



GFA Ground Floor
(staircase counted): 42m²
GFA First Floor: 42.6m²
Total: 84.6m²



SUMMARY OF FINAL DESIGN:

The following adjustments have been made to optimise the 2 level 2 bed rectangular dwelling type (2L2BRC) which now has a GFA of 84.6m²

1. After much consideration and various floorplanning tests a conclusive decision was made to edit the existing B3 floorplan and work to design out any areas that were known to be problematic. Flexibility of design and overall spatial efficiency demonstrating good functionality of a reduced floorplan was a positive that came out of altering the plans overall proportions.

2. The width vs the length of the original B3 plan made the design challenging to fit on a variety of sites. The updated 2L2B RC shows an increase of the width by 300mm and a decrease in length by approximately 500mm. The change in the proportions has allowed for the following:

- A more efficient kitchen that allows for more floor area to the dining space.
- A laundry that is incorporated into the kitchen area keeping the plumbing to one end of the dwelling. This avoids the need to place the laundry below the staircase (which in the existing B3 design has caused problems for tenants).
- Increased wall lengths designed into the floor arrangement to aid in bracing requirements and rule out the need for extra partition walls placed in areas that do not serve any other function than bracing.
- Two points of entry to allow the design to better function in a wider variety of site orientations.
- Ample storage and bedroom/bathroom proportions.

3. Due to the proportions of the existing B3 design, it is common for bracing to be a problematic issue that often requires the addition of portal frames. The change of the proposed 2L2B RC proportions has allowed for additional full height walls to be included to help to reduce the need add additional cost into elements such as portal frames. This has been achieved by utilising the staircase and adding additional horizontal full height elements below the stairwell and into the kitchen if necessary.

- NZS3604:2011 Bracing requirements are achieved for a concrete foundation in all windzones (asides from extra high that will need SED input).
- Bracing requirements are achieved for a subfloor foundation in windzones (asides from very high and extra high and seismic zone 4 that will require SED input).

4. Window and glazing openings have been designed to meet compliance with NZBC G4/AS1 and G7/AS1.

FINAL DESIGN ELEVATIONS

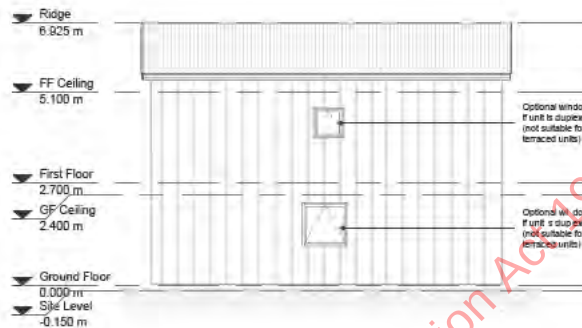
2L2B RC | Standalone Unit



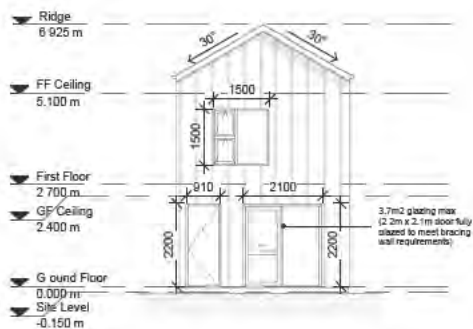
ELEVATION 01

North Elevation		
Risk Matrix		Score
Wind Zone	High	2
Stones	Low	2
Roof / Wall	Medium	1
Eave Width	Very High	5
Complexity	Low	0
Deck Design	Low	0
		10

East Elevation		
Risk Matrix		Score
Wind Zone	High	2
Stones	Low	2
Roof / Wall	Medium	1
Eave Width	Very High	5
Complexity	Low	0
Deck Design	Low	0
		10



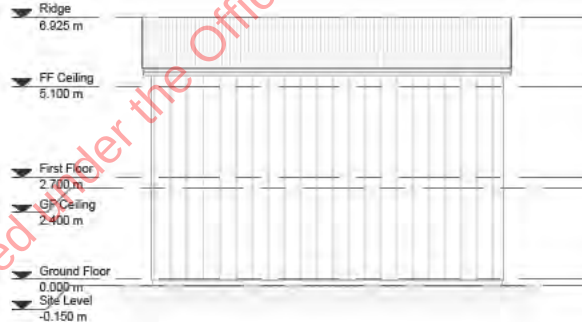
ELEVATION 02



ELEVATION 03

South Elevation		
Risk Matrix		Score
Wind Zone	High	2
Stones	Low	2
Roof / Wall	Medium	1
Eave Width	Very High	5
Complexity	Low	0
Deck Design	Low	0
		10

West Elevation		
Risk Matrix		Score
Wind Zone	High	2
Stones	Low	2
Roof / Wall	Medium	1
Eave Width	Very High	5
Complexity	Low	0
Deck Design	Low	0
		10



ELEVATION 04

NATURAL VENTILATION NZBC G4 COMPLIANCE					
Space	Area m²	G4 - 5%	Actual	% Achieved	Comment
K/D/L	31.6m²	1.58m²	4.9m²	15.5%	
Bedroom 01	11.5m²	0.57m²	0.84m²	7.3%	
Bedroom 02	9.8m²	0.49m²	0.7m²	7.1%	

NATURAL LIGHT NZBC G7 & HOMESTAR V5 COMPLIANCE					
Space	Area m²	G7 - 10%	H/Star V5	Actual	% Achieved
K/D/L	31.6m²	3.10m²	4.74m²	7.5m²	23%
Bedroom 01	11.5m²	1.15m²	1.72m²	1.8m²	16.5%
Bedroom 02	9.8m²	0.98m²	1.47m²	1.8m²	18.3%

BRIEF RESPONSE:

TAPU & NOA

- Sight lines are not direct to W/C location from any bedrooms / living areas or entries.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The dwelling footprint allows split zones; amenities kitchen/ laundry (services space), living/dining (family + gathering space) and bedroom/bathroom (private spaces). This helps with being able to create an entry space (manaakitanga) that allows pause (level change) between public and private spaces.
- The kitchen location has been designed to ensure the space does not act as thoroughfare and allows for ease of movement throughout the home and a defined separation between kitchen and dining area.

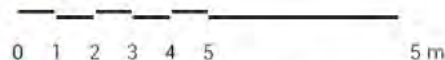
COMPLIANCE WITH AREA REQUIREMENTS

- The K/D/L has been reduced 31.4m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

CIRCULATION SPACE

- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hall ways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

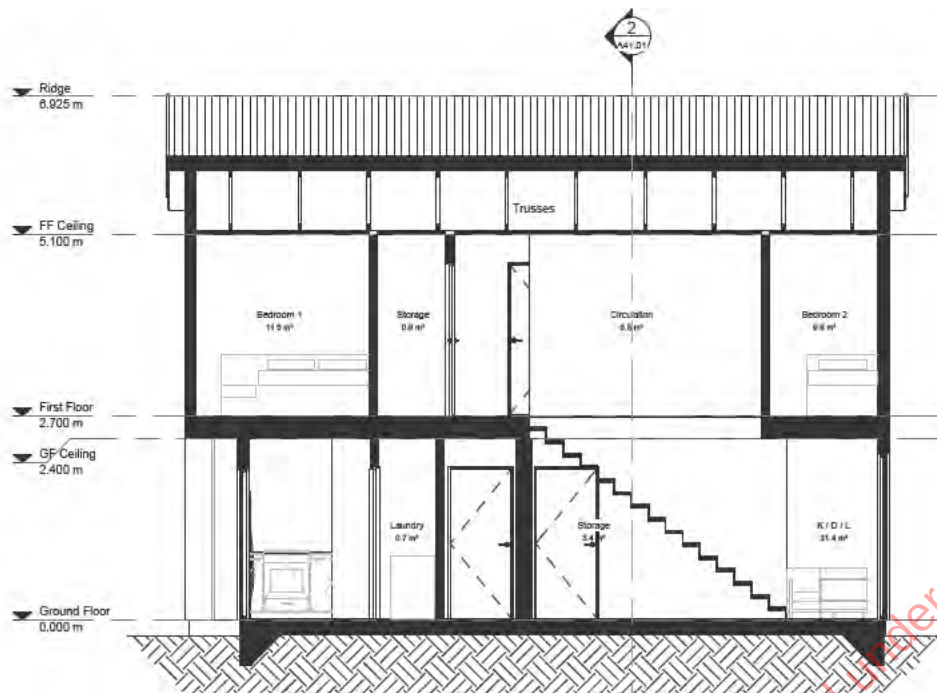
TABLE 2.0 - AREAS TABLE	
For compliance refer to Table 1/2.4.2	
ROOM TYPE	AREA m²
K/D/L	31.4
STORAGE	6.1
LAUNDRY	0.7
BATHROOM	4.3
BEDROOM 1	11.5
BEDROOM 2	9.8



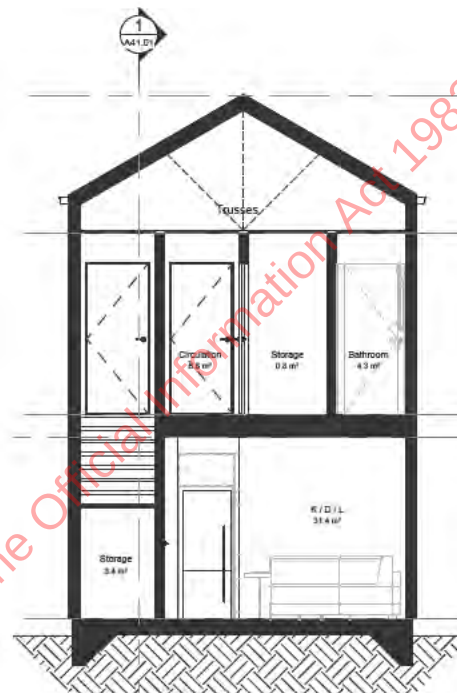
FINAL DESIGN

SECTIONS

2L2B RC | Standalone Unit



PROPOSED SECTION 01
Scale 1:100 @ A3



PROPOSED SECTION 02
Scale 1:100 @ A3

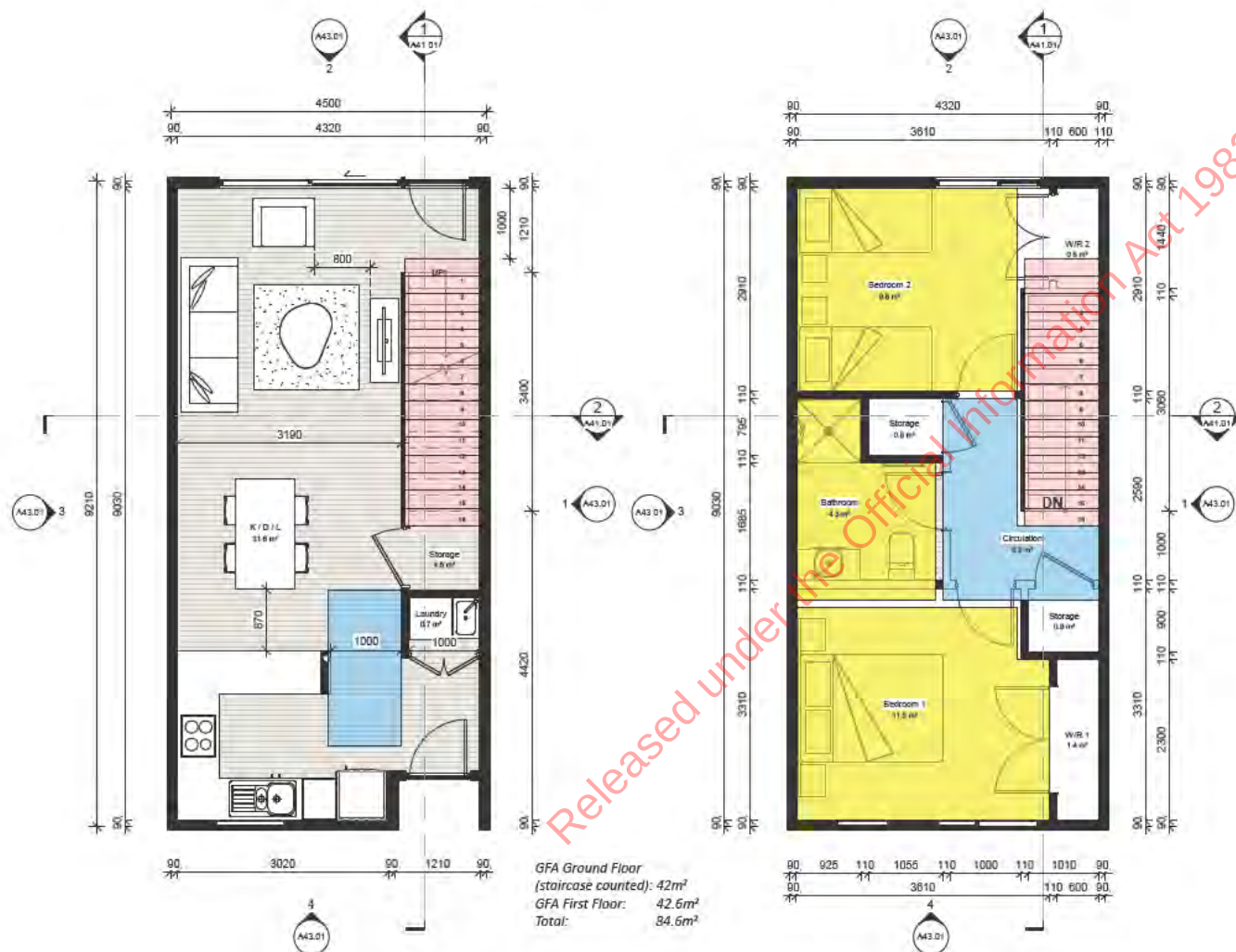
COMPLIANCE:

Yellow = below min requirements	2 2BRC on p
B2.1 Gross Floor Area (All areas based on weatherboard cladding over 20mm cavity. NZIQS definition of GFA used)	E i g Pl 83.05m² M u 82² A e 84.6
Kitchen / Dining / Living Areas (All areas exclude circulation space e.g. entry, halls, corridors etc...)	M u 36² A e 34.4m²
Bedrooms (All areas exclude wardrobes) Main Bedroom: 10m ² Secondary Bedrooms: 9m ²	Main Bedroom: 11.5m² Bedroom 2: 9.8m²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☒ 1.5m(L) x 0.6m(D) ☒ 2.) 0. ☒ 0. x m D) ☒ 0. x m D) ☒ 1x ☐ 1.
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ 0. ☒ 0. x m D) ☒ 0. x D)
B2.4 Storage (width combined for household and a minimum of 1.2m per wardrobe) Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	W/R1 = 1.2m x 0.6m W/R2 = 1.36m x 0.6m Linen = 7.3m² of storage (general + linen) HWC = 0.7m x 0.8m General Store = 7.3m² of storage (general + linen)
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280mm tread. b. No stair winders. c. At least one handrail	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm

ACCESS / EGRESS & CIRCULATION

FINAL DESIGN

NGĀ PAERewa HOAHOA WHARE DESIGN REQUIREMENTS



COMPARISON OF 1000mm vs 1050mm

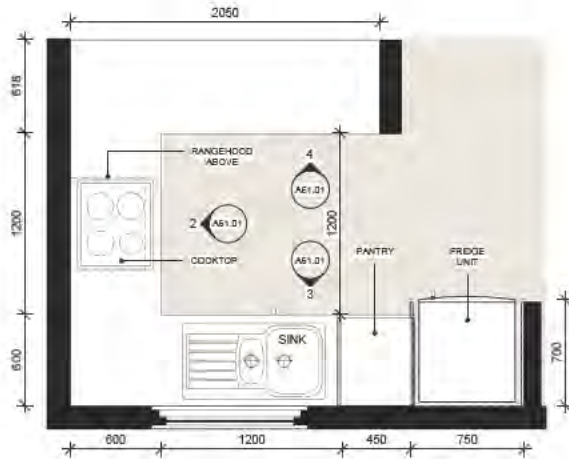
1. Blue = 1050mm area overlay
Pink = 1050mm area overlay and stair increased to a compliant main private stairwell
Yellow = New area as a result of 1050mm overlay

- Increasing the stair width and tread depth causes the entry to reduce down from 1200mm to 1000mm (causing a non-compliance with Nga Paerewa Hoahoa Whare Designs Requirements).
- The kitchen needs to reduce by 50mm opposite the laundry to allow for 1050mm clear circulation.
- Increasing the stair width and tread depth causes the first floor landing to reduce down by 275mm.
- The upstairs circulation and stair length and depth increase reduces the bathroom width by 210mm and bedroom depth by 275mm.

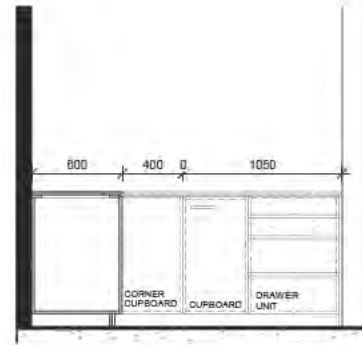
KITCHEN DESIGN

FINAL DESIGN
NGĀ PAEREWA HOAHOA WHARE DESIGN REQUIREMENTS

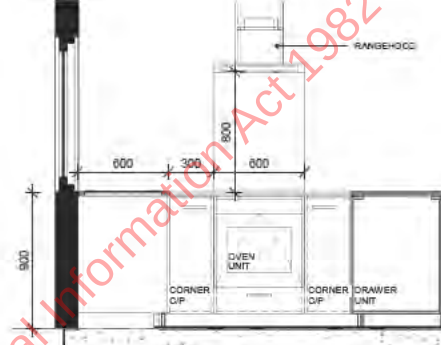
KITCHEN CONFIGURATION 2L2B RC



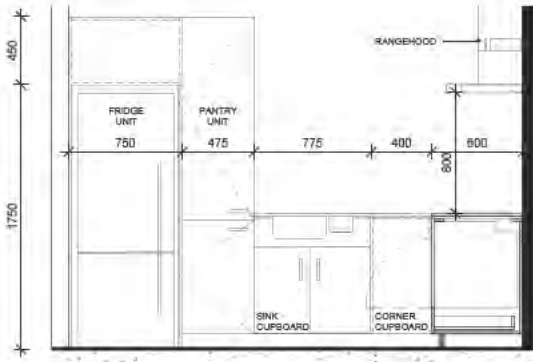
Plan View - Kitchen
Scale 1:40 @ A3



Elevation 04
Scale 1:40 @ A3



Elevation 02
Scale 1:40 @ A3



Elevation 03
Scale 1:40 @ A3

KITCHEN REQUIREMENTS (Nga Paerewa Hoahoa Whare)	Released under the Official Information Act 1982		
	1 - 2 Beds	Proposed Design	Compliance
Wet bench (including sink)	1.5m (L) x 0.6m (D)	1.95m (L) x 0.6m (D)	compliant
Total bench space (not including cooktop)	2.8m (L) x 0.6m (D)	4.3m (L) x 0.6m (D)	compliant
Fridge space	0.75m (L) x 0.7m (D)	0.75m (L) x 0.7m (D)	compliant
Pantry	0.45m (L) x 0.6m (D)	0.45m (L) x 0.6m (D)	compliant
Stove and extract	x1	x1	compliant
Drawer banks	x1 0.6m (W)	1x 0.6m (W)	compliant
Distance between benches	1.2m	1.2m	compliant

KITCHEN SUMMARY

The 2L2B RC has been designed with a 'U shaped kitchen' in order to provide maximum spatial efficiency and functionality to the floorplan. The 'U shape' allows for an additional wall to be incorporated to the end of the unit to allow for plumbing conduits and an extra wall to the length of the bench if additional bracing is needed.

The kitchen complies with all Nga Paerewa Hoahoa Whare Design Requirements.

Overall bench space exceeds the required minimums, allowing additional space for a microwave or other small appliances to sit on the benchtop.

If required to reduce bench space the kitchen could be altered to resemble a 'Galley shape' with the cooktop being moved to the main internal bench area.

CONFIGURATIONS FINAL DESIGN

Typology Configuration, Groupings and Orientation Diagrams

DUPLEX OPTIONS / TERRACE OPTIONS 2L2B RC

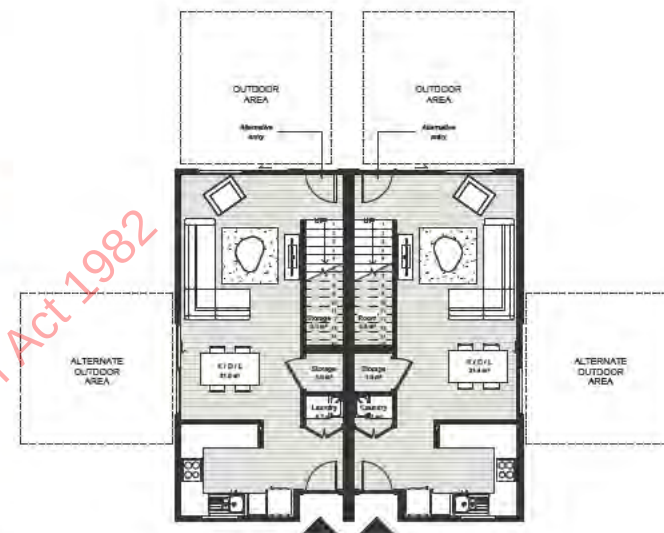
SITE SUMMARY

The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations. This plan has not been designed to be built as a standalone structure.

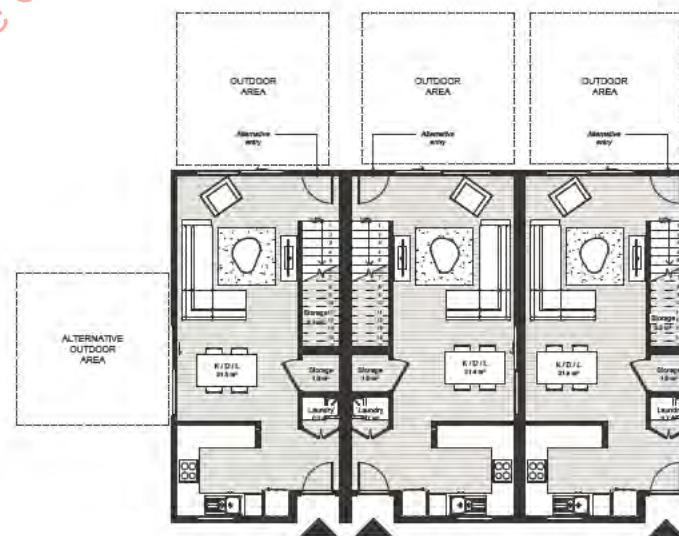
1. The 2L2B RC dwelling can be connected on either the stairwell wall or the Kitchen / Dining / Living room wall allowing the plans to be duplexed or terraced.
2. Dependent on site orientation the plan can accommodate a north or south loaded entry. Preferential entry would be from the kitchen elevation as it incorporates built in weather protection. If the entry is to be located from the living room elevation there would need to be an element of weather protection introduced.
3. The stairwell wall remains to be the most ideal wall to duplex the 2L2BRC plan. This allows for an outdoor area directly off of the living room area in two locations- to the end of the building or to the side.



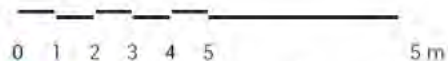
Duplex Option 01



Duplex Option 02



Terraced Option





ARTIST IMPRESSION

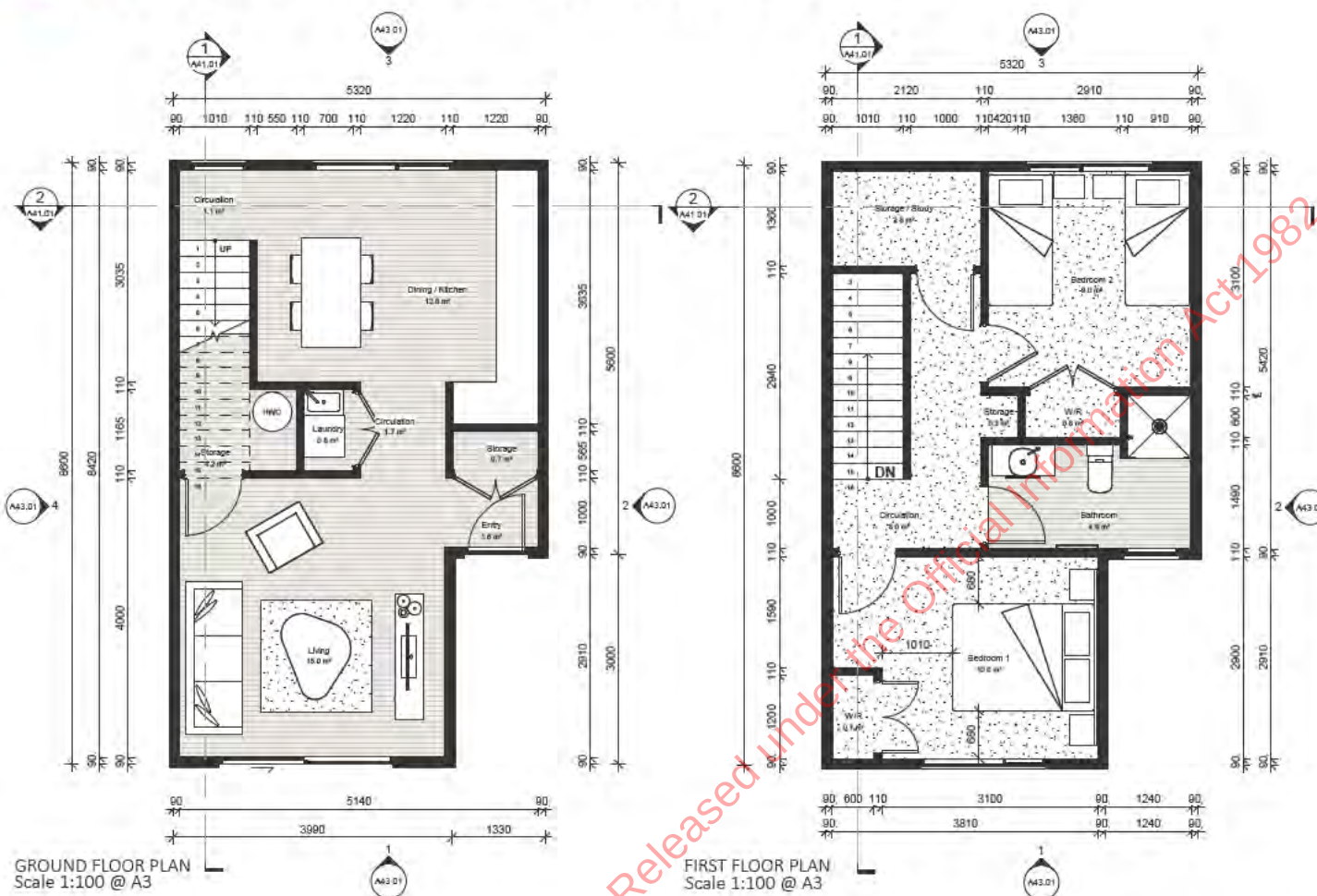
FINAL DESIGN

2L2B RC | Concept 01 | Terraced Option



2 LEVEL 2 BED RECTANGLE

CONCEPT 01



OUR DESIGN RESPONSE:

- The following adjustments have been made to optimise the two level two bed dwelling type:

1. GFA.

The GFA of the design has been reduced to 82.1m². The rationale for minimising the GFA is to create a design this is as compact and user-friendly as possible, eliminating any unnecessary space and excess cost. Existing Type B GFA: 82.4m²

2. Duplex / Terraceable

The design is versatile; it can operate as part of a duplex setup, or be incorporated into a terrace layout. Further design consideration could see the design be used as a standalone independent structure.

3. Stepped Facade

The stepped facade allows for a narrow terrace that has adequate natural light to all rooms including the bathroom.

4. K/D/L Layout

The flippable interior living space has been designed so the dwelling can better respond to site constraints.

6. Storage

The design exceeds minimum storage requirements. Extra sqm on the first floor has allowed for another separate storage area that could be a study / multi-use space.

6. Bracing

By separating the K/D/L this has increased the bracing walls on the GF.

NATURAL VENTILATION NZBC G4 COMPLIANCE

Space	Area m ²	G4 - 5%	Actual	% Achieved	Comment
K/D/L	28.7m ²	1.43m ²	3m ²	10.4%	
Bedroom 1	9.5m ²	0.47m ²	0.81m ²	8.4%	
Bedroom 2	9m ²	0.45m ²	0.54m ²	8%	

NATURAL LIGHT NZBC G7 & HOMESTAR V5 COMPLIANCE

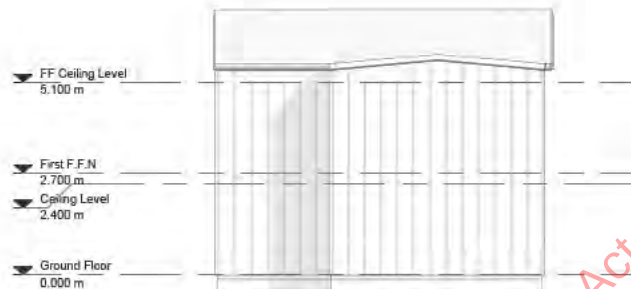
Space	Area m ²	G7 - 10%	H/Star V5	Actual	% Achieved
K/D/L	28.7m ²	2.87m ²	4.3m ²	7.6m ²	26.4%
Bedroom 1	9.5m ²	0.95m ²	1.42m ²	2.5m ²	26.3%
Bedroom 2	9m ²	0.9m ²	1.35m ²	1.49m ²	16.5%

2 LEVEL 2 BED RECTANGLE

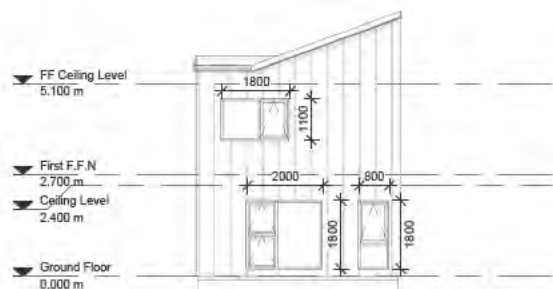
CONCEPT 01



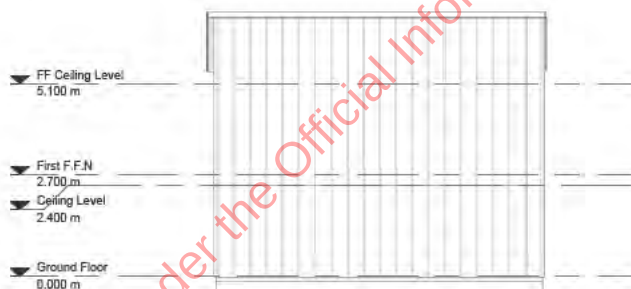
ELEVATION 01



ELEVATION 02



ELEVATION 03



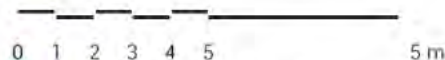
ELEVATION 04



DUPLEX ELEVATION 01



DUPLEX ELEVATION 02



BRIEF RESPONSE:

TAPU & NOA

- No direct sight lines from W/C, bathroom and laundry areas to semi-private zones.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The design has a dedicated entry space (manaakitanga) that allows pause between public and private spaces.
- The kitchen location has been designed to ensure the space does not act as thoroughfare and allows for ease of movement throughout the home.
- The bathroom is not directly stacked over the K/D/L.

COMPLIANCE WITH AREA REQUIREMENTS

- The GFA has been reduced to 82.1m²
- The K/D/L has been further reduced to 28.7m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

CIRCULATION SPACE

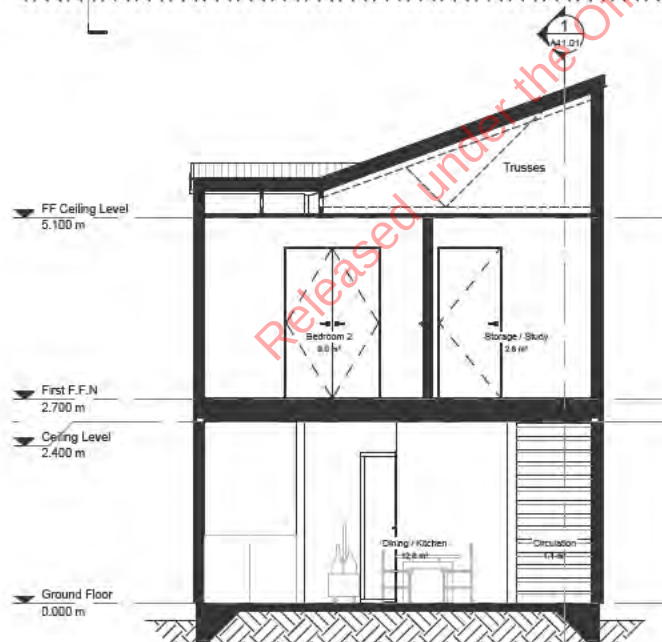
- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

TABLE 10: AREA TABLE	
For compliance refer to Table B.1.1	
ROOM TYPE	AREA (m ²)
K/D/L	28.7
STORAGE	7.3
LAUNDRY	0.8
BATHROOM	4.9
BEDROOM 1	10
BEDROOM 2	9

2 LEVEL 2 BED RECTANGLE CONCEPT 01



SECTION 01
Scale 1:100 @ A3



SECTION 02
Scale 1:100 @ A3

COMPLIANCE:

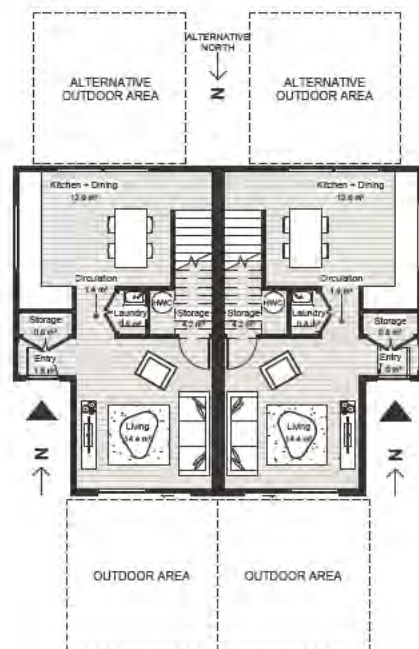
Yellow = below min requirements	2L2BRC Concept 1
B2.1 Gross Floor Area <i>(All areas based on weatherboard cladding over 20mm cavity as per NZIQS guidelines unless marked with †)</i>	Existing Plan: 83.05m² Minimum: 82m² Achieved: †82.1m²
Kitchen / Dining / Living Areas <i>(All areas exclude circulation space e.g. entry, halls, corridors etc...)</i>	Minimum: 36m² Achieved: †28.7m²
Bedrooms <i>(All areas exclude wardrobes)</i> Main Bedroom: 10m² Secondary Bedrooms: 9m²	Main Bedroom: 9.5m² Bedroom 2: 9m²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☒ ☐ ☐
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☒ 1.5m(L) x 0.6m(D) ☒ 2.6m(L) x 0.6m(D) ☒ 0.75m(W) x 0.7m(D) ☒ 0.45m(W) x 0.6m(D) ☒ 1x0.6m(W) ☐ 1.2m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ 0.35m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage <i>(width combined for household and a minimum of 1.2m per wardrobe)</i> Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	W/R1 = 1.2m x 0.6m W/R2 = 1.36m x 0.6m Linen = 7.3m² of storage (general + linen) HWC = 0.7m x 0.8m General Store = 7.3m² of storage (general + linen)
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280 min. tread. b. No stair winders. c. At least one handrail	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm

CONFIGURATIONS

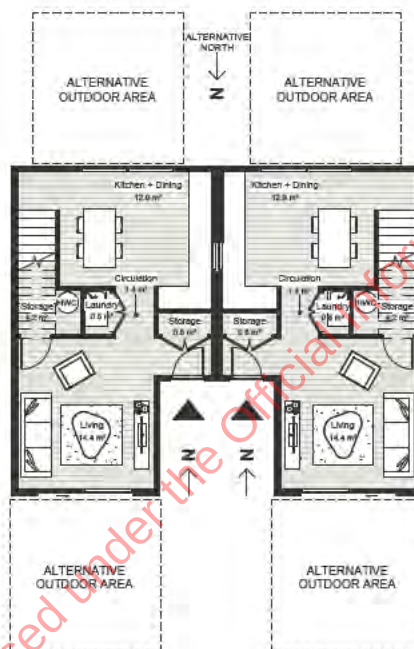
CONCEPT 01

Typology Configuration, Groupings and Orientation Diagrams

DUPLEX OPTIONS / KDL ORIENTATIONS 2L2B RC



Duplex Option 01



Duplex Option 02

SITE SUMMARY

The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations.

1. The 2L2B RC Concept 01 dwelling can be connected on either the stairwell wall or the Kitchen room wall allowing the plans to be duplexed or terraced.

2. Dependent on site orientation the plan can mirror so that the living room switches into the kitchen/dining space and vice versa. This makes the plans very versatile for various sites and orientations.

3. The design can be duplexed with a north loaded outdoor living area or a south loaded outdoor living area room due to the Kitchen / Dining / Living rooms being arranged so they can be mirrored.

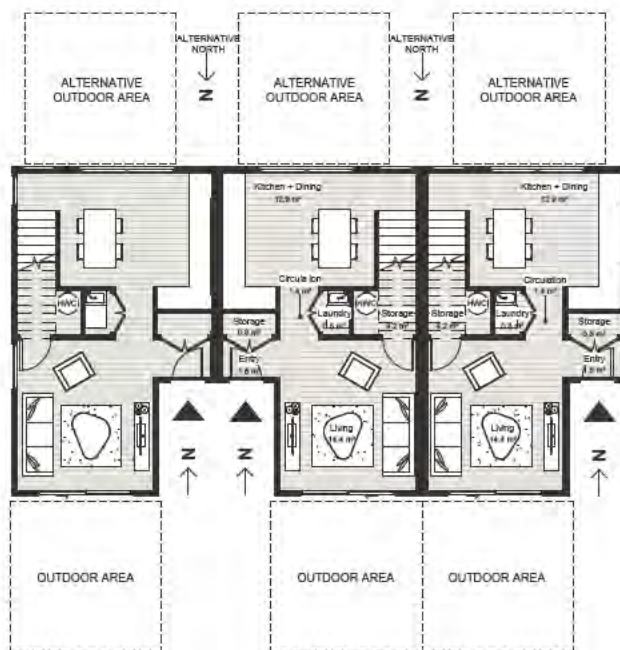
0 1 2 3 4 5 5 m

CONFIGURATIONS

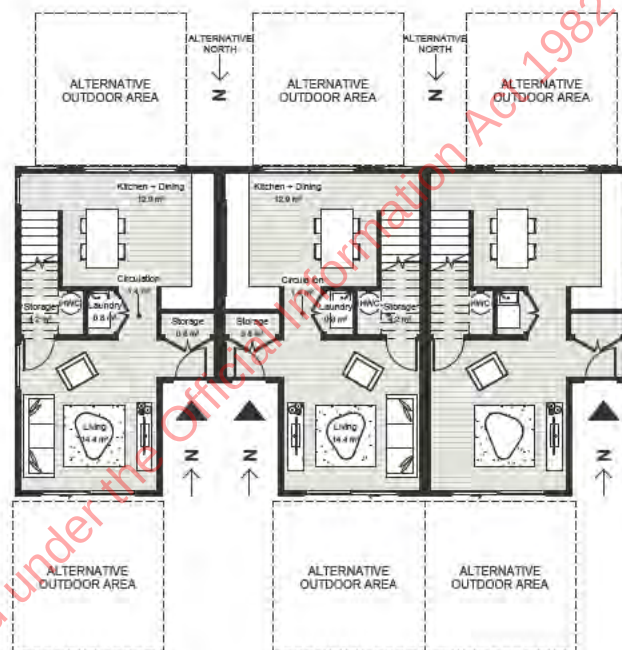
CONCEPT 01

Typology Configuration, Groupings and Orientation Diagrams

TERRACE OPTIONS 2L2B RC



Terraced Option 01



Terraced Option 02

SITE SUMMARY

The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations.

1. The 2L2B RC Concept 01 dwelling can be connected on either the stairwell wall or the Kitchen room wall allowing the plans to be duplexed or terraced.
2. Dependent on site orientation the plan can mirror so that the living room switches into the kitchen/dining space and vice versa. This makes the plans very versatile for various sites and orientations.
3. The design can be duplexed with a north loaded outdoor living area or a south loaded outdoor living area room due to the Kitchen / Dining / Living rooms being arranged so they can be mirrored.

ARTIST IMPRESSION

CONCEPT 01

2L2B RC | Concept 01 | Terraced Option



ARTIST IMPRESSION

CONCEPT 01

2L2B RC | Concept 01 | Terraced Option

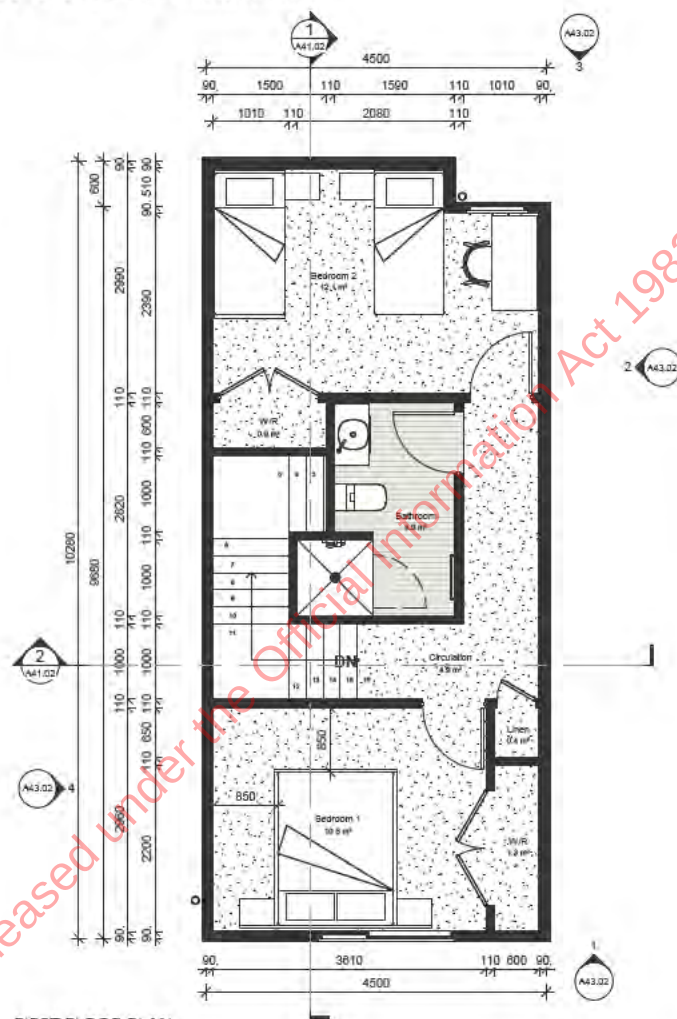


2 LEVEL 2 BED RECTANGLE

CONCEPT 02



GROUND FLOOR PLAN
Scale 1:100 @ A3



FIRST FLOOR PLAN
Scale 1:100 @ A3

NATURAL VENTILATION NZBC G4 COMPLIANCE					
Space	Area m²	G4 - 5%	Actual	% Achieved	Comment
K/D/L	28.8m²	1.44m²	1.92m²	6.6%	
Bedroom 1	10.8m²	0.53m²	1.68m²	15.8%	
Bedroom 2	12.1m²	0.6m²	1.81m²	14.9%	

NATURAL LIGHT NZBC G7 & HOMESTAR V5 COMPLIANCE					
Space	Area m²	G7 - 10%	H/Star V5	Actual	% Achieved
K/D/L	28.8m²	2.88m²	4.32m²	4.8m²	16.6%
Bedroom 1	10.8m²	1.08m²	1.59m²	2.5m²	23.5%
Bedroom 2	12.1m²	1.21m²	1.81m²	1.3m²	10.7%

OUR DESIGN RESPONSE:

- The following adjustments have been made to optimise the two level two bed dwelling type:

1. GFA.

The GFA of the design has been increased to 84.3m². The rationale for slightly increasing the GFA was to add in additional flexibility to the floorplan that had been previously problematic with the existing design. Existing Type B GFA: 82.4m²

2. Duplex / Terraceable

The design is versatile; it can operate as part of a duplex setup, or be incorporated into a terraceable layout. Further design consideration could allow for an independent structure.

3. In-built Weather Protection

The entrance has been relocated under the existing roofline, which serves as a weather shield. This eliminates the necessity for an additional canopy.

The stepped front facade provides a sense of entry, with the front door being clearly identifiable. The first floor provides additional weather protection to external slider off of the living room.

4. Bracing

Additional walls on the ground floor aim to provide more bracing options to the dwelling and avoid the need for portals which are commonly used in the existing B plan.

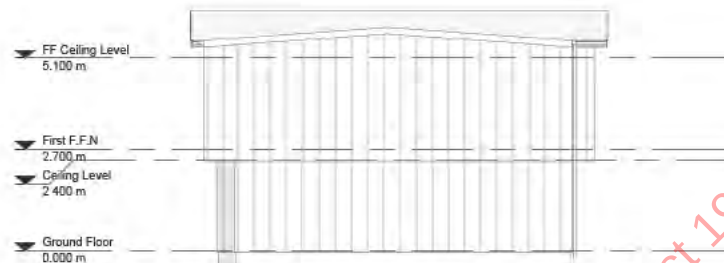
5. Storage Cupboard

The design exceeds storage requirements with an extra linen cupboard on the first floor and understair storage and an entry cupboard on the ground floor.

2 LEVEL 2 BED RECTANGLE CONCEPT 02



ELEVATION 01



ELEVATION 02



ELEVATION 03



ELEVATION 04



DUPLEX ELEVATION 01

0 1 2 3 4 5 5 m

BRIEF RESPONSE:

TAPU & NOA

- No direct sight lines from W/C, bathroom and laundry areas to semi-private zones.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The design has a dedicated covered entry space and entry cupboard (manaakitanga) that allows pause between public and private spaces.
- The kitchen location has been designed to ensure the circulation is wide enough to not act as thoroughfare and allows for ease of movement throughout the home.

COMPLIANCE WITH AREA REQUIREMENTS

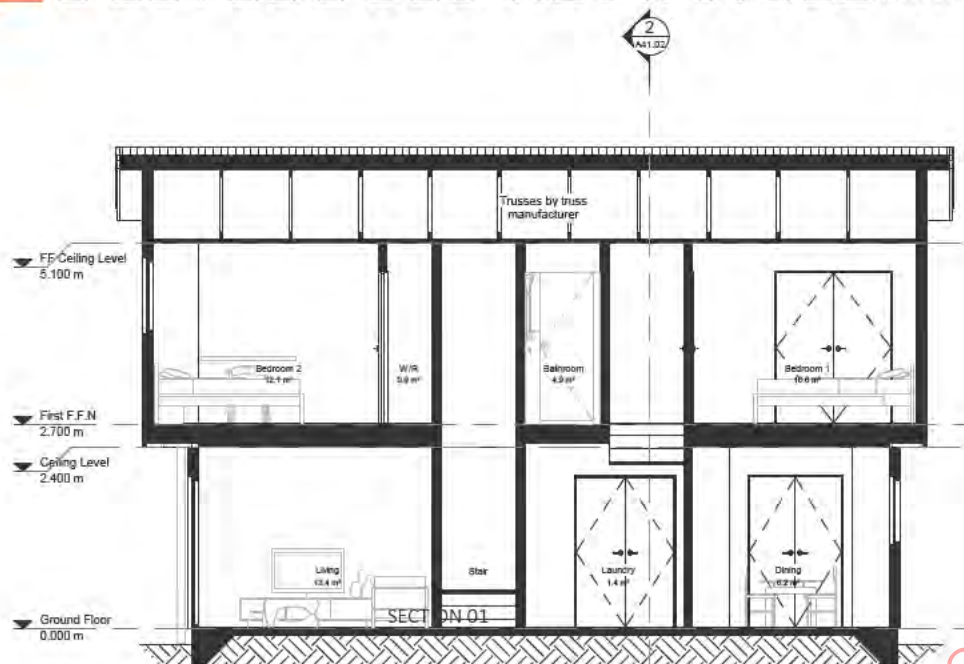
- The GFA has increased to 84.3m² but meets min requirements
- The K/D/L has been reduced to 28.8m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

CIRCULATION SPACE

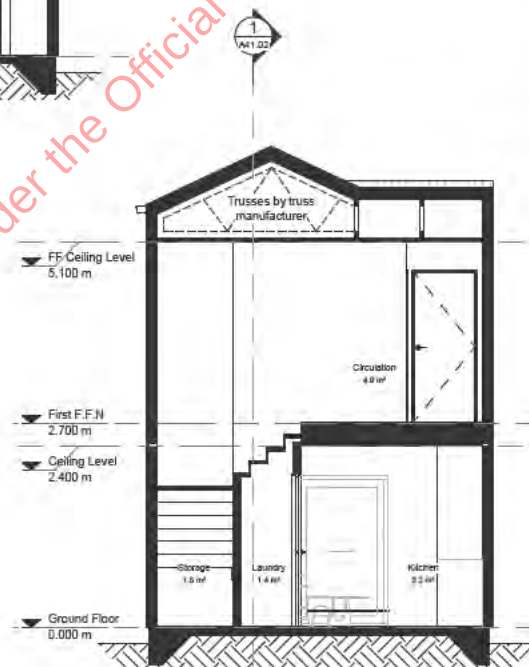
- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

TABLE 1.11 AREA TABLE For compliance with the TELLING 1-2	
ROOM TYPE	AREA m ²
K/D/L	28.8
STORAGE	3.1
LAUNDRY	1.4
BATHROOM	4.9
BEDROOM 1	10.6
BEDROOM 2	12.1

2 LEVEL 2 BED RECTANGLE CONCEPT 02



SECTION 01
Scale 1:100 @ A3



SECTION 02
Scale 1:100 @ A3

COMPLIANCE:

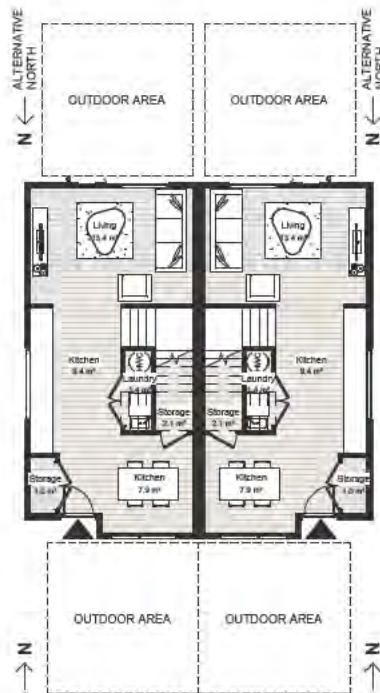
Yellow = below min requirements	2L2BRC Concept 2
B2.1 Gross Floor Area <i>(All areas based on weatherboard cladding over 20mm cavity as per NZIQS guidelines unless marked with ⚠)</i>	Existing Plan: 82.4m² Minimum: 82m² Achieved: ⚠84.3m²
Kitchen / Dining / Living Areas <i>(All areas exclude circulation space e.g. entry, halls, corridors etc...)</i>	Minimum: 36m² Achieved: ⚠28.8m²
Bedrooms <i>(All areas exclude wardrobes)</i> Main Bedroom: 10m² Secondary Bedrooms: 9m²	Main Bedroom: 12.1m² Bedroom 2: 10.6m²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☒ ☐ ☐
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☒ 1.5m(L) x 0.6m(D) ☒ 2.6m(L) x 0.6m(D) ☒ 0.75m(W) x 0.7m(D) ☒ 0.45m(W) x 0.6m(D) ☒ 1x0.6m(W) ☐ 1.2m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ 0.35m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage <i>(width combined for household and a minimum of 1.2m per wardrobe)</i> Wardrobe Linen HWC General Storage	W/R1 = 2.19m x 0.6m W/R2 = 1.5m x 0.6m Linen = 3.1m² of storage (general + linen) HWC = 0.7m x 0.8m General Store = 7.3m² of storage (general + linen)
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280 min tread. b. No stair winders. c. At least one handrail	910mm entry door ⚠ Circulation routes 1000mm ⚠ Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm

CONFIGURATIONS

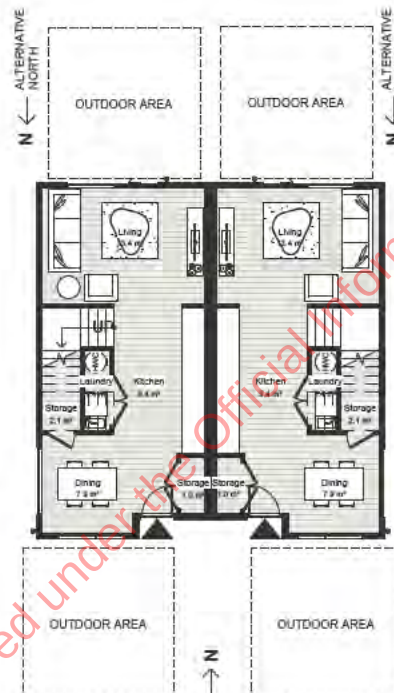
CONCEPT 02

Typology Configuration, Groupings and Orientation Diagrams

DUPLEX OPTION



Duplexed Option 01

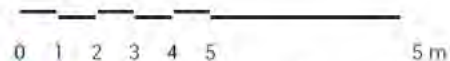


Duplexed Option 02

SITE SUMMARY

The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations.

1. The 2L2B RC Concept 02 dwelling can be connected on either the stairwell wall or the Kitchen / Entry / Living room wall allowing the plans to be duplexed or terraced.
2. The design can be duplexed with a north loaded outdoor living area or a south loaded outdoor living area room due to the Kitchen / Dining / Living rooms being arranged so they can be mirrored.
3. There is the possibility to add an entry to the opposite end of the dwelling to open up more options in terms of orientation outcomes for different sites.



CONFIGURATIONS

CONCEPT 02
Typology Configuration, Groupings and Orientation Diagrams



Terraced Option 01



Terraced Option 02

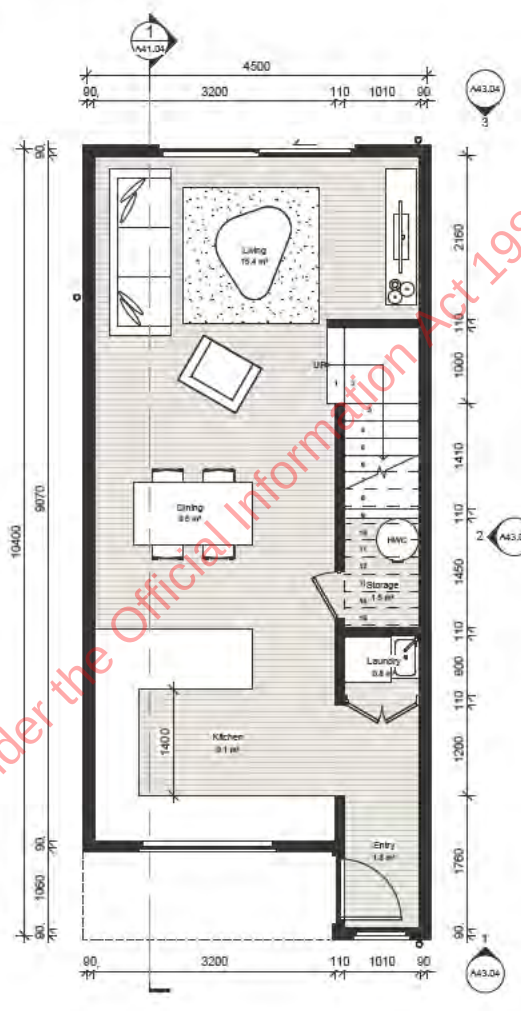
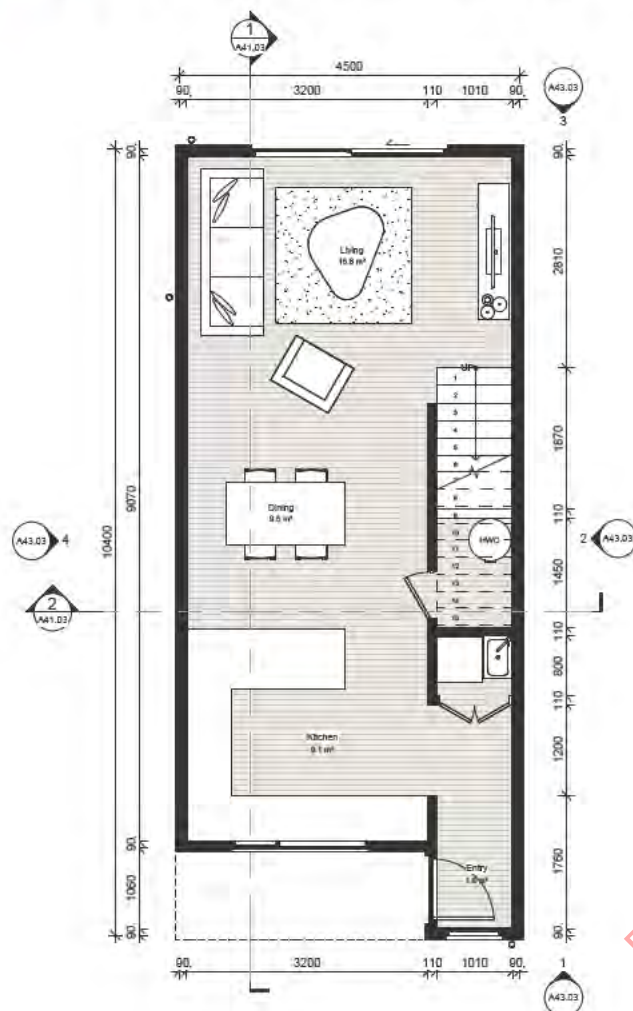
SITE SUMMARY

The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations.

1. The 2L2B RC Concept 02 dwelling can be connected on either the stairwell wall or the Kitchen / Entry / Living room wall allowing the plans to be duplexed or terraced.
2. The design can be duplexed with a north loaded outdoor living area or a south loaded outdoor living area room due to the Kitchen / Dining / Living rooms being arranged so they can be mirrored.
3. There is the possibility to add an entry to the opposite end of the dwelling to open up more options in terms of orientation outcomes for different sites.

0 1 2 3 4 5 5 m

2 LEVEL 2 BED RECTANGLE CONCEPT 03



OUR DESIGN RESPONSE:

- The following adjustments have been made to optimise the two level two bed dwelling type:

1. GFA.

The GFA of the design is 80.3m².

The GFA of the alternative design is 89.7m².

The rationale for minimising the GFA is to create a design this is as compact and user-friendly as possible, eliminating any unnecessary space and excess cost.

2. Duplex / Terraceable

The design is versatile; it can be part of a duplex setup, or be incorporated into a terrace layout.

3. In-built Weather Protection

The entrance has been relocated under the existing roofline, which serves as a weather shield. This eliminates the necessity for an additional canopy.

The stepped front facade provides a sense of entry, with the front door being clearly identifiable. The side entry allows for varied layouts/orientations to roads.

4. Storage Cupboard

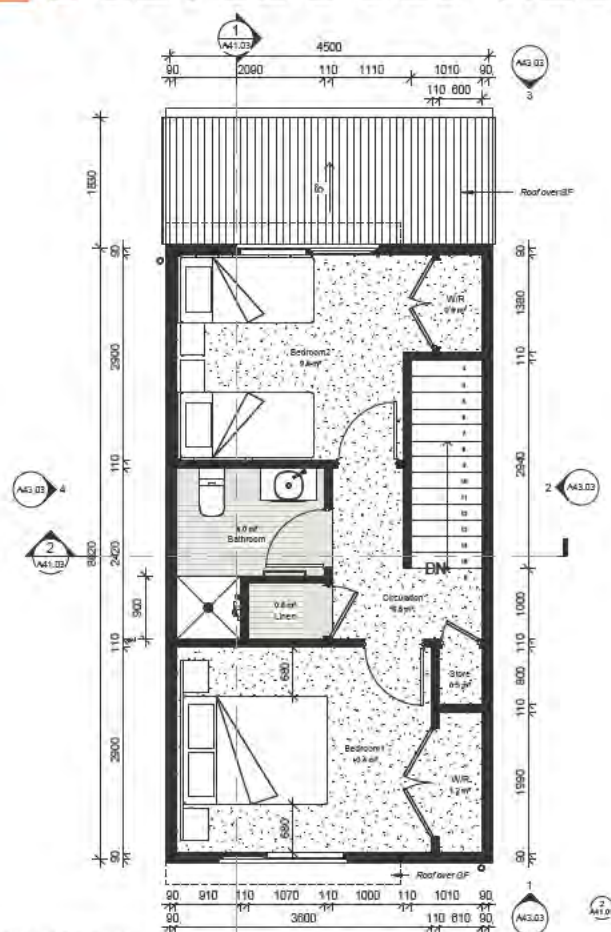
The design has exceeded the storage requirements with under-stair storage and an additional linen cupboard on the first floor.

Further Considerations:

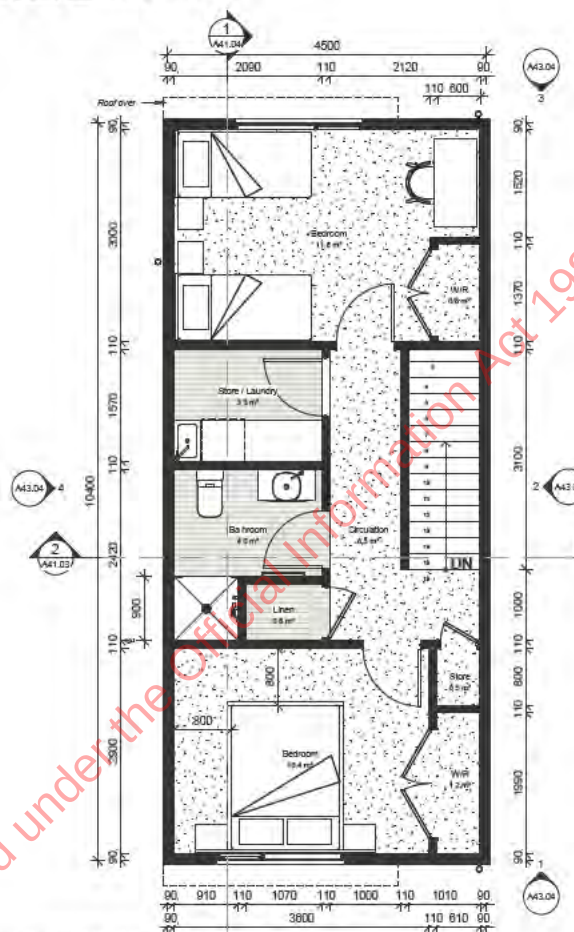
- Additional consideration needs to ground floor bracing needs to be investigated.
- Assessment of the first floor layout in comparison to the alternative first floor layout needs to be undertaken to determine which option would be more cost effective (ie a half roof structure or more square meterage).

2 LEVEL 2 BED RECTANGLE

CONCEPT 03



FIRST FLOOR PLAN
Scale 1:100 @ A3



FIRST FLOOR PLAN- ALTERNATE
Scale 1:100 @ A3

NATURAL VENTILATION NZBC G4 COMPLIANCE					
Space	Area m²	G4 - 5%	Actual	% Achieved	Comment
K/D/L	34.2m²	1.71m²	2.4m²	7%	
Bedroom 1	10.4m²	0.52m²	0.68m²	6.5%	
Bedroom 2	9.8m²	0.49m²	0.66m²	6.7%	

NATURAL LIGHT NZBC G7 & HOMESTAR V5 COMPLIANCE					
Space	Area m²	G7 - 10%	H/Star V5	Actual	% Achieved
K/D/L	34.2m²	3.42m²	5.13m²	5.8m²	18.9%
Bedroom 1	10.4m²	1.04m²	1.56m²	2.5m²	24%
Bedroom 2	9.8m²	0.98m²	1.47m²	1.5m²	15.3%

OUR DESIGN RESPONSE:

- The following adjustments have been made to optimise the two level two bed dwelling type:

1. GFA.

The GFA of the design is 80.3m²

The GFA of the alternative design is 89.7m²

The rationale for minimising the GFA is to create a design this is as compact and user-friendly as possible, eliminating any unnecessary space and excess cost.

2. Duplex / Terraceable

The design is versatile; it can be part of a duplex setup, or be incorporated into a terrace layout.

3. In-built Weather Protection

The entrance has been relocated under the existing roofline, which serves as a weather shield. This eliminates the necessity for an additional canopy.

The stepped front facade provides a sense of entry, with the front door being clearly identifiable. The side entry allows for varied layouts/orientations to roads.

4. Storage Cupboard

The design has exceeded the storage requirements with under-stair storage and an additional linen cupboard on the first floor.

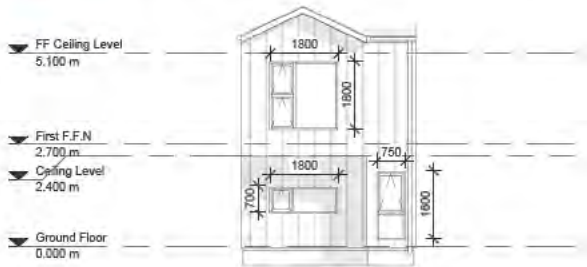
Further Considerations:

- Additional consideration needs to ground floor bracing needs to be investigated.
- Assessment of the first floor layout in comparison to the alternative first floor layout needs to be undertaken to determine which option would be more cost effective (ie a half roof structure or more square meterage).

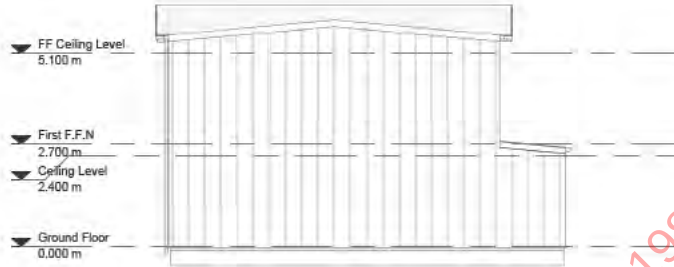
0 1 2 3 4 5 5m

2 LEVEL 2 BED RECTANGLE

CONCEPT 03



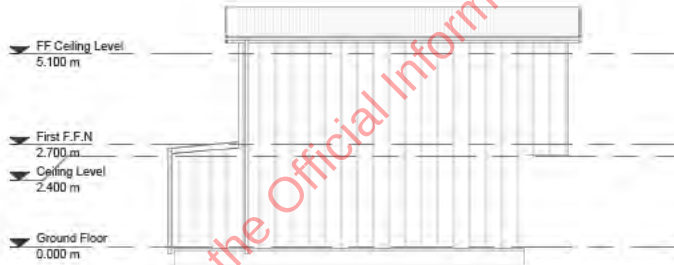
ELEVATION 01



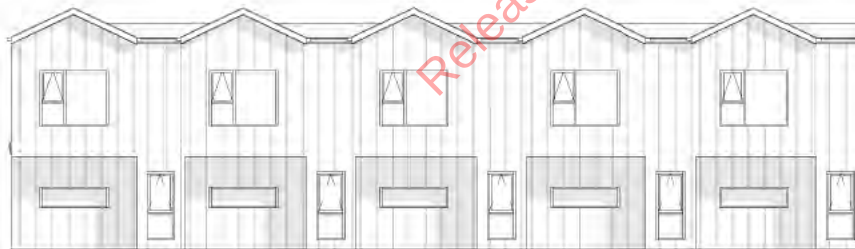
ELEVATION 02



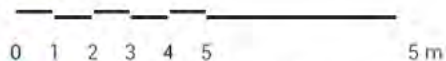
ELEVATION 03



ELEVATION 04



TERRACE ELEVATION



BRIEF RESPONSE:

TAPU & NOA

- No direct sight lines from W/C, bathroom and laundry areas to semi-private zones.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The design has a dedicated entry space (manaakitanga) that allows pause between public and private spaces.
- The kitchen location has been designed to ensure the space does not act as thoroughfare and allows for ease of movement throughout the home.

COMPLIANCE WITH AREA REQUIREMENTS

- The GFA is 89.7m²
- The K/D/L has been reduced to 34.2m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

CIRCULATION SPACE

- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

TABLE 111 AREA TABLE

For compliance with the TELLIN WJ 4-2

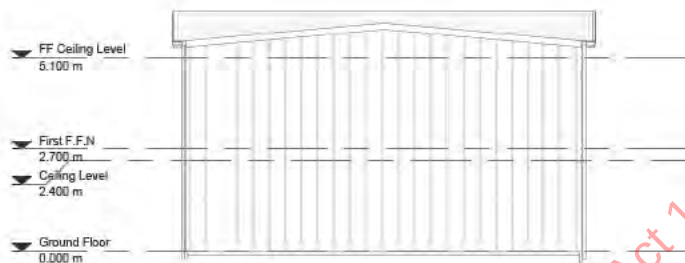
ROOM TYPE	AREA m ²
K/D/L	34.2
STORAGE	5.6
LAUNDRY	0.8
BATHROOM	4.0
BEDROOM 1	10.4
BEDROOM 2	11.8

2 LEVEL 2 BED RECTANGLE

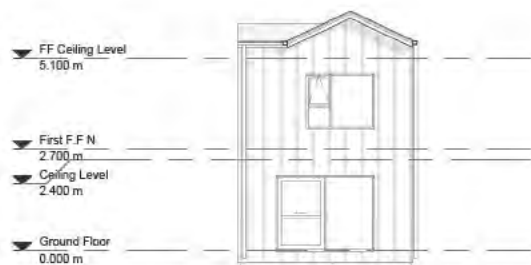
CONCEPT 03 - ALTERNATIVE PLAN



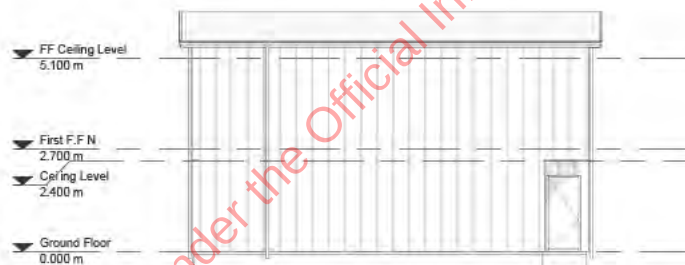
ELEVATION 01



ELEVATION 02



ELEVATION 03



ELEVATION 04



TERRACE ELEVATION

BRIEF RESPONSE:

TAPU & NOA

- No direct sight lines from W/C, bathroom and laundry areas to semi-private zones.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The design has a dedicated entry space (manaakitanga) that allows pause between public and private spaces.
- The kitchen location has been designed to ensure the space does not act as thoroughfare and allows for ease of movement throughout the home.

COMPLIANCE WITH AREA REQUIREMENTS

- The GFA is 81.6m²
- The K/D/L has been reduced to 34.2m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

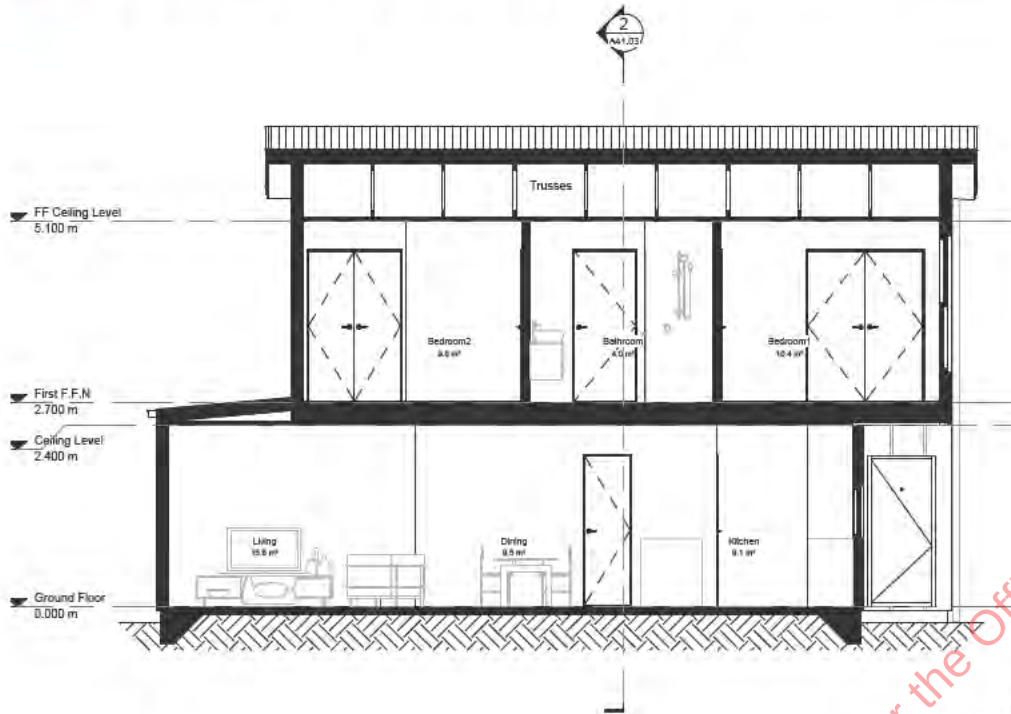
CIRCULATION SPACE

- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

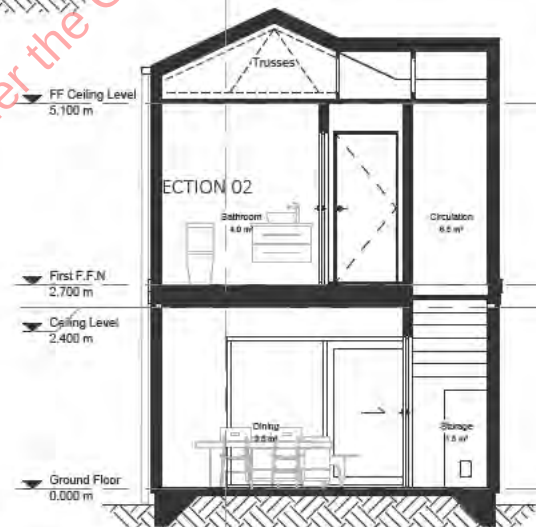
TABLE 10 - AREA TABLE For compliance refer to Table B.1.1.1	
ROOM TYPE	AREA (m ²)
K/D/L	34.2
STORAGE	2.8
LAUNDRY	0.8
BATHROOM	4.0
BEDROOM 1	10.4
BEDROOM 2	9.8

2 LEVEL 2 BED RECTANGLE

CONCEPT 03



SECTION 01
Scale 1:100 @ A3



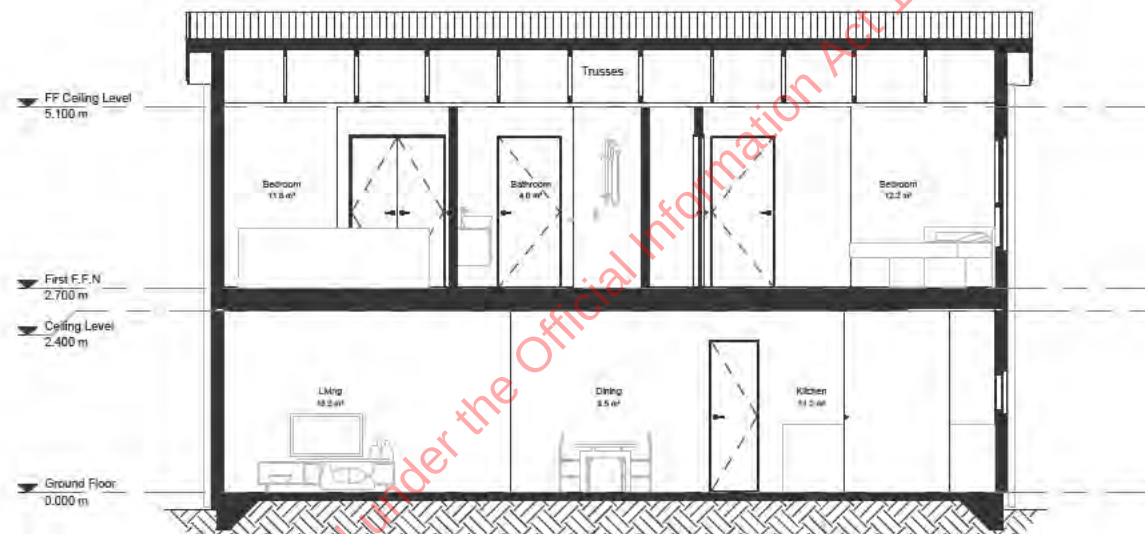
SECTION 02
Scale 1:100 @ A3

COMPLIANCE:

2L2BRC Concept 3	
B2.1 Gross Floor Area (All areas based on weatherboard cladding over 20mm cavity as per NZIQS guidelines unless marked with *)	Existing Plan: 82.4m² Minimum: 82m² Achieved: 89.7m²
Kitchen / Dining / Living Areas (All areas exclude circulation space e.g. entry, halls, corridors etc...)	Minimum: 36m² Achieved: 34.2m²
Bedrooms (All areas exclude wardrobes) Main Bedroom: 10m² Secondary Bedrooms: 9m²	Main Bedroom: 10.4m² Bedroom 2: 11.8m²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☒ ☐ ☒
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☒ 1.5m(L) x 0.6m(D) ☒ 2.6m(L) x 0.6m(D) ☒ 0.75m(W) x 0.7m(D) ☒ 0.45m(W) x 0.6m(D) ☒ 1x0.6m(W) ☐ 1.2m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shell (mounted min. 1.2m above FFL)	☒ 0.35m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage (width combined for household and a minimum of 1.2m per wardrobe) Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	W/R1 = 1.98m x 0.6m W/R2 = 1.37m x 0.6m Linen = 0.79m x 1m HWC = 0.7m x 0.8m General Store = 2m² of storage
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280 min tread. b. No stair winders. c. At least one handrail	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm

0 1 2 3 4 5 5 m

2 LEVEL 2 BED RECTANGLE CONCEPT 03



CONFIGURATIONS

CONCEPT 03

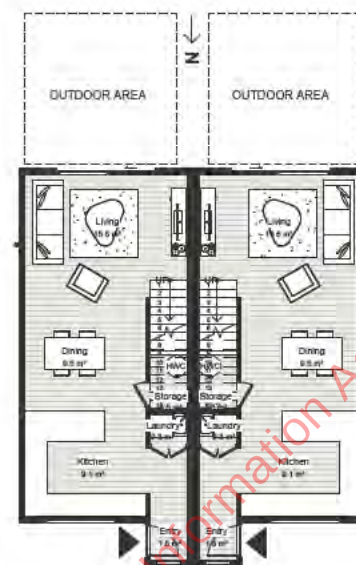
Typology Configuration, Groupings and Orientation Diagrams

DUPLEX OPTIONS 2L2B RC CONCEPT 03

SITE SUMMARY

The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations. This plan has not been designed to be built as a standalone structure.

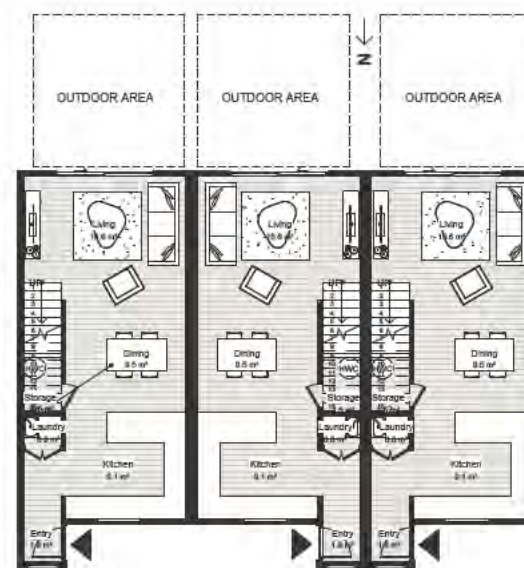
1. The 2L2B RC dwelling can be connected on either the stairwell wall or the Kitchen / Dining / Living room wall allowing the plans to be duplexed or terraced.
2. Dependent on site orientation the plan could accommodate a north or south loaded entry. Preferential entry would be from the kitchen elevation as it incorporates built in weather protection. If the entry is to be located from the living room elevation there would need to be an element of weather protection introduced.
3. The stairwell wall remains to be the most ideal wall to duplex the 2L2BRC plan. This allows for an outdoor area directly off of the living room area in two locations- to the end of the building or to the side.



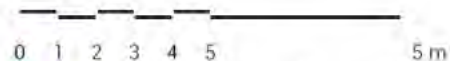
Duplexed Option 01



Duplexed Option 02

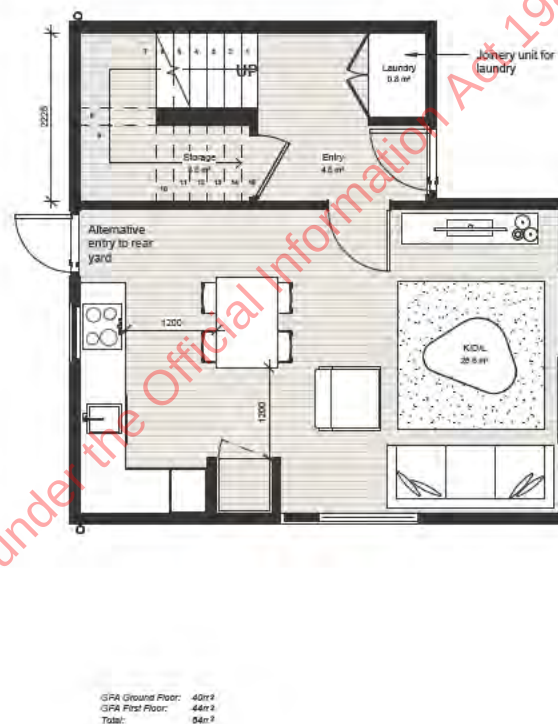
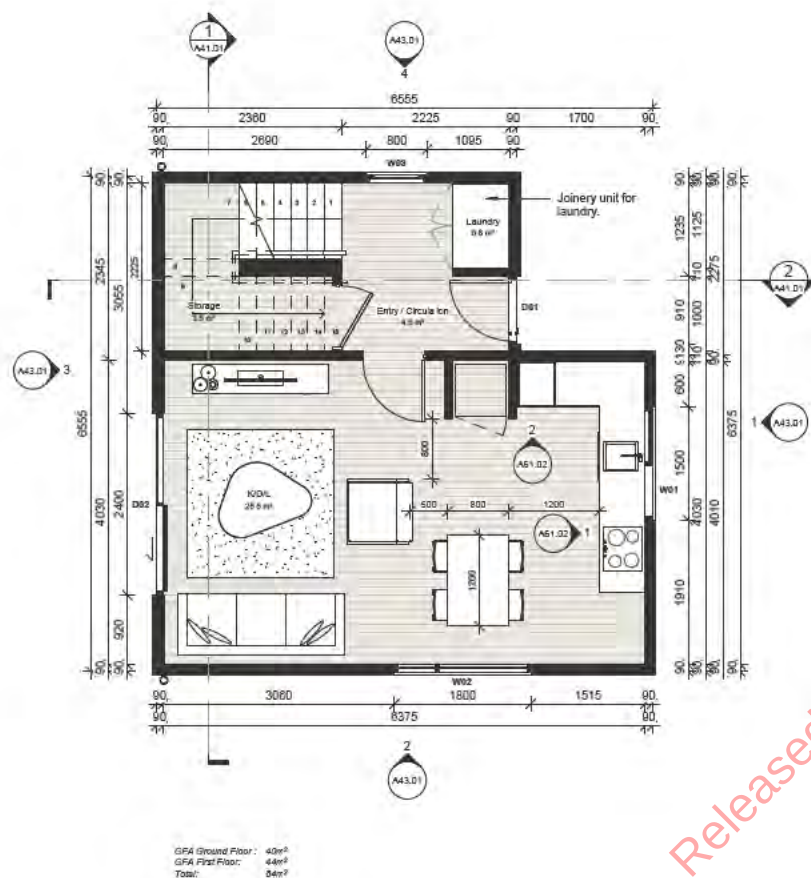


Terraced Option



FINAL DESIGN

2L2B SQ | Standalone Unit



SUMMARY OF FINAL DESIGN:

The following adjustments have been made to optimise the 2 level 2 bed Square dwelling type (2L2BSQ) which now provides a 84m² GFA,

1. After much consideration and various floorplanning tests a conclusive decision was made to develop a square 2 bedroom floorplan to help to overcome the current site development issues that are problematic with the existing B3 plan. Flexibility of design and overall spatial efficiency demonstrating good functionality of a reduced floorplan was a positive that came out of the new design.

2. The width vs the length of the original B3 plan made the design challenging to fit on a variety of sites. The updated 2L2B SQ is a simple 6.5m x 6.5m floorplan that includes the following improvements:

- A more efficient kitchen that allows for more floor area to the dining space/living space.
- A defined entry that incorporates a laundry unit.
- Increased wall lengths designed into the floor arrangement to aid in bracing requirements and rule out the need for extra partition walls placed in areas that do not serve any other function than bracing.
- Minimal circulation area
- Ample storage and bedroom/bathroom proportions with separate W/C.

3. Due to the proportions of the existing B3 design, it is common for bracing to be a problematic issue that often requires the addition of portal frames. The proposed 2L2B SQ proportions has allowed for additional full height walls to be included to help to reduce the need add additional cost into elements such as portal frames. This has been achieved by utilising the staircase and adding additional horizontal full height elements to define the fridge space in the kitchen.

- NZS3604:2011 Bracing requirements are achieved for a concrete foundation in all windzones (asides from extra high that will need SED input and seismic zone 4).
- Bracing requirements are achieved for a subfloor foundation in windzones (asides from very high and extra high and seismic zone 3 and 4 that will require SED input).

4. Window and glazing openings have been designed to meet compliance with NZBC G4/AS1 and G7/AS1.

5. Homestar compliance is achieved with one orientation (Entry door and kitchen facing south and living room facing north).

FINAL DESIGN

2L2B SQ | Standalone Unit



GFA Ground Floor: 40m²
GFA First Floor: 44m²
Total: 84m²

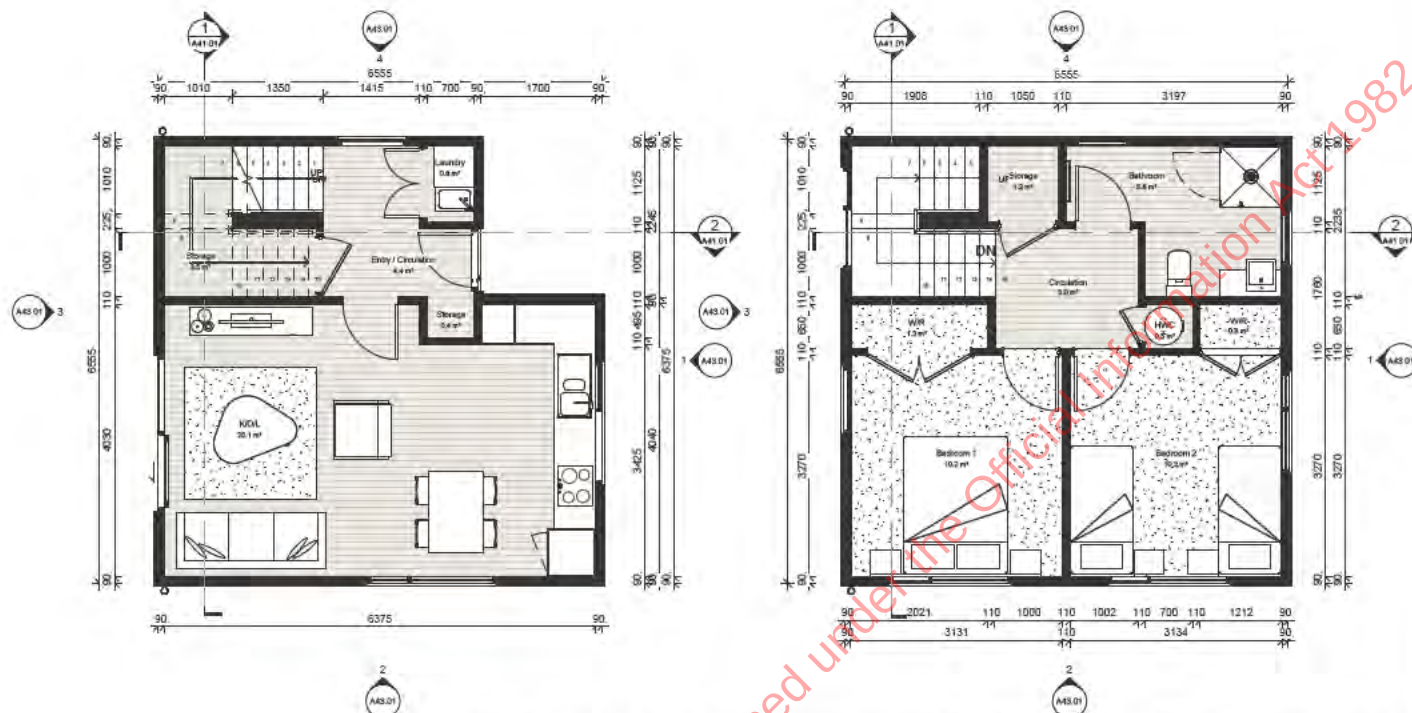
FIRST FLOOR PLAN
Scale 1:100 @ A3

COMPLIANCE:

Yellow = below min requirements	2L2BSQ Concept
B2.1 Gross Floor Area (All areas based on weatherboard cladding ver 20mm cavity. NZIQS definition of GFA used)	Existing Plan: 83.05m² Minimum: 82m² Achieved: 84m²
Kitchen / Dining / Living Areas (All areas exclude circulation space e.g. entry, halls, corridors etc...)	Minimum: 36m² Achieved: 25.5m²
Bedrooms (All areas exclude wardrobes) Main Bedroom: 10m² Secondary Bedrooms: 9m²	Main Bedroom: 10.2m² Bedroom 2: 10.2m²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☒ ☐ ☒
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☒ 1.5m(L) x 0.6m(D) ☒ 2.6m(L) x 0.6m(D) ☒ 0.75m(W) x 0.7m(D) ☒ 0.45m(W) x 0.6m(D) ☒ 1x0.6m(W) ☐ 1.2m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ 0.35m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage (width combined for household and a minimum of 1.2m per wardrobe) Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	W/R1 = 2.02m x 0.65m W/R2 = 1.2m x 0.65m Linen = 3.9m² of storage (general + linen) HWC = 0.65m x 0.7m (old requirements) General Store = 3.9m of storage (general + linen)
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280mm min. tread. b. No stair winders. c. At least one handrail	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm

2 LEVEL 2 BED SQUARE

CONCEPT 01



GROUND FLOOR PLAN
Scale 1:100 @ A3

FIRST FLOOR PLAN
Scale 1:100 @ A3

Space	Area m ²	G4 - 5%	Actual	% Achieved	Comment
K/D/L	25m ²	1.25m ²	2.6m ²	10.4%	
Entry/ Laundry	5.2m ²	0.26m ²	0.810m ²	15.5%	Mech
Bathroom	5.6m ²	0.28m ²	0.490m ²	8.4%	Mech
Bedroom 1	10.2m ²	0.510m ²	1.23m ²	12%	
Bedroom 2	10.2m ²	0.510m ²	0.660m ²	6.5%	

Space	Area m ²	G7 - 10%	H/Star V5	Actual	% Achieved
K/D/L	25m ²	2.5m ²	3.75m ²	6.8m ²	27%
Bedroom 1	10.2m ²	1.02m ²	1.53m ²	2.8m ²	27%
Bedroom 2	10.2m ²	1.02m ²	1.53m ²	1.7m ²	17%

OUR DESIGN RESPONSE:

- The following adjustments have been made to optimise the two level two bed dwelling type:

1. GFA.

The GFA of the design has been reduced to 76.7m². The rationale for minimising the GFA is to create a design this is as compact and user-friendly as possible, eliminating any unnecessary space and excess cost. Existing Type B GFA: 83.05m²

2. Duplex / Terraceable / Standalone

The design is versatile; it can operate as an independent structure, be part of a duplex setup, or be incorporated into a terrace layout.

3. In-built Weather Protection

The entrance has been relocated under the existing roofline, which serves as a weather shield. This eliminates the necessity for an additional canopy.

The stepped front facade provides a sense of entry, with the front door being clearly identifiable.

4. K/D/L Layout

The flippable interior living space has been designed so the dwelling can better respond to site constraints.

5. Storage Cupboard

The design exceeds storage requirements with floor GF under-stair storage, an entry storage cupboard and an additional FF cupboard.



2 LEVEL 2 BED SQUARE

CONCEPT 01- ALTERNATIVE LAYOUT



GROUND FLOOR PLAN
Scale 1:100 @ A3



FIRST FLOOR PLAN
Scale 1:100 @ A3

OUR DESIGN RESPONSE:

- The following adjustments have been made to optimise the two level two bed dwelling type:

1. GFA.

The GFA of the design has been reduced to 76.7m².

The rationale for minimising the GFA is to create a design this is as compact and user-friendly as possible, eliminating any unnecessary space and excess cost.

Existing Type B GFA: 83.05m²

2. Duplex / Terraceable / Standalone

The design is versatile; it can operate as an independent structure, be part of a duplex setup, or be incorporated into a terrace layout.

3. In-built Weather Protection

The entrance has been relocated under the existing roofline, which serves as a weather shield. This eliminates the necessity for an additional canopy.

The stepped front facade provides a sense of entry, with the front door being clearly identifiable.

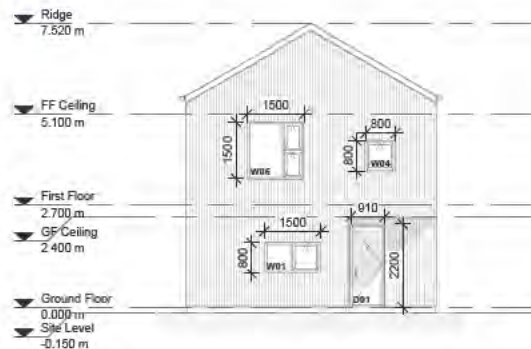
4. K/D/L Layout

The flippable interior living space has been designed so the dwelling can better respond to site constraints.

5. Storage Cupboard

The design exceeds storage requirements with floor GF under-stair storage, an entry storage cupboard and an additional FF cupboard.

2 LEVEL 2 BED SQUARE FINAL DESIGN



ELEVATION 01

South Elevation

Risk Matrix	Score
Wind Zone	High
Stories	Low
Roof / Wall	Medium
Eave Width	Very High
Complexity	Low
Deck Design	Low
	10

West Elevation

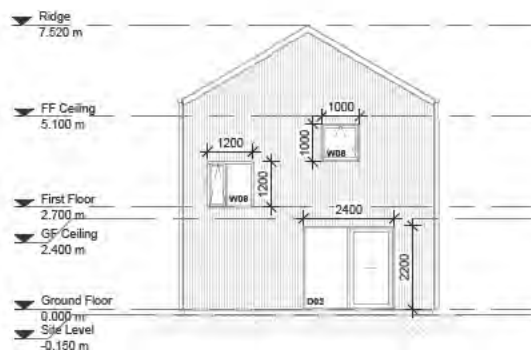
Risk Matrix	Score
Wind Zone	High
Stories	Low
Roof / Wall	Medium
Eave Width	Very High
Complexity	Low
Deck Design	Low
	10

North Elevation

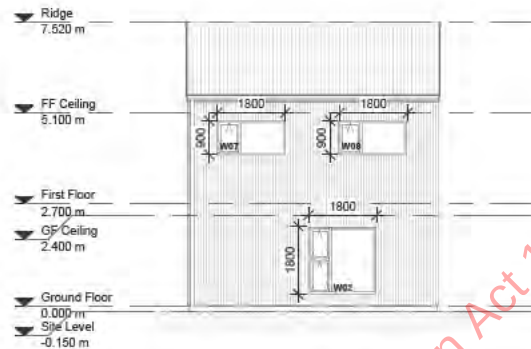
Risk Matrix	Score
Wind Zone	High
Stories	Low
Roof / Wall	Medium
Eave Width	Very High
Complexity	Low
Deck Design	Low
	10

East Elevation

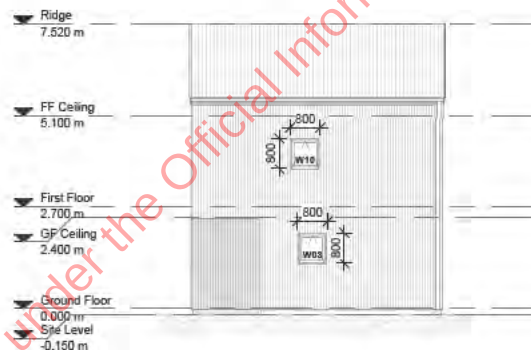
Risk Matrix	Score
Wind Zone	High
Stories	Low
Roof / Wall	Medium
Eave Width	Very High
Complexity	Low
Deck Design	Low
	10



ELEVATION 03



ELEVATION 02



ELEVATION 04

NATURAL VENTILATION NZBC G4 COMPLIANCE

Space	Area m²	G4 - 5%	Actual	% Achieved	Comment
K/D/L	25m²	1.25m²	2.6m²	10.4%	
Entry/ Laundry	5.2m²	0.26m²	0.81m²	15.5%	Mech
Bathroom	4.5m²	0.22m²	0.36m²	8%	Mech
W/C	2.5m²	0.12m²	0.36m²	14%	
Bedroom 1	10.2m²	0.510m²	1.23m²	12%	
Bedroom 2	10.2m²	0.510m²	0.660m²	6.5%	

NATURAL LIGHT NZBC G7 & HOMESTAR V5 COMPLIANCE

Space	Area m²	G7 - 10%	H/Star V5	Actual	% Achieved
K/D/L	25m²	2.5m²	3.75m²	6.8m²	27%
Bedroom 1	10.2m²	1.02m²	1.53m²	2.8m²	27%
Bedroom 2	10.2m²	1.02m²	1.53m²	1.7m²	17%

BRIEF RESPONSE:

TAPU & NOA

- No direct sight lines from W/C, bathroom and laundry areas to semi-private zones.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The design has a dedicated entry space (manaakitanga) that allows pause between public and private spaces.
- The bathroom is not positioned directly above a K/D/L.
- W/C and main bathroom are separated.

COMPLIANCE WITH AREA REQUIREMENTS

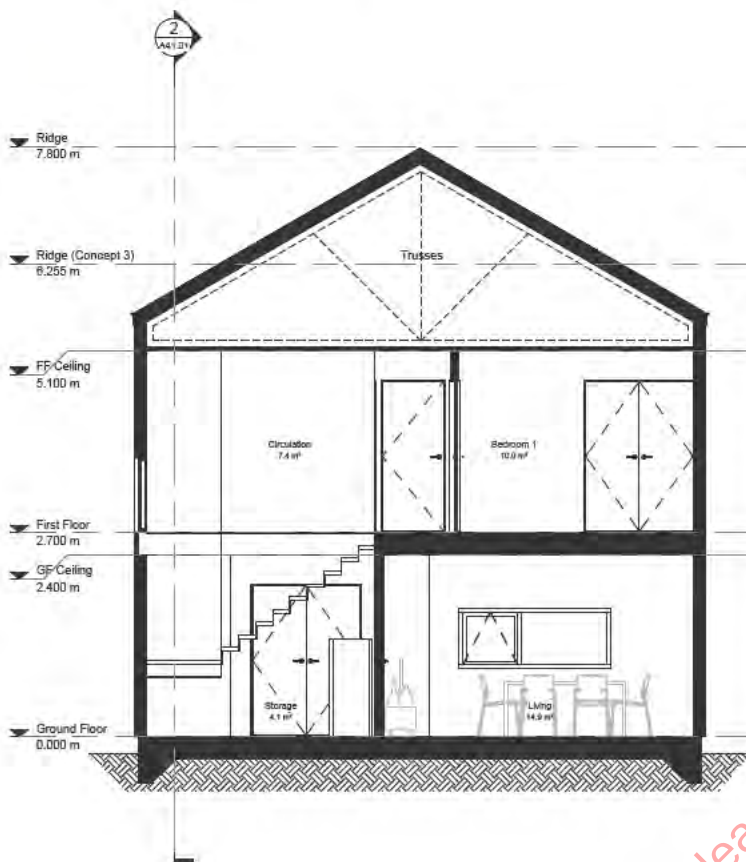
- The GFA is 84m²
- The K/D/L has been reduced to 25.5m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

CIRCULATION SPACE

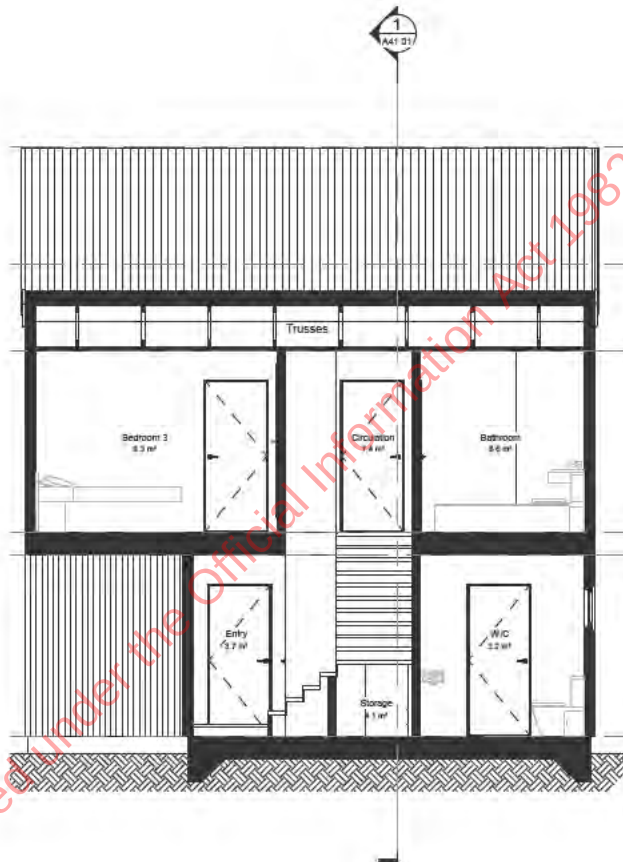
- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

TABLE 3.1.1: AREA TABLE For compliance with Table B2.4.2	
ROOM TYPE	AREA m²
K/D/L	25.5
STORAGE	3.9
LAUNDRY	0.8
BATHROOM	4.5
W/C	2.2
BEDROOM 1	10.2
BEDROOM 2	10.2

2 LEVEL 2 BED SQUARE FINAL DESIGN



SECTION 01
Scale 1:100 @ A3



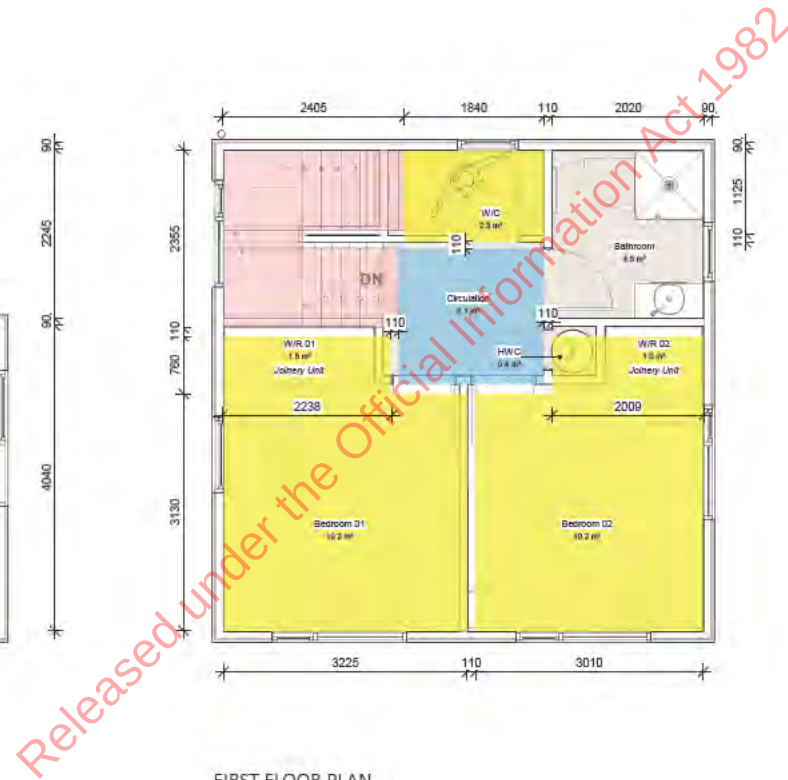
SECTION 02
Scale 1:100 @ A3

COMPLIANCE:

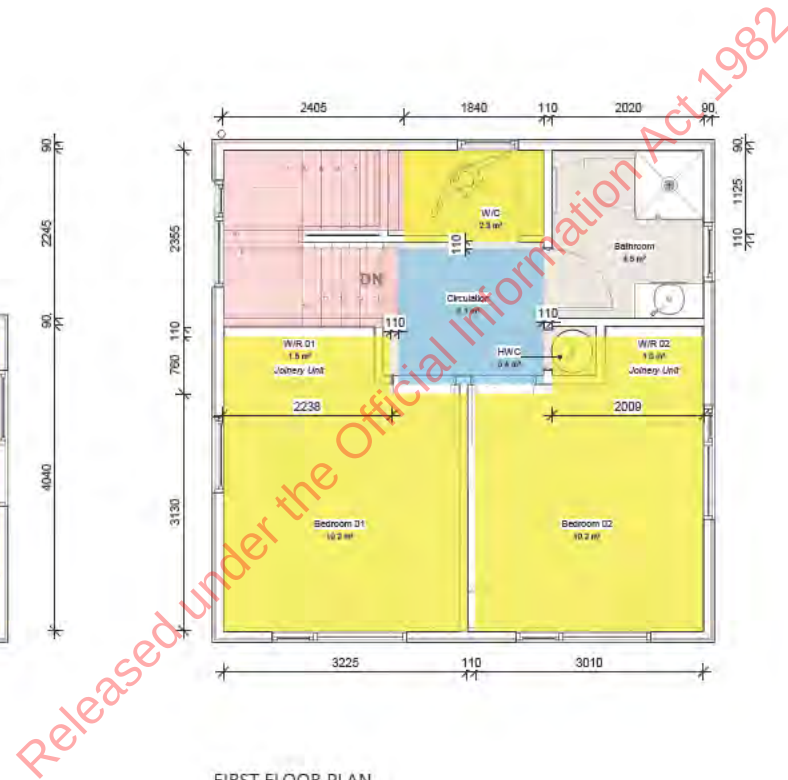
Yellow = below min requirements	2L2BSQ Concept
B2.1 Gross Floor Area <i>(All areas based on weatherboard cladding over 20mm cavity. NZIQS definition of GFA used)</i>	Existing Plan: 83.05m² Minimum: 82m² Achieved: 84m²
Kitchen / Dining / Living Areas <i>(All areas exclude circulation space e.g. entry, halls, corridors etc...)</i>	Minimum: 36m² Achieved: 25.5m²
Bedrooms <i>(All areas exclude wardrobes)</i> Main Bedroom: 10m² Secondary Bedrooms: 9m²	Main Bedroom: 10.2m² Bedroom 2: 10.2m²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☒ ☐ ☒
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☒ 1.5m(L) x 0.6m(D) ☒ 2.6m(L) x 0.6m(D) ☒ 0.75m(W) x 0.7m(D) ☒ 0.45m(W) x 0.6m(D) ☒ 1x0.6m(W) ☐ 1.2m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ 0.35m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage <i>(width combined for household and a minimum of 1.2m per wardrobe)</i> Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	W/R1 = 2.02m x 0.65m W/R2 = 1.2m x 0.65m Linen = 3.9m² of storage (general + linen) HWC = 0.65m x 0.7m (old requirements) General Store = 3.9m of storage (general + linen)
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280mm min. tread. b. No stair winders. c. At least one handrail	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm

FINAL DESIGN

NGÃ



Scale 1:100 @ A3



Scale 1:100 @ A3

- The increase causes the bedrooms upstairs to lose symmetrical layout and 130mm in length. Bedroom 01 Wardrobe width increases 100mm in width due to the stair treads extending. Bedroom 02 Wardrobe / HWC cupboard and Bedroom 02 width to decrease by 110mm.

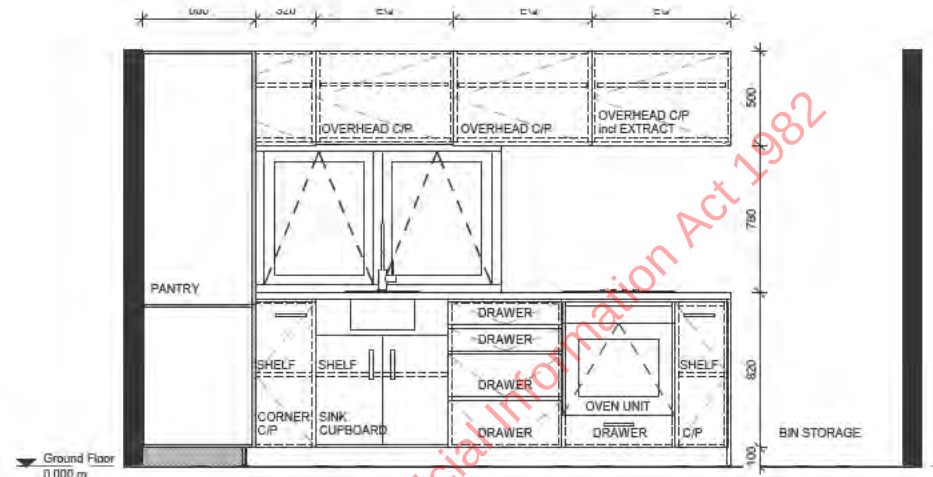
KITCHEN DESIGN

FINAL DESIGN
NGĀ PAEREWA HOAHOA WHARE DESIGN REQUIREMENTS

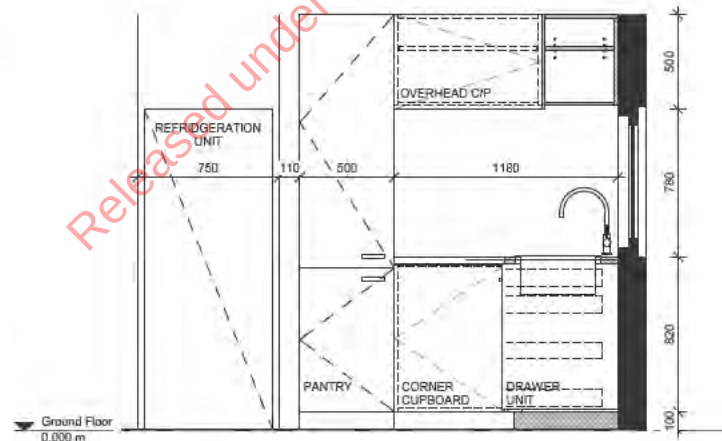
KITCHEN CONFIGURATION 2L2B SQ



PLAN VIEW- KITCHEN



ELEVATION 01
Scale 1:40 @ A3



ELEVATION 02
Scale 1:40 @ A3

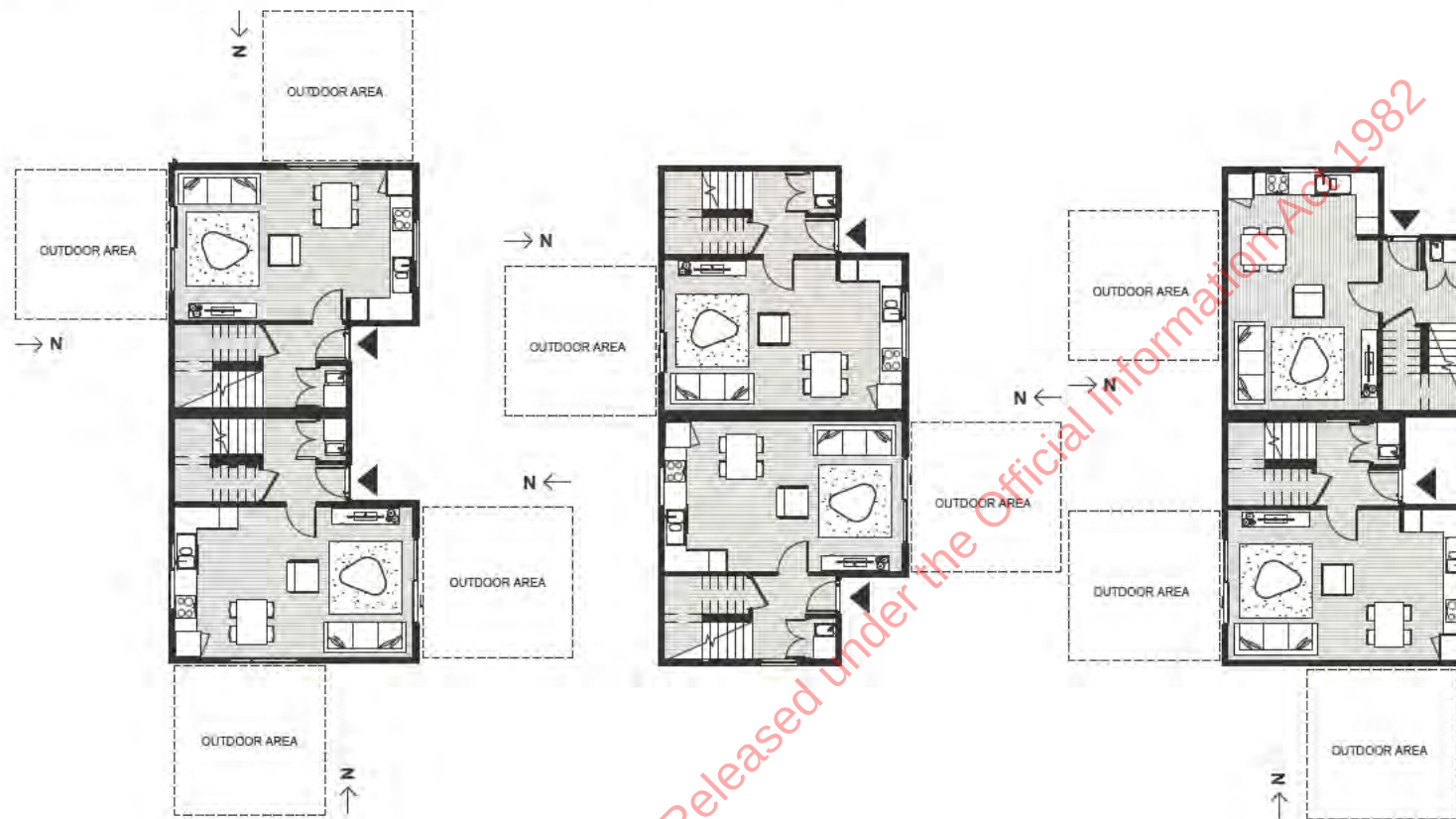
KITCHEN REQUIREMENTS (Nga Paerewa Hoahoa Whare)			
	1 - 2 Beds	Proposed Design	Compliance
Wet bench (including sink)	1.5m (L) x 0.6m (D)	1.88m (L) x 0.6m (D)	compliant
Total bench space (not including cooktop)	2.6m (L) x 0.6m (D)	2.70m (L) x 0.6m (D)	compliant
Fridge space	0.75m (L) x 0.7m (D)	0.75m (L) x 0.7m (D)	compliant
Pantry	0.45m (L) x 0.6m (D)	0.5m (L) x 0.6m (D)	compliant
Stove and extract	x1	x1	compliant
Drawer banks	x1 0.6m (W)	1 x 0.6m (W)	compliant
Distance between benches	1.2m	N/A	N/A

CONFIGURATIONS

FINAL DESIGN

Typology Configuration, Groupings and Orientation Diagrams

DUPLEX / TERRACED OPTIONS



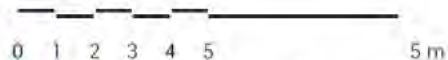
Duplexed Option 01

Duplexed Option 02
(can be terraced)Duplexed Option 03
(can be terraced)

SITE SUMMARY

The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations. This plan has specifically been designed to be able to be built as a standalone / duplexed and terraced dwelling.

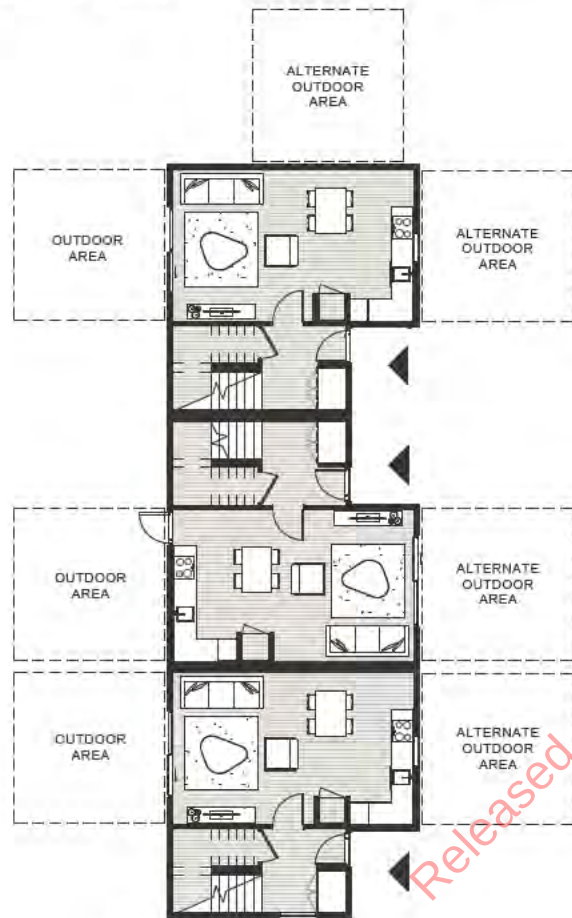
1. The 2L2B SQ dwelling can be connected on either the stairwell wall or the Kitchen / Dining / Living room wall allowing the plans to be duplexed or terraced.
2. The design has the benefit of being able to host the outdoor area off of two elevations that surround the kitchen / dining / living area. The other two elevations host the entry cut-out which gives the design major versatility when placing the plan on various sites. Not only is it ideal for getting orientations to work for sunlight purposes, the entry cut-out helps to ensure connection to the building from an urban design perspective, enhancing the buildings relationship with street fronts / internal goals.
3. Being perfectly square in shape the design can be duplexed off of all facades. It also allows for terracing where needed.



CONFIGURATIONS FINAL DESIGN

Typology Configuration, Groupings and Orientation Diagrams

DUPLEX / TERRACED OPTIONS



Terraced Option 01



Terraced Option 02

0 1 2 3 4 5 5 m



ARTIST IMPRESSION

FINAL DESIGN

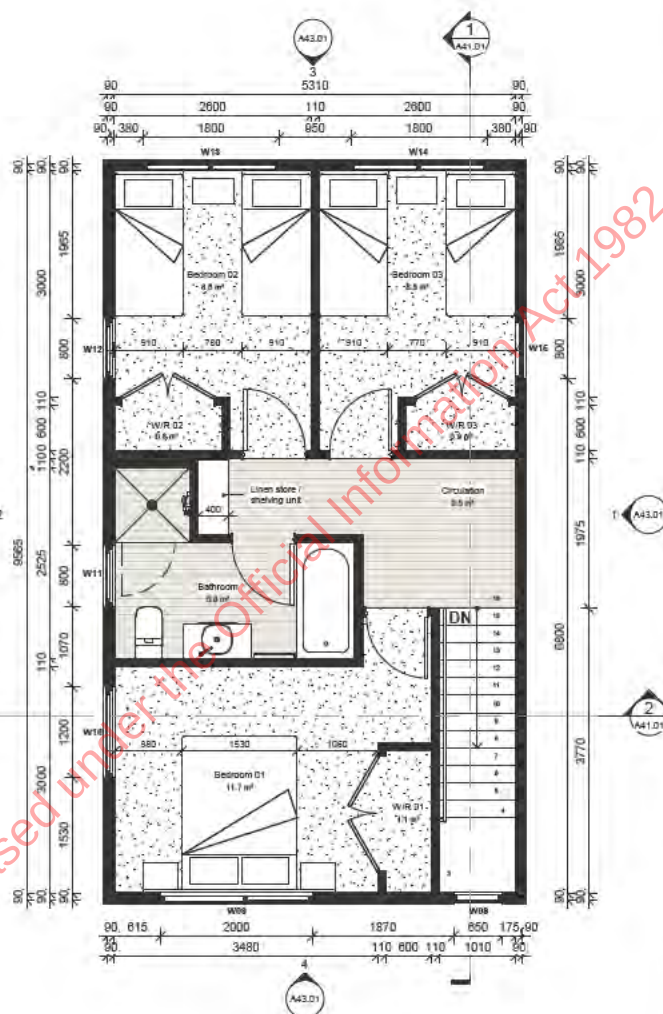
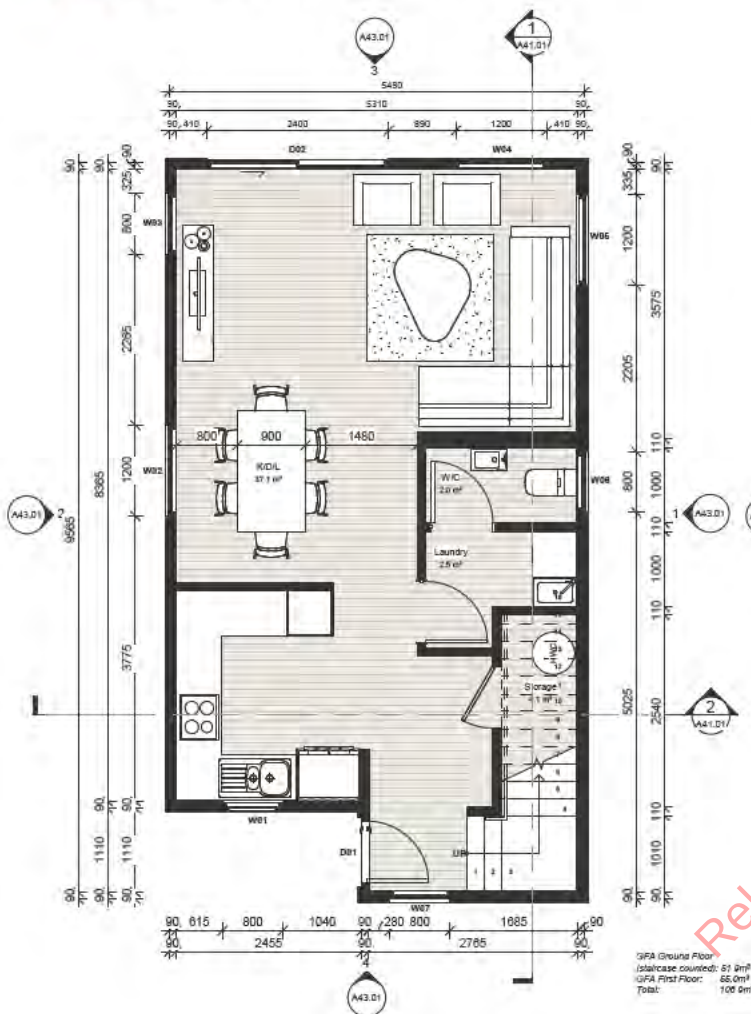
2L2B SQ | Terraced Option



* Window type can be modified depending on desired aesthetic.

FINAL DESIGN

2L3B RC | Standalone Unit



SUMMARY OF FINAL DESIGN:

The following adjustments have been made to optimise the 2 level 3 bed rectangular dwelling type (2L3BSQ) which now provides a 9m² GFA reduction in comparison to the existing plan (E).

1. After much consideration and various floorplanning tests a conclusive decision was made to develop a rectangular 3 bedroom floorplan to help to overcome the current site development issues that are problematic with the existing 'E' plan. Flexibility of design now allows a terracing option as well as duplex/standalone and offers overall spatial efficiency demonstrating good functionality of a reduced floorplan.

2. The size of the original E plan made the design challenging to fit on a variety of sites. The second issue was that the design could not be terraced due to issues of natural light access to bedrooms. The updated 2L3B RC is a simple 5.3m x 9.5m floorplan that includes the following improvements:

- A more efficient kitchen that allows for more floor area to the dining space/living space.
- A defined entry that leads into a large storage area and separate laundry / W/C.
- Increased wall lengths designed into the floor arrangement to aid in bracing requirements and rule out the need for extra partition walls placed in areas that do not serve any other function than bracing.
- Minimal circulation area
- Ample storage and bedroom/bathroom proportions with separate W/C downstairs.

3. To achieve the floor area reduction 2 bedrooms have been reduced to 2.6m wide under the instruction of Kainga Ora. These rooms still allow for 2 bedrooms in each of the spaces but will not accommodate extra furniture items.

4. Due to the proportions of the existing E design, it is common for bracing to be a problematic issue that often requires the addition of portal frames. The proposed 2L3B RC proportions has allowed for additional full height walls to be included in the ground floor to help to reduce the need add additional cost into elements such as portal frames. This has been achieved by utilising the staircase and adding additional horizontal full height elements below the stairwell and into the kitchen if necessary.

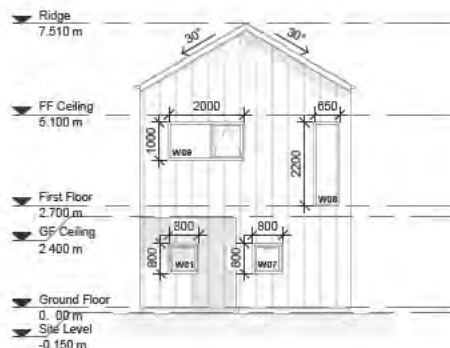
- NZS3604:2011 Bracing requirements are achieved for a concrete foundation in all windzones (asides from extra high that will need SED input).
- Bracing requirements are achieved for a subfloor foundation in windzones (asides from extra high and seismic zone 4 that will require SED input).

5. Window and glazing openings have been designed to meet compliance with NZBC G4/AS1 and G7/AS1.

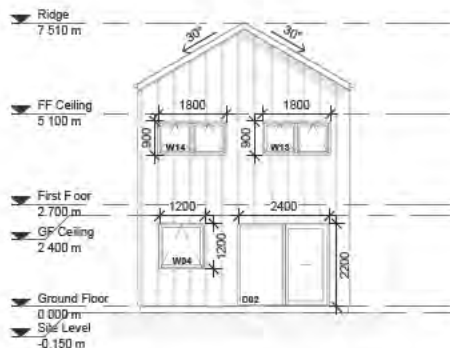
2 LEVEL 3 BED RECTANGLE

FINAL DESIGN

2L3B SQ | Standalone Unit



ELEVATION 01



ELEVATION 03

South Elevation

Risk Matrix	Score
Wind Zone	High 2
Stories	Low 2
Roof / Wall	Medium 1
Eave Width	Very High 5
Complexity	Low 0
Deck Design	Low 0
	10

West Elevation

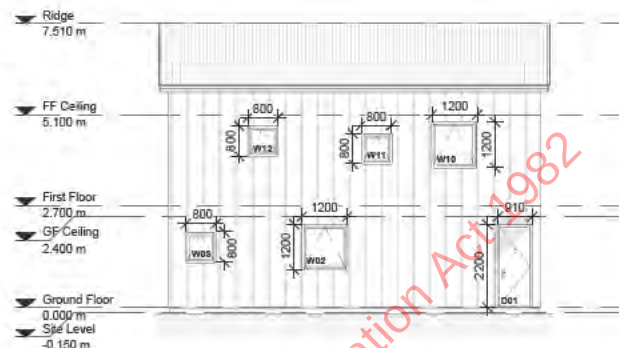
Risk Matrix	Score
Wind Zone	High 2
Stories	Low 0
Roof / Wall	Medium 1
Eave Width	Very High 5
Complexity	Low 0
Deck Design	Low 0
	10

North Elevation

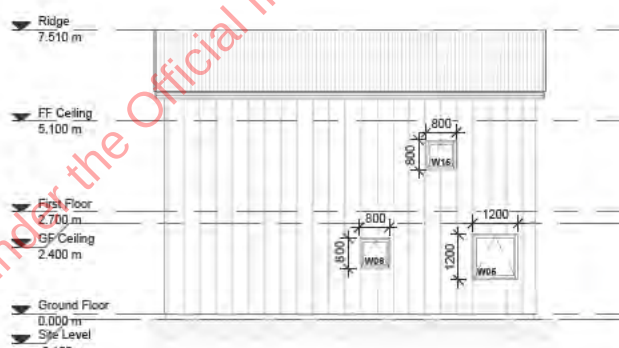
Risk Matrix	Score
Wind Zone	High 2
Stories	Low 2
Roof / Wall	Medium 1
Eave Width	Very High 5
Complexity	Low 0
Deck Design	Low 0
	10

East Elevation

Risk Matrix	Score
Wind Zone	High 2
Stories	Low 0
Roof / Wall	Medium 1
Eave Width	Very High 5
Complexity	Low 0
Deck Design	Low 0
	10



ELEVATION 02



ELEVATION 04

NATURAL VENTILATION NZBC G4 COMPLIANCE

Space	Area m²	G4 - 5%	Actual	% Achieved	Comment
K/D/L	37.1m²	1.85m²	6.58m²	17.6%	
W/C	2m²	0.1m²	0.38m²	18%	Mech
Laundry	2.5m²	0.12m²	N/A	N/A	Mech
Bathroom	5.8m²	0.28m²	0.36m²	9%	Mech
Bedroom 01	11.7m²	0.58m²	1.50m²	13.3%	
Bedroom 02	8.5m²	0.42m²	1.36m²	16%	
Bedroom 03	8.5m²	0.42m²	1.36m²	16%	

NATURAL LIGHT NZBC G7 & HOMESTAR V5 COMPLIANCE

Space	Area m²	G7 - 10%	H/Star V5	Actual	% Achieved
K/D/L	37.1m²	2.14m²	3.21m²	8.18m²	22%
Bedroom 01	11.7m²	1.17m²	1.75m²	2.0m²	17%
Bedroom 02	8.5m²	0.85m²	1.27m²	1.36m²	16%
Bedroom 03	8.5m²	0.85m²	1.27m²	1.36m²	16%

BRIEF RESPONSE:

TAPU & NOA

- No direct sight lines from W/C, bathroom and laundry areas to semi-private zones.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The design has a dedicated entry space (manaakitanga) that allows pause between public and private spaces.
- W/C and main bathroom are separated.

COMPLIANCE WITH AREA REQUIREMENTS

- The GFA has been reduced to 106.09m²
- The K/D/L has been reduced to 37.1m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

CIRCULATION SPACE

- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

TABLE 1: AREA TABLE
For compliance refer to Table D2.0.2

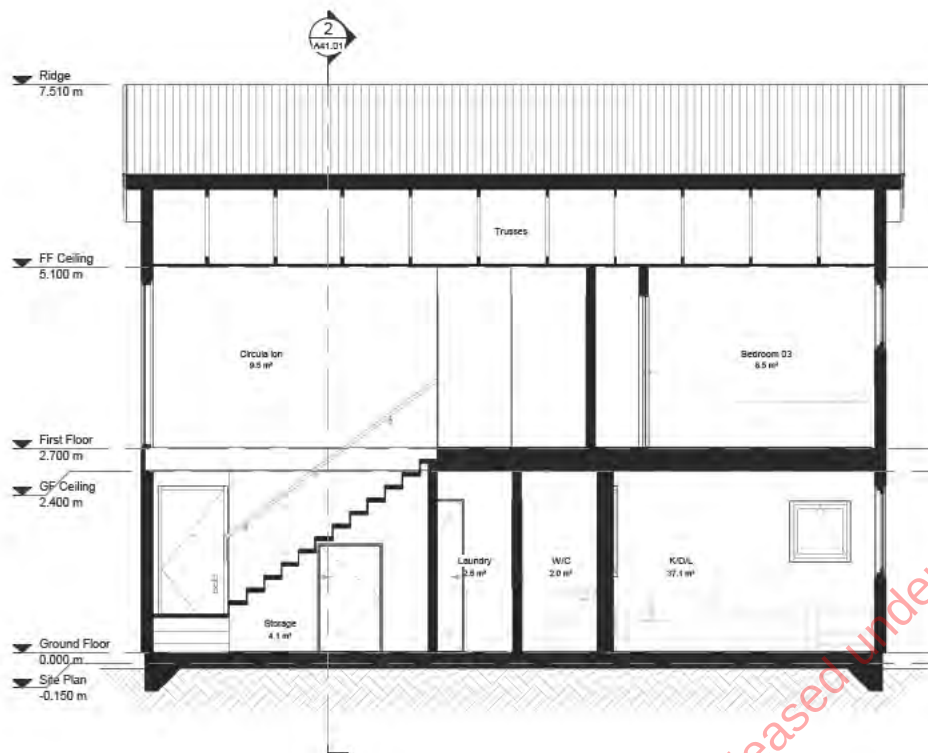
ROOM TYPE	AREA m²
K/D/L	37.1
STORAGE	4.1
LAUNDRY	2.5
BATHROOM	5.8
W/C	2.0
BEDROOM 1	11.7
BEDROOM 2	8.5
BEDROOM 3	8.5

0 1 2 3 4 5 5 m

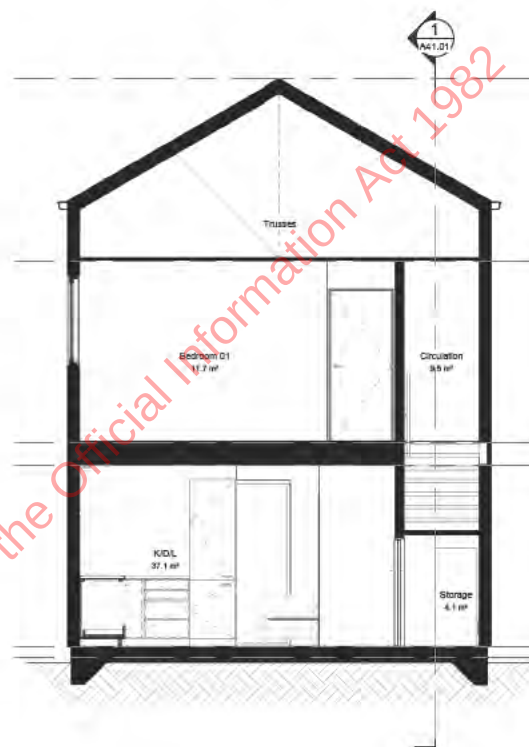
2 LEVEL 3 BED RECTANGLE

FINAL DESIGN

2L3B SQ | Standalone Unit



SECTION 01
Scale 1:100 @ A3



SECTION 02
Scale 1:100 @ A3

COMPLIANCE:

Yellow = below min requirements	2L3BRC Concept
B2.1 Gross Floor Area (All areas based on weatherboard cladding over 20mm cavity. NZIQS definition of GFA used)	Existing Plan: 115.94m ² Minimum: 107m ² Achieved: 106.9m ²
Kitchen / Dining / Living Areas (All areas exclude circulation space e.g. entry, halls, corridors etc...)	Minimum: 46m ² Achieved: 37.1m ²
Bedrooms (All areas exclude wardrobes) Main Bedroom: 10m ² Secondary Bedrooms: 9m ²	Main Bedroom: 11.7m ² Bedroom 2: 8.5m ² Bedroom 3: 8.5m ²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☒ ☐ ☒
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☒ 1.6m(L) x 0.6m(D) ☒ 4.0m(L) x 0.6m(D) ☒ 0.85m(W) x 0.7m(D) ☒ 0.6m(W) x 0.6m(D) ☒ 2x0.6m(W) ☐ 1.5m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ 0.56m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage (width combined for household and a minimum of 1.2m per wardrobe) Wardrobe Linen HWC General Storage	W/R1 = 1.8m x 0.6m W/R2 = 1.4m x 0.6m W/R3 = 1.4m x 0.6m Linen = 1.5m ² of storage (general + linen) HWC = 0.7m x 0.8m General Store = 1.4m ² of storage (general + linen)
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280 min. tread. b. No stair winders. c. At least one handrail	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm

ACCESS / EGRESS & CIRCULATION

NGĀ PAEREWA HOAHOA WHARE DESIGN REQUIREMENTS



GROUND FLOOR PLAN
Scale 1:100 @ A3



FIRST FLOOR PLAN
Scale 1:100 @ A3

COMPARISON OF 1000mm vs 1050mm

1. Blue = 1050mm area overlay
Pink = 1050mm area overlay and stair increased to a compliant main private stairwell
Yellow = New area as a result of 1050mm overlay

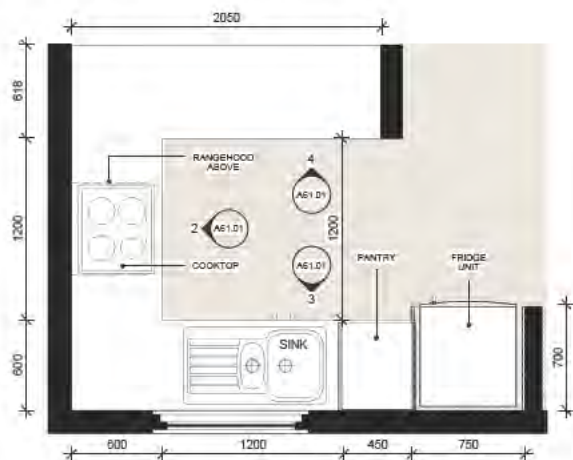
- Increasing the stair width and tread depth causes the entry to reduce by 100mm.
- Main private stairwell increases will cause the circulation on the first floor to reduce by 350mm.
- The kitchen will need to reduce by 50mm due to allowing a 1050mm circulation route between the kitchen bench and laundry wall.
- The circulation and entry to bedroom 01 on the first floor needs to widen to 1050mm causing the bathroom to reduce in width and increase in length, then reducing the depth of bedroom 01.
- Bedrooms 02/03 remain unaffected.

KITCHEN DESIGN

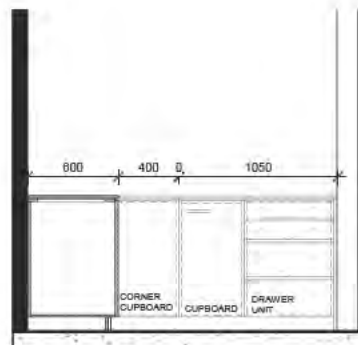
FINAL DESIGN

NGĀ PAEREWA HOAHOA WHARE DESIGN REQUIREMENTS

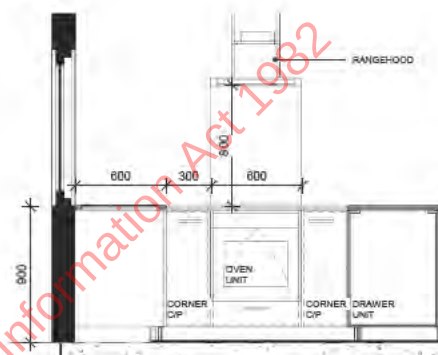
KITCHEN CONFIGURATION 2L3B RC



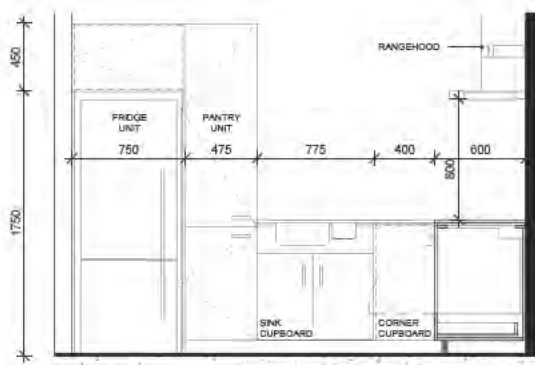
PLAN VIEW- KITCHEN
Scale 1:40 @ A3



ELEVATION 02
Scale 1:40 @ A3



ELEVATION 04
Scale 1:40 @ A3



ELEVATION 03
Scale 1:40 @ A3

KITCHEN REQUIREMENTS (Nga Paerewa Hoahoa Whare)	1 - 2 Beds	Proposed Design	Compliance
Wet bench (including sink)	1.5m (L) x 0.8m (D)	1.95m (L) x 0.8m (D)	compliant
Total bench space (not including cooktop)	2.8m (L) x 0.8m (D)	4.3m (L) x 0.8m (D)	compliant
Fridge space	0.75m (L) x 0.7m (D)	0.75m (L) x 0.7m (D)	compliant
Pantry	0.45m (L) x 0.8m (D)	0.45m (L) x 0.8m (D)	compliant
Stove and extract	x1	x1	compliant
Drawer banks	x1 0.6m (W)	1x 0.6m (W)	compliant
Distance between benches	1.2m	1.2m	compliant

CONFIGURATIONS FINAL DESIGN

Typology Configuration, Groupings and Orientation Diagrams

DUPLEX / TERRACED OPTIONS

SITE SUMMARY

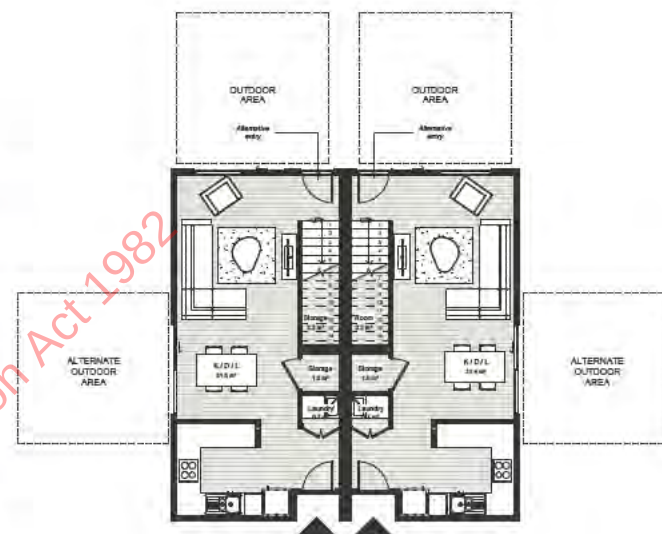
The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations. This plan has specifically been designed to be able to be built as a standalone / duplexed and terraced dwelling.

1. The 2L3B RC dwelling can be connected on either the stairwell wall or the Kitchen / Dining / Living room wall allowing the plans to be duplexed or terraced.

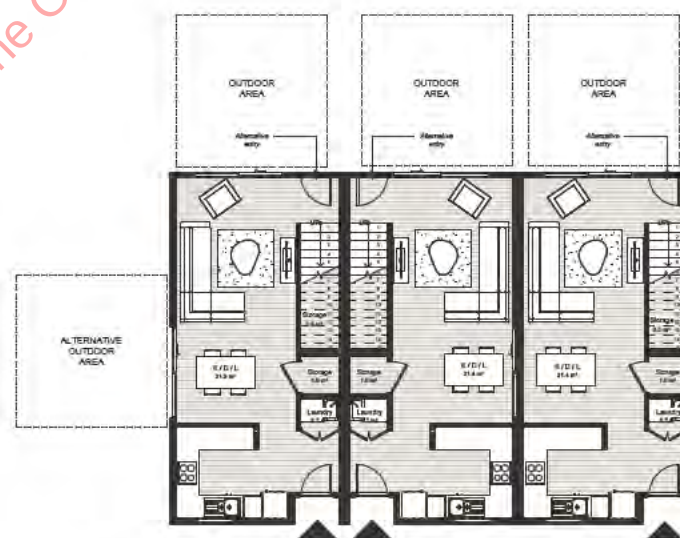
2. The design has the benefit of being able to host the outdoor area off of two elevations that surround the kitchen / dining / living area (when duplexed or built as a standalone). The other two elevations host the entry cut-out which gives the design major versatility when placing the plan on various sites. Not only is it ideal for getting orientations to work for sunlight purposes, the entry cut-out helps to ensure connection to the building from an urban design perspective, enhancing the buildings relationship with street fronts / internal joals.



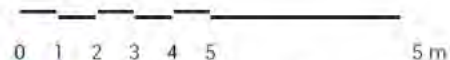
Duplexed Option 01



Duplexed Option 02



Terraced Option





ARTIST IMPRESSION

FINAL DESIGN

2L2B RC | Concept 2 | Terraced Option

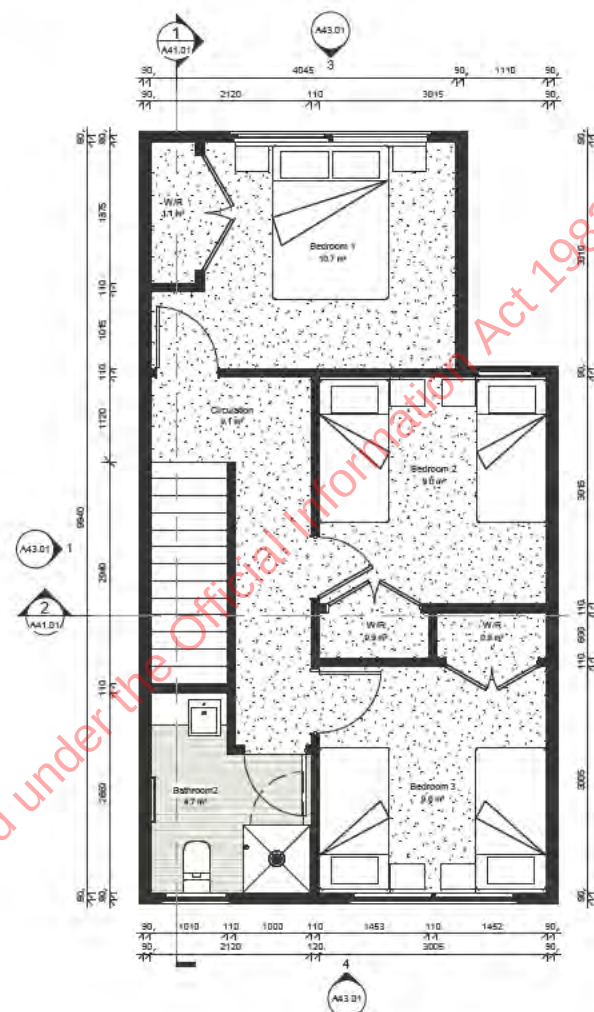


2 LEVEL 3 BED RECTANGLE

CONCEPT 01



GROUND FLOOR PLAN
Scale 1:100 @ A3



FIRST FLOOR PLAN
Scale 1:100 @ A3

OUR DESIGN RESPONSE:

- The following adjustments have been made to optimise the two level three bed dwelling type:

1. GFA.

The GFA of the design has been reduced to 98.6m². The rationale for minimising the GFA is to create a design this is as compact and user-friendly as possible, eliminating any unnecessary space and excess cost.
Existing Type B GFA: 116m²

2. Duplex / Terraceable / Standalone

The design is versatile; it can operate as an independent structure, be part of a duplex setup, or be incorporated into a terrace layout.

3. In-built Weather Protection

The entrance has been relocated under the existing roofline, which serves as a weather shield. This eliminates the necessity for an additional canopy. The stepped front facade provides a sense of entry, with the front door being clearly identifiable.

4. Kitchen and Dining Layout

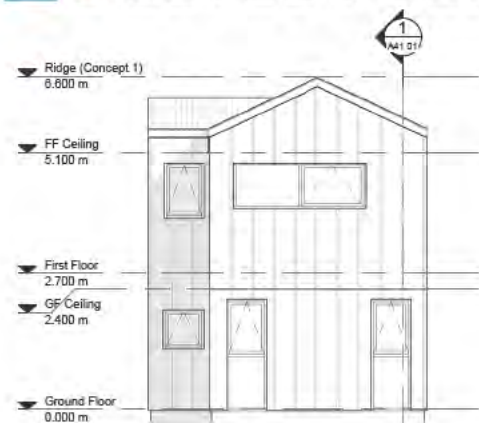
The design has the flexibility of allowing the kitchen and dining to be flipped if required so the dwelling can better respond to site constraints.

5. Bracing

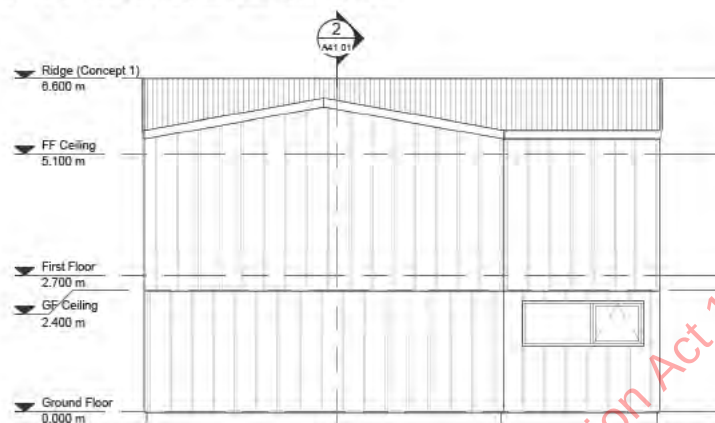
The amenities area on the GF break up the space and allow for additional bracing walls, as well as two independent living areas/dining areas.

2 LEVEL 3 BED RECTANGLE

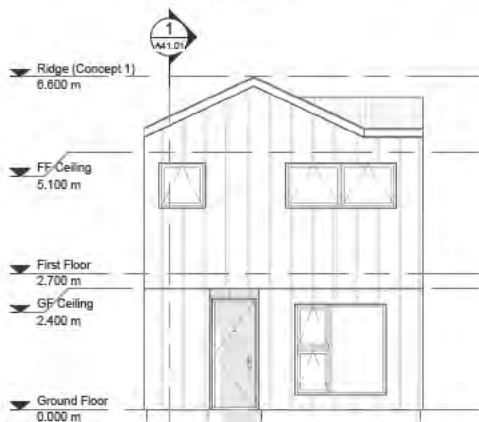
CONCEPT 01



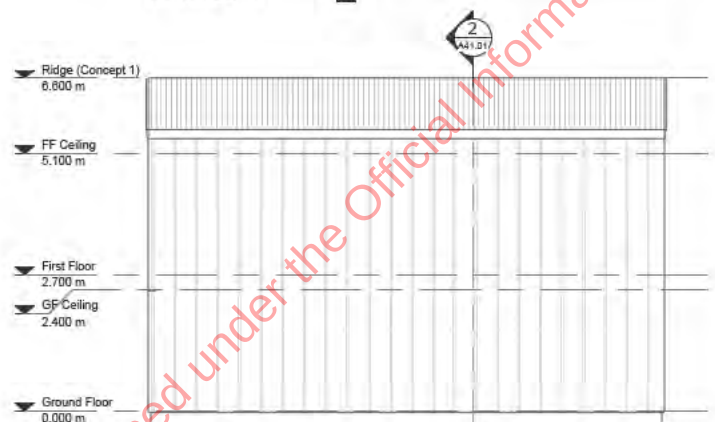
ELEVATION 01



ELEVATION 02



ELEVATION 03



ELEVATION 04



DUPLEX OPTIONS

0 1 2 3 4 5 5 m

BRIEF RESPONSE:

TAPU & NOA

- No direct sight lines from W/C, bathroom and laundry areas to semi-private zones.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The design has a dedicated entry space (manaakitanga) that allows pause between public and private spaces.
- The upstairs bathroom has not been stacked above the kitchen/dining/living.

COMPLIANCE WITH AREA REQUIREMENTS

- The GFA has been further reduced to 98.6m²
- The K/D/L has been reduced to 32.8m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

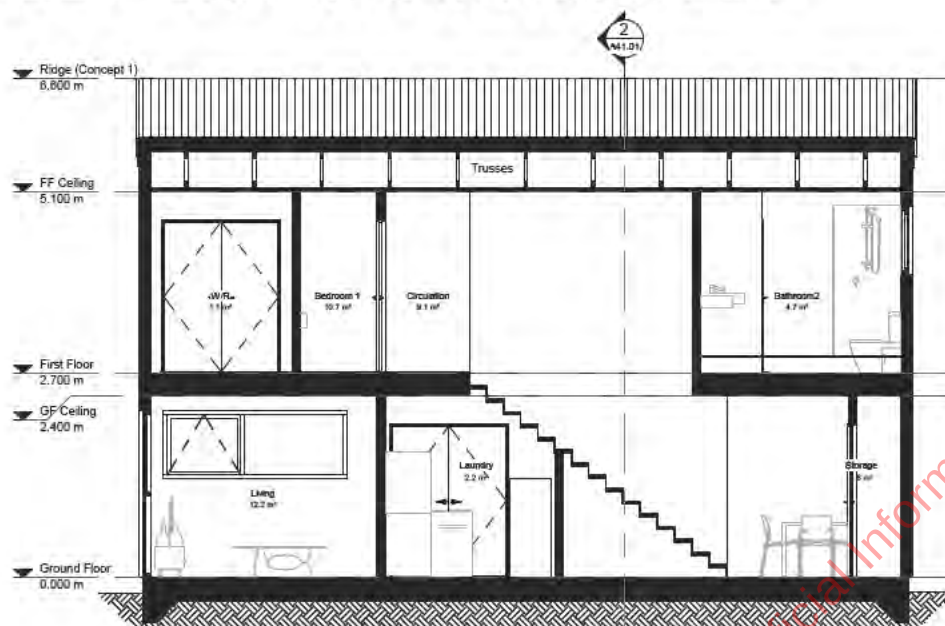
CIRCULATION SPACE

- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

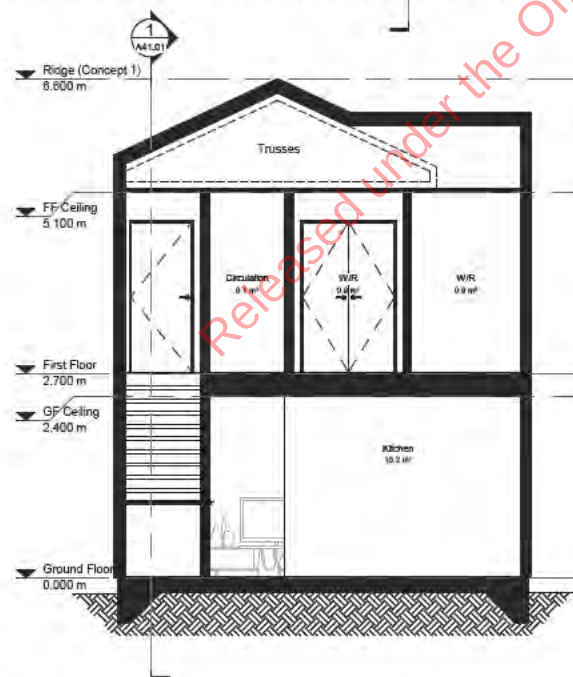
TABLE 10: AREA TABLE For compliance with Table B2.4.2	
ROOM TYPE	AREA m ²
K/D/L	32.8
STORAGE	0.9
LAUNDRY	3.1
BATHROOM 1	3.4
BATHROOM 2	4.7
BEDROOM 1	10.7
BEDROOM 2	9
BEDROOM 3	9

2 LEVEL 3 BED RECTANGLE

CONCEPT 01



SECTION 01
Scale 1:100 @ A3



SECTION 02
Scale 1:100 @ A3

COMPLIANCE:

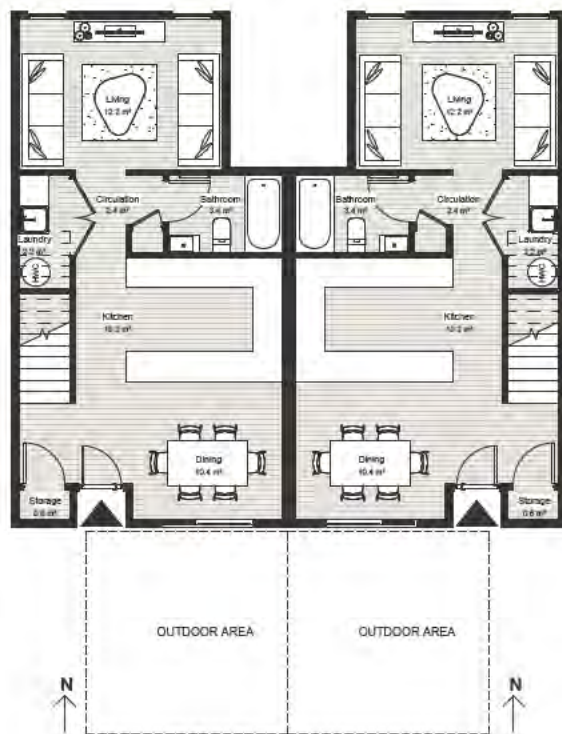
Yellow = Below min requirements	2L3BRC Concept 1
B2.1 Gross Floor Area (All areas based on weatherboard cladding over 20mm cavity as per NZIQS guidelines unless marked with !)	Existing Plan: 116m ² Minimum: 107m ² Achieved: 98.6m²
Kitchen / Dining / Living Areas (All areas exclude circulation space e.g. entry, halls, corridors etc...)	Minimum: 46m ² Achieved: 32.8m²
Bedrooms (All areas exclude wardrobes) Main Bedroom: 10m ² Secondary Bedrooms: 9m ²	Main Bedroom: 10.7m ² Bedroom 2: 9m ² Bedroom 3: 9m ²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☒ ☒ ☐
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☒ 1.6m(L) x 0.6m(D) ☐ 4.0m(L) x 0.6m(D) ☒ 0.85m(W) x 0.7m(D) ☒ 0.6m(W) x 0.6m(D) ☒ 2x0.6m(W) ☐ 1.5m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ 0.56m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage (width combined for household and a minimum of 1.2m per Wardrobe) Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	W/R1 = 1.8m x 0.6m W/R2 = 1.4m x 0.6m W/R3 = 1.4m x 0.6m Linen = 1.5m ² of storage (general + linen) HWC = 0.7m x 0.8m General Store = 1.4m ² of storage (general + linen)
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280 min tread. b. No stair winders. c. At least one handrail	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm

CONFIGURATIONS

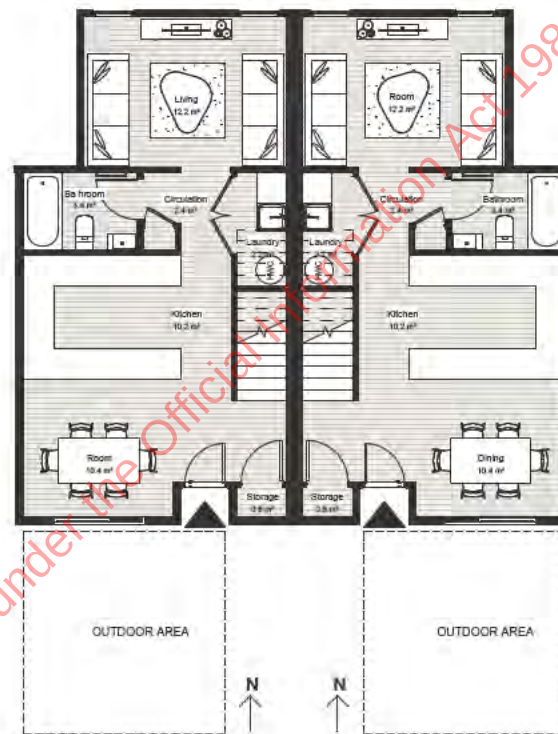
CONCEPT 01

Typology Configuration, Groupings and Orientation Diagrams

DUPLEX / TERRACED OPTIONS



DUPLEXED OPTION 01
(Can be terraced)



DUPLEXED OPTION 02
(Can be terraced)

SITE SUMMARY

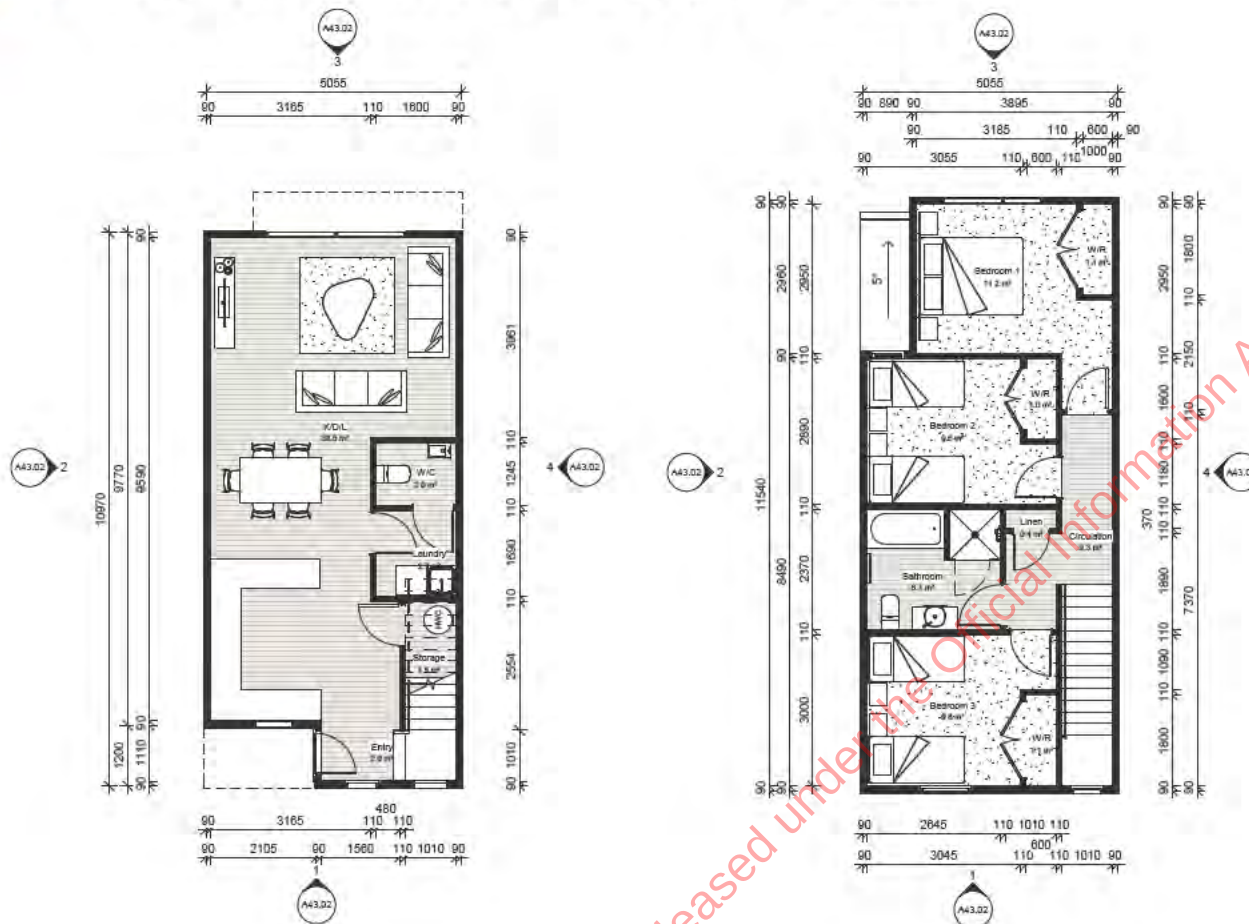
The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations. This plan has specifically been designed to be able to be built as a standalone / duplexed and terraced dwelling.

1. The 2L3B RC Concept 01 can be connect to the outdoors through the dining space - more consideration needs to be investigated to as to how outdoor living would be achieved off of the living area due to the reduced GFA.
2. Kitchen and dining can be flipped depending on requirements / desired site outcomes.
3. The design has the benefit of being able to host the outdoor area off of two elevations that surround the kitchen / dining / living area (when duplexed on the stairwell wall or built as a standalone).

0 1 2 3 4 5 5 m

2 LEVEL 3 BED RECTANGLE

CONCEPT 02



NATURAL VENTILATION NZBC G4 COMPLIANCE

Space	Area m ²	G4 - 5%	Actual	% Achieved	Comment
K/D/L	38.5m ²	1.92m ²	3.58m ²	9.3%	
Laundry					Mech
WC					Mech
Bathroom					Mech
Bedroom 1	11.2m ²	0.56m ²	0.6m ²	5.4%	
Bedroom 2	9.6m ²	0.48m ²	0.51m ²	5.3%	
Bedroom 3	9.8m ²	0.49m ²	0.65m ²	6.8%	

NATURAL LIGHT NZBC G7 & HOMESTAR VS COMPLIANCE

Space	Area m ²	G7 - 10%	H/Star V5	Actual	% Achieved
K/D/L	38.5m ²	3.85m ²	3.75m ²	0.37m ²	16%
Bedroom 1	11.2m ²	1.12m ²	1.53m ²	1.68m ²	30%
Bedroom 2	9.6m ²	0.96m ²	1.44m ²	0.79m ²	8%
Bedroom 3	9.8m ²	0.98m ²	1.47m ²	1.58m ²	18%

OUR DESIGN RESPONSE:

- The following adjustments have been made to optimise the two level three bed dwelling type:

1. GFA.

The GFA of the design has been reduced to 105.1m². The rationale for minimising the GFA is to create a design this is as compact and user-friendly as possible, eliminating any unnecessary space and excess cost. Existing Type E GFA: 116m²

2. Duplex / Terraceable / Standalone

The design is versatile; it can operate as an independent structure, be part of a duplex setup, or be incorporated into a terrace layout due to the step in the first floor facade which allows in adequate natural light to bedroom 02.

3. In-built Weather Protection

The entrance has been relocated under the existing roofline, which serves as a weather shield. This eliminates the necessity for an additional canopy.

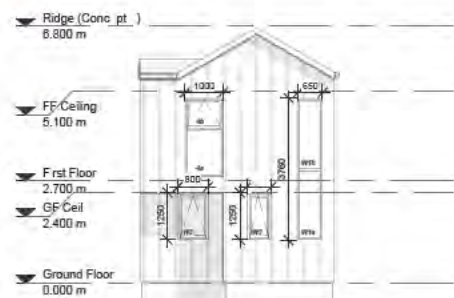
The stepped front facade provides a sense of entry, with the front door being clearly identifiable. The first floor allows for additional coverage to the external slider off of the living room.

4. Storage Cupboard

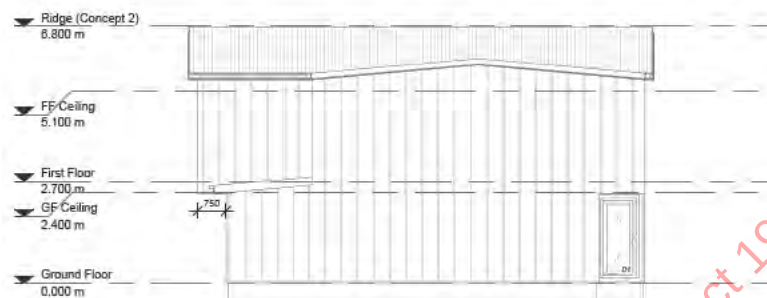
The design exceeds the storage requirements.

2 LEVEL 3 BED RECTANGLE

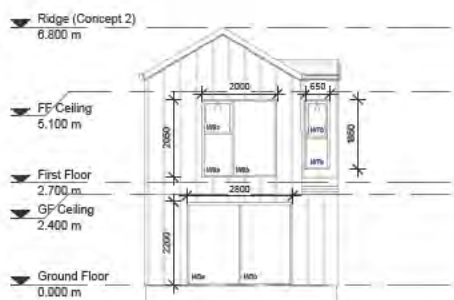
CONCEPT 02



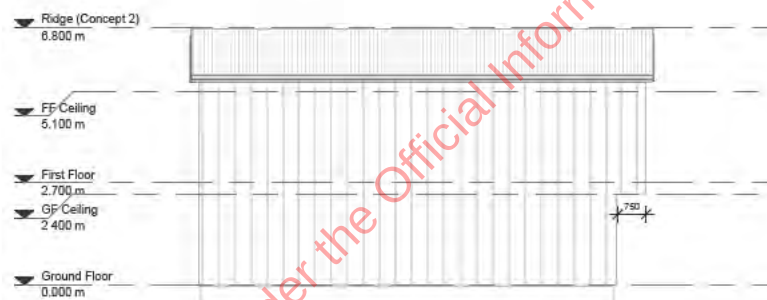
ELEVATION 01



ELEVATION 02



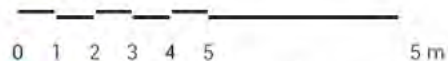
ELEVATION 03



ELEVATION 04



TERRACE ELEVATION



BRIEF RESPONSE:

TAPU & NOA

- No direct sight lines from W/C, bathroom and laundry areas to semi-private zones.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The design has a dedicated entry space (manaakitanga) that allows pause between public and private spaces.
- The kitchen location has been designed to ensure the space does not act as thoroughfare and allows for ease of movement throughout the home.

COMPLIANCE WITH AREA REQUIREMENTS

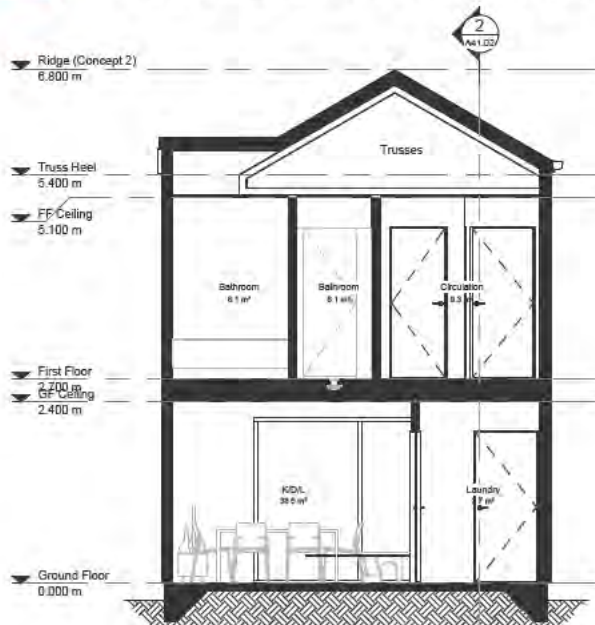
- The GFA has been reduced to 105.1m²
- The K/D/L has been reduced to 38.5m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

CIRCULATION SPACE

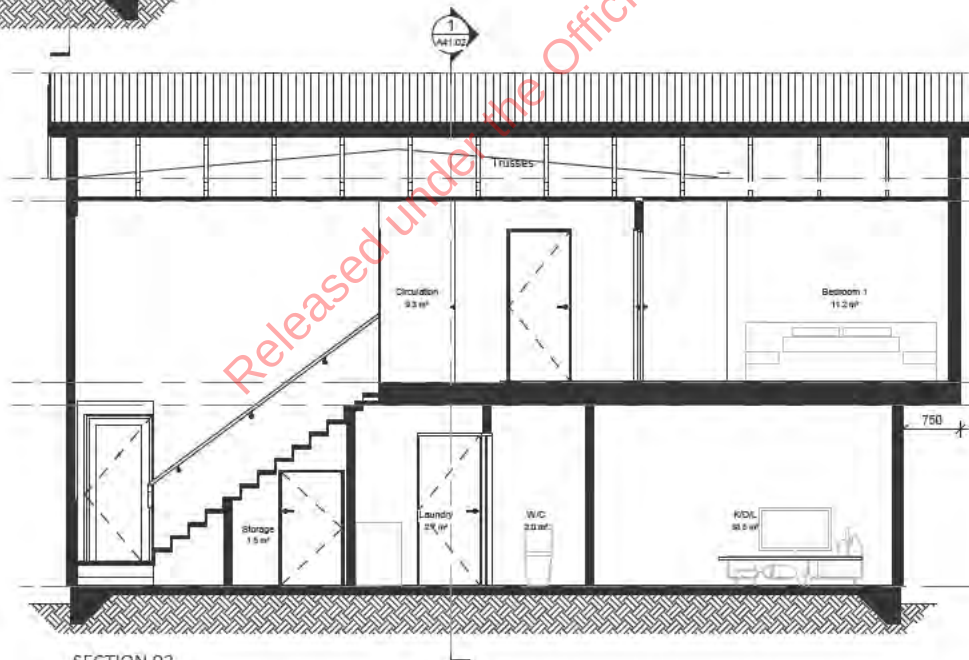
- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

TABLE 7.1: AREA TABLE	
For compliance refer to Table B7.4.2	
ROOM TYPE	AREA m ²
K/D/L	38.5
STORAGE	1.9
LAUNDRY	2.7
BATHROOM 1	6.1
W/C	2.0
BEDROOM 1	11.2
BEDROOM 2	9.6
BEDROOM 3	9.8

2 LEVEL 3 BED RECTANGLE CONCEPT 02



SECTION 01
Scale 1:100 @ A3



SECTION 02
Scale 1:100 @ A3

COMPLIANCE:

Yellow = below min requirements	2L3BRC Concept 2
B2.1 Gross Floor Area <i>(All areas based on weatherboard cladding over 20mm cavity as per NZIQS guidelines unless marked with !)</i>	Existing Plan: 116m ² Minimum: 107m ² Achieved: ~105.1m ²
Kitchen / Dining / Living Areas <i>(All areas exclude circulation space e.g. entry, halls, corridors etc...)</i>	Minimum: 46m ² Achieved: 38.5m ²
Bedrooms <i>(All areas exclude wardrobes)</i> Main Bedroom: 10m ² Secondary Bedrooms: 9m ²	Main Bedroom: 11.2m ² Bedroom 2: 9.6m ² Bedroom 3: 9.8m ²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☐ ☒ ☐
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☒ 1.6m(L) x 0.6m(D) ☐ 4.0m(L) x 0.6m(D) ☒ 0.85m(W) x 0.7m(D) ☒ 0.6m(W) x 0.6m(D) ☒ 2x0.6m(W) ☒ 1.5m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ 0.56m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage <i>(width combined for household and a minimum of 1.2m per wardrobe)</i> Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	W/R1 = 1.78m x 0.6m W/R2 = 1.6m x 0.6m W/R3 = 1.78m x 0.6m Linen = 1.4m ² of storage (general + linen) HWC = 0.7m x 0.8m General Store = 1.4m ² of storage (general + linen)
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear. B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280 min. tread. b. No stair winders. c. At least one handrail	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 190mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm

CONFIGURATIONS

CONCEPT 02

Typology Configuration, Groupings and Orientation Diagrams

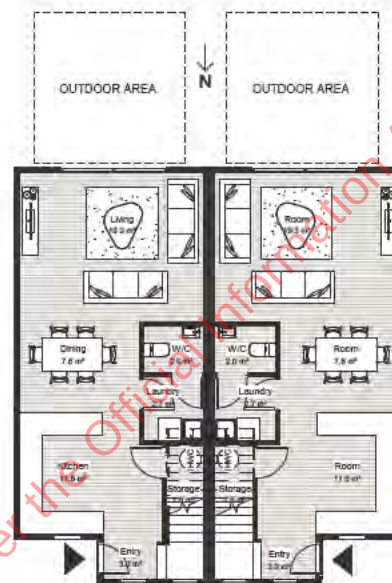
DUPLEX / TERRACED OPTIONS

SITE SUMMARY

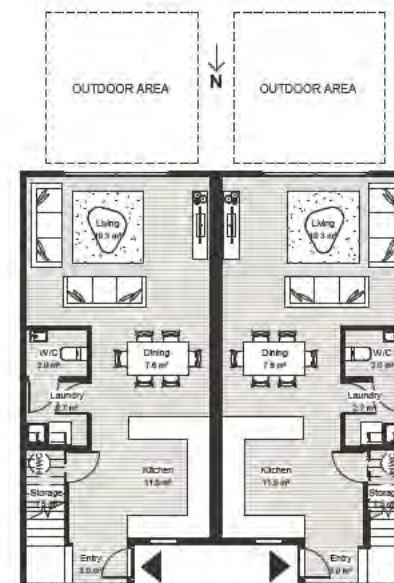
The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations. This plan has specifically been designed to be able to be built as a standalone / duplexed and terraced dwelling.

1. The 2L3B RC dwelling can be connected on either the stairwell wall or the Kitchen / Dining / Living room wall allowing the plans to be duplexed or terraced.

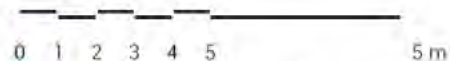
2. The design has the benefit of being able to host the outdoor area off of two elevations that surround the kitchen / dining / living area (when duplexed or built as a standalone). The other two elevations host the entry cut-out which gives the design major versatility when placing the plan on various sites. Not only is it ideal for getting orientations to work for sunlight purposes, the entry cut-out helps to ensure connection to the building from an urban design perspective, enhancing the buildings relationship with street fronts / internal joals.



DUPLEX OPTION 01
(Can be terraced)

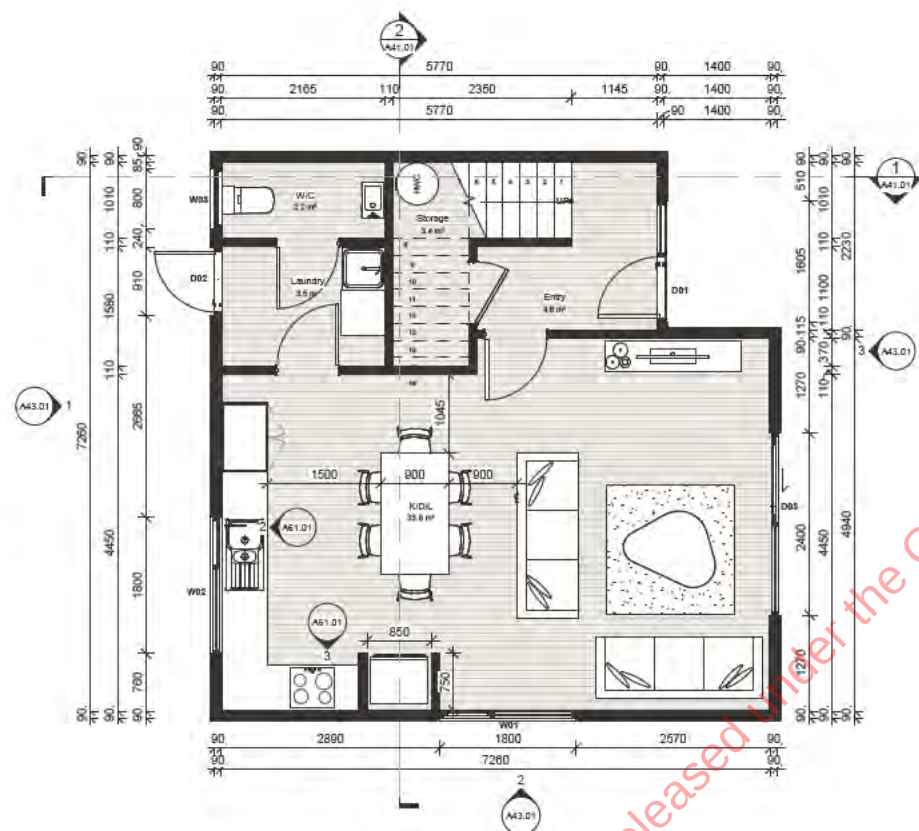


DUPLEX OPTION 02
(Can be terraced)



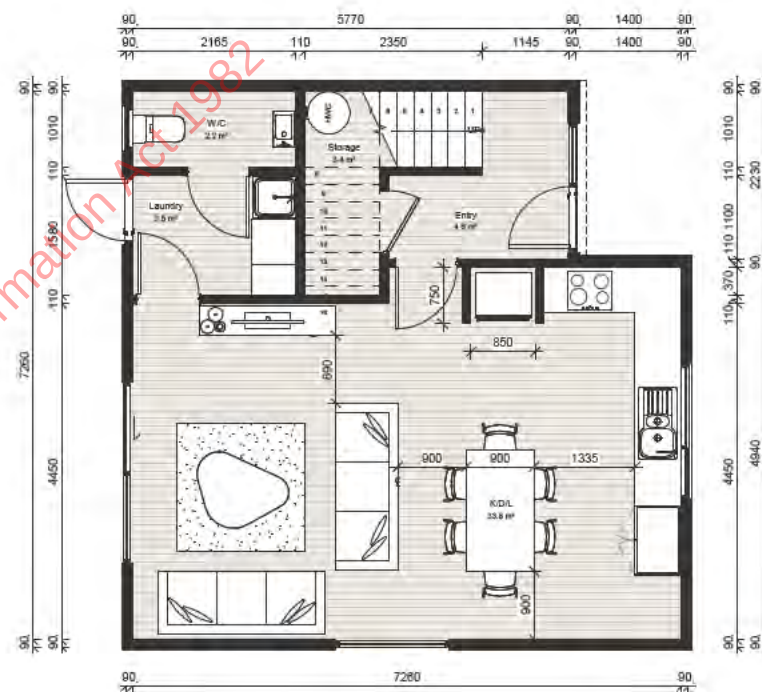
FINAL DESIGN

2L3B SQ | Standalone Unit



GROUND FLOOR PLAN
Scale 1:100 @ A3

GFA Ground Floor
(staircase counted): 53.3m²
GFA First Floor: 56.8m²
Total: 110.1m²



GROUND FLOOR PLAN (Flipped K/D/L)
Scale 1:100 @ A3

FINAL DESIGN

2L3B SQ | Standalone Unit



ELEVATION 01

North Elevation

Risk Matrix	Score
Wind Zone	High 2
Stories	Low 2
Roof / Wall	Medium 1
Eave Width	Very High 5
Complexity	Low 0
Deck Design	Low 0
	10

South Elevation

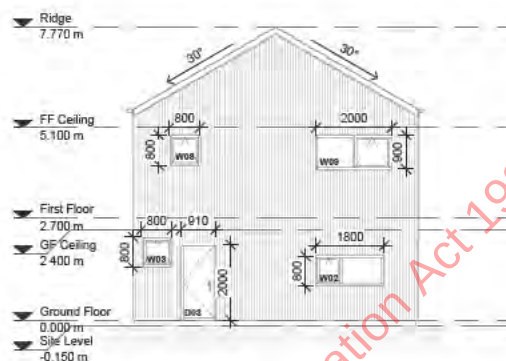
Risk Matrix	Score
Wind Zone	High 2
Stories	Low 2
Roof / Wall	Medium 1
Eave Width	Very High 5
Complexity	Low 0
Deck Design	Low 0
	10

West Elevation

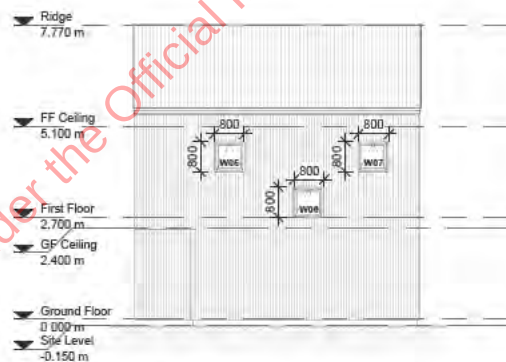
Risk Matrix	Score
Wind Zone	High 2
Stories	Low 2
Roof / Wall	Medium 1
Eave Width	Very High 5
Complexity	Low 0
Deck Design	Low 0
	10

East Elevation

Risk Matrix	Score
Wind Zone	High 2
Stories	Low 2
Roof / Wall	Medium 1
Eave Width	Very High 5
Complexity	Low 0
Deck Design	Low 0
	10



ELEVATION 02



ELEVATION 03

ELEVATION 04

NATURAL VENTILATION NZBC G4 COMPLIANCE

Space	Area m²	G4 - 5%	Actual	% Achieved	Comment
K/D/L	33.8m²	1.69m²	3.29m²	9.7%	
Laundry	3.5m²	0.17m²	1.5m²	42%	Mech
W/C	2.2m²	0.11m²	0.36m²	16.3%	Mech
Bedroom 1	10.0m²	0.5m²	1.57m²	15.7%	
Bedroom 2	9.2m²	0.46m²	2.0m²	21.7%	
Bedroom 3	8.9m²	0.44m²	1.36m²	15.2%	
Bathroom	8.8m²	0.43m²	0.72m²	8.3%	Mech

NATURAL LIGHT NZBC G7 & HOMESTAR V5 COMPLIANCE

Space	Area m²	G7 - 10%	H/Star V5	Actual	% Achieved
K/D/L	33.8m²	3.38m²	5.07m²	7.8m²	22.4%
Bedroom 1	10.0m²	1.0m²	1.5m²	2.3m²	23%
Bedroom 2	9.2m²	0.92m²	1.38m²	2.0m²	21.7%
Bedroom 3	8.9m²	0.89m²	1.33m²	1.36m²	15.2%

BRIEF RESPONSE:

TAPU & NOA

- No direct sight lines from W/C, bathroom and laundry areas to semi-private zones.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The design has a dedicated entry space (manaakitanga) that allows pause between public and private spaces.
- The kitchen location has been designed to ensure the space does not act as thoroughfare and allows for ease of movement throughout the home.

COMPLIANCE WITH AREA REQUIREMENTS

- The GFA has been reduced to 110.1m²
- The K/D/L has been reduced to 33.8m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

CIRCULATION SPACE

- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

TABLE 2 - AREA TABLE
For compliance refer to Table B7.4-2

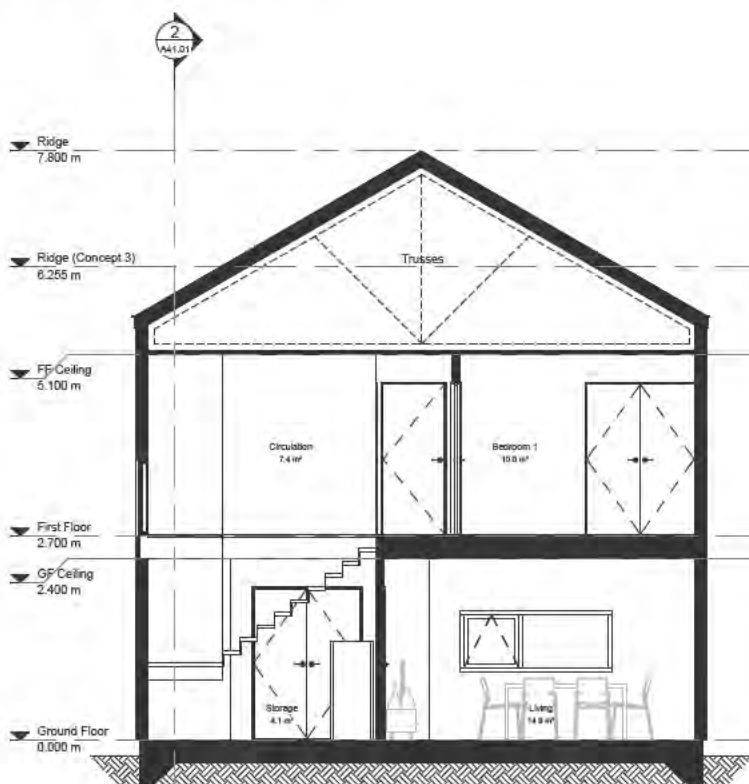
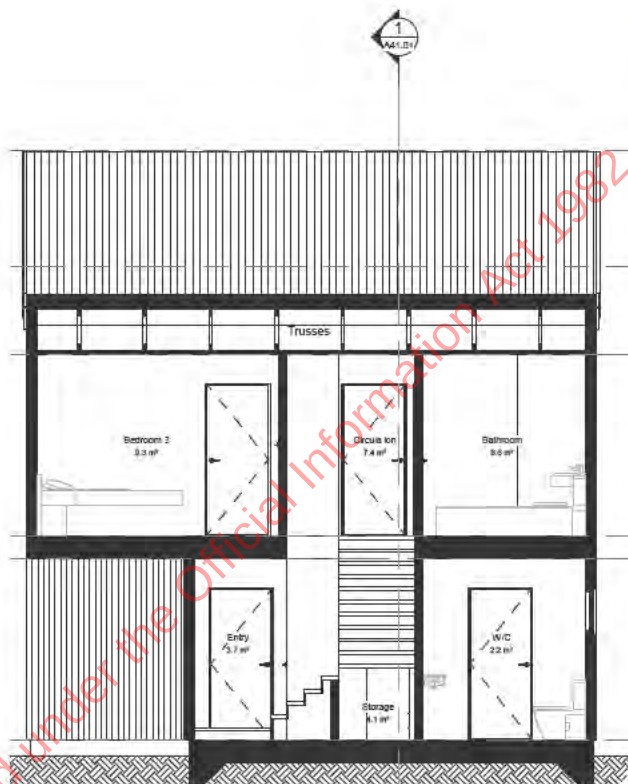
ROOM TYPE	AREA m²
K/D/L	33.8
STORAGE	4.6
LAUNDRY	3.5
BATHROOM 1	8.6
W/C	2.2
BEDROOM 1	10.0
BEDROOM 2	9.9
BEDROOM 3	8.2

0 1 2 3 4 5

5 m

FINAL DESIGN

2L3B SQ | Standalone Unit

SECTION 01
Scale 1:100 @ A3SECTION 02
Scale 1:100 @ A3

COMPLIANCE:

Yellow = below min requirements	2L3BSQ Concept
B2.1 Gross Floor Area (All areas based on weatherboard cladding over 20mm cavity. NZIQS definition of GFA used)	Existing Plan: 115.94m² Minimum: 107m² Achieved: 110.1m²
Kitchen / Dining / Living Areas (All areas exclude circulation space e.g. entry, halls, corridors etc...)	Minimum: 46m² Achieved: 33.8m²
Bedrooms (All areas exclude wardrobes) Main Bedroom: 10m² Secondary Bedrooms: 9m²	Main Bedroom: 10.0m² Bedroom 2: 9.9m² Bedroom 3: 8.2m²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☒ ☒ ☐
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☒ 1.6m(L) x 0.6m(D) ☐ 4.0m(L) x 0.6m(D) ☒ 0.85m(W) x 0.7m(D) ☒ 0.6m(W) x 0.6m(D) ☒ 2x0.6m(W) ☐ 1.5m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ 0.56m (W) ☒ 0.85m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage (width combined for household and a minimum of 1.2m per wardrobe) Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	W/R1 = 1.8m x 0.6m W/R2 = 1.4m x 0.6m W/R3 = 1.4m x 0.6m Linen = 1.5m² of storage (general + linen) HWC = 0.7m x 0.8m General Store = 1.4m² of storage (general + linen)
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 260 min. tread. b. No stair winders. c. At least one handrail	910mm entry door. - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread. All internal doors reduced from 860mm leaf width to 810mm

FIRST FLOOR PLAN
Scale 1:100 @ A3

- 1. Blue = 1050mm area overlay
- Pink = 1050mm area overlay and stair increased to a compliant main private stairwell
- Yellow = New area as a result of 1050mm overlay

- Increasing the entry circulation route to 1050mm and converting the staircase to a main private type causes an impact on the entry space and requires the external wall to be extended out by 230mm.
- Main private stairwell increase will cause a bulk head to the living area due to tread depth and likely have an affect on the structural design.
- Bedroom 3 needs to be reduced to accommodate head height for the staircase below. This then results in the wardrobe depth widening and the entry into the bedroom and circulation around the bed becoming tight.
- Bedroom 1 and 2 will be reduced 110mm in depth due to the circulation being moved across to accommodate the stairs.

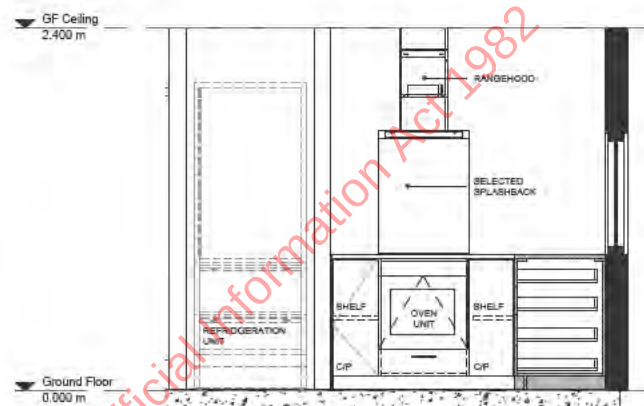
KITCHEN DESIGN

FINAL DESIGN
NGĀ PAEREWA HOAHOA WHARE DESIGN REQUIREMENTS

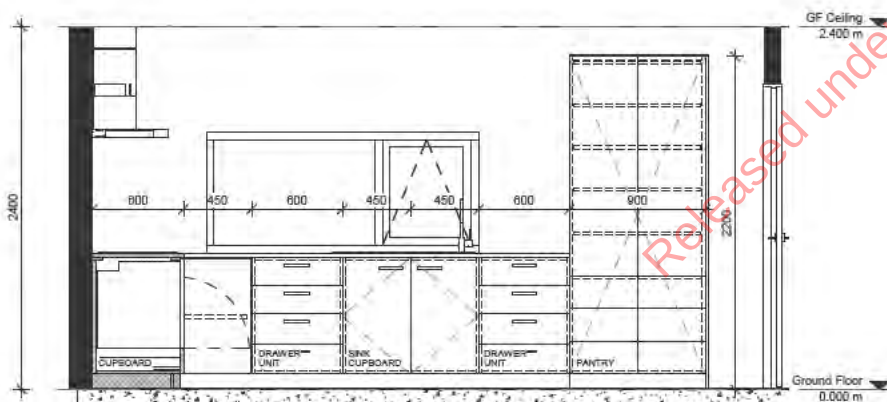
KITCHEN CONFIGURATION 2L3B RC



PLAN VIEW- KITCHEN
Scale 1:40 @ A3



ELEVATION 03
Scale 1:40 @ A3



ELEVATION 02
Scale 1:40 @ A3

KITCHEN REQUIREMENTS (Nga Paerewa Hoahoa Whare)	3 Beds		Compliance
	3 Beds	Proposed Design	
Wet bench (including sink)	1.6m (L) x 0.6m (D)	1.6m (L) x 0.6m (D)	compliant
Total bench space (not including cooktop)	4m (L) x 0.6m (D)	3.8m (L) x 0.6m (D)	200mm shorter than requirements
Fridge space	0.85m (L) x 0.7m (D)	0.85m (L) x 0.7m (D)	compliant
Pantry	0.6m (L) x 0.6m (D)	0.9m (L) x 0.6m (D)	compliant
Stove and extract	x1	x1	compliant
Drawer banks	x2 0.6m (W)	2x 0.6m (W)	compliant
Distance between benches	1.5m	1.2m	compliant

CONFIGURATIONS

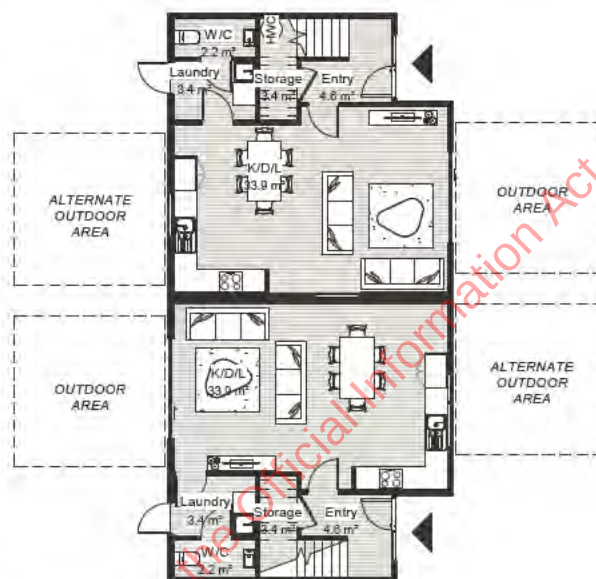
FINAL DESIGN

Typology Configuration, Groupings and Orientation Diagrams

DUPLEX OPTIONS



Duplex Option 01



Duplex Option 02



Duplex Option 03

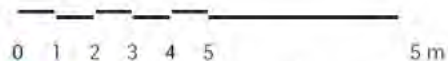
SITE SUMMARY

The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations. This plan has specifically been designed to be able to be built as a standalone / duplexed and terraced dwelling.

1. The 2L3B SQ dwelling can be connected on either the stairwell wall or the Kitchen / Dining / Living room wall allowing the plans to be duplexed or terraced from various elevations.

2. The design has the benefit of being able to host the outdoor area off of two elevations that surround the kitchen / dining / living area. The other two elevations host the entry cut-out which gives the design major versatility when placing the plan on various sites. Not only is it ideal for getting orientations to work for sunlight purposes, the entry cut-out helps to ensure connection to the building from an urban design perspective, enhancing the buildings relationship with street fronts / internal joals.

3. Being perfectly square in shape the design can be duplexed off of all facades. It also allows for terracing where needed.

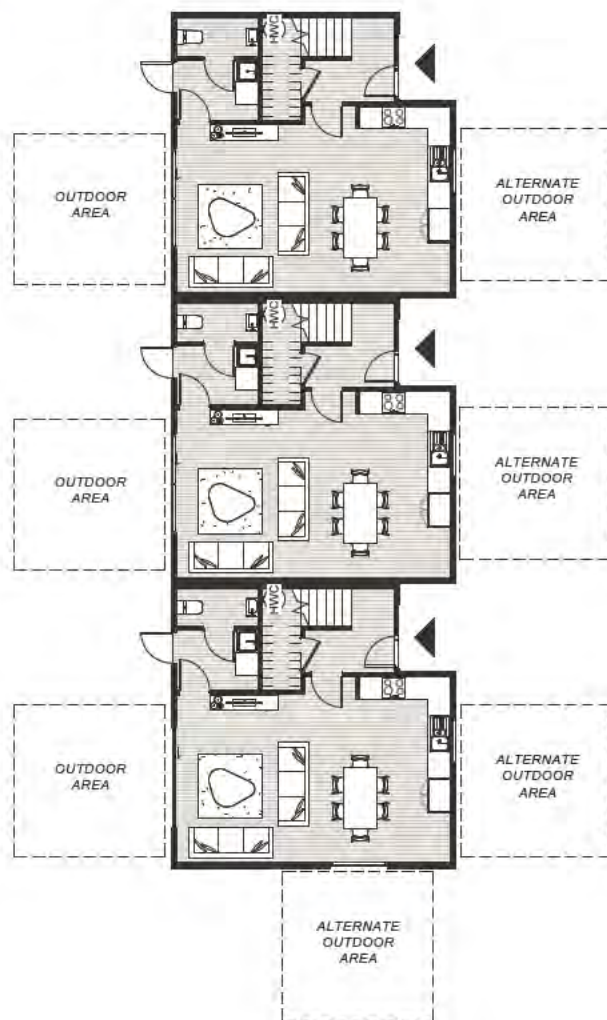


CONFIGURATIONS

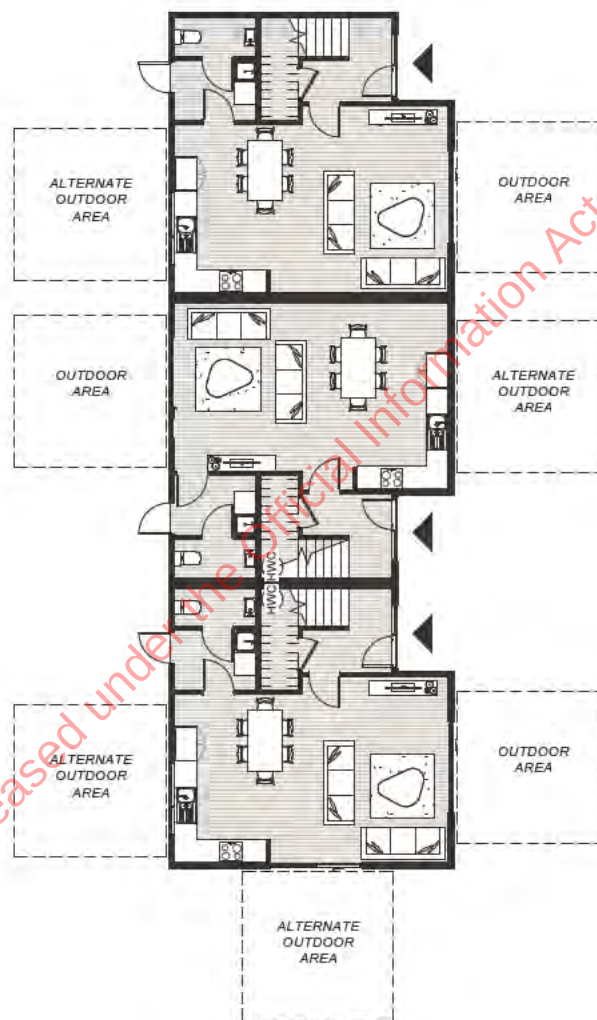
FINAL DESIGN

Typology Configuration, Groupings and Orientation Diagrams

TERRACED OPTIONS



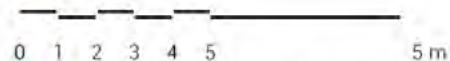
Terraced Option 01



Terraced Option 02



Terraced Option 03





Released under the Official Information Act 1982

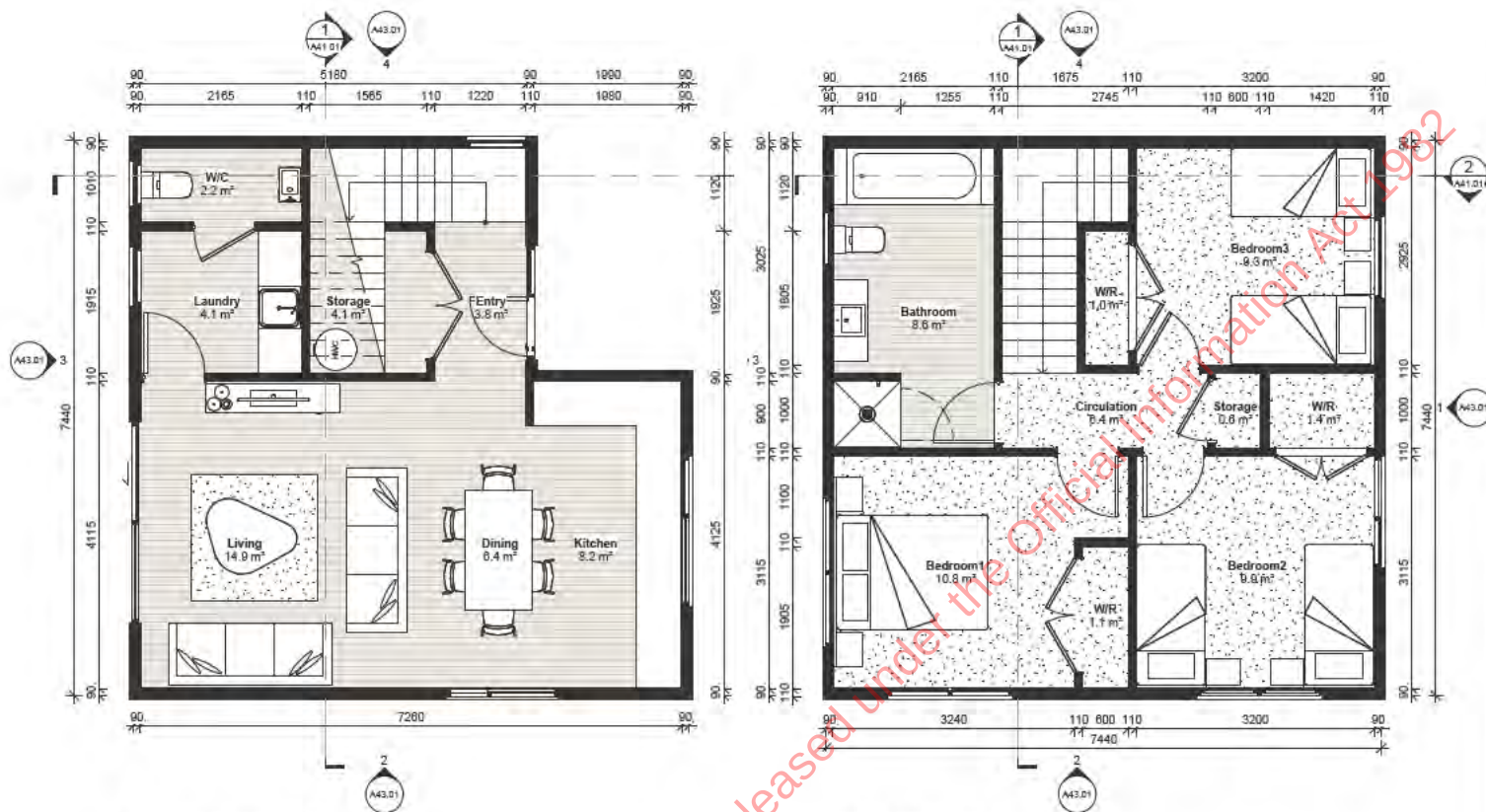
ARTIST IMPRESSION FINAL DESIGN

2L3B SQ | Terraced Option



2 LEVEL 3 BED SQUARE

CONCEPT 01



GROUND FLOOR PLAN
Scale 1:100 @ A3

FIRST FLOOR PLAN
Scale 1:100 @ A3

Space	Area m²	G4 - 5%	Actual	% Achieved	Comment
K/D/L	29.4m²	1.47m²	2.87m²	9.7%	
Entry	3.8m²	0.19m²	0.74m²	19%	
Laundry	4.1m²	0.2m²	0.36m²	8.7%	Mech
W/C	2.2m²	0.11m²	0.16m²	8.7%	Mech
Bedroom 1	10.8m²	0.54m²	2.1m²	19%	
Bedroom 2	9.9m²	0.54m²	1.49m²	18%	
Bedroom 3	9.3m²	0.46m²	1.28m²	13.7%	
Bathroom	8.6m²	0.43m²	1m²	11.6%	Mech

Space	Area m²	G7 - 10%	H/Star V5	Actual	% Achieved
K/D/L	29.4m²	2.94m²	4.41m²	7.46m²	25%
Bedroom 1	10.8m²	1.08m²	1.62m²	2.1m²	19.4%
Bedroom 2	9.9m²	0.99m²	1.48m²	2.53m²	25.5%
Bedroom 3	9.3m²	0.93m²	1.39m²	1.45m²	15.5%

OUR DESIGN RESPONSE:

- The following adjustments have been made to optimise the two level three bed dwelling type:

1. GFA.

The GFA of the design has been reduced to 100.4m². The rationale for minimising the GFA is to create a design this is as compact and user-friendly as possible, eliminating any unnecessary space and excess cost. Existing Type E GFA: 116m²

2. Duplex / Terraceable / Standalone

The design is versatile; it can operate as an independent structure, be part of a duplex setup, or be incorporated into a terrace layout.

3. In-built Weather Protection

The entrance has been relocated under the existing roofline, which serves as a weather shield. This eliminates the necessity for an additional canopy.

The stepped front facade provides a sense of entry, with the front door being clearly identifiable.

4. K/D/L Layout

The flippable interior living space has been designed so the dwelling can better respond to site constraints.

5. Storage Cupboard

The design exceeds storage requirements.

2 LEVEL 3 BED SQUARE

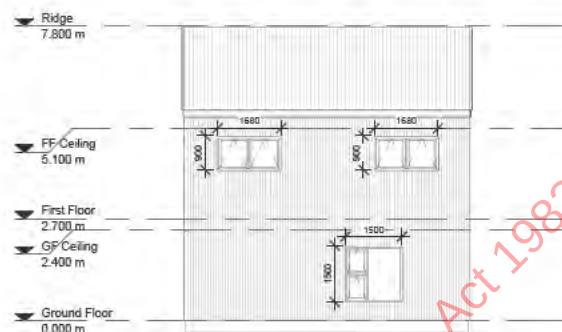
CONCEPT 01



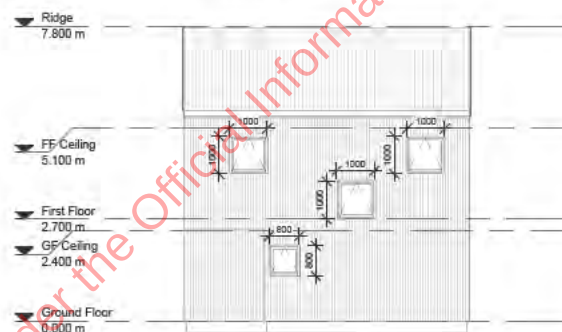
ELEVATION 01



ELEVATION 03



ELEVATION 02



ELEVATION 04



TERRACE ELEVATION



BRIEF RESPONSE:

TAPU & NOA

- No direct sight lines from W/C, bathroom and laundry areas to semi-private zones.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The design has a dedicated entry space (manaakitanga) that allows pause between public and private spaces.
- The kitchen location has been designed to ensure the space does not act as thoroughfare and allows for ease of movement throughout the home.

COMPLIANCE WITH AREA REQUIREMENTS

- The GFA has been further reduced to 100.4m²
- The K/D/L has been further reduced to 29.4m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

CIRCULATION SPACE

- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

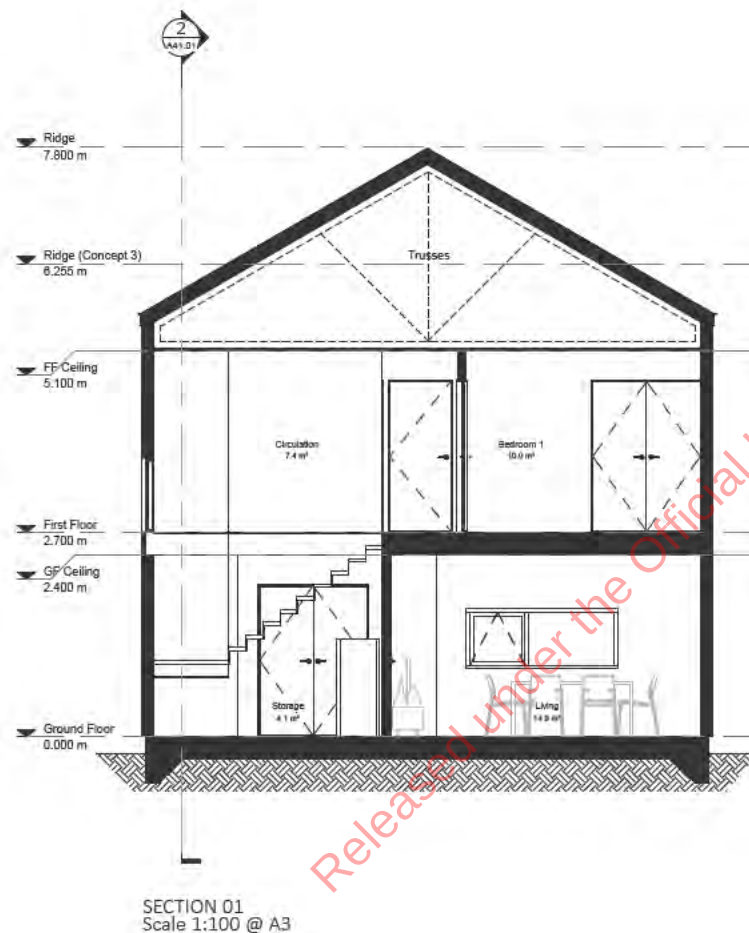
TABLE 2.0: AREA TABLE

For compliance refer to table 2.0.1

ROOM TYPE	AREA m ²
K/D/L	29.4
STORAGE	4.7
LAUNDRY	4.1
BATHROOM	8.6
W/C	2.2
BEDROOM 1	10.8
BEDROOM 2	9.9
BEDROOM 3	9.3

2 LEVEL 3 BED SQUARE

CONCEPT 01

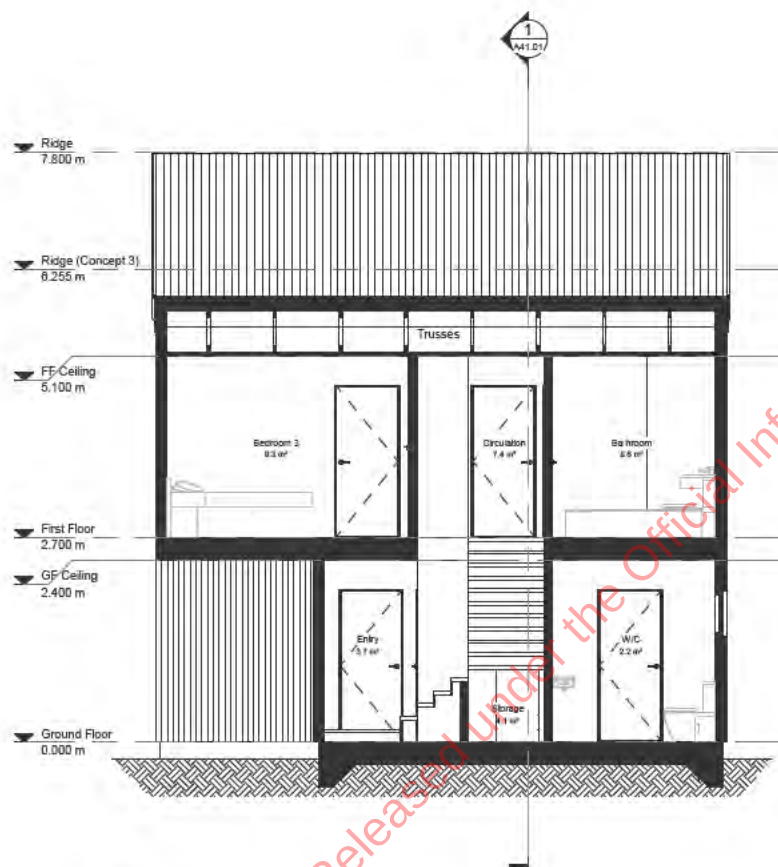


COMPLIANCE:

Yellow = below min requirements	2L3BSQ Concept 1
B2.1 Gross Floor Area <i>(All areas based on weatherboard cladding over 20mm cavity as per NZIQS guidelines unless marked with !)</i>	Existing Plan: 116m ² Minimum: 107m ² Achieved: *100.4m ²
Kitchen / Dining / Living Areas <i>(All areas exclude circulation space e.g. entry, halls, corridors etc...)</i>	Minimum: 46m ² Achieved: 29.4m ²
Bedrooms <i>(All areas exclude wardrobes)</i> Main Bedroom: 10m ² Secondary Bedrooms: 9m ²	Main Bedroom: 10.8m ² Bedroom 2: 9.9m ² Bedroom 3: 9.3m ²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☐ ☒ ☐
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☒ 1.6m(L) x 0.6m(D) ☐ 4.0m(L) x 0.6m(D) ☒ 0.85m(W) x 0.7m(D) ☒ 0.6m(W) x 0.6m(D) ☒ 2x0.6m(W) ☐ 1.5m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ 0.56m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage <i>(width combined for household and a minimum of 1.2m per wardrobe)</i> Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	W/R1 = 1.89m x 0.6m W/R2 = 1.4m x 1m W/R3 = 1.8m x 0.6m Linen = 0.6m x 1m HWC = 0.7m x 0.8m General Store = 4.1m ² of storage
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280 min. tread. b. No stair winders. c. At least one handrail	▪ 910mm entry door ▪ Circulation routes 1000mm ▪ Stairs are secondary private 180mm max riser, 250mm min tread ▪ All internal doors reduced from 860mm leaf width to 810mm

2 LEVEL 3 BED SQUARE

CONCEPT 01



SECTION 02
Scale 1:100 @ A3

COMPLIANCE:

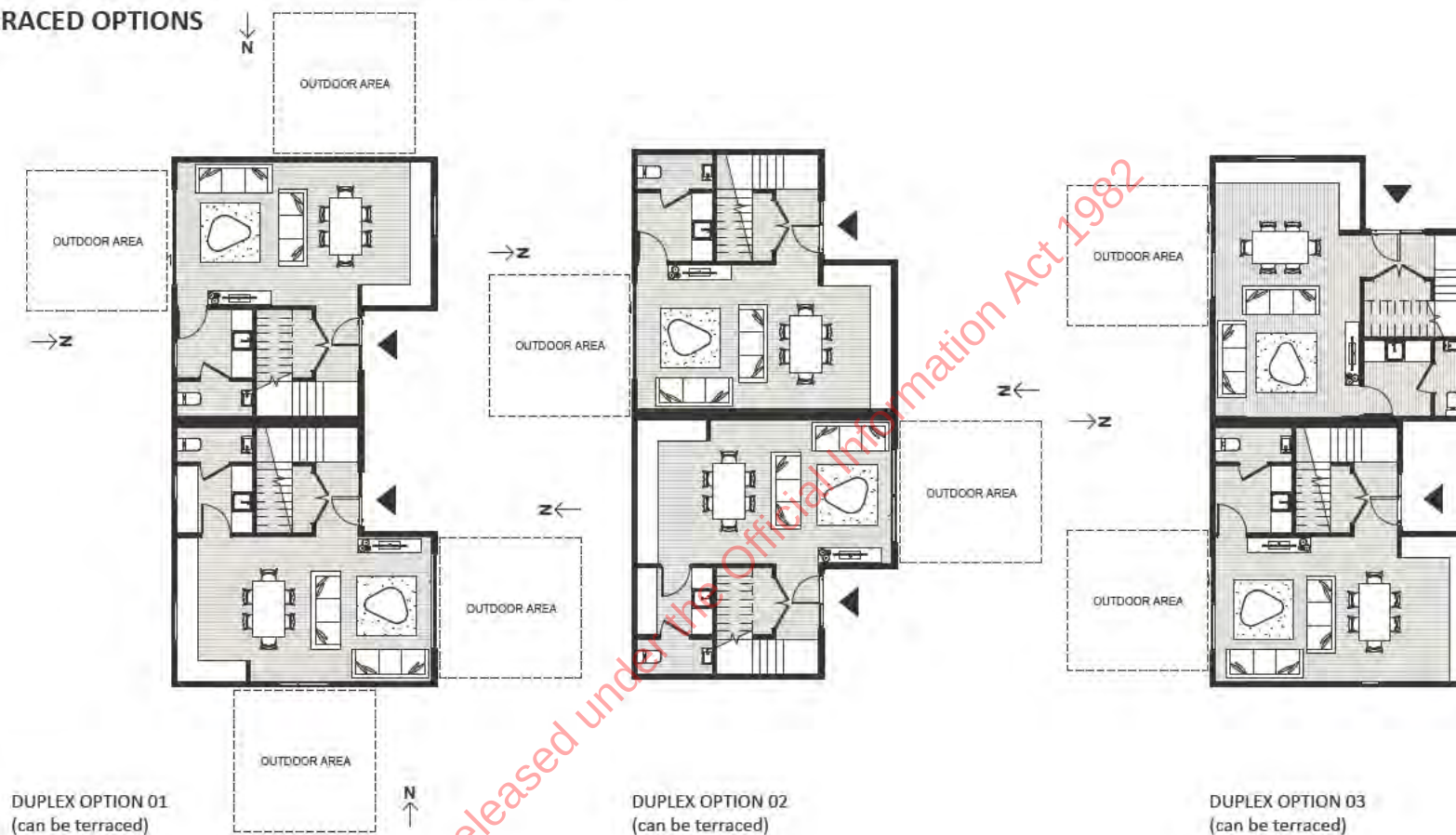
Yellow = below min requirements	2L3BSQ Concept 1
B2.1 Gross Floor Area (All areas based on weatherboard cladding over 20mm cavity as per NZIQS guidelines unless marked with #)	Existing Plan: 116m ² Minimum: 107m ² Achieved: *100.4m ²
Kitchen / Dining / Living Areas (All areas exclude circulation space e.g. entry, halls, corridors etc...)	Minimum: 46m ² Achieved: 29.4m ²
Bedrooms (All areas exclude wardrobes) Main Bedroom: 10m ² Secondary Bedrooms: 9m ²	Main Bedroom: 10.8m ² Bedroom 2: 9.9m ² Bedroom 3: 9.3m ²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	 ☐ ☒ ☐
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	 ☒ 1.6m(L) x 0.6m(D) ☐ 4.0m(L) x 0.6m(D) ☒ 0.85m(W) x 0.7m(D) ☒ 0.6m(W) x 0.6m(D) ☒ 2x0.6m(W) ☐ 1.5m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	 ☒ 0.56m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage (width combined for household and a minimum of 1.2m per wardrobe) Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	 W/R1 = 1.89m x 0.6m W/R2 = 1.4m x 1m W/R3 = 1.8m x 0.6m Linen = 0.6m x 1m HWC = 0.7m x 0.8m General Store = 4.1m ² of storage
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280 min. tread. b. No stair winders. c. At least one handrail	 910mm entry door - Circulation routes: 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm

CONFIGURATIONS

CONCEPT 01

Typology Configuration, Groupings and Orientation Diagrams

DUPLEX / TERRACED OPTIONS



SITE SUMMARY

1. The floor layout of the design has been configured to allow the building to be placed on a range of sites without the need for any major alterations. This plan has specifically been designed to be able to be built as a standalone / duplexed and terraced dwelling.

1. The 2L3B SQ dwelling can be connected on either the stairwell wall or the Kitchen / Dining / Living room wall allowing the plans to be duplexed or terraced from various elevations.

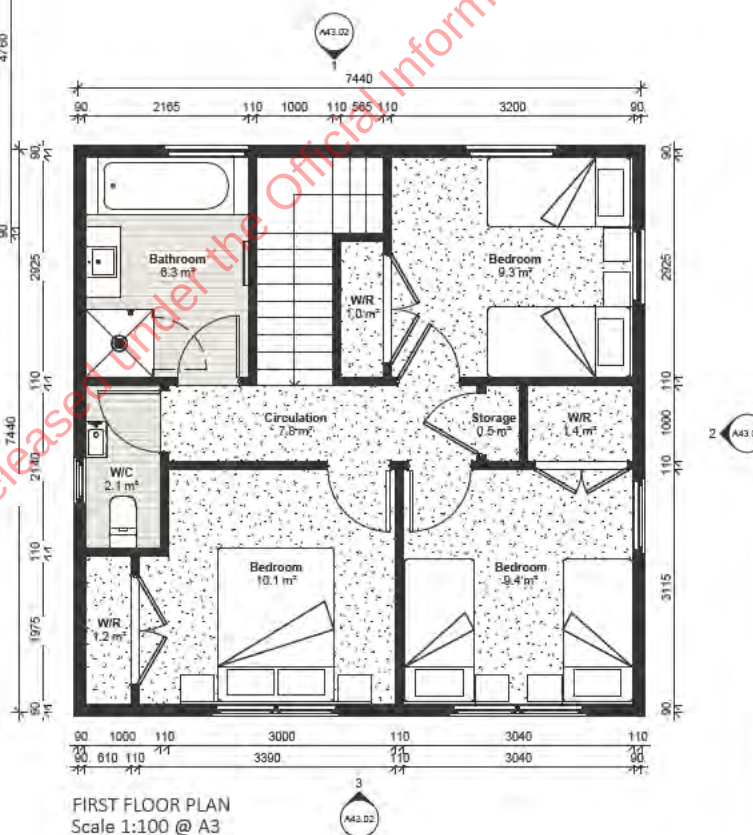
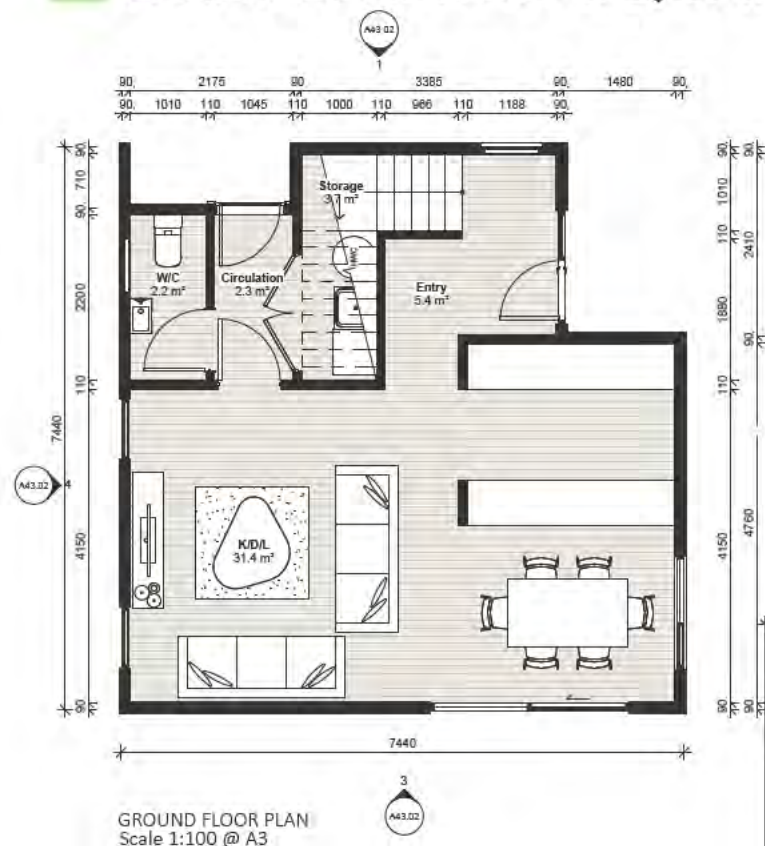
2. The design has the benefit of being able to host the outdoor area off of two elevations that surround the kitchen / dining / living area. The other two elevations host the entry cut-out which gives the design major versatility when placing the plan on various sites. Not only is it ideal for getting orientations to work for sunlight purposes, the entry cut-out helps to ensure connection to the building from an urban design perspective, enhancing the buildings relationship with street fronts / internal goals.

3. Being perfectly square in shape the design can be duplexed off of all facades. It also allows for terracing where needed.

0 1 2 3 4 5 5 m

2 LEVEL 3 BED SQUARE

CONCEPT 02



OUR DESIGN RESPONSE:

- The following adjustments have been made to optimise the two level three bed dwelling type:

1. GFA.

The GFA of the design has been reduced to 100.9m². The rationale for minimising the GFA is to create a design this is as compact and user-friendly as possible, eliminating any unnecessary space and excess cost. Existing Type E GFA: 116m²

2. Duplex / Terraceable / Standalone

The design is versatile; it can operate as an independent structure, be part of a duplex setup, or be incorporated into a terrace layout.

3. In-built Weather Protection

The entrance has been relocated under the existing roofline, which serves as a weather shield. This eliminates the necessity for an additional canopy.

The stepped front facade provides a sense of entry, with the front door being clearly identifiable.

4. Separate Laundry

The laundry space has been located off of the main circulation space, separated from the bathroom with an exit to an external porch.

6. Storage Cupboard

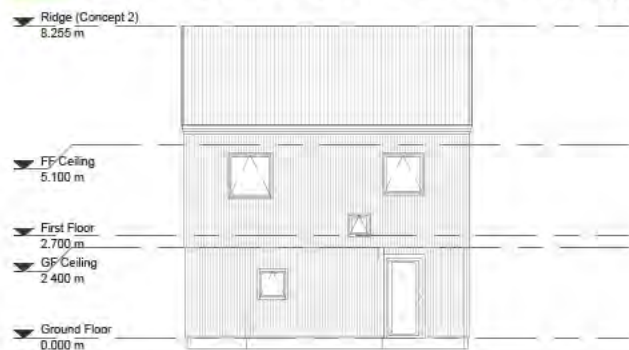
The design exceeds storage requirements.

Further Considerations:

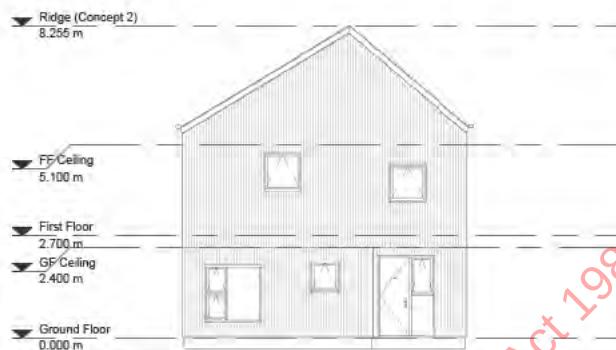
Consideration must be given to the method of external weather protection for the Kitchen/Dining/Living (K/D/L) area. One option is the utilisation of an attachable canopy structure.

2 LEVEL 3 BED SQUARE

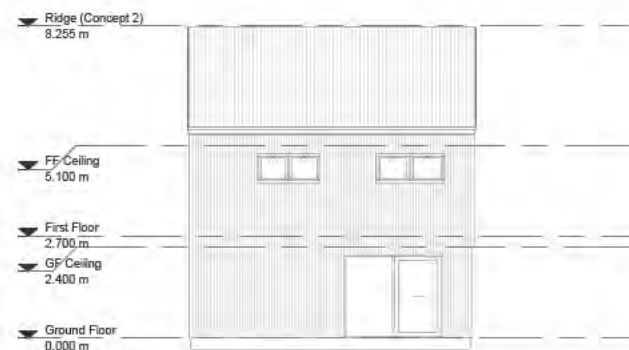
CONCEPT 02



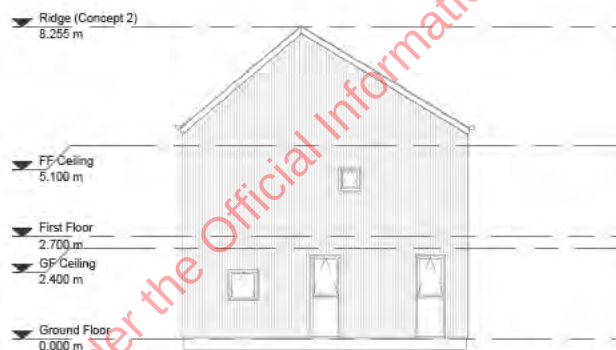
ELEVATION 01



ELEVATION 02



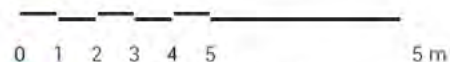
ELEVATION 03



ELEVATION 04



TERRACE ELEVATION



BRIEF RESPONSE:

TAPU & NOA

- No direct sight lines from W/C, bathroom and laundry areas to semi-private zones.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The design has a dedicated entry space (manaakitanga) that allows pause between public and private spaces.
- The kitchen location has been designed to ensure the space does not act as thoroughfare and allows for ease of movement throughout the home.

COMPLIANCE WITH AREA REQUIREMENTS

- The GFA has been reduced too 100.9m²
- The K/D/L has been further reduced 31.4m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

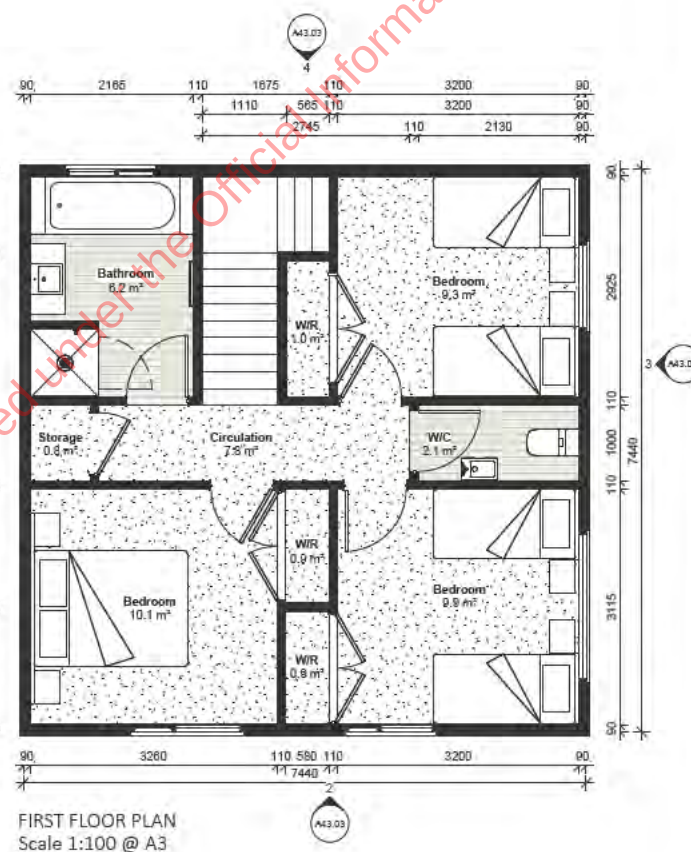
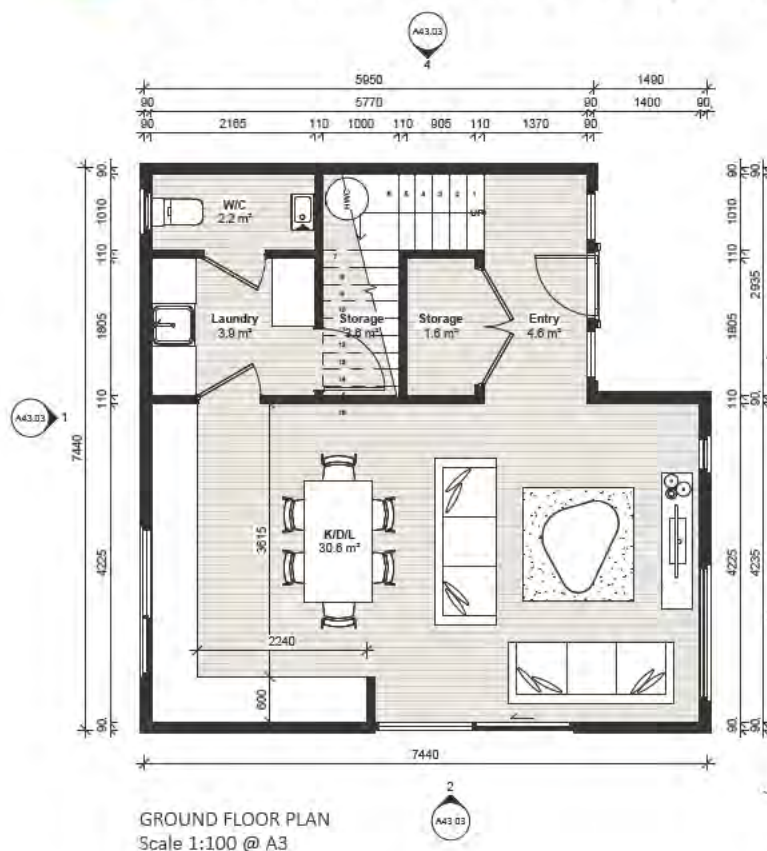
CIRCULATION SPACE

- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

TABLE 2.0: AREA TABLE For compliance refer to Table B04-2	
ROOM TYPE	AREA m ²
K/D/L	31.4
STORAGE	5.6
LAUNDRY	3.7
BATHROOM + W/C	8.4
W/C	2.2
BEDROOM 1	10.1
BEDROOM 2	9.4
BEDROOM 3	9.3

2 LEVEL 3 BED SQUARE

CONCEPT 03



OUR DESIGN RESPONSE:

- The following adjustments have been made to optimise the two level three bed dwelling type:

1. GFA.

The GFA of the design has been reduced to 102.4m².

The rationale for minimising the GFA is to create a design this is as compact and user-friendly as possible, eliminating any unnecessary space and excess cost.

Existing Type E GFA: 116m²

2. Duplex / Terraceable / Standalone

The design is versatile; it can operate as an independent structure, be part of a duplex setup, or be incorporated into a terrace layout.

3. In-built Weather Protection

The entrance has been relocated under the existing roofline, which serves as a weather shield. This eliminates the necessity for an additional canopy.

The stepped front facade provides a sense of entry, with the front door being clearly identifiable.

4. K/D/L Layout

The flippable interior living space has been designed so the dwelling can better respond to site constraints.

5. Storage Cupboard

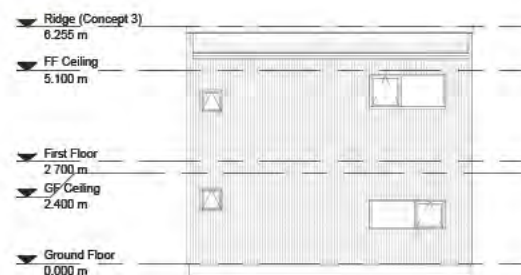
The design has exceeded storage requirements.

Further Considerations:

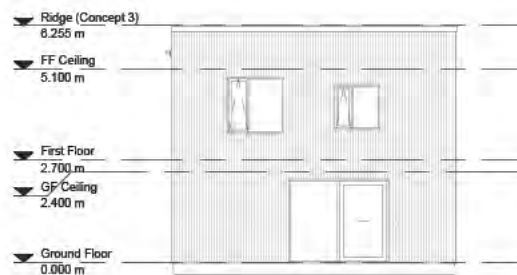
Pumping and drainage location and falls also need to be taken into consideration to ensure the framing and area can accommodate the pipe/acoustic protection required.

0 1 2 3 4 5 5 m

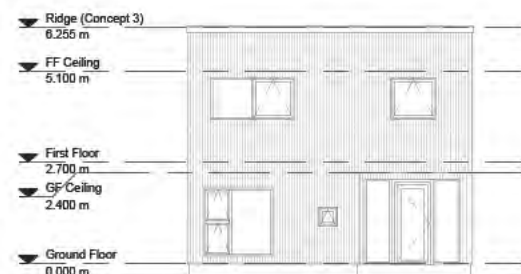
2 LEVEL 3 BED SQUARE CONCEPT 03



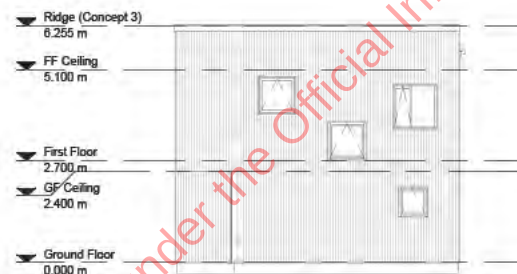
ELEVATION 01



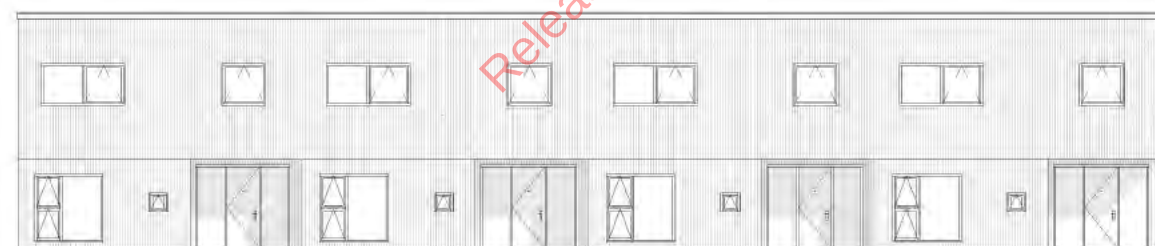
ELEVATION 02



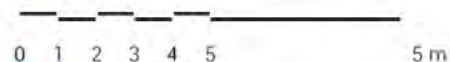
ELEVATION 03



ELEVATION 04



TERRACE ELEVATION



BRIEF RESPONSE:

TAPU & NOA

- No direct sight lines from W/C, bathroom and laundry areas to semi-private zones.
- Laundry and bathroom facilities are positioned away from food preparation zones.
- Laundry is not included in bathroom space.
- The design has a dedicated entry space (manaakitanga) that allows pause between public and private spaces.
- The kitchen location has been designed to ensure the space does not act as thoroughfare and allows for ease of movement throughout the home.

COMPLIANCE WITH AREA REQUIREMENTS

- The GFA has been further reduced to 102.4m²
- The K/D/L has been further reduced 30.6m²
- Careful consideration has been made to ensure the reduction of spaces and overall GFA has not had negative impact on functionality requirements.

CIRCULATION SPACE

- Reduced corridors/circulation to 1000mm
- Optimised entry and circulation area to reduce GFA and excess hallways.
- Doors reduced down from 860 leaf to 810 to maximise usability of floor area.

TABLE 2.11 AREA TABLE

FOR COMPLIANCE WITH TABLE 8.2.1.2

ROOM TYPE	AREA m ²
K/D/L	30.6
STORAGE	6
LAUNDRY	3.9
BATHROOM + W/C	8.3
W/C	2.2
BEDROOM 1	10.1
BEDROOM 2	9.9
BEDROOM 3	9.3

COMPLIANCE

Yellow = below min requirements	2L3BSQ Concept 2	2L3BSQ Concept 3
B2.1 Gross Floor Area (All areas based on weatherboard cladding over 20mm cavity as per NZIQS guidelines unless marked with *)	Existing Plan: 116m ² Minimum: 107m ² Achieved: *100.9m ²	Existing Plan: 116m ² Minimum: 107m ² Achieved: *102.4m ²
Kitchen / Dining / Living Areas (All areas exclude circulation space e.g. entry, halls, corridors etc...)	Minimum: 46m ² Achieved: 31.4m ²	Minimum: 46m ² Achieved: 30.6m ²
Bedrooms (All areas exclude wardrobes) Main Bedroom: 10m ² Secondary Bedrooms: 9m ²	Main Bedroom: 10.1m ² Bedroom 2: 9.4m ² Bedroom 3: 9.3m ²	Main Bedroom: 10.1m ² Bedroom 2: 9.9m ² Bedroom 3: 9.3m ²
B2.3 Bathrooms Full Bathroom (shower) Full Bathroom (bath and shower) Separate WC	☐ ☒ ☒	☐ ☒ ☒
B2.3 Kitchens Wet Bench (including sink) Total Bench (includes wet and dry bench) Fridge Pantry Drawer Banks Distance between Benches	☒ 1.6m(L) x 0.6m(D) ☐ 4.0m(L) x 0.6m(D) ☐ 0.85m(W) x 0.7m(D) ☒ 0.6m(W) x 0.6m(D) ☒ 2x0.6m(W) ☐ 1.5m (1.2m)	☒ 1.6m(L) x 0.6m(D) ☐ 4.0m(L) x 0.6m(D) ☐ 0.85m(W) x 0.7m(D) ☒ 0.6m(W) x 0.6m(D) ☒ 2x0.6m(W) ☐ 1.5m
B2.3 Laundry Laundry Tub Washing / Drying Machine space Shelf (mounted min. 1.2m above FFL)	☒ 0.56m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)	☒ 0.56m (W) ☒ 0.65m(W) x 0.7m(D) ☒ 0.7m(W) x 0.2m(D)
B2.4 Storage (width combined for household and a minimum of 1.2m per wardrobe) Wardrobe 1 Bed 1.2m x 0.6m 2 Bed 2.4m x 0.6m 3 Bed 3.6m x 0.6m Linen 0.6m x 0.6m HWC 0.7m x 0.8m General Storage 0.6m x 0.6m	W/R1 = 1.9m x 0.6m W/R2 = 1.4m x 1m W/R3 = 1.8m x 0.6m Linen = 0.45m x 1m HWC = 0.7m x 0.8m General Store = 3.7m ² of storage combined with laundry	W/R1 = 1.5m x 0.6m W/R2 = 1.5m x 1m W/R3 = 1m x 0.6m Linen = 0.79m x 1m HWC = 0.7m x 0.8m General Store = 4.6m ² of storage combined with laundry
B2.2 Access, Egress and Circulation B2.2.1 Main Entry a. 910mm (W) single hinged door with min. 810mm clear B2.2.2 Circulation Routes a. Min. 1050mm (W) clear. b. All internal and external doors (except storage) provide a min. clear opening of 810mm B2.2.3 Stair Design a. 190mm max. riser, 280 min. tread. b. No stair winders. c. At least one handrail	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm	910mm entry door - Circulation routes 1000mm - Stairs are secondary private 180mm max riser, 250mm min tread - All internal doors reduced from 860mm leaf width to 810mm

2.0 Typologies

ARTIST IMPRESSION

2L2B SQ + 2L3B SQ | Terraced / Duplexed Option



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