

Building for Shared Rental Homes by Non-profit Community Housing Providers

Maximising yield, reducing risks and effectively using land for older people's rental housing

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Building Better Homes Towns and Cities
A Component of the Building Solutions Project
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Acknowledgements

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Disclaimer

Every effort has been made to ensure the soundness and accuracy of the opinions and information expressed in this report. While we consider statements in the report are correct, no liability is accepted for any incorrect statement or information.

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1 Introduction

This study is one component of a project on building solutions that will address some of the barriers to make our building stock, both new build and retrofit, perform better for the needs of older people. This component focuses on the increasing demand for affordable, secure rental housing among older people and the limited delivery of rental and affordable housing to older people.

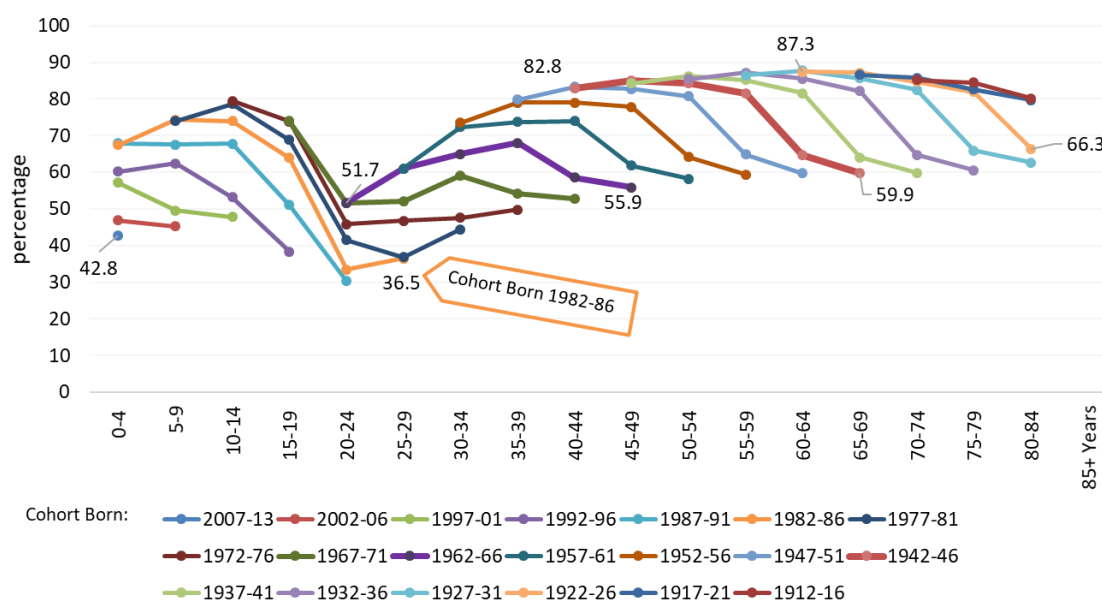
This component of the Building Solutions Project constitutes a design experiment which sought to establish whether the yield of shared rental could be increased while providing less integrated and more homelike building envelopes which might be adaptable to change in use over time. It looked to do so on a site smaller than those typically being sought for Abbeyfield and shared rental sites. Indeed, it explores the extent to which contiguous but separately titled sites might provide the benefits of communal living while taking a precautionary approach which would allow the buildings on each site (with their own cooking and dining nodes) to be decoupled functionally if required in the future. Those outcomes were sought along with an attempt to increase the yield and provide flexibility in terms of both building and tenanting as well as provide a domestic low-rise typology that would not overwhelm neighbours or generate issues of mobility, access and safety for residents. That is, a single storey structure.

This component has three substantive outputs: the first is a set of concept plans which have been developed to suit a specific site, but which can be transferrable to other sites; an analysis of the yield associated with that concept; and an analysis of construction costs. The latter is in a subsequent report. This report focuses on the yield associated with the concept design. The yield has a significant impact on costs, capital requirements and returns which are associated with land consumption.

2 Context

The number of older renters is increasing along with an increase in the proportion of older people now and into the future who will depend on rental housing. The dynamics are clear. While older people still have very high rates of home ownership, those rates are falling and as each birth cohort moves through their life course the probability of being in owner occupation at the age of 65 years falls (Figure 1).¹

Figure 1 Home Ownership by Birth Cohort*, Total NZ



The rental market has proved problematic for older people. It tends to be insecure, the housing delivered through the rental market is in poorer repair (Figure 2),² and the cost of rental housing is a challenge for older people for whom income support is based on assumptions of mortgage-free home ownership.³ Older tenants are also poorer in health and more likely to forgo accessing a range of health services including filling prescriptions.⁴

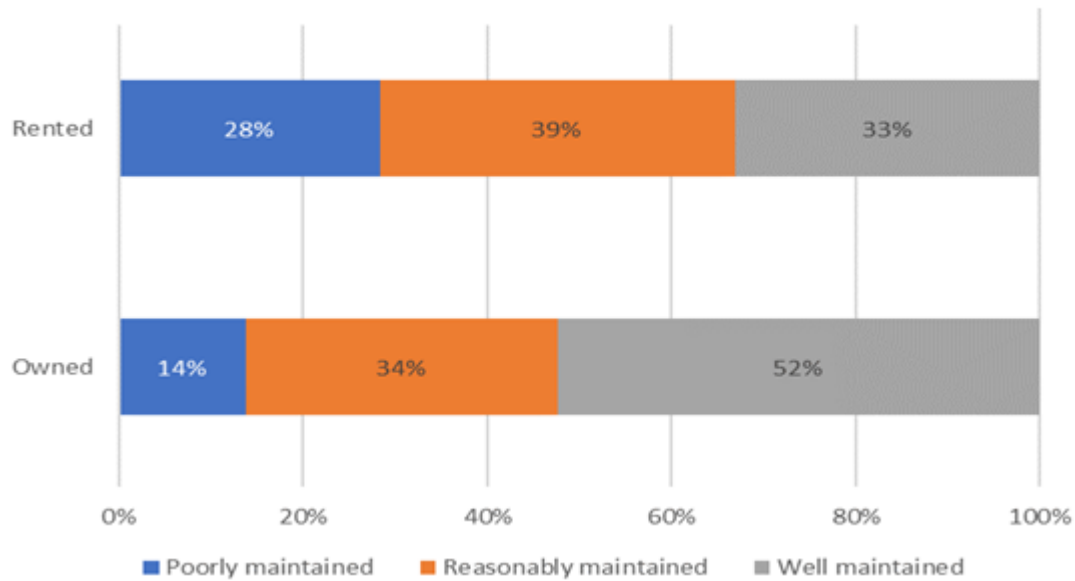
¹ N. Jackson and B. James (2016) *Ownership, Renting and Residence in a Home Owned by a Family Trust for the Western Bay of Plenty and Total New Zealand, by birth cohort for the period 1986-2013*. Report prepared for Population Ageing Technical Advisory Group and SmartGrowth. Cohort analysis prepared by Dr Natalie Jackson. *Final observation for each cohort is +2 years, due to 7 year gap between 2006 and 2013 censuses.

² Data from the BRANZ NZ House Condition Survey extracted by Vicki White, BRANZ.

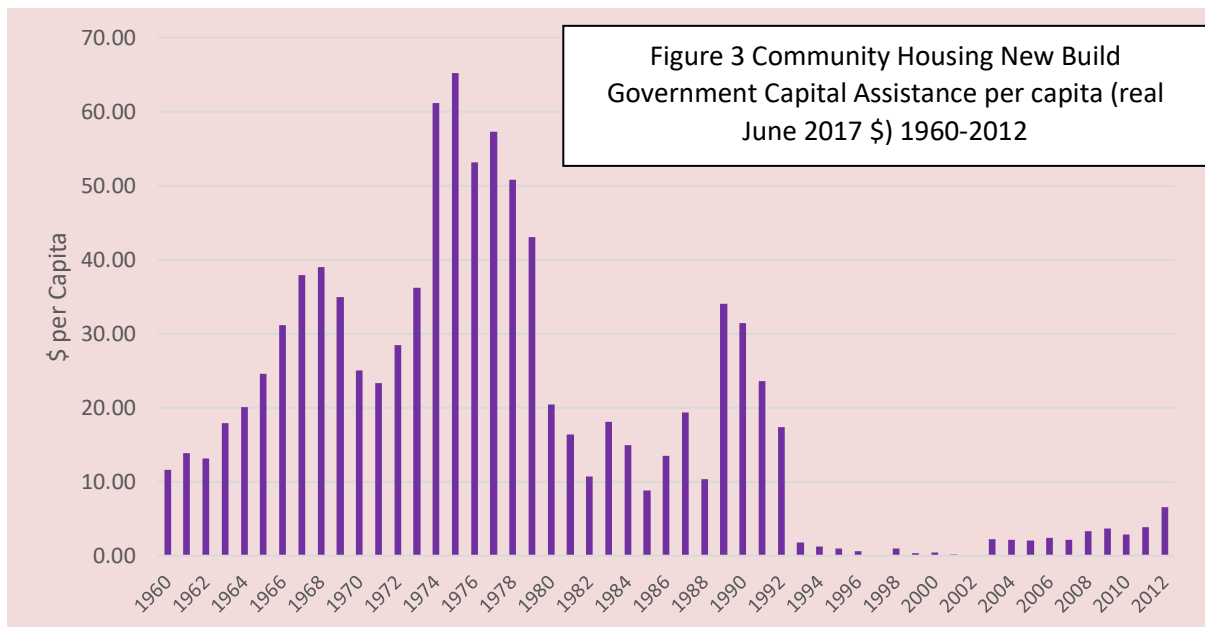
³ Saville-Smith, K., 2013 *Housing Assets: 2013 Review of Retirement Income*, Prepared for Commission for Financial Literacy and Retirement Income. See Life When Renting programme www.goodhomes.co.nz.

⁴ Pledger, M., McDonald, J., Dunn, P., Cumming, J., and Saville-Smith, K. (2019) The health of older New Zealanders in relation to housing tenure: analysis of pooled data from three consecutive, annual New Zealand Health Surveys *Australian and New Zealand Journal of Public Health*.

Figure 2 Repair and Maintenance of Dwellings with 65+ year old residents
(BRANZ NZ House Condition Survey 2015/16)



The traditional provider of social housing for older people, councils, have reduced their involvement and remaining council housing stock requires considerable investment in redevelopment. Government support for councils has largely disappeared since the 1990/1 housing reforms. Older people are not typically targeted by community housing providers and, in any case, Government capital investment in community housing has also seen significant falls in the last thirty years (Figure 3).⁵



⁵ Prepared K, Saville-Smith as part of the Lower Quartile Value research project, Building Better Homes Towns and Cities National Science Challenge.

Those dynamics have meant that, despite increased demand, investment in older people's rental housing has decreased. There are a smattering of providers specifically building for older tenants and those are typically delivering shared spaces albeit with private rooms. Under some models, such as the internationally tested Abbeyfield model, shared tenancies are delivered with on-site house management and the preparation of at least some meals. In others, house management may be off-site and residents are more likely to be undertaking meal preparation. Irrespective of those variations, there are issues that typically confront community housing providers around the numbers of residents, ambience and the risks of institutionalism, and ensuring rental affordability.

These tensions are played out in different ways. Larger numbers of residents can compromise the home-like ambience that is being sought while also exposing dwellings to being classified as boarding houses under district plans and communal dwellings in the Building Act. Both classifications have cost implications resulting from both building and planning requirements. Definitions of communal dwellings may vary from council to council and may push providers into larger land blocks with associated increased capital costs as well the potential for increased on-going site maintenance. The search for sizeable land blocks can in itself become a barrier and push these shared rental homes into areas distant from services and amenities. There are, too, issues of income stream and the adaptability of the building typologies that tend to be built for shared rental. Their single building envelopes mean that the whole building must be completed before any residents can be accommodated and changes in use can be constrained by the close integration of the typology and its design.

3 Measuring Yield

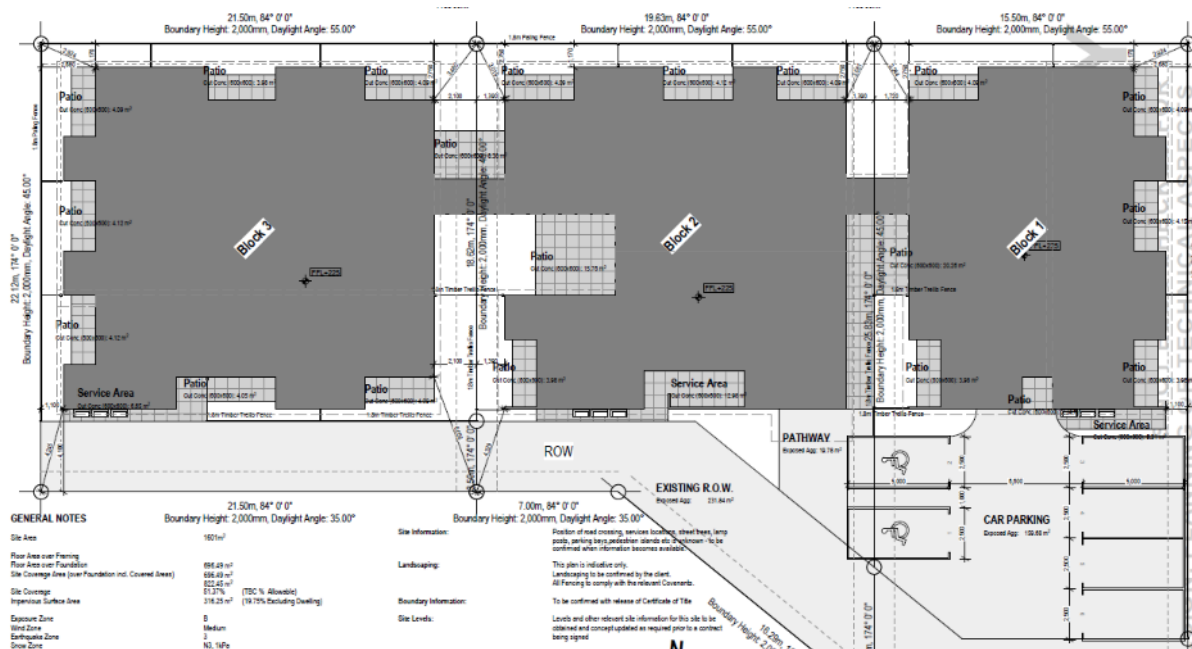
A number of measures have been used to assess the yield of this concept design. Those measures broadly fall into two categories:

1. The number of rooms and residents, in particular, the efficiency of land use in relation to the number of residents and bedroom/ensuites provided.
2. The comparative amenity provided within the footprint of the buildings. Those include:
 - The shared and personal space per resident respectively.
 - Shared amenities.
 - Access to sun and outdoor space.

The comparative analysis has been enabled by the property wing of Abbeyfield New Zealand providing data in relation to two more recent Abbeyfield builds.

4 The Concept Design

The concept design was developed using a real site under three titles with a long north boundary, on the other side of which is a kindergarten.



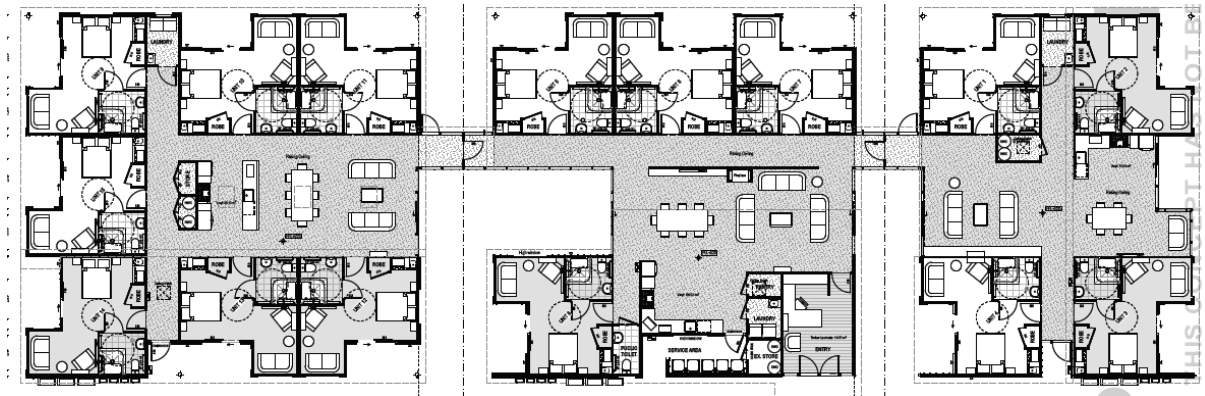
The north boundary looks onto a landscaped area with a low rise modernist (and modest) building beyond that. To the south is a wide laneway. To the west is a modest single storey dwelling and to the east a single storey garage which services a set of ‘sausage’ flats running towards the east. The site is a back section and it is located about eight to ten minutes walking distance from Blenheim’s city centre. The site was used purely for design demonstration purposes. The owners of the site, the Marlborough Sustainable Housing Trust, had no intention of developing the site in this way when the researchers requested permission to use the site measurements to test concepts allowing more flexible and higher yielding shared rental designs for older people.

The design was developed over three iterations by the design team under leadership of Peter Freeman, General Manager Social Housing and Community Projects and with planning consultants for MikeGreerCommercial. Earlier versions were iterated with Abbeyfield and a member of the Dwell team involved in this research and shared with Yvonne Wilson of Te Rūnanga Ō Kirikiriroa.

The key features of the design are as follows:

- Three building envelopes within each of the titled sections respectively.
- Integration across boundaries and buildings by connecting corridors which give access to garden areas to the north.
- Provision of fifteen ensuite rooms, each with an covered outdoor patio – 23.31 sqm interior and around 4 sqm covered patio for each room.

- Predominately north, east or west facing rooms and the use of clerestory windows to increase natural light.
- Consolidated parking, service and shared storage areas.
- Full kitchens, storage, seating and dining areas in each building envelope.
- A laundry in each building envelope.
- Wide circulation spaces with a foyer and office in one block.



The roofed areas of these buildings are 869.76 sqm with the entire footprint 822.45 sqm on a site area of 1,601 sqm. In discussions with the council, it was indicated that this would be treated as community housing rather than a boarding house. This should not be taken to suggest that other jurisdictions would handle these connected structures in the same manner. The full concept design is presented in Annex A.

5 Yield

Abbeyfield provided two comparators, which allowed an analysis of the efficiency of land use and the yield of resident rooms by dwelling size. These are set out in Table 1.

Table 1: Land, Dwelling Areas and Residents for Concept Design and Comparators

	Land Area m ²	Dwelling Area m ²	Dwelling to Land Coverage	Resident Rooms	Land per Resident m ²	Dwelling Area per Resident m ²
Concept Design	1,601	822	51%	15 ⁶	107	55
Comparator 1	2,171	854	39%	15 ⁷	145	57
Comparator 2	1,914	760	40%	13 ⁸	147	58

It should be noted that this overstates the space per resident in the comparators because it treats the housekeeper's unit as the same size as the resident rooms, although it is bigger. However, arguably the amenity delivered in the concept design is lower due to the lack of a housekeeper unit. The latter, however, is a model that some shared rental situations have implemented, including some Abbeyfield sites in New Zealand.

The interior private space of the concept design is smaller than in the two comparators which are 29 sqm respectively compared to 23.31 sqm although there is an additional covered, patio private space of 4 sqm in the concept design.

5.1 Land

The concept design's use of land delivers different cost exposures and demand for capital. To get an insight into those a square metre land cost has been used for three cities: Auckland, Christchurch and Wellington. Those costs are derived from Fletcher Building's commissioned report *Cost of residential housing development: A focus on building materials* which was released in December 2018.

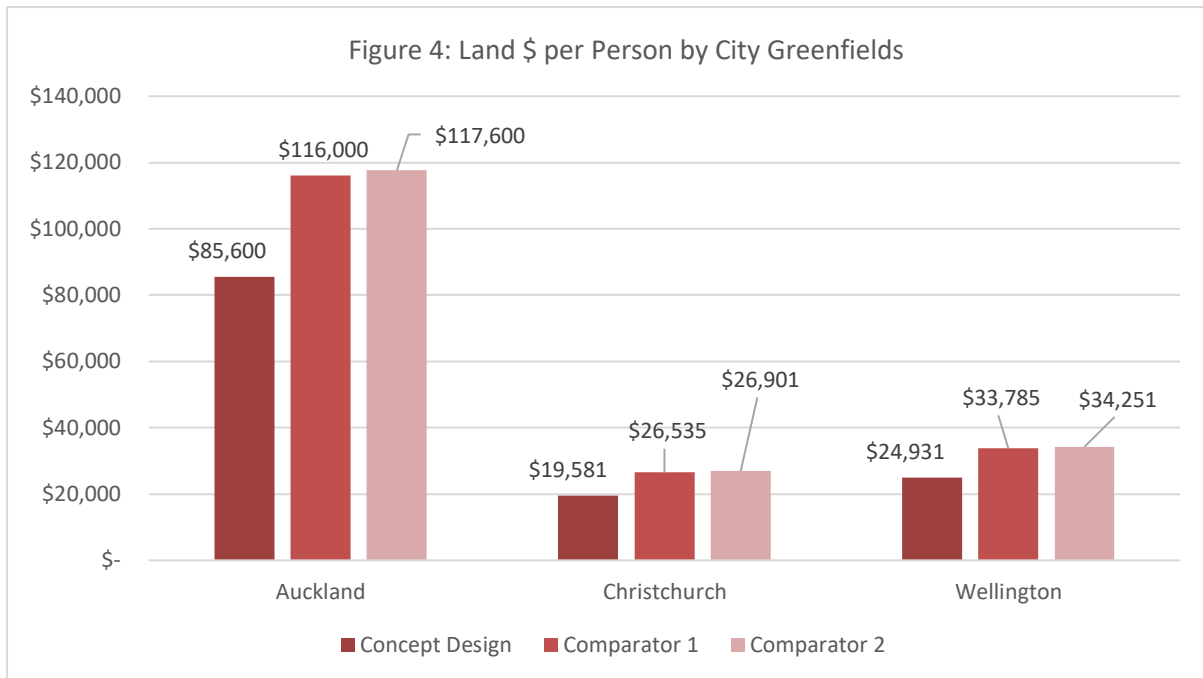
That report estimated that the per square metre price for a 300 m² greenfields section (before infrastructure and associated work) varied from \$800 in Auckland to \$233 in Wellington and \$183 in Christchurch. Inevitably, then, any differences in costs and capital requirements associated with the concept design and the two comparators are most pronounced in Auckland. Differences are, however, still evident in the lower land cost profiles of Wellington and Christchurch respectively. An immediate measure of land costs may be found by referencing the cost of land per resident for the concept design and the comparators.

⁶ No Housekeeper's unit

⁷ Including Housekeeper's unit

⁸ Including Housekeeper's unit

As Figure 4 shows, the land cost per person is consistently smaller in the concept design relative to the two comparators. The value of that difference varies, however, between Auckland, Wellington and Christchurch. In Auckland the cost of land per resident was \$85,600.



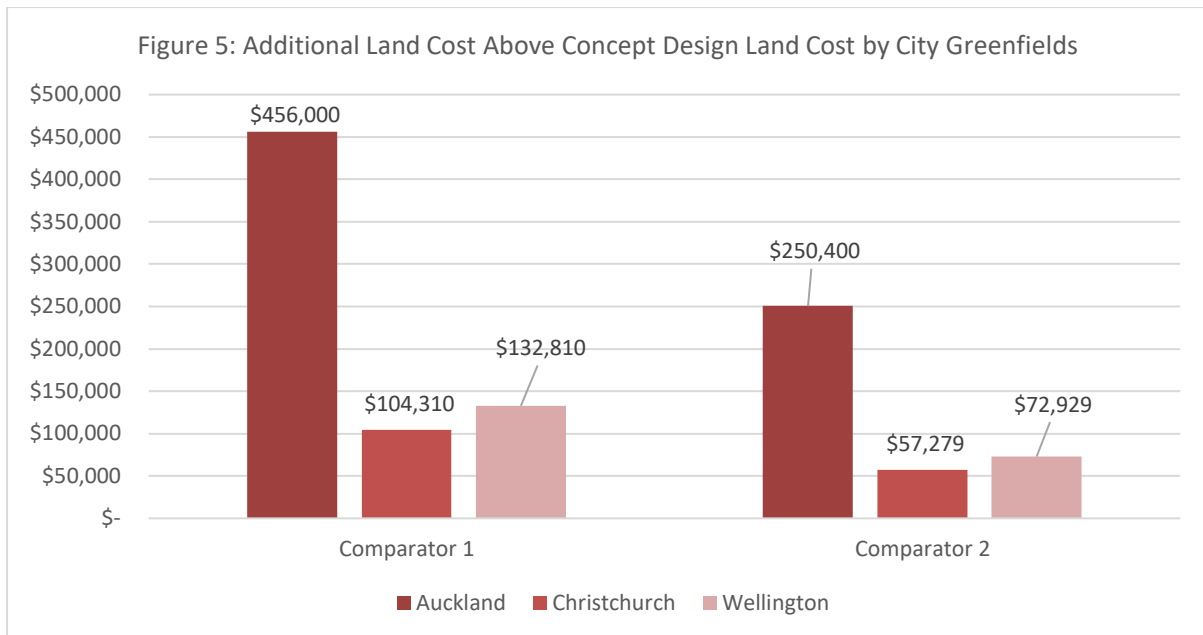
The cost of land per person for comparator 1 was around \$30,000 more and in comparator 2 around \$32,000. By way of contrast, the per person land cost in Christchurch was around \$7,000 higher in both the comparators relative to the concept design and around \$10,000 higher for the comparators in Wellington.

The overall capital liability in relation to land shows a similar pattern (Table 2) with the concept design having the least capital required for land purchase irrespective of city.

Table 2: Estimated Land Costs for Greenfields by City

	Auckland	Christchurch	Wellington
Concept Design	\$ 1,280,800	\$ 292,983	\$ 373,033
Comparator 1	\$ 1,736,800	\$ 397,293	\$ 505,843
Comparator 2	\$ 1,531,200	\$ 350,262	\$ 445,962

Figure 5 shows that the differences in land costs between the concept design site size and the land sizes associated with the two comparators are by no means trivial. In Auckland the difference between the cost of the land required for the concept design and comparator 1 was \$456,000 with the same comparator in Wellington having an estimated land cost more than \$130,000 in excess of the concept design. The estimated excess cost over the concept design in Christchurch is about \$104,000.



The additional land costs beyond the concept design for comparator 2 are smaller but material, with the Auckland excess cost being around a quarter of a million dollars. In a Christchurch greenfields site, comparator 2 could be expected to have a land cost in the region of \$57,000 more than the concept design. In Wellington, the land cost over and above the concept design is around \$75,000.

It should be noted that those differences may be absorbed to some extent by the different building costs associated with differences in building typologies. The concept design involves three building envelopes as well as demanding full kitchens in each envelope. Building costs will be the subject of a further report.

5.2 Private and Public Space and Amenities

The concept design offers both additional and reduced amenities compared to the comparators.

The most obvious reduction in amenity is in relation to private space. The comparators both deliver 29 square metres of private living, bedroom and ensuite space. The concept design is 23.31 with an additional 4 square metres in covered patio. Four rooms are also reliant on northly sun by way of clerestory windows and will demand careful management of winter heating. It must be noted, however, that north and westerly facing rooms are likely to require careful shading if they are not to overheat in summer. They may also require cooling. The relationship between orientation and thermal management, consequently, is by no means straightforward, either in relation to comfort or cost.

There is less pantry space in the concept design compared to the comparators, although again this needs to be treated with care. The three kitchens in the concept design compared to the single kitchen in each of the comparator provide additional kitchen storage. Laundries are distributed more widely in the concept design, which has three laundries compared to one in

comparator 2 and two in comparator 1. The total laundry space, however, is only slightly larger in the concept design. The main amenity value resides in reducing the numbers of residents using each of the laundry spaces.

There is not a significant difference in the size of public space, but public space is configured quite differently in the concept design and the comparators respectively. The former tends to be more open plan but also, by virtue of the three envelope designs, is pierced by outdoor areas that allow outdoor separation in shared space.

6 Value to Residents vs Housing Providers

The relative build costs of these designs are the subject of a future report. It is inevitable that, also already noted, additional kitchens, the use of what are effectively three pavilions and the additional amenities around laundries and the like will have the potential to increase build price. To offset savings around land consumption, however, build price would need to be significant higher to lose the net benefit associated with the more efficient use of land. This is particularly the case if building was undertaken in Auckland with its very high land costs. In addition, the footprint for the concept design is somewhat smaller than comparator 1, although larger than comparator 2.

Residents would benefit from lower build and land costs, as it is more likely that a shared rental provider will be able to deliver an affordable rental experience. For community housing and public housing providers working within a non-profit paradigm the long-term affordability as well as the comfort, security and well-being of their residents is paramount.⁹ Indeed, the Community Housing Registration Authority is charged with ensuring that registered community housing providers deliver on those performance requirements.

Of equal importance to costs is the ability of the design to reduce the likelihood of complex planning and consenting hold ups. In this demonstration project the designers took the plans to the local council. The response was positive, although that by no means suggests that a positive response will be achieved in other jurisdictions.

Most importantly, there were indications that this would be classified as a Community House and consequently would, with the agreement of the one property owner with an easement over the driveway, be treated as limited notification. The car parking was seen as acceptable but further car parking would be required if there was a care worker living on site. The council required further design work to provide a separate area for bins. They particularly liked the design, especially the separate units, common areas and the personal patio areas. Of course, because this is a demonstration design, we have not sought to apply for consent formally and other councils might have different views. Nevertheless, the design does provide flexibility: One envelope could be built followed by the others. Although this would not be the most cost effective from a build point of view, it may allow providers to establish an earlier income stream. Similarly, the connections between envelopes could be removed in the future to allow new living typologies.

⁹ Saville-Smith, K., Saville-Smith, N., and B. James (2016) *Community Housing Providers, Procurement and the Building Industry*, Report ER21 funded by the Building Research Levy, BRANZ, Judgeford; Joynt, J. (2019) Unpicking the construction development pipeline: a community housing provider perspective, Architecture of Decision-making, Building Better Homes Towns and Cities National Science Challenge and RIMU, Auckland Council

References

- Deloitte (2018) *Cost of residential housing development: A focus on building materials*, Fletcher Building, Auckland.
- Jackson, N., and B. James (2016) *Ownership, Renting and Residence in a Home Owned by a Family Trust for the Western Bay of Plenty and Total New Zealand, by birth cohort for the period 1986-2013*. Report prepared for Population Ageing Technical Advisory Group and SmartGrowth.
- Joynt, J. (2019) *Unpicking the construction development pipeline: a community housing provider perspective*, Architecture of Decision-making, Building Better Homes Towns and Cities National Science Challenge and RIMU, Auckland Council.
- Pledger, M., McDonald, J., Dunn, P., Cumming, J., and Saville-Smith, K. (2019) *The health of older New Zealanders in relation to housing tenure: analysis of pooled data from three consecutive, annual New Zealand Health Surveys* *Australian and New Zealand Journal of Public Health*.
- Saville-Smith, K. (2013) *Housing Assets: 2013 Review of Retirement Income*, Prepared for Commission for Financial Literacy and Retirement Income.
- Saville-Smith, K. (2014) *Local Government Housing Stock Profile*, Community Housing Aotearoa, Wellington.
- Saville-Smith, K., Fraser, R., and N. Saville-Smith, (2014) *Community Housing Provision*, Community Housing Aotearoa, Wellington.
- Saville-Smith, K., Saville-Smith, N., and B. James (2016) *Community Housing Providers, Procurement and the Building Industry*, Report ER21 funded by the Building Research Levy, BRANZ, Judgeford.

ANNEX A: Concept Plan

PROPOSED NEW RESIDENCE

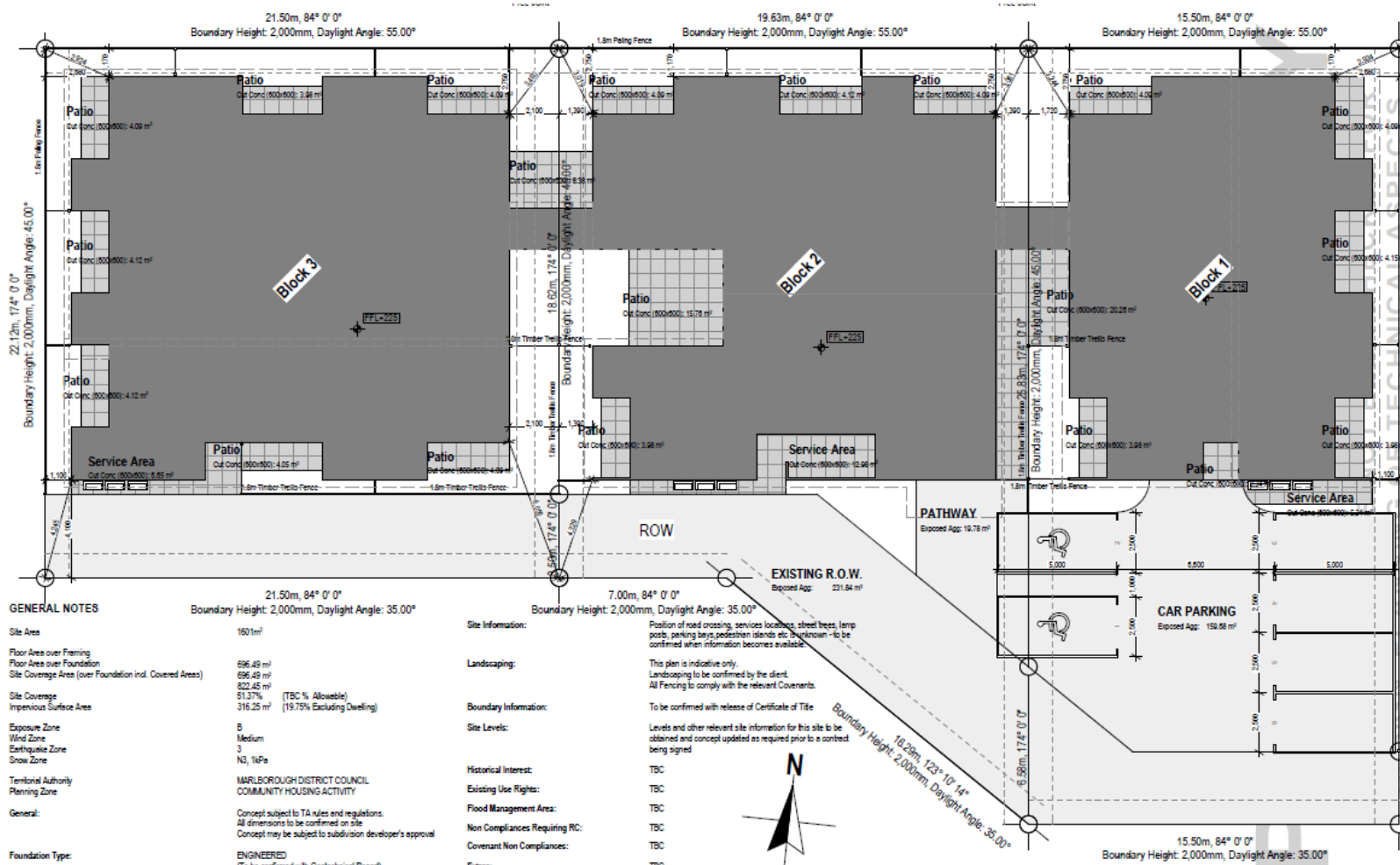


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GENERAL NOTES

Site Area	1601m ²
Floor Area over Fencing	696.49 m ²
Floor Area over Foundation	696.49 m ²
Site Coverage Area (over Foundation incl. Covered Areas)	822.45 m ²
Site Coverage	51.37% (TBC % Allowable)
Impervious Surface Area	316.25 m ² (19.75% Excluding Dwelling)
Exposure Zone	B
Wind Zone	Medium
Earthquake Zone	3
Snow Zone	N3, 11Pa
Territorial Authority Planning Zone	MARLBOROUGH DISTRICT COUNCIL COMMUNITY HOUSING ACTIVITY
General:	Concept subject to TA rules and regulations. All dimensions to be confirmed on site. Concept may be subject to subdivision developer's approval
Foundation Type:	ENGINEERED (To be confirmed with Geotechnical Report)

Site Information:	Position of road crossing, services locations, street trees, lamp posts, parking bays, pedestrian islands etc. to be confirmed when information becomes available.
Landscaping:	This plan is indicative only. Landscaping to be confirmed by the client. All Fencing to comply with the relevant Covenants.
Boundary Information:	To be confirmed with release of Certificate of Title
Site Levels:	Levels and other relevant site information for this site to be obtained and concept updated as required prior to a contract being signed
Historical Interest:	TBC
Existing Use Rights:	TBC
Flood Management Area:	TBC
Non Compliances Requiring RC:	TBC
Covenant Non Compliances:	TBC
Extras:	TBC

Block 1	Block 2	Block 3
Lot 1:	Lot 2:	Lot 3:
Area over Foundation (incl. Covered Areas)	Area over Foundation (incl. Covered Areas)	Area over Foundation (incl. Covered Areas)
Site Coverage:	Site Coverage:	Site Coverage:
630m ² 222.96 m ² 36.67%	499m ² 278.35 m ² 55.78%	475m ² 321.36 m ² 67.51%

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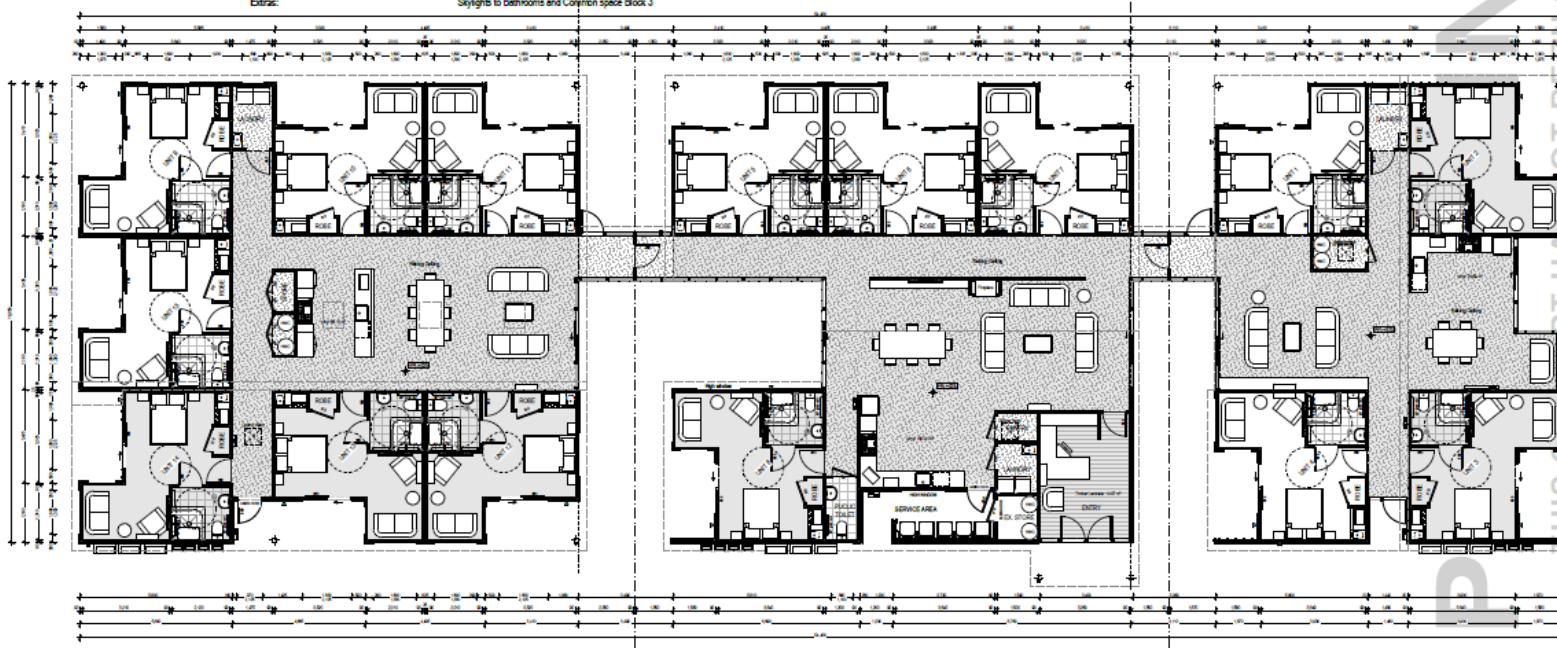
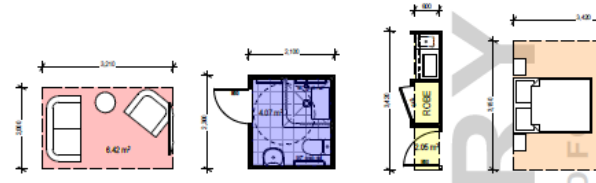


GENERAL NOTES

Perimeter (Over Foundation)	258,0m
Roof Pitch	20°, 5°, 2°
Eaves Width	300mm
Gable Width	300mm
Height To Underside Of Truss	2455mm
Slab End	310mm to 5° roof, 90mm to 2° roof
Lintel Height	2304mm to 20° roof, 2387mm to 5° roof, 2407mm to 2° roof
Soffit Height	2309mm to 20° roof, 2392mm to 5° roof, 2412mm to 2° roof
Soffit Type	Raking
Raised ceiling	N/A
Raking ceiling	to Common spaces and Units 2-3-8-12-13-14
Internal Door Leaf Height	Standard
Wall Cladding Materials	50mm Rodicore Integro panel on 20mm cavity JSC Cedar Vertical Shiplap weatherboards, 135mm JS1 on 20mm cavity
Roofing Materials	Colorcoat Longrun Trimline Butylm Membrane to 2° roof
Engineering:	Beams, Foundation, Steel Porch
Extras:	Skylights to Bathrooms and Common space Block 3

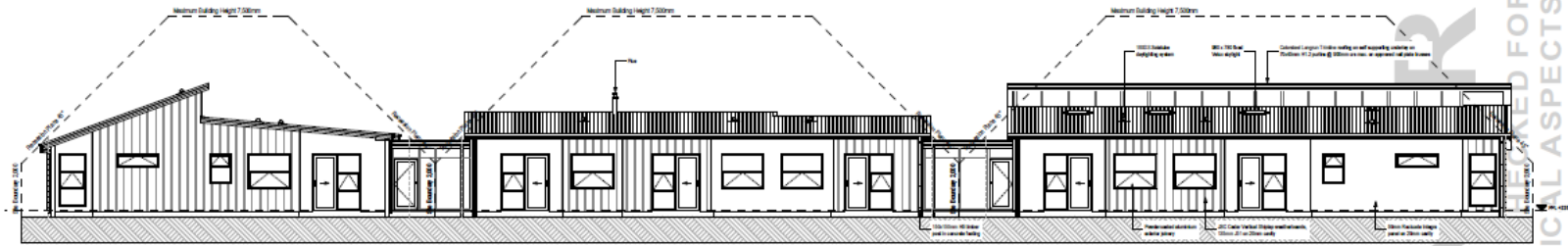
KEY

- Meter Board/ Distribution Board
- Contra Panel
- Gully Trap
- Hose Tap
- Downpipe
- Internal Heat Pump
- External Heat Pump



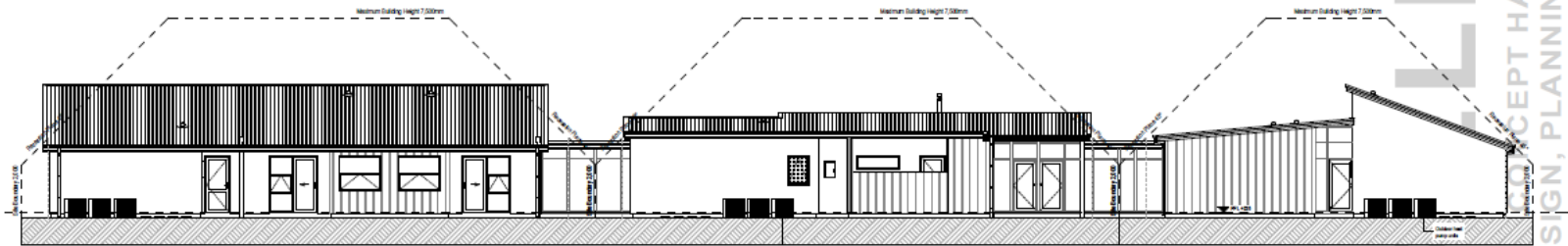
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North Elevation

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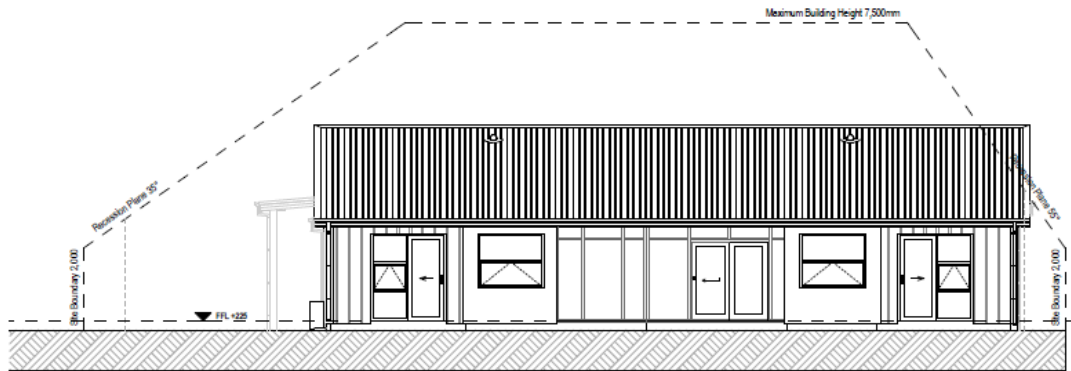


South Elevation

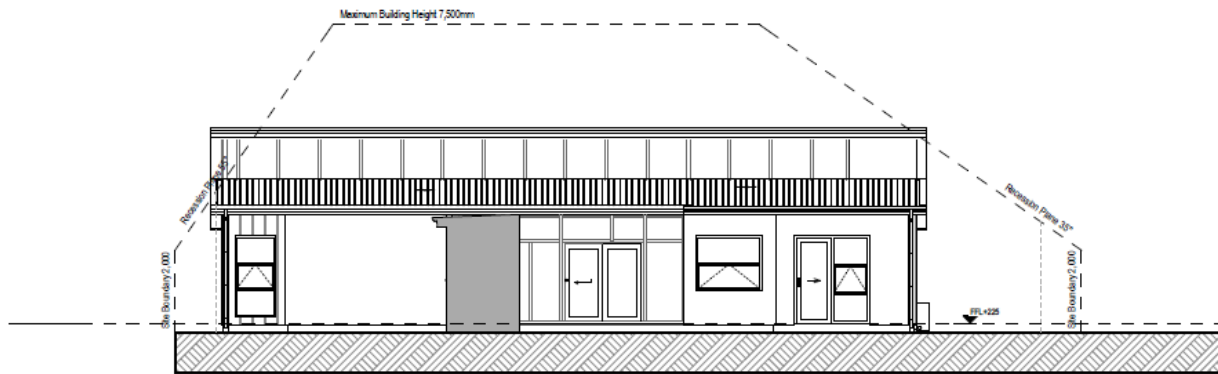
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					AMENDMENT DATE: 24.05.2019	TECHNICIAN: TBC	1:150	
					VERSION CODE:			
					V1		2	



East Elevation Block 1
SCALE 1:100 @A3

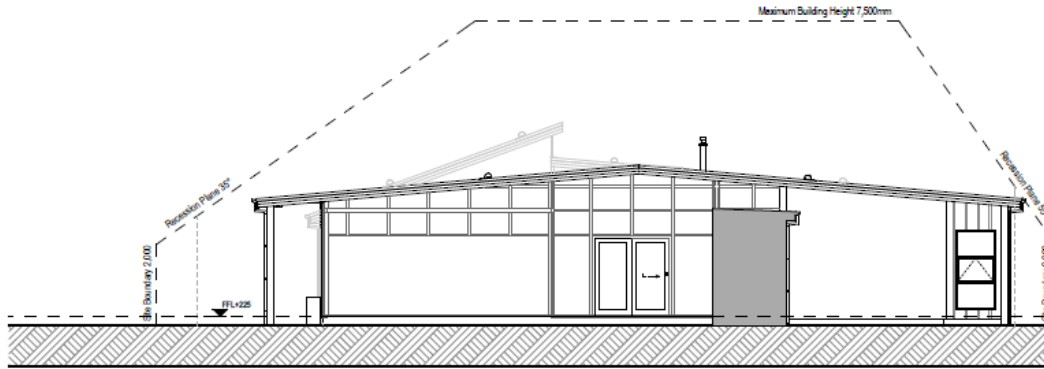


West Elevation Block 1
SCALE 1:100 @A3

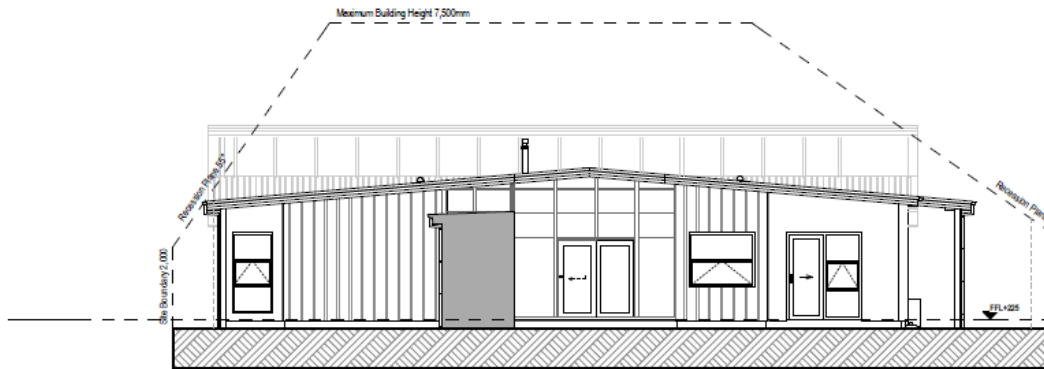
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East Elevation Block 2
SCALE 1:100 @A3

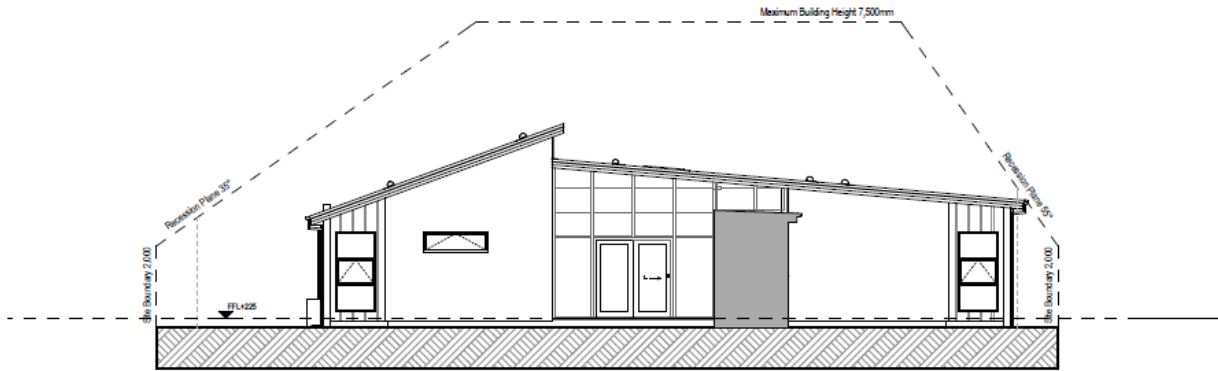


West Elevation Block 2
SCALE 1:100 @A3

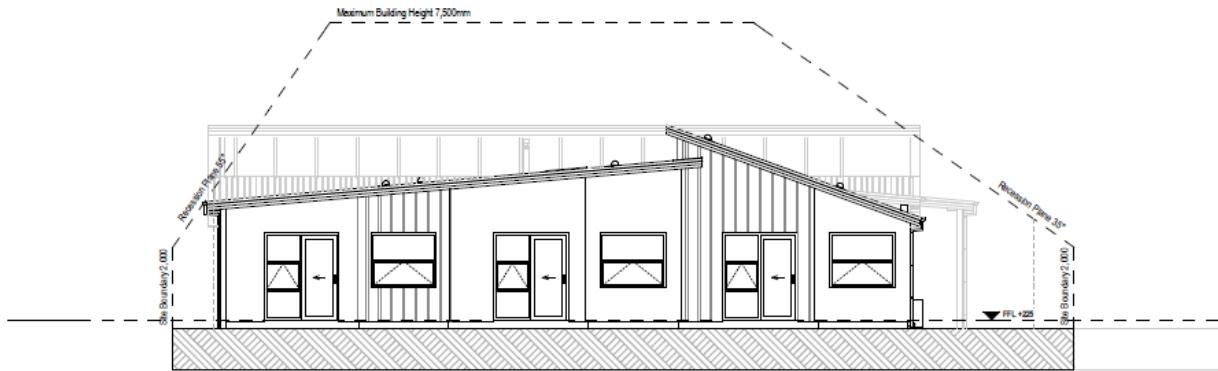
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					AMENDMENT DATE: 24.05.2019	TECHNICIAN: TBC	JOB # MIC0214	
						VERSION: CODE: v1 2		



East Elevation Block 3
SCALE 1:100 @A3

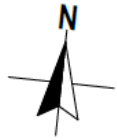


West Elevation Block 3
SCALE 1:100 @A3

PRELIMINARY

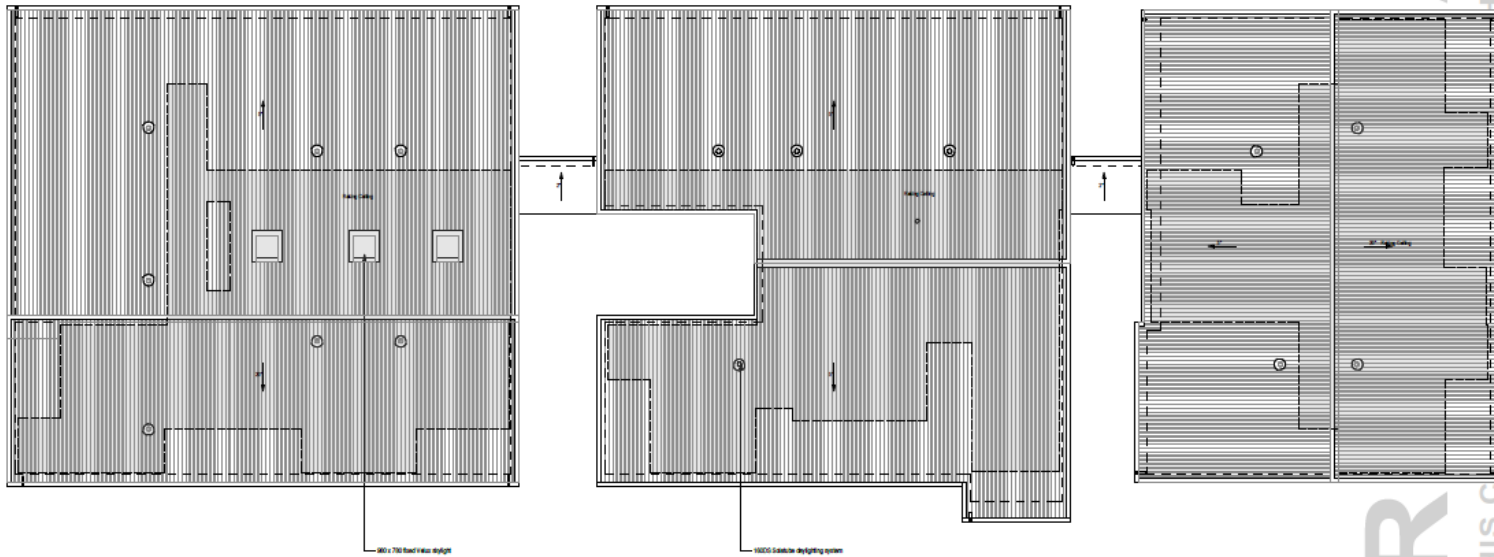
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					AMENDMENT DATE: 24.05.2019	TECHNICIAN: TBC	JOB # MC0214	
					VERSION: CODE: V1 3			



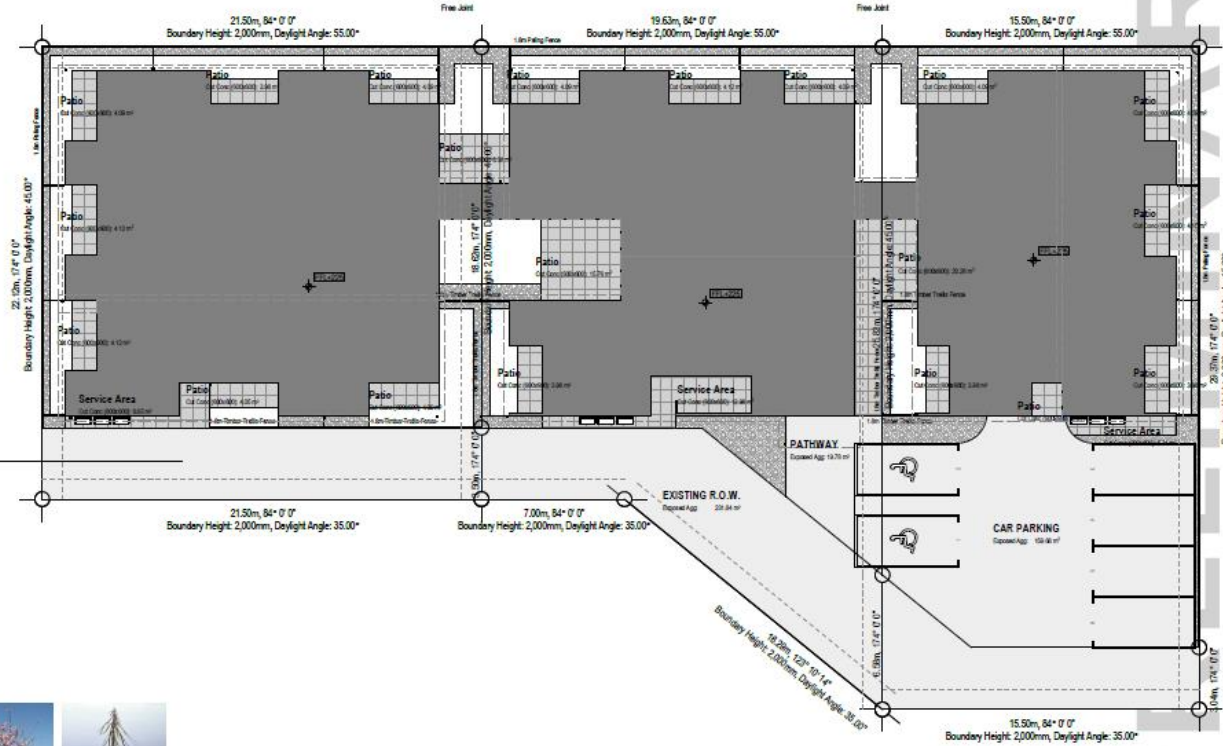
GENERAL NOTES

Area Over Roof (on flat) to face of fascia: 969.76 m²



PR
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GRASSES AND FLAXES



CAREX TESTACEA



SHRUBS AND HEDGING



LIBERTIA GRANDIFLORA

HERB: 'SUTHERLAND'



TREES



PHOENIX TENAX

GRISSELINIA LITORALIS

PRUNUS ACCOLADE

PSEUDOPANAX CRASSIFOLIUS

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