

Landscape and Visual Assessment (LVA):

Report Prepared for:  
Far Fetched Limited via Land Matters

Prepared by:  
Steve Jarvis - Jarvis Landscape Architecture

Issue: 07/08/2023

## 1/ Introduction:

1.1 This report provides a Landscape and Visual Assessment for the proposed cohousing development on the rural property at 189 Sims Road, Te Horo Beach and has been commissioned by Far Fetch Limited – the land owner. This assessment is based on the provided plans:

- Moller Architects Plan Sets for Options A and B (Appendix 1)
  - Land Matter's Preliminary Engineering Design (Appendix 2)
- and a site visit carried out on 31<sup>st</sup> May 2023

This assessment reviews what effect the proposed cohousing development would have on the surrounding visual amenity and landscape character.

The visual amenity effects of this cohousing development are considered against the Operative District Plan Objectives/ Policies and Rules of the KCDC General Rural Zone and the Rural Dunes Precinct of the General Rural Zone designations.

## 1.2 Project Description:

Consent is being sought for two options for a cohousing development – Option A where the living spaces connected via fire rated walls; OR option B being separate living modules connected via decks and open spaces. These two options are described in more detail below:

Option A: Close Coupled Cluster House

1. Six 44m<sup>2</sup> living units; and
2. One 64m<sup>2</sup> Living/Dining/Kitchen; and
3. One utility building; and
4. Covered walkways and verandas

OR

Option B: Cluster Houses

1. Six 30m<sup>2</sup> living unit; and
2. One 64m<sup>2</sup> Living/Dining/ Kitchen;
3. One utility building; and
4. Courtyard deck linking to decks for each unit.

The applicant is seeking land use consent for one of the two options to be constructed with the final design being decided following marketing and further consultation with potential purchasers.

### 1.3 Assessment Process:

This assessment is structured to assess the proposal in relation to the site having the designations of 'General Rural', being part of the 'Rural Dunes Precinct' and its visual impact on the amenity and landscape character of the surrounding area.

Documents referred to include:

- Provided Plan Set including Moller Architects Plan Sets for Options A and B, Visual Assessment and Land Matters Engineering Report (Appendix 1)
- Land Matters Land Use Consent Application to KCDC for 189 Sims Road, Te Horo

## 2/ Landscape Description



Figure 1: Local Context

The application site is located at the northern end of Sims Road in Te Horo Beach. It is a corner site and is located on the western side of Sims Road. The site is adjacent to a dairy farm located across the road and has two adjoining rural residential neighbours. This site is one of 19 allotments that were created along the beach front from Te Horo Beach to the end of Sims Road in 1968.

The site is located within the coastal environment and comprises flat to rolling pasture interspersed with a slightly higher dune running north to south through the centre of the site. The central dune is tallest at approximately RL. 5.5 at the south boundary and from RL 5.5 to RL 6.0 through the northern half of the site. The site is mostly flat with the exception of the higher areas through the middle of the site.



Either side of the more elevated areas, the site is identified in GWRC's flood hazard mapping as being within the Ponding Flood Hazard Area.

The site is mainly vegetated in pasture grasses with small areas of pampas grass. The landowners have undertaken landscaping of this site with *Phormium tenax* (flax) with plans to extend these plantings to create small areas of new plantings recreating natural habitats that can link to the foredune habitats.

There is an existing single storey residential dwelling on the property located to the north of the block and is situated on the higher portion of the central dune system that runs north/south. The driveway to the dwelling is via the beach facing section of Sims Road. No part of the subject site is visible from the Te Horo Beach foreshore.



Figure 2 – Rural Vegetation Examples Along Sims Road

The wider local area is rural in nature with the predominant land use being that of pastoral grazing. The plantings present along Sims Road are very mixed in nature which is very common within the rural zone. The species noted are mature Pine shelter plantings, *Macrocarpa*, *Pittosporum crassifolium* (Karo), *Cypress* sp., Pampas, *Banksia*, *Pohutukawa*, *Eucalyptus* sp. (Gum), *Phormium tenax* (Flax), *Dodonaea viscosa* (Akeake), *Coprosma robusta* (Karamu) and *Leptospermum* sp. (Manuka and Kanuka).

Private driveways to residences and farm tracks along Sims Road generally conform to the sand dune system topography and or boundary fence lines and plantings. The result is that the dune geography and established shelter and boundary plantings remain the dominant landscape features. Dwellings tend to be located atop the dune formations to capture views and sun but for the most part are partially screened by vegetation. The density of dwellings increases towards the south of Sims Road as you approach Te Horo Beach Road.

The neighbouring site to the west at 195 Sims Road sits between the subject site and Te Horo Beach. This site is far more undulating in nature as the site is dominated by coastal foredunes. The dunes of 95 Sims Road have high points between RL 5.5 and RL 6.5. There are two dwellings located on this site with the southern dwelling situated towards the crest of the dunes on the southern boundary.

The neighbouring site to the east of Sims Road is a working dairy farm. The entrance to said farm and milking shed is adjacent to the existing dwelling of the subject site. The farm has very flat topography and offers clear views through the property to the foot hills to the east.

3/ Proposal Description:



Figure 3 – Option A – Close Coupled Cluster House Site Layout





Figure 4 – Option A – Close Coupled Cluster House Elevations

Below is a paraphrased description of the two options for the cohousing development taken from the Landmatters Land Use Consent Application.

Option A) The cluster housing will comprise pre-fabricated modules constructed from structurally insulated panels (SIPs) with all the component parts delivered and put together on site.

- 44m<sup>2</sup> living module being 4m wide by 11m long and which includes a lounge space and sink and bench facilities but will not contain a full kitchen; and
- Communal kitchen and living unit that is 64m<sup>2</sup> (referred to in Option A); and
- A utility space that is 24m<sup>2</sup>; and
- The finished building height will be 5.8m above finished ground level.

The overall size of the cluster housing option (option A) will be 328m<sup>2</sup> and be similar to that of a large family home.

Once on-site, decks and verandas will be constructed as per the plans. It is proposed that the finished level of the underside of the cluster house structures, including the decks will be located above the 1% AEP ponding level of RL 5.3m found within the site. This is approximately between 1.3m and 2m above existing ground level. It is proposed to build the building platform up with constructed

residential fill to create a flood free building platform. The existing dune landform is to be extended to the west and increased in height to create a platform free from flooding that becomes a part of the dune system.



Figure 5 – Option B – Cluster Houses Site Layout

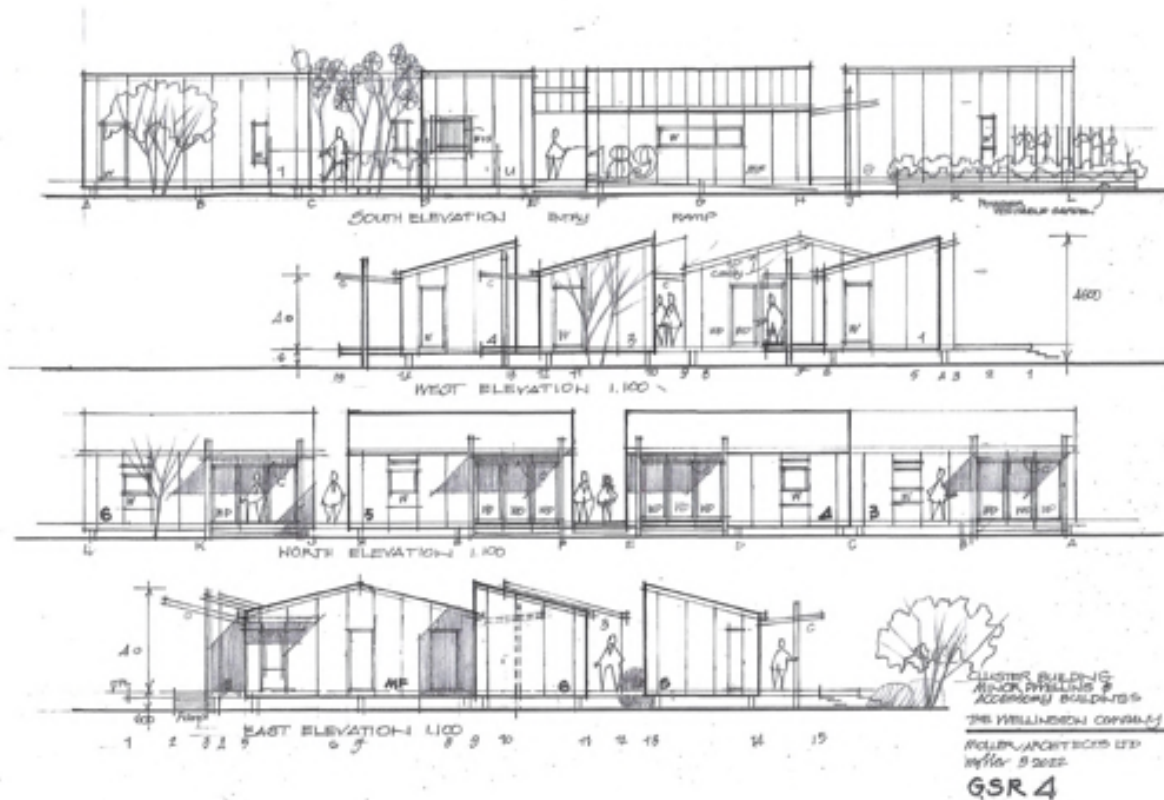


Figure 6 – Option B – Cluster Houses Elevations

Option B) The applicant is seeking a land use to construct a cohousing residential unit containing six living modules connected to a separate but communal living and kitchen space and utility space. The overall development is referred to as cohousing residential unit. The 'living modules' are the 'bedrooms/sleepouts' for the main residential unit.

For Both Options A and B:

It is proposed to undertake earthworks to create a flood free building platform at 189 Sims Road, Te Horo. A new access will also be constructed from Sims Road. The pre-fabricated models will be constructed on the building platform within the site with associated decks and verandas and necessary infrastructure to support the cohousing. A new on-site wastewater effluent treatment system and disposal field will be constructed; rain water collection tanks will provide both potable water and a dedicated fire fighting water supply. On-site stormwater disposal will be provided for the new development and the new access.

Parking has been provided directly outside the dwelling to accommodate six carparks for each of the units plus an additional carpark for visitors. The carparking area includes an on-site manoeuvring area that could accommodate a fire appliance.



The residents would have use of the area immediately around the buildings and the paddocks to the south, west and east and north of the dwelling with opportunities for large shared gardens, orchards and pasture areas for continued grazing.

For this site, land ownership between residents is not envisaged at this stage in the project and all occupancy will be based on a tenancy agreement.

Residents will have their own living quarters which will include a private lounge space and small kitchenette facilities (a sink, bench and power points but no stove) and their main cooking will occur in a communal kitchen and living area. All laundry activities will be undertaken in a shared utility room.

The existing dwelling on the site will continue to be occupied on a rental basis as is currently.

*Note:* Upon review of the provided options and reflection on how Option A vs Option B will be perceived within the Rural domain, I believe that there is very little difference in the how the buildings will present in terms of building bulk. Even though the close cluster option will technically be individual buildings, their proximity to each other and the overlapping footprints when viewed from different angles will most likely present as a single dwelling. As such I will not be differentiating between the two options unless there are specific design elements or mitigating factors that I believe are important to highlight.

### 3.1 The Outline

Consent being sought for two options for a cohousing development – Option A where the living spaces connected via fire rated walls; OR option B being separate living modules connected via decks and open spaces. The intent is to form a new building platform that is integrated into the existing dunes system through the centre of the site to allow for a platform free from the identified flooding zone. A new right of way is proposed from Sims Road to allow access to the development.

#### 4/ Relevant Planning Policies:

The subject site is part of the Rural Dunes Precinct of the General Rural Zone in the Operative Kāpiti Coast District Plan 2021. The site is also part of the Coastal Domain and has the designation of Rural Eco-Hamlet Precinct of the General Rural Zone.

#### 4.2. Consent Summary

The following consents are sought from Kāpiti Coast District Council:

1. Use of the Development Incentives and application of **Restricted Discretionary Activity Rule GRUZ-R14** to provide for one additional dwelling to be occupied for cohousing on the site at 189 Sims Road through the application of 100 points under the energy efficiency incentive provisions; and
2. Land use consent for placement of more than 1m in depth of fill within a ponding hazard area. This requires a land use consent for a **restricted discretionary activity under Rule NH-FLOOD-R11**.

The overall consent would be assessed as a Restricted Discretionary Activity under this option.

Should Council not accept the application under Rule GRUZ-R14 and the Development Incentives, then the following consents are sought from Kāpiti Coast District Council:

1. Land use consent for a cohousing residential unit which will become the second residential unit on this site and be considered a **non-complying activity under Rule GRUZ- R19**; and
2. Land use consent for placement of more than 1m in depth of fill within a ponding hazard area. This requires a land use consent for a **restricted discretionary activity under Rule NH-FLOOD-R11**

The overall consent would be assessed as a Non-complying Activity under this option.

#### Figure 7 – Consent Summary – Land Matters Land Use Consent Application

The KCDC Operative District Plan has been used to assess the characteristics of the site. The policies and rules provided in the operative district plan have been used to assess the viability of the proposed development, and what measures or actions the client must undertake to produce a site sensitive cohousing development that fits the surrounding character.

## 5/ Visual Effects of The Proposal

The inclusion of the built form of the cohousing development and associated earthworks of the building platform, outdoor areas, vehicle access and parking have the potential to have an impact on the visual character of the area. Further landscape elements such as fences, shelter and amenity planting could also add to this impact.

### Visual Assessment Scale:

Below is a table showing a seven-point scale derived from NZILA’s Best Practice Note. This process informs an overall judgement identifying which effects are likely to be significant, including determination of whether effects are more or less than ‘minor’ in relation to the RMA – where in relation to whether a person is affected, Moderate-Low significance of effects qualify as ‘no more than minor’ and Low qualify as ‘less than minor’.

Very Low	Low	Moderate – Low	Moderate	Moderate – High	High	Very High
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### 5.1 Identification of the Visual Caption and the Viewing Audience



Figure 8 – Identification of the Visual Caption and the Viewing Audience

Due to a large stand of Pampas grass in located in the north eastern corner of 135 Sims Road and surrounding landforms, views into the site are nil until directly adjacent to the property. I have identified the three main view ports that allow views into the site and toward the development location in figure 8 above. Views from view port 1 are adjacent to the proposed new vehicle access into the site and offer the closest viewing location to the proposed building site. I identify this view as having the most potential for visual effects to the landscape and amenity values.



View port 2 is located adjacent to the neighbouring milking shed access along Sims Road. This location allows views toward the proposed building site between the existing dwelling and a row of Papas grass.

Viewport 3 is located to the North of the property boundary where Sims road runs west towards the foreshore.

The visibility of the development and its visual effects on the surrounding landscape will be largely dependent on position of the building pad, the right of way and the extent of earthworks. The photographs in this section have been produced as a way of observing visibility of the site from various locations to measure the potential effects of the inclusion of the cohousing building/s within the site, as well as associated earthworks. Locations shown are on public land along Sims Road. The above map (figure 8) shows the location where each photograph was taken.

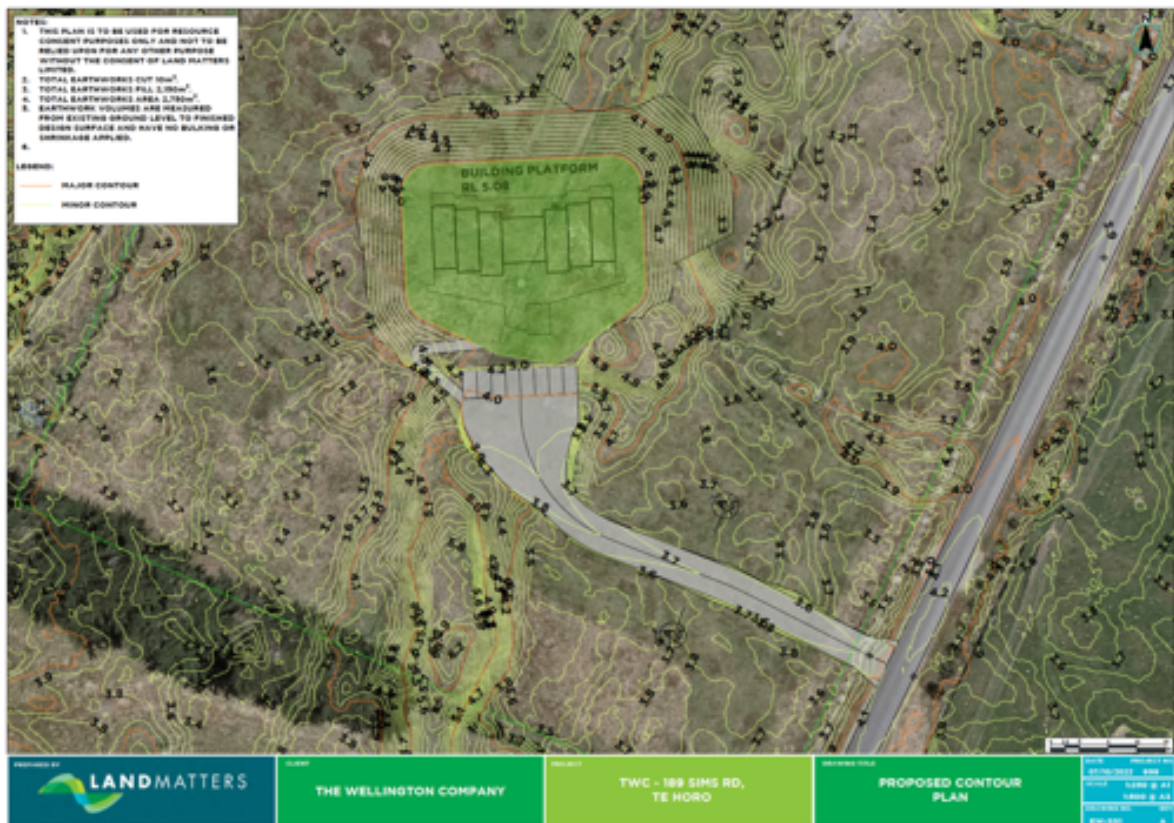


Figure 9 – Proposed Contour Plan

### 5.1.1 View Port 1



Figure 10 – Panoramic View

Figure 10 Shows the view from the approximate location of the proposed site access entry. This is the first view into the site when travelling north along Sims Road. On the approach to the site from the south the site is completely screened until directly adjacent to the property. The intent is to create a new vehicle access into the site. This is proposed to take east west direction and crest the dune in the centre of the subject site at the lowest point. It will then curve up to meet the increased height of the building platform. Dividing this paddock through the centre with the vehicle access will impact on the perceived openness of the site. It is however, indicated that there should be some planting along access which will mitigate the inclusion of the access and partially screen the building platform. The proposed building platform is to be created by bringing fill onsite and adding scale in both height and width to the existing dune system that runs through the centre of the site. The platform height is approximately level with the top of the dune system where the pink line indicates at RL 5.3. Tapping into the existing height of the dune and building upon it will allow for an integrated approach to the creation of the platform.

Placing the cohousing development at the highest point within this central area of dune will capture the best sun and views as is the norm within the context of the area. The set back nature of the building platform offers significant separation between Sims Road and dwelling/s. With some indicated planting in the provided plans and the set back from the road there is significant mitigation to the prominent building site.

The prominent location of the dwelling will result in the roofline of the building/s forming part of the skyline. There is a large shelter screen of mature *Macrocarpa* on the adjoining southern boundary which give scale to the inclusion of the cohousing development and will remain the most prominent landscape element in the skyline within this viewport.



Although there are these mitigating factors as described above, the prominent nature of the site access and the built form will impact on the visual amenity values. From this location I believe the effects of the proposal will be Moderate - Low.



Figure 11

Figure 11 Shows the view toward the cohousing development from the location adjacent to the neighbouring milking shed access along Sims Road. This location allows views toward the proposed building site between the existing dwelling to the right and a row of Pampas grass to the left. There is a limited field of view from this location and as shown the large stand of Macrocarpa on the boundary of the neighbouring property to the south will encompass the development with regard to the skyline. Distance, existing landscape and vegetative features to the sides and productive farm in the foreground act to mitigate the addition of the proposed dwelling into the rural environment. From this view I consider the effects on visual amenity Low.



Figure 12

Figure 12 Shows the view from the North of the property boundary where Sims Road runs west towards the foreshore. This is the first view into the site when leaving the beach. From this vantage the built form and building platform will be a visible. I believe the large size of the paddock in the foreground and implied retention of productive land use coupled with the set back position of the cohousing development, the large existing shelter plantings that punctuate the skyline to the south along with the Waikanae Escarpment in the distance will allow for a development that is well integrated into the rural landscape. From this view I consider the effects on visual amenity to be Low.

## 6 Assessment of Landscape and Visual Effects

### 6.1 Effects on the Rural Character

The most likely elements to impact the rural character of a cohousing development such as the proposed into a rural setting are the addition of built form and their associated earthworks and the loss of productive working landscapes. As mentioned earlier the residents of the cohousing development would have use of the area immediately around the buildings and the paddocks to the south, west, east and north of the dwelling with opportunities for large shared gardens, orchards and pasture areas for continued grazing. Utilising the site in this way will go a long way in maintaining a high degree of open space with possible vegetation and productive use predominating over built elements.

### 6.2 Effects on the Rural Dunes Precinct of the General Rural Zone

Descriptions taken from the KCDC say, *“The Rural Dunes Precinct comprises the sand country, including consolidated sand dunes, interdune sandplains and wetlands. It is characterised by undulating topography with slopes of up to 25 degrees and is exposed to salt laden winds. The dune area is generally unsuitable for horticulture and intensive agriculture. Land use and development in the Rural Dunes Precinct are anticipated to be carried out in a manner that retains the sensitive landscape and ecological character of the area, including wetlands.”*

The most likely elements to impact landscape and visual amenity of the Rural Dunes Precinct are the addition of built forms, density of properties and their associated earthworks and excavations to allow for access.

Retaining the visible dunal forms is paramount to the success of integrating the cohousing development into an area such as this. Utilizing this form as a start point to build upon for the building platform is an integrated approach to creating a platform free from flooding without introducing a totally new and possibly visually impactful built up landform.

The addition of new housing will represent change to the landscape; however, the distance from the road is such that there will remain a sense of openness when viewed from Sims Road, especially when viewed from Viewshafts 2 and 3.

Furthermore, the suggested building location is consistent with the building patterns that are found in the vicinity.

The creation of a new accessway to the site will see an element of scarification to the land, however cresting the dune at the lowest point with that section of dune will minimise scarification to the dune form. Earthworks and development are required to the form the new road though, and the most significant in regard to the existing amenity of the site is the central location of the accessway within the south

eastern most paddock. Bisecting this paddock in two does impact the sense of open space.

## 7 Mitigation Measures

### 7.1 Protection of landforms by limiting earthworks

As the earthworks proposed utilise the existing dune system as a start point for the building platform, I believe the finished result will not be a detriment to the existing landforms. The fill brought into the site will be able to be contoured to form an extension of the dune that I believe will be viewed as an integrated part of the existing dune system. In this way the impact of potential additional landforms within this space is avoided and the existing dune is retained.

### 7.2 Density and Scale Of Housing

Two Options have been proposed for the cohousing development:

#### Option A: Close Coupled Cluster House

1. Six 44m<sup>2</sup> living units; and
  2. One 64m<sup>2</sup> Living/Dining/Kitchen; and
  3. One utility building; and
  4. Covered walkways and verandas
- and

#### Option B: Cluster Houses

1. Six 30m<sup>2</sup> living unit; and
2. One 64m<sup>2</sup> Living/Dining/ Kitchen;
3. One utility building; and
4. Courtyard deck linking to decks for each unit.

The footprint of both options are relatively similar and of a scale that is in keeping with the immediate context. Both the adjacent milking shed and the first dwelling at 195 Sims Road are of a scale that is similar or larger than the options for the cohousing development. The vertical scale of the cohousing development is sympathetic to the rural environment as it is proposed as a single story structure.

### 7.3 Placement of Houses and Road

As mentioned, the vehicle access of the cohousing development will bisect the first paddock of the site that is visible when travelling north along Sims Road. This will have some impact on the sense of space associated with the site. Although some planting is indicated along the access and the driveway crest the dune at the lowest point, I believe that further mitigation could be suggested.

The suggested building site has been placed with care so as to utilise the existing dune form and build upon it in an integrated way, and therefore be sensitive to the natural dune contours and allow the overall dune structure to remain and to retain a high level of natural character. Generally speaking the built form will be in a visible location, but with mitigating planting and the distance between Sims Road and the site there will be significant mitigation. Locating the building platform towards the crest of a dune is in keeping with the building pattern seen in the area and is positioned to capture light and views.

#### 7.4 Planting

Although no specific additional planting has been allowed for at this time, there is significant opportunity to add screening vegetation on the eastern side of the building platform. If this was to be undertaken there would be very significant mitigation values as views of the new built form would become limited.

The existing vegetation on site and on the neighbouring properties provides significant benefits in regard to mitigation as punctuation to the skyline and lending scale to the proposed building site. Existing on site vegetation, namely the flax along Sims Road should be retained where possible and will add mitigating value as they mature.

#### 7.5 Building Design and Materials

Buildings should be limited to single story and/or be no greater in height than 5-6mH from the finished level of the building platform. The cohousing development should be either painted with darker or earthy colours with light recessive values of 30% or less, or to be clad with natural timber material with the option of dark staining or silvering off. These colours and materials have a tendency to be recessive in nature and be sympathetic to the rural and coastal environment.

Boundary fencing should be limited to "farm style" fencing. This includes post and rail, post and wire and post and wire mesh. This is in keeping with the rural style and promotes privacy through vegetation rather than built form which is far more sympathetic to the rural settling. Gates may be visually solid, however solid entrance walls (feature walls adjacent to gates, if any) should be kept low (600mmH maximum) as to become part of the landscape rather than detracting from it.

#### 7.6 Reverse Sensitivity

It is my understanding that the tenants looking to move into a cohousing development such as this are seeking an affordable means to living a lifestyle that is in keeping with the productive nature of the rural context. The tenants would have

use of the area immediately around the buildings and the paddocks to the south, west, east and north of the dwelling with opportunities for large shared gardens, orchards and pasture areas for continued grazing. It is therefore implied that there is an understanding of the possibility of reverse sensitivity effects created through rural life.

## 8/ Conclusion and Recommendations:

### 8.1 Conclusion

Consent is being sought for two options for a cohousing development – Option A where the living spaces are connected via fire rated walls; OR option B being separate living modules connected via decks and open spaces. The development is accessed by one site access off Sims Road.

The proposal has been assessed against the requirements of the KCDC District Plan and the possible effects that the proposed cohousing development would have on the surrounding visual amenity and landscape character.

I believe the proposed cohousing development plan provided by Moller Architects (Appendix 1) has been thoughtfully laid out in such a way as to be sympathetic to both the high level of natural character of the dune landscape and to the sense of open space afforded to the rural zone with the exception of the access way into the site. In particular, the integrated approach to creating the building platform as part of the existing dune running north/south through the centre of the site. By doing so the development sees an enhancement to the landform rather than the addition of a new landform that potentially would look out of place. By allowing for a generous set back from Sims Road to the building/s, the proposal ensures a retained sense of open space.

The proposed cohousing development overall is in keeping with the building patterns seen within the rural context. The tenants would have use of the area immediately around the buildings and the paddocks to the south, west, east and north of the dwelling with opportunities for large shared gardens, orchards and pasture areas for continued grazing. This will allow for a continued land use that is productive in nature and in keeping with the rural location.

The existing vegetation on site and on the neighbouring properties provides significant benefits in regard to mitigation as punctuation to the skyline and lends a scale to the proposed building sites that will help to integrate new built form into the landscape.



As mentioned, the vehicle access of the cohousing development will bisect the first paddock of the site that is visible when travelling north along Sims Road. It is proposed as a straight east west access that then crests the dune at the lowest point. Cresting the dune at the lowest point is a strong mitigating element as this avoids scarification to the more prominent sections of the dune system. Some planting has been indicated along the access as a means of mitigation, however, I believe that further mitigation could be suggested.

Due to the reasons stated above, I believe the overall development is of an appropriate scale and is well-integrated into the landscape. With mitigation plantings I believe it will retain the landscape and amenity values associated with the Rural Zone and Rural Dunes Precinct. As such I believe the adverse effects on the landscape and on visual amenity will be Moderate – Low (or would qualify as ‘no more than minor’ in relation to the Resource Management Act).

## 8.2 Recommendations

Some recommendations could be considered to promote an even more integrated development with the landscape and further minimize the effects on the landscape and amenity values.

1/ I have identified the location of the proposed site access as being the least sympathetic element of the cohousing development within the landscape. The linear layout and central location to the first field of view identified in Viewport 1 is quite a prominent feature and therefore I believe further development of this design is required. The blue section in Figure 12 below shows a suggested path of the site access that has a meandering nature located closer to the southern boundary. This path would take the access west to the base of the most prominent dune in the south of the property then veer north and crest the central dune in the lowest section as per the proposed access. The mitigating benefits of following a path such as this will remove this element from centre of the first paddock when viewed from the Sims Road heading north. This allows for the retention of a larger paddock (pink) that will retain open space properties and provide for productive land uses that are in keeping with the rural environment. Allowing for some native plantings (dark green) between the site access and the southern boundary will provide further screening from the southern approach and coupled with a more organic shape to the access will allow for a very integrated design.

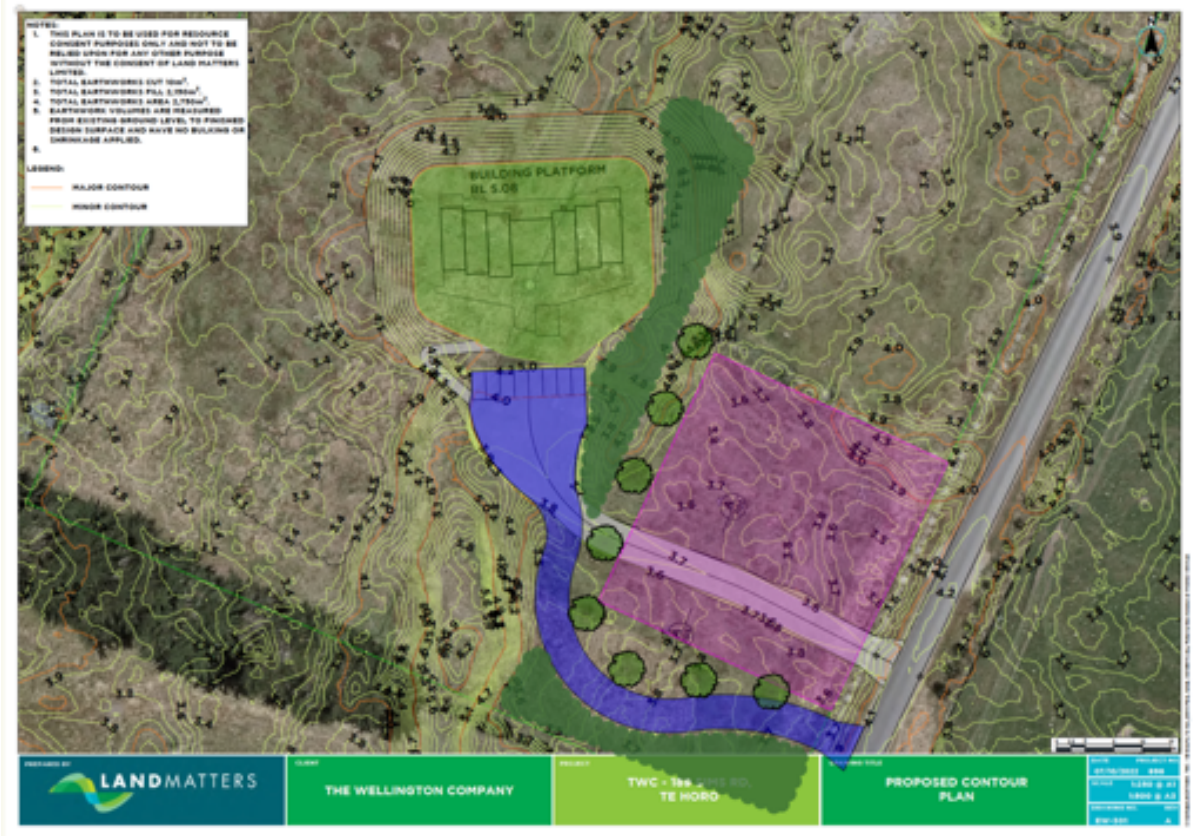


Figure 13 – Suggested Mitigation Design

2/ Further planting mitigation measures could be considered as shown above (dark green). A larger specimen tree could be suggested that could follow the site access and continue along the base of the dune system to add scale to the landscape and mitigate the prominent building location. A section of native plantings should be considered on the eastern side of the dune system screening parts of the cohousing development and its associated carparking. This native planting will also tie in with existing plantings undertaken by the client to increase the ecological value of the site. Species should be selected from the Foxton Ecological District list of species relating to 'Sand Country Scrubland'. Although not a native, *Banksia integrifolia* are a common site within the Rural Zone and I suggest they may be selected as a specimen tree to add relatively fast growing height and another source of food to our native birds.

3/ As mentioned, selected paint colours for the cohousing development should be of darker or earthy colours with light recessive values of 30% or less, or to be clad with natural timber material with the options of dark staining or silvering off. These colours and materials have a tendency to be recessive in nature and be sympathetic to the rural and coastal environment.

4/ Boundary fencing should be limited to “farm style” fencing. This includes post and rail, post and wire and post and wire mesh. This is in keeping with the rural style and promotes privacy through hedging rather than built form which is far more sympathetic to the rural settling than solid structures. Gates may be visually solid. Stone or solid entrance walls or columns should be limited to 600mmH.

If the recommendations above can be incorporated into the proposal, I believe these interventions will lead to an even more integrated development. As such I believe the adverse effects on the landscape and on visual amenity would be Low (or would qualify as '*less than minor*' in relation to the Resource Management Act)..

Steve Jarvis  
Jarvis Landscape Architecture  
07/08/2023

## Appendix 1

OPTION A




CLOSE COUPLED CLUSTER HOUSE TENDERS from NORTH WEST THE WELLINGTON COMPANY

CCH 01 Ref: E. 22






Key to map symbols

GLASS COURSE  
CLUSTER, HOUSE  
189 SAYS ROAD  
TE HORA BEACH  
  
THE HILLINGTON  
COMPANY

Mapper: A. 20  
PULLER ARCHITECTS  
CCH 1

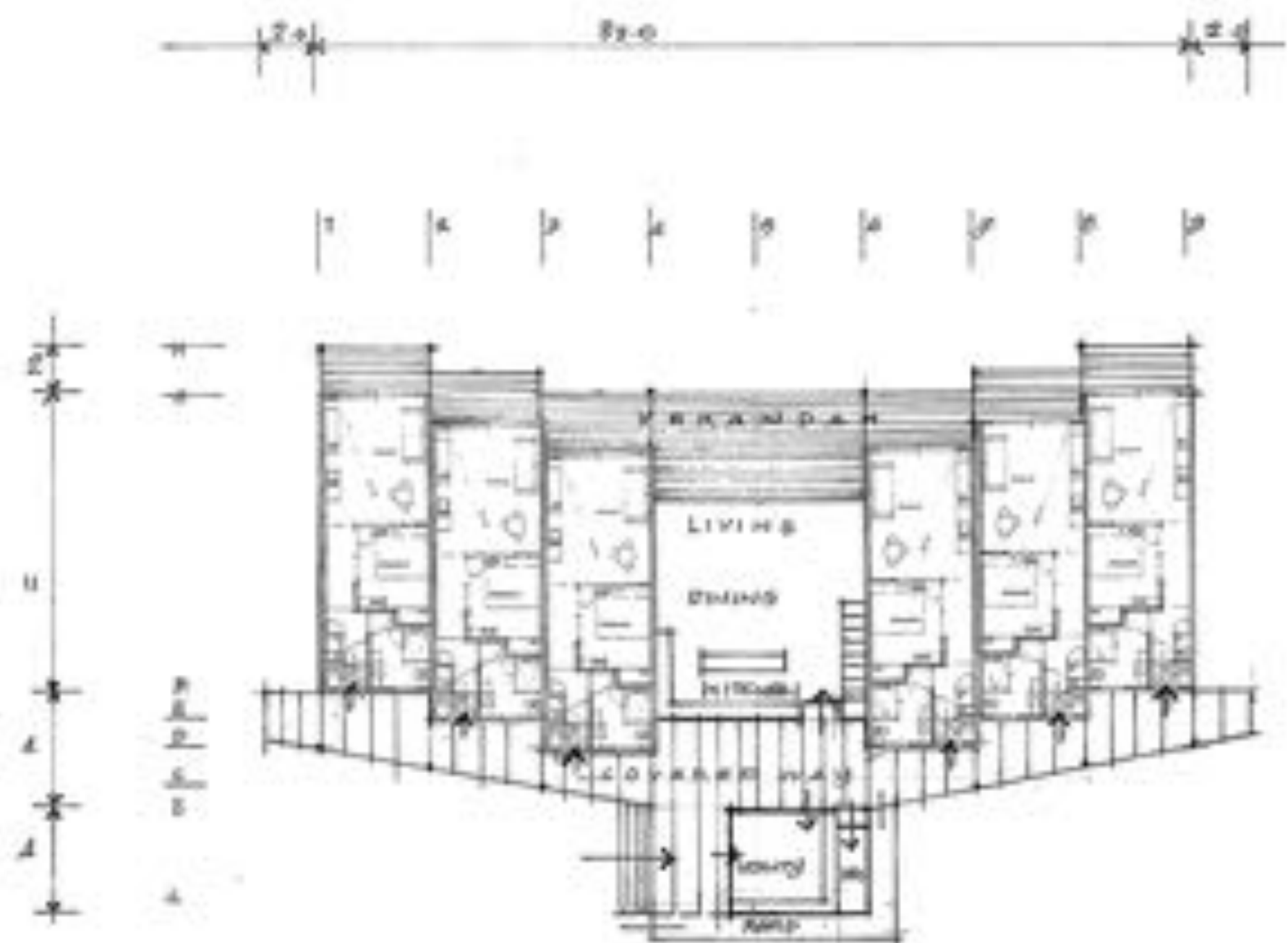


 Scale 1:2,000 (m)

Date Printed: March 11, 2022

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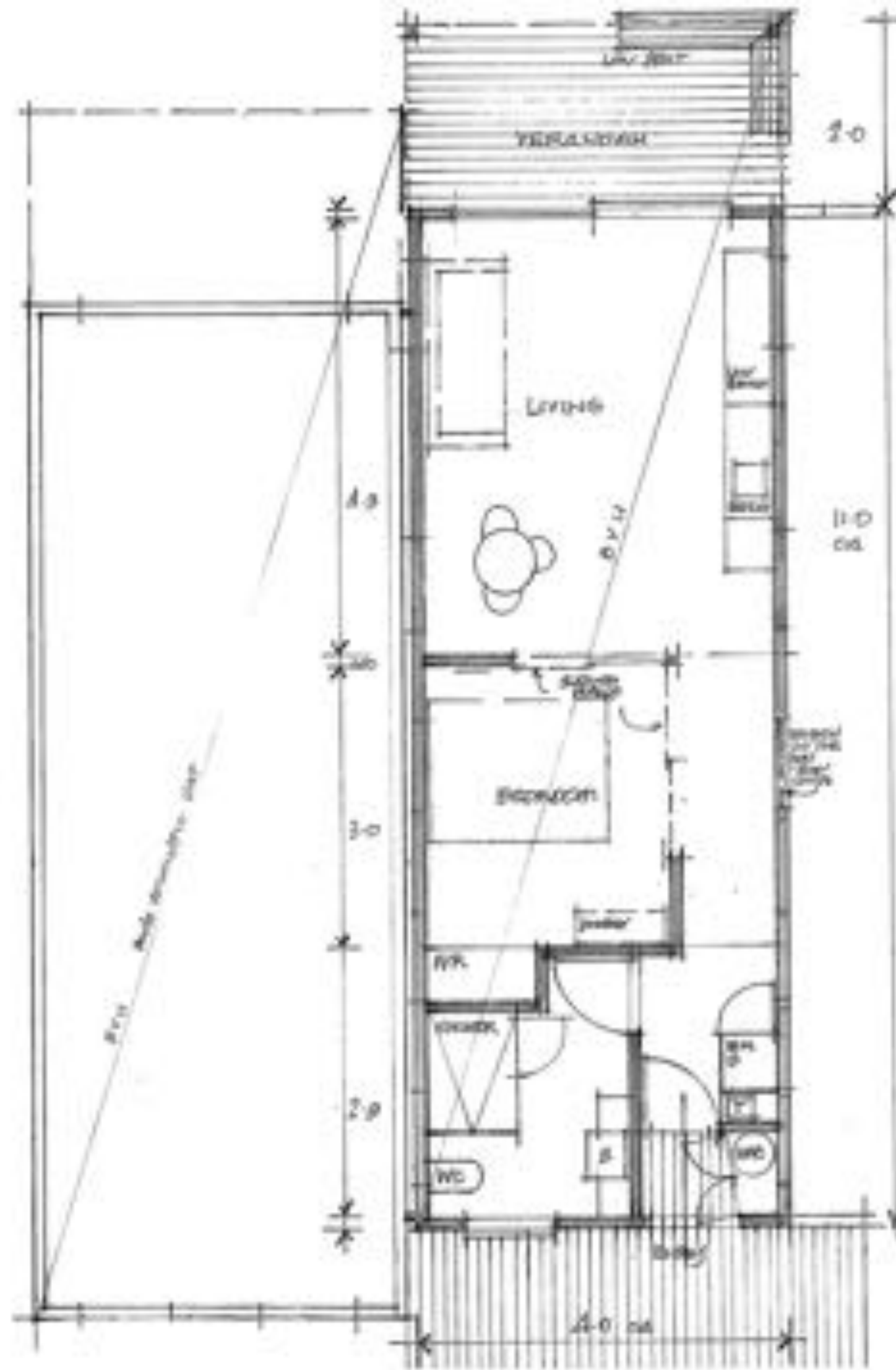




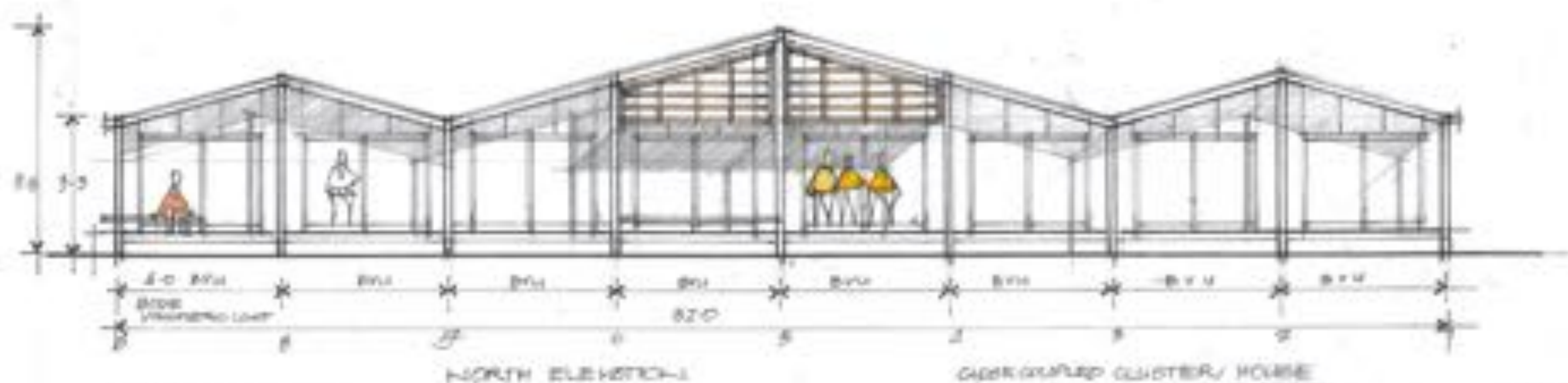
FLOOR PLAN 1:200 (A5)



CLOSE COUPLED CLUSTER HOUSE  
 189 SONS ROAD FERROLD BEACH  
 THE WELLINGTON COMPANY



CLOSE GROUP  
 CLUSTER HOUSE  
 TYPICAL BEDROOM ROOM  
 4m<sup>2</sup> size 1.50 x 2.5  
 189 OMS ROAD  
 TERONG BEACH  
 for TRAVELLINGTON COMPANY  
 MOLLER ARCHITECTS LTD  
 1974 6.22





CLOSE COUPLED  
CLUSTER HOUSE TENDRO *from east*  
THE WELLINGTON COMPANY

*moller 6.22*

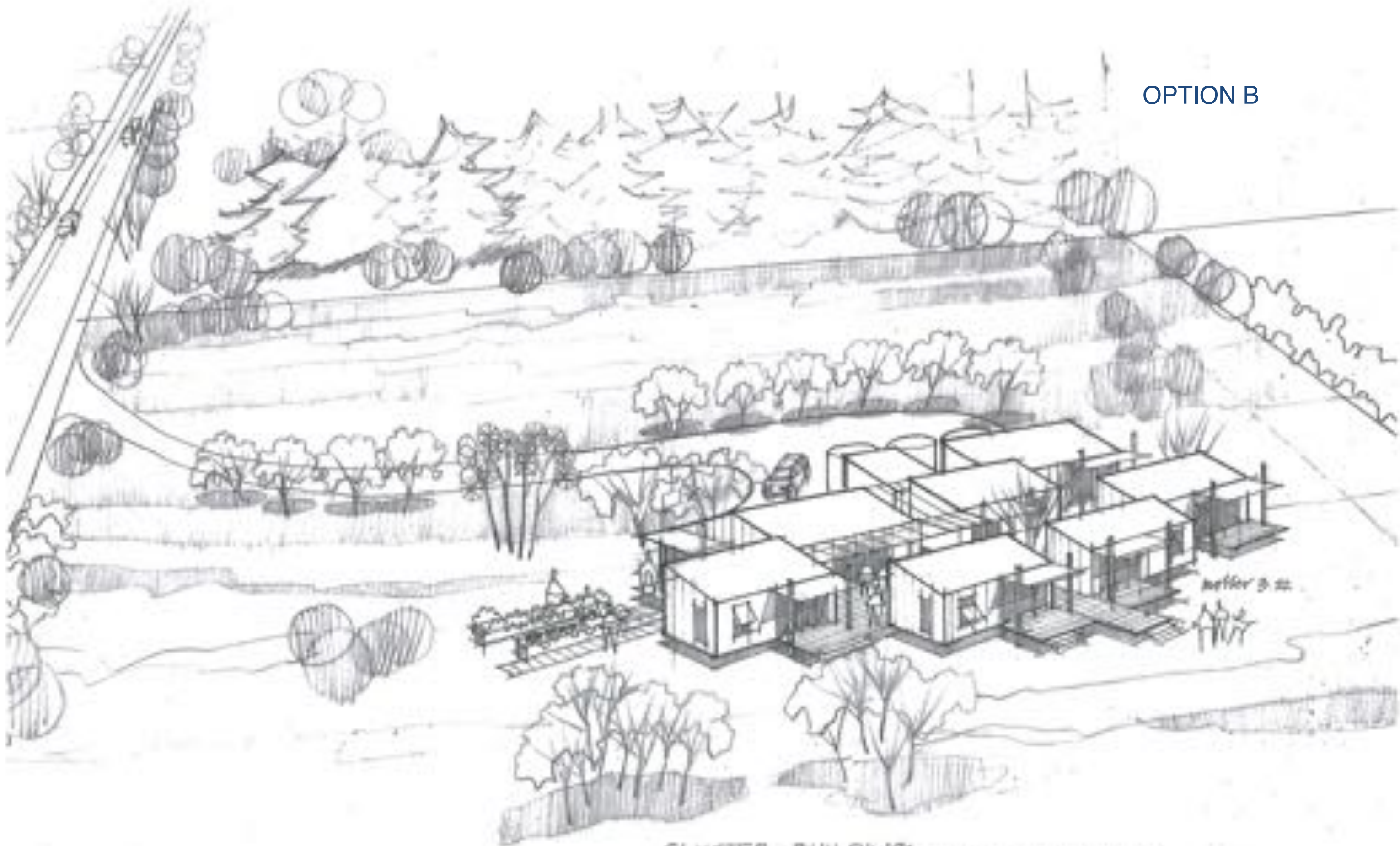
MOLLER ARCHITECTS LTD

**moller**  
Architects

CCH 5  
*moller 6.22*



OPTION B



CLUSTER BUILDING  
MINOR DWELLINGS & ACCESSORY BUILDINGS  
188 SWISS ROAD TEHORO BEACH  
THE WELLINGTON COMPANY

GSR 5





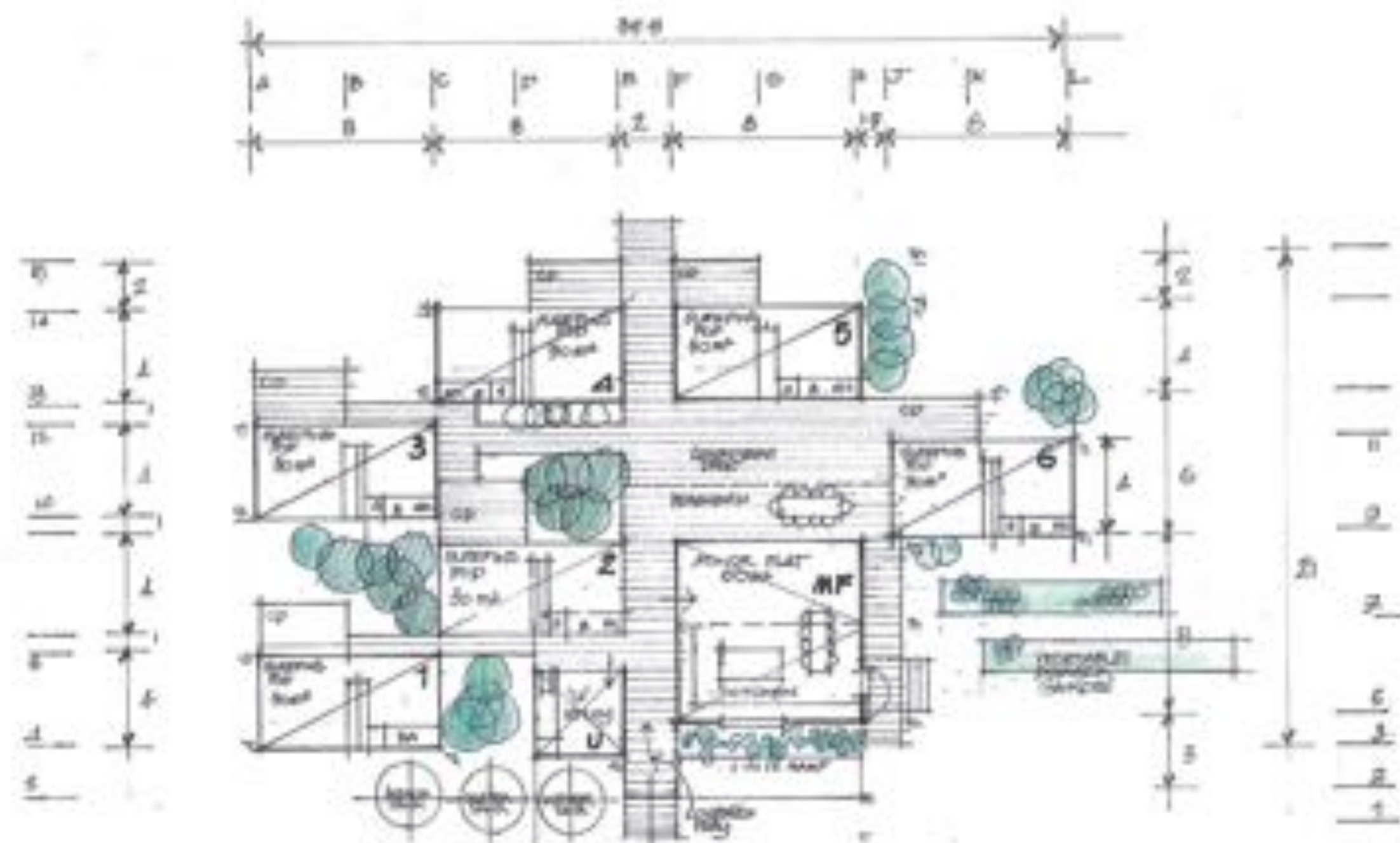
Key to map symbols

- PROPOSED CLUSTER BUILDING
- EXISTING DWELLING & BUSINESS BUILDINGS (ON SAND ROAD TE HONO BEACH)
- THE WETLANDS CORNER
- ROLLERWRIGHTS ROAD
- 1:1000
- G. SR. 2



Date Printed: March 11, 2003

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FLOOR PLAN 1200 R A5

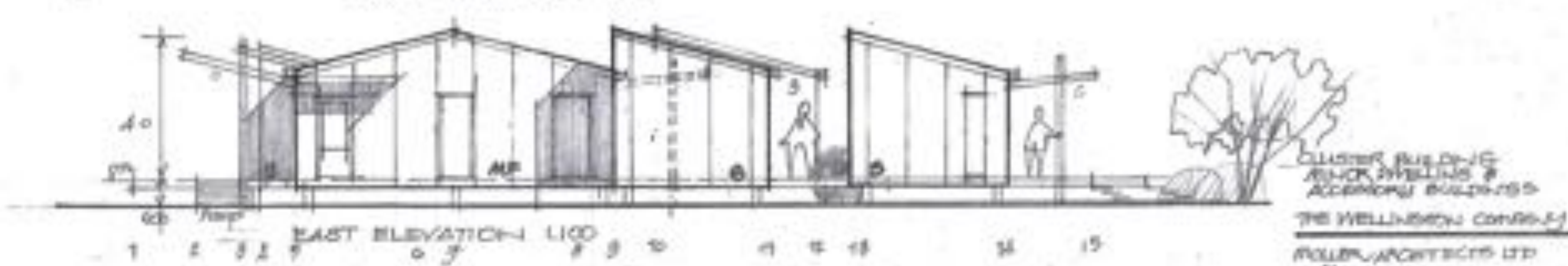
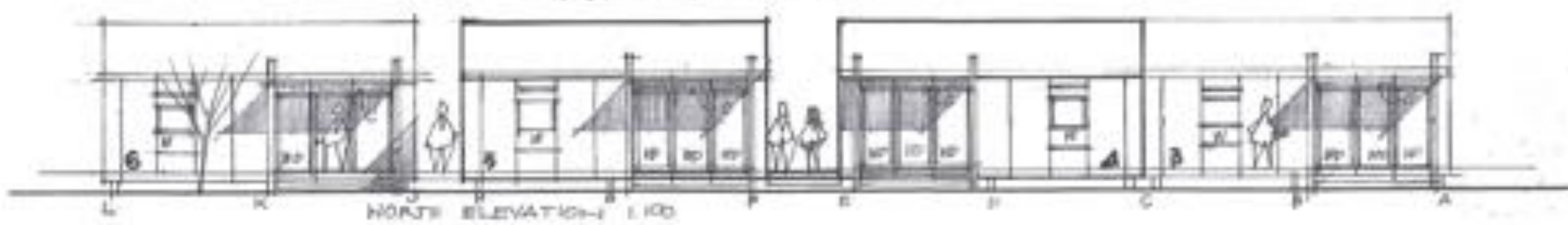
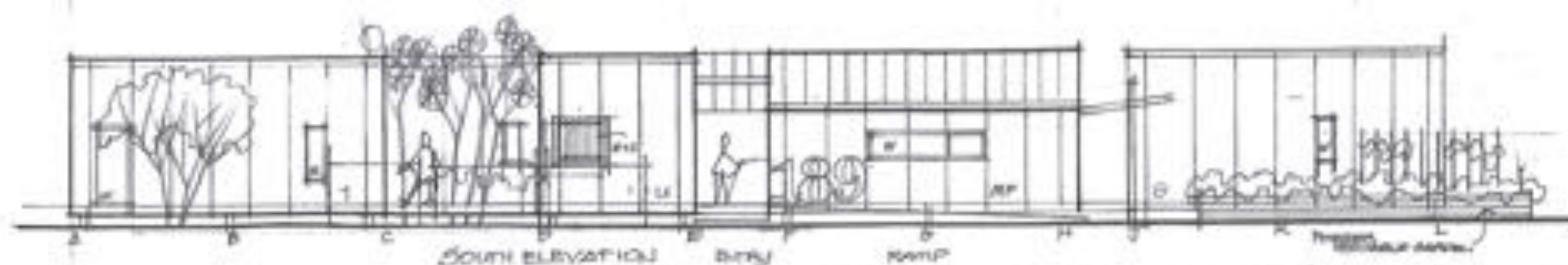
CLUSTER BUILDING - MINOR DWELLING & ACCESSORY BUILDINGS  
 SIX ROOM TYPED FACTORY MADE VOLUMETRIC UNITS  
 189 SMYS ROAD TENDON BEACH

THE WELLINGTON COMPANY

MOLLER ARCHITECTS LTD 1952

G.SR 3



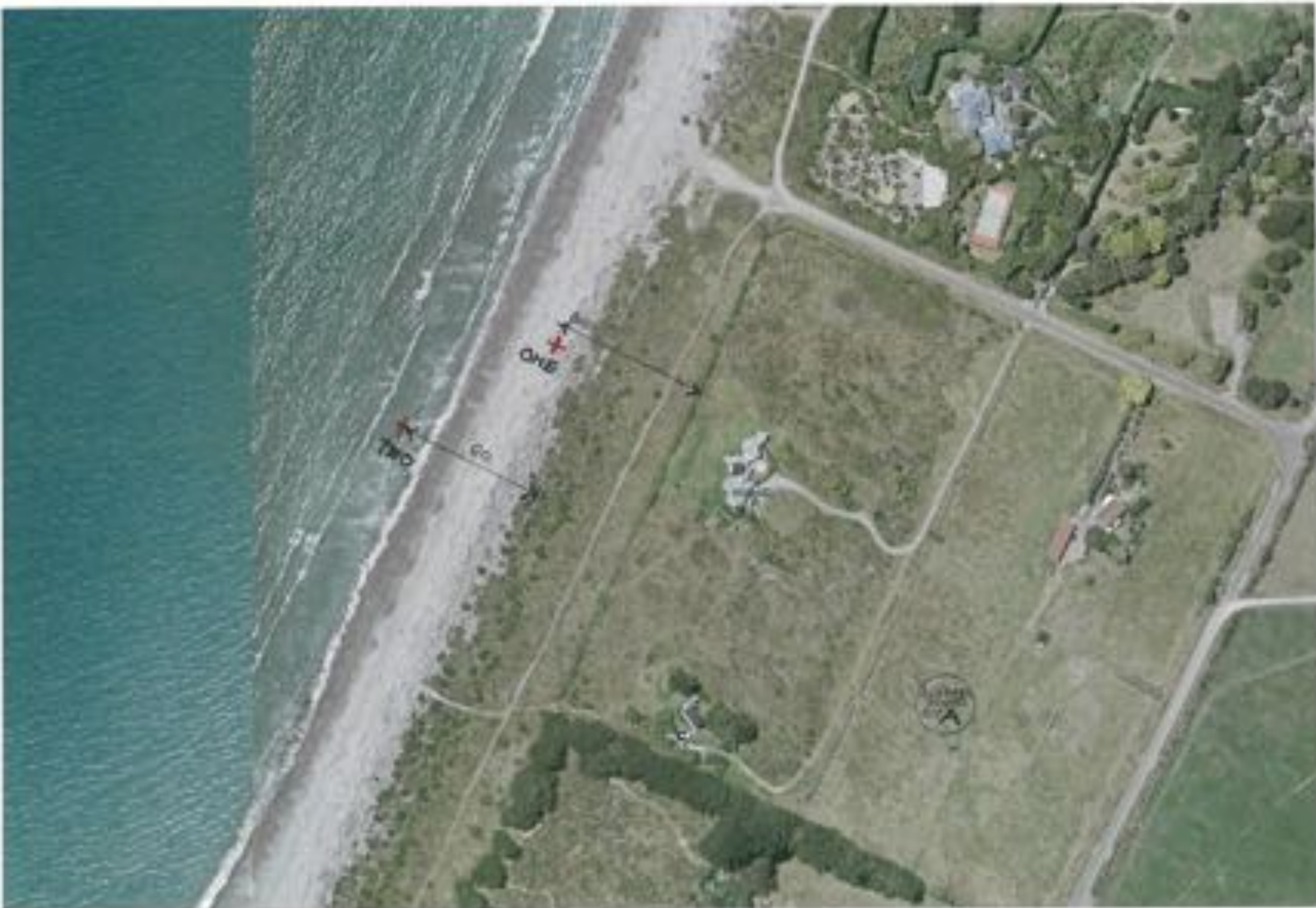


CLUSTER BUILDING  
 JUNIOR INFANTS &  
 ACCIDENTY BUILDINGS  
 THE WELLINGTON COLLEGE  
 POLLEN ARCHITECTS LTD  
 WYLLIE STREET  
**GSR 4**

## GORDON MOLLER'S VISIBILITY ASSESSMENT



Key to map symbols



PROPOSED  
GENERAL DULPHIN  
150 days per  
THE ROAD BEACH  
The planning consent  
WATER AUTHORITY  
**6 SR 6**



Date Printed: May 18, 2022

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*Ann 4.22*





PHOTO LOCATION CHE  
80 yards from Blackfoot property boundary  
(not not allowing because of privacy issue at the time.)

PROPOSED CLUSTER, BUILDING  
150 YARDS FROM THE ROAD BEACH

ROLLER ARCHITECTS

*GR* G. 22

G. SR. 7



FIELD LOCATION TWO

Baseline for beach ridge vegetation

(Not yet showing because of mostly foam at the time)

PROPOSED CLUSTER BUILDING  
100 East Road THIRD BEACH  
MILLER, ARIZONA

*Jan* 6.22

GSR 8



**APPENDIX 3**

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**LAND MATTER'S  
PRELIMINARY ENGINEERING DESIGN**



## **ENGINEERING REPORT**

### **Rural Cohousing**

189 Sims Road, Te Horo

#### **Client**

Far Fetched Ltd

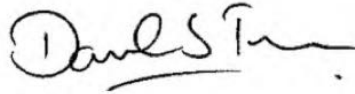
October 2022

Revision 1

## ENGINEERING REPORT FOR: Far Fetched Ltd

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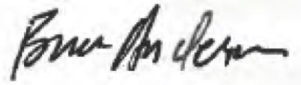
Reviewed by:



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Dan Turner - Senior Civil Engineer, BEng Hons

Prepared by:



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Brian Anderson - Civil Engineer, BEngTECH, NZCE

**Date:** 07/10/2022  
**Version:** Revision 1  
**Job Ref:** 898

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## 1. BACKGROUND & INTRODUCTION

---

Far Fetched Ltd is applying for a resource consent to provide cohousing on their rural property at 189 Sims Road, Te Horo Beach. The property affected is Lot 9 DP 31319 held in Record of Title WN8A/523.

This report considers the engineering feasibility of cohousing. The report addresses the following:

- Potable water supply
- Stormwater and wastewater disposal
- Ponding
- Utilities
- Access design
- Earthworks
- Soil strength for house foundations
- Firefighting water supply
- Landscaping

## 2. THE LAND

---

The site is located at the northern end of Sims Road in Te Horo Beach. It is a corner site and is located on the western side of Sims Road.

There is an existing dwelling located in the northern third of the property with access from the north. The site is generally flat with a low rolling pastoral ridge running north south through the site. The site is generally covered in pastoral grass with plantings of flax around the site. The site is bounded to the north and east by Sims Road.



**Figure 1** – Indicative Development Plan (outlined in yellow)



### 3. THE CURRENT SITUATION – BASE ENGINEERING INFORMATION

---

#### 3.1. Geology and Soils

There are two distinct soil types mapped in the area of the site. These are Sandy Gley and Sandy Recent and classed as having a rapid permeability.

No specific excavations were undertaken on the site, we have investigated the neighbouring properties in the past and ground conditions are consistent which indicate sandy alluvial gravels overlining coarse sands and silts.

#### 3.2. Three Waters

There are no KCDC sanitary sewer or stormwater services available on Sims Road.

#### 3.3. Utility Services

This section outlines the existing utility services provided on Sims Road.

##### 3.3.1. Power

Overhead power lines are located on Sims Road, with an underground cable supplying the existing dwelling.

##### 3.3.2. Telecommunications

Chorus telecommunication cables are located along Sims Road. Rural wireless broadband is also available from some providers.

##### 3.3.3. Gas

There are no existing gas lines on Sims Road.

#### 3.4. Vehicle Access

The current access to the lot is from the north western section of Sims Road and is via a sealed driveway. A new access from Sims Road will be installed in the southern part of the lot to provide access to the cohousing development. Access will be as per KCDC rural residential vehicle crossing standard.

#### 3.5. Natural Hazards

189 Sims Road is denoted in a ponding zone in the Flood Hazard map by KCDC. The flood level for ponding has been provided by Greater Wellington Regional Council as RL 5.3. There are several sections within the middle ridge of the property which are above RL 5.3, which are noted on the flood hazard map.

#### 3.6. Ecological Sites

No ecological sites identified.

### 4. ENGINEERING ASSESSMENT

---

This section describes how the three waters, utilities, roading and earthworks may be implemented within the development. The objective is to show that the development of cohousing is achievable within the lot. This report is intended to be referenced in support of a resource consent application.

Once resource consent has been granted a detailed design process will be undertaken for the access and utility connections. The three waters and driveway detailed design will be developed with dwelling building consent drawings.

The construction of the development will take place in one stage. Refer to Appendix A for the proposed plans.

No specific excavations were undertaken on the site, we have investigated the neighbouring properties in

the past and ground conditions are consistent which indicate sandy alluvial gravels overlining coarse sands and silts.

#### 4.1.1. Potable Water Supply

There is no KCDC potable water supply available. The existing dwelling potable water is supplied by rainwater collection from the roof. There is an existing bore located on site in a pump shed.

It is proposed to collect rain water from the roof of the development and store it in a single or multiple tanks. First flush water diverters to remove debris from the roof and gutter and water filters are recommended with these systems. Ongoing maintenance will also be required with a rain tank so adequate access for maintenance should be considered when designing the rain tank and choosing its location.

A minimum storage capacity for potable water of 65,000 litres is proposed based on a 180 litre / day use for 12 people for 30 days. Refer to section 4.7 for further details regarding water storage capacity requirements.

A reduction to 145 litres / day could be used based on Greater Wellington Regional Council rule R63 which would require the usage of low flow fittings to reduce the demand.

#### 4.1.2. Stormwater Disposal

Stormwater from roof and hard stand areas for the development will be captured and conveyed to soak pits located near building the platform.

To determine the indicative soak pit size the following criteria was used:

- An impervious area of 900m<sup>2</sup> (cohousing roof and surrounding platform area)
- A runoff coefficient of 0.9 (from E1)
- Rain crate soak pit with a void ratio of 0.95.
- 110mm rainfall for a 1 in 100-year storm event with climate change included from KCDC SDPR. Has been used due to site being located within the ponding zone (secondary flow path is available)
- A storm duration of 60 minutes (from E1)

The indicative soak pit size is 7.9m long x 2m wide x 1.3m high. The soak pit base will be excavated to 1.88m to provide 600mm of cover to the soak pit and to ensure the base is located within the sand and above the water table. The water table was identified at RL 1.3 in the neighbouring properties.

Percolation rate of 150mm/hr which has had a factor of safety of 4 applied has been used which is considered conservative for sand and gravel soils identified. Soak will be confirmed at the time of detailed design and soak pit amended accordingly.

The indicative soak pit size using the above criteria is shown on the drawings in Appendix A.

#### 4.1.3. Wastewater Disposal

There is no council supplied wastewater at Sims Road. It is recommended that domestic wastewater be treated and disposed of on site. Soils present are sandy alluvial gravels overlining coarse sands and silts which corresponds to soil category 1 as derived from Table 5.1, AS/NZS 1547:2012.

The Horizons Regional Council (HRC) manual for Onsite Wastewater Systems Design and Management (OWSDM) is the preferred method of designing wastewater management systems. In the OWSDM the preferred wastewater disposal method for silt soils is advanced secondary treatment with a pressurized compensating dripper irrigation system (PCDI) or similar pressurised low pressure system. These systems ensure even distribution of treated wastewater over the entire trickle field.

It is recommended that a subsurface dripper irrigation system be used with a maximum pipe depth of 250mm below ground level as per GD06 On-site Wastewater Management in the Auckland Region, Section E2.2 and Table 44 states that the areal loading for a category 1 soil is 5 mm/day.

For the proposed development the assumed wastewater flow rate is 180 litres / day / person as per Table H3 from AS/NZS:1547 with an indicative occupancy of 12 people. The peak daily effluent production is 2160 litres / day. The design land application area has been determined as 432m<sup>2</sup> with a reserve area of 216m<sup>2</sup> as per GD06 Section E2.2. Refer drawing 898-GA-201 in Appendix A for trickle field location.

A septic tank similar to a Hynds Lifestyle Elite 2 tank system would be appropriate for the development. These systems can accommodate 3,000 litres / day.

A trickle field (including reserve area) should be set back 5.0m from any boundary, 20m from any surface water body and 20m from any potable water bore as per the Proposed Natural Resources Plan for the Wellington Region (PNRP) Rule R75 as permitted activity requirements. The proposed designs and layouts outlined above and shown in the drawings in Appendix A comply with this rule.

The designs outlined above are based on an assumed occupancy and 180 litres / day / person. This could be reduced to 145 litres / day /person based on Rule 63 from GWRC PNRP. The actual occupancy will dictate the size of the advanced secondary treatment system. A detailed design of the wastewater system will be required when a building consent is submitted for the cohousing building.

## 4.2. Utilities

### 4.2.1. Power

Overhead power lines are located on Sims Road, with an underground cable supplying the existing dwelling. The development can be serviced from the existing network with overhead or underground cables.

### 4.2.2. Telecommunications

Chorus telecommunication cables are located along Sims Road. Rural wireless broadband is also available from some providers. One new connection will be made from the existing network to the development. Rural broadband via the cellular network is available that may have better download speeds.

### 4.2.3. Gas

There is no existing gas supply on Sims Road. No gas connections are proposed for this development.

## 4.3. ROADING & TRANSPORTATION

### 4.3.1. Vehicle Access to Sims Road

A new access will be created on Sims Road to the development. The existing access to the existing dwelling from the northern section of Sims Road will remain unchanged and will not be used to access the development.

The new access will be a rural residential vehicle crossing as per KCDC-RD-017 will be constructed in the southern part of the property. Sims Road in this area is straight with no sight line obstructions.

### 4.3.2. Driveway

The driveway to the development is proposed as a crowned 6m formation and will provide two way access constructed of an all weather surface. Runoff will be captured by a swale formed along both sides of the alignments with soakage to ground in the sand. The driveway will extend up to the building with parking for 8 vehicles and allowance for fire-fighting trucks to manoeuvre.

### 4.3.3. Sight Distance

The sight lines were checked for the access location as per Diagram A3 in Schedule 11.1 Diagrams in the KCDC district plan and are compliant. The sight distance length of 80m was taken from District Plan clause 11.E.1, Table 2, based on a posted speed limit of 80km/h onto a local road.

### 4.3.4. Lighting

No lighting is proposed for the development.

## 4.4. EARTHWORKS

Earthworks are proposed for the development. Filling will be required to construct the building platform and the driveway to the platform, typically to be able to place the proposed building above the recommended building level of RL5.3 the majority of the earthworks will be fill. Associated earthworks for water tanks and sanitary sewer systems will be required as per the systems designed.

## 4.5. BUILDING FOUNDATIONS

### 4.5.1. Foundation Testing

No foundation testing was undertaken as part of this report as the building platform will be typically in fill. Filling will be conducted as per NZS 4431:2022 and NZS3604:2011 to the standard of good ground.

The buildings are prefabricated, and foundation design will be by others and parameters used for the design can be assumed to be in accordance with the standards above.

No liquefaction assessment has been undertaken as part of this report and may be required at the time of building consent.

## 4.6. FIRE FIGHTING PROVISION

The building will require a water storage supply as specified in New Zealand Fire Service Firefighting Water Supplies Code of Practice, SNZ PAS 4509:2008. In general, a building with a sprinkler system will need to provide at least 45,000 litres of water to fight a fire. There will be no change to the water supply demand if no sprinkler system is provided as per SNZ PAS 4509:2008 requirements.

A firefighting connection kit will be required at the base of firefighting tanks and an appropriate access and hard stand area be provided as per SNZ PAS 4509:2008. Water storage tanks or ponds can be used as sources of water. SNZ PAS 4509:2008 specifies appropriate hard stand areas, fittings and locations for the firefighting water source.

## 4.7. WATER STORAGE REQUIREMENTS

### 4.7.1. Water Storage Requirements for the development

The total water storage requirement for the proposed building is 45,000 litres for fire fighting purposes.

A minimum storage capacity for potable water of 65,000 litres is proposed based on a 180 litre / day use for 12 people for 30 days. This brings the total water storage requirements to 110,000 litres for the development.

A 65,000 litre concrete underground tank for the potable water can be provided and two 25,000 litre above ground tanks for fire fighting purposes can be provided.

## 4.8. PONDING MITIGATION

Approximately 2150m<sup>3</sup> of material will be placed within the ponding area identified on KCDC's Flood Hazard map. This represents less than 0.1% of the total ponding catchment. Ponding is slow or settled waters that occurs during storm events. The proposed fill material will not be placed in a location where it would displace ponding water on adjacent properties. It is considered that no compensatory storage is required.

## 4.9. LANDSCAPING

The applicant is proposing landscaping along the boundaries and in the south-western corner of the site. Landscaping in and over the on-site wastewater disposal fields should be species that are recommended by the system installer and should be limited to species with non-invasive root species. Landscaping and planting along the front boundary should protect sightlines for vehicles exiting the new driveway.



## 5. CONCLUSIONS & RECOMMENDATIONS

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Based on the site investigations and discussions in this report a rural cohousing development is achievable. This report is a preliminary design only and further detailed design will be required.

Prior to the occupation of the cohousing building the following infrastructure should be constructed:

### Water Supply

1. A minimum potable water supply of 65,000 litres utilising harvested rainwater off the roof into rain tanks for the building. Firefighting supply of 45,000 litres shall be provided.
2. It is recommended that the building contain a residential sprinkler system.
3. A UV water treatment system should be installed so that water is treated prior to delivery to drinking water taps. Provision should be made to maintain the UV system in accordance with the manufacturer's recommendations

### Stormwater

1. Stormwater neutrality for proposed development can be achieved by disposing stormwater into a soak pit.
2. Runoff from the driveway will be discharged into swales along the driveway and discharged to ground.
3. The driveway shall be maintained with a permeable surface.

### On-site Wastewater

1. Wastewater can be disposed of via an advanced secondary treatment with a PCDI system.
2. Note: a consent from GWRC under Rule 63 may be required if the discharge rate exceeds 2,000 litres per day. This will be required if values used are 180 litres / day / person however if 145 litres / day / person is used discharge rate will be below 2,000 litres per day.

### Power Supply and Telecommunications

1. Power will be provided by existing infrastructure on Sims Road.
2. Telecommunications will be provided by connecting to the existing network in Sims Road or via the Rural Broadband via the cellular network.

### Foundation Design

1. Foundation design can be assumed to be in accordance with NZS 4431:2022 and NZS3604:2011 good ground which will be confirmed at the completion of the works.
2. A liquefaction assessment may be required for building consent and should be allowed for.

### Firefighting

1. A dedicated firefighting water source will be required for the development in accordance with the recommendations of this report. A minimum supply of 45,000 litres is required. It is recommended that residential sprinkler systems be installed for the building.
2. The dedicated firefighting water supply should be placed in a location where FENZ appliances can easily access and all details to be compliant with SNZ PAS 4509:2008.
3. The water supply should be marked as 'dedicated fire fighting supply only'.

### Landscaping

1. Plant species located adjoining and over the on-site wastewater disposal field should be a non-invasive species as recommended by the installer.











## APPENDIX A – DRAWINGS

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**CLIENT: THE WELLINGTON COMPANY**  
**ADDRESS: 189 SIMS RD, TE HORO BEACH**  
**PROJECT: RURAL COHOUSING**  
**RESOURCE CONSENT DRAWINGS**

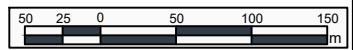
**NOTES:**  
 1. THIS PLAN IS TO BE USED FOR RESOURCE CONSENT PURPOSES ONLY AND NOT TO BE RELIED UPON FOR ANY OTHER PURPOSE WITHOUT THE CONSENT OF LAND MATTERS LIMITED.  
 2. EXISTING UTILITIES SHOWN INDICATIVELY ONLY.

**LEGEND:**

	SS	PRESSURISED SANITARY SEWER
	SW	STORMWATER PIPE
	PW	POTABLE WATER MAIN
		SANITARY SEWER MANHOLE
		STORMWATER MANHOLE
		STORMWATER SUMPS
		SOAK PIT
	CHORUS	CHORUS DUCT
	PWR	POWER DUCT
	OH	OVERHEAD POWER




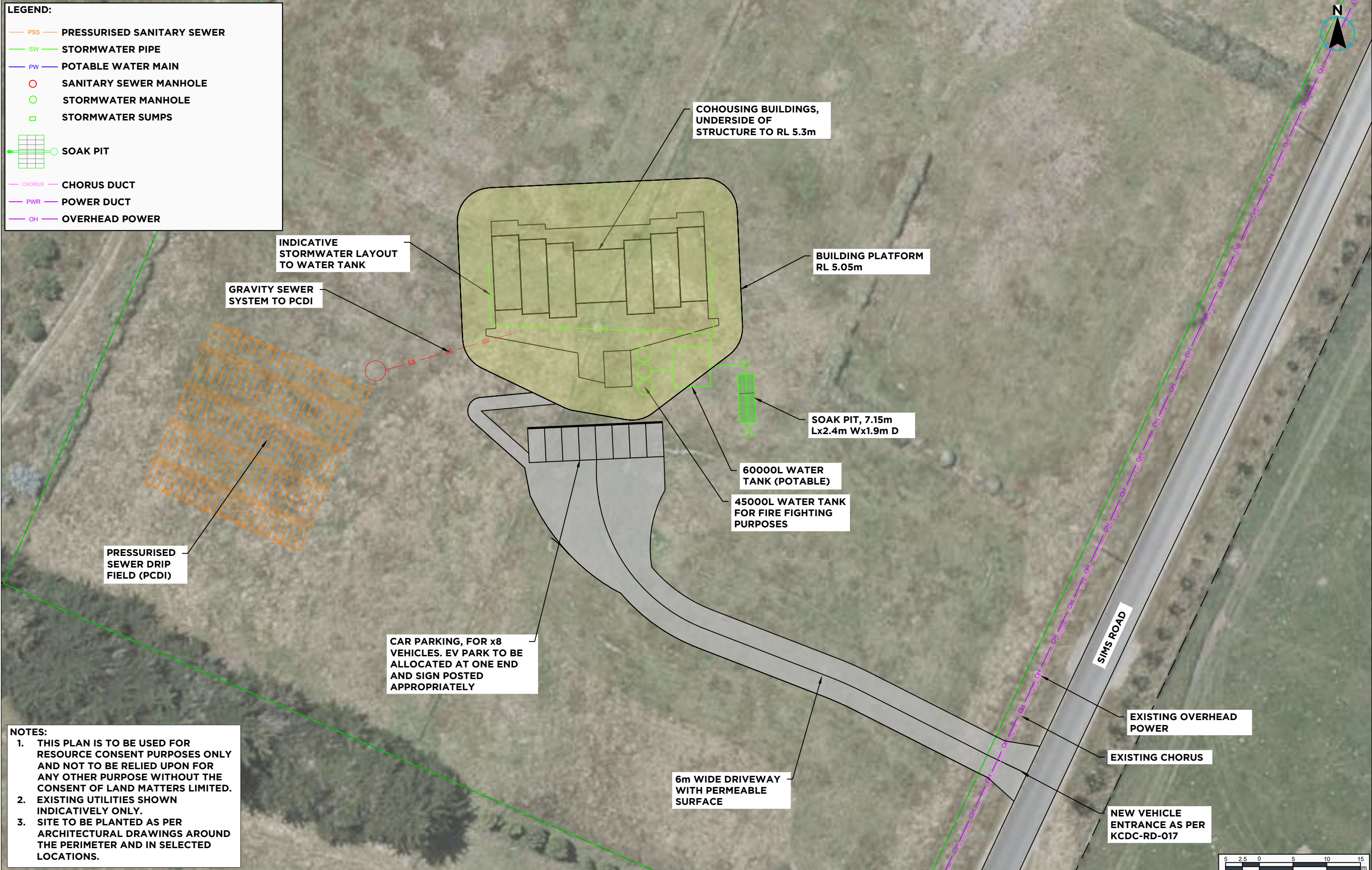
**SITE LOCATION PLAN**





**LEGEND:**

- PSS — PRESSURISED SANITARY SEWER
- SW — STORMWATER PIPE
- PW — POTABLE WATER MAIN
- — SANITARY SEWER MANHOLE
- — STORMWATER MANHOLE
- — STORMWATER SUMPS
-  — SOAK PIT
- CHORUS — CHORUS DUCT
- PWR — POWER DUCT
- OH — OVERHEAD POWER



COHOUSING BUILDINGS, UNDERSIDE OF STRUCTURE TO RL 5.3m

BUILDING PLATFORM RL 5.05m

INDICATIVE STORMWATER LAYOUT TO WATER TANK

GRAVITY SEWER SYSTEM TO PCDI

PRESSURISED SEWER DRIP FIELD (PCDI)

CAR PARKING, FOR x8 VEHICLES. EV PARK TO BE ALLOCATED AT ONE END AND SIGN POSTED APPROPRIATELY

6m WIDE DRIVEWAY WITH PERMEABLE SURFACE

SOAK PIT, 7.15m Lx2.4m Wx1.9m D

60000L WATER TANK (POTABLE)

45000L WATER TANK FOR FIRE FIGHTING PURPOSES

SIMS ROAD

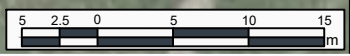
EXISTING OVERHEAD POWER

EXISTING CHORUS

NEW VEHICLE ENTRANCE AS PER KCDC-RD-017

**NOTES:**

1. THIS PLAN IS TO BE USED FOR RESOURCE CONSENT PURPOSES ONLY AND NOT TO BE RELIED UPON FOR ANY OTHER PURPOSE WITHOUT THE CONSENT OF LAND MATTERS LIMITED.
2. EXISTING UTILITIES SHOWN INDICATIVELY ONLY.
3. SITE TO BE PLANTED AS PER ARCHITECTURAL DRAWINGS AROUND THE PERIMETER AND IN SELECTED LOCATIONS.



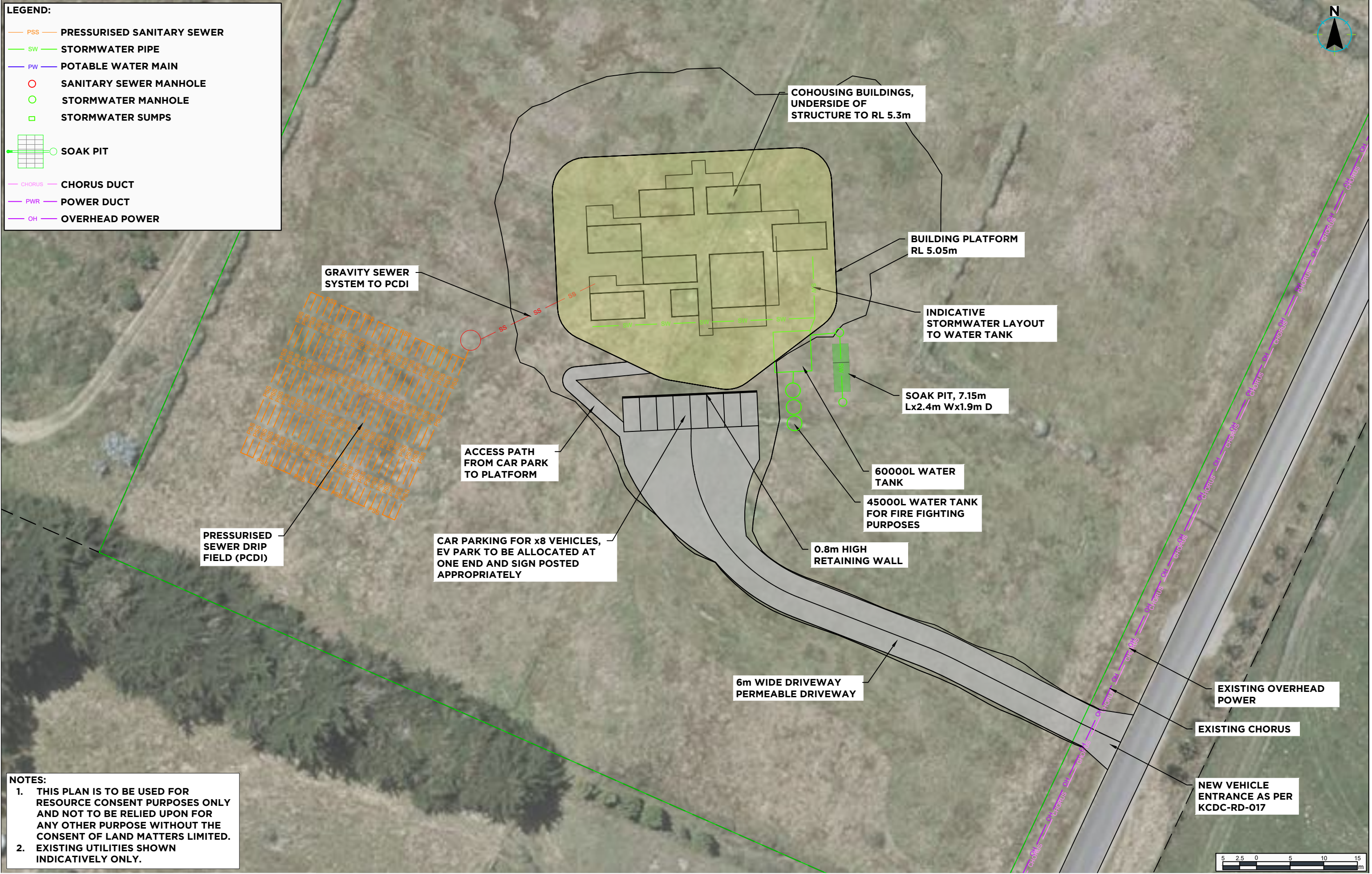
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				21/12/2022	898
				SCALE	1:250 @ A1
					1:500 @ A3
				DRAWING NO.	REV
				GA-201	B

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**LEGEND:**

- PSS — PRESSURISED SANITARY SEWER**
- SW — STORMWATER PIPE**
- PW — POTABLE WATER MAIN**
- SANITARY SEWER MANHOLE**
- STORMWATER MANHOLE**
- STORMWATER SUMPS**
- SOAK PIT**
- CHORUS — CHORUS DUCT**
- PWR — POWER DUCT**
- OH — OVERHEAD POWER**



**NOTES:**

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- EXISTING UTILITIES SHOWN INDICATIVELY ONLY.





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				GA-201	B

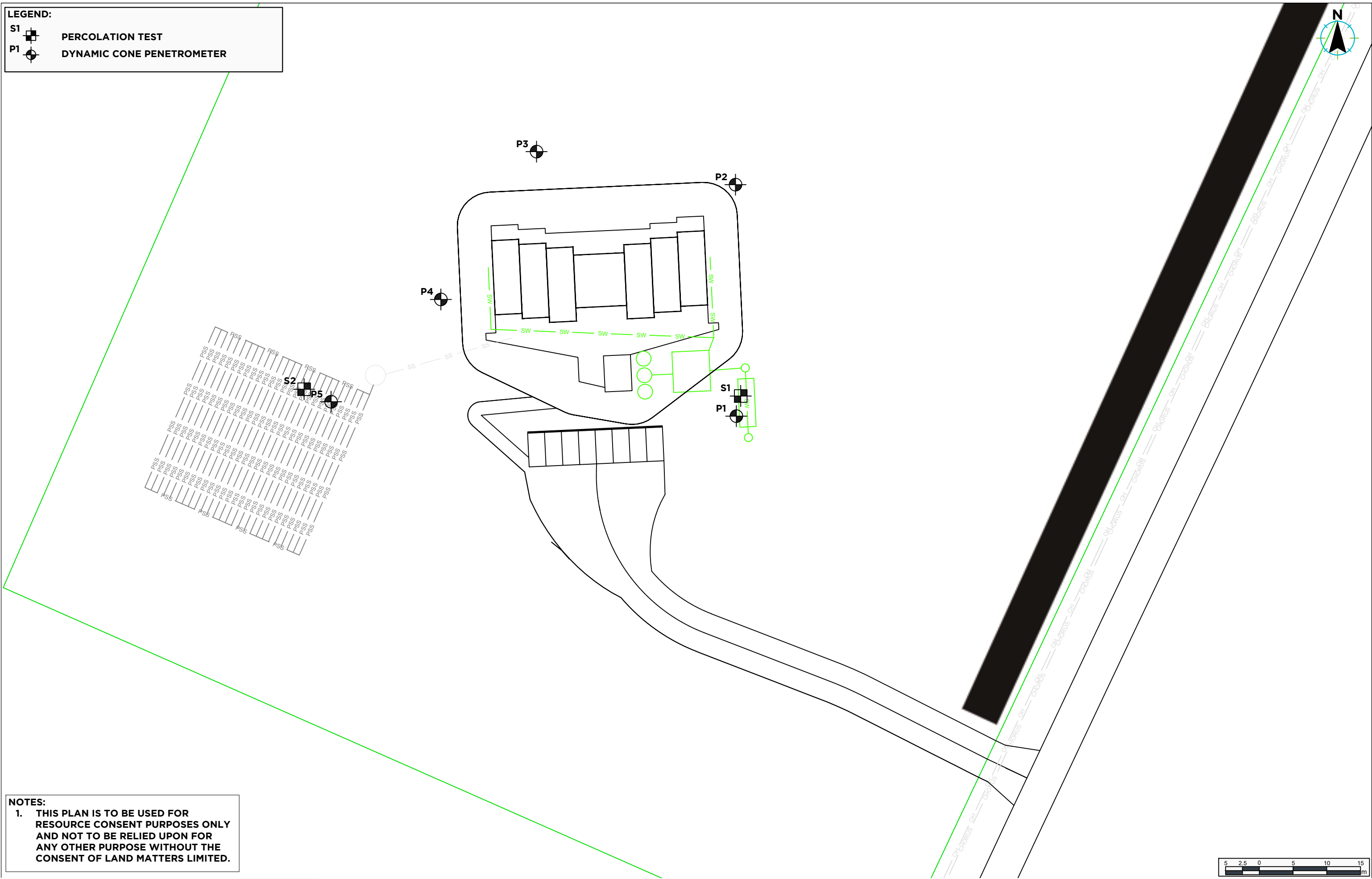
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**LEGEND:**

S1  PERCOLATION TEST

P1  DYNAMIC CONE PENETROMETER



**NOTES:**

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PREPARED BY



CLIENT

**THE WELLINGTON COMPANY**

PROJECT

**TWC - 189 SIMS RD,  
TE HORO**

DRAWING TITLE

**SITE INVESTIGATION  
PLAN**

DATE	PROJECT NO.
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SCALE	
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DRAWING NO.	REV
GA-210	A

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**LEGEND:**  
 — MAJOR CONTOUR  
 — MINOR CONTOUR



PREPARED BY  
 **LAND MATTERS**

CLIENT  
**THE WELLINGTON COMPANY**

PROJECT  
**TWC - 189 SIMS RD,  
 TE HORO**

DRAWING TITLE  
**EXISTING CONTOUR  
 PLAN**

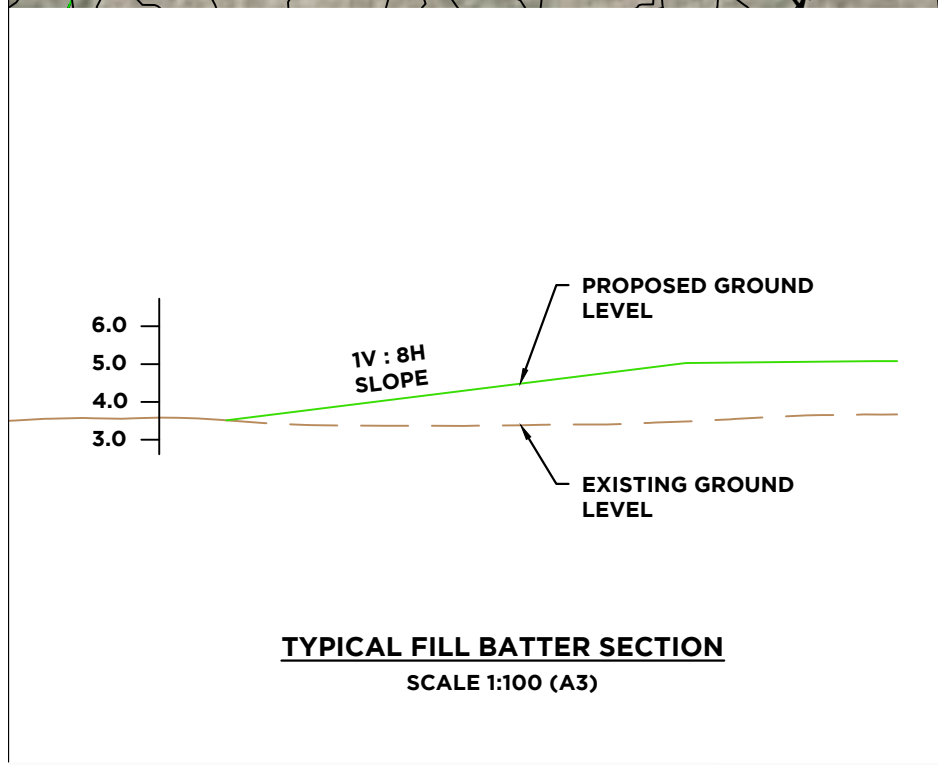
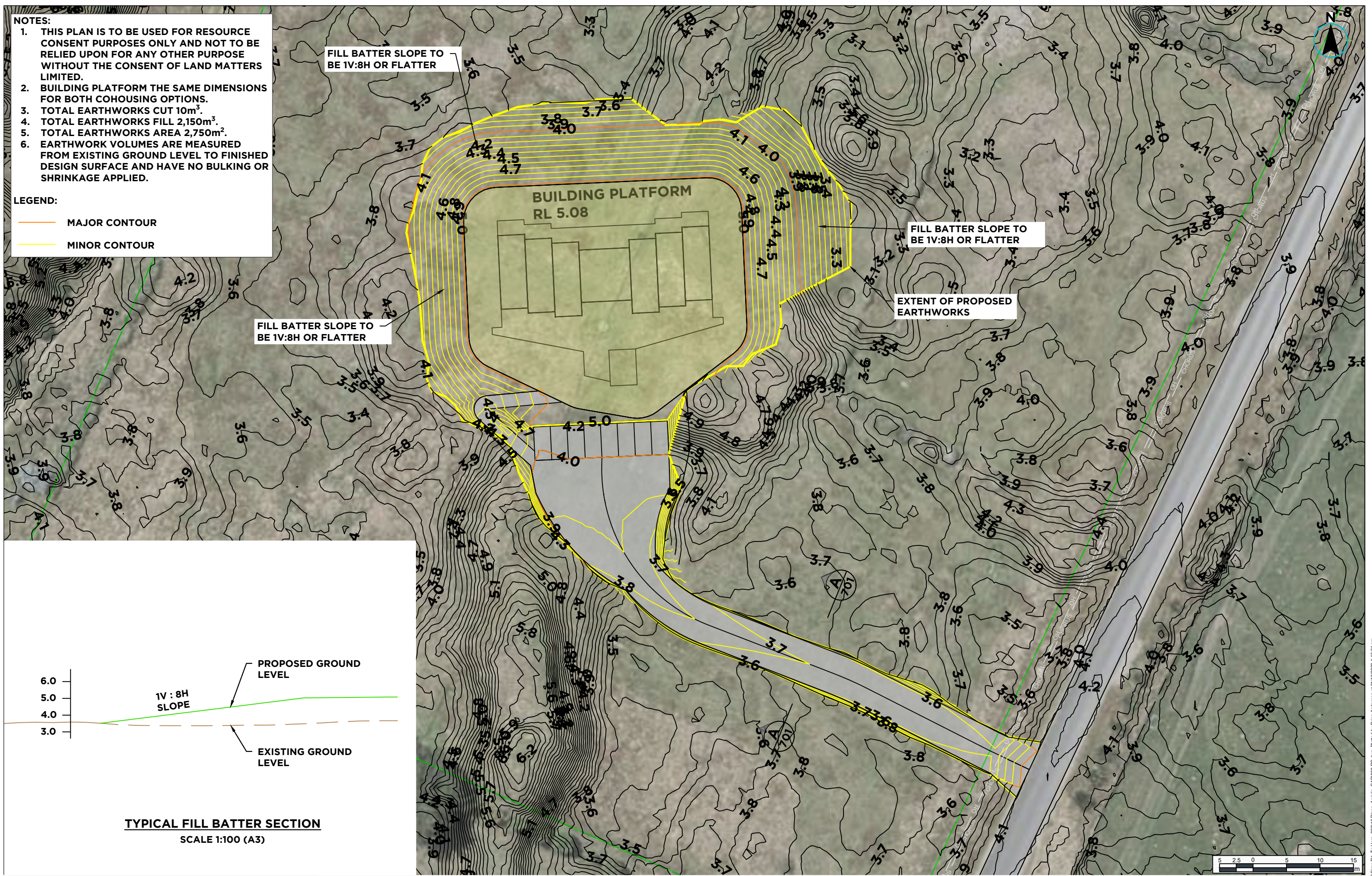
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- NOTES:**
1. THIS PLAN IS TO BE USED FOR RESOURCE CONSENT PURPOSES ONLY AND NOT TO BE RELIED UPON FOR ANY OTHER PURPOSE WITHOUT THE CONSENT OF LAND MATTERS LIMITED.
  2. BUILDING PLATFORM THE SAME DIMENSIONS FOR BOTH COHOUSING OPTIONS.
  3. TOTAL EARTHWORKS CUT 10m<sup>3</sup>.
  4. TOTAL EARTHWORKS FILL 2,150m<sup>3</sup>.
  5. TOTAL EARTHWORKS AREA 2,750m<sup>2</sup>.
  6. EARTHWORK VOLUMES ARE MEASURED FROM EXISTING GROUND LEVEL TO FINISHED DESIGN SURFACE AND HAVE NO BULKING OR SHRINKAGE APPLIED.

- LEGEND:**
- MAJOR CONTOUR
  - MINOR CONTOUR



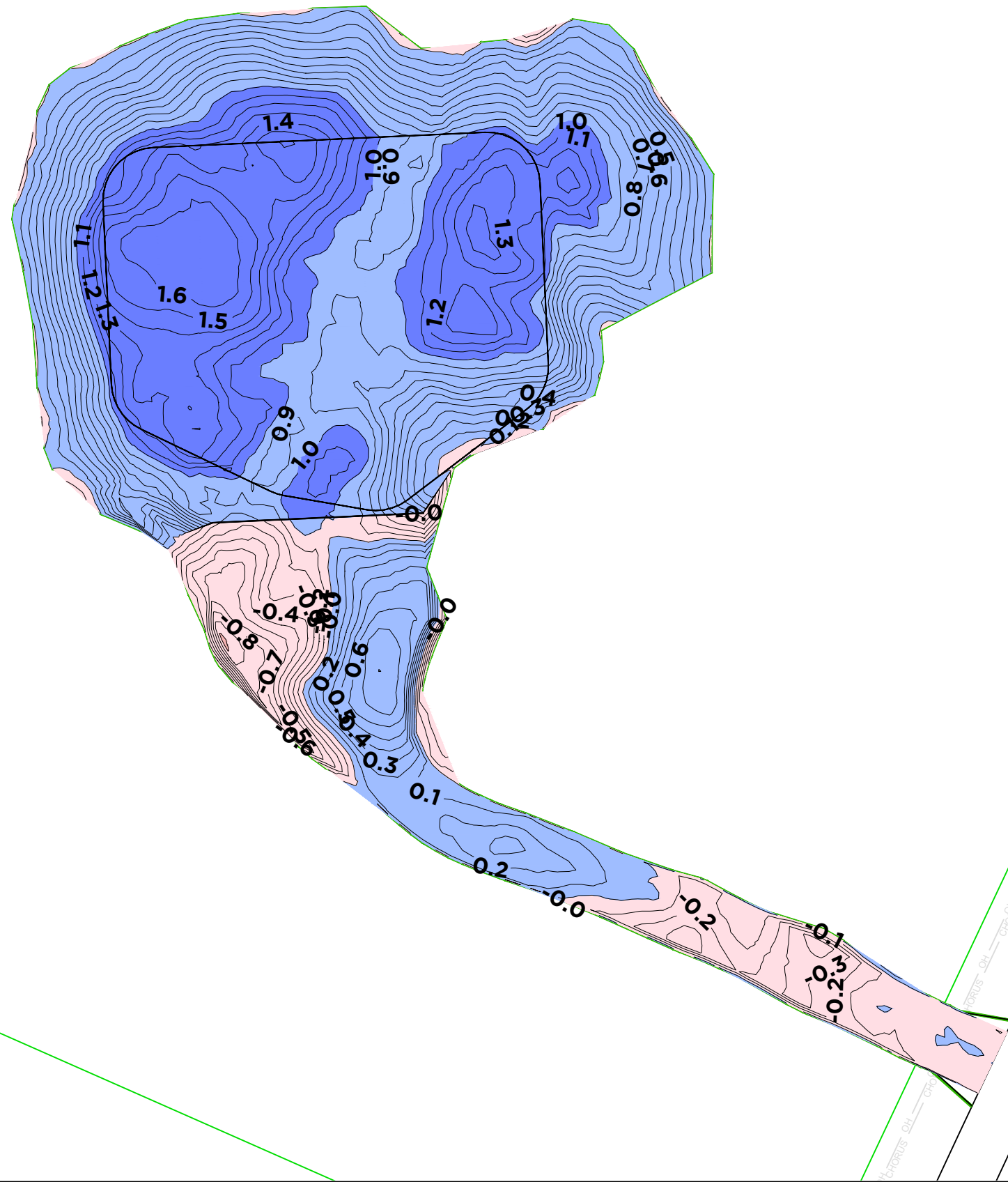
C:\12505\data\LAND\DATA\898 - TWC - 189 Sims Rd, Te Horo\_90310 Plans\_Aerials\_CAD\898 RC.dwg, Plotted by Brian Anderson at 21/12/2022 4:43:21 pm



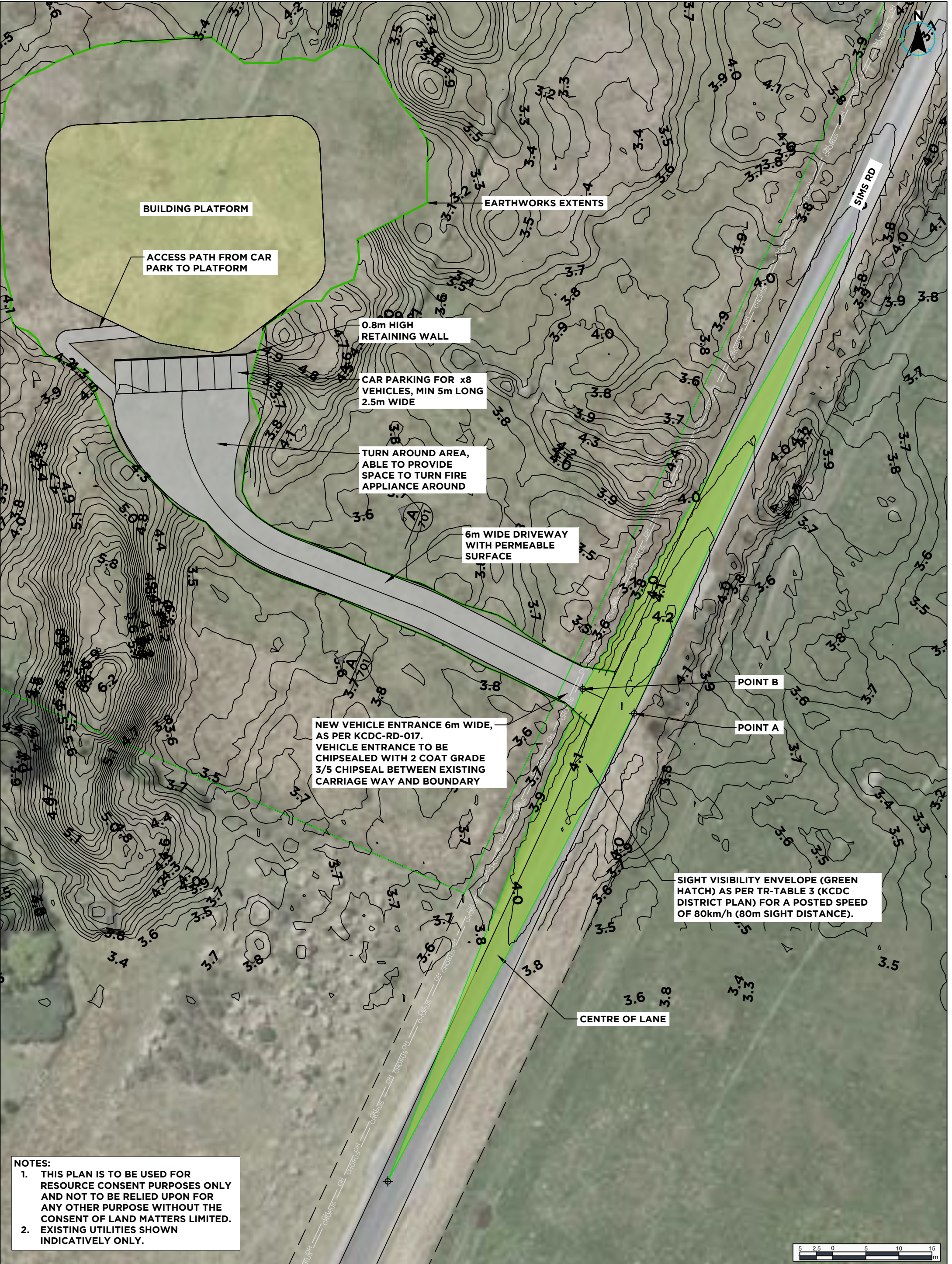
**NOTES:**  
 1. THIS PLAN IS TO BE USED FOR RESOURCE CONSENT PURPOSES ONLY AND NOT TO BE RELIED UPON FOR ANY OTHER PURPOSE WITHOUT THE CONSENT OF LAND MATTERS LIMITED.  
 2. EXISTING UTILITIES SHOWN INDICATIVELY ONLY.



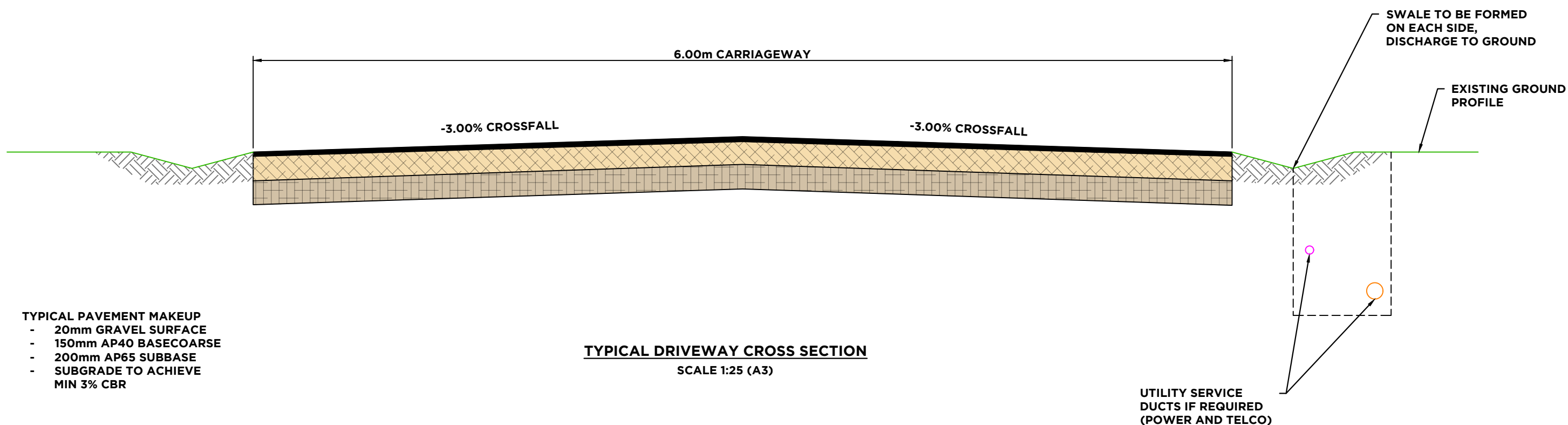
DEPTH RANGE		Colour
Lower	Upper	
-5.0	to -5.50 m	
-4.50	to -5.0 m	
-4.0	to -4.50 m	
-3.50	to -4.0 m	
-3.0	to -3.50 m	
-2.50	to -3.0 m	
-2.0	to -2.50 m	
-1.50	to -2.0 m	
-1.0	to -1.50 m	
-0.50	to 0.00 m	
0.00	to 0.50 m	
0.50	to 1.0 m	
1.0	to 1.50 m	
1.50	to 2.0 m	
2.0	to 2.50 m	
2.50	to 3.0 m	
3.0	to 3.50 m	
3.50	to 4.00 m	
4.0	to 4.50 m	
4.50	to 5.0 m	











- TYPICAL PAVEMENT MAKEUP**
- 20mm GRAVEL SURFACE
  - 150mm AP40 BASECOARSE
  - 200mm AP65 SUBBASE
  - SUBGRADE TO ACHIEVE MIN 3% CBR

**NOTES:**

1. THIS DETAIL IS TO BE USED FOR RESOURCE CONSENT PURPOSES ONLY AND NOT TO BE RELIED UPON FOR ANY OTHER PURPOSE WITHOUT THE CONSENT OF LAND MATTERS LIMITED.
2. NEW VEHICLE ENTRANCE TO BE 6m WIDE, AS PER KCDC-RD-017. VEHICLE ENTRANCE TO BE CHIPSEALED WITH 2 COAT GRADE 3/5 CHIPSEAL BETWEEN EXISTING CARRIAGE WAY AND BOUNDARY



PREPARED BY

CLIENT

**THE WELLINGTON COMPANY**

PROJECT

**TWC - 189 SIMS RD,  
TE HORO**

DRAWING TITLE

**TYPICAL DRIVEWAY SECTION**







DATE	PROJECT NO.
21/12/2022	898
SCALE	
1:13 @ A1	
1:25 @ A3	
DRAWING NO.	REV
RO-701	B

C:\125\Subs\LANDMATTERS - TWC - 189 Sims Rd - Te Horo\_90310 Plans\_Amfalis\_CAD098.RC.dwg - Plotted by Brian Anderson at 21/12/2022 4:43:08 pm



**NOTES:**  
 1. THIS PLAN IS TO BE USED FOR RESOURCE CONSENT PURPOSES ONLY AND NOT TO BE RELIED UPON FOR ANY OTHER PURPOSE WITHOUT THE CONSENT OF LAND MATTERS LIMITED.

**LEGEND:**

WHAU	
PHORMIUM TENAX	
CORDYLINE AUSTRALIS	
COPROSMA ACEROSA	
MIXED SPECIES	
TOTARA	



PREPARED BY



CLIENT

**THE WELLINGTON COMPANY**

PROJECT

**TWC - 189 SIMS RD,  
TE HORO**

DRAWING TITLE

**LANDSCAPE PLAN**

DATE	PROJECT NO.
21/12/2022	898
SCALE	
1:500 @ A1	
1:1,000 @ A3	
DRAWING NO.	REV
LS-900	A

C:\1255\data\LANDMATTERS - TWC - 189 Sims Rd, Te Horo\_90310 Plans\_Aerials\_CAD0988 RC.dwg, Plotted by Brian Anderson at 21/12/2022 4:43:26 pm