1. INTRODUCTION

1.1 PROJECT OVERVIEW

Ryman Healthcare Limited ("**Ryman**") is a leading provider of comprehensive care retirement living and has been operating in New Zealand for 35 years. During this time Ryman has developed an excellent reputation for its specialist service in aged care villages and healthcare. Through this experience the company has developed knowledge and expertise in the construction and operation of purpose-built retirement villages that meet the increasing needs of the community.

With a view to providing additional specialist aged care in Christchurch, Ryman propose to construct, operate and maintain a comprehensive care retirement village ("**Proposed Village**") at 100 – 104 Park Terrace and 20 Dorset Street ("**Bishopspark Site**") and 78 Park Terrace ("**Peterborough Site**"), Christchurch (collectively "**the Site**"). The Proposed Village will provide comprehensive care for elderly residents. It will include a range of apartments, assisted living suites, rest home and higher-level care options (including dementia care). This continuum of care concept is seen as an important safeguard by elderly residents, as evidenced by the high demand for Ryman's retirement villages throughout New Zealand.

The Bishopspark Site is approximately 12,267 m^2 and is owned by Ryman Healthcare Limited via a holding company (Park Tce No. 2 Ltd). 100 – 104 Park Terrace is legally described as Lot 1 DP 46511, Lot 1 DP 46369, Lot 2 DP 13073 and Pt Res 23 Town of Christchurch and is held in one Certificate of Title (CB28F/1159). 20 Dorset Street is legally described as Pt Res 25 Town of Christchurch and is held in one Certificate of Title (CB362/50).

The Peterborough Site is approximately 5,082 m^2 in area and is owned by Ryman Healthcare Limited via a holding company (Healthcare Shelf Company No. 22 Limited). The site is also held in 104 Unit Titles (reflecting the previous apartment building on the site).

The Certificates of Title are attached as **Appendix A** to the AEE.

The general location of the site is depicted in Figure 1 below.

The Site is considered to be ideally suited for a retirement village due to its size and location within Central Christchurch, and also due to its close proximity to Hagley Park, shops, services and transport links. The Christchurch District Plan ("**District Plan**") also recognises that there is need to provide for the housing needs of the elderly in all residential zones, including comprehensively designed and managed higher density accommodation options.[1]

[1] Policy 14.2.1.8 of the Christchurch District Plan.

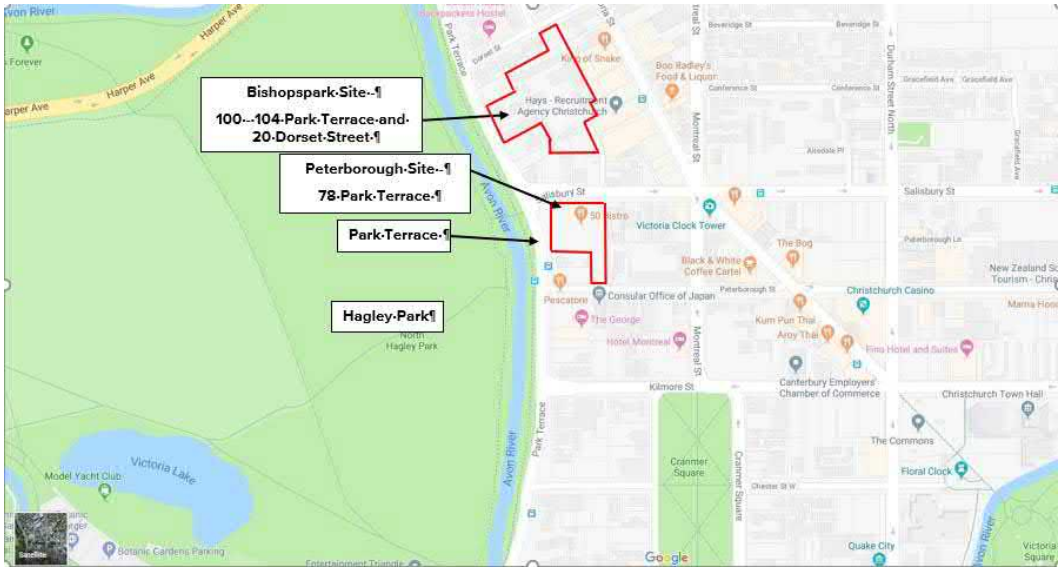


Figure 1: Site Location

1.2 INTRODUCTION TO RYMAN

Ryman has been operating retirement villages for the elderly in New Zealand since 1984. It currently has seven retirement villages operating in Christchurch, located in Aidanfield, Rangiora, Mairehau, Beckenham, Riccarton, Papanui and Hornby.

Ryman has a reputation of building and operating exceptionally high-quality retirement villages and employing professional, caring staff. Its retirement villages provide a range of living options, including independent living apartments, assisted living suites and care centres that provide specialised levels of rest home and higher-level care. The expertise that Ryman has developed in caring for elderly residents has resulted in the company being awarded the "Best Retirement Village in New Zealand" at the Australasian Aged Care Industry Awards on six occasions.

Ryman is considered to be a pioneer in many aspects of the healthcare industry – including retirement village design, standards of care, and staff education. A high quality, purpose-built village is a core principle of Ryman's philosophy. This philosophy has been a key aspect in the planning, site layout and design of the proposed retirement village – which in this instance has been led by the architectural design team at Warren and Mahoney.

1.3 PROJECT RATIONALE

The lack of comprehensive care retirement living in New Zealand is considered to be at crisis point.[2] The demand for quality living options up to a standard that is acceptable to retirees is significantly higher than the current supply. The supply of retirement living is

[2] "Aged Residential Care Service Review" – Grant Thornton (September 2010).

actually decreasing due to the ongoing closure of small, poor quality aged care homes. These are usually conversions of old houses that are not up to standard and which provide a poor living environment, lack insulation, and do not provide suitable amenities for elderly residents.

Ryman considers that its residents deserve a high quality, safe and warm environment, where residents are able to go about their day to day activities comfortably and to a standard that people choose to live in.

Approximately 768,800 people in New Zealand were aged 65 + years as at June 2019.[3] This number is expected to rise to approximately 885,700 people by 2023, and between 1.3 and 1.4 million people by 2043 - primarily due to the ageing of the 'baby boomer' generation. In effect, the number of people aged 65 + years will roughly double within the next 25 years.

It is also estimated that approximately 323,700 people in New Zealand are aged 75 + years (the primary demographic for Ryman's retirement villages), and this number is expected to rise to over 698,000 nationally within the next 20 years.

With respect to Christchurch, Table 1 below highlights the increase in the population aged 65 + and 75 + years experienced between 2013 and 2018. Table 1 also details the projected growth in the population over 65 + and 75 + years through to 2043. In this regard, the population aged 65 + years is expected to range between 91,400 and 119,500 people, whilst the population aged 75 + years is expected to range between 51,750 and 68,820 people.

Table 1: Elderly Population Statistics and Projections for Christchurch City[4]

Year	Total Christchurch City Population	Total Christchurch City Population 65+	Percentage Christchurch City Population 65+	Total Christchurch City Population 75+	Percentage Population 75+
2013 (ex-census)	356,700	52,100	14.6%	24,130	6.8%
2018 (ex-census)	378,480	58,170	15.4%	25,803	6.8%
2043 (medium	459,100	105,700	23%	60,620	13.2%

[3] Source: Statistics New Zealand.

[4] Source: Statistics New Zealand.

growth projection)					
2043 (high growth projection)	526,800	119,500	22.7%	68,820	13.1%

In light of the retirement living supply crisis identified above, Ryman considers it important that suitable sites are developed for comprehensive care retirement villages in Christchurch. With this in mind, Ryman seeks to provide comprehensive care retirement villages that include a range of retirement living and care options, including townhouses, independent apartments, serviced care, rest home care, hospital care and dementia level care.

The ability to provide a continuum of care from an independent lifestyle to 24-hour nursing care within the same site is considered to be important for the following reasons:

- A site offering a full range of care options means that residents only need to make one move; and
- It allows couples to remain close to each other despite any differences in the level of care that they may require individually (i.e., it avoids couples being housed in different accommodation in different parts of Christchurch – reducing stress on residents and families).

In addition, and due to the frailty and mobility limitations of some residents, Ryman provides extensive on-site community amenities - including entertainment activities, recreational amenities, a bar and restaurant, communal sitting areas, and large, attractively landscaped areas. All of these features lead to significant positive benefits for residents and for the efficient management and operation of the retirement village. Because of the operational requirements of the Proposed Village and the need to have all communal amenities and care rooms located in the village centre (Building B01), this results in a density and layout of buildings across the site that differs from a typical residential development.

In addition to utilising sites efficiently in order to cater for the supply crisis in retirement living, it is Ryman's experience that there are actually a limited number of potentially suitable sites in urban areas that can accommodate the type of retirement villages that are undertaken by Ryman. As such, the size and location of the split site makes it ideally suited for a comprehensive care retirement village.

As already noted, locating the Proposed Village in Central Christchurch will increase the accommodation options available in the wider area and will enable residents to continue to participate in community life in a familiar setting, close to friends and family. The ability to achieve this has proven benefits in terms of improving the quality of life for elderly people. Ryman has found that where residents can continue to reside in, or near, the community

within which they have previously lived, the stress associated with the transition to assisted living or a higher level of care is markedly reduced.

Given the increasing demand for retirement living options in Christchurch (including dementia care and assisted care options), Ryman considers it is essential to maximise the efficient use of the site in order to best cater for the living needs for retirees. Such an approach will enable the social and economic wellbeing, and health and safety, of people and communities in accordance with Section 5(2) of the Resource Management Act 1991 ("**RMA**"). It also constitutes an efficient use of natural and physical resources in accordance with Section 7(b) of the RMA.

1.4 DOCUMENT STRUCTURE

This Assessment of Environmental Effects ("**AEE**") has been prepared to accompany the resource consent applications by Ryman to the Christchurch City Council for all necessary resource consents to enable the construction, operation and maintenance of the Proposed Village at the site. This AEE is considered to comply with the relevant requirements in Schedule 4 of the RMA and is considered to address the relevant matters identified in the District Plan.

This AEE comprises nine sections as follows:

Section 1: This introduction provides background to the proposal, an introduction to Ryman, the rationale for the project, and the structure of this AEE.

Section 2: Provides a detailed description of the proposal.

Section 3: Describes the environmental setting, including general site characteristics, social setting, and physical setting.

Section 4: Sets out the resource consent requirements for the proposal.

Section 5: Provides an assessment of environmental effects associated with the proposal.

Section 6: Outlines the consultation undertaken for the proposal.

Section 7: Sets out the statutory framework within which the resource consent applications have been made and assesses the proposal in relation to the provisions of the RMA and the relevant provisions of the statutory planning documents administered by the Christchurch City Council.

Section 8: Address notification matters in accordance with Sections 95A – 95E of the RMA.

Section 9: Provides a short concluding statement.

The technical assessments prepared in support of the resource consent applications by Ryman are provided in Volume 2 to this AEE, while the resource consent drawings, assessment drawings, landscape plans and visual simulations are provided in Volume 3.

2. DESCRIPTION OF THE PROPOSAL

2.1 LAYOUT AND DESIGN OF THE PROPOSED VILLAGE

The proposal is to establish a comprehensive care retirement village across the Bishopspark Site and Peterborough Site.

The Proposed Village is intended to provide a full range of elderly housing options on the site, comprising independent living apartments, assisted living suites, and rest home care (including higher level care and dementia care). The various housing options within the Proposed Village will provide a high level of amenity for the residents and sit comfortably with the surroundings. It needs to be recognised that some residents still maintain a degree of independence while others require a much higher-level of care.

The design of the Proposed Village has been led by Warren and Mahoney, who have developed iterations of the layout and design of the retirement village in response to feedback from Ryman and its technical advisors, as well as in response to feedback received from the Christchurch City Council and the Urban Design Panel (whose response to the design of the Proposed Village is attached as **Appendix B**). The final design of the Proposed Village includes Buildings B01 – B04 being located on the Bishopspark Site and Buildings B07 and B08 being located on the Peterborough site.

The key design principles utilised by Warren and Mahoney to develop the final design of the Proposed Village include:

- Retaining and restoring the Bishop's Chapel as a highly valued heritage feature that contributes to the Site's distinctive character;
- Referencing the history of the Bishopspark Site by reflecting the modulation of the former Bishop's residence and the creation of a solid brick base and dark articulated roof in the design of new buildings.
- Ensuring design cohesion that identifies the different sites as a single retirement village while respecting the different characteristics of the two sites;
- Creating a clear public address and activation of the adjacent streets;
- Providing clear and legible circulation and accommodating carparking and servicing discretely in a manner that does not visually dominate the public realm;
- Providing a clear pedestrian connection between the two sites;
- Creating a strong social heart to the Proposed Village that is legible and easily accessed for residents and visitors;
- Configuring buildings to respond to environmental conditions – sunlight, wind and views;

- Ensuring the site layout and building designs reflect Crime Prevention Through Environmental Design ("**CPTED**") principles;
- Distributing building mass in a manner that respects the use and amenity of surrounding properties;
- Articulating large building forms to reduce visual mass by creating recesses and varied façade treatment;
- For higher buildings, recessing top floors to articulate building form and mass;
- Utilising materials and detailed design features in a manner that creates cohesion between the two sites;
- Maximising visual connection to Hagley Park and Avon River.
- Locating the assisted living suites, dementia, hospital and rest home care within the Bishopspark Site, along with some apartments; and
- Utilising the Peterborough Site solely for apartment living.

In addition to the above, the design and layout of the Proposed Village has been informed by the relevant built form standards for the Residential Central City Zone in the District Plan (which are discussed in Section 3 of this AEE).

Further analysis on the underlying design structure of the Proposed Village is also provided in the urban design assessment by Rebecca Skidmore Urban Design Limited (refer to **Appendix C**).

The overall layout and design of the Proposed Village is depicted on the resource consent drawings, assessment drawings and landscape plans provided in Volume 3 to this AEE. However, the key features of the Proposed Village are summarised below, and expanded upon to follow:

- Locating the assisted living suites, dementia, hospital and rest home care within the Bishopspark Site, along with some apartments, comprising:
  - 70 care rooms (including dementia care, hospital care and rest home care) – all of which will be in Building B01;
  - 54 assisted living suites – all of which will be in Building B01;
  - 85 apartments, comprising:
    - 10 one-bedroom apartments;
    - 60 two-bedroom apartments; and
    - 15 three-bedroom apartments.
  - 144 car parks:
    - 6 at-grade car parks (4 accessible and 2 van); and

- 138 basement carparks.

- Utilising the Peterborough Site solely for apartment living:
  - 80 apartments across two buildings (Buildings B07 – B08), comprising:
    - 4 one-bedroom apartments;
    - 53 two-bedroom apartments; and
    - 23 three-bedroom apartments.
  - 83 car parks, comprising:
    - 6 at-grade car parks (including 1 accessible park); and
    - 77 basement carparks (including 2 accessible parks).

2.1.1 Basement – The Bishopspark Site

The basement will span almost the entire area of the Bishopspark Site, as shown on Drawing B01.A1-010 in Volume 3 of this AEE. The entrance to the basement is located within Building B02. The basement will include 138 car parks, services, rubbish areas, pump house, generator, maintenance facilities, workshop, laundry, craft room, kitchen, water boiler, scooter storage and set down areas in the slab for tree pits.

The basement area plans are set out in Zones 1 – 5. The layout of the various basement zones is detailed in the following resource consent drawings in Volume 3 of this AEE:

- B01.A1-110;
- B01.A1-111;
- B01.A1-112;
- B01.A1-113; and
- B01.A1-114.

2.1.2 Building B01 – The Bishopspark Site

Building B01 will be located in the centre of the Bishopspark Site and will cover an area of approximately 3,952 m^2. It will house the village centre, amenities and resident care area, including rest home, hospital and dementia care facilities, assisted living apartments and independent living apartments. Building B01 will comprise four levels, the basement level and the roof level.

The building is split into Zones 1 – 3, with Zone 1 comprising assisted living suites. Zone 2 includes a central courtyard and ancillary amenities, and Zone 3 comprises predominantly dementia and hospital care, with some assisted living suites and independent living apartments.

The layout of the various levels of Building B01 is summarised in Table 2 below and detailed in the following resource consent drawings in Volume 3 of this AEE:

- B01.A1-010
- B01.A1-020
- B01.A1-030
- B01.A1-040
- B01.A1-050
- B01.A1-060
- B01.A1-120
- B01.A1-121
- B01.A1-122
- B01.A1-130
- B01.A1-131
- B01.A1-132
- B01.A1-140
- B01.A1-142
- B01.A1-150
- B01.A1-151
- B01.A1-170
- B01.A1-171
- B01.A5-010

Table 2: Key Features of Building B01

Level 1	Zone 1 - Assisted living suites	10
	Zone 1 – Independent apartments	5
	Zone 3 - Care beds (dementia beds)	35
Level 2	Zone 1 - Assisted living suites	7
	Zone 1 – Independent apartments	11
	Zone 3 - Care beds (rest home / hospital care)	35
Level 3	Zone 1 - Assisted living suites	7
	Zone 1 – Independent apartments	11
	Zone 3 - Assisted living suites	23
Level 4	Zone 1 - Assisted living suites	7
	Zone 1 – Independent apartments	11
	Zone 3 - Independent apartments	6

Ancillary amenities to be located within Building B01 will include:

- Outdoor spaces with canopy and terrace areas;
- Swimming pool;
- Large common lounge, bar, cafe and dining areas;
- Staff conveniences and manager's office;

- Sales office;
- Kitchen;
- Salon and beauty treatment;
- Treatment rooms; and
- Utilities and equipment plant (including laundries and maintenance area).

Level 1 (Zone 1) of Building B01 will open out to the bowling green. Garden spaces, including the secure dementia garden are located within the courtyards of Zones 1 and 3.

2.1.3 Building B02

Building B02 will be located at the western end of the Bishopspark Site and will cover an area of approximately 684 m^2. It will provide one, two and three-bedroom apartments over five levels. The basement access is via Building B02.

The layout of the various levels of Building B02 are summarised in Table 3 below and detailed in the following resource consent drawings in Volume 3 of this AEE:

- B02.A1-010
- B02.A1-020
- B02.A1-030
- B02.A1-040
- B02.A1-050
- B02.A1-060
- B02.A5-010

Table 3: Key Features of Building B02

Level 1	Three-bedroom apartments	3
Level 2	Two-bedroom apartments	1
	Three-bedroom apartments	3
Level 3	Two-bedroom apartments	1
	Three-bedroom apartments	3
Level 4	Two-bedroom apartments	1
	Three-bedroom apartments	3
Level 5	One-bedroom apartments	1

Two-bedroom apartments	2
Three-bedroom apartments	1

2.1.4 Building B03

Building B03 is located in the northern end of the Bishopspark Site. The building will cover an area of approximately 859 m^2. It will provide one and two-bedroom apartments over four levels. The basement extends under Building B03. Level One of the building also includes a theatre and an activities room.

The layout of the various levels of Building B03 are summarised in Table 4 below and detailed in the following resource consent drawings in Volume 3 of this AEE:

- B03.A1-010
- B03.A1-020
- B03.A1-030
- B03.A1-040
- B03.A1-050
- B03.A5-010

Table 4: Key Features of Building B03

Level 1	Two-bedroom apartments	4
Level 2	Two-bedroom apartments	6
Level 3	Two-bedroom apartments	6
Level 4	One-bedroom apartments	2
	Two-bedroom apartments	4

2.1.5 Building B04

Building B04 is located along the eastern boundary of the Bishopspark site. The one and two-level building will cover an area of approximately 457 m^2. Level one of the building includes common areas, library and store areas. Level two includes staff room.

The layout of the various levels of Building B04 are detailed in the following resource consent drawings in Volume 3 of this AEE:

- B04.A1-010
- B04.A1-020
- B04.A1-030
- B04.A5-010

2.1.6 Existing Bishop's Chapel

The former Bishop's Chapel will remain in its current location, acting as a focal point in the village square. Ryman has committed to repairing, restoring and undertaking earthquake strengthening / structural upgrading works to the Chapel. Further detail on the specific works proposed by Ryman are set out in the heritage assessment by DPA Architects (refer to **Appendix I**).

2.1.7 Basement – The Peterborough Site

The basement will span almost the entire Peterborough Site, as shown on Drawing S02.A0-040 in Volume 3 of this AEE. The entrance to the Peterborough Site is located in the south-western corner, accessed off Park Terrace. Cars enter the site to the ground level pick up / drop off area and visitor car parking. To enter the basement, cars traverse through this area then along the eastern boundary of the site to the basement entrance within Building B07. Cars exit the site via the site exit located at the north-eastern corner to Salisbury Street. The basement will include 77 car parks, water boiler, and diesel generator.

The basement area plans are set out in zones 1 – 3. The layout of the various basement zones is detailed in the following resource consent drawings in Volume 3 of this AEE:

- S02.A0-040
- B07.A1-010
- B07.A1-110
- B07.A1-111
- B07.A1-112

2.1.8 Building B07

Building B07 is located in the northern portion of the Peterborough site. The building will cover an area of approximately 2,047 m^2. Building B07 is set out as two wings connected at the southern end of the ground level via an enclosed common area. North of this there is an open courtyard. The eastern and western wings of the building will provide one and two-bedroom apartments over seven levels for the western wing and 5 levels for the eastern wing. The basement extends under Building B07. Level one of the building also includes a gym, swimming pool and a bin storage area within the eastern wing. Level three of the western wing includes a dining area, café / bar, kitchen, billiards room library and a meeting room.

The layout of the various levels of Building B07 are summarised in Table 5 below and detailed in the following resource consent drawings in Volume 3 of this AEE:

- B07.A1-020
- B07.A1-030
- B07.A1-040
- B07.A1-050
- B07.A1-060
- B07.A1-070
- B07.A1-080
- B07.A1-090
- B07.A1-120
- B07.A1-121
- B07.A1-122
- B07.A1-123
- B07.A1-124
- B07.A1-125
- B07.A1-126

Table 5: Key Features of Building B07

		B07 West	B07 East
Level 1	Two-bedroom apartments	6	2
	Three-bedroom apartments	1	2
Level 2	Two-bedroom apartments	6	5
	Three-bedroom apartments	1	2
Level 3	Two-bedroom apartments	1	5
	Three-bedroom apartments		2
Level 4	Two-bedroom apartments	5	5
	Three-bedroom apartments	2	2
Level 5	Two-bedroom apartments	4	4
	Three-bedroom apartments	2	2
Level 6	Two-bedroom apartments	4	
	Three-bedroom apartments	2	
Level 7	Two-bedroom apartments	2	

	Three-bedroom apartments	2

2.1.9 Building B08

Building B08 is located in the southern portion of the Peterborough Site. The building will cover an area of approximately 422 m^2. Building B08 will provide one, two and three-bedroom apartments over four levels. The basement extends under Building B08.

The layout of the various levels of Building B08 are summarised in Table 6 below and detailed in the following resource consent drawings in Volume 3 of this AEE:

- B08.A1-020
- B08.A1-030
- B08.A1-040
- B08.A1-050
- B08.A1-060
- B08.A5-010

Table 6: Key Features of Building B08

		B08
Level 1	One-bedroom apartments	1
	Two-bedroom apartments	1
	Three-bedroom apartments	1
Level 2	One-bedroom apartments	1
	Two-bedroom apartments	1
	Three-bedroom apartments	1
Level 3	One-bedroom apartments	1
	Two-bedroom apartments	1
	Three-bedroom apartments	1

Level 4	One-bedroom apartments	1
	Two-bedroom apartments	1

2.1.10 Access, Internal Roading and Car Parking

2.1.10.1 The Bishopspark Site

Vehicular access to, and from, the Bishopspark site of the Proposed Village will be provided via a two-way access fronting onto Park Terrace. A secondary service access will be provided via Dorset Street. Pedestrian access is provided via Park Terrace, Westwood Terrace and Dorset Street.

The access onto Park Terrace will have a 6 m formed access width providing two-way vehicle movements and 7 m in legal width including the adjacent pedestrian path. The loading access on Dorset Street is 3.5 m in width. Loading and rubbish vehicles will be required to reverse out of the loading are back onto Dorset Street.

Within the Bishopspark Site, a 6 m wide main access road provides a connection between Park Terrace, the basement parking area and a port cochere provided for pick up and drop off. The port cochere provides for pick up and drop off manoeuvres and can cater for vehicles up to a transit van size, a vehicle commonly used to transport residents. The internal roading network is also sized to enable access by emergency vehicles.

Basement car parking is accessed via the access ramp at the south-eastern end of Building B02. Vehicle tracking for both the port cochere area and basement ramps has been carried out using an 90th percentile vehicle. The tracking assessment shows a AS/NZS2890 90th percentile car tracking through the site without difficulty. The ramps provide a maximum grade of 1:5 (20%)[5] with 4 m long 1:8 transitions provided at the top and bottom of the ramp.

Car parking within the site will consist of a total of 144 car parks, of which 138 will be located in the basement. Six car parks (4 accessible and 2 van) will be located at-grade adjacent to the port cochere.

All of the internal roading network will be owned and maintained by Ryman.

Further detail on the layout of the proposed car parking within the site and the circulation of vehicles within the site is provided in the transportation assessment by Commute Transportation Consultants (refer to **Appendix D**), and in resource consent drawings S01.A0-030 and S01.A0-040 in Volume 3 of this AEE.

5 For curved accesses, the maximum gradient shall be measured on the inside of a curved vehicle access.

2.1.10.2 The Peterborough Site

The Peterborough Site has a separate entrance and exit for vehicles. Vehicles enter the site off Park Terrace to the ground level pick up / drop off area and visitor car parking. To enter the basement, vehicles traverse through this area then along the eastern boundary of the site to the basement entrance within Building B07. Cars exit the site via the site exit at the north-eastern corner to Salisbury Street.

The vehicle entrance point and vehicle exit point are both 4 m in width. The 4 m wide internal access road provides connection from Park Terrace to a pickup / drop off area before descending to the basement parking area. A ramp from the basement provides vehicle egress to Salisbury Street. The internal access road and ramps operate with a one-way circulation. Vehicle tracking for the ramp to basement parking has been carried out using an 90th percentile vehicle. The tracking assessment shows a AS/NZS2890 90th percentile vehicle tracking through the site without difficulty.

The Peterborough Site requires rubbish trucks to use the ramps in order to exit the site. As such, transitions have been lengthened to prevent vehicle scraping. At the property boundary a 4.5 m long 1:10 transition is proposed. At the top of the ramp within the site, a 6 m 1:8 transition is provided. Vertical vehicle tracking has been carried out to ensure an 8 m RTS 16 vehicle can traverse the ramp without scraping.

The basement will contain 77 car parks, including 2 accessible parks. There are 6 ground level car parks, including 1 accessible park.

2.1.11 Pedestrian Links

A series of pedestrian paths are planned throughout the Proposed Village, with pedestrian crossings provided at regular intervals ensuring a safe pedestrian environment.

For the Bishopspark Site, pedestrian access is provided adjacent to the vehicle access on Park Terrace, via a separate pedestrian access on Dorset Street and via Westwood Terrace (a private lane) to the south of the site. Within the Bishopspark Site, all access points lead to a central pedestrian plaza located around the former Bishop's Chapel.

For the Peterborough Site, a separate pedestrian access is provided alongside the vehicle entrance on Park Terrace. Apartment units fronting Park Terrace have direct access to the street. A pedestrian access is provided midway along the Salisbury Street frontage and provides a north – south route through the site.

Internal pedestrian facilities connect to the external footpath network. Park Terrace, Salisbury Street and Dorset Street all have footpaths on both sides of the street.

Westwood Terrace is a private lane and provides a 6 m wide carriageway catering for both vehicles and pedestrians in a shared arrangement.

The Bishopspark Site and the Peterborough Site are separated by Salisbury Street. In the vicinity of Westwood Terrace, Salisbury Street has a 14 m carriageway with two traffic lanes in the eastbound direction and parking provided on both sides of the road. Given the pedestrian demand between the two sites to access village amenities and friends, an upgraded crossing facility is considered necessary to ensure the safety of elderly residents.

A signalised pedestrian crossing is proposed to provide the greatest performance from a safety perspective and is located on the pedestrian desire line (Figure 2 below).

Figure 3: Signalised Pedestrian Crossing

All of the pedestrian paths within the Site will be owned and maintained by Ryman. The location of the pedestrian paths within the site are detailed in Drawing S01.A0-030, S02.A0-030 and on the Landscape Concept Plans SK100 (Peterborough Street and Bishopspark) in Volume 3 of this AEE.

2.1.12 Upgrades to Park Terrace

As already discussed, the Proposed Village has primary access points for both the sites via Park Terrace.

Park Terrace provides two lanes in each direction with no median in the vicinity of the Bishopspark Site. Right turning traffic will block one of the through lanes and turn across two lanes of opposing traffic. In order to improve safety and operation of the access, widening of the carriageway to provide a central flush median is proposed in this location on Park Terrace.

The proposed access point for the Peterborough Site is located on Park Terrace around 45 m north of the Peterborough Street intersection. In this location, two northbound lanes

are provided on Park Terrace and one southbound lane with on-street parking and a bus stop to the south of the site.

In order to improve safety and operation of the access, road widening to provide a central flush median is proposed in this location. No carriageway widening is required to achieve this. Further details of the changes to Park Terrace are provided in the transportation assessment by Commute Transportation Consultants (refer to **Appendix D**).

2.1.13 Landscaping

The proposed landscape planting for the Proposed Village has been designed by Design Squared Landscape Architects (refer to the landscape plans in Volume 3 to this AEE). The design incorporates the use of larger tree species that are often unsuitable for standard residential developments within urban boundaries.

In summary, the proposed landscaping for the Site will:

- Provide fragrance and colour throughout the different seasons of the year;
- Integrate both native and exotic species to enhance the biodiversity (particularly bird life) throughout the site;
- Provide well-lit paths and linkages to all amenities, buildings and communal areas, with points of interest and seating along the way;
- Create a cohesive whole to the Proposed Village by the use of repeat plantings and types of plants throughout the site;
- Provide appropriately scaled gardens for residents to both view and enjoy;
- Provide options for residents to enjoy sheltered outside areas in the Proposed Village greens and internal courtyards; and
- Provide interesting views, patterns of plantings and seasonal colour from within the buildings to look onto from above, as well as providing for a sense of private space for those on the ground floors.

Areas on the site not occupied by buildings, car parks and pedestrian / vehicular access networks will be landscaped and maintained to create a high standard of visual amenity and privacy for both the residents of the Proposed Village and for surrounding properties. All planting and landscaping will be maintained by permanent full-time gardeners in charge of keeping the grounds to the high standard.

Automated irrigation systems will ensure plantings establish, survive, and remain in good health.

2.2 SERVICING

The construction, operation and maintenance of the Proposed Village involves the establishment of a range of utility services - including water supply, wastewater disposal, stormwater disposal, electricity supply and telecommunications services. Further detail on the servicing of the site is provided in the civil design report and drawings by Beca (refer to **Appendix E**) and in the sub-sections below.

2.2.1 Water Supply

Beca have designed a reticulated water main system for the Proposed Village. The average and peak demand for potable, firefighting and irrigation water supply are summarised as follows:

- Average potable water demand = 1.4 l/s;
- Peak potable water demand = 6 l/s (Bishopspark) and 3.6 l/s (Peterborough);
- Fire-fighting demand = 1,500 l/min @ 600 kPa at the supply point; and
- Irrigation demand = 0.6 l/s (Peterborough - irrigating green space at 5mm/m^2 over a 5 hours per day).

To alleviate pressure on the new pipeline rainwater harvesting will be provided at the Peterborough Site with approximately 30 m^3 of storage (provided via Rotomol storage tank or similar) in the basement to collect roof runoff. The storage tanks will also be mains fed. The tank will supply enough water to allow for approximately three days of irrigating and the effects of the irrigation demand on the Council main is therefore considered to be negligible.

Fire-fighting water supply requirements have been determined by Beca in accordance with SNZ PAS 4508:2008. All buildings in the Proposed Village will have sprinklers installed.

For the Bishopspark Site, the fire supply will be provided by a new DN160 connection located next to the potable water connection at Dorset Street. A new RPZ (separate to the potable RPZ) will be provided adjacent to the potable main.

For the Peterborough Site, the firefighting supply will be provided by a new DN125 connection located next to the potable water connection at Peterborough Street. A new RPZ (separate to the potable RPZ) will be provided adjacent to the potable main.

2.2.2 Wastewater

The Bishopspark Site is serviced by an existing DN150 asbestos cement main which connects to the public DN150 main on Park Terrace and two existing DN100 laterals which connect to the public DN175 main on Dorset Street.

The Peterborough Site does not contain any existing wastewater infrastructure. There is an existing DN150 pipeline (west to east) along Salisbury Street. There is an existing DN150

lateral located in the north eastern corner of the Peterborough Site (which likely served the previous development).

The wastewater network will collect:

- All sanitary services in the building;
- Trade waste from bin storage areas; and
- Internal basement drainage.

For the Bishopspark Site, the peak wastewater flow rate for the site has been calculated as 5.4 L/s based on anticipated occupancy of the buildings.

The wastewater network will consist of four separate pipelines slung under the basement ceiling with discharges to the following public mains:

- A proposed DN150 main discharge to the existing DN150 main on Park Terrace;
- A proposed DN150 main discharging to a proposed DN150 main (existing DN100 main will need to be upgraded to DN150) on Westwood Terrace; and
- A proposed DN150 main connecting to the existing DN150 main on Dorset Street.

For the Peterborough Site, the peak wastewater flow rate for the site has been calculated as 3.2 L/s based on anticipated occupancy of the buildings.

The wastewater network will be slung under the basement ceiling and will discharge to the public main on Salisbury Street.

The proposed wastewater network for the Proposed Village is illustrated in the civil drawings in Volume 3 of this AEE.

2.2.3 Stormwater Management – Bishopspark Site

There is an existing DN825 pipeline located on Salisbury Street and an existing DN300 to DN450 pipeline located on Dorset Street. These both discharge to the Avon River to the west of the Bishopspark site. There are two sumps located either side of the existing site access on Dorset Street, each with DN225 outlets. An existing sump is located adjacent to the existing site entrance on Park Terrace with a DN225 connection to the Salisbury Street pipeline.

There is an existing dish channel and sump located adjacent to the site boundary on Westwood Terrace. This sump connects to the Salisbury Street pipeline; however, the size of this pipeline does not show on Council GIS and is currently unknown.

Current overland flow paths originate at the high point located adjacent to the former Bishop's Chapel and discharge to kerb and channel or dish channel at the current site access points on Westwood Terrace, Park Terrace and Dorset Street.

Park Terrace is in a flood management zone, with a designated 200-year flood level of some 16 m RL.

With the above in mind, the proposed stormwater design for the Proposed Village is set out in the civil drawings attached to the civil design report (refer to **Appendix E**).

A summary of the stormwater design solution is provided in the following sub-sections.

2.2.3.1 Overland Flow and Floor Levels

There will be no overland flow from the basement ramp. The area discharging to the basement is relatively small and this runoff will be collected by a slot drain and will discharge to a basement sump pump. The slot drain and sump pump will be sized for the 50-year (ARI) event and will discharge to the stormwater network (within the site) and will be treated prior to gravity discharge to the public main.

2.2.3.2 Stormwater Network

The Bishopspark Site stormwater network will comprise of a series of pipelines slung under the basement ceiling, collecting downpipes and other surface drainage features such as sumps and slot drains. Roof and landscape surface drainage will be separated from the road access corridor.

The road access corridor drainage will be discharged to a proprietary treatment device for treatment prior to gravity discharge to the DN225 public main on Park Terrace.

The site's remaining surface water drainage will be separated into three sub-catchment areas and will discharge to the public network located on Dorset Street, Park Terrace and Westwood Terrace.

2.2.3.3 Stormwater Attenuation

Due to the 21% increase in impervious area that is proposed, stormwater attenuation is required for the site so that stormwater discharge from the site does not exceed pre-development rates for up to the 50-year (ARI) 18-hour duration event, to comply with Christchurch City Council's network discharge consent for stormwater.

The site stormwater storage was assessed using HEC-HMS version 4.2.1. pre and post–development catchment plans and output results for the various storms tested are provided in Appendix C of the civil design report (**Appendix E**). In light of this assessment, approximately 300 m^3 of storage is required on the Bishopspark Site to control post development flows back to pre–developed conditions for the range of storm events tested. Stormwater Treatment

Stormwater treatment will be provided by a proprietary treatment device for all trafficable areas. For the conceptual design, two Stormwater 360 storm filters have been proposed

for the Bishopspark Site (one at each access to Park Terrace and Dorset Street) as the preferred method due to the low driving head.

2.2.4 Stormwater Management – Peterborough Site

There is no existing stormwater infrastructure located within the Peterborough Site. There is an existing DN825 pipeline located on Salisbury Street discharging (from east to west) to the Avon River. An existing DN225 connection, located at the north east corner of the Peterborough Site, was likely the previous site connection point prior to demolition after the earthquakes.

There is an existing DN225 (that increases in size to a DN300) on Peterborough Street. However, this pipeline will not be targeted for discharge given their size.

Although the Peterborough Site is relatively flat, there is a higher point located centrally on the site. Current overland flow paths will therefore discharge 'radially' from the centre of the site, along the site perimeter boundaries and discharge to Salisbury Street, Park Terrace and Peterborough Street.

With the above in mind, the proposed stormwater design for the Proposed Village is set out in the civil drawings attached to the civil design report (refer to **Appendix E**).

A summary of the stormwater design solution is provided in the following sub-sections.

2.2.4.1 Overland Flow and Floor Levels

There will be no overland flow from the basement ramps. The area discharging to the basement is relatively small and this runoff will be collected by a slot drain and will discharge to a basement sump pump. The slot drain and sump pump will be sized for the 1 in 50-year event and will discharge to the stormwater network within the site. This water will be treated (utilising a proprietary system) prior to gravity discharge to the public main.

2.2.4.2 Stormwater Network

The Peterborough Site stormwater network will comprise of a series of pipelines slung under the basement ceiling, collecting downpipes and other surface drainage features such as sumps and slot drains. Roof and landscape surface drainage will be separated from the road access corridor. The road access corridor drainage will be discharged to a proprietary treatment device for treatment prior to gravity discharge to the DN825 public main on Salisbury Street.

The site peak 1 in 10-year discharge flow rate has been estimated at approximately 70 L/s. There is an existing DN225 stormwater lateral located at the north-eastern corner of the Peterborough site. This lateral will be undersized for the peak flow discharge and is also located on the opposite side of the proposed basement ramp and therefore cannot be targeted for re-use. Consequently, the stormwater network will discharge to the DN825

pipeline on Salisbury Street via a DN300 pipe and direct connection to Christchurch City Council standards.

2.2.4.3 Stormwater Attenuation

As the Site was fully developed prior to the Canterbury Earthquakes the increase in impervious area is deemed negligible. Accordingly, the Peterborough Site does not require attenuation to comply with the Christchurch City Council's network discharge for stormwater discharge (as agreed to by the Christchurch City Council).

2.2.4.4 Stormwater Treatment

Stormwater treatment will be provided by a proprietary treatment device for all trafficable areas. For the concept design, a Stormwater 360 Stormfilter has been proposed for the site as the preferred method due to the low driving head.

2.2.4.5 Rainwater Harvesting

Rainwater harvesting is proposed at the Peterborough Site with some stormwater downpipes to be connected to a storage tank located in the basement. Harvested rainwater will be used for general irrigation of the site.

2.2.5 Electricity

Electricity for the Bishopspark Site will be supplied from the Orion's local HV reticulation system on Salisbury Street (extended through Westwood Terrace) to a 1000 kVA 11 kV / 400v transformer.

Electricity for the Peterborough Site is proposed to be supplied from the reticulation network in Peterborough Street to a 500kVA 11kV / 400v transformer.

A concept electrical layout for the Proposed Village is provided in the civil drawings attached to the civil design report (refer to **Appendix E**). In addition, emergency generators with up to 495 kW of output will be located in the basement of Buildings B01 and B07. The generators will be utilised during electricity outages so that critical equipment within the Proposed Village can continue to operate (and will also be routinely tested for maintenance purposes).

The Bishopspark Site emergency generator will have a stack height that is 9.6 m above ground level, while the Peterborough Site emergency generator will have a stack height that is 20.3 m above ground level. Both will include a diesel particulate filter (or similar device).

2.3 CONSTRUCTION ACTIVITIES

The construction period for the Proposed Village is expected to be approximately 36 - 40 months and is likely to be undertaken in stages. However, the final timing and staging of

the construction works is subject to confirmation by Ryman once the detailed design of the Proposed Village is completed.

The earthworks cut volumes for the Bishopspark Site is approximately 55,000 m^3, which allows for a 25% bulking factor. As the basement extent covers the bulk of the site area, only a small amount of this material will be suitable for re-use on site. Consequently, it is anticipated that most of the material will be cut to waste and will be taken off site to an appropriate disposal facility.

The earthworks cut volumes for the Peterborough Site is approximately 32,000 m^3, also allowing for a 25% bulking factor. As the basement extent covers the site area, only a small amount of this material will be suitable for re-use on site. Consequently, most of the material will be cut to waste and will be taken off site to an appropriate disposal facility.

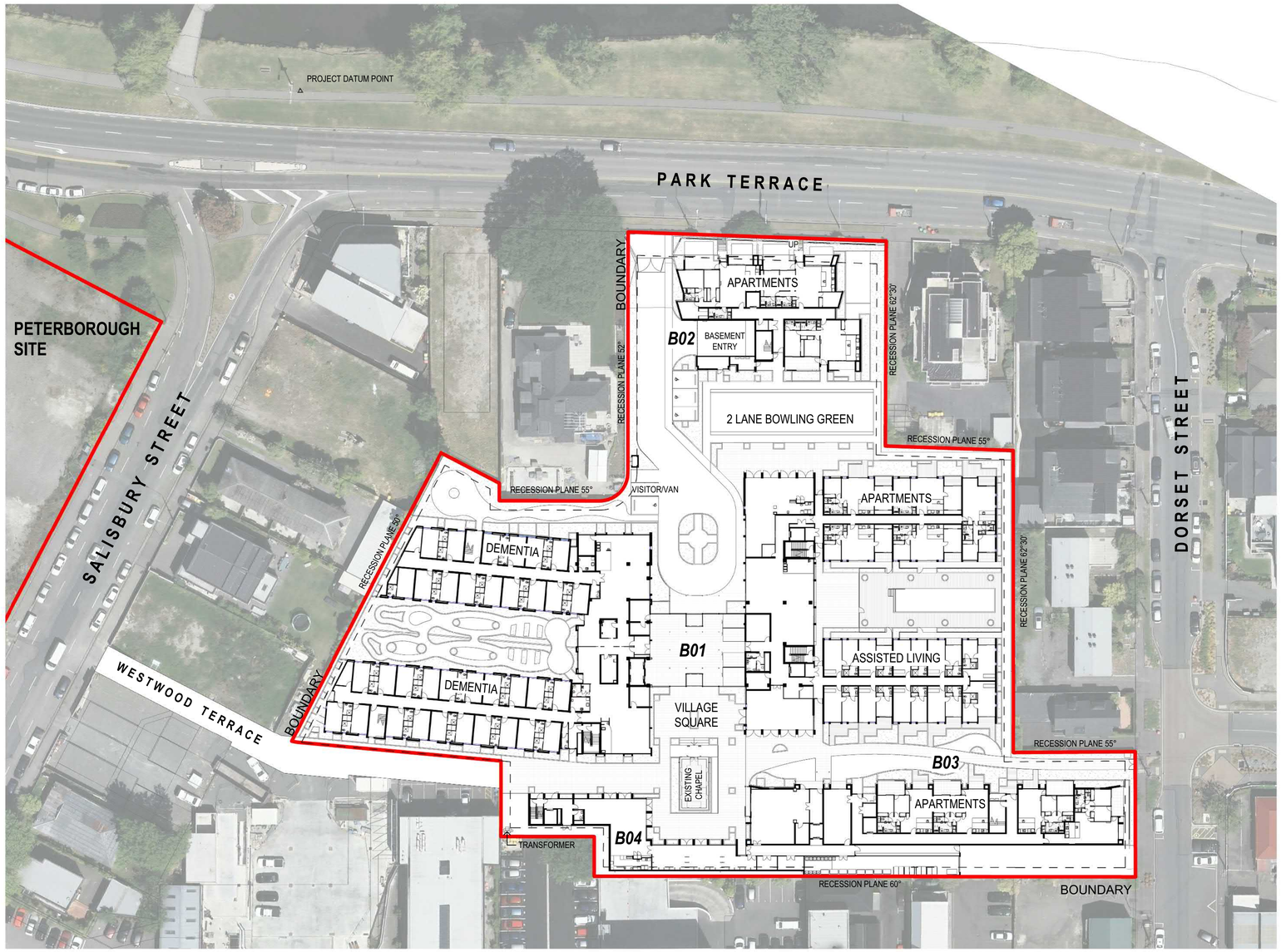
These earthworks are necessary in order to construct the foundations and basements of the various buildings, establish the internal roading network and install infrastructural services.

As contaminants have been detected above applicable land use standards, remediation and / or management of contaminated soils will be required so that future site users are not exposed to unacceptable concentrations of contamination in soil. The approach to the remediation / management of the site has not been confirmed by Ryman, though it is likely that the final solution will include a combination of remediation (i.e., excavation and offsite disposal). The potential for the exposure of workers and the public to contaminants in soil will be managed principally by controlling dust emissions, avoiding direct contact with soils and ensuring good personal hygiene practices during the works.

A Construction Management Plan ("**CMP**") will be prepared for each stage of the construction activities on site, along with various ancillary management plans. The CMP and ancillary management plans will establish appropriate protocols for the management of dust, noise, vibration, traffic, hours of construction, removal of contaminated soil, along with sediment and erosion controls during construction. All construction activities will be undertaken in accordance with the relevant New Zealand standards.

With respect to earthworks and stormwater management on the site during construction, this will be staged and managed in accordance with an Erosion and Sediment Control Plan ("**ESCP**"). All the sediment and erosion controls for earthworks at the site will be designed in accordance with the relevant sections of the Canterbury Regional Council's Erosion and Sediment Control Toolbox for Canterbury. The contractor will be responsible for ensuring those requirements are satisfied and maintained on site for the duration of the works.

The civil drawings attached to the civil design report (refer to **Appendix E**) include concept erosion and sediment control plans for the site.



SITE INFORMATION

SITE ADDRESS	100 PARK TERRACE CHRISTCHURCH CENTRAL
LEGAL DESCRIPTION	Part Town Reserve 25 City of Christchurch (CB362/50) Lot 1 DP 46511, Lot 1 DP 46369, Lot 2 DP 13073 and Part Town Reserve 23 Town of Christchurch (CB28F/1159)
SITE AREA	12,267m2
BUILDING FOOTPRINT	5,953m2

1. AREA FOOTPRINTS

Name	Total Area
B01 FOOTPRINT	3952 m²
B02 FOOTPRINT	684 m²
B03 FOOTPRINT	859 m²
B04 FOOTPRINT	457 m²
Grand total: 4	5953 m²

3. CAR PARKS

Comments	Count
90 DEGREE	135
ACCESSIBLE	4
ON GRADE VAN	2
PARALLEL	3
Grand total: 144	

4. APARTMENT MIX

Building	Apartment Type	Count
BUILDING B01	APT - 1 BED	7
BUILDING B01	APT - 2 BED	35
BUILDING B01	APT - 3 BED	2
BUILDING B01: 44		
BUILDING B02	APT - 1 BED	1
BUILDING B02	APT - 2 BED	5
BUILDING B02	APT - 3 BED	13
BUILDING B02: 19		
BUILDING B03	APT - 1 BED	2
BUILDING B03	APT - 2 BED	20
BUILDING B03: 22		
Grand total: 85		

5. CARE UNIT MIX

Building	Care Unit Type	Count
BUILDING B01	ALS	54
BUILDING B01	DEMENTIA	35
BUILDING B01	HOSPITAL CARE	20
BUILDING B01	REST HOME CARE	15
BUILDING B01: 124		

Revisions

A	13/12/19	RESOURCE CONSENT
B	09/03/20	FOR INFORMATION
C	13/03/20	FINAL DRAFT
D	27/03/20	RESOURCE CONSENT ISSUE

Notes

N
TRUE NORTH

Client

Ryman Healthcare Ltd

Warren and Mahoney Architects New Zealand Ltd
254 Montreal Street
PO Box 25086
Christchurch 8011
New Zealand
Phone + 64 3 961 5926

Registered Architects and Designers
www.warrenandmahoney.com

Project Title

PARK TERRACE
SITE ONE
BISHOPSPARK

Drawing Title

SITE .S01
PROPOSED SITE PLAN - GROUND

Drawing Issue

RESOURCE CONSENT

Drawing Details

Scale	As indicated @ A1
Date	27/03/20
Job No	8917
Drawn	WM Team
Checked	TDH

Drawing No .S01 .A0-030

Revision D

WARREN AND MAHONEY

1 NORTH EAST ISOMETRIC VIEW

Revisions

Notes

Client

Ryman Healthcare Ltd

Warren and Mahoney Architects New Zealand Ltd

254 Montreal Street
PO Box 25086
Christchurch 8011
New Zealand
Phone + 64 3 961 5926

Registered Architects and Designers
www.warrenandmahoney.com

Project Title

PARK TERRACE
SITE ONE
BISHOPSPARK

Drawing Title

.S01
NORTH EAST
ISOMETRIC VIEW

Drawing Issue

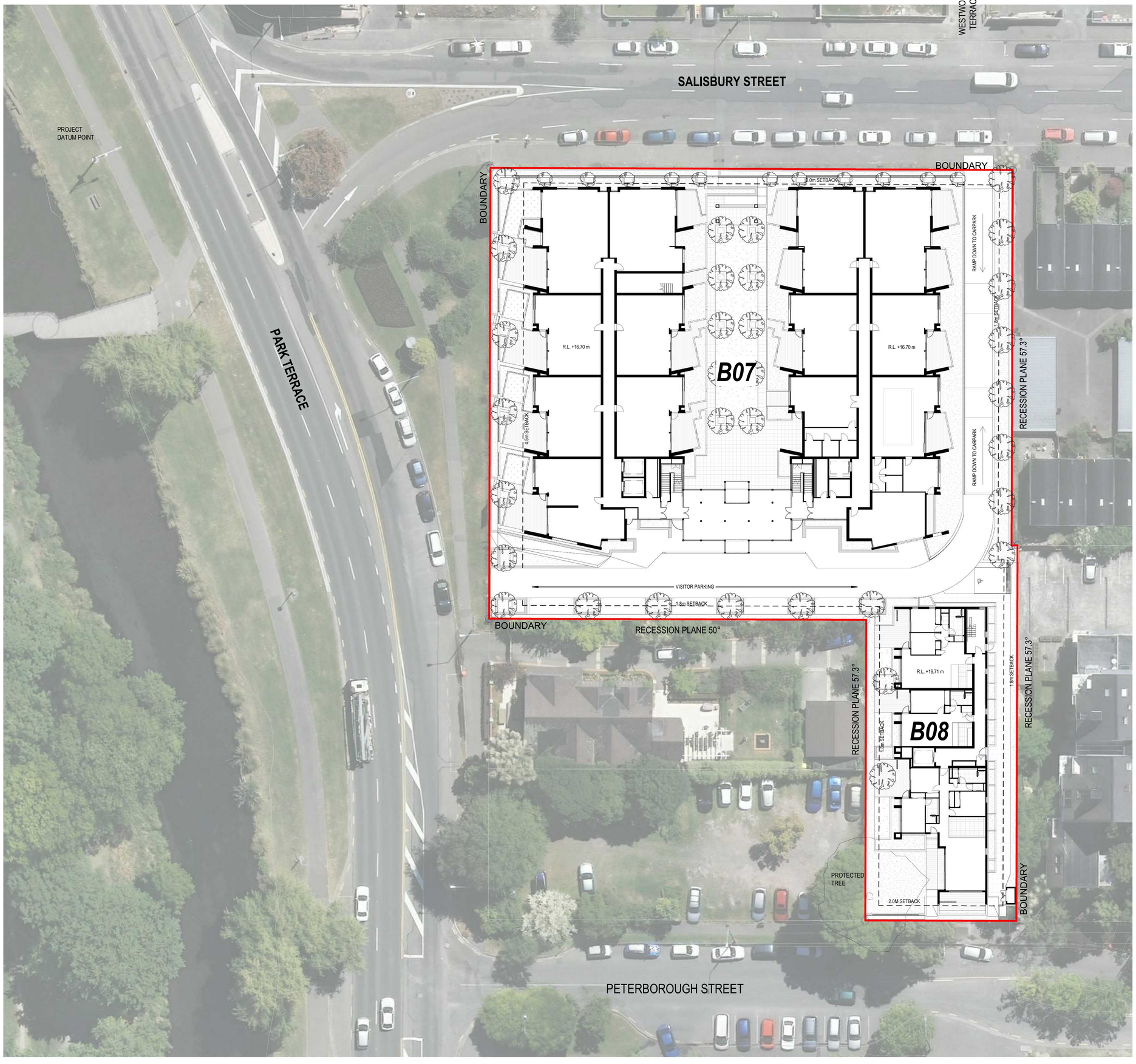
Drawing Details

Scale	@ A1
Date	
Job No	8917
Drawn	Author
Checked	Checker

Drawing No .S01 .A0-073

Revision

WARREN AND MAHONEY®



SITE INFORMATION

SITE ADDRESS	78 PARK TERRACE CHRISTCHURCH CENTRAL
LEGAL DESCRIPTION	LOT 1, DP 77997
AFFECTED SURVEYS	DP 301196, DP 46369
SITE AREA	5082m2
BUILDING FOOTPRINT	2470m2

1. AREA FOOTPRINTS

Name	Total Area
B07 FOOTPRINT	2047 m²
B08 FOOTPRINT	422 m²
Grand total: 2	2470 m²

3. CAR PARKS

Comments	Count
LEVEL 0	
90 DEGREE	66
ACCESSIBLE	2
DOUBLE BANKED	6
PARALLEL	3
LEVEL 1	
ACCESSIBLE	1
PARALLEL	5
Grand total: 83	

4. APARTMENT MIX

Name	Count
APT - 1 BED	4
APT - 2 BED	53
APT - 3 BED	23
Grand total: 80	

Revisions

B	18/12/19	DRAFT RESOURCE CONSENT
C	09/03/20	FOR INFORMATION
D	13/03/20	FINAL DRAFT
E	27/03/20	RESOURCE CONSENT ISSUE

Notes

N
TRUE NORTH

Client

RYMAN HEALTHCARE

Warren and Mahoney Architects New Zealand Ltd
254 Montreal Street
PO Box 25086
Christchurch 8011
New Zealand
Phone + 64 3 961 5926

Registered Architects and Designers
www.warrenandmahoney.com

Project Title

PARK TERRACE
SITE TWO
PETERBOROUGH

Drawing Title

SITE .S02
PROPOSED SITE PLAN
- GROUND

Drawing Issue

RESOURCE CONSENT

Drawing Details

Scale	1 : 250 @ A1
Date	27/03/20
Job No	8899
Drawn	WM Team
Checked	TDH

Drawing No .S02 .A0-030 **Revision** E

WARREN AND MAHONEY

1 NORTH EAST ISOMETRIC VIEW

Revisions

Notes

Client

RYMAN HEALTHCARE

Warren and Mahoney Architects New Zealand Ltd

254 Montreal Street
PO Box 25086
Christchurch 8011
New Zealand
Phone + 64 3 961 5926

Registered Architects and Designers
www.warrenandmahoney.com

Project Title

PARK TERRACE
SITE TWO
PETERBOROUGH

Drawing Title

.S02
North East Isometric View

Drawing Issue

Drawing Details

Scale	@ A1
Date	
Job No	8899
Drawn	Author
Checked	Checker

Drawing No **Revision**

.S02 .A0-073

WARREN AND MAHONEY®