Before an Independent Hearings Panel
Appointed by Waimakariri District Council

under: the Resource Management Act 1991

in the matter of: Submissions and further submissions on the Proposed Waimakariri District Plan

and: Hearing Stream 12: Rezoning requests (larger scale)

and: **Carter Group Property Limited**
(Submitter 237)

and: **Rolleston Industrial Developments Limited**
(Submitter 160)

Statement of evidence of Dave Compton-Moen (Landscape) on behalf of Carter Group Limited and Rolleston Industrial Developments Limited

Dated: 5 March 2024

Reference: J M Appleyard (jo.appleyard@chapmantripp.com)
LMN Forrester (lucy.forrester@chapmantripp.com)

chapmantripp.com
T +64 3 353 4130
F +64 4 472 7111

PO Box 2510
Christchurch 8140
New Zealand

Auckland
Wellington
Christchurch

chapman tripp

STATEMENT OF EVIDENCE OF DAVE COMPTON-MOEN ON BEHALF OF CARTER GROUP LIMITED AND ROLLESTON INDUSTRIAL DEVELOPMENTS LIMITED

INTRODUCTION

1 My full name is David John Compton-Moen.

2 I am a Director at DCM Urban Design Limited, which is a private independent consultancy that provides Landscape and Urban Design services and related advice to local authorities and private clients, established in 2016.

3 I hold the qualifications of a Master of Urban Design (Hons) from the University of Auckland, a Bachelor of Landscape Architecture (Hons) and a Bachelor of Resource Studies (Planning and Economics), both obtained from Lincoln University. I am a Registered Landscape Architect of the New Zealand Institute of Landscape Architects (NZILA), since 2001, a Full member of the New Zealand Planning Institute, since 2007, and a member of the Urban Design Forum since 2012.

4 I have worked in the landscape assessment and design, urban design, and planning fields for approximately 25 years, here in New Zealand and in Hong Kong. During this time, I have worked for both local authorities and private consultancies, providing expert evidence for urban design, landscape and visual impact assessments on a wide range of major infrastructure and development proposals, including the following relevant projects:

4.1 2021 – Working for Waimakariri District Council, I prepared Urban Design evidence to assist with Private Plan Change 30 – Ravenswood Key Activity Centre which sought to rezone parts of an existing Outline Development Plan to increase the amount of Business 1 land and remove a portion of Residential 6A land;

4.2 2020-21 – Working for Mike Greer Homes, I have worked on the master planning, urban design and landscape design for the following Medium Density Residential and Mixed-Use Developments;

(a) Madras Square – a mixed use development on the previously known 'Breathe' site (90+ homes);

(b) 476 Madras Street – a 98-unit residential development on the old Orion Site;

(c) 258 Armagh Street – a 33-unit residential development in the inner city;

(d) 33 Harewood Road – a 31-unit development adjacent to St James Park in Papanui;

4.3 2020-21 – Working with Waimakariri District Council, I have assisted with the development of four structure plans for future urban growth in Rangiora and Kaiapoi;

4.4 2020-21 – Working for several different consortiums, I have provided urban design and landscape advice for the following recent private plan changes in the Selwyn District:

(a) Wilfield, West Melton (PC59 and PC67);

(b) Lincoln South, Lincoln (PC69);

(c) Trents Road, Prebbleton (PC68);

(d) Birchs Village, Prebbleton (PC79);

(e) Extension to Falcons Landing, Rolleston (PC75); and

(f) Rolleston Southeast (PC78).

4.5 Acland Park Subdivision, Rolleston – master planning and landscape design for a 1,000-lot development in Rolleston (2017-current). I am currently working with the owner to establish a new neighbourhood centre in the development. The HAASHA development was originally 888 households before we redesigned the development to increase its density to ~14.5hh/ha;

4.6 Graphic material for the Selwyn Area Maps (2016);

4.7 Stage 3 Proposed District Plan Design Guides – Residential (High, Medium and Lower Density and Business Mixed Use Zones) for Queenstown Lakes District Council (2018-2020); and

4.8 Hutt City Council – providing urban design evidence for Plan Change 43. The Plan Change proposed two new zones including a Suburban Mixed-use and Medium Density Residential as well as providing the ability for Comprehensive Residential Developments on lots larger than 2,000m2 (2017-2019). The Medium Density Design Guide was a New Zealand Planning Institute Award winner in 2020.

5 I am familiar with the Submitters' request to rezone land bound by Mill Road, Whites Road, Bradleys Road (the *Site*).

6 I was involved in private plan change 31 (*PC31*) to rezone this land under the operative District Plan.

CODE OF CONDUCT

7 Although this is not an Environment Court hearing, I note that in preparing my evidence I have reviewed the Code of Conduct for Expert Witnesses contained in Part 9 of the Environment Court Practice Note 2023. I have complied with it in preparing my evidence. I confirm that the issues addressed in this statement of evidence are within my area of expertise, except where relying on the opinion or evidence of other witnesses. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

8 My evidence will address:

8.1 Ōhoka context and the receiving environment;

8.2 The rezoning request and the key mitigation measures and enhancement features of the proposal; and

8.3 Tree survey information.

9 In preparing my evidence, I have reviewed:

9.1 The evidence of **Mr Tim Walsh**, **Mr Tony Milne, Mr Garth Falconer**, and **Ms Nicole Lauenstein**;

9.2 Further submissions relating to the rezoning of the Site;

9.3 The relevant documents from PC31; and

9.4 The Waimakariri Proposed District Plan.

10 Attached to my evidence as **Appendix 1** is a set of supporting graphics which outline details of the proposal, proposed mitigation measures, and photos of the current site. **Appendix 2** is the tree survey report for the Site.

SUMMARY OF EVIDENCE

11 In summary, I consider that the proposed rezoning request is a natural extension of Ōhoka, which will consolidate Ōhoka as a rural settlement with its existing characteristics retained. The illustrative master plan proposes a pleasant residential environment supported by a small commercial area, all with a high-level of visual amenity. The detailing of the development, and the Outline Development Plan (*ODP*), support a high-level of pedestrian connectivity, enhancement of existing waterways to create new public spaces, and large amounts of landscape planting for both visual and biodiversity purposes.

12 In terms of the National Policy Statement on Urban Development (*NPS-UD*), Policy 8, the proposed rezoning will add significant residential capacity for Ōhoka while contributing to well-functioning urban environments. I consider the rezoning request appropriate to meet the outcomes desired by the NPS-UD as well as the Waimakariri Proposed District Plan. Any effects on landscape character and amenity effects on existing and future residents can be successfully addressed through the proposed and carefully considered mitigation measures.

ŌHOKA CONTEXT

13 Ōhoka is an established settlement in the Waimakariri District with a mix of residential zones as well as community facilities which provide the 'bones' to the small settlement. Current development straddles both sides of Mill Road with the centre of township considered to be the intersection of Mill Road and Whites Road, although the current zoned areas tend to be weighted more to the north.

14 The roads are typically slow speed through the township, more through side friction (parked cars), a lack of road markings and a narrow carriageway, rather than through posted speed limits. **Photo 1** below shows how the existing GAS service station has 'spread' across Whites Road.

Photo 1 *- The existing GAS service station on the corner of Whites and Mill Roads*

15 Page 7 (Context – Connectivity and Settlement Map) in **Appendix 1** highlights the existing cadastral pattern of the land surrounding

Ōhoka and Mandeville with the latter having been developed into large rural-residential properties. The road network in Mandeville is very fragmented with long cul-de-sacs limiting the ability for a connected network to be developed in the future. It is also segregated by a high-speed road which limits the ability to create a rural village which is walkable and connected.

16 I consider that it is possible to 'maintain' and enhance the rural characteristics of Ōhoka even with an increased size and population. I consider that the proposed commercial space combined with the Domain, community hall, and existing commercial activities will consolidate the township centre around the Mill Road-Whites Road intersection, similar to an older style township square if designed well. The Ōhoka Stream and bush, extending across Whites Road creates a 'natural' gateway into Ōhoka from the south (as shown in **Photo 2** below), where traffic can be calmed before entering the township proper, similar to what happens presently with cars parked on the edge of Whites Road.

Photo 2*2 - Photo looking north along Whites Road adjacent to the Domain. Note that the proposal does not seek to change any of the elements in this view which contributes to the character of Ōhoka, where people stand and talk close to the edge of the carriageway.*

17 There is a clear distinction between the settlement of Ōhoka, with the rezoning, and the cluster of large-lot residential development in Mandeville as shown in Page 7 (Context – Connectivity and Settlement Map). The rezoning request will consolidate the existing Ōhoka urban area. Ōhoka is not on a major transport route but is well connected, which is considered positive and will allow Ōhoka to retain its character with the township part of Whites Road being more of a shared space than a through-route. This contrasts with Tram Road (which runs through Mandeville), which is a high-speed

and high-traffic environment. In addition, it is proposed to retain and supplement vegetation along the southern boundary (Landscape Treatment B), which will clearly demarcate Ōhoka from Mandeville.

RECEIVING ENVIRONMENT

18 The Site is bound by Mill Road to the north, Whites Road to the east and Bradleys Road to the west. The northeast of the Site borders onto the edge of the Ōhoka township centre with an increase in the number of dwellings, hard surfaces, and infrastructure present in the landscape.

19 There are three main waterways which run through the Site being the Ōhoka Stream, the Ōhoka South Branch and an existing waterway/pond which runs through the centre of the Site between the two stream branches. All waterways are shown in the proposed ODP (refer to Page 1 – Proposal Outline Development Plan in **Appendix 1**) running in a west-east direction across the Site to eventually feed into the Kaiapoi River to the east. Within the Site the waterways are predominantly bordered by either exotic species in the form of shelter belts or individual trees, notably poplars and willows. Large portions of the waterways are open with no shade.

***Photo 3** - Native riparian planting in Ōhoka Bush as well as weed species*

20 No indigenous species of note were found along the waterways on site during my inspection but to the southeast of the Site, downstream of Whites Road, the stream corridor has been planted extensively with native species although large numbers of weed species were also present (refer to Photo 2 above). This shows the potential for the waterways to become native corridors through the block but presently the waterways are considered to have a low sensitivity to change.

21 The natural character of the Site is highly modified, having been cleared for agricultural use but retains some natural features being the two main waterways. The proposed ODP has incorporated these into the design and will ensure their protection and enhancement. Fifteen metre wide buffer strips have been proposed along the two smaller waterways while 20 metre wide buffer strips are proposed on both sides of Ōhoka Stream (total width greater than 40m) to create wide waterway corridors, which will be combined with the green network (native planting and weed management) to create ecological and movement corridors). No works are proposed to the stream banks except where crossing points are located. Where crossing points are proposed, care will be taken to ensure any earthworks within the riparian margin are minimised. The waterways current conditions reflect the existing agricultural practices with the lack of native riparian vegetation present, an aspect which will be improved through implementation of the proposed ODP. Existing amenity of the natural landscape is to be enhanced and retained through the planting, the restoration of blue networks and the development of green corridors through the proposal, especially along identified waterways as shown on the ODP.

22 The Site has relatively flat topography and has typical rural characteristics found within the Canterbury Plains including shelterbelts, auxiliary structures, and rural residential dwellings. Overall, the topographical attributes of the receiving environment are relatively low with no other defining features to note.

23 Vegetation types in the receiving environment are predominantly exotic species, with small amounts of native species located near some waterways and paddock boundaries. Vegetation is used predominantly for shelter belts running along the paddock boundaries and includes species such as Pinus radiata, Cupressus macrocarpa, and Eucalyptus varying in height between 7 – 15m. The shelter belts are orientated to block the prevailing winds and are primarily located to delineate property boundaries, and along small parts of the roads. Overall, the vegetation cover in the area has a low sensitivity to change, given the high level of fast growing introduced exotic species.

24 In terms of sensory qualities, the flat open geometric fields are back dropped by the Southern Alps to the west. Views of the Southern Alps are possible intermittently across the site from Whites Road,

but largely screened by existing development and shelterbelts. The infrastructure and shelterbelts, though disrupting the continual views, form part of the rural aesthetic and identity. The natural characteristic of the environment is considered to be modified, with a rural character as opposed to a natural character.

25 In terms of built form, dwellings and farm structures are common throughout the area. The scale, character, form, and materiality of these structures vary throughout the receiving environment. There are a number of existing dwellings adjacent to the Site along Mill Road and Whites Road but with various 'sections' of character. For example, Mill Road is informal urban in places as well as parts of Whites Road to the north and east of the Site while Whites Road to the south of the Site is rural-lifestyle. Dwellings have rural characteristics, having irregular bulk and location characteristics. Dwellings are often supported by additional infrastructure (implement sheds, standalone garages) and are separated by large fields and exotic vegetation.

26 The Site is directly adjacent to the existing Ōhoka settlement including the Domain. The section of the Ōhoka Stream adjacent to the Domain is heavily planted with native species having recently been regenerated in the last 20 years. The Site is approximately 4.8km to the west of Kaiapoi West (Silverstream) where development has a typical suburban character with a mix of housing typologies (standalone, duplexes and terrace) supported by a commercial area, and 2km northeast to Mandeville where development has a typical rural residential character and density.

27 The Site is zoned Rural Lifestyle Zone in the Proposed District Plan. It is noted that there is an ability to seek subdivision consent (as a controlled activity) for 4ha lot sizes under the Proposed District Plan. In my view, this shows an anticipated zoning development outcome which should be taken into account when considering the Site and surrounding environment.

28 Overall, the receiving environment has a rural, semi-open character on the southern edge of an existing settlement. There are pockets of land which exhibit a high level of compartmentalisation (eastern side of Whites Road and to the south of the site) while other areas have an open character, including the Site itself. This open character would change if the Site were developed as anticipated under the Proposed District Plan.

THE REZONING REQUEST

29 The rezoning request provides for Settlement Zone, Local Centre Zone and Large Lot Residential Zone, with proposed section sizes ranging from 600m^2 to over 3,000m^2. The rezoning request locates a small commercial area and an education overlay (over Settlement Zone) directly west of the Ōhoka Domain across Whites Road. This addition to the township centre will introduce a positive change to

the area and has the potential to activate the Domain. The rezoning request also includes a polo grounds overlay.

30 The new commercial area will be seen as a part of the township centre activities in proximity to the limited existing commercial area at the intersection. The provision of a local township square and greenspace within the commercial centre will allow for generous landscaping to provide scale and context. Two road crossing facilities are proposed for Whites Road from the commercial area towards the Domain to improve accessibility for pedestrians and cyclists.

31 Walkability and connectivity are key principles of the ODP with a hierarchy of street types and connections provided throughout the area. The ODP encourages connectivity using a shared pedestrian and cycle network throughout the Site, linking through to the existing urban area, community hall, school and the Domain.

32 The ODP encourages connectivity using a mix of primary and secondary roads running north-south and east-west from Bradleys Road through to Whites Road. The primary route will include a 3.0m wide minimum shared path separate from the main carriageway which links to the pedestrian/cycle network running through the green spaces. The green spaces will provide public access to Ōhoka Stream and other waterways which is not currently possible. When combined with the existing walkways south of Whites Road a new network of recreational amenities will be established. Shared paths are also proposed on both Whites and Bradleys Roads linking through to Mill Road and township amenities (refer to Page 1(ODP), Page 2 (Illustrative Master Plan), Page 5 (Proposal - Landscape Treatment A (Whites and Bradley Roads) and Page 6 (Proposal - Whites Road Threshold/Gateway into Village), improving access for existing and future residents who live on these roads.

33 Smaller tertiary streets or local/neighbourhood streets will ideally run north south to create a highly connected and permeable neighbourhood. These roads are not shown on the ODP to allow future design flexibility at the final subdivision stage. The design of the local streets will encourage slow vehicle movements combined with pedestrian and cycle facilities, either separate or shared depending on the design of the street. Open green space is provided within 500m walkable catchments of all proposed lots, working with the blue network. On Page 8 – Settlement Growth and Urban Form (**Appendix 1**), 500m and 1500m radii are shown to highlight high level of connectivity the development will have with the existing urban area. The proposed path network will allow residents to walk, scooter and cycle into the existing township in a relatively short time, as well as then being able to connect through to the school.

34 A detailed tree survey has been undertaken by Tree Tech for the site and is appended to this report (**Appendix 2**). The Tree Survey Plan is also shown on Page 9 – Context Tree Survey Plan in **Appendix 1**) As well as the retention of existing trees (discussed below) a considerable number of new trees are proposed throughout the Site. An approximately 40m wide (20m each side of the stream) open space area is proposed along the banks of the Ōhoka Stream from Whites Road through to Bradleys Road. This is a 5.5ha area which will include native plantings to improve the ecological values of the stream, provide shared paths for pedestrians and cyclists, potential provision for stormwater management and recreational spaces. Along the two southern waterways a 30m wide (15m each side of the waterways) corridor is proposed along both alignments which will also contain paths.

35 Overall, the protection and enhancement of the waterways results in the following public open spaces:

35.1 Ōhoka Stream: approximately 5.5ha;

35.2 Pond and waterway running through the centre: approximately 5.4ha; and

35.3 Ōhoka South Branch: approximately 5.2ha.

PROPOSED DESIGN MEASURES AND BENEFITS

36 A series of mitigation measures are proposed to either avoid, remedy or mitigate potential adverse effects on urban design, landscape character, landscape values or visual amenity, and to provide additional benefits as a result of the rezoning request.

37 A number of landscape and urban design aspects and mitigation measures (MM1 – MM10) are proposed to ensure that the rezoning request contributes to a well-functioning urban environment while also mitigating effects on existing rural amenity values:

37.1 (MM1) Provide a diversity of house size and lot size to provide choice, with higher density development located close to existing residential areas, areas of high amenity and the township centre.

37.2 (MM2) Create streets which have a high level of amenity, provide for different modal allocation, and allow for an efficient use of land by having a street hierarchy with different road reserve widths depending on their classification. Indicative cross sections are shown in the evidence of **Mr Falconer** to show how the street network can be developed to retain the low-key, residential character of the existing Ōhoka urban area.

37.3 (MM3) Create a well-connected walking and cycling network which combines with the green / blue network and existing facilities connecting to key destinations (Ōhoka Domain, Ōhoka Bush), prioritising walking and cycling with a mix of on-road, separate, and off-road facilities to promote active transport modes. Potential key connections are identified on the ODP (Page 1 – Proposal Outline Development Plan, **Appendix 1**) and may be supplemented through additional connections provided for at the time of subdivision consent.

37.4 (MM4) No direct vehicle access onto Whites and Bradleys Road for individual properties to allow for a high-quality landscape treatment along this corridor and minimise potential effects on this road (see Page 5 – Proposal Landscape Treatment A (Whites and Bradleys Roads), **Appendix 1**).

37.5 (MM5) Provide a quantity and quality of greenspace and facilities appropriate for the future population with green links extending through the rezoning request area and connecting with adjoining recreation areas and blue networks. This includes the protection of the existing waterways and their enhancement with future riparian plantings. The open space areas are:

(a) Ōhoka Stream corridor: approximately 5.5ha;

(b) Waterway and pond: approximately 5.4ha; and

(c) Ōhoka South Branch: approximately 5.2ha.

In total, this creates a combined open space area of approximately 16.1ha of the site (approximately 10.5% of the site).

37.6 (MM6) Fencing to reflect a rural character like post and rail or post and wire or hedging. This has been incorporated into a proposed rule, requiring fencing/walls within the Settlement Zone to be in accordance with any relevant Council approved design guidelines. This is in addition to the requirements of SETZ-BFS8.

37.7 (MM7) Landscape Treatment A is designed to retain a rural character along Whites and Bradley Roads as shown on the ODP (Page 1 – Proposal Outline Development Plan, **Appendix 1**). The landscape treatment is proposed as a 10m wide planted strip and is to consist of a post and rail fence or post and wire fence with the installation of solid fencing within this strip not permitted. The total area of this planting is approximately 1.790ha (1.78km length). This is combined with a 20m building setback, consistent with setbacks required in the Rural Lifestyle Zone. A 2.5m wide shared

gravel path is proposed running the full length of both roads (refer to Page 5 – Proposal Landscape Treatment A (Whites and Bradleys Roads), **Appendix 1**). The planting is to consist of the following species planted at 1m centres to achieve a minimum height of 5m once established:

(a) *Griselinia littoralis*, Broadleaf;

(b) *Cordyline australis,* Ti kouka;

(c) *Pittosporum tenufolium*, Kohuhu;

(d) *Podocarpus totara*, Totara;

(e) *Phormium tenax,* Flax;

(f) *Dacrycarpus dacrydioides,* Kahikatea;

(g) *Sophora microphylla,* SI Kowhai;

(h) Korokia species; and

(i) *Cortaderia richardii,* SI Toetoe.

37.8 (MM8) Landscape Treatment B involves the retention of the existing shelter belts (Tree Groups 67, 69 and 78 identified in the Treetech Tree Report at **Appendix 2**) running along the southern boundary of the Site and planting a 6m wide strip landscape strip consisting of either (or a mix of) the following trees to achieve a minimum height of 5m with trees once established at a maximum spacing of 2m:

(a) *Pinus radiata*, Pine;

(b) *Cupressus Arizonia*, Arizona cypress;

(c) *Chaemaecyparis lawsoniana*, Lawson's Cypress;

(d) *Populus nigra,* Lombardy Poplar;

(e) *Podocarpus totara*, Totara (native);

(f) *Pittosporum eugenioides*, Tarata (native);

(g) *Phormium tenax,* Flax;

(h) *Prunus lusitanica,* Portuguese laurel; and

(i) *Griselinia littoralis*, Kapuka / Broadleaf (native).

37.9 (MM9) Landscape Treatment C is located towards the north of the ODP area to create a buffer between this area and the

existing properties on the southern side of Mill Road (290 Bradleys Road; 344 Bradleys Road; 507 Mill Road 531 Mill Road; 547 Mill Road; and 401 Whites Road). The planting consists of a single row of any of the following species along the shared internal boundaries to achieve a minimum established height of 4m once established and a width of 2m, with planting at a maximum spacing of 1.5m within a 6m wide strip:

(a) *Prunus lusitanica* (Portuguese Laurel);

(b) *Pittosporum eugenioides* (Tarata, Lemonwood);

(c) *Pittosporum tenuifolium* (Kohuhu, Black Matipo);

(d) *Griselinia littoralis* (Broadleaf);

(e) *Kunzea ericoides* (Kanuka); and

(f) *Leptospermum scoparium* (Maunka).

37.10 (MM10) Creating a threshold/gateway on the Ōhoka Stream/bush alignment and the provision of two crossing (pedestrian/cycling) facilities along the Whites Road proposed Local Centre Zone frontage.

38 For MM7, MM8 and MM9, a five-year (60-month) maintenance period is proposed to ensure the successful establishment of all landscape areas. The exact breakdown and composition of the planting of Landscape Treatments A, B, and C will be submitted to council for approval during the subdivision stage. The same would apply for reserves and riparian margins developed as part of the green/blue network within the Site, and with respect to these I note the ODP text states "*Plant species in the new reserves and riparian margins shall include native tree and shrub plantings. The plant species selection process shall involve consultation with local Rūnanga.*"

39 In association with the maintenance period, I consider that a detailed landscape management plan is required, preferably prepared by a Registered Landscape Architect. It is common for landscape management plans to be submitted at Engineering Approval Stage. A management plan would provide direction on the establishment of planting, weed and pest control, replacement planting, irrigation and the like. In my opinion, a requirement for planting within the landscape areas to achieve an 80% canopy cover within the five-year timeframe would also be appropriate in the Landscape Management Plan.

40 The mitigation measures will create a combined area of open space or planting totalling approximately 20.1ha or approximately 13% of the Site. This is made up of the following indicative figures:

40.1 Open space associated with waterways: 16.1ha;

40.2 Landscape Treatment A: 1.78ha;

40.3 Landscape Treatment B: 1.158ha;

40.4 Landscape Treatment C: 0.142ha; and

40.5 Small pocket parks identified in the Illustrative Masterplan: 0.9188ha.

41 Overall, the character and land use of the area will shift from semi-open and agriculturally focused to a more compartmentalised, high amenity residential development. The maintenance of the landscape treatment areas will ensure a high landscape amenity outcome is achieved and in doing so, the treatment areas will assist with the integration of the Site within its setting.

42 In my view, subject to the mitigation measures proposed, the proposal will result in an acceptable magnitude of change on the existing rural landscape character and values. The partially open character of the site will change to a character which is more compartmentalised into smaller units, but which can be mitigated to an appropriate level through design, fencing controls and landscape planting to retain a high level of amenity.

43 Important context to this assessment also includes:

43.1 that a change to the open character is already anticipated by the 4ha minimum lot size under the Proposed District Plan; and

43.2 the anticipated outcomes under the NPS-UD.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT

44 The ODP identifies and protects local springs and introduces a spring channel, separated from other surface water flows. This creates a third naturalised waterway adding to the natural character of the Site. In terms of natural character, positive effects are expected to result from the proposal.

45 The proposal to rezone to the Settlement Zone and Large Lot Residential Zone can be achieved in a manner which maintains the existing landscape character of Ōhoka, or in the case of the waterways enhances their character. Detailed mitigation measures are outlined above as to how this will be achieved, creating a continuous blue-green network linking to the existing public open spaces in the settlement. Building setbacks from both Whites and Bradleys Road combined with the proposed continuous landscape planting and limited vehicle access will ensure that any potential

adverse effects from increased built form are mitigated and internalised.

46 Road detailing, including minimising kerb and channel unless required for stormwater purposes, combined with fencing restrictions and landscape planting will ensure any future residential development will have a character more akin to the existing settlement than the suburban development which is occurring in main urban areas.

47 In terms of visual amenity, the receiving environment will maintain aspects of openness through the creation of green corridors. Management of fencing, the protection and enhancement of waterways and controls over bulk and location of the development will also help create a sense of openness throughout the Site. The highest likely effects on visual amenity, after mitigation, will be experienced by those residential properties closest to the Site, along Whites and Bradleys Road as well as those sites which directly adjoin the proposal. Though there is a change from rural to residential, from these locations I consider the magnitude of change to be low to moderate due to the design measures outlined above establishing a well-vegetated environment using a mix of native and exotic species. The implementation of the Landscape Treatments along edges and interfaces will over time provide a very high level of screening and will replicate much of the planting which has established in Ōhoka Bush. There are breaks in the proposed screening, for roads and streams, but these have been limited with the intention of internalising any visual impacts from buildings, away from adjoining residences.

48 Overall, the scale and bulk and location of the proposal would allow it to appear as a natural extension of existing development within Ōhoka, with an anticipated low to moderate, and acceptable, magnitude of change.

TREE SURVEY AND TREE RETENTION

49 A survey undertaken by Tree Tech in June 2023 identified no native species of note within the Site. The survey is attached as **Appendix 2** to my evidence. A plan of the existing trees combined with the proposed master plan is shown in Page 9 – Context Tree Survey Plan of **Appendix 1**.

50 Not on the Site, but east of Whites Road, the stream corridor (Ōhoka Bush) has been planted extensively with native species although large numbers of weed species were also present. This shows the potential for the waterways to become native corridors through the Site, but presently the waterways are considered to have a low to moderate sensitivity to change.

51 The detailed tree survey by Tree Tech identifies the species and health of the trees present on the property. A total of 2,033 trees

were surveyed on the site, with the following breakdown of species (tree species with less than 10 specimens not shown except native species, which are shown in italics):

51.1 124 Birch species (Silver, Paper);

51.2 317 Eucalyptus species (Tasmanian Blue gum, gum);

51.3 472 Cypressus or Pine species;

51.4 218 Poplar sp (Black, Lombardy, sp);

51.5 70 Oaks (Pin oak, English);

51.6 228 Willow;

51.7 1 *Cordyline australis;*

51.8 1 *Pittosporum tenuifolium; and*

51.9 1 *Dacrycarpus dacrydioides (Juvenile).*

52 It is proposed that, where possible, the existing trees will be retained within the development to assist with retaining an established feel, while working with the ecologists at the subdivision stage to assess their suitability for the long-term improvements to the waterways, to determine the ecological benefit (or otherwise) of retaining existing exotic trees close to the Ōhoka Stream and Ōhoka South Branch.

53 Some trees will be retained (Tree groups 67, 69 and 78 identified in the Tree Tech Survey at **Appendix 2**) along the southern boundary as part of Landscape Treatment B, as explained above:

53.1 Tree Group 67 (~100 trees) – Pinus sp. Shelter belt, 5-10m high (approximately 200 trees being a large linear belt);

53.2 Tree Group 69 (~70 trees) – Cupressus Arizonia, Pinus sp. Shelter belt 5-10m high; and

53.3 Tree Group 78 (~200 trees) - Mix of Eucalyptus sp & Cupressus sp, 10-15m high. Eucalyptus on northern side of row & (smaller stature/understorey) conifers on the southern side. Dead trees are present within group but these would be removed as part of the implementation of the Landscape Management Plan.

CONCLUSION

54 Overall, I consider that the proposed extension to the Ōhoka settlement will contribute to a well-functioning urban environment with any adverse effects on landscape character and visual amenity successfully mitigated.

Dated: 5 March 2024

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Dave Compton-Moen

APPENDIX 1

535 MILL ROAD, OHOKA - DISTRICT PLAN SUBMISSION

FOR ROLLESTON INDUSTRIAL DEVELOPMENTS LIMITED

5 MARCH 2024

REVISION B

535 MILL ROAD, OHOKA- PLAN CHANGE

Project no: 2021_097
Document title: DISTRICT PLAN SUBMISSION
Revision: B
Date: 5 March 2024
Client name: ROLLESTON INDUSTRIAL DEVELOPMENTS LIMITED

Author: DAVE COMPTON-MOEN, ANCA BELU
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DOCUMENT HISTORY AND STATUS

REVISION	DATE	DESCRIPTION	BY	REVIEW
A	04/03/2024	Issue for comment	DCM/AB	DCM
B	05/03/2024	Minor changes	DCM/AB	DCM

DCM URBAN DESIGN LIMITED

10/245 St Asaph Street
Christchurch 8011

CONTENTS

LEGEND

- Outline Development Plan Area
- Settlement Zone
- Settlement (Educational Overlay)
- Settlement (Polo Grounds Overlay)
- Large Lot Residential Zone
- Local Centre Zone
- Natural Open Space Zone
- Indicative Reserves (Size and Location to be Confirmed)
- Indicative (Collector) Road
- Indicative Local Road Connection
- Village Threshold / Gateway
- Potential Minor Threshold
- Indicative Pedestrian-Cycle Network
- Indicative Pedestrian Path
- Indicative Stormwater Management Areas (size and location to be confirmed)
- Existing / Modified Waterways
- Existing Springs and Associated Setback (30m)
- Stormwater Conveyance Flow Path
- Groundwater seep and associated setback (20m)
- Groundwater Seep Channel
- Existing Pond (size and location to be confirmed)
- A Landscape Treatment A
- B Landscape Treatment B
- C Landscape Treatment C
- Pedestrian / Cycle Crossing
- Overhead 66kV Power Lines

A. OUTLINE DEVELOPMENT PLAN - 535 MILL ROAD, OHOKA

0 50 100 200 500

1:10000

PROPOSAL - OUTLINE DEVELOPMENT PLAN

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

(MM8)
Landscape treatment B

(MM8)
Landscape treatment B

(MM4)
Limited access to
Bradleys Road

(MM3,5)

20M BUILDING SETBACK

BRADLEYS ROAD

(MM9)
Landscape treatment C

(MM3,5)
Ohoka Stream Corridor

290

OHOKA SOUTH BRANCH STREAM

POLO GROUND

(MM4)
Limited access to
Whites Road

(MM7)
20m building setback &
Landscape treatment A

20M BUILDING SETBACK

WHITES ROAD

SCHOOL

OHOKA STREAM

(MM9)
Landscape
treatment C

MILL ROAD

(MM3)
Connected walking and cycling
facilities

(MM10)
Threshold / gateway treatment
into Ohoka (refer to figure)

A. ELEVATED PERSPECTIVE VIEW FROM NORTH-WEST OVER THE WHOLE SITE

PROPOSAL - ILLUSTRATIVE MASTER PLAN

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

A. VIEW WEST FROM ABOVE WHITES ROAD

PROPOSAL - VILLAGE CHARACTER, DIVERSITY AND COMMUNITY FACILITIES

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

A. PERSPECTIVE VIEW OF STORMWATER MANAGEMENT AREA, SHARED PATH AND OHOKA STREAM CORRIDOR

PROPOSAL - CONNECTED BLUE AND GREEN NETWORK

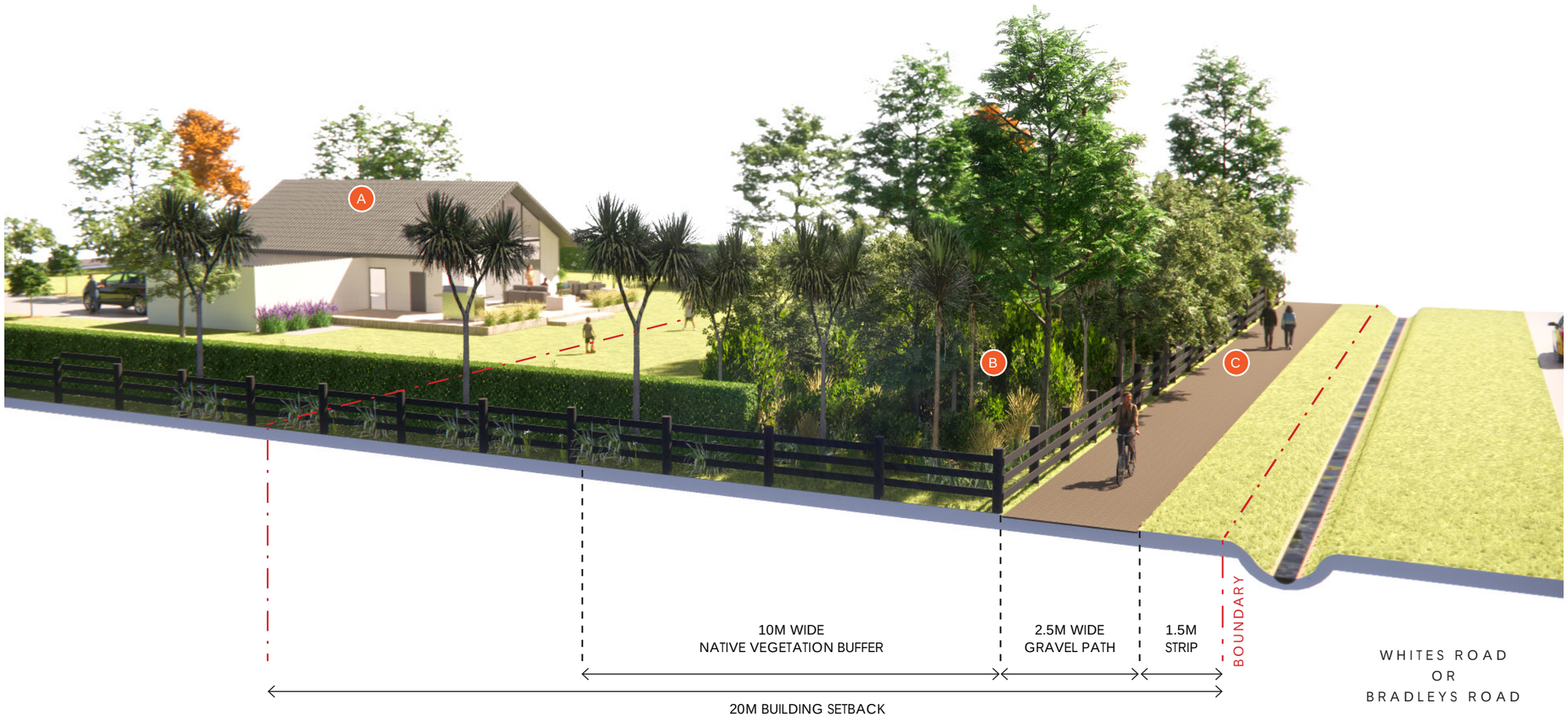
535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

LEGEND

A Future residential development setback from Whites Road by a minimum of 20m.

B Landscape treatment A - 10m landscape corridor to consist of native plant species.

C 1.2m Post and rail fencing along road and internal boundaries



A. SECTION-ELEVATION LANDSCAPE TREATMENT A (NTS)

INDICATIVE PLANTING PALETTE

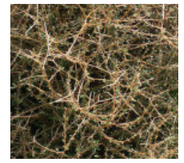

Pittosporum
(*Pittosporum tenuifolium*)


Lemonwood (Tarata)
(*Pittosporum eugenioides*)


Shrub pohuehue
(*Muehlenbeckia astonii*)


Harakeke / flax
(*Phormium tenax*)


Kapuka, broadleaf
(*Griselinia littoralis*)


Miki Miki
(*Coprosma Virescens*)


Kanuka
(*Kunzea robusta*)


Hebe
(*Veronica salicifolia*)


Ti Kōuka / cabbage tree
(*Cordyline australis*)


Kowhai
(*Sophora microphylla*)


Prostrate kowhai
(*Sophora prostrata*)


Toetoe
(*Astroderia richardii*)

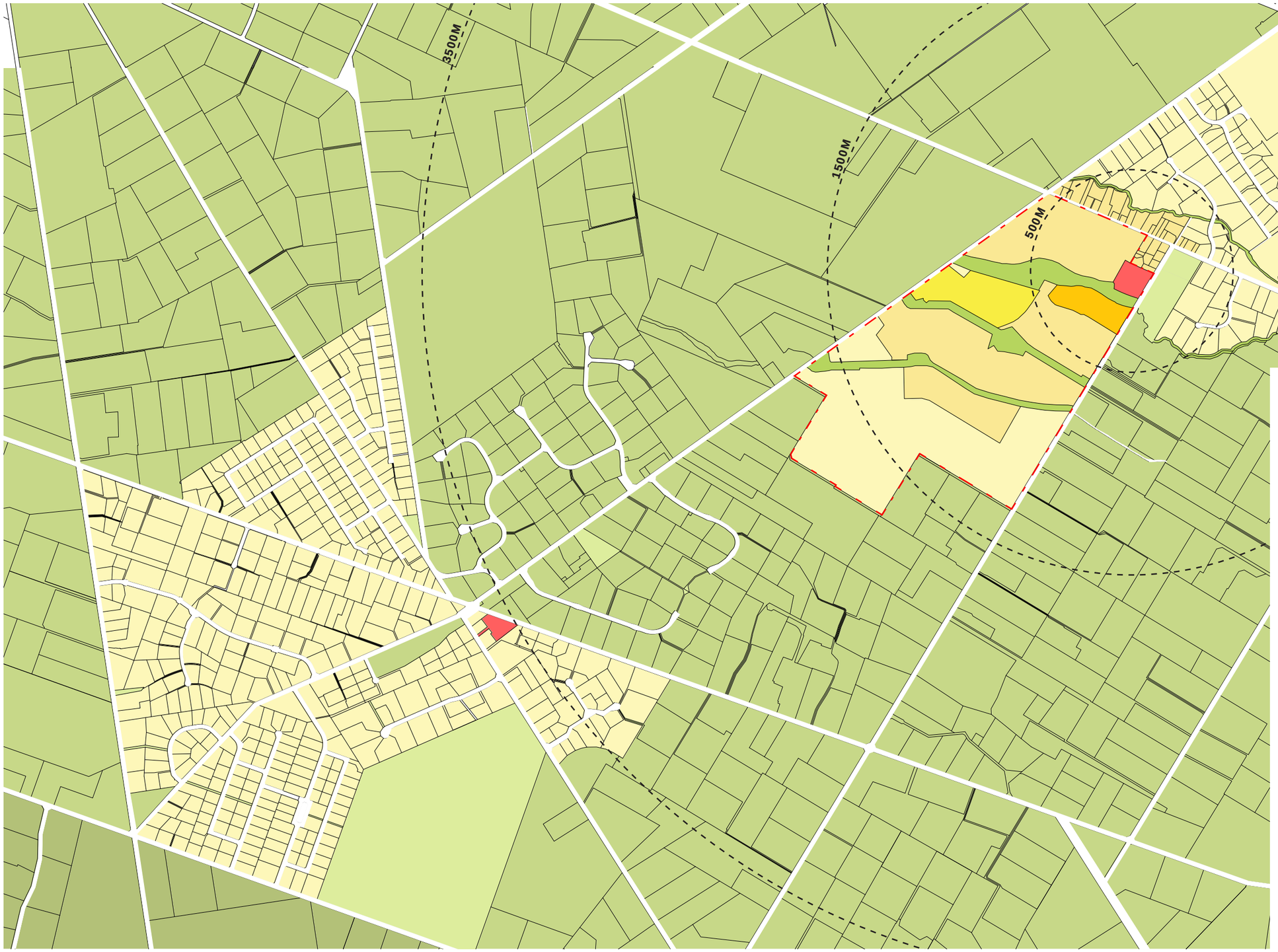
PROPOSAL - LANDSCAPE TREATMENT A (WHITES AND BRADLEYS ROADS)

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

A. VIEW LOOKING SOUTH WEST FROM ABOVE OHOKA BUSH

PROPOSAL - WHITES ROAD THRESHOLD / GATEWAY INTO VILLAGE

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION



LEGEND

- Site Boundary
- Settlement Zone (Education Overlay)
- Settlement Zone (Polo Ground Overlay)
- Settlement Zone
- Large Lot Residential Zone
- Open Space Zone
- Rural Lifestyle Zone
- Natural Open Space Zone
- Local Centre Zone

LOCATIONS	DISTANCE (KM)	TIME (MINUTES)
Ohoka to Kaiapoi West	4.8	7
Ohoka to Rangiora	9.2	12
Ohoka to Christchurch	25.6	25
Mandeville to Kaiapoi	13.1	14
Mandeville to Rangiora	15.3	16
Mandeville to Christchurch	25.0	25

A. SETTLEMENT AND CONNECTIVITY MAP (1:20,000@ A3)

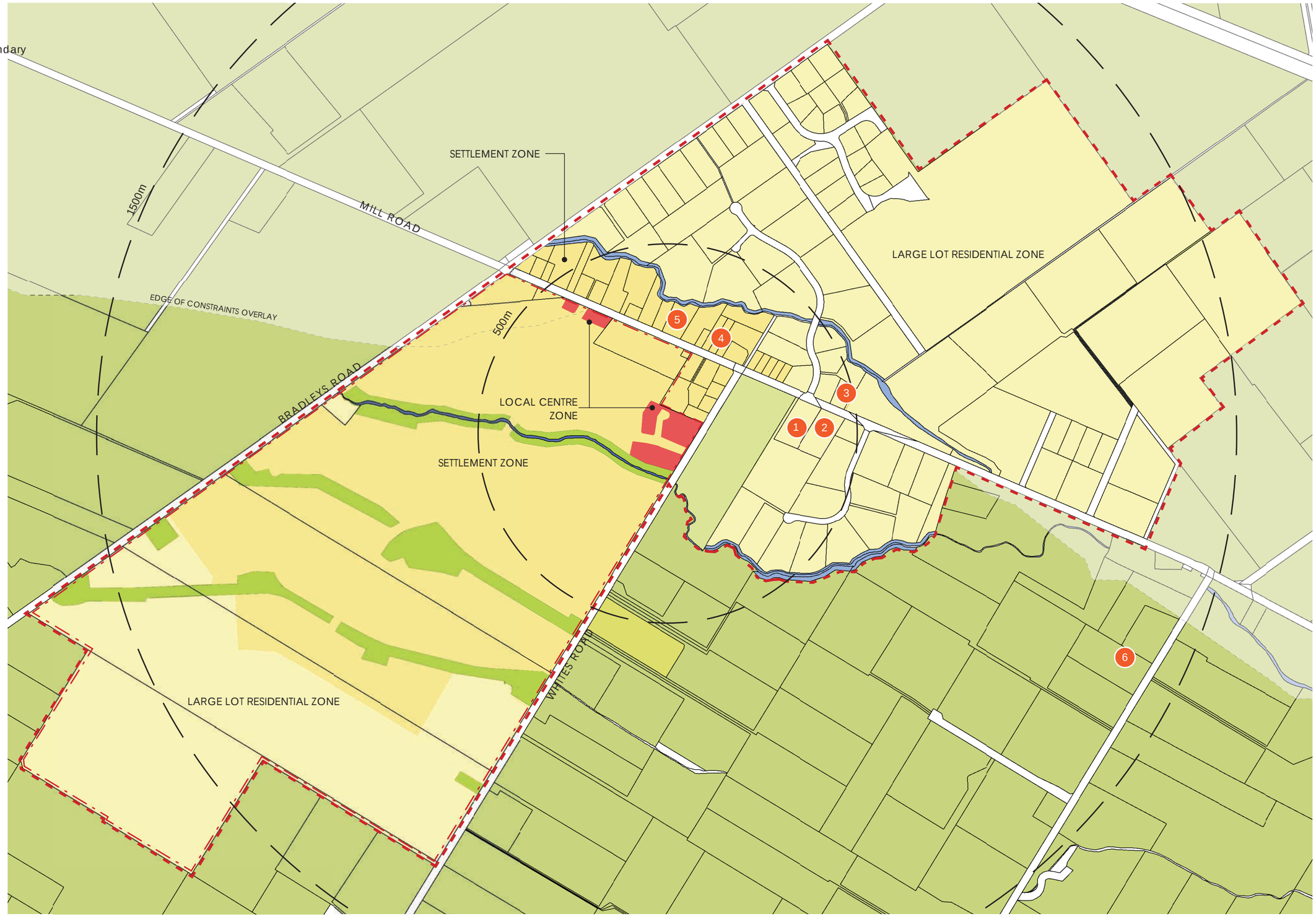
CONTEXT - SETTLEMENT AND CONNECTIVITY MAP

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

LEGEND

- Suggested Ohoka Settlement Boundary
- Rezoned Site
- Settlement Zone
- Large Lot Residential Zone
- Local Centre Zone (Proposed)

1. Waimakariri Dental Clinic
2. Litho Print Graphics Print Shop
3. Baby Kulture Handknits
4. Dollar Store
5. Waterforce
6. Ohoka School



A. SETTLEMENT GROWTH AND URBAN FORM MAP (1:10,000)

A. TREE SURVEY PLAN 1:5000 (FROM TREETECH REPORT)

CONTEXT - TREE SURVEY PLAN

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

LEGEND

CHARACTER PHOTOS

- A Gatekeepers Lodge/ Ohoka Domain
- B Ohoka Stream
- C Ohoka Bush
- D Existing Residential

VIEWPOINT LOCATIONS

- 1 View South West from 318 Whites Road
- 2 View South West from 410 Whites Road
- 3 View South from 535 Mills Road
- 4 View South from 301 Bradleys Road
- 5 View South East from 231 Bradleys Road
- 6 View South East from 205 Bradleys Road

A. LOCATION MAP FOR CHARACTER PHOTOS AND KEY VIEWPOINTS

Map / image source: Canterbury Maps

CONTEXT - CHARACTER PHOTOS AND VIEWPOINT LOCATIONS

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

A Gatekeepers Lodge - The historic lodge has recently been restored and relocated to the Ohoka Domain. The lodge was originally built during the 1800's as part of the Ohoka Estate. The building has significant aesthetic, architectural, historical and social value within the region.

B Ohoka Stream - The ohoka Stream runs parallel to Mill Road and joins the Kaiapoi River to the west of Kaiapoi township. It is primarily surrounded by open grass land and is lined with sporadically with a combination of native and exotic vegetation.

C Ohoka Bush - Ohoka Bush covers approxiately 2.5ha of land in native vegetation and is located to the south of Ohoka Domain. It is a popular place for locals to walk while learning about the nearby historic locations.

D Existing Residential - The majority of dwellings are rural in nature and are set back from the road. The dwellings are typically surrounded by open grass paddocks. The dwellings use fencing and pockets of exotic vegetation to create privacy from the road and surrounding properties.

A. IMAGE LOCATION

PROPOSAL LOCATION

VP1 - VIEW SOUTH WEST FROM 318 WHITES ROAD

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

Image captured on Sony A6000
Focal length of 50mm
Date: 30th April 2021 at 8:57 am
Height of 1.7 metres
Photos merged in Photoshop CS to create panorama

A. IMAGE LOCATION

PROPOSAL LOCATION

VP2 - VIEW SOUTH WEST FROM 410 WHITES ROAD

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

Image captured on Sony A6000
Focal length of 50mm
Date: 30th April 2021 at 9:02 am
Height of 1.7 metres
Photos merged in Photoshop CS to create panorama

A. IMAGE LOCATION

PROPOSAL LOCATION

VP3 - VIEW SOUTH FROM 535 MILL ROAD

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

Image captured on Sony A6000
Focal length of 50mm
Date: 30th April 2021 at 9:20 am
Height of 1.7 metres
Photos merged in Photoshop CS to create panorama

A. IMAGE LOCATION

PROPOSAL LOCATION

VP4 - VIEW SOUTH FROM 301 BRADLEYS ROAD

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

Image captured on Sony A6000
Focal length of 50mm
Date: 30th April 2021 at 9:51 am
Height of 1.7 metres
Photos merged in Photoshop CS to create panorama

A. IMAGE LOCATION

PROPOSAL LOCATION

VP5 - VIEW SOUTH EAST FROM 231 BRADLEYS ROAD

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

Image captured on Sony A6000
Focal length of 50mm
Date: 30th April 2021 at 9:54 am
Height of 1.7 metres
Photos merged in Photoshop CS to create panorama

A. IMAGE LOCATION

PROPOSAL LOCATION

VP6 - VIEW SOUTH EAST FROM 205 BRADLEYS ROAD

535 MILL ROAD, OHOKA - PROPOSED DISTRICT PLAN SUBMISSION

Image captured on Sony A6000
Focal length of 50mm
Date: 30th April 2021 at 9:55 am
Height of 1.7 metres
Photos merged in Photoshop CS to create panorama

APPENDIX 2

Arboricultural Impact Assessment (AIA)

Mill Road 535 [AIA] – Rolleston Industrial Developments – June 2023 [4231_2023]

TREETECH®
Specialist Treecare Ltd

Client:	Rolleston Industrial Developments
Contact:	Bruce Van Duyan
Email:	bruce@cartergroup.co.nz
Project	Mill Road 535 [AIA] – Rolleston Industrial Developments – June 2023
Location	535 Mill Road, Ohoka, Canterbury, 7692, NZL
Author	Chris Loughborough ***BSc. (For. Man.), Dip. (Arb.)***
Peer Reviewed	Chiu Hang Lui ***BSc. (Bio.Sci.), Dip. (Arb.)***
Date	21 June 2023
Version	Final

Table of Contents

1 Executive Summary

(i) A total of 2,033 trees (group quantities estimated) were identified during the assessment.

(ii) A breakdown of the Tree Quality Assessment is provided below.

- A – High Quality: 412 trees
- B – Moderate Quality: 292 trees
- C – Lower Quality: 1102 trees
- U – Unsuitable for retention: 227 trees

2 Context

2.1 Introduction

(i) Treetech Specialist Treecare Limited has been engaged by Rolleston Industrial Developments to undertake an Arboricultural Impact Assessment (AIA) of the trees located within the proposed development site at 535 Mill Road, Ohoka, Canterbury.

(ii) The scope of the AIA will include the following elements.

- An inventory of the identified trees[1].
- The identified trees estimated dimensions.
- A Tree Location Diagram showing the position[2] of the identified trees.
- A nominal Tree Protection Zone[3] (TPZ) and Structural Root Zone[4] (SRZ) for trees identified.
- A Tree Quality Assessment.

2.2 Project Location

(i) Figure 1 (below) shows the location and extent of the site.

Figure 1: Project Location

[1] A single woody plant with the potential to reach at least 5 metres in height and have a stem diameter of, or exceeding, 150mm measured at 1.4 metres above ground. Contiguous interdependent groups of trees will be plotted as groups.

[2] Tree locations are indicative as they are plotted manually using LINZ imagery.

[3] TPZ – the area around a tree which contains sufficient roots and soil volume to maintain a tree's health and viability.

[4] SRZ – the minimum area around a tree that must be protected to reduce the potential for instability.

2.3 Scope and limitations

(i) The contents of this report are based on site inspections undertaken on 15, 16 and 19 June 2022. All observations were made at ground level only. Tree heights, canopy spreads, trunk diameter and groups quantities were estimated.

(ii) A Visual Tree Assessment (VTA) was undertaken on the subject trees. VTA is the widely accepted methodology in arboriculture for evaluating the condition and structure of trees. The method involves observing all parts of the tree and applying knowledge of tree physiology and the principles of biomechanics to make inferences regarding a tree's condition and structure.

(iii) No decay detection equipment was used and no soil analysis, tissue sampling and/or geological investigations were carried out.

(iv) All arboricultural recommendations provided are based on the combination of the Technician Arborist's arboricultural knowledge, *AS 4970-2009: Protection of trees on development sites, BS5837:2012: Trees in Relation to Design, Demolition and Construction – Recommendations,* and the application of the Visual Tree Assessment methodology. The principal consideration in the assessment is the nature and proximity of the planned construction activities to trees and vegetation in proximity to the works.

(v) Whilst this arboricultural assessment is thorough it should be noted that trees are dynamic living organisms exposed to both unforeseeable biotic and abiotic factors which on occasion can be severe. Thereby, this arboricultural assessment will consider, on the balance of probabilities, the most likely outcome(s) based on the data available, as opposed to those less probable outcomes which could or may occur.

3 Arboricultural concepts & considerations

3.1 Tree Root Systems

(i) The lateral spread and depth of trees' root system is often poorly understood by the general public. Figure 2 below gives an illustrative example of a tree's root system (or root zone) in an unobstructed growing environment (i.e., field grown). The majority of a tree's roots generally grow in the top 800mm of the soil and extend well beyond the tree's canopy.

(ii) Damage to root systems regularly causes tree decline and death and is the most common form of damage associated with construction and development sites. In order for trees to remain viable their roots and root zone need to be protected from both direct and indirect construction damage.

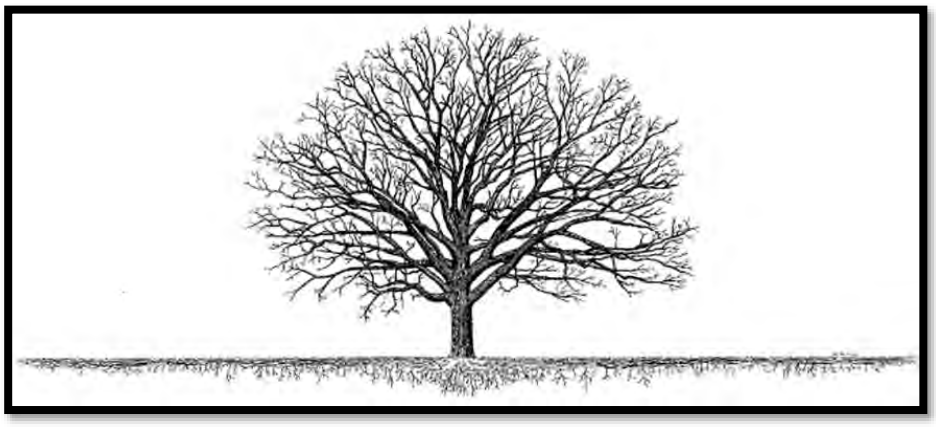


Figure 2: Tree root zone (Illustrative example)

3.2 Tree Protection Zone

(i) A Tree Protection Zone (TPZ)[5] is a conceptual tool used to identify a notional minimum area around an individual tree that contains sufficient roots and rooting volume to maintain a tree's viability[6] and where the protection of the roots and soil structure should be treated as a priority.

(ii) The Structural Root Zone (SRZ) is the minimum area around an individual tree that must be protected to reduce the potential for instability.

(iii) The nominal TPZ provided for identified groups of trees is their dripline (the edge of their canopy).

(iv) Appropriate management of a tree's TPZ during construction is the best way to ensure a tree remains viable following the completion of the work. A key element of this management is protecting the soil resource from compaction.

3.3 Tree Quality Assessment

(i) Table 1 (below) provides Tree Quality Assessment criteria. The assessment criteria are based on *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.*

Table 1: Tree Quality Assessment criteria

Category	Criteria		
	Arboricultural (1)	**Landscape (2)**	**Cultural (3)**
Category A (Trees of high quality)	Trees that are good examples of their species	Trees, groups, or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups, or woodlands of significant conservation, historical, commemorative, or other value
Category B (Trees of moderate quality)	Trees that are moderate examples of their species	Trees, groups, or woodlands of some visual importance as arboricultural and/or landscape features	Trees with material conservation or other cultural value
Category C (Trees of lower quality)	Unremarkable trees of limited merit	Trees present in groups or woodlands, without significantly greater collective landscape value	Trees with no material conservation or other cultural value
Category U (Trees unsuitable for retention)	- Trees that have a serious, irremediable, structural defect. - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low-quality trees suppressing adjacent trees of better quality		

[5] The AS 4970-2009 Protection of trees on development sites methodology was used for calculating TPZ and SRZ areas.

[6] Viability relates to a tree's ability to remain alive.

4 Arboricultural Assessment

4.1 Tree Assessment Data

(i) Table 2 provides the tree assessment data and provides the following.

- Tree dimensions, species, and condition
- Tree Quality Assessment
- Arboriculture Comment

(ii) **NB** Tree numbering is not consecutive in all instances, please refer to the map number for tree locations.

Table 2: Tree assessment data

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
1	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	7.5	4.5	35	4.2	2.2	B1	Barrel around stem requires removal	1
2	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	7.5	4	35	4.2	2.2	B1	Barrel around stem requires removal	1
3	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	7.5	4	35	4.2	2.2	B1	Barrel around stem requires removal	1
4	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	7	4	25	3.0	1.9	B1	Barrel around stem requires removal	1
5	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	7	4	25	3.0	1.9	B1	Barrel around stem requires removal	1
6	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	6	3	25	3.0	1.9	B1	Barrel around stem requires removal	1
7	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	8	4	35	4.2	2.2	B1	Barrel around stem requires removal	1

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
8	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	7	3.5	25	3.0	1.9	B1	Barrel around stem requires removal	1
9	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	7	3.5	25	3.0	1.9	B1	Barrel around stem requires removal	1
10	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	6.5	4	30	3.6	2.1	B1	Barrel around stem requires removal	1
11	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	7	4	30	3.6	2.1	B1	Barrel around stem requires removal	1
12	Tree	*Betula pendula* - Silver Birch	1	Mature	3	4	5	2.5	30	3.6	2.1	U	Barrel around stem requires removal	1
13	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	5	3	35	4.2	2.2	C1	Barrel around stem requires removal	1
14	Tree	*Betula pendula* - Silver Birch	1	Mature	5	5	4	2	35	4.2	2.2	U	Barrel around stem. Dead	1
15	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	5.5	2.5	30	3.6	2.1	C1	Barrel around stem requires removal	1
16	Tree	*Maytenus boaria* - Mayten Tree	1	Mature	2	3	8	5	50	6.0	2.6	U	Invasive species	1
17	Tree	*Crataegus monogyna* - Common Hawthorn	1	Mature	3	3	3.5	1.5	15	2.0	1.6	C1	Barrel around stem requires removal	1
18	Tree	*Salix sp* - Willow	1	Mature	3	3	9	5	90	10.8	3.2	U	Barrel imbedded in stem.	17
19	Tree	*Betula pendula* - Silver Birch	1	Mature	2	3	6	3	20	2.4	1.8	C1	Barrel around stem requires removal	1
20	Tree	*Crataegus monogyna* - Common Hawthorn	1	Mature	4	4	3.5	1.5	15	2.0	1.6	U	Barrel around stem requires removal	1

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
21	Tree	*Salix sp* - Willow	1	Mature	4	5	8	7	50	6.0	2.6	U	Very poor structural conditions	1
22	Group	*Photinia glabra* - Japanese Photinia, *Crataegus monogyna* - Common Hawthorn, Prunus sp - Plum	20	Mature	3	N/A	<5	N/A	N/A	Dripline	N/A	C2	Narrow belt of predominantly Prunus sp. [Screening/Shelter planting]	1
23	Tree	*Malus trilobata* - Thracian Apple	1	Mature	2	3	8	5	47	5.7	2.7	B1	Unusual species for location	1
24	Group	*Maytenus boaria* - Mayten Tree, *Crataegus monogyna* - Common Hawthorn, *Cordyline australis* - Cabbage Tree, *Nothofagus sp* - Southern Beech, *Sophora microphylla* - Small-leaved Kowhai, *Olearia paniculata* - Golden Ake Ake	20	Mature	3	N/A	<5	N/A	N/A	Dripline	N/A	C2	Mix of natives and exotic tree. Maytenus boaria is an invasive species. [Screening/Shelter planting]	1
25	Tree	*Dacrycarpus dacrydioides* - Kahikatea	1	Juvenile	2	3	7	2	16	2.0	1.7	A1	Taonga species	1
26	Tree	*Cordyline australis* - Cabbage Tree	1	Mature	2	2	6	2	30	3.6	2.1	A3	Taonga species	1
27	Tree	*Cordyline australis* - Cabbage Tree	1	Mature	2	2	6	2	35	4.2	2.3	A3	Taonga species	1
28	Tree	*Cordyline australis* - Cabbage Tree	1	Mature	2	2	6	2	35	4.2	2.3	A3	Taonga species	1
29	Tree	*Maytenus boaria* - Mayten Tree	1	Mature	2	3	10	5	57	6.8	2.5	U	Invasive species	1

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
30	Group	*Cupressus sp* - Cypress	40	Semi-Mature	2	N/A	<5	N/A	N/A	Dripline	N/A	C2	Closely spaced, short form pruned Cupressus sp. [Shelter belt/hedge]	1
31	Tree	*Betula pendula* - Silver Birch	1	Mature	4	5	6	3	30	3.6	2.1	U	Poor Structural condition	1
32	Tree	*Eucalyptus globulus* - Tasmanian Blue Gum	1	Mature	3	3	20	7	75	9.0	2.7	B1	Landscape tree	1
33	Tree	*Eucalyptus globulus* - Tasmanian Blue Gum	1	Mature	3	3	20	7	49	5.9	2.7	B1	Landscape tree	1
34	Tree	*Eucalyptus globulus* - Tasmanian Blue Gum	1	Mature	3	3	20	8	40	4.8	2.5	B1	Landscape tree	1
35	Tree	Eucalyptus globulus - Tasmanian Blue Gum	1	Mature	3	3	20	7	57	6.8	2.7	B1	Landscape tree	1
36	Group	*Hoheria populnea* – Houhere, *Cordyline australis* - Cabbage Tree, *Maytenus boaria* - Mayten Tree, *Crataegus monogyna* - Common Hawthorn, *Hoheria sextylosa* - Long-leaved Lacebark, *Euonymus europaeus* - Spindle Berry	50	Mature	3	N/A	10 - 15	N/A	N/A	Dripline	N/A	B2	Mixed stand of natives and exotics. Predominantly exotic. Maytenus boaria is an invasive species. [Collectively visually significant]	2
37	Tree	*Cordyline australis* - Cabbage Tree	1	Mature	3	3	5	2	10	2.0	1.5	C3	Taonga species	2
38	Tree	*Cordyline australis* - Cabbage Tree	1	Mature	3	3	5	2	30	3.6	2.1	C3	Taonga species	2

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
39	Tree	*Betula pendula* - Silver Birch	1	Mature	3	4	7.5	7	45	5.4	2.4	U	Poor Structural condition	2
40	Tree	*Salix sp* - Willow	1	Mature	3	4	18	10	150	15.0	4.0	U	May be suitable to retain as pollard.	2
41	Tree	*Salix sp* - Willow	1	Mature	3	4	18	10	150	15.0	4.0	U	May be suitable to retain as pollard.	2
42	Tree	*Salix sp* - Willow	1	Mature	3	4	18	10	150	15.0	4.0	U	May be suitable to retain as pollard.	2
43	Tree	*Salix sp* - Willow	1	Mature	3	4	16	8	130	15.0	3.8	U	May be suitable to retain as pollard.	2
44	Tree	*Salix sp* - Willow	1	Mature	3	4	16	10	130	15.0	3.8	U	May be suitable to retain as pollard.	2
45	Group	*Maytenus boaria* - Mayten Tree, *Quercus robur* - English Oak, *Salix caprea* - Goat Willow, *Cordyline australis* - Cabbage Tree, *Cedrus deodara* - Deodar Cedar, *Crataegus monogyna* - Common Hawthorn, *Fraxinus excelsior* - English Ash, *Pittosporum tenuifolium* - Kohuhu, *Nothofagus sp* - Southern Beech	70	Mature	3	N/A	10 - 15	N/A	N/A	Dripline	N/A	B2	Mixed stand of native and exotic. Predominantly exotic. Some larger specimen trees within the stand. Maytenus boaria is an invasive species. [Collectively visually significant]	2

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
46	Tree	*Fraxinus excelsior* - English Ash	1	Semi-Mature	2	2	8	3.5	20	2.4	1.8	A1	Specimen tree	2
47	Tree	*Fraxinus excelsior* - English Ash	1	Semi-Mature	2	4	8	4	21	2.5	1.8	U	Damage at base of stem	2
48	Tree	*Fraxinus excelsior* - English Ash	1	Semi-Mature	2	4	8	4	21	2.5	1.8	U	Damage at base and poor stem union.	2
49	Tree	*Fraxinus excelsior* - English Ash	1	Semi-Mature	2	2	8	3.5	20	2.4	1.8	A1	Specimen tree	2
50	Group	*Betula pendula* - Silver Birch	12	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	B2	Formally planted row of Betula sp. Potentially suitable for retention as landscape feature. [Collectively visually significant]	2
51	Group	*Sambucus sp* - Elder, *Betula sp* - Birch	5	Semi-Mature	3	N/A	<5	N/A	N/A	Dripline	N/A	C2	Small self-set group. [Poor quality/Low value]	2
52	Group	*Betula sp* - Birch, *Arbutus andrachne* - Strawberry Tree, *Maytenus boaria* - Mayten Tree, *Cedrus deodara* - Deodar Cedar	17	Mature	3	N/A	10 - 15	N/A	N/A	Dripline	N/A	B2	Mixed stand of natives and exotics. Predominantly exotic. Maytenus boaria is an invasive species. Dead trees within group. Potentially suitable for retention as landscape feature. [Collectively visually significant]	2
53	Tree	*Eucalyptus sp* - Gum	1	Mature	2	3	24	10	120	14.4	3.6	A1	Large landscape tree	2

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
54	Group	*Cupressus sp* - Cypress	20	Mature	2	N/A	5 - 10	N/A	N/A	Dripline	N/A	C2	Closely spaced, short form pruned Cupressus sp. [Shelter belt/hedge]	2
55	Group	*Pinus radiata* - Monterey Pine	20	Mature	3	N/A	10 - 15	N/A	N/A	Dripline	N/A	C2	Linear planting/shelter belt of closely spaced Pinus sp. [Unsuitable for retention in urban development]	2
56	Group	*Pinus radiata* - Monterey Pine	10	Mature	3	N/A	10 - 15	N/A	N/A	Dripline	N/A	C2	Linear planting Pinus sp. Two trees within group have failed onto neighbouring building. [Unsuitable for retention in urban development]	3
57	Group	*Cupressus sp* - Cypress, *Pinus sp* - Pine	56	Mature	3	N/A	10 - 15	N/A	N/A	Dripline	N/A	C2	Small stand of mature exotic trees. [Unsuitable for retention in urban development]	3
58	Group	*Cupressus sp* - Cypress	30	Semi-Mature	3	N/A	10 - 15	N/A	N/A	Dripline	N/A	C2	Predominantly semi-mature with some mature tree. [Shelter belt/hedge]	2
59	Tree	*Salix matsudana* Tortuosa - Corkscrew Willow	1	Mature	3	4	12	8	75	9.0	3.0	U	Poor Structural condition	2
60	Tree	*Populus nigra* 'Italica'	1	Mature	3	4	20	7	140	15.0	3.8	U	Poor Structural condition	2
61	Tree	*Populus nigra* 'Italica'	1	Mature	3	4	20	7	140	15.0	3.8	U	Poor Structural condition	2
62	Tree	*Populus nigra* 'Italica'	1	Mature	3	4	20	7	140	15.0	3.8	U	Poor Structural condition	2

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
63	Tree	*Quercus sp* - Oak	1	Mature	4	3	8	8	35	4.2	2.3	U	Barrel on has constricted stem. Tree unsuitable for retention.	1
64	Group	*Eucalyptus globulus* - Tasmanian Blue Gum	50	Mature	2	N/A	>20	N/A	N/A	Dripline	N/A	A2	Closely spaced Linear planting/shelter belt planting of large trees. Potentially suitable for retention as landscape feature but would require adequate set back to prevent shading. [Collectively visually significant]	21
65	Group	*Salix sp* - Willow	30	Semi-Mature	3	N/A	<5	N/A	N/A	Dripline	N/A	C2	Laid as traditional hedge. [Shelter belt/hedge]	21
66	Group	*Pinus sp* - Pine	100	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	C2	Closely spaced, short form pruned Pinus sp. [Shelter belt/hedge]	21
67	Group	*Pinus sp* - Pine	100	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	C2	Closely spaced, short form pruned Pinus sp. [Shelter belt/hedge]	22
68	Group	*Populus sp* - Poplar	25	Mature	3	N/A	10 - 15	N/A	N/A	Dripline	N/A	A2	Linear planting/shelter belt planting of large trees. Potentially suitable for retention as landscape feature but would require adequate set back to prevent shading. [Collectively visually significant]	22

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
69	Group	*Cupressus arizonica* - Arizona Cypress, *Pinus sp* - Pine	70	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	C2	Boundary planting of closely spaced short form pruned mixed exotic. Predominantly Cupressus sp. [Shelter belt/hedge]	23
70	Tree	*Populus sp* - Poplar	1	Mature	2	3	16	6	87	10.4	3.3	C1	Landscape tree	23
71	Group	*Pinus sp* - Pine	25	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	C2	Closely spaced, short form pruned Pinus sp. [Shelter belt/hedge]	24
72	Group	*Pinus sp* - Pine, *Cupressus sp* - Cypress	40	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	C2	Linear planting of closely spaced exotic trees. [Shelter belt]	24
73	Group	*Pinus sp* - Pine	7	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	C2	Closely spaced, short form pruned Pinus sp. [Shelter belt/hedge]	24
74	Group	*Salix sp* - Willow	60	Mature	3	N/A	15 - 20	N/A	N/A	Dripline	N/A	U	Closely spaced linear group/shelter belt. Previously pruned at 6m and regrown to 20m. [Unsuitable for retention in urban development]	24
75	Group	*Salix sp* - Willow	40	Juvenile	3	N/A	<5	N/A	N/A	Dripline	N/A	C2	Closely spaced, short form pruned Salix sp. [Shelter belt/hedge]	24
76	Tree	*Populus sp* - Poplar	1	Mature	3	2	18	6	60	7.2	2.7	A1	Landscape tree	24
77	Tree	*Populus sp* - Poplar	1	Mature	3	2	18	6	50	6.0	2.6	A1	Landscape tree	24

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
78	Group	*Eucalyptus sp* - Gum, *Chamaecyparis sp* - Chamaecyparis, *Cedrus atlantica* - Atlas Cedar	200	Mature	3	N/A	10 - 15	N/A	N/A	Dripline	N/A	A2	Large linear group/shelter belt of Eucalyptus sp & Cupressus sp. Eucalyptus on northern side of row & (smaller stature/understorey) conifers on the southern side. Dead trees present within group. Eucalyptus potentially suitable for retention as landscape feature. [Collectively visually significant]	26
79	Group	*Salix sp* - Willow	70	Mature	3	N/A	<5	N/A	N/A	Dripline	N/A	U	Closely spaced linear group/shelter belt. Previously pruned at 6m and regrown to 20m. [Unsuitable for retention in urban development]	25
80	Group	*Pinus sp* - Pine	40	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	C2	Closely spaced, short form pruned Pinus sp. [Shelter belt/hedge]	25
81	Group	Pinus sp - Pine	40	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	C2	Closely spaced, short form pruned Pinus sp. [Shelter belt/hedge]	25
82	Group	*Pinus sp* - Pine	40	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	C2	Closely spaced, short form pruned Cupressus sp. [Shelter belt/hedge]	25

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
83	Group	*Crataegus monogyna* - Common Hawthorn	5	Mature	3	N/A	<5	N/A	N/A	Dripline	N/A	C2	Small self-set group. [Poor quality/Low value]	3
84	Tree	*Salix matsudana* Tortuosa - Corkscrew Willow	1	Semi-Mature	2	2	6	2	20	2.4	1.8	C1	Landscape tree	7
85	Tree	*Salix matsudana* Tortuosa - Corkscrew Willow	1	Semi-Mature	2	2	5	2	15	2.0	1.6	C1	Landscape tree	7
86	Tree	*Betula sp* - Paper Birch	1	Juvenile	3	3	2.5	1.5	10	2.0	1.5	C1	Specimen tree	7
87	Tree	*Betula sp* - Paper Birch	1	Juvenile	3	3	4	2	15	2.0	1.5	C1	Specimen tree	7
88	Tree	*Betula sp* - Paper Birch	1	Juvenile	3	3	3	1.5	10	2.0	1.5	C1	Specimen tree	7
89	Tree	*Betula sp* - Paper Birch	1	Juvenile	3	3	2	1	10	2.0	1.5	C1	Specimen tree	7
90	Tree	*Betula sp* - Paper Birch	1	Juvenile	3	3	2	1	10	2.0	1.5	C1	Specimen tree	7
91	Tree	*Betula sp* - Paper Birch	1	Juvenile	3	3	3	1.5	10	2.0	1.5	C1	Specimen tree	7
92	Tree	*Cupressus macrocarpa* - Monterey Cypress	1	Mature	5	5	10	8	150	15.0	4.0	U	Dead tree	7
93	Tree	*Quercus robur* - English Oak	1	Mature	2	2	12	10	70	8.4	2.9	A1	Good specimen tree.	7
94	Tree	*Quercus robur* - English Oak	1	Mature	2	3	12	10	75	9.0	3.0	A1	Good specimen tree.	7
95	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	15	2.0	1.6	A1	Specimen tree	7
96	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	15	2.0	1.6	A1	Specimen tree	7
97	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	7

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
98	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	7
99	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	7
100	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	7
101	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	7
102	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	6
103	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	6
104	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	6
105	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	6
106	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	6
107	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	3	3	20	2.4	1.8	A1	Specimen tree	6
108	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	6	3	20	2.4	1.8	A1	Specimen tree	6
109	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	6

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
110	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	6
111	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	15	2.0	1.6	A1	Specimen tree	6
112	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	4.5	3	15	2.0	1.6	A1	Specimen tree	6
113	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	4.5	3	15	2.0	1.6	A1	Specimen tree	6
114	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	6
115	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	15	2.0	1.6	A1	Specimen tree	6
116	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	15	2.0	1.6	A1	Specimen tree	6
117	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	15	2.0	1.6	A1	Specimen tree	6
118	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	3.5	3	15	2.0	1.6	A1	Specimen tree	6
119	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	15	2.0	1.6	A1	Specimen tree	6
120	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	3.5	3	15	2.0	1.6	A1	Specimen tree	6
121	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	4

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
122	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	4
123	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	3	2	15	2.0	1.6	A1	Specimen tree	4
124	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5	3	20	2.4	1.8	A1	Specimen tree	4
125	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	3	2	10	2.0	1.5	A1	Specimen tree	4
126	Tree	*Quercus palustris* - Pin Oak	1	Semi-Mature	2	2	5.5	3	20	2.4	1.8	A1	Specimen tree	4
127	Tree	*Pyrus sp* - Pear	1	Mature	2	3	4.5	3	20	2.4	1.8	C1	Specimen tree	4
128	Tree	*Pyrus sp* - Pear	1	Mature	2	3	5	3.5	20	2.4	1.8	C1	Specimen tree	4
129	Tree	*Pyrus sp* - Pear	1	Mature	2	3	4.5	3	20	2.4	1.8	C1	Specimen tree	4
130	Tree	*Pyrus sp* - Pear	1	Mature	2	3	6	4.5	30	3.6	1.8	C1	Specimen tree	4
131	Tree	*Pyrus sp* - Pear	1	Mature	2	3	6	4.5	30	3.6	1.8	C1	Specimen tree	4
132	Tree	*Pyrus sp* - Pear	1	Mature	2	3	4.5	3	20	2.4	1.8	C1	Specimen tree	4
133	Group	*Crataegus monogyna* - Common Hawthorn	80	Mature	3	N/A	<5	N/A	N/A	Dripline	N/A	C2	Linear planting/lapsed hedge of closely spaced Crataegus sp.	4

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
134	Group	*Eucalyptus sp* - Gum, *Thuja plicata* - Western Red Cedar, *Crataegus monogyna* - Common Hawthorn, *Euonymus europaeus* - Spindle Berry, *Betula pendula* - Silver Birch	10	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	C2	Mixed group of exotics. Dead trees within group.	4
135	Group	*Betula sp* - Birch, *Cordyline australis* - Cabbage Tree, *Chamaecyparis sp* - Chamaecyparis	15	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	B2	Mixed group of exotics & natives. Predominantly Chamaecyparis sp. & Betula sp. [Collectively visually significant]	3
136	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	3	3	17	2	35	4.2	2.2	B1	Landscape tree	3
137	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	3	3	18	2.5	40	4.8	2.4	B1	Landscape tree	3
138	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	3	3	20	2.5	70	8.4	3.0	B1	Landscape tree	3
139	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	3	3	20	3	70	8.4	3.0	B1	Landscape tree	3
140	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	3	3	8	2	20	2.4	1.8	B1	Landscape tree	3
141	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	3	3	20	3	50	6.0	2.6	B1	Landscape tree	3
142	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	3	3	20	3	50	6.0	2.6	B1	Landscape tree	3
143	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	3	3	20	3	50	6.0	2.6	B1	Landscape tree	3

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
144	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	3	3	20	3	40	4.8	2.4	B1	Landscape tree	3
145	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	3	3	20	3	50	6.0	2.6	B1	Landscape tree	3
146	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	3	3	20	3	60	7.2	2.8	B1	Landscape tree	3
147	Tree	*Alnus cordata* - Italian Alder	1	Juvenile	3	3	2.5	1.5	10	2.0	1.5	C1	Specimen tree	4
148	Tree	*Alnus cordata* - Italian Alder	1	Juvenile	3	3	3.5	2	10	2.0	1.5	C1	Specimen tree	4
149	Tree	*Alnus cordata* - Italian Alder	1	Juvenile	3	3	2.5	1.5	10	2.0	1.5	C1	Specimen tree	4
150	Tree	*Alnus cordata* - Italian Alder	1	Juvenile	3	3	3.5	2	10	2.0	1.5	C1	Specimen tree	4
151	Tree	*Alnus cordata* - Italian Alder	1	Juvenile	3	3	5	2	15	2.0	1.6	C1	Specimen tree	4
152	Tree	*Platanus sp* - Plane	1	Semi-Mature	2	2	6	3.5	20	2.4	1.8	A1	Specimen tree	4
153	Tree	*Acer sp* - Maple	1	Semi-Mature	2	3	6	3.5	20	2.4	1.8	B1	Specimen tree	4
154	Tree	*Acer sp* - Maple	1	Semi-Mature	2	3	6	3.5	20	2.4	1.8	B1	Specimen tree	4
155	Tree	*Acer sp* - Maple	1	Semi-Mature	2	2	4	2	10	2.0	1.5	C1	Specimen tree	5
156	Tree	*Acer sp* - Maple	1	Semi-Mature	2	3	5	3.5	15	2.0	1.7	B1	Specimen tree	5

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
157	Tree	*Salix matsudana* Tortuosa - Corkscrew Willow	1	Mature	3	4	8	8	120	14.4	3.6	U	Decay visible in stem	5
158	Tree	*Salix matsudana* Tortuosa - Corkscrew Willow	1	Mature	4	4	8	8	120	14.4	3.6	U	Decay visible in stem	5
159	Tree	*Salix matsudana* Tortuosa - Corkscrew Willow	1	Mature	3	3	8	6	120	14.4	3.6	C1	Landscape tree	5
160	Tree	*Maytenus boaria* - Mayten Tree	1	Semi-Mature	3	4	5	4	30	3.6	2.3	U	Invasive species	5
161	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	3	5	27	3.5	120	14.4	3.9	U	Open cavity at base of stem	5
162	Tree	*Populus nigra* - Black Poplar	1	Mature	3	3	28	10	120	14.4	3.8	A1	Very large landscape tree.	5
163	Tree	*Populus nigra* - Black Poplar	1	Mature	3	3	28	10	135	15.0	3.9	A1	Very large landscape tree.	5
164	Group	*Quercus robur* - English Oak, *Fraxinus excelsior* - English Ash	35	Mature	3	N/A	>20	N/A	N/A	Dripline	N/A	A2	Very significant landscape feature. Mature exotic woodland, predominantly Oak. Potentially suitable for retention and development as amenity woodland. Requires management (tree removals & pruning) to be used as amenity space. [Collectively visually significant]	5

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
165	Group	*Populus sp* - Poplar	17	Mature	3	N/A	>20	N/A	N/A	Dripline	N/A	U	Closely spaced, linear group/shelter belt. Group in poor structural condition [Unsuitable for retention in urban development]	5
166	Group	*Populus sp* - Poplar	19	Mature	3	N/A	>20	N/A	N/A	Dripline	N/A	C2	Closely spaced, linear group/shelter belt. [Collectively visually significant]	8
167	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	2	2	17	2	35	4.2	2.3	A1	Landscape tree	8
168	Group	*Salix sp* - Willow	6	Juvenile	2	N/A	<5	N/A	N/A	Dripline	N/A	C2	Willows on stream bank.	13
169	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	2	2	20	3	45	5.4	2.5	A1	Landscape tree	8
170	Tree	*Populus nigra* - Black Poplar	1	Mature	2	3	30	15	184	15.0	4.4	B1	Significant landscape tree. Damage to buttress root from stock.	13
171	Group	*Populus sp* - Poplar	17	Mature	3	N/A	>20	N/A	N/A	Dripline	N/A	C2	Closely spaced, linear group/shelter belt. [Collectively visually significant]	9
172	Tree	*Populus nigra* - Black Poplar	1	Mature	2	3	30	15	130	15.0	3.9	B1	Significant landscape tree. Damage to buttress root from stock.	13

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
173	Group	*Pinus sp* - Pine	30	Mature	4	N/A	15 - 20	N/A	N/A	Dripline	N/A	U	Closely spaced, linear group /shelter belt. Poor structural condition. [Unsuitable for retention in urban development]	11
174	Tree	*Pittosporum tenuifolium* - Kohuhu	1	Semi-Mature	3	3	3	1	13	2.0	1.5	C3	Taonga species	12
175	Group	*Betula pendula* - Silver Birch	30	Mature	2	N/A	5 - 10	N/A	N/A	Dripline	N/A	B2	Closely spaced row of Betula sp. Potentially suitable for retention as landscape feature. [Collectively visually significant]	15
176	Tree	*Cordyline australis* - Cabbage Tree	1	Mature	3	3	4	1	30	3.6	2.1	B3	Taonga species	12
177	Group	*Betula pendula* - Silver Birch	20	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	A2	Formally planted row of Betula sp. Potentially suitable for retention as landscape feature. Dead trees within group. [Collectively visually significant]	15
178	Tree	*Gleditsia japonica* - Japanese Honey Locust	1	Semi-Mature	3	3	4	4	20	2.4	1.8	C1	Landscape tree	12
179	Group	*Salix matsudana* Tortuosa - Corkscrew Willow	6	Mature	3	N/A	10 - 15	N/A	N/A	Dripline	N/A	B2	Linear group on edge of water way. Potentially suitable for retention as landscape feature. [Collectively visually significant]	16

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
180	Tree	*Crataegus monogyna* - Common Hawthorn	1	Mature	3	3	5	2	15	2.0	1.6	C1	Landscape tree	12
181	Tree	*Betula sp* - Birch	1	Mature	3	3	4.5	3	20	2.4	1.8	C1	Specimen tree	15
182	Tree	*Populus nigra* 'Italica' _ Lombardy Poplar	1	Mature	4	5	25	4	150	15.0	4.0	U	Decay at base	12
183	Tree	*Salix sp* - Willow	1	Mature	3	5	7	9	64	7.6	3.2	U	Landscape tree	16
184	Tree	*Prunus sp* - Plum	1	Mature	3	3	4	3	15	2.0	1.6	C1	Landscape tree	12
185	Tree	*Salix sp* - Willow	1	Mature	3	4	7	5	90	10.8	3.2	U	Landscape tree	16
186	Tree	*Betula sp* - Birch	1	Mature	2	3	5	3	21	2.5	2.0	C1	Landscape tree	12
187	Group	*Crataegus monogyna* - Common Hawthorn	30	Mature	3	N/A	<5	N/A	N/A	Dripline	N/A	C2	Linear planting/lapsed hedge of closely spaced Crataegus sp.	16
188	Group	*Eucalyptus sp* - Gum	12	Mature	3	N/A	>20	N/A	N/A	Dripline	N/A	A2	Linear group of very large trees on stream edge. Potentially suitable for retention as landscape feature but would require adequate set back to prevent shading. [Collectively visually significant]	12
189	Tree	*Cupressus macrocarpa* - Monterey Cypress	1	Mature	4	4	5	3	40	4.8	2.4	U	Landscape tree	17
190	Tree	*Populus nigra* - Black Poplar	1	Mature	3	3	20	15	200	15.0	4.4	A1	Very large tree. Significant landscape feature. Ivy on stem.	11
191	Tree	*Populus nigra* - Black Poplar	1	Semi-Mature	3	3	9	5	35	4.2	2.3	C1	Suppressed by neighbouring tree	11

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
192	Tree	*Populus nigra* - Black Poplar	1	Semi-Mature	3	3	10	5	40	4.8	2.3	C1	Suppressed by neighbouring tree	11
193	Tree	*Crataegus monogyna* - Common Hawthorn	1	Mature	3	3	3.5	2	15	2.0	1.6	C1	Landscape tree	11
194	Tree	*Salix sp* - Willow	1	Mature	3	4	9	9	50	6.0	2.6	U	Cavity at base.	11
195	Group	*Cupressus sp* - Cypress, *Cupressus arizonica* - Arizona Cypress	4	Mature	3	N/A	10 - 15	N/A	N/A	Dripline	N/A	B2	Linear group of exotics on stream edge. Potentially suitable for retention as landscape feature [Collectively visually significant]	11
196	Group	*Eucalyptus sp* - Gum	9	Mature	2	N/A	10 - 15	N/A	N/A	Dripline	N/A	B2	Linear group of exotics on stream edge. Dead trees in group. Potentially suitable for retention as landscape feature [Collectively visually significant]	11
197	Tree	*Eucalyptus sp* - Gum	1	Mature	3	3	12	6	35	4.2	2.3	C1	Landscape tree	11
198	Group	*Salix sp* - Willow, *Eucalyptus sp* - Gum	8	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	U	Linear group of exotics on stream edge. Predominantly willow. [Unsuitable for retention in urban development]	11
199	Tree	*Populus nigra* - Black Poplar	1	Semi-Mature	3	3	30	16	220	15.0	4.7	B1	Very large tree. Significant landscape feature.	10
200	Tree	*Salix sp* - Willow	1	Mature	4	5	6	6	30	3.6	2.1	U	Landscape tree	10
201	Tree	*Populus nigra* - Black Poplar	1	Semi-Mature	3	3	30	14	140	15.0	3.9	B1	Very large tree. Significant landscape feature.	10

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
202	Tree	*Populus nigra* - Black Poplar	1	Mature	3	3	15	8	45	5.4	2.4	C1	Suppressed by neighbouring tree	10
203	Tree	*Populus nigra* - Black Poplar	1	Mature	3	3	30	14	140	15.0	3.9	B1	Very large tree. Significant landscape feature. Twin stem.	10
204	Tree	*Populus nigra* - Black Poplar	1	Mature	3	3	30	14	140	15.0	3.9	B1	Very large tree. Significant landscape feature. Damaged structural limb.	10
205	Group	*Populus sp* - Poplar	40	Mature	3	N/A	>20	N/A	N/A	Dripline	N/A	C2	Closely spaced, linear group/shelter belt on stream edge. [Collectively visually significant]	10
206	Group	*Populus sp* - Poplar	40	Mature	3	N/A	>20	N/A	N/A	Dripline	N/A	C2	Closely planted linear group/shelter belt. [Unsuitable for retention in urban development]	11
207	Group	*Eucalyptus sp* - Gum, *Cupressus arizonica* - Arizona Cypress	12	Mature	3	N/A	>20	N/A	N/A	Dripline	N/A	A2	Linear group of very large trees on stream edge. Potentially suitable for retention as landscape feature. Predominantly Eucalyptus with understory of small Cupressus. [Collectively visually significant]	12
208	Tree	*Populus nigra* - Black Poplar	1	Semi-Mature	3	4	25	10	99	11.9	3.9	U	Very large tree. Damaged structural to stem and decay at base.	12

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
209	Tree	*Populus nigra* - Black Poplar	1	Mature	3	3	30	17	130	15.0	3.8	B1	Very large tree. Significant landscape feature.	12
210	Group	*Eucalyptus sp* - Gum	5	Mature	2	N/A	10 - 15	N/A	N/A	Dripline	N/A	B2	Linear group of exotics on stream edge. Potentially suitable for retention as landscape feature. [Collectively visually significant]	12
211	Tree	*Populus nigra* - Black Poplar	1	Mature	3	4	30	14	110	13.2	3.6	U	Very large tree. Significant landscape feature. Decay at base of stem.	13
212	Tree	*Populus nigra* - Black Poplar	1	Mature	3	3	30	15	170	15.0	4.2	B1	Very large tree. Significant landscape feature.	13
213	Tree	*Populus nigra* - Black Poplar	1	Mature	3	3	30	10	80	9.6	3.1	B1	Very large tree. Significant landscape tree.	13
214	Group	*Eucalyptus sp* - Gum	4	Mature	3	N/A	10 - 15	N/A	N/A	Dripline	N/A	B2	Linear group of exotics on stream edge. Potentially suitable for retention as landscape feature. [Collectively visually significant]	13
215	Tree	*Populus nigra* - Black Poplar	1	Mature	3	3	25	8	69	8.3	3.1	B1	Very large tree. Significant landscape tree.	13
216	Tree	*Prunus sp* - Plum	1	Semi-Mature	3	3	3	2	15	2.0	1.6	C1	Landscape tree	14
217	Tree	*Betula pendula* - Silver Birch	1	Semi-Mature	3	3	3	2	15	2.0	1.6	C1	Specimen tree	14

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
218	Group	*Betula pendula* - Silver Birch	3	Semi-Mature	3	N/A	<5	N/A	N/A	Dripline	N/A	C2	Small group (3) Betula sp.	14
219	Group	*Cupressus sp* - Cypress	20	Mature	3	N/A	5 - 10	N/A	N/A	Dripline	N/A	C2	Linear group/shelter belt. Poor structural condition. [Unsuitable for retention in urban development]	18
220	Group	*Pinus sp* - Pine, *Cupressus sp* - Cypress	5	Mature	3	N/A	15 - 20	N/A	N/A	Dripline	N/A	C2	Small group, poor structural condition. One tree in group has fallen. [Unsuitable for retention in urban development]	18
221	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	2	5	20	2.5	80	9.6	3.1	U	Stem decay at base.	19
222	Tree	*Populus nigra* 'Italica' – Lombardy Poplar	1	Mature	2	3	14	2.5	40	4.8	2.3	C1	Landscape tree	19
223	Tree	*Prunus sp* - Plum	1	Mature	3	3	4	3	17	2.1	1.7	C1	Landscape tree	19
224	Group	*Eucalyptus sp* - Gum, *Cupressus sp* - Cypress	9	Mature	3	N/A	15 - 20	N/A	N/A	Dripline	N/A	A2	Linear group of exotics. Potentially suitable for retention as landscape feature. One Cupressus in group. [Collectively visually significant]	19
225	Tree	*Cupressus macrocarpa* - Monterey Cypress	1	Mature	3	5	16	8	250	15.0	4.9	U	Landscape tree	19
226	Tree	*Prunus sp* - Plum	1	Mature	5	5	5	5	30	3.6	2.1	U	Dead tree	19
227	Tree	*Crataegus monogyna* - Common Hawthorn	1	Mature	2	3	5	4	35	4.2	2.3	B1	Landscape tree	20

ID	Group/Tree	Species	Count	Age Class	Health	Structure	Height (m)	CSR (m)	DBH (cm)	TPZr (m)	SRZr (m)	Tree Quality Assessment	Arboriculture Comment	Map
228	Group	*Populus sp* - Poplar	20	Mature	3	N/A	15 - 20	N/A	N/A	Dripline	N/A	C2	Linear planting/shelter belt of closely spaced Populus sp. [Unsuitable for retention in urban development]	20
229	Group	*Cupressus sp* - Cypress	5	Mature	4	N/A	5 - 10	N/A	N/A	Dripline	N/A	U	Linear group in poor condition. [Unsuitable for retention in urban development]	20
230	Group	*Crataegus monogyna* - Common Hawthorn, *Arbutus andrachne* - Strawberry Tree, *Cedrus atlantica* - Atlas Cedar	29	Semi-Mature	3	N/A	<5	N/A	N/A	Dripline	N/A	B2	Linear group on stream edge. Predominantly Arbutus sp. trees, one Cedrus sp. Provide privacy to neighbouring property. [Group fenced and may be in neighbouring property, but unclear from boundary line]	14
231	Group	*Salix sp* - Willow	10	Semi-Mature	3	N/A	<5	N/A	N/A	Dripline	N/A	C2	Linear planting/lapsed hedge.	14

Key

Count – Tree Quantity
Age Class – Life stage relative to species growth rates: young/juvenile/semi-mature /mature/veteran
DBH – Stem Diameter at Breast Height (1.4m)
CSR – Crown Spread Radius (crown spread measured to its most distal point)
TPZr – Tree Protection Zone radius (Dripline for groups)
SRZr – Structural Root Zone radius
Tree Quality Assessment – refer to Table 1

Health – Vitality/tree's general physiological condition
-Excellent (1) - <5% foliage density loss, disease, dieback, dead wood or other disorders.
-Good (2) - 6-10% foliage density loss, disease, dieback, dead wood or other disorders.
-Fair (3) - 11-30% foliage density loss, disease, dieback, dead wood or other disorder.
-Poor (4) - 31-70% foliage density loss, disease, dieback, dead wood or other disorders.
-Very Poor (5) - Dead/severe decline >70% foliage density loss, disease, dieback, dead wood or other disorders.
Structure –Structure component of a trees crown
-Excellent (1) - No structural defects
-Good (2) - Defects do not affect structural integrity/well-being.
-Fair (3) - Defects present but can be rectified to maintain structural integrity/ well-being.
-Poor (4) - Defects result in loss of structural integrity, may be mitigated but unlikely to be rectified.
-Very Poor (5) - Tree dead/ severe decline. Total loss of structural integrity.

5 Summary

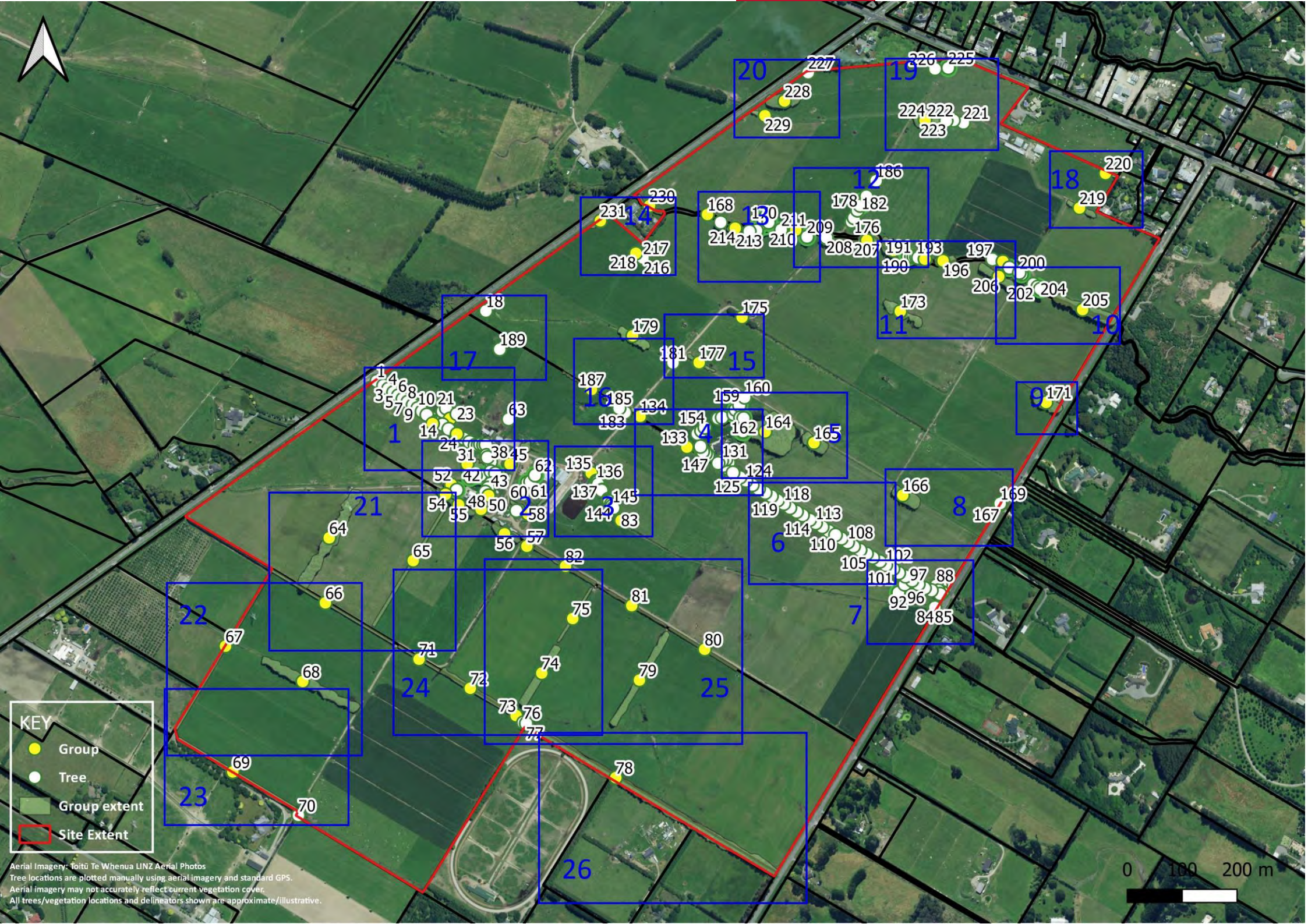
(i) A total of 2,033 trees (group quantities estimated) were identified during the assessment. Table 3 provides a breakdown of the identified trees by Tree Quality Assessment, and Table 4 provides a breakdown of the identified trees by Tree Health.

Table 3: Summary of Tree Quality Assessment

Tree/Group	Quantity	Tree Quality Assessment			
		A	B	C	U
Tree	**171**	49	42	43	37
Group	**60**	8	12	34	6
Quantity within groups	**1862***	363*	251*	1058*	190*
Total Quantity of trees	**2033**	412	292	1102	227
*Quantity estimated		A – High Quality B – Moderate Quality C – Lower Quality U – Unsuitable for retention			

Table 4: Summary of tree health assessment

Tree/Group	Quantity	Tree Health				
		Excellent	Good	Fair	Poor	Very Poor
Tree	**171**	0	82	78	8	3
Group	**60**	0	7	51	2	0
Quantity within groups	**1862***	0	160*	1667*	35*	0
Total Quantity of trees	**2033**	0	242	1745	43	3
*Quantity estimated	**Health – Vitality/tree's general physiological condition** **-Excellent (1)** - <5% foliage density loss, disease, dieback, dead wood or other disorders. **-Good (2)** - 6-10% foliage density loss, disease, dieback, dead wood or other disorders. **-Fair (3)** - 11-30% foliage density loss, disease, dieback, dead wood or other disorder. **-Poor (4)** - 31-70% foliage density loss, disease, dieback, dead wood or other disorders. **-Very Poor (5)** - Dead/severe decline >70% foliage density loss, disease, dieback, dead wood or other disorders.					


KEY
Group
Tree
Group extent
Site Extent
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.
0
100
200 m

Tree Location Diagram 1

KEY

- Group
- Tree
- Tree Protection Zone
- Structural Root Zone
- Group Extent (Dripline)

Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 2
26
24
27
28
29
31
32
33
34
35
37
39
38
36
45
43
44
41
42
40
62
60
61
46
52
47
53
48
54
50
49
55
51
59
58
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
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Tree Location Diagram 3
38
45
43
44
62
60
61
135
136
137
138
46
47
139
140
50
141
142
143
144
145
146
59
58
83
56
57
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
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All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 4
134
133
159
158
157
155
156
161
162
154
153
152
163
164
151
150
149
148
147
130
131
128
132
129
127
126
125
124
123
122
121
120
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.

Tree Location Diagram 5

Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.

Tree Location Diagram 6

Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 7
111
110
109
108
107
106
105
104
103
102
101
100
99
98
97
96
95
94
93
92
91
90
89
88
87
86
84
85
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 8
166
169
167
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.

Tree Location Diagram 9

Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.

Tree Location Diagram 10

Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.

Tree Location Diagram 11

Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 12
186
184
182
180
178
176
174
211
210
209
208
207
188
190
191
192
193
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.

Tree Location Diagram 13

Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.

Tree Location Diagram 14

Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 15
175
177
181
160
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.

Tree Location Diagram 16

Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 17
18
189
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 18
220
219
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 19
226
225
224
223
222
221
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 20
227
228
229
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 21
40
46
52
53
47
54
48
50
49
55
51
56
64
65
66
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 22
66
67
68
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
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All trees/vegetation locations and delineators shown are approximate/illustrative.

Tree Location Diagram 23

Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
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All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 24
65
82
75
71
74
72
73
76
77
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 25
57
82
81
75
80
74
79
73
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.


Tree Location Diagram 26
76
77
78
KEY
Group
Tree
Tree Protection Zone
Structural Root Zone
Group Extent (Dripline)
0
25
50 m
Aerial Imagery: Toitū Te Whenua LINZ Aerial Photos
Tree locations are plotted manually using aerial imagery and standard GPS.
Aerial imagery may not accurately reflect current vegetation cover.
All trees/vegetation locations and delineators shown are approximate/illustrative.

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