# Notice of Requirement
# for a
# Recreation Reserve Designation

## Selwyn District Council

Proposed Recreation Reserve
27 Hamptons Road, Prebbleton

May 2020

INCITE

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**Form 18**

## NOTICE OF REQUIREMENT BY MINISTER, LOCAL AUTHORITY, OR REQUIRING AUTHORITY FOR DESIGNATION OR ALTERATION OF DESIGNATION

**TO:** Selwyn District Council

In accordance with Section 168 of the Resource Management Act 1991 Selwyn District Council gives notice of a requirement for a designation for a public work.

The following document and attachments contain the information necessary to satisfy the requirements of Form 18, Schedule 1 of the RMA relating to a notice of requirement for a designation.

The information included is designed to provide Council with sufficient information to make a full assessment of the effects of the activity this Notice of Requirement relates to under Section 171(1) of the RMA.

Signed on behalf of Selwyn District Council
By its authorised agent John Reid, SDC Major Projects Property Manager

Dated: 05 May 2020

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| **Requiring Authority:** | Selwyn District Council |
| **Objective:** | To designate land for recreation reserve purposes to provide additional land for recreational and community activities which are necessary to meet the demands of the Prebbleton and Selwyn communities |
| **Site Address:** | 27 Hamptons Road, Prebbleton |
| **Legal description:** | Lot 2 DP 365486 and Rural Section 39793 |
| **Landowner:** | Selwyn District Council |
| **Site area:** | 22 ha plus that part of Upper Dawsons Creek that extends into the site (approximately 4,300m²) |
| **Relevant Legislation:** | Notice of Requirement for a designation under Section 168 of the Resource Management Act 1991. |
| **District Plan Zoning:** | Inner Plains under the Selwyn District Plan. |
| **Additional Consents:** | No other consents required as part of this Notice of Requirement. An Outline Plan of Works will be submitted for future works as required. |

# Introduction

Selwyn District Council (SDC) gives notice to Selwyn District Council as the relevant territorial authority for a designation for a public work in accordance with Section 168 of the Resource Management Act 1991 (RMA). The following report and attached documents provide the information and assessment required under Section 168 of the RMA in respect of a Notice of Requirement (NOR) by Selwyn District Council (SDC) for a new designation for a recreation reserve at 27 Hamptons Road, Prebbleton. The Council is a requiring authority under Section 166 of the RMA. The Council has financial responsibility for public works and may give notice to the territorial authority of requirement for a designation for public works such as the recreation reserve.

The following assessment addresses those matters set out in Section 171(1) of the RMA, provides background to the requirement, and describes the nature of the designation.

This document assesses the actual and potential environmental effects and the proposed mitigation measures, assesses the designation against the provisions of the relevant policy documents and plans, and outlines the alternatives considered, why the designation is reasonably necessary, and the consultation undertaken with potentially affected parties.

The purpose of the designation being included in the Selwyn District Plan – Rural Volume ('the District Plan') is to enable the future development and subsequent use of recreation facilities on the subject site. This will be required in the future to respond to both current demand and growth projections for the area.

# The Site and Surrounding Environment

## The Site

The site subject to this notice is located on the corner of Hamptons Road and Birches Road - at 27 Hamptons Road, Prebbleton (Lot 2 DP 365486 and RS 39793) and is 22 ha in area (Figure 1). The site also includes that part of Upper Dawsons Creek that extends into the north eastern corner of the site. There is an existing dwelling on the site and three farm shed buildings. Vehicle access to the site is provided from Hamptons Road via two formed crossings.

The land is owned by Selwyn District Council and the Computer Freehold Register is attached in Appendix A.

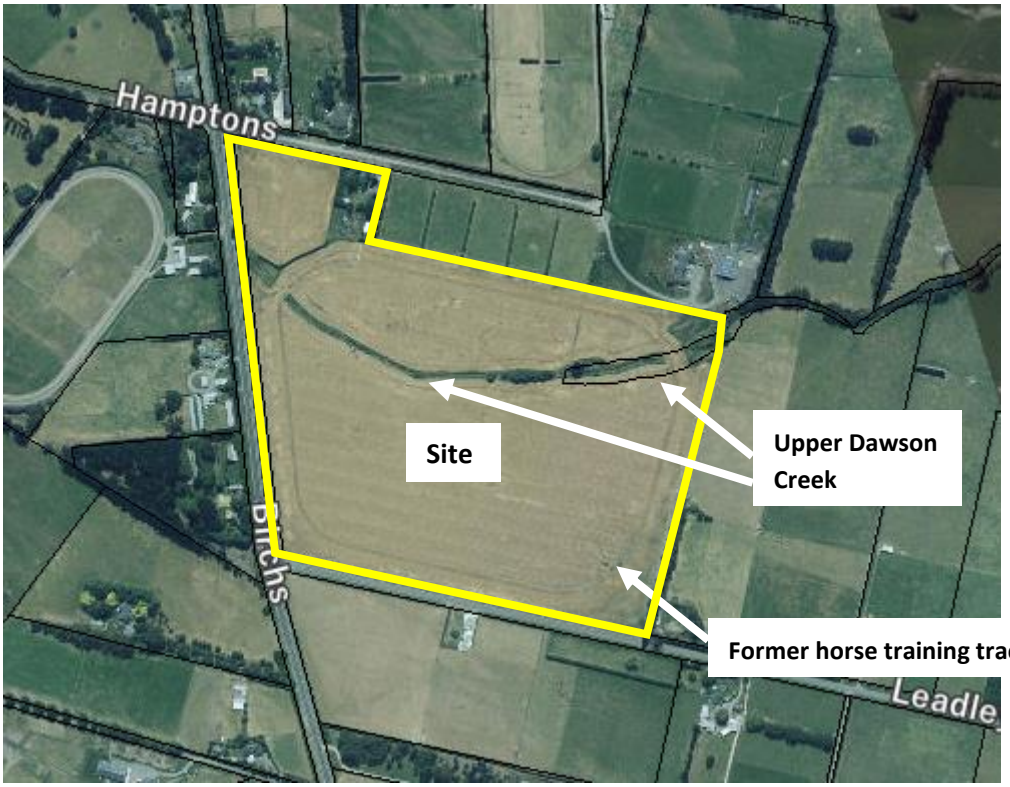


***Figure 1: Land subject to this Notice of Requirement***

The site is flat and is currently used for pastoral activities. The site has several shelterbelts within it and along the boundaries. Upper Dawson Creek runs across the northern part of the site (Figure 1). A former horse training track was located close to the periphery of the site as can be seen in Figure 1 above. A high voltage transmission line also runs through the southeast corner of the site (Figure 2). There is a consent notice on the property which restricts works in proximity to the transmission line (Appendix B).

The site is zoned Inner Plains under the Selwyn District Plan (the District Plan) and is not subject to any other overlays. Figure 2 shows the proposed site, including the location of the transmission line traversing the south-eastern corner of the site.

The site is not listed on Environment Canterbury's Listed Land Use Register, however, a Preliminary Site Investigation (PSI) determined that HAIL activities had been undertaken at the site including: historic farm buildings likely to have lead based paint, the application of coal ash to the horse training track, and burning of rubbish in various locations at the site. A Detailed Site Investigation (DSI) has been undertaken at the site. The results of the DSI determined that there are elevated levels of lead around the existing dwelling and farm area (above guidelines for recreation al activities). This area will require remediation to be used for recreational activities.

A copy of the DSI is attached in Appendix C.

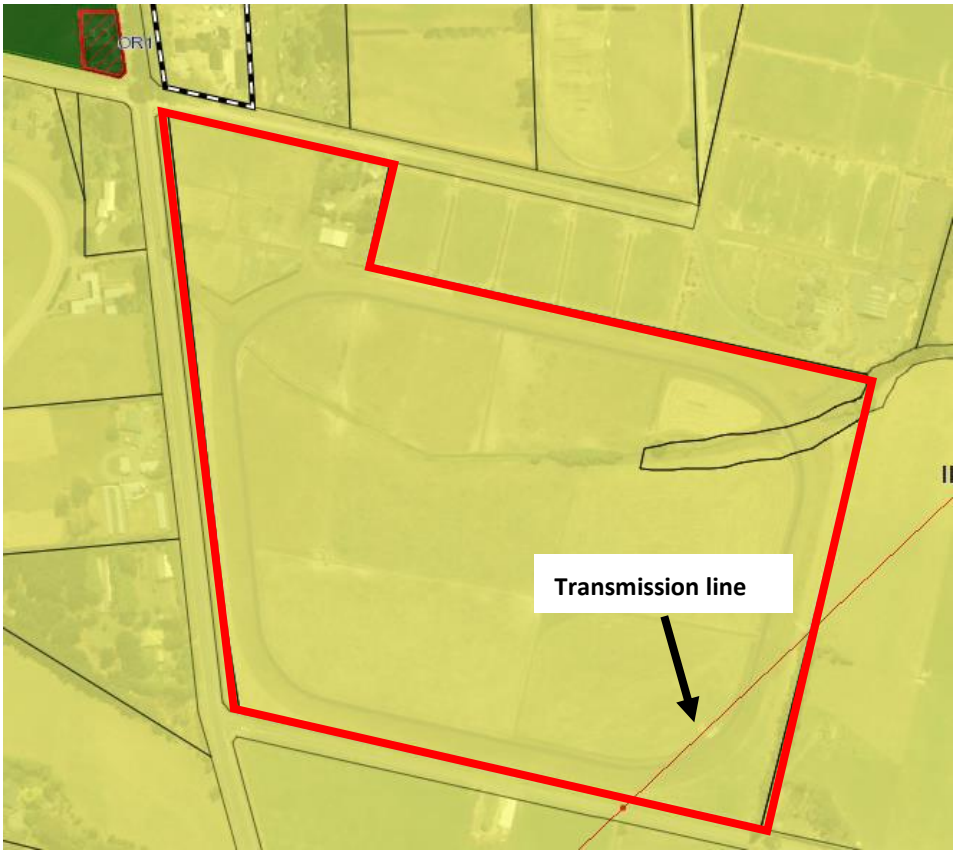


***Figure 2: District Plan zoning (Inner Plains) and transmission line traversing the site***

The site is located over the unconfined and semiconfined aquifer system. Groundwater levels are estimated to be between 3-4 m deep.

Upper Dawson Creek traverses the northern part of the site (Figure 1). The creek is typically channelled and overly wide. An Ecological Report has been undertaken which assessed the creek for macroinvertebrates and fish species. The investigation showed that the wildlife present was representative of a degraded ecosystem – likely due to poor habitat quality and possible fish passage impediment, as opposed to poor water quality.

The creek was characterised by high sediment cover, low active bank erosion and low invertebrate habitat diversity/abundance. Riparian vegetation generally consists of long pasture grass with occasional native vegetation, bracken, bramble and gorse. The grass provides some fish cover, along with undercut banks, root mats and debris. Several bullies and shortfin eels were present.

A copy of the Ecological Report is attached in Appendix D.

Vehicle access to the site is currently provided via two vehicle crossings off Hamptons Road in proximity to the existing dwelling and ancillary buildings. Birchs Road is classified as a collector road at this location with a speed limit of 80 km/h. Hamptons Road and Leadley Road are both classified as a local roads at this location and have a speed limit of 80 km/h also.

## Surrounding Environment

The proposed reserve is located approximately 1.5 km south of Prebbleton township (Figure 3). The existing Prebbleton Reserve is located approximately 1 km north of the site and contains sports fields, tennis courts, changing rooms and clubroom buildings. The existing reserve provides for the Prebbleton and Lincoln Rugby Clubs, Prebbleton Tennis Club, Waikirikiri Hockey Club, Prebbleton Cricket Club, Prebbleton Netball Club, Prebbleton Football Club and Selwyn United Football. The Prebbleton Playcentre is also located at the site.

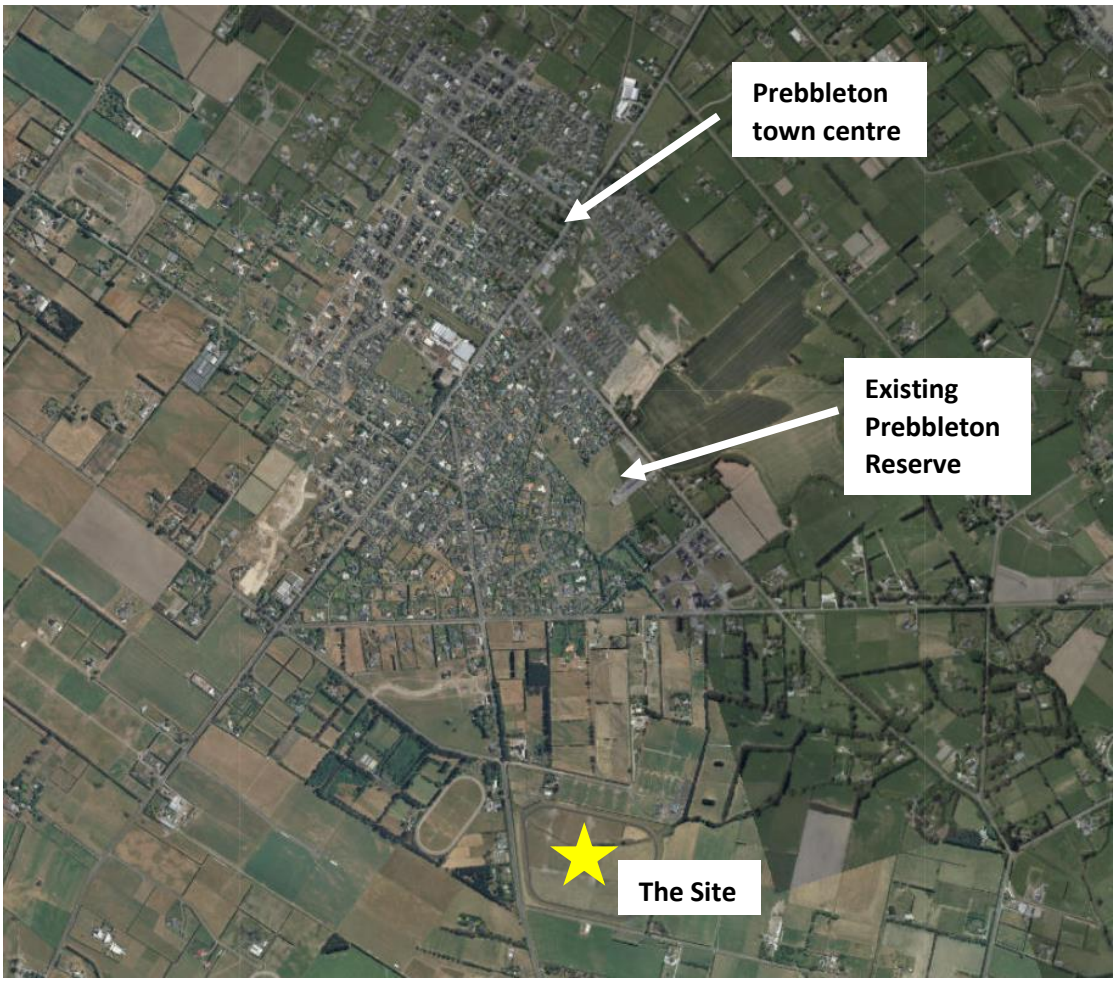


***Figure 3: Location of the proposed reserve and surrounding area***

The land immediately surrounding the site is predominantly by rural residential land uses – large sites with single dwellings and pastoral land with farming activities. The surrounding lots are also zoned Inner Plains.

The Rail Trail Cycleway runs along Birchs Road and links Christchurch to Little River. This route is frequently used by locals linking from Lincoln to Prebbleton and the wider area.

# Nature of the Proposed Public Work

The Council proposes a designation for a new recreation reserve at the site to meet the current and future needs of sports and recreation activities in Prebbleton and the wider Selwyn district. Details of the proposed reserve are provided in the following sections and shown on the Proposed Master Plan attached as Appendix E. The land proposed to be designated is identified by the site boundary shown in red on the Master Plan.

## Sports Fields

The proposed reserve will provide five sports fields for junior games/activities and three full size sport fields. At this stage the fields are not proposed to be code specific to allow flexibility for their use. The three full size fields and one junior field will be floodlit to allow practice at night time during winter months.

A further area, identified as the 'Meadow', is shown near the corner of Hamptons and Birchs Road. The use of this area is yet to be determined, however it is likely to have a more informal recreational use, such as for frisbee or open space for general outdoor use. The location of the fields and proposed new vehicle access are shown below in Figure 4 (see Appendix E for Proposed Master Plan).


***Figure 4: Proposed layout of the site including new access locations (shown by red arrows)***

## Dog Exercise Area

A dog exercise area will be located along the eastern boundary of the reserve and will be fully fenced. The area will be grassed with trees and areas of native vegetation within and around the periphery. A separate area will be fenced off for small dog use. Access to this area will be from Leadleys Road and on-site car parking and a public toilet will be provided.

## Youth Space/Play Area

Details on the youth space are yet to be finalised, however, this space may include playground equipment and courts for a variety of activities. Further details on this space will be provided in an Outline Plan application, at a later date.

## Upper Dawsons Creek

It is proposed to naturalise sections of the creek that run across the site. Currently the creek is mostly channelled and wider than required in places. As a result, the ecology of the creek is low due to poor instream habitat. It is proposed to realign and redivert sections of the creek so that it takes on a more natural form. Resource consent will be required from the Canterbury Regional Council for this work and will be obtained prior to any works commencing.

Extensive planting will take place along either side of the creek to improve water quality and instream habitat. The Ecological Report (see Appendix D) also recommends that after naturalisation, both freshwater mussels/kākahi and koura are stocked into the creek. Further details on this will be provided in an Outline Plan application, at a later date and will be developed in consultation with Te Taumutu Rūnanga.

## Landscaping

Landscaping will be carried out across the site (excluding the carparks and playing fields). Landscaping will comprise of native vegetation, including riparian planting along the banks of Upper Dawsons Creek. It is intended to, as much as possible, use plant species that were indigenous to the area prior to human occupation and to maintain view shafts to the Port Hills.

A Pā harakeke/Pā toetoe (area of flaxes and toetoe plants) is proposed adjacent to Upper Dawsons Creek between the 'Meadow' and Junior Hub Sports Fields. This area will provide high quality leaf material for weaving and is in close proximity to the main car park so users can more easily manage/retrieve flax.

The Proposed Master Plan for the site attached in Appendix E provides an indication of the planting that is proposed, however the detailed design will be provided in the Outline Plan application (at a later date), in consultation with local Rūnanga.

## Changing Rooms and Public Toilets

A changing room building will be located on the western side of the reserve, adjacent to the main car park. The building will also contain publicly accessible toilets and will be approximately 370m² in area. Public toilets are also proposed be located in the centre of the park and adjacent to the dog exercise area and carpark off Leadleys Road. These facilities will be approximately 35m² in area.

## Service Connections

The site does not currently have water or wastewater connections, however the Prebbleton township reticulated network is in close proximity so it is proposed to extend and connect to these networks. In terms of stormwater discharge, this will be either to land via soakpits or to Upper Dawsons Creek and will be authorised by resource consent from Environment Canterbury (if not a permitted activity).

## Vehicle Access and Carparking

Vehicle access is currently provided via two vehicle crossings off Hamptons Road – to the existing dwelling and farm buildings (see Figure 5). The western-most vehicle crossing will be decommissioned and the eastern-most crossing will be upgraded to provide access to the service/maintenance area. This service area will be used for storage of maintenance vehicles and materials. It is also likely to include a pump house of approximately 50m² in area for the irrigation system required for the reserve.

Three new vehicle crossing will be provided to the site: two off Birchs Road and one off Leadleys Road (see Figure 4). One of the vehicle crossings off Birchs Road will provide emergency access only, in the event that the main entrance cannot be utilised or is not sufficient on its own.


***Figure 5: Existing vehicle access to the site***

Car parking will be located at two different locations on the site. The main carpark will be accessed off Birchs Road and will provide approximately 250 car parks. It will be fully sealed with car parks marked, however during off peak times parts of the car park will be utilised for skating/scootering, half-court basketball and so on. This is shown on the Proposed Master Plan as multi-use hard surface and overflow car parking.

The second parking area will be metalled and is located in the southeast corner of the reserve. Access is from a new vehicle crossing off Leadleys Road and the car park will provide approximately 35-45 spaces in proximity to the dog exercise area.

Roadside parking is also proposed adjacent to Leadleys Road and in the vicinity of the full sized sports fields. Access could be gained to the sports fields from these parking areas if required in an emergency.

A shared path will connect the Rail Trail that runs along Birchs Road to the site. Users of the Rail Trail will be able to choose whether to divert into the site or continue on the existing Rail Trail along Birchs Road. Twenty-eight cycle parks will be provided in several locations around the reserve to cater for any cycle parking demand.

During the assessment of transport effects of the proposed reserve, it was identified that there would be a number of benefits in reducing the existing speed limit on Hamptons, Birchs and Leadleys Roads from 80km/h to 60km/h. The proposed 60km/h speed limit is identified on the Proposed Master Plan, however this reduction will be pursued separately to this notice of requirement application under the Resource Management Act. Speed limit reductions

must follow a public consultation process and are approved under the Land Transport Rule – Setting of Speed Limits 2017.

## Shared Paths, Off Road Trails and Boardwalks

An extensive series of shared paths will be created within the site. The existing shared path along Birchs Road will connect to a shared path within the site in the north-western corner of the site. Shared paths will provide for cyclists and pedestrians throughout the site and will connect the various recreation areas: junior and senior sports fields, dog exercise area and Upper Dawsons Creek. A shared path will also provide access onto Leadleys Road.

A series of off-road cycle paths/trails will be located at the site, close to the creek and through proposed vegetated areas. The shared paths and off road cycle paths (shown in pink) proposed throughout the site are shown on the Proposed Master Plan attached in Appendix E.

## Lighting

As noted above, the three full sized sports fields and one junior field will be floodlit to allow practices to occur at night time during the winter. Lighting will also be installed in the car parking area, dog park, public facilities/toilets and along selected shared paths for safety and security purposes. The CPTED (Crime Prevention Through Environmental Design) Assessment, attached in Appendix F also recommends that the main pathways and adjacent ancillary areas down Birchs Road be lit as a key pedestrian route to avoid areas hidden in darkness direct assessing the paths. The lighting design for the reserve will be undertaken to incorporate CPTED principals and will be submitted to Council as part of the Outline Plan application.

## Staging

It is anticipated that the land will be developed in stages as follows:

**Stage 1:** The area located on the southern side of Upper Dawsons Creek will be developed (2020-2022). This will include the three full sized sports fields and one junior sports field, the dog exercise area, the carparking areas: located off Birchs Road and Leadleys Road. The shelterbelt planting along Birchs Road will be removed once the bulk of the earthworks for Stage 1 are complete. The shelterbelt will be useful in terms of mitigating dust effects on adjacent land owners, cycle path users and Birchs Road during earthwork activities.

**Stage 2:** The northern area will be developed (2026-2027). This will involve the junior sports fields and the 'Meadow' area.

# Statutory Assessment

The following provides a statutory assessment of the proposed recreation reserve in accordance with the RMA, the Selwyn District Plan and the Canterbury Regional Policy Statement (RPS).

## Resource Management Act

The proposed recreation reserve meets the purpose and principles of Part 2 of the RMA. The proposed reserve will enable the community to provide for their social, cultural and economic wellbeing by providing space for people to gather and participate in sporting and recreational activities. The site is an existing rural area located on the edge of Prebbleton town. The proposed designation of the site for recreational purposes is a good use of the land, that will provide recreational facilities for the foreseeable future. As demonstrated in the assessment of effects on the environment, the potential adverse effects will be minimised as far as practicable so that they are less than minor, and the life supporting capacity of air, water, soil and ecosystems will be safeguarded.

Section 6 – Matters of National Importance relevant to the proposed designation are matter 6(a) *the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development; 6(d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and river*s; *6(e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.*

Upper Dawsons Creek runs through the site. The creek has been modified and is not representative of a good ecological habitat or water quality. Access to the creek is limited, as it traverses a privately owned site. The proposed works will provide public access along either side of the creek and naturalisation works will take place, including substantial native planting along both sides of the creek. The works will enhance the instream habitat and access to the waterbody.

It is also proposed to develop a Pā Harakeke / Pā Toetoe which will provide an area of high quality flax for weaving. This will facilitate the relationship of Maori and their culture and traditions with the land.

Section 7 – Other Matters relevant to the proposed recreation reserve designation include matter *7(b) the efficient use and development of natural and physical resources; 7(c) the maintenance and enhancement of amenity values; 7(d) intrinsic values of ecosystems; and 7(f) maintenance and enhancement of the quality of the environment.* The proposed reserve is considered to be an efficient use of the existing site and will improve the instream ecosystem of Upper Dawsons Creek. The site is currently a largely vacant rural site. The landscaping and

various areas to be used for recreational activities will improve the amenity of the site and the overall quality of the environment.

Section 8 – Treaty of Waitangi requires the principles of the Treaty of Waitangi to be taken into account. Consultation has been initiated with Te Taumutu Rūnanga and initial feedback is that the master plan is flexible enough to ensure the voice of the Rūnanga is accurately represented as the project progresses. The Council will continue to consult with the Rūnanga throughout all stages of the proposed reserve development and construction.

***Section 168 – Notice of Requirement***

Selwyn District Council is a requiring authority. This notice has been lodged with the relevant territorial authority under section 168(1) of the RMA.

***Section 171 – Recommendation by the Territorial Authority***

Under Section 171(2) of the RMA, the territorial authority may recommend to the requiring authority one of the following:

- confirm the designation
- modify the designation
- impose conditions
- withdraw the requirement

This recommendation is based on matters the territorial authority is required to have regard to when considering a notice of requirement under Section 168. The matters to be considered are set out in Section 171(1) of the RMA and are as follows:

> *(1) When considering a requirement and any submissions received, the territorial authority must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to—*
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> *(a) Any relevant provisions of—*
>
> *(i) a national policy statement,*
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> *(ii) a New Zealand coastal policy statement,*
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> *(iii) a regional policy statement, or proposed regional policy statement; and*
>
> *(iv) a plan or a proposed plan; and*
>
> *(b) Whether adequate consideration has been given to alternative sites, routes, or methods of undertaking work if—*
>
> *(i) the requiring authority does not have an interest in the land sufficient for undertaking the work; or*
>
> *(ii) it is likely that the work will have significant adverse effect on the environment; and*
>
> *(c) Whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought; and*

*(d) Any other matter the territorial authority considers reasonably necessary in order to make a recommendation on the requirement.*

*(1B) The effects to be considered under subsection (1) may include any positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from the activity enabled by the designation, as long as those effects result from measures proposed or agreed to by the requiring authority.*

## Section 171(1)(a) Relevant Provisions

The proposal to designate the site has taken into account the relevant provisions of the relevant planning and statutory documents as listed. There are considered to be no relevant national policy statements, and nor is the New Zealand Coastal Policy Statement of relevance. An assessment of the Selwyn District Plan and the RPS is provided below.

**Canterbury Regional Policy Statement**

The RPS provides objectives and policies aimed at ensuring that the Canterbury Region's growth, including recreation and community facilities, is accommodated in a manner which gives effect to the RMA, and promotes the efficient use of natural and physical resources. As identified above, the new recreation reserve will accommodate the future growth of the Prebbleton area and the wider Selwyn District, and is consistent with Part 2 of the RMA. The following objective and policies are relevant to the NOR application:

***Table 1: Relevant objectives and Policies of the Canterbury Regional Policy Statement***

| Relevant Objective/Policy | Comments in Relation to the Works |
|---|---|
| ***Objective 5.2.1: Location, design and function of development (Entire Region)***<br>*Development is located and designed so that it functions in a way that:*<br>1. *achieves consolidated, well designed and sustainable growth in and around existing urban areas as the primary focus for accommodating the region's growth; and*<br>2. *enables people and communities, including future generations, to provide for their social, economic and cultural well-being and health and safety; and which:*<br>a. *maintains, and where appropriate, enhances the overall quality of the natural environment of the Canterbury region, including its coastal environment, outstanding natural features and landscapes, and natural values;* | The proposed reserve is located approximately 2 km south of the Prebbleton town centre, however, the reserve is unable to be located closer to Prebbleton due to the size of the piece of land required for the reserve, and the existing residential development that is located between the town and the proposed reserve location. The proposed location is easily accessible from Prebbleton and Lincoln townships and provide for the current growth that is occurring in the Selwyn district. The proposed reserve will |

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| b. *provides sufficient housing choice to meet the region's housing needs;*<br>c. *encourages sustainable economic development by enabling business activities in appropriate locations;*<br>d. *minimises energy use and/or improves energy efficiency;*<br>e. *enables rural activities that support the rural environment including primary production;*<br>f. *is compatible with, and will result in the continued safe, efficient and effective use of regionally significant infrastructure;*<br>g. *avoids adverse effects on significant natural and physical resources including regionally significant infrastructure, and where avoidance is impracticable, remedies or mitigates those effects on those resources and infrastructure;*<br>h. *facilitates the establishment of papakāinga and marae; and avoids conflicts between incompatible activities.* | provide additional recreational space for the surrounding communities, as currently, the amount of space available for recreational activities is under pressure.<br>The overall amenity and quality of the environment will be maintained and the reserve will provide for the social and cultural wellbeing of the surrounding communities. |
| ***Policy 5.3.1: Regional growth (Wider Region)***<br>***To provide, as the primary focus for meeting the wider region's growth needs, sustainable development patterns that:***<br>1. *ensure that any*<br>a. *urban growth; and*<br>b. *limited rural residential development*<br>*occur in a form that concentrates, or is attached to, existing urban areas and promotes a coordinated pattern of development;*<br>2. *encourage within urban areas, housing choice, recreation and community facilities, and business opportunities of a character and form that supports urban consolidation;*<br>3. *promote energy efficiency in urban forms, transport patterns, site location and subdivision layout;*<br>4. *maintain and enhance the sense of identity and character of the region's urban areas; and*<br>5. *encourage high quality urban design, including the maintenance and enhancement of amenity values.* | The proposed reserve is located south of existing residential development at Prebbleton and the wider Prebbleton area which has been expanding to the south. There are many restrictions on where new reserves can be located due to the size of land required and the competing interests between land uses. The proposed location is considered to be suitable for the urban growth that has been taking place – expansion of Prebbleton towards the site. Furthermore, it is easily accessible from Prebbleton township. The proposed design will enhance the amenity values of the site – as the site is currently a mostly vacant rural site. |

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| ***Policy 5.3.3: Management of development (Wider Region)***<br>*To ensure that substantial developments are designed and built to be of a high-quality, and are robust and resilient:*<br>*1. through promoting, where appropriate, a diversity of residential, employment and recreational choices, for individuals and communities associated with the substantial development; and*<br>*2. where amenity values, the quality of the environment, and the character of an area are maintained, or appropriately enhanced.* | The proposed reserve is well designed to provide the recreational facilities required by the community, while providing good on-site amenity. The reserve will provide additional space for a wide range of recreational activities including junior and senior sports teams, a dog exercise area and cycle/pedestrian paths. The substantial landscaping proposed will improve the amenity of the site. |
| ***Policy 5.3.12: Rural production (Wider Region)***<br>***Maintain and enhance natural and physical resources contributing to Canterbury's overall rural productive economy in areas which are valued for existing or foreseeable future primary production, by:***<br>*1. avoiding development, and/or fragmentation which;*<br>*a. forecloses the ability to make appropriate use of that land for primary production; and/or*<br>*b. results in reverse sensitivity effects that limit or precludes primary production.*<br>*2. enabling tourism, employment and recreational development in rural areas, provided that it:*<br>*a. is consistent and compatible with rural character, activities, and an open rural environment;*<br>*b. has a direct relationship with or is dependent upon rural activities, rural resources or raw material inputs sourced from within the rural area;*<br>*c. is not likely to result in proliferation of employment (including that associated with industrial activities) that is not linked to activities or raw material inputs sourced from within the rural area; and*<br>*d. is of a scale that would not compromise the primary focus for accommodating growth in consolidated, well designed and more sustainable development patterns.*<br>*and;* | The proposed site is currently vacant and has been used for horse training and rural activities. The surrounding area is dominated by rural-residential activities which has begun to fragment the land. The reserve will provide for recreational activities and it is considered that the activities will be compatible with the surrounding area.<br><br>The reserve is intended to have a more rustic rural park design with a less formal layout and more opportunities for natural play.<br><br>The reserve will provide employment for ground maintenance staff only.<br><br>Its location is suitable to provide for further growth to Prebbleton township. |

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| 3. *ensuring that rural land use intensification does not contribute to significant cumulative adverse effects on water quality and quantity.* | Use of the land for recreational activities will not contribute to adverse effects on water quality and quantity. |

Overall, it is considered that the development of additional land for recreation purposes on the proposed site is consistent with the relevant provisions of the Canterbury Regional Policy Statement. The proposed reserve will provide additional space for recreational activities within the Selwyn District and allow the community to provide for their social and cultural wellbeing.

**Selwyn District Plan**

The relevant provisions of the Selwyn District Plan in relation to the proposed recreation facility are set out below:

***Table 2: Relevant Objectives and Policies of the Selwyn District Plan***

| Relevant Objective/Policy | Comment in relation to the NOR |
|---|---|
| ***B1 - Natural Resources*** | |
| ***Objective B1.1.1*** *– Adverse effects of activities on the District's land and soil resources are avoided, remedied or mitigated.* | The results of the DSI determined that there are elevated levels of lead around the existing dwelling and farm area (above guidelines for recreational activities). This area will be remediated so that contamination is removed from the site. |
| ***Objective B1.1.2*** *- People and their property are not affected by contaminated soil or unstable land and any adverse effects on the environment are avoided, remedied or mitigated.* | The area of contamination is limited to a small part of the site only and will be remediated so that there are no adverse effects from contaminated soil on people or neighbouring properties. |
| ***Policy B1.1.2 -*** *Avoid adverse effects on people through exposure to contaminated land and mitigate or remedy any adverse effects on the environment.* | Appropriate measures will be in place for workers during earthworks so that there are no adverse effects on their health and safety. |
| ***Policy B1.1.3 -*** *Encourage the management of contaminated sites so that effects on peoples' health or on the environment are avoided.* | Appropriate measures will be in place to remediate soils so that the site is suitable for recreation activities. |
| ***Objective B1.2.3 -*** *Protect, and where practicable enhance indigenous vegetation along riparian margins and wetlands generally.* | Currently, the majority of vegetation along Upper Dawsons Creek is long grass and exotic weed species. Native riparian planting will be carried out either side of the creek to enhance its margins. |

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| ***Policy B1.2.5 -*** *Encourage the retention of existing indigenous vegetation on the margins of lakes, rivers, wetlands and streams and the enhancement of these areas through management practices which allow for the re-establishment of vegetation of the margins of lakes, rivers, wetlands and streams in areas where it has been depleted.* | Any existing indigenous planting will be retained where possible and new planting along the banks of the creek will take place to enhance the waterbody so that the habitat and water quality of the creek is improved. |
| ***Objective B1.3.2 -*** *To protect and enhance the vegetation, habitat values, ecosystem processes and amenity values of waterbodies and their riparian margins, their role in maintaining water quality and their significant landscape values.* | The amenity of the creek will be improved through native planting, boardwalks and shared paths either side of the creek. The planting will help improve water quality. |
| ***Objective B1.3.3 -*** *Protect and enhance the amenity values along waterbodies.* | The works along the creek are for the purpose of improving water quality, instream habitat and the overall amenity of the waterbody. |
| ***Objective B1.3.6 -*** *Land use activities, and particularly earthworks, forestry, vegetation clearance and modification, and agricultural activities, are managed within catchments and riparian areas to protect water quantity and quality, aquatic habitat, and natural character.* | Upper Dawsons Creek runs through the site. The riparian margins will be replanted with native vegetation to improve instream habitat and overall water quality within the creek. |
| ***Policy B1.3.2 -*** *Recognise and provide for the special interest of Tāngata whenua in resource management issues relating to water.* | The Ecological Report has recommended stocking the creek with both freshwater mussels/kākahi and koura. Consultation has been initiated with Te Taumutu Rūnanga and initial feedback is that the master plan is flexible enough to ensure the voice of the Rūnanga is accurately represented as the project progresses. Consultation with Rūnanga will be ongoing. |
| ***Policy B1.3.4 -*** *Manage land to protect water resources and avoid, remedy, or mitigate adverse effects on surface water quality and quantity, and aquatic habitat from activities and development, including:*<br>• *Activities locating close to waterbodies; or* | Naturalisation works are proposed in addition to riparian planting, to improve the aquatic habitat of the creek. Erosion and sediment control measures will be in place during excavations at the site to minimise the discharge of sediment into the creek and downstream waterbodies. |

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| • *Activities which may result in surface run-off of contaminants, or leaching of contaminants into groundwater.* | Activities at the reserve will not result in any surface run-off of contaminants or leaching of contaminants into groundwater. |
| ***Policy B1.3.5 -*** *Retain vegetation, in particular indigenous vegetation, along the riparian margins of the coast, rivers, lakes and wetlands. Where large quantities of indigenous vegetation are removed, ensure they are replaced with the same or similar species.* | The existing long grasses and exotic vegetation (largely scrub and weed species) will be removed and indigenous planting along the banks of the creek will be undertaken. |
| ***B2 – Physical Resources*** | |
| ***Objective B2.1.3 -*** *Future road networks and transport corridors are designed, located and protected, to promote transport choice and provide for: a range of sustainable transport modes; and alternatives to road movement of freight such as rail.* | The proposed reserve will include a connection to the existing shared path that runs along Birchs Road to promote cycling to the reserve. There is a bus stop located close to the site. |
| ***Policy B2.1.5 -*** *Promote the strategic planning of transport networks to achieve a high level of connectivity and provision for sustainable transport including public transport, cycling and walking.* | The proposed reserve is accessible via a shared path (Rail Trail) from Prebbleton to the site. The Rail Trail connects Prebbleton and Lincoln. The chosen site is well connected to both Prebbleton and Lincoln by vehicle. The southern parts of Prebbleton are approximately 880 m away and within walking distance. There is a bus stop located close to the site which provides access via public transport. Inclusion of an additional bus stop for the eastern side of Birchs Road (heading south) will be discussed with the appropriate transport agency. |
| ***Policy B2.1.6 -*** *Avoid adverse effects of on-road parking and loading generated by surrounding land uses on rural roads.* | Adequate off-road parking is provided in two locations at the site. The location and number of parks is considered sufficient for the number of users anticipated at the reserve. |
| ***Policy B2.1.7 -*** *Provide for pedestrian safety, security, circulation and access within parking areas by considering the interaction of vehicle access and manoeuvring, circulation, loading and parking, with likely pedestrian routes onto* | Shared pedestrian and cycle paths are proposed within the site, including around the periphery of the main carpark and along each row of the parking spaces. The proposed parks will provide safe access to |

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| *the site, including for users of public transport, and between car and cycle parks, and building entrances.* | and within the car park while providing adequate manoeuvring space for vehicles. |
| ***Policy B2.1.17 -*** *Encourage people to walk or cycle within and between townships by providing a choice of routes for active transport modes and ensuring there is supporting infrastructure such as parking for cycles, at destinations.* | The proposed site has reasonable connectivity for pedestrian and cycle access, being located in between Prebbleton and Lincoln which are connected by the Rail Trail. Cycle parking will be included at several locations around the proposed reserve. |
| ***Objective B2.3.1 -*** *Efficient use and maintenance of community facilities is encouraged.* | The reserve provides for a variety of sports and activities so that it is well used. Maintenance of the facility will be ongoing and will be undertaken by the Council. |
| ***Objective B2.3.2 -*** *The use of areas for recreation and camping, and camping facilities, and access to them will not detract from the amenity values or their surrounds.* | No camping will be provided for at the site. The facility will provide for recreational activities and the overall rural-residential amenity of the surrounding area will be maintained. |
| ***Policy B2.3.1-*** *Recognise community facilities as part of the rural environment and encourage new uses for existing community facilities**.*** | The reserve is a community facility and will be located in a rural area: Inner Plains Zone. |
| ***Policy B2.3.3 -*** *Encourage new community facilities to:*<br>*(a) Be located in or adjoining townships; and*<br>*(b) Be designed and sited for easy access and personal safety of patrons.* | The new reserve is a community facility and is located between Prebbleton and Lincoln. The site has been designed to provide safe access from the Rail Trail for cyclists and for safe pedestrian access within the reserve. |
| ***B3 - Health, Safety and Values*** | |
| ***Objective B3.4.1 -*** *The District's rural area is a pleasant place to live and work in.* | Community facilities are encouraged within the rural zone. The amenity of the surrounding area will be maintained and will continue to be a pleasant place to live and work in. |
| ***Objective B3.4.2 -*** *A variety of activities are provided for in the rural area, while maintaining rural character and avoiding reverse sensitivity effects.* | Community facilities (including reserves) are encouraged in rural areas. The reserve will not adversely affect the rural/rural-residential character of the surrounding area. It is not anticipated that the surrounding rural-residential land uses will adversely affect the operation of the reserve. |

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| ***Policy B3.4.1*** *- Recognise the Rural zone as an area where a variety of activities occur and maintain environmental standards that allows for primary production and other business activities to operate.* | The Inner Plains zone is an area where community activities, including reserves, can occur. The reserve will not restrict the ability for primary production on other sites. |
| ***Policy B3.4.3*** *- Avoid, remedy or mitigate significant adverse effects of activities on the amenity values of the rural area.* | The reserve will not adversely affect the amenity of the surrounding rural environment. The reserve will provide for recreational activities within the site. The noise and traffic associated with the reserve will not adversely affect the amenity values of the surrounding area. |
| ***Policy B3.4.6*** *- Maintain low levels of building density in the Rural zone and the predominance of vegetation cover.* | The reserve will include small buildings for toilets and changing rooms and the low density of the zone will be maintained. Substantial indigenous planting is proposed across the site and will result in better vegetative cover of the site. It is intended to, as much as possible, use plant species that were indigenous to the area prior to human occupation. |
| ***Policy B3.4.11*** *- Avoid night lighting shining directly into houses, other than a house located on the same site as the activity, or from vehicles using roads in the District.* | Lighting will be contained within the site and will not shine directly into any houses. A full lighting design will be undertaken at Outline Plan application stage. |
| ***Policy B3.4.13*** *- Recognise temporary noise associated with short-term, seasonal activities as part of the rural environment, but ensure continuous or regular noise is at a level which does not disturb people indoors on adjoining properties.* | Noise from the site will meet the relevant noise standards set out in the District Plan. Therefore, the noise from the reserve is not anticipated to disturb people indoors on adjoining properties. |
| ***Policy B3.4.17*** *- Ensure buildings and trees do not excessively shade adjoining properties.* | Indigenous planting will be carried out across the site, however, all residential dwellings are well setback from the site and the planting will not shade any adjacent properties. |
| ***Policy B3.4.18*** *- Ensure buildings are setback a sufficient distance from property boundaries to:*<br>*(a) Enable boundary trees and hedges to be maintained;*<br>*(b) Maintain privacy and outlook for houses on small allotments; and* | Small buildings for changing rooms and public toilets are proposed at the site, however, these are well setback from any boundaries. Existing shelterbelt planting along Birchs Road will be removed in stages and replaced with native vegetation. This will provide some screening while also |

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| *(c) Encourage a sense of distance between buildings and between buildings and road boundaries where practical.* | ensuring adequate visual surveillance of the site is possible. |
| ***Policy B3.4.21** - Protect existing lawfully established activities in the Rural zone from potential for reverse sensitivity effects with other activities which propose to establish in close proximity.* | The surrounding activities are largely rural/rural-residential activities, including horticulture. The reserve will not affect the ability for the surrounding activities to continue to operate. |

The proposed recreational reserve is considered to be consistent with the relevant objectives and policies of the Selwyn District Plan, and the overall effects from the proposed reserve can be appropriately managed so that the adjacent sites are unlikely to be adversely affected from designating the site as a Recreation Reserve.

## Alternative Sites, Routes, and Methods

Section 168A(3)(b) of the RMA states that consideration of alternative sites, routes or methods or undertaking the work must only be considered where the requiring authority does not have an interest in the land sufficient for undertaking the work or if it is likely that the work will have a significant adverse effect on the environment. In this case, Selwyn District Council owns the land and the effects assessment below is that the work will not have a significant adverse effect on the environment. However, an assessment of alternative sites, routes or methods has been included below for completeness only.

**Alternative Sites**

Four sites were assessed (including the chosen site) for the new reserve. Each site was assessed against the following criteria:

- Geographical location, orientation and shape;
- Access and traffic flows;
- Connection to Prebbleton township and other complementary land uses;
- Planning implications;
- Environmental constraints (e.g soil (including soil contamination) and hydrological);
- Proximity to services;
- Any other distinguishable site features.

Details on each site and the reason for the chosen site are as follows and the Site Options Report is provided in Appendix G. Site three is the site subject to this Notice of Requirement.

***Site One: Shands Road***

Site One is located on the western side of Shands Road approximately 280 m south of the intersection with Trents Road (Lot 2 DP 73548) and is 10 ha in area. There is no designated cycle or pedestrian access to the site and the site is located more than 800 m from Prebbleton township. The main planning constraint is vehicle access onto Shands Road and adequate

onsite car parking. The site has been used for farming, and although the site is not known to be contaminated, further testing would be required. Water supply to the site is challenging.

***Site Two: Hamptons Road***

Site Two (Lot 1 DP 4932) is located on the southern side of Hamptons Road, approximately 400 m east of the intersection with Shands Road. The site is 8.7 ha and is located 1 km from Prebbleton township. Safe access to the site would be difficult to establish without lowering the speed limit along Hamptons Road (currently 80 km/hr). There is no pedestrian or cycle access to the site and the central Prebbleton township is located more than 1 km away. The main planning constraint for is site is also vehicle access. The site has been used for farming, and although the site is not known to be contaminated, further testing would be required.

The site is not connected to any reticulated sewer, water or stormwater networks and there are no existing wells that can be utilised as water supply for the site. If a well was to be required for the site, it is expected that some elevated levels of contaminants (such as Nitrate-Nitrogen) may be present in the shallow groundwater source.

***Site Three: Birches/Leadleys Road***

Site Three (Lot 2 DP 365486 and RS 39793) has been chosen as the site for the new recreation reserve and is the site subject to this Notice of Requirement. The site is the largest (22 ha) and there is ample room to provide on site car parking. The Rail Trail connects to the site and the central Prebbleton township is located approximately 1.5 km away. The site is also a 5 minute drive from Lincoln. The site has been used for farming, and although the site is not known to be contaminated, further testing has been undertaken.

The main planning constraint at the site is providing safe vehicle access. The site is not connected to any reticulated sewer, water or stormwater networks, however, a reticulated stormwater line runs up Birches Road. The site provides room for stormwater detention ponds. There are two existing wells onsite that could be utilised as water supply for the site. However, both these wells are relatively shallow, and due to the unconfined/semi-confined nature of the first (topmost) aquifer in the area, is expected that some elevated levels of contaminants (such as Nitrate-Nitrogen) may be present in the shallow groundwater source.

***Site Four: 105 Toswill Road, Prebbleton***

Site Four (Lot 1 DP 34032) is located at 105 Toswill Road. The site fronts Toswill Road approximately 218 m north-west of the intersection with Trices Road. The site is located approximately 600 m south-west of Prebbleton township and is 8.1 ha. There is no designated pedestrian or cycle access to the site, however, there is an opportunity to create pedestrian and cycle access from Prebbleton township.

The main planning constraint is providing vehicle access to the site and the provision of sufficient onsite car parking. The site has been used for farming and material storage, and

although the site is not known to be contaminated, further testing would be required to determine whether the site is contaminated.

The site is not currently connected to any reticulated sewer, water or stormwater networks; however, there is reticulated services (water and sewer) running adjacent to the site and connected to the neighbouring residential developments. There is one existing active well (and one inactive well) onsite that could also be utilised as water supply if required. However, both these wells are shallow, and due to the unconfined/semi-confined nature of the first (topmost) aquifer in the area, is expected that some elevated levels of contaminants (such as Nitrate-Nitrogen) may be present in the shallow groundwater source.

***Summary***

A decision-making matrix was compiled to assess each site (see Appendix G). After completing the matrix, site three (the site subject to this application) was recommended as the preferred site for the reserve.

**Alternative Routes/Methods**

The existing recreation reserve at Prebbleton is overused and there is no further room for the existing reserve to expand, as it is surrounded by existing activities: largely residential dwellings. There is competition between a number of sports clubs/activities for ground space, and insufficient playing fields available for the number of sports/activities taking place.

There are existing recreational facilities in Lincoln: Lincoln Domain which provides space for the Lincoln Tennis Club, Rugby Football Club and includes the Lincoln Netball Centre and Bowling Club. Lincoln University also has a Recreation Centre and playing fields. The Bert Sutcliff Oval provides grounds for cricket also. However, the demand outweighs these spaces. These spaces are also not located close to Prebbleton and provide for other, Lincoln based sports clubs.

Given the demand for more reserve space, and the lack of space to expand the existing reserve, the only option is for a new site to be constructed to provide additional recreational facilities. Four possible sites were chosen and assessed, and the most suitable site chosen for the new reserve.

## Council's Objectives

Selwyn District Council is a local authority which has financial responsibility for public recreation facilities, so may give the territorial authority (Council) a notice of requirement for a designation for a recreation reserve.

The recreation reserve subject to this notice is required to provide open space and facilitate recreation opportunities, particularly organised sport for the Prebbleton community.

Accordingly, establishment of a new recreation reserve is reasonably necessary for the provision of additional open space and recreation facilities for the Prebbleton community.

Designation is considered to be the appropriate mechanism to provide for the establishment and on-going use of the reserve for its proposed purpose. The Council requires ongoing certainty that the site can be developed and used for this purpose. Designation provides the necessary long-term certainty and flexibility for recreation activities on the site, while also identifying the use of the site to the general public.

All other large recreation reserves within Selwyn District Council's jurisdiction are designated.

# Resource Consents Requirements

Resource consent from Environment Canterbury will be required for works within and adjacent to Upper Dawsons Creek. The necessary consents will be applied for prior to construction commencing.

Malloch Environmental Limited carried out a Detailed Site Investigation for the site and determined that the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES Soils) applies. Resource consent for earthworks on contaminated land will be sought from Selwyn District Council as a separate application.

# Assessment of Effects on the Environment

The assessment of effects below relates to the actual and potential effects on the environment from the new recreation reserve located at the site subject to this NOR. This includes consideration of visual, transport, noise and lighting effects, CPTED principals and positive effects.

## Visual Effects and Amenity Effects

The proposed recreation reserve site is largely unoccupied, with one existing dwelling and three farm shed buildings on the site. The remainder of the site is used for pastoral activities. When viewed from the adjacent roads: Hamptons Road, Birchs Road and Leadleys Road there is some existing vegetation located around the boundaries which partially screens the site, however, the site is largely visible from surrounding properties, including the adjacent road network. The visual and amenity values of the existing site are typical of rural activities within the surrounding area.

The proposed recreation reserve will result in a change in the level of activity at the site. There will be an increase in vehicle movements to the site and an increase in noise, predominantly associated with sporting activities. This will be most noticeable for those properties opposite the main car park in Birchs Road. As noted in the ITA, Birchs Road is a collector road and carries a high volume of traffic. Peak demand is anticipated to be during the weekend in winter months and the ITA estimates worst case traffic generation of 371 vehicles per hour. This is considered to be well within the capacity of the road and will typically occur on weekends and outside of peak commuter periods. The main car park entrance has been located so it is well separated from the vehicle crossings serving 160 and 176 Birchs Road. The proposed reduction in the speed limit from 80km/h to 60km/h will reduce vehicle speeds and make access to the car park safer.

The noise assessment specifically considers effects of noise from a range of activities including vehicle movements in the car park, heavy vehicles, sporting activities, children playing, dogs barking and post-game gatherings of groups of people. This assessment concludes that noise levels are expected to be less than the recommended LAeq noise levels at neighbouring sites and therefore noise effects will be minimal. Both noise and traffic effects are discussed in more detail below and in the attached specialist reports in Appendices H and I.

Lighting is proposed down Birchs Road and for the main car park area. This will also represent a change for properties on Birchs Road, however lighting will be located on the opposite side of the road and will not result in direct glare into any adjacent properties. It is noted that properties on the opposite site of Birchs Road are well screened from the site by shelterbelt planting.

In terms of visual effects, the proposal includes substantial native planting across most of the site, including around the site boundary as can be seen in Figure 6.


***Figure 6: Proposed recreation reserve layout***

***Birchs Road***

The proposed 250 space carpark will be visible from Birchs Road. Planting will be included around the periphery of the carpark and some planting is proposed within the carparking area, so that the car park when viewed from outside the site is not a single paved area. Native planting is proposed along the entire western boundary with Birchs Road (excluding the proposed vehicle crossings) to partially screen the site from the dwellings on Birchs Road but also maintain surveillance into the site. The planting will have a maximum height of 1m, except for feature trees which will be maintained to ensure appropriate sightlines as and when they mature.

The visual effects from the proposed reserve will be less than minor. The small buildings: changing room and toilet buildings are largely located within the centre of the site and are small scale. Native landscaping along the western boundary (excluding the vehicle crossings) will improve the amenity of the site when viewed from the dwellings on Birchs Road. The visual amenity of the site although not rural in character is not unanticipated in the Inner Plains Zone, where recreation activities are anticipated. The proposed reserve does not

include any large buildings and although the sports fields could include tall rugby posts, these are slim and would not be visually dominant when viewed from outside the site.

Overall, the visual effects from the proposed reserve, when viewed from Birchs Road and the dwellings located along the road will be less than minor. The change from rural pasture to recreation reserve will change the character of the site, however, the level of development at the site will be continue to be small-scale, and the proposed planting will improve the visual amenity when viewed from Birchs Road. The intention is for the reserve to maintain a rustic rural park like appearance as opposed to a more formal park appearance such as Fosters Park in Rolleston.

***Hamptons Road***

Most of the site is setback from Hamptons Road as can be seen in Figure 6. The section adjacent to the road is the 'Meadow' area which although the final use is yet to be determined, will likely be for informal recreation activities. Substantial planting is proposed around the 'Meadow' which will screen the site when viewed from the adjacent dwellings on Hamptons Road. The remainder of the site is setback approximately 90 m behind pasture. The visual effects of the site when viewed from Hamptons Road will not be dissimilar to the surrounding area, where pasture and vegetation is the dominant view.

There are few dwellings located along Hamptons Road that are in close proximity to the site and where the proposed reserve will be visible from. Overall, due to the setback from existing dwellings and existing vegetation, the potential visual effects from the proposed reserve when viewed from Hamptons Road will be minimal. In the event that vacant land adjacent to the reserve is developed, a landscape buffer will be provided between the junior sports fields and this land.

***Leadleys Road***

Low-growing scrub (largely gorse) forms a hedge along the Leadleys Road boundary. The hedge will be removed as part of the works to establish the reserve. There will be planting along the Leadleys Road boundary to improve the amenity of the site when viewed from Leadleys Road. The three full-sized sports fields, the junior sports field and the dog exercise area will be visible from Leadleys Road, and from the property to the east (off Leadleys Road). However, there are no residential dwellings located immediately adjacent to the site on Leadleys Road.

***Summary***

Overall, the proposed changes to the site will be visible from surrounding roads and there will be a change in the level of activity at the site, however recreation activities are anticipated within the Inner Plains zone and the scale of built form development is low. The planting proposed across the site will improve the amenity of the site and the potential adverse visual effects will be less than minor. Noise and traffic effects are assessed in more detail below.

## Transport Effects

An Integrated Traffic Assessment (ITA) has been prepared for the proposed reserve and is attached in Appendix H. Carparking at the site will be separated into two separate parking areas: the larger 250 carpark space accessed off Birchs Road, and the smaller 35-45 carpark space located off Leadleys Road – adjacent to the dog exercise area. Some roadside parking is also proposed along Leadleys Road. Twenty-eight cycle parks will be located around the site, with the location to be confirmed and included in a future Outline Plan application.

The proposal is largely compliant with the District Plan standards except for the requirement for all car parking spaces to be permanently marked.

***Vehicle Access and Carparking***

Vehicle access is considered appropriate for the level of development. The design of the main vehicle access will be further developed during the Outline Plan application process, however the ITA notes that with the proposed reduction in the speed limit to 60km/h, the access can be formed with standard radius and tapers and some seal widening on the opposite site of the access. A second emergency access point has been provided in the main car park which can be opened up in the event of an emergency where the main access may not be available.

The access to the dog park on Leadleys Road is well separated from the intersection and has excellent visibility in both directions. The ITA notes that with the reduction of the speed limit and lower traffic volumes on Leadleys Road, no additional seal widening is necessary. The Hamptons Road service access is also well separated from the intersection and the ITA notes that the access should be designed to accommodate the largest vehicles using the service/maintenance area.

The design of the carparking areas and queuing spaces have not been finalised – and will be done so through the Outline Plan process, however, there is adequate room on site to provide for the required queuing spaces, and parking arrangement.

The carparking provision is considered to provide sufficient on-site parking for the activities proposed, so that vehicles will not spill out onto the adjoining roads. Some of the car parks in the main car park will be blocked off during off peak periods so they can be used for other activities requiring a hard surface such as skating/scootering or half basketball courts. Car parks are designed to cater for peak demand but much of the time, they lie empty and unutilised. The proposed multi use hard surface area will allow this area to be utilised during off peak times but available for parking when needed during peak times in the weekend when games are being held. The final carparking layout will be determined through the Outline Plan process.

The parking area for the dog park and service/maintenance area will be metalled without spaces marked however the ITA notes that the layout of these areas are such that it will be

logical where vehicles should park. Metalled surfaces provide for all weather parking and are suitable for the anticipated periodic/lower use.

A total of 28 cycle parks are proposed in various locations around the park (and 28 spaces required under the District Plan). The location of these spaces will be determined during the Outline Plan process.

In terms of traffic generation, the ITA notes that Birchs Road is a collector road and provides good connections between Lincoln and Prebbleton. Considering the existing traffic volumes on Birchs Road and the level of traffic generated by activities at the proposed reserve, the ITA concludes traffic volumes will remain well within the capacity of the sealed two-way road. It notes that the busiest periods at the reserve will typically occur on weekends outside of the peak commuter periods. Hamptons Road and Leadleys Road are also considered able to accommodate the small increases in traffic generated on these roads by the proposed reserve.

***Pedestrian and Cycle Access***

There are good pedestrian and cycle connections throughout the site. Additionally, the connection to the Rail Trail provides good access for cyclists to the site from Birchs Road. Pedestrian access is limited, due to the rural location. The ITA notes that the pedestrian link from the northern end of Birchs Road to the future 'Meadow' will cater for the dominant flow of pedestrian movements to and from the Prebbleton township and the bus stop on Birchs Road.

Although the pedestrian access to the site is limited, the other possible locations considered for the reserve also have poor pedestrian and cycle access, due to their rural location and high-speed limits on surrounding roads. The proposed reduction of the speed limit to 60km/h is more consistent with high pedestrian and cyclist volumes that may occur near the Park and is supported by the ITA.

***Summary***

Overall, the site is appropriately located within the road networks and the surrounding roading network has adequate capacity for the anticipated increase in traffic to the site. There is adequate on-site carparking provided, so that traffic is not anticipated to spill onto the adjacent roads. Although not all of the car park spaces will be permanently marked (parking by dog park and in service/maintenance area), the layout will be logical and the metalled surface will provide for all weather parking in these lower use car parks.

## Noise

An Assessment of Environmental Noise Effects has been carried out and is attached in Appendix I. The surrounding sites are zoned Inner Plains and sites further northwest of the site are zoned Living 3. The noise standards that apply to activities taking place at the site are:

Maximum noise limits at any Living Zone boundary:

*7.30 am – 8.00 pm: 55 dbA $L_{10}$/85 dBA $L_{max}$*

*8.01 pm – 7.29 am: 40 dBA $L_{10}$/70 dB $L_{max}$*

The maximum noise limits at the notional boundary of any sensitive activity are:

*7.30 am – 8.00 pm: 60 dbA $L_{10}$/85 dBA $L_{max}$*

*8.01 pm – 7.29 am: 45 dBA $L_{10}$/70 dB $L_{max}$*

Noise at the site will be generated from a range of activities including vehicle movements, heavy vehicles, sporting activities, children playing, dogs barking and post-game gatherings of groups of people.

The noise assessment completed demonstrates that the noise levels anticipated at all notional boundaries of the closest dwellings will be less than 55 dBA $L_{aeq}$ between 07.00 am -10.00 pm, and overall, the effects from noise will be minimal. The activities proposed at the site are anticipated to meet the District Plan noise standards during the day. In a worst case scenario, the noise levels are anticipated to result in a noise exceedance of 1 dB (under the District Plan) between 07.00 am – 07.30 am at the notional boundary of the dwellings at 2 and 32 Hamptons Road and an exceedance of 2 dB at the boundary of 160 Birchs Road.

Despite these minor exceedances, the effects from noise on these three properties are considered minimal for the following reasons:

- The L10 descriptor used in the Selwyn District Plan does not always represent noise effects and is no longer used in up to date noise standards; and
- The current District Plan rules relating to noise are more restrictive (07.30 am – 08.00 pm) then most District Plan rules, *NZS 6802 - New Zealand Standard Acoustics – Environmental noise*, and up to date noise standards.

Overall, the noise anticipated from the proposed recreation reserve at Birchs Road is considered reasonable and will have a minimal effect on neighbouring properties. Noise levels will be a maximum of 55 dBA $L_{Aeq}$ during daytime hours (07.00 am – 10.00 pm) and a maximum of 45 dB $L_{Aeq}$ during night-time hours (10.00 pm – 07.00 am). A 1 dB exceedance of the District Plan noise limits may occur at the boundaries with 2 and 32 Hamptons Road, and a 2 dB exceedance at the boundary with 116 Birchs Road, between 07.00 am – 07.30 am or between 08.00 pm – 10.00 pm, however, the noise levels will be less than the recommended $L_{Aeq}$ noise levels and the associated effects from noise will be minimal.

## Lighting

Rule E13.1.11.1 of the Township Volume of the District Plan requires that any parking or loading areas which are required at night-time be illuminated to a minimum maintained level

of 2 lux, with high uniformity, during the hours of operation. There is no equivalent rule in the Rural Volume of the District Plan.

In terms of light spill, Rule 9.18.1.2 of the Rural Volume of the Plan states that any activity involving lighting is permitted, provided the maximum light spill does not exceed 3 lux on to any part of any other adjoining property or any road reserve.

As the purpose of this application is to designate the land for recreation reserve purposes, a detailed lighting design has not yet been undertaken. This will be submitted as part of an Outline Plan application and will be designed in accordance with the requirements of the District Plan.

## CPTED Assessment

An assessment of the proposal against the Crime Prevention Through Environmental Design (CPTED) principles has been undertaken and is attached in Appendix F. The CPTED assessment covers seven key principles: access, surveillance, layout, activity mix, sense of ownership, quality environments and sense of ownership. The CPTED assessment highlights the following:

- The site is isolated and remote given its rural location;
- It is encouraged that the site is connected through pathways as much as possible;
- The proposed reduction of the speed limit from 80km/h to 60km/h is supported to ensure slower movement and increased time of visibility;
- Higher speed limits on adjacent roads and lack of infrastructural breaks (such as lights or roundabouts) creates unsafe zones, i.e. being able to 'flee the scene' with minimal interference increases the possibility of offending;
- Supports the single entrance to the main car park as detracts from vehicles swooping past public facilities at speed;
- Pathways within the site and access to the site are clearly defined;
- The Meadow Space entrance should be opened up, clear and well-marked;
- The southern intersection between Leadleys and Birchs Road is active space with pause points for vehicles and pedestrians and visibly present dwellings;
- The 'play spine', Pa Harakeke/Pa Toetoe area and junior sports hubs have several networks of paths which create good exit and entry points for choice and escape;
- The loop track to the north and east of the wetland area has potential for entrapment issues and could be improved;
- The playground and youth spaces should be highly visible from the road and have clear routes in and out and options for entrances and exits;
- Surveillance from surrounding dwellings is limited and surveillance is largely limited to the road: Birchs Road and Hamptons Road);
- The staged removal of the Birchs Road shelterbelt hedge should be done at the most visible corners and feature entrances as priority to open up the site for additional visual surveillance from the busiest street interface and greatest concentration of houses (Birchs Road);

- Good lighting along the paths and carparking areas is imperative to the safety of the reserve;
- Buildings are well situated in relation to access and clear links;
- The service/maintenance area of Hamptons Road will need to be designed so that it is not used as a congregation area;
- Pull in areas for emergency services should be considered, particularly in the north eastern area of the site where large distances would need to be covered by foot; and
- Planting will need to be carefully considered so that it does not create places for concealment and so that it does not block sight lines from outside the site.

Key recommendations from the CPTED Assessment include:

- Consideration of the dog exercise area to ensure openness and links to the wider park;
- Better activating the Meadow area and Birchs Road frontage to improve surveillance of the site from the adjacent roading network. This is recommended for Stage 1 of works as it provides the greatest opportunity for creating a sense of arrival at the reserve;
- Retaining the shared path along Leadleys Road to create the choice to not traverse through the reserve if circumstances require it;
- Minimising vegetation around road frontages; and
- Ensuring all car parks, public facilities, the dog park and main pathways down Birchs Road be well lit.

The CPTED Assessment recognises the benefits of the reserve providing for a range of sports and activities, and at a range of times which leads to better activation of the site. The more activated and well-used a site is, the lesser the potential for crime.

The location of the four sites investigated for the proposed reserve are all relatively isolated and in a rural location, largely due to the size of the land required. There is no site large enough within or on the periphery of Prebbleton township. Although the site is relatively isolated given its rural location, the site is well connected from Prebbleton and Lincoln. There are several residential dwellings and other rural activities on adjacent sites which provides some surveillance to the site.

The dog exercise area has been located in the western part of the site, so that it is located as far away as possible from the residential dwellings, to minimise the level of noise received at the dwellings from the dogs. If the dog exercise area were to be located in the centre of the site this would disconnect the areas used for sports. Other locations are not suitable as they are located closer to residential dwellings off Hamptons and Birchs Roads.

The CPTED recommendations will be incorporated into the detailed reserve design and a final landscaping plan will be submitted through the Outline Plan process so that the potential adverse effects on safety can be assessed.

## Earthworks

The construction of sports fields is likely to involve a process of removing and stockpiling site topsoil and levelling of the subbase, before relaying topsoil to create a level playing surface. The exact volume and extent of earthworks for the development of the reserve, including the sports fields, has not yet been determined. The removal of soil and movement of construction machinery around the site has the potential to create a dust nuisance to adjoining neighbours. The use of dust suppression methods such as water spraying will therefore be employed during the physical works phase of construction. It is also proposed that the shelterbelt planting along Birchs Road be retained until the bulk of the earthworks for Stage 1 are complete to assist with dust mitigation. Areas exposed for landscaping, car parking or building will either be covered with hard surfacing or re-vegetated as soon as practicable to avoid any long-term exposure of soil. Specific details of dust suppression methods will be addressed at Outline Plan stage. On the basis of the above mitigation measures that will be undertaken at the time of construction, any adverse dust effects on surrounding properties will be less than minor.

It is further noted that under the Canterbury Air Regional Plan, land development activities where the area of unsealed or unconsolidated land is greater than 1000m² are a permitted activity provided a dust management plan is prepared in accordance with Schedule 2 of the Regional Plan, and the discharge does not cause an offensive or objectionable effect beyond the boundary of the property of origin. Accordingly, a dust management plan will be prepared in accordance with Schedule 2 of the Regional Plan to ensure any discharge does not cause an offensive or objectionable effect.

## Positive Effects

It is considered that the proposal will result in a number of positive effects for Prebbleton and the wider Selwyn District as the additional land designated for recreation reserve will provide for the future sports and recreation needs of the Prebbleton and Lincoln communities, while relieving pressure on existing sports and recreation facilities. In particular, the site will provide:

- Five junior sports fields
- Three full sized sports fields
- A dog exercise area
- A shared path (cycle and pedestrian) network
- Off road cycle path and challenges
- Changing rooms and public toilets
- A Youth Space
- Multi-use spaces

Currently, the existing Prebbleton Reserve is under pressure and lacking space for the number of sports and activities that take place at the reserve. The new reserve will provide additional space for a range of sports and activities, while being easily accessible from both Lincoln and Prebbleton.

**Summary**

Overall, it is considered that the proposal for a recreation reserve in Birchs Road will result in a high quality reserve that will meet the future demand for recreation space in Prebbleton. The assessment of effects above demonstrates that actual and potential effects of the proposal in terms of visual, amenity, traffic, noise, lighting and earthwork effects are less than minor and can be adequately mitigated. The proposal has also been designed and will continue to be developed in accordance with CPTED principles and has a number of positive effects.

# Consultation

In accordance with Form 18 – Schedule 1 (Resource Management (Forms, Fees, and Procedure) Regulations 2003) the requiring authority is required to set out what consultation (if any) has been undertaken with parties that are likely to be affected.

The Council has been working closely with the Prebbleton community, including sports clubs and reserve committees and local school groups. Consultation with the following groups has been carried out:

- Waikirikiri Hockey
- Prebbleton Football
- Selwyn United Football
- Prebbleton Touch
- Prebbleton Rugby
- Prebbleton Cricket
- Prebbleton Tennis
- Lincoln Rugby
- Springston Pony Club/Recreation Riders
- Bike Track co-ordinator/spokesperson
- Lincoln University
- Lincoln High School
- Prebbleton and Lincoln Primary Schools
- Prebbleton Kindergarten
- Lincoln Preschool
- Prebbleton Walking Group
- Little River Rail Trust Prebbleton Reserve Committee
- Prebbleton Community Association
- LEC Manager and SDC Community Events Officer

The summary document which sets out the concerns of each group is provided in Appendix J. Most groups acknowledged that there was competition between groups for space and that

more space for recreational activities is required. The concerns and comments of those consulted has informed the initial design of the reserve, so that the new reserve provides adequate facilities for the community.

Following consultation with key stakeholders and the drafting of a concept master plan, a Public Submission Form was provided to the wider community for feedback. The handout included the proposed layout, several cross-sections and details on the proposed reserve. A total of 57 submissions were received and the feedback was overwhelmingly supportive of the proposed reserve. The handout provided to the community and a summary of the feedback received is attached in Appendix K.

Following this feedback, the master plan was further amended with the plan provided in Appendix E being approved by Council to form part of the NOR application on 22 April 2020.

Consultation has also been undertaken with Te Taumutu Rūnanga and initial feedback is that the master plan is flexible enough to ensure the voice of the Rūnanga is accurately represented as the project progresses. The Council will continue to consult with the Rūnanga throughout all stages of the proposed reserve development and construction.

***Summary***

The proposed designation allowing for the new recreation reserve is generally well supported by the community, however it is requested that this Notice of Requirement be publicly notified due to public interest and to give residents the ability to make formal submissions.

# Conclusion

The purpose of this notice is to include a new designation in the Selwyn District Plan – Rural Volume, to enable the future development and subsequent use of recreational facilities on the site. This will be required in the future to respond to both current demand and growth projections for the area.

The actual and potential environmental effects and the proposed mitigation measures have been assessed, the designation has been considered against the provisions of the relevant policy documents and plans, and alternatives, the Council's objectives and consultation undertaken are outlined. Overall, the site is considered suitable for a recreation reserve, effects can be avoided, remedied or mitigated and the development is entirely consistent with relevant planning documents.

The requiring authority requests that Council proceed to process this notice of requirement pursuant to section 169 of the RMA and anticipates Council's recommendation in due course as per section 171(2) and (3).

# Appendix A

Computer Freehold Register

# RECORD OF TITLE
# UNDER LAND TRANSFER ACT 2017
# FREEHOLD

**Search Copy**

R.W. Muir
Registrar-General
of Land

| | |
|---|---|
| **Identifier** | **266095** |
| **Land Registration District** | **Canterbury** |
| **Date Issued** | 02 September 2008 |

**Prior References**
CB48B/93 CB48B/94

| | |
|---|---|
| **Estate** | Fee Simple |
| **Area** | 21.4600 hectares more or less |
| **Legal Description** | Lot 2 Deposited Plan 365486 |

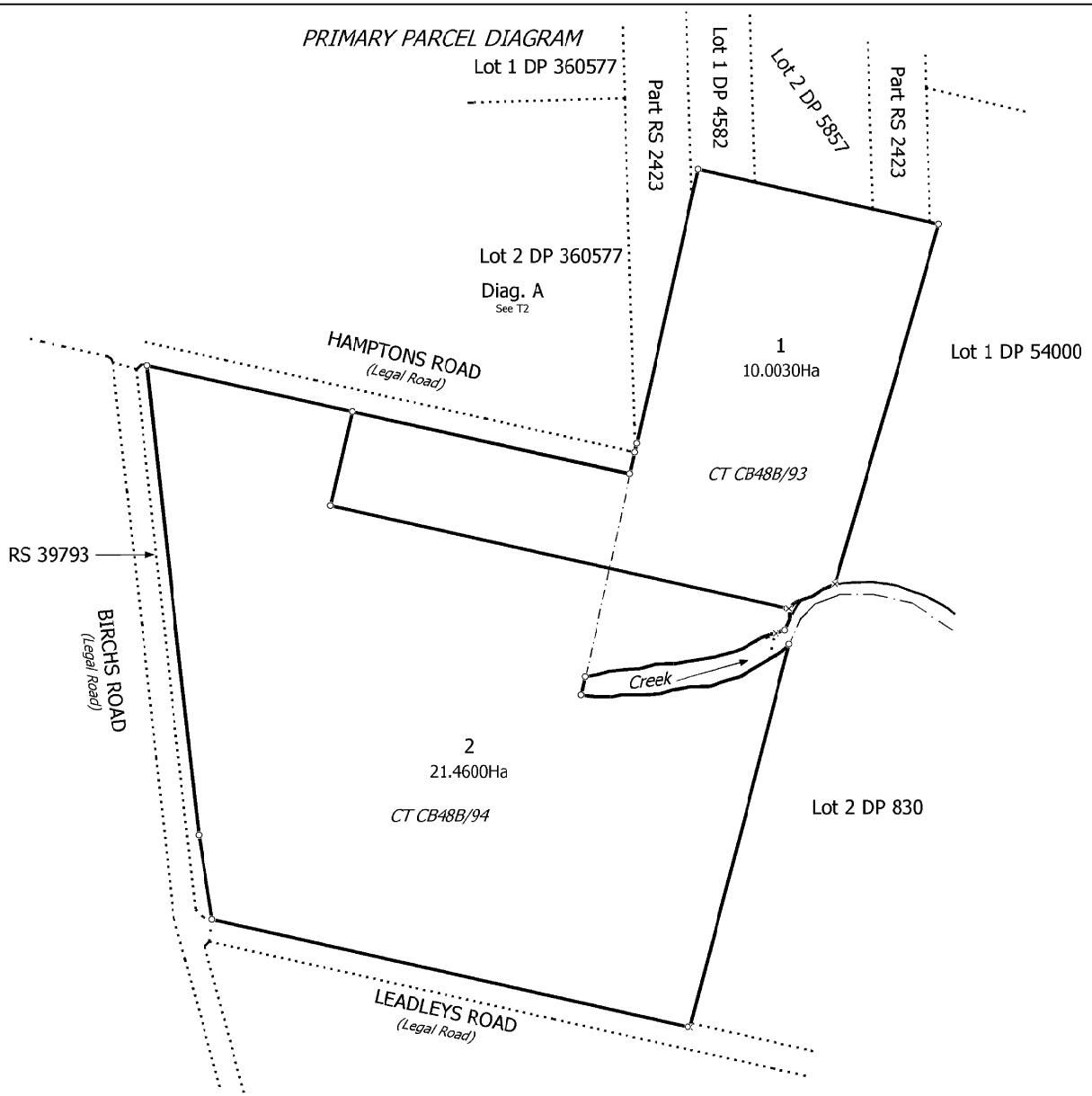
**Registered Owners**
Selwyn District Council

**Interests**

7924824.4 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 2.9.2008 at 9:00 am

Subject to a right to convey water, electricity, telecommunications and computer media over part marked B on DP 504432 created by Easement Instrument 10894838.1 - 18.10.2017 at 1:12 pm

Appurtenant hereto is a right to convey electricity created by Easement Instrument 10894838.1 - 18.10.2017 at 1:12 pm

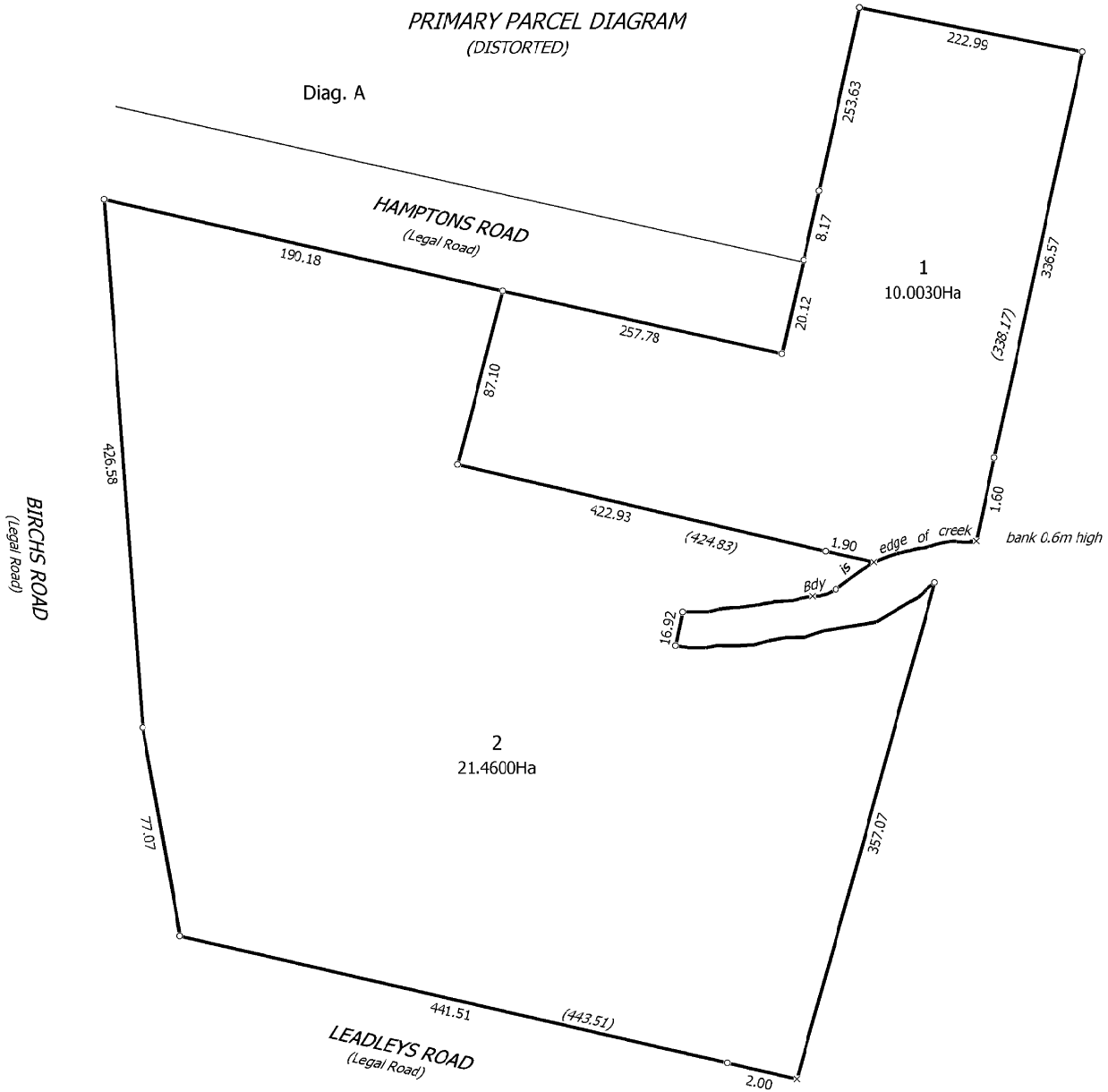



T 1/2

| | | | |
|---|---|---|---|
| Land District: Canterbury<br><br>Digitally Generated Plan<br>Generated on: 11/09/2008 07:25am Page 2 of 3 | Lots 1 and 2 being subdivision of Lot 1 DP 830 & Lot 2 DP 5523 | Surveyor: Colin Edgar Heald<br>Firm: Survus Contracting Ltd (Christchurch) | Digital Title Plan<br>DP 365486<br><br>Deposited on: 2/09/2008 |

## PRIMARY PARCEL DIAGRAM
(DISTORTED)

Diag. A




T 2/2

| | | | |
|---|---|---|---|
| Land District: Canterbury<br><br>Digitally Generated Plan<br>Generated on: 11/09/2008 07:25am Page 3 of 3 | Lots 1 and 2 being subdivision of Lot 1 DP 830 & Lot 2 DP 5523 | Surveyor: Colin Edgar Heald<br>Firm: Survus Contracting Ltd (Christchurch) | Digital Title Plan<br>DP 365486<br><br>Deposited on: 2/09/2008 |

# RECORD OF TITLE
# UNDER LAND TRANSFER ACT 2017
# FREEHOLD
**Search Copy**

R.W. Muir
Registrar-General
of Land

| | |
|---|---|
| **Identifier** | **CB21A/163** |
| **Land Registration District** | **Canterbury** |
| **Date Issued** | 15 February 1980 |

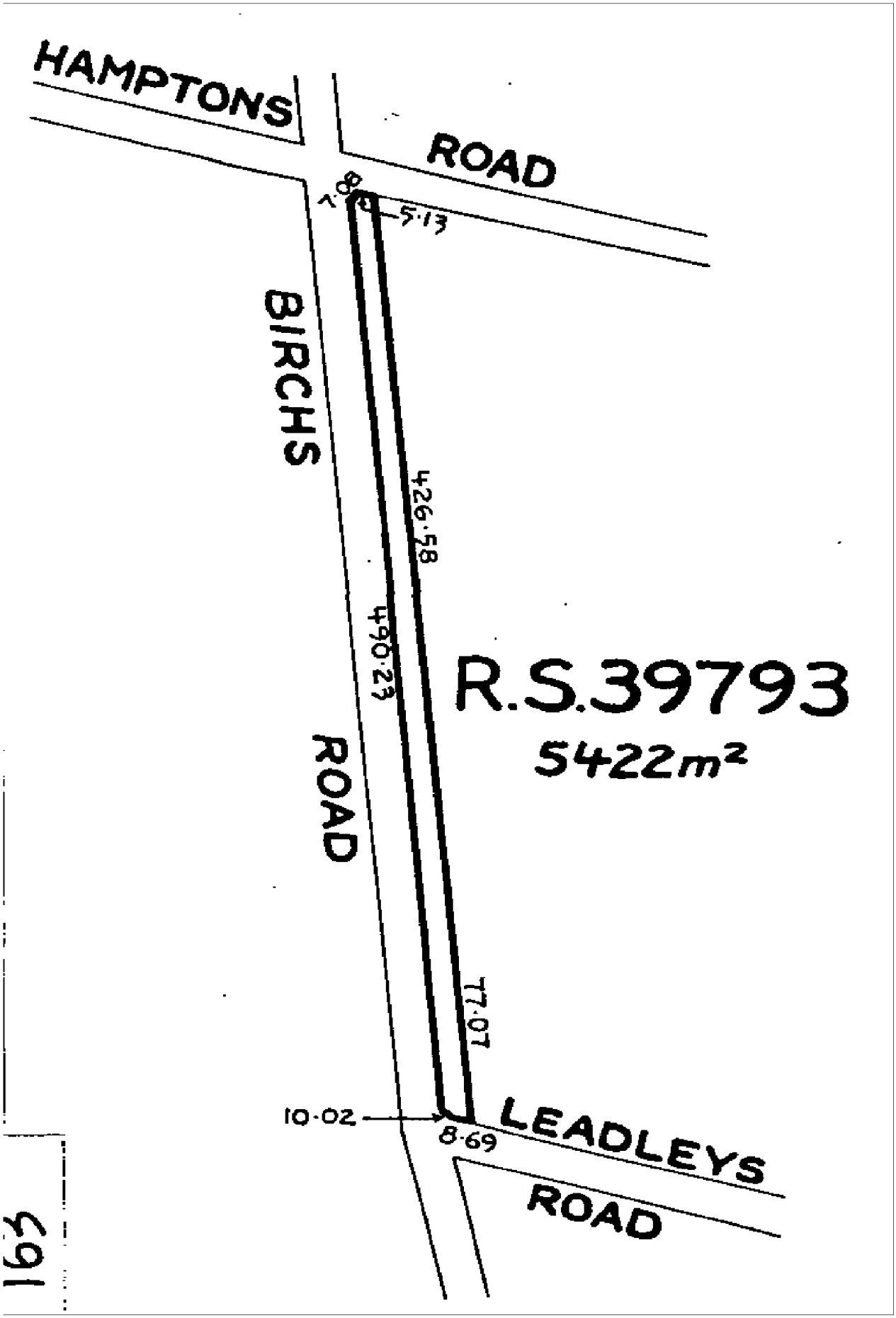
**Prior References**
CB10B/466

| | |
|---|---|
| **Estate** | Fee Simple |
| **Area** | 5422 square metres more or less |
| **Legal Description** | Rural Section 39793 |

**Registered Owners**
Selwyn District Council

**Interests**

Subject to Section 59 Land Act 1948


HAMPTONS
ROAD
5·13
BIRCHS
ROAD
426·58
490·23
R.S.39793
5422m²
77·07
10·02
8·69
LEADLEYS
ROAD
163

# Appendix B

Consent Notice

Selwyn DISTRICT COUNCIL

HIGH STREET, LEESTON
PRIVATE BAG 1, LEESTON
PH: (03) 324-8080 FAX: (03) 324-3531

REF No.....



IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of Resource Consent Application R307687

**CONSENT NOTICE PURSUANT TO SECTION 221 RESOURCE MANAGEMENT ACT 1991**

To: The District Land Registrar
Canterbury Land Registration District

TAKE NOTICE that the land hereinafter described is subject to conditions in relation to a subdivision consent as follows:-

(a) Specific investigations shall be carried out by a competent engineer to determine the minimum safe clearance distances from transmission line conductors in accordance with Table 3 of the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) for any future buildings or structures on the lot.

(b) No building or other structure shall be located within 12 metres of the closest visible edge of any transmission line tower foundation.

(c) All trees and vegetation planted on the lot must comply with the Electricity (Hazards from trees) Regulations 2003.

(d) All machinery and mobile plant operated on the lot must maintain a minimum clearance distance of 4 metres from the transmission line conductors at all times.

(e) All buildings structures and vegetation shall be located so as not to preclude existing 4-wheel drive vehicle access to any transmission line support structure on the site.

(f) No person shall, in the case of any tower (pylon) supporting any conductor, excavate or otherwise interfere with any land:
- at a depth greater than 300mm within 6 metres of the outer edge of the visible foundations of the tower; or
- at a depth greater than 3 metres, between 6 metres and 12 metres of the outer edge of the visible foundation of the tower; or
- in such a way as to create an unstable batter.

(g) Excavated or other material shall not be deposited under or near the transmission line so as to reduce the vertical distance from the ground to the conductors to a distance less than:
- 7.5 metres vertically, across or along roads and driveways or any other land traversable by vehicles;
- 6.0 metres vertically, on any land not traversable by vehicles due to inaccessibility; and
- 4.5 metres in any distance other than vertical on all land.

Selwyn DISTRICT COUNCIL

HIGH STREET, LEESTON
PRIVATE BAG 1, LEESTON
PH: (03) 324-8080 FAX: (03) 324-3531

REF No.....

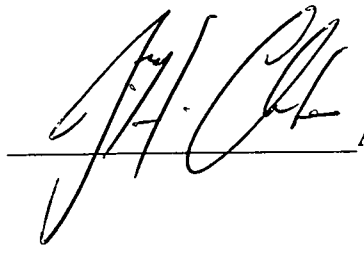
AND THAT you are hereby requested to register the same pursuant to Section 221 of the Resource Management Act 1991.

DESCRIPTION OF LAND

All that piece of land being Lot 2 DP 365486 (Canterbury Registry)

DATED this 31st day of May 2006

SIGNED for and on behalf of
THE SELWYN DISTRICT COUNCIL
pursuant to Section 34A of the
Resource Management Act 1991



Authorised Officer

# Appendix C

Detailed Site Investigation

# *Soil Contamination Risk*
# *Detailed Site Investigation Report*

## *27 Hamptons Road,*
## *Prebbleton*

*November 2018*


*Malloch Environmental Ltd*

*19 Robertsons Road, Kirwee*

*Postal address – P O Box 259, Kirwee, 7543*

*021 132 0321*

*www.mallochenviro.co.nz*


*Asbestos Surveys • Soil Contamination Investigations • Environmental Planning*

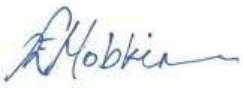
## QUALITY CONTROL AND CERTIFICATION SHEET

***Client:*** Selwyn District Council

***Date of issue:*** 21 November 2018

### Report written by:

**Fran Hobkirk, Environmental Scientist, BSc**
(2 years contaminated land experience)

***Signed:*** 

### Report reviewed and certified as a Suitably Qualified and Experienced Practitioner by:

**Nicola Peacock, Principal Environmental Engineer, NZCE, CEnvP**
(10 years contaminated land experience within 26 years environmental experience)

***Signed:*** 

## CONTENTS



## APPENDICES

# 1 Executive Summary

The subject site involves two adjacent lots with the street address 27 Hamptons Road, Prebbleton. Selwyn District Council intend to develop the site for a recreational sports field use. This will involve disturbance of soils. The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) require an assessment of the likelihood of soil contamination being present. It is noted also that Malloch Environmental Ltd is obligated to consider the requirements of Section 10 of the Health and Safety at Work (Asbestos) Regulations 2016. This report details the work undertaken to assess the risks.

A Preliminary Site Investigation undertaken by Malloch Environmental Ltd in 2015 revealed that the site has confirmed HAIL activities occurring now and/or in the past, with a historic farm working area including pre-1955 buildings likely to have had lead paint on them in the past, and coal ash having been applied to the horse training track and surround area, posing a risk of soil contamination having occurred. Since that time there has also been some burning of rubbish in various locations around the house and yard area.

Soil sampling was carried out on a judgmental basis, sampling areas identified as having a risk of contamination. Results have shown lead contamination is present around the dwelling and farm working yard area. Within these contaminated areas, two sample locations had lead levels exceeding the 'recreational' Soil Guideline Value (SGV). Prior to using this area for any proposed recreational activities, it is recommended that remediation of some form is carried out. Potential remedial options could include excavating and removing to an authorised disposal facility or to an onsite managed bund or similar, soil mixing, or capping with the likes of car parking. Whilst only a small area has lead levels above the 'recreational' SGV, there is a larger area affected by contamination and care must be taken to ensure appropriate disposal locations are selected for any soil being removed from the house and yard area during any future development works.

The results from the larger area containing the horse track showed no evidence of soil contamination from the track ash above the recreational SGV, and indeed most results were close to expected background concentrations. This larger area is considered suitable for recreational use with no further investigations required. In terms of planning status at the time of writing of this report, the NESCS does apply to the site and resource consent as a restricted discretionary activity is required.

# 2 Objectives of the Investigation

This report has been prepared in accordance with the Ministry for the Environment's "Contaminated Land Management Guidelines No 1: Reporting on Contaminated Sites in New Zealand". This report includes all requirements for a Stage 2 Detailed Site Investigation Report. The objectives include determining the extent and type of any contamination present that would pose a risk to human health.

# 3 Scope of Work Undertaken

The scope of the work undertaken has included:

- Review of previous Malloch Environmental Ltd investigations
- On site soil sampling
- Analysis of results
- Preparation of report in accordance with MfE guidelines

# 4 Site Identification

The site is located at 27 Hamptons Road, Prebbleton as shown on the plan in **Figure 1** below. The site is legally described as Lot 2 DP 365486 and RS 39793, and has a total area of approximately 22,002 m².


**Figure 1 – Location Plan**

# 5 Site Description and Surrounding Environment

The subject site is flat farmland divided into paddocks with a residential dwelling, associated sheds and outbuildings on the Hamptons Rd frontage. There is a horse training track formed around the majority of the site with access from the north-eastern corner to the neighbouring property. The subject site is defined by existing roads, hedges and fences. It is bounded by Hamptons Road, Birchs Road and Leadleys Road on the north, west and southern boundaries. The Little River Rail Trail is adjacent the western boundary on Birches Road. There are high voltage power lines crossing the south-eastern corner of the site. The surrounding area is similar farmland and horse training uses. Prebbleton Township is located approximately 600m to the north of the subject site.

# 6 Geology and Hydrology

The ECan GIS describes the soils as Wakanui deep silty loam, Flaxton deep silty loam and Temuka deep silty loam over clay. Wells in the area indicate that top soils are underlain by 7–9m of clay and clay bound gravels with a layer of peat below this and then sandy gravels. Soil trace elements are 'Regional yellow grey earth'.

The site is over the unconfined/semi confined aquifer system and ground water levels are around 3-4m deep. The direction of ground water flow is generally in a south-easterly direction. An open creek (Knights Creek) runs directly through the centre of the subject site and an open drain (Kings Drain) runs along the western boundary.

# 7 Summary of Previous Investigations

A Preliminary Site Investigation was completed by Malloch Environmental Ltd in September 2015. It reviewed information from historical aerial photographs, the ECan Listed Land Use Register (LLUR), the ECan resource consents database, the LINZ NZ Orchard database and the Selwyn District Council property files. Two HAIL (Hazardous Activities and Industries List) activities were identified to have occurred on the site:

> *G5. Waste disposal to land (excluding where biosolids have been used as soil conditioners)*

Parts of Lot 2 DP 365486 have been used as a horse training track since the mid-2000s. There is a resource consent for the use of coal ash to surface this track and the aerial photographs show this and coal ash being stored on site. Contaminants of concern include heavy metals and hydrocarbons (PAH).

> *I. Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment*

The northern part of Lot 2 DP 365486 has had buildings sited on it since before 1955, which is during the period when the use of lead based paints was common. There is a high risk that lead paint has been used on those buildings. Any natural deterioration or intentional removal, prior to the modern-day risk mitigating methods, may have caused contamination of the soil. In addition, there is considered to be a risk of contamination of the soils in this area with more than 60 years of use as the historic farm working area. Contaminants of concern include heavy metals and polyaromatic hydrocarbons.

The report recommended a Detailed Site Investigation, in terms of the Ministry for the Environments Contaminated Land Management Guidelines, be undertaken on the identified risk areas. The risk areas are shown on **Figure 2** below.

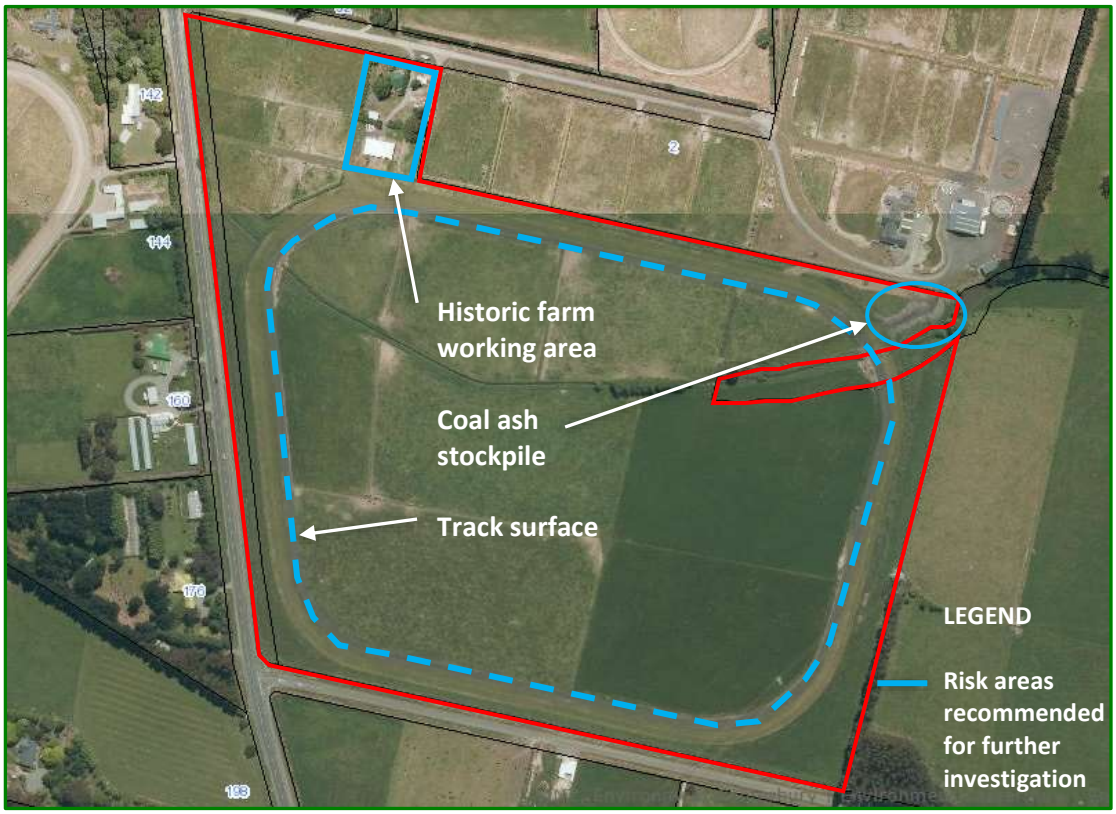



**Figure 2 – Risk Areas Plan**

# 8 Basis for Soil Guideline Values (SGV)

## 8.1 Activity Description

This report has been written for the following proposed activities:

- Future change of use of the land for recreational use
- Earth disturbing activities associated with the development of the site for the above use.

## 8.2 Zoning

The subject site is currently zoned Inner Plains Rural Zone.

## 8.3 Soil Guideline Values

Human health soil contaminant standards for a group of 12 priority contaminants were derived under a set of five land-use scenarios and are legally binding under The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Health) Regulations 2011 (NES). These standards have been applied where applicable. The regulations describe these as Soil Contaminant Standards. For contaminants other than the 12 priority contaminants, the hierarchy as set out in the Ministry for the Environment Contaminated Land Management Guidelines No 2 has been followed. These are generally described as Soil Guideline Values. For simplicity, this report uses the terminology Soil Guideline Values (SGV) when referring to the appropriate soil contaminant standard or other derived

value from the hierarchy. For soil, guideline values are predominantly risk based, in that they are typically derived using designated exposure scenarios that relate to different land uses. For each exposure scenario, selected pathways of exposure are used to derive guideline values. These pathways typically include soil ingestion, inhalation and dermal adsorption. The guideline values for the appropriate land use scenario relate to the most critical pathway.

The land-use scenarios applicable for this site would be 'recreational' and 'commercial/industrial/outdoor maintenance workers' as a proxy for construction workers disturbing soils.

## 9 Sampling and Analysis Plan and Sampling Methodology

A judgemental sampling strategy was used to determine whether any soil contamination exists within the risk areas identified by the 2015 PSI. In addition, a site inspection was carried out prior to sampling to identify any additional risk areas.

Four samples, T1 to T4, were taken from the surface of the horse training track. Two samples, T5 and T6, were taken from the track ash stockpile to the north-east of the training track. A section of the track through the yard area also appeared to consist of track ash so this was sampled as T7. Two composite samples were analysed by Hill Laboratory for heavy metals including mercury, and PAHs (polycyclic aromatic hydrocarbons). Two soak pits were noted beside the track in the south-east corner. One was filled with broken clean concrete, the other river boulders. Neither pit appeared to contain rubbish items or any suspected asbestos containing materials. No sampling was carried out.

**Photo 1: Soak pit filled with boulders**

**Photo 2: Soak pit filled with concrete**

During sampling Knights Creek was inspected. The water appeared clean and no rubbish items were seen.

**Photo 3: Knights Creek**

Three burn piles were identified within the farm working area. Each pile was XRF tested and sampled at the surface. At BP1 the burn pile was on top of the concrete floor of the demolished stables, therefore the soils below were protected. BP2 was a very small circle with no obvious rubbish items. At BP3 the burn pile was on a training circle with underlying track ash. The partially burnt items included a bed frame and mattress. The sample from BP3 was submitted to Hill Laboratories and analysed for heavy metals including mercury and PAHs.

**Photo 4: Burn pile within the training circle**

Around the dwelling a general methodology of taking a reading approximately 0.5m away from the building and taking readings progressively further away from the building until the XRF indicated that any contaminants were below the recreational SGVs was used. Surface soils were XRF tested and sampled in six sample locations around the dwelling. Two sample locations were also XRF tested and sampled at 250mm depth to determine the depth of contamination. Six samples, including one duplicate, were submitted to Hill Laboratory for heavy metal analysis.

Surface soils at six sample locations were XRF tested and sampled around the existing sheds, inside a lean-to with an earth floor and around the location of an older shed present on a 1940's aerial photograph. Two samples were submitted to Hill Laboratory for heavy metal analysis.

As it was proposed to use the XRF for the majority of heavy metal testing and the device reads 23 metals, the contaminants to focus on were narrowed down to those likely to be present based on the risk profile and the limitations of the XRF. The results from the XRF for arsenic,

chromium, copper, lead, nickel and zinc were all analysed in detail, but only reported if above the limit of detection. For each sample location and depth, three XRF tests were performed over an approximate 10cm$^2$ area.

No evidence of potential asbestos contining materials was seen on the exterior of any of the buildings or burn piles at the time of the sampling, so no soils were tested for asbestos.

See **Appendix A** for the sample location plans.

## 10 Field Quality Assurance and Quality Control

The Contaminated Land Management Guidelines No 5, Ministry for the Environment was followed for all aspects of the investigation. Field quality control and decontamination procedures were followed. Samples were taken using a stainless-steel trowel or fresh disposable nitrile gloves. All equipment was decontaminated between samples using Decon 90 and rinsed with tap water.

Samples were collected in laboratory supplied containers and immediately placed in chilled bins. Following sampling, the samples were delivered to Hill Laboratory under chain-of-custody documentation.

## 11 Laboratory Quality Assurance and Quality Control

All laboratory tested samples were submitted to Hill Laboratories in Christchurch for analysis. Hill Laboratories hold IANZ accreditation. As part of holding accreditation the laboratory follows appropriate testing and quality control procedures.

The laboratory report included the following comment on the quality of two of the results:
Carbon particulates were observed in the matrix of sample 2057742.17 and this has absorbed most of the System Monitoring Compound Benzo[a]pyrene-d12 in the PAH analysis, whereby the recovery was 36%. Therefore, the results presented for these analytes may not represent the actual concentration in the sample. Carbon particulates were also observed in the matrix of sample 2057742.18 and this has absorbed most of the System Monitoring Compounds in the PAH analysis, whereby the recovery for Fluoranthene-d10 and Benzo[a]pyrene-d12 was 52% and 9% respectively. Therefore, the results presented for these analytes may not represent the actual concentration in the sample.

## 12 XRF Quality Assurance Measures

The XRF used was a Thermo Scientific Niton XL2 GOLDD. The manufacturer's instructions were followed in the use of the device. Calibration samples were tested prior to each day's testing and compared with the manufacturers specifications, and silicon blank readings were taken approximately every 20 samples to ensure there was no contamination of the XRF window.

The US EPA Method 6200 - Field Portable X-ray Fluorescence Spectrometry for the Determination of Elemental Concentrations in Soil and Sediment (2007) was used as guidance for the use of the XRF and quality assurance measures. This method recommends that 5% of XRF tests should be verified through lab testing. Approximately 50% of the samples were laboratory tested for seven heavy metals.

A regression analysis was unable to be performed on the arsenic XRF readings and laboratory results due to the high number of readings below the limit of detection. A regression analysis was performed on the lead XRF readings and laboratory results to determine a statistical $R^2$ error result. This analysis gave an $R^2$ value of 0.9113 which is above the minimum acceptable

value of 0.70. The regression analysis suggests that XRF results below 503.5 mg/kg could be expected to be below the recreational SGV of 880 mg/kg for lead. **Figure 3** below shows the graphed results.

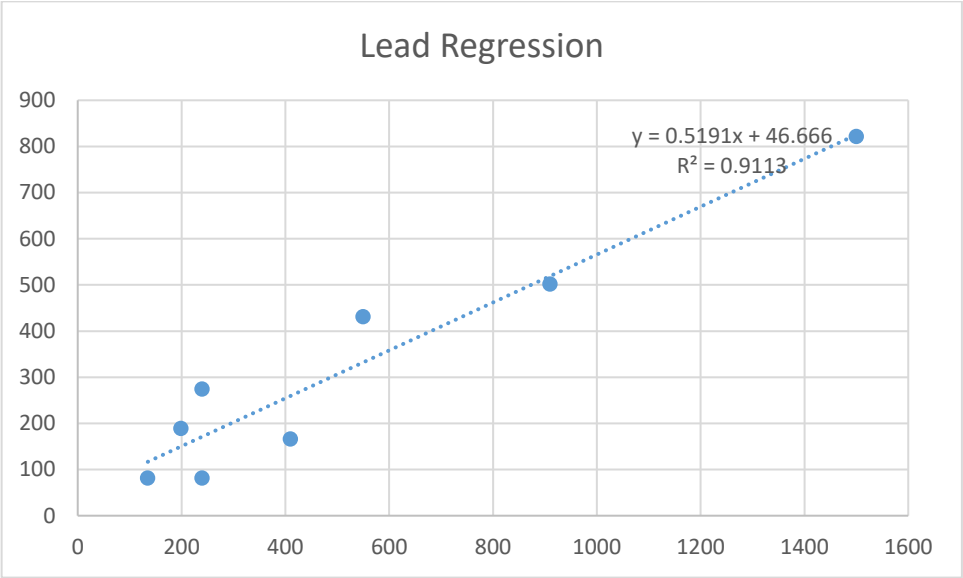



**Figure 2 – Regression Analysis Graph**

# 13 Results Analysis and Summary

## 13.1 Track Ash Area

The laboratory results showed no contaminants exceeding the recreational soil guideline value (SGV). The nickel concentration in the composite sample of T5, T6 and T7 is slightly above the ecological receptor guideline value. Arsenic, cadmium, chromium, copper and nickel were above the expected background values.

The PAH analysis detected trace amounts of 1-Methylnaphthalene, 2-Methylnaphthalene and Phenanthrene were detected in both composite samples. There are no recreational SGVs for these compounds however the phenanthrene levels were able to be compared with a residential SGV and many times below. The report for the PAH analysis indicated the results for some compounds may not represent the actual concentrations in the sample. The compounds are included in the BaP equivalent calculation. The worst recovery was only 9% for Benzo[a]pyrene in the composite of T5, T6 and T7. The BaP equivalent result was <0.03 mg/kg for both composite samples. This is approximately 1,333 times lower than the recreational SGV of 40 mg/kg. It is not considered possible that the samples contained a BaP equivalent concentration high enough to exceed the SGV if full recovery of the compounds had been possible.

## 13.2 Dwelling and Working Area

The XRF and laboratory results showed lead concentrations above the recreational soil guideline values (SGV) at two sample locations. The highest reading was from SS3.1 with a lead concentration of 1,500 mg/kg.

The concentration of zinc was above the ecological receptor guideline at seven locations, lead was above the ecological receptor guideline at two locations and nickel was above the ecological receptor guideline at one location. However, as the dwelling and working area are

distant from Knights Creek this is not considered to pose a risk. Concentrations of arsenic, cadmium, chromium, copper, lead and zinc were above expected background levels for soils in the area.

The PAH analysis of BP3, from one of the burn piles, detected only traces of 1-Methylnaphthalene, 2-Methylnaphthalene and Phenanthrene.

A table of XRF results is shown in **Appendix B** and a table of laboratory results is shown in **Appendix C**. Copies of the Laboratory Reports are included in **Appendix D**.

## 14 Site Characterisation and Conclusion

The laboratory results from the coal ash in the horse training track area showed no evidence of soil contamination above the recreational SGV, and indeed most results were close to expected background concentrations. It is considered highly unlikely that there will be a risk to human health if this area of the site is used for recreational activities and is suitable for recreational use with no further investigations required.

Two samples from the dwelling and farm working area exceeded the recreational SGV for lead. This could pose a risk to human health if this area of the site is used for recreational activities. The results from the rest of the dwelling and farm working area were all below the relevant recreational SGV. The following conceptual site models address the potential risks associated with the two small lead contaminated areas:

| **Conceptual Site Model** | | | | |
|---|---|---|---|---|
| ***Source*** | ***Pathways*** | | ***Receptor*** | ***Risk Assessment*** |
| Two areas of lead contamination with levels of lead up to 1,500mg/kg | **Human** | Dermal contact, ingestion and inhalation | Future site occupiers / land users | Moderate risk to human health in a recreational use |
| | | | Workers involved in soil disturbance at the site | Low risk to human health as the levels are well below the commercial / outdoor worker SGVs |
| | **Ecological** | Infiltration through soils to groundwater | Groundwater is 3 – 4m deep at the site | Low risk as contaminants are likely limited to the top 300mm layer of soils |
| | | Surface runoff to waterways | No open water features run over or near contaminated area | Low risk of contaminated soils entering surface waters in rainfall events during soil disturbance activities |

Prior to using this area for any proposed recreational activities it is recommended that remediation of some form is carried out. Potential remedial options could include excavating and removing to an authorised disposal facility or to an onsite managed bund or similar, soil mixing, or capping with the likes of car parking. Whilst only a small area has lead levels above the 'recreational' SGV, there is a larger area affected by contamination and care must be taken

to ensure appropriate disposal locations are selected for any soil being removed from the house and yard area during any future development works.

## 15 Planning Status

In terms of the NESCS section 5 (7) states that the land is considered to be covered if an activity or industry described in the HAIL is being undertaken on it; or has been undertaken on it; or it is more likely than not that an activity is being or has been undertaken on it. Section 6 describes the methods for determining whether the land is as described in section 7. Method 6 (3) is to rely on a Preliminary Site Investigation. The Preliminary Site Investigation found that there is evidence of HAIL activities having occurred on the site. Subsequent soil sampling has shown that contamination exceeding the standards in regulation 7 does exist on the site.

In terms of planning status at the time of writing of this report, the NESCS does apply to the site and a resource consent as a restricted discretionary activity under the NESCS is required.

## 16 Limitations

Malloch Environmental Limited has performed services for this project in accordance with current professional standards for environmental site assessments, and in terms of the client's financial and technical brief for the work. Any reliance on this report by other parties shall be at such party's own risk. It does not purport to completely describe all the site characteristics and properties. Where data is supplied by the client or any third party, it has been assumed that the information is correct, unless otherwise stated. Malloch Environmental Limited accepts no responsibility for errors or omissions in the information provided. Should further information become available regarding the conditions at the site, Malloch Environmental Limited reserves the right to review the report in the context of the additional information.

Opinions and judgments expressed in this report are based on an understanding and interpretation of regulatory standards at the time of writing and should not be construed as legal opinions. As regulatory standards are constantly changing, conclusions and recommendations considered to be acceptable at the time of writing, may in the future become subject to different regulatory standards which cause them to become unacceptable. This may require further assessment and/or remediation of the site to be suitable for the existing or proposed land use activities. There is no investigation that is thorough enough to preclude the presence of materials at the site that presently or in the future may be considered hazardous.

# Appendix A – Sample Location Plan


N

**LEGEND**

- SS1 Soil sample location
- Composite sample groups

Notes:

1. This plan has been prepared for soil contamination risk assessment purposes only. No liability is accepted if the plan is used for any other purposes.
2. Any measurements taken from this plan which are not dimensioned on the electronic copy are at the risk of the user.
3. Soil sample locations are approximate only.

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# Sample Location Plan
## 27 Hamptons Rd - Horse Track Area

*Scale: NTS*
*Date: 18 October 2018*
*Drawing No: 01058/1*


N

**LEGEND**

- SS1 — Soil sample location
- SS1 — Soil sample location XRF and laboratory tested
- SS1 — Soil sample location that exceeds the recreational SGV for lead
- Sample T7 was included in the composite group with T5 and T6 on the larger sample plan.

Notes:

1. This plan has been prepared for soil contamination risk assessment purposes only. No liability is accepted if the plan is used for any other purposes.
2. Any measurements taken from this plan which are not dimensioned on the electronic copy are at the risk of the user.
3. Soil sample locations are approximate only.

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# Sample Location Plan

## 27 Hamptons Rd - House and Working Area

Scale: NTS

Date: 18 October 2018

Drawing No: 01058/2

# Appendix B – Table of XRF Results

**Table of XRF Results - 27 Hamptons Road**
Date of testing: 1st October 2018
Units: ppm

| Sample ID (Lab tested samples in BOLD) | Sample Depth | XRF Reading No | Date & Time | Test Duration (secs) | Total Recoverable Arsenic | | Total Recoverable Lead | | Total Recoverable Mercury | | Total Recoverable Zinc | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Result | Error | Result | Error | Result | Error | Result | Error |
| BP1 | surface | 96 | 1/10/2018 11:14 | 26 | 48.38 | 12.62 | 37.79 | 13.16 | <LOD | 12.76 | 757.89 | 44.74 |
| BP2 | surface | 97 | 1/10/2018 11:22 | 60 | <LOD | 9.74 | 71.33 | 8.37 | <LOD | 6.14 | 163.77 | 12.05 |
| BP2 | surface | 98 | 1/10/2018 11:23 | 60 | <LOD | 10.23 | 66.9 | 8.73 | <LOD | 6.88 | 189.53 | 13.63 |
| BP2 | surface | 99 | 1/10/2018 11:25 | 60 | <LOD | 10.05 | 73.87 | 8.53 | <LOD | 6.77 | 162.4 | 12.17 |
| **BP3** | 0-50mm | 100 | 1/10/2018 11:28 | 30 | <LOD | 9.25 | <LOD | 11.43 | 12.2 | 7.56 | 17.54 | 9.26 |
| H1.1 | 0-50mm | 101 | 1/10/2018 11:31 | 60 | <LOD | 18.87 | 393.53 | 16.21 | <LOD | 6.84 | 272.76 | 15.54 |
| H1.1 | 0-50mm | 102 | 1/10/2018 11:32 | 60 | <LOD | 26.34 | 416.29 | 22.36 | <LOD | 9.96 | 154.71 | 16.56 |
| H1.1 | 0-50mm | 103 | 1/10/2018 11:33 | 60 | <LOD | 26.71 | 500.11 | 22.75 | <LOD | 9.86 | 148.58 | 15.29 |
| **H2.1** | 0-50mm | 104 | 1/10/2018 11:35 | 60 | 19.87 | 11.96 | 277.72 | 14.95 | <LOD | 7.64 | 358.05 | 18.78 |
| **H2.1** | 0-50mm | 105 | 1/10/2018 11:36 | 60 | 34.74 | 14.26 | 357.44 | 17.59 | <LOD | 8 | 364.62 | 20.07 |
| **H2.1** | 0-50mm | 106 | 1/10/2018 11:38 | 60 | 46.5 | 16.41 | **657.72** | 20.41 | <LOD | 7.57 | 530.34 | 21.09 |
| **H2.2** | 250mm | 107 | 1/10/2018 11:41 | 60 | <LOD | 15.86 | 187.83 | 13.69 | <LOD | 8.15 | 162.53 | 14.17 |
| **H2.2** | 250mm | 108 | 1/10/2018 11:42 | 30 | <LOD | 25.46 | 225.86 | 21.18 | <LOD | 11.88 | 211.67 | 22.79 |
| **H2.2** | 250mm | 109 | 1/10/2018 11:43 | 60 | <LOD | 14.56 | 152.74 | 12.16 | <LOD | 7.87 | 126.23 | 12.29 |
| **H3.1** | 50mm | 110 | 1/10/2018 11:45 | 60 | 17.36 | 10.04 | 169.96 | 12.47 | <LOD | 7.5 | 256.31 | 16.34 |
| **H3.1** | 50mm | 111 | 1/10/2018 11:46 | 60 | <LOD | 16.59 | 172.51 | 13.97 | <LOD | 8.8 | 268.82 | 18.62 |
| **H3.1** | 50mm | 112 | 1/10/2018 11:47 | 60 | <LOD | 16.22 | 156 | 13.54 | <LOD | 8.88 | 221.33 | 17.22 |
| H3.2 | 250mm | 113 | 1/10/2018 11:54 | 60 | <LOD | 12.63 | 149.6 | 10.65 | <LOD | 6.43 | 218.65 | 13.71 |
| H3.2 | 250mm | 114 | 1/10/2018 11:55 | 60 | <LOD | 13.73 | 117.79 | 11.84 | <LOD | 8.42 | 133.3 | 13.47 |
| H3.2 | 250mm | 115 | 1/10/2018 11:56 | 60 | <LOD | 13.24 | 113.43 | 11.27 | <LOD | 8.12 | 170.46 | 14.28 |
| **H4.1** | 50-100mm | 116 | 1/10/2018 11:58 | 60 | <LOD | 12.13 | 77.81 | 10.18 | <LOD | 8.07 | 217.92 | 16.11 |
| **H4.1** | 50-100mm | 117 | 1/10/2018 12:00 | 60 | 17.8 | 7.73 | 80.45 | 9.41 | <LOD | 7.16 | 213.68 | 14.64 |
| **H4.1** | 50-100mm | 118 | 1/10/2018 12:01 | 60 | <LOD | 11.33 | 85.36 | 9.47 | <LOD | 7.07 | 220.65 | 14.7 |
| H5.1 | 50-100mm | 120 | 1/10/2018 12:08 | 60 | <LOD | 14.62 | 60.07 | 12.65 | <LOD | 11.93 | 147.9 | 18.29 |
| H5.1 | 50-100mm | 121 | 1/10/2018 12:09 | 60 | 15.67 | 9.41 | 73.8 | 11.47 | <LOD | 9.68 | 169.86 | 16.53 |
| H5.1 | 50-100mm | 122 | 1/10/2018 12:10 | 60 | <LOD | 9.6 | 47.8 | 8.03 | <LOD | 6.94 | 167.36 | 12.89 |
| **H6.1** | 50-100mm | 123 | 1/10/2018 12:12 | 60 | 35.1 | 15.91 | **541.46** | 19.86 | <LOD | 7.8 | 608.31 | 23.94 |
| **H6.1** | 50-100mm | 124 | 1/10/2018 12:13 | 60 | 26.26 | 13.81 | 343.5 | 17.18 | <LOD | 8.06 | 608.76 | 25.35 |
| **H6.1** | 50-100mm | 125 | 1/10/2018 12:14 | 60 | <LOD | 26.78 | **620.13** | 22.79 | <LOD | 8.68 | 496.96 | 23.51 |
| **S1.1** | surface | 126 | 1/10/2018 12:21 | 60 | 16.52 | 10.26 | 210.19 | 12.83 | <LOD | 7.65 | 1200.32 | 32.14 |
| **S1.1** | surface | 127 | 1/10/2018 12:22 | 60 | 22 | 13.47 | 280.11 | 16.79 | <LOD | 9.39 | 1008.08 | 34.3 |
| **S1.1** | surface | 128 | 1/10/2018 12:23 | 60 | <LOD | 20.57 | 331.8 | 17.72 | <LOD | 8.74 | 1211.55 | 36.9 |
| S2.1 | 0-50mm | 129 | 1/10/2018 12:25 | 60 | <LOD | 14.86 | 177.66 | 12.55 | <LOD | 7.71 | 406.61 | 20 |
| S2.1 | 0-50mm | 130 | 1/10/2018 12:26 | 60 | <LOD | 13.83 | 155.19 | 11.58 | <LOD | 7.65 | 397.74 | 19.21 |
| S2.1 | 0-50mm | 131 | 1/10/2018 12:27 | 60 | 18.11 | 9.72 | 174.04 | 12.06 | <LOD | 7.2 | 368.82 | 18.47 |
| **S3.1** | 0-50mm | 132 | 1/10/2018 12:32 | 62 | 29.78 | 16.59 | **752.19** | 20.91 | 7.19 | 4.76 | 901.66 | 26.17 |
| **S3.1** | 0-50mm | 133 | 1/10/2018 12:33 | 60 | 44.82 | 21.24 | **979.22** | 26.67 | <LOD | 7.91 | 918.66 | 29.77 |
| **S3.1** | 0-50mm | 134 | 1/10/2018 12:35 | 60 | 31.8 | 19.37 | **731.86** | 24.37 | <LOD | 8.86 | 851.66 | 30.09 |
| S4.1 | 0-50mm | 135 | 1/10/2018 12:36 | 60 | <LOD | 11.86 | 92.13 | 10.08 | <LOD | 7.18 | 192.44 | 14.45 |
| S4.1 | 0-50mm | 136 | 1/10/2018 12:37 | 60 | <LOD | 12.16 | 102.84 | 10.39 | <LOD | 7.37 | 205.35 | 14.79 |
| S4.1 | 0-50mm | 137 | 1/10/2018 12:38 | 60 | <LOD | 10.42 | 94.83 | 8.75 | <LOD | 6.16 | 228.31 | 13.37 |
| S5.1 | 0-50mm | 138 | 1/10/2018 12:45 | 60 | <LOD | 13.88 | 154.65 | 11.81 | <LOD | 7.68 | 347.31 | 18.43 |
| S5.1 | 0-50mm | 139 | 1/10/2018 12:47 | 60 | <LOD | 13.48 | 163.76 | 11.58 | <LOD | 6.62 | 432.05 | 19.55 |
| S5.1 | 0-50mm | 140 | 1/10/2018 12:48 | 60 | <LOD | 9.75 | 80.02 | 8.24 | <LOD | 5.65 | 360.57 | 16.42 |
| S6.1 | 0-50mm | 141 | 1/10/2018 12:51 | 60 | <LOD | 10.96 | 85.61 | 9.51 | <LOD | 7.43 | 144.72 | 12.3 |
| S6.1 | 0-50mm | 142 | 1/10/2018 12:53 | 60 | <LOD | 12.49 | 93.55 | 10.87 | <LOD | 8.32 | 144.07 | 13.71 |
| S6.1 | 0-50mm | 143 | 1/10/2018 12:54 | 60 | <LOD | 11.36 | 85.46 | 9.79 | <LOD | 7.75 | 137.13 | 12.45 |
| Soil Guideline Values | Recreational | | | | 80 | | 880 | | 1,800 | | 30,000 | |
| | Outdoor Worker | | | | 70 | | 3,300 | | 4,200 | | 400,000 | |
| | Reference | | | | NES | | NES | | NES | | NEPM | |
| XRF likely to be below SGV | | | | | - | | *503.5* | | - | | - | |

**Result exceeds residential SGV**

**Result is likely to exceed residential SGV based on regression analysis**

# Appendix C – Table of Laboratory Results

## Table of Laboratory Results - 27 Hamptons Road

Date of testing: 1st October 2018

| Analyte | Sample Name: | BP3 | H2.1 | H2.2 | H3.1 | H4.1 | H4.2 | H6.1 | S1.1 | S3.1 | Soil Guideline Values | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Soil results** | Lab Number: | 2057742.1 | 2057742.2 | 2057742.3 | 2057742.4 | 2057742.5 | 2057742.6 | 2057742.7 | 2057742.8 | 2057742.9 | **Recreational** | **Commercial/ Outdoor Worker** | **Reference** | **Ecological receptors** | **Reference** | **Background$_1$** |
| | Depth | 0-50mm | 0-50mm | 250mm | 50mm | 50-100mm | 50-100mm | 50-100mm | surface | 0-50mm | | | | | | |
| **Heavy Metals** | | | | | | | | | | | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | 12 | 12 | 5 | 7 | 20 | 19 | 19 | 5 | 6 | 80 | 70 | NES | 17 | CCME | 4.90 |
| Total Recoverable Cadmium | mg/kg dry wt | 0.14 | 0.76 | 0.14 | 0.71 | 0.59 | 0.63 | 0.88 | 1.52 | 1.78 | 400 | 1,300 | NES | 10 | CCME | 0.13 |
| Total Recoverable Chromium | mg/kg dry wt | 22 | 21 | 15 | 23 | 24 | 24 | 23 | 15 | 15 | 2,700 | 6,300 | NES | 64 | CCME | 16.9 |
| Total Recoverable Copper | mg/kg dry wt | 37 | 22 | 6 | 21 | 32 | 32 | 34 | 125 | 24 | >10,000 | >10,000 | NES | 63 | CCME | 12.4 |
| Total Recoverable Lead | mg/kg dry wt | 9.1 | *550* | 199 | *410* | 135 | 240 | **910** | 240 | **1,500** | 880 | 3,300 | NES | 300 | CCME | 21.3 |
| Total Recoverable Mercury | mg/kg dry wt | < 0.10 | - | - | - | - | - | - | - | - | 1,800 | 4,200 | NES | 12 | CCME | 0.11 |
| Total Recoverable Nickel | mg/kg dry wt | *55* | 11 | 11 | 10 | 10 | 10 | 12 | 14 | 11 | 800 | 1,800 | EAUK | 50 | CCME | 13.1 |
| Total Recoverable Zinc | mg/kg dry wt | 51 | *490* | 136 | *390* | *320* | *330* | *650* | *880* | *1,030* | 30,000 | 400,000 | NEPM | 200 | CCME | 69.6 |

| Analyte | Sample Name: | Composite of T1, T2, T3 & T4 | Composite of T5, T6 & T7 | Soil Guideline Values | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Soil results** | Lab Number: | 2057742.17 | 2057742.18 | **Adjusted Recreational (3 samples)** | **Adjusted Recreational (4 samples)** | **Adjusted Commercial/ Outdoor Worker (3 samples)** | **Adjusted Commercial/ Outdoor Worker (4 samples)** | **Reference** | **Ecological receptors** | **Reference** | **Background$_1$** |
| | Depth | surface | surface | | | | | | | | |
| **Heavy Metals** | | | | | | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | 5 | 8 | 26.7 | 20 | 23.3 | 17.5 | NES | 17 | CCME | 4.90 |
| Total Recoverable Cadmium | mg/kg dry wt | 0.14 | < 0.10 | 100 | 100 | 433 | 325 | NES | 10 | CCME | 0.13 |
| Total Recoverable Chromium | mg/kg dry wt | 17 | 21 | 460 | 675 | 2,100 | 1,575 | NES | 64 | CCME | 16.9 |
| Total Recoverable Copper | mg/kg dry wt | 17 | 33 | >3,333 | >2,500 | >3,333 | >2,500 | NES | 63 | CCME | 12.4 |
| Total Recoverable Lead | mg/kg dry wt | 12 | 6.6 | 293.3 | 220 | 1,100 | 825 | NES | 300 | CCME | 21.3 |
| Total Recoverable Mercury | mg/kg dry wt | < 0.10 | < 0.10 | 600 | 450 | 1,400 | 1,050 | NES | 12 | CCME | 0.11 |
| Total Recoverable Nickel | mg/kg dry wt | 27 | *60* | 130 | 200 | 600 | 450 | EAUK | 50 | CCME | 13.1 |
| Total Recoverable Zinc | mg/kg dry wt | 41 | 28 | 7,400 | 7,500 | 133,333 | 100,000 | NEPM | 200 | CCME | 69.6 |

| |
|---|
| **Indicates result exceeds residential guideline value** |
| *Indicates result exceeds ecological guideline value* |
| Indicates result exceeds background value for soil type |

| Analyte | Sample Name: | BP3 | Composite of T1, T2, T3 & T4 | Composite of T5, T6 & T7 | Soil Guideline Values | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Soil results** | Lab Number: | 2057742.1 | 2057742.17 | 2057742.18 | | | | | | | | | | |
| | Depth | 0-50mm | surface | surface | **Recreational** | **Adjusted Recreational (3 samples)** | **Adjusted Recreational (4 samples)** | **Commercial/ Outdoor Worker** | **Adjusted Commercial/ Outdoor Worker (3 samples)** | **Adjusted Commercial/ Outdoor Worker (4 samples)** | **Reference** | **Ecological receptors** | **Reference** | **Background$_1$** |
| **Polycyclic Aromatic Hydrocarbons Screening in Soil** | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | mg/kg dry wt | 0.052 | 0.024 | 0.08 | - | - | - | - | - | - | - | - | - | - |
| 2-Methylnaphthalene | mg/kg dry wt | 0.043 | 0.02 | 0.057 | - | - | - | - | - | - | - | - | - | - |
| Perylene | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Benzo[a]pyrene Potency Equivalency Factor (PEF) NES | mg/kg dry wt | < 0.04 | < 0.03 | < 0.03 | 40 | 13.3 | 10 | 35 | 11.7 | 8.75 | NES | - | - | 0.922 $_2$ |
| Benzo[a]pyrene Toxic Equivalence (TEF) | mg/kg dry wt | < 0.04 | < 0.03 | < 0.03 | - | - | - | - | - | - | - | - | - | - |
| Acenaphthylene | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Acenaphthene | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Anthracene | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Benzo[a]anthracene * | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Benzo[a]pyrene (BAP)* | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Benzo[b]fluoranthene + Benzo[j]fluoranthene* | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Benzo[e]pyrene | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Benzo[g,h,i]perylene | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Benzo[k]fluoranthene* | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Chrysene* | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Dibenzo[a,h]anthracene* | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Fluoranthene* | mg/kg dry wt | < 0.014 | 0.012 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Fluorene | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Indeno(1,2,3-c,d)pyrene* | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Naphthalene | mg/kg dry wt | < 0.07 | < 0.06 | < 0.06 | - | - | - | - | - | - | - | - | - | - |
| Phenanthrene | mg/kg dry wt | 0.038 | 0.021 | 0.025 | 900 $_3$ | 300 $_3$ | 225 $_3$ | - | - | - | GAS | - | - | - |
| Pyrene | mg/kg dry wt | < 0.014 | < 0.011 | < 0.012 | - | - | - | - | - | - | - | - | - | - |
| Total of Reported PAHs in Soil | mg/kg | < 0.4 | < 0.3 | < 0.3 | - | - | - | - | - | - | - | - | - | - |

* Compounds included in Benzo[a]pyrene Potency Equivalency Factor calculation (NES)

| |
|---|
| **Indicates result exceeds residential guideline value** |
| *Indicates result exceeds ecological guideline value* |
| Indicates result exceeds background value for soil type |

| |
|---|
| NES - National Environmental Standard for Assessing and Managing Contaminants in Soils, MfE |
| NEPM - National Environmental Protection Measures 2013, Formerly NEPC, Australia |
| EAUK - Soil guideline values for nickel - Environment Agency UK 2009 |
| CCME - Canadian Environmental Quality Guidelines, CCME (updated 2012) |
| GAS - Users' Guide to the Guidelines for Assessing and Managing Contaminated Gasworks Sites in New Zealand (MfE, 1997) |
| $_1$ Concentrations for "Regional, Recent" soil group from Background concentrations in Canterbury soils, Tonkin and Taylor, July 2007 |
| $_2$ Background concentrations of polycylic aromatic hydrocarbons in Christchurch urban soils, Tonkin and Taylor, 2007 |
| $_3$ No recreational guideline is available for Phenanthrene, the values given are 'Residential 10% Produce' |

# Appendix D – Laboratory Reports

Hill Laboratories
TRIED, TESTED AND TRUSTED

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# Certificate of Analysis



| | | | |
|---|---|---|---|
| **Client:** | Malloch Environmental Limited | **Lab No:** | 2057742 SPv1 |
| **Contact:** | Nicola Peacock<br>C/- Malloch Environmental Limited<br>801 East Maddisons Road<br>Rolleston 7614 | **Date Received:** | 01-Oct-2018 |
| | | **Date Reported:** | 11-Oct-2018 |
| | | **Quote No:** | 72157 |
| | | **Order No:** | |
| | | **Client Reference:** | Hamptons |
| | | **Submitted By:** | Nicola Peacock |

**Sample Type: Soil**

| Sample Name: | | BP3 01-Oct-2018 10:31 am | H2.1 01-Oct-2018 10:42 am | H2.2 01-Oct-2018 10:45 am | H3.1 01-Oct-2018 10:52 am | H4.1 01-Oct-2018 11:02 am |
|---|---|---|---|---|---|---|
| **Lab Number:** | | 2057742.1 | 2057742.2 | 2057742.3 | 2057742.4 | 2057742.5 |
| Individual Tests | | | | | | |
| Dry Matter | g/100g as rcvd | 73 | - | - | - | - |
| Heavy Metals, Screen Level | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | - | 12 | 5 | 7 | 20 |
| Total Recoverable Cadmium | mg/kg dry wt | - | 0.76 | 0.14 | 0.71 | 0.59 |
| Total Recoverable Chromium | mg/kg dry wt | - | 21 | 15 | 23 | 24 |
| Total Recoverable Copper | mg/kg dry wt | - | 22 | 6 | 21 | 32 |
| Total Recoverable Lead | mg/kg dry wt | - | 550 | 199 | 410 | 135 |
| Total Recoverable Nickel | mg/kg dry wt | - | 11 | 11 | 10 | 10 |
| Total Recoverable Zinc | mg/kg dry wt | - | 490 | 136 | 390 | 320 |
| Heavy Metals with Mercury, Screen Level | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | 12 | - | - | - | - |
| Total Recoverable Cadmium | mg/kg dry wt | 0.14 | - | - | - | - |
| Total Recoverable Chromium | mg/kg dry wt | 22 | - | - | - | - |
| Total Recoverable Copper | mg/kg dry wt | 37 | - | - | - | - |
| Total Recoverable Lead | mg/kg dry wt | 9.1 | - | - | - | - |
| Total Recoverable Mercury | mg/kg dry wt | < 0.10 | - | - | - | - |
| Total Recoverable Nickel | mg/kg dry wt | 55 | - | - | - | - |
| Total Recoverable Zinc | mg/kg dry wt | 51 | - | - | - | - |
| Polycyclic Aromatic Hydrocarbons Screening in Soil | | | | | | |
| 1-Methylnaphthalene | mg/kg dry wt | 0.052 | - | - | - | - |
| 2-Methylnaphthalene | mg/kg dry wt | 0.043 | - | - | - | - |
| Perylene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Benzo[a]pyrene Potency Equivalency Factor (PEF) NES | mg/kg dry wt | < 0.04 | - | - | - | - |
| Benzo[a]pyrene Toxic Equivalence (TEF) | mg/kg dry wt | < 0.04 | - | - | - | - |
| Acenaphthylene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Acenaphthene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Anthracene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Benzo[a]anthracene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Benzo[a]pyrene (BAP) | mg/kg dry wt | < 0.014 | - | - | - | - |
| Benzo[b]fluoranthene + Benzo[j] fluoranthene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Benzo[e]pyrene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Benzo[g,h,i]perylene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Benzo[k]fluoranthene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Chrysene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Dibenzo[a,h]anthracene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Fluoranthene | mg/kg dry wt | < 0.014 | - | - | - | - |

| Sample Type: Soil | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | | BP3 01-Oct-2018 10:31 am | H2.1 01-Oct-2018 10:42 am | H2.2 01-Oct-2018 10:45 am | H3.1 01-Oct-2018 10:52 am | H4.1 01-Oct-2018 11:02 am |
| **Lab Number:** | | 2057742.1 | 2057742.2 | 2057742.3 | 2057742.4 | 2057742.5 |
| Polycyclic Aromatic Hydrocarbons Screening in Soil | | | | | | |
| Fluorene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Indeno(1,2,3-c,d)pyrene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Naphthalene | mg/kg dry wt | < 0.07 | - | - | - | - |
| Phenanthrene | mg/kg dry wt | 0.038 | - | - | - | - |
| Pyrene | mg/kg dry wt | < 0.014 | - | - | - | - |
| Total of Reported PAHs in Soil* | mg/kg | < 0.4 | - | - | - | - |

| **Sample Name:** | | H4.2 01-Oct-2018 11:03 am | H6.1 01-Oct-2018 11:17 am | S1.1 01-Oct-2018 11:27 am | S3.1 01-Oct-2018 11:38 am | Composite of T1, T2, T3 & T4 |
|---|---|---|---|---|---|---|
| **Lab Number:** | | 2057742.6 | 2057742.7 | 2057742.8 | 2057742.9 | 2057742.17 |
| Individual Tests | | | | | | |
| Dry Matter | g/100g as rcvd | - | - | - | - | 89 |
| Heavy Metals, Screen Level | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | 19 | 19 | 5 | 6 | - |
| Total Recoverable Cadmium | mg/kg dry wt | 0.63 | 0.88 | 1.52 | 1.78 | - |
| Total Recoverable Chromium | mg/kg dry wt | 24 | 23 | 15 | 15 | - |
| Total Recoverable Copper | mg/kg dry wt | 32 | 34 | 125 | 24 | - |
| Total Recoverable Lead | mg/kg dry wt | 240 | 910 | 240 | 1,500 | - |
| Total Recoverable Nickel | mg/kg dry wt | 10 | 12 | 14 | 11 | - |
| Total Recoverable Zinc | mg/kg dry wt | 330 | 650 | 880 | 1,030 | - |
| Heavy Metals with Mercury, Screen Level | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | - | - | - | - | 5 |
| Total Recoverable Cadmium | mg/kg dry wt | - | - | - | - | 0.14 |
| Total Recoverable Chromium | mg/kg dry wt | - | - | - | - | 17 |
| Total Recoverable Copper | mg/kg dry wt | - | - | - | - | 17 |
| Total Recoverable Lead | mg/kg dry wt | - | - | - | - | 12.0 |
| Total Recoverable Mercury | mg/kg dry wt | - | - | - | - | < 0.10 |
| Total Recoverable Nickel | mg/kg dry wt | - | - | - | - | 27 |
| Total Recoverable Zinc | mg/kg dry wt | - | - | - | - | 41 |
| Polycyclic Aromatic Hydrocarbons Screening in Soil | | | | | | |
| 1-Methylnaphthalene | mg/kg dry wt | - | - | - | - | 0.024 |
| 2-Methylnaphthalene | mg/kg dry wt | - | - | - | - | 0.020 |
| Perylene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Benzo[a]pyrene Potency Equivalency Factor (PEF) NES | mg/kg dry wt | - | - | - | - | < 0.03 |
| Benzo[a]pyrene Toxic Equivalence (TEF) | mg/kg dry wt | - | - | - | - | < 0.03 |
| Acenaphthylene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Acenaphthene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Anthracene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Benzo[a]anthracene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Benzo[a]pyrene (BAP) | mg/kg dry wt | - | - | - | - | < 0.011 |
| Benzo[b]fluoranthene + Benzo[j] fluoranthene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Benzo[e]pyrene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Benzo[g,h,i]perylene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Benzo[k]fluoranthene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Chrysene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Dibenzo[a,h]anthracene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Fluoranthene | mg/kg dry wt | - | - | - | - | 0.012 |
| Fluorene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Indeno(1,2,3-c,d)pyrene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Naphthalene | mg/kg dry wt | - | - | - | - | < 0.06 |
| Phenanthrene | mg/kg dry wt | - | - | - | - | 0.021 |
| Pyrene | mg/kg dry wt | - | - | - | - | < 0.011 |
| Total of Reported PAHs in Soil* | mg/kg | - | - | - | - | < 0.3 |

| Sample Type: Soil | | | | | | |
|---|---|---|---|---|---|---|
| **Sample Name:** | | Composite of T5, T6 & T7 | | | | |
| **Lab Number:** | | 2057742.18 | | | | |
| Individual Tests | | | | | | |
| Dry Matter | g/100g as rcvd | 83 | - | - | - | - |
| Heavy Metals with Mercury, Screen Level | | | | | | |
| Total Recoverable Arsenic | mg/kg dry wt | 8 | - | - | - | - |
| Total Recoverable Cadmium | mg/kg dry wt | < 0.10 | - | - | - | - |
| Total Recoverable Chromium | mg/kg dry wt | 21 | - | - | - | - |
| Total Recoverable Copper | mg/kg dry wt | 33 | - | - | - | - |
| Total Recoverable Lead | mg/kg dry wt | 6.6 | - | - | - | - |
| Total Recoverable Mercury | mg/kg dry wt | < 0.10 | - | - | - | - |
| Total Recoverable Nickel | mg/kg dry wt | 60 | - | - | - | - |
| Total Recoverable Zinc | mg/kg dry wt | 28 | - | - | - | - |
| Polycyclic Aromatic Hydrocarbons Screening in Soil | | | | | | |
| 1-Methylnaphthalene | mg/kg dry wt | 0.080 | - | - | - | - |
| 2-Methylnaphthalene | mg/kg dry wt | 0.057 | - | - | - | - |
| Perylene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Benzo[a]pyrene Potency Equivalency Factor (PEF) NES | mg/kg dry wt | < 0.03 | - | - | - | - |
| Benzo[a]pyrene Toxic Equivalence (TEF) | mg/kg dry wt | < 0.03 | - | - | - | - |
| Acenaphthylene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Acenaphthene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Anthracene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Benzo[a]anthracene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Benzo[a]pyrene (BAP) | mg/kg dry wt | < 0.012 | - | - | - | - |
| Benzo[b]fluoranthene + Benzo[j] fluoranthene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Benzo[e]pyrene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Benzo[g,h,i]perylene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Benzo[k]fluoranthene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Chrysene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Dibenzo[a,h]anthracene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Fluoranthene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Fluorene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Indeno(1,2,3-c,d)pyrene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Naphthalene | mg/kg dry wt | < 0.06 | - | - | - | - |
| Phenanthrene | mg/kg dry wt | 0.025 | - | - | - | - |
| Pyrene | mg/kg dry wt | < 0.012 | - | - | - | - |
| Total of Reported PAHs in Soil* | mg/kg | < 0.3 | - | - | - | - |

## Analyst's Comments

Carbon particulates were observed in the matrix of sample 2057742.17 and this has absorbed most of the System Monitoring Compound Benzo[a]pyrene-d12 in the PAH analysis, whereby the recovery was 36%. Therefore the results presented for these analytes may not represent the actual concentration in the sample.

Carbon particulates were also observed in the matrix of sample 2057742.18 and this has absorbed most of the System Monitoring Compounds in the PAH analysis, whereby the recovery for Fluoranthene-d10 and Benzo[a]pyrene-d12 was 52% and 9% respectively. Therefore the results presented for these analytes may not represent the actual concentration in the sample.

# Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.
Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

| Sample Type: Soil | | | |
|---|---|---|---|
| **Test** | **Method Description** | **Default Detection Limit** | **Sample No** |
| Environmental Solids Sample Drying* | Air dried at 35°C<br>Used for sample preparation.<br>May contain a residual moisture content of 2-5%. | - | 1-9, 17-18 |

| Sample Type: Soil | | | |
|---|---|---|---|
| **Test** | **Method Description** | **Default Detection Limit** | **Sample No** |
| Heavy Metals, Screen Level | Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. | 0.10 - 4 mg/kg dry wt | 2-9 |
| Heavy Metals with Mercury, Screen Level | Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. | 0.10 - 4 mg/kg dry wt | 1, 17-18 |
| Polycyclic Aromatic Hydrocarbons Screening in Soil* | Sonication extraction, Dilution or SPE cleanup (if required), GC-MS SIM analysis (modified US EPA 8270). Tested on as received sample. [KBIs:5786,2805,2695] | - | 1, 17-18 |
| Dry Matter (Env) | Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550. | 0.10 g/100g as rcvd | 1, 17-18 |
| Composite Environmental Solid Samples* | Individual sample fractions mixed together to form a composite fraction. | - | 10-16 |
| Benzo[a]pyrene Potency Equivalency Factor (PEF) NES | BaP Potency Equivalence calculated from Benz(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1 + Chrysene x 0.01 + Dibenz(a,h)anthracene x 1 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment. | 0.002 mg/kg dry wt | 1, 17-18 |
| Benzo[a]pyrene Toxic Equivalence (TEF) | BaP Toxic Equivalence calculated from Benzo(a)anthracene x 0.1 + BaP x 1 + Benzo(b)fluoranthene x 0.1 + Benzo(k) fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.1 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997). | 0.002 mg/kg dry wt | 1, 17-18 |
| Total of Reported PAHs in Soil* | Sonication extraction, SPE cleanup, GC-MS SIM analysis. | 0.3 mg/kg | 1, 17-18 |

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.



Ara Heron BSc (Tech)
Client Services Manager - Environmental

# Appendix D

Ecological Report

# Appendix E

Proposed Master Plan

## MASTERPLAN LEGEND

- SITE BOUNDARY
- NATURALISED WATER RACE (SCALE AND ALIGNMENT INDICATIVE)
- MAIN SHARED PATH NETWORK
- 'OFF ROAD' TRAILS AND CYCLE CHALLENGES
- BOARDWALK / BRIDGE
- MAIN CAR PARKING
- YOUTH SPACE
- MULTI-USE HARD SURFACE/ OVERFLOW CAR PARKING (STAGE 2)
- GRAVEL CAR PARKING (INCL. SERVICE / MAINTENANCE AREA)
- FEATURE ENTRANCEWAY
- BUILDING: CHANGE ROOMS, PUBLIC TOILETS ETC
- BUILDING: PUBLIC TOILET
- INDICATIVE PLAY AREA ALONG 'PLAY SPINE'
- PROPOSED TREES
- GRASS AREA
- NATIVE VEGETATION 1
- NATIVE VEGETATION 2
- RIPARIAN VEGETATION
- PĀ HARAKEKE/ PĀ TOETOE
- 60km/hr PROPOSED SPEED LIMIT

STAGED REMOVAL OF EXISTING SHELTERBELT ON BIRCHS ROAD

SERVICE / MAINTENANCE AREA

HAMPTONS ROAD

'MEADOW' (FUTURE USE TO BE DETERMINED)

PĀ HARAKEKE/ PĀ TOETOE

BIRCHS ROAD

SPORTS FIELDS JUNIOR HUB

EXISTING RAIL TRAIL RETAINED

SPACE ALLOWS FOR: 3x FULL SIZE SPORTS FIELDS (LIT, NOT CODE SPECIFIC) AND 1x JUNIOR FIELD

FENCED 'ALL DOG' EXERCISE AREA

FENCED 'SMALL DOG' EXERCISE AREA

LEADLEYS ROAD

0m 20 40 100
10 30 50 150m

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## MASTERPLAN LEGEND

- SITE BOUNDARY
- NATURALISED WATER RACE (SCALE AND ALIGNMENT INDICATIVE)
- MAIN SHARED PATH NETWORK
- 'OFF ROAD' TRAILS AND CYCLE CHALLENGES
- BOARDWALK / BRIDGE
- MAIN CAR PARKING
- YOUTH SPACE
- MULTI-USE HARD SURFACE/ OVERFLOW CAR PARKING (STAGE 2)
- GRAVEL CAR PARKING (INCL. SERVICE / MAINTENANCE AREA)
- FEATURE ENTRANCEWAY
- BUILDING: CHANGE ROOMS, PUBLIC TOILETS ETC
- BUILDING: PUBLIC TOILET
- INDICATIVE PLAY AREA ALONG 'PLAY SPINE'
- PROPOSED TREES
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- NATIVE VEGETATION 2
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- PĀ HARAKEKE/ PĀ TOETOE
- 60km/hr PROPOSED SPEED LIMIT

STAGED REMOVAL OF EXISTING SHELTERBELT ON BIRCHS ROAD

SERVICE / MAINTENANCE AREA

HAMPTONS ROAD

'MEADOW' (FUTURE USE TO BE DETERMINED)

PĀ HARAKEKE/ PĀ TOETOE

BIRCHS ROAD

SPORTS FIELDS JUNIOR HUB

EXISTING RAIL TRAIL RETAINED

SPACE ALLOWS FOR: 3x FULL SIZE SPORTS FIELDS (LIT, NOT CODE SPECIFIC) AND 1x JUNIOR FIELD

FENCED 'ALL DOG' EXERCISE AREA

FENCED 'SMALL DOG' EXERCISE AREA

LEADLEYS ROAD

0m 20 40 100
10 30 50 150m

SUPERSEDED (JUNE 2020)

1339 / **Birchs Road Park Concept Masterplan** April 2020 Selwyn District Council

# Appendix F

CPTED Assessment

novo group
Planning. Traffic. Development.

**CPTED Assessment**

**prepared for**

# BIRCHS RD PARK PREBBLETON

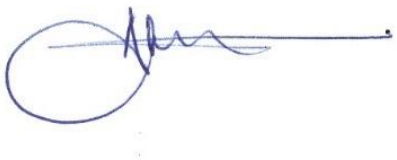
**Selwyn District, Christchurch**

**September 2019**

**CPTED Assessment**

**Prebbleton, Selwyn District, Christchurch**

| | |
|---|---|
| Document Date: | 17/04/2020 |
| Document Version/Status: | Final |
| Project Reference: | 003039 |
| Project Manager: | Anne Wilkins, Senior Landscape Architect |
| Prepared by: | Anne Wilkins, Senior Landscape Architect |
| Reviewed by | Rhys Chesterman, Novo Group Director |



**Anne Wilkins, Senior Landscape Architect** **DATED:** April 2020


**Address for service:**

Novo Group Limited
PO Box 38 123
Christchurch 8842

**Attention: Anne Wilkins**

T: 03 365 5570
E: anne@novogroup.co.nz;

# Table of Contents



## *List of Figures and Tables*



## *Appendices*

# Introduction

## Purpose and Scope

1. The following review is to provide an overview of the potential Crime Prevention through Environmental Design (CPTED) matters that may occur as a result of the proposed Birchs Road Park.

2. The purpose of this report is to assess the potential safety issues and provide recommendations on improvement or mitigation where possible for any identified safety concerns related to the proposed park 'Masterplan'.

3. The geographical extents for the assessment are the north western corner of Hamptons Road, Birchs Road and Leadleys Road, and the property boundary to the east. Additionally, any immediately adjacent land that would affect the CPTED assessment.

4. The scope for the CPTED assessment includes the impacts upon the health and safety of user groups resulting from:

    a) The location of the existing receiving environment, including land uses and occurring known activities surrounding the site.

    b) The changes to the immediate environment that will result in an adaption of the landscape.

    c) The change from private rural landscape to public accessed land.

    d) The proposed activities occurring as a result of the proposal.

## Methodology

### Framework

5. The CPTED assessment is in accordance with the national guidelines, specifically framed by the NZ Urban Design Protocol. This is the Ministry of Justice *'National Guidelines for Crime Prevention thorough Environmental Design in New Zealand'* Principles Part 1 *'Seven Qualities of Safer Places'* and Part 2 *'Implementation Guide'*.

6. Data has been gathered via the New Zealand Police. This includes anecdotally via the local Police, and statistical data via the Police data website, in order to comprehend potential and existing community considerations or concerns.

7. The Selwyn District Council Long Term Plan 2015 – 2025 outlines a number of strategies for community safety. This has been reviewed in regard to any potential alignment with the proposed masterplans, parks and reserves, public spaces and vegetation. Furthermore, discussion with the Selwyn District Council was had on the potential future development environment of the area, though mostly assumption, based on the growing population and popularity of the area. This was focused on sites in the immediate vicinity of the proposed park site only.

8. The following documents have been reviewed in preparation of this report:

- The *'Birchs Road Park Prebbleton Draft Concept Masterplan'* by Global Leisure Group and Selwyn District Council.
- The resulting overall *Birchs Road Park Masterplan* in August 2019 by the Global Leisure Group and Selwyn District Council.
- The Traffic Assessment Report September 2019 by Novo Group.

**Site Visits**

9. A site visit was undertaken on 30.08.19 to view the site and surrounds, surrounding activities and surveillance and any existing activities. An evening / night time site visit was undertaken on 17.09.19, more specifically to view existing lighting and visibility.

10. Photos were taken during the visit at key locations for reference and assessment. Additionally, a desktop analysis of site surrounds including GIS, Google Earth, Canterbury Maps and LINZ Maps has been undertaken.

**Review**

11. The preparation of the report is as follows:

a) A desk top audit and research via maps and plans.

b) Reports on receiving environment and location considerations.

c) Assessment of the plans against the national guidelines criteria.

d) Recommendations based on the findings of the report.

## CPTED Principals

12. The seven principles of CPTED 'good practice' and the criteria to be applied to the assessment are as follows:

1) **Access**; safe movement around the area, including clear entrances and routes, without areas of entrapment, or enclosure, and with escape routes visible and accessible.

2) **Surveillance**; clear and open sightlines when moving through the area, and active or passive surveillance to the site is present to ensure the site is overlooked and 'seen'. Lighting is evident.

3) **Layout**; clear and logical orientation and way-finding links.

4) **Activity mix**; including 'eyes on the street' and maximising use of space. Activity generators at various times.

5) **Sense of ownership**; displayed by levels of care and attention, that promotes the idea that the space is respected and surveyed by the community and authorities.

6) **Quality environments**; that are well maintained and managed to discourage crime by displaying devotion and upkeep.

7) **Physical protection**; such as fences, security lights, and other elements that suggest active safekeeping.

## Proposal Details

13. The existing private rural landscape block is to be transferred into publicly accessed large scale 22-hectare park. The masterplan includes areas for sports fields, active and recreational play spaces, a dog park, and areas for landscaping and waterway development.

14. Infrastructure including toilet blocks, a changing facility and paths is to be included to support the various park uses.

15. There are also a number of carparks at key interface points proposed, off Leadleys Road and off Birchs Road.


**Figure 1: Birchs Road Proposed Masterplan (Source: Selwyn District Council, April 2020)**

# The Receiving Environment

## Crime Statistics

### Community Considerations

16. I had a discussion with Senior Constable Mike Harker from Lincoln Police on the 27/09/19 regarding the area in general, and to discuss any police or community concerns that may link to the park development. The following is anecdotal data from our discussion:

    a) There is a low crime rate generally in Prebbleton in public areas. No real concern on arson, violence or assaults. The crime that tends to occur is mostly private residential burglaries, or car break-ins.

    b) Suspicious behaviour in the area is not high. However, there were some recorded incidents where cars pulled over on Springs Road and harassed female passers-by.

    c) There is concern that out-of-town criminals can swiftly access Prebbleton, due to the new motorway, and then leave swiftly undetected. High speed limits and unmonitored rural quiet roads provide safe passage for speeding away from crime.

    d) Surrounding local crime is mostly from Lincoln, or Rolleston, with students driving and 'parking up' in areas resulting in public drinking and/or general disorderly behaviour.

    e) There were several break-ins to various clubroom facilities in Tai Tapu and West Melton. These occurred when the facilities were accessible and were not fenced.

    f) Police responded to several callouts to a new skate park in the area, where low level stealing or disturbance has occurred.

    g) Support the use of features such as lights and security cameras, and also infrared cameras, and generally gave feedback that this works very well in deterring and recording criminal activity.

17. Police do not operate 24/7 in Prebbleton currently, further ensuring that 'after-hours' crime be deterred as much as possible. With population growth it is anticipated that this may develop or adapt over time.

### Crime Profile

18. The police crime data [RCVS] outlines there were a total of 32 crimes reported in Prebbleton over the 1-year period from 01 August 2018 – 31 July 2019 (most recent recorded time period). The crimes recorded were ranging from abduction / harassment, robbery / extortion, unlawful entry with intent, theft and acts intended to cause injury.

19. Figure 2 display the crime trends for the specified time frame from 2015 to 2019. The results generally outline the overall trend is fluctuating, with no real increase reflected as paired with the growth of the area (over the 3-year period). The statistics do not outline any real overall trends for the area. It appears crime occurred mostly at the end of the week, on Friday or Saturdays, with burglary being the highest risk offence. Public space offences are not specifically listed out.

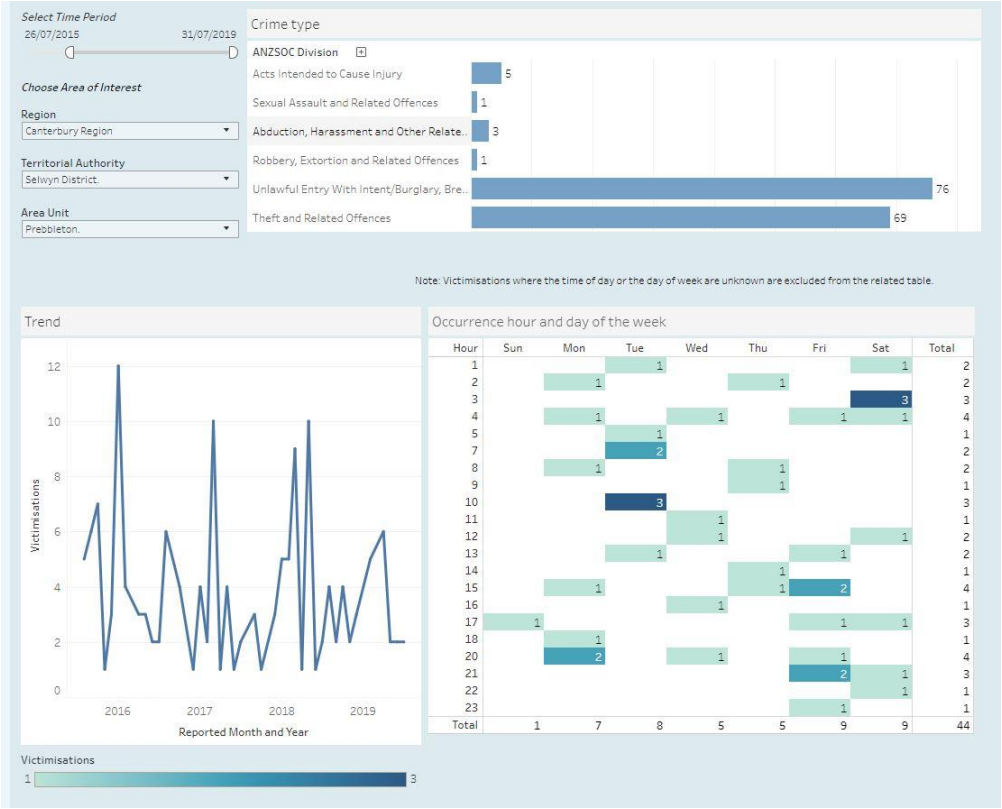



**Figure 2: Crime Statistics for Prebbleton Area 2015 – 2019 (Source: Police Data Source)**

## Location and Site Observations

### Surrounding Environmental Factors

20. The site is located approximately 1.3 kilometres from the main centre of Prebbleton. The key link is via Birchs Road which directly borders the site to the west. There are two adjacent roads to the north and the south. To the north is the no exit Hamptons Road, and to the south is the rural link Leadleys Road.

21. The receiving environment is rural in character. To the north and to the west is rural-residential blocks. Directly adjacent to the site to the east is rural land used for grazing. Properties to the south and to the east are noted as being for sale. The nearest built-up residential area is the subdivision off Birchs Road north of Trices Road approximately 550 metres north.

22. The wider area does not contain many parks or reserves. The closest link to another public space is the Prebbleton Reserve off Tosswill Road approximately 920 metres to the north.

23. Overall the area is relatively remote and isolated, being offset from the subdivision and township enough to feel disjointed. Connections could be increased over time with urban sprawl.

### Immediate Site

24. There is an old, dilapidated house, with surrounding sheds and landscaping, currently on the site. No real signs of vandalism or congregation is apparent, although the property is well gated. It is assumed this is will be demolished and removed prior to the park being established.

25. There is a waterway running through the midst of the site with some minimal vegetation along a short portion of this. The site is bordered by established tall shelter belt hedging to the north and the west. Otherwise the site coverage is exotic grassland which would be cleared prior to park established.

26. There are mature established shelterbelts lining the north and west of the site. There is a low hedge (scrubby broom / gorse) lining along the boundary of Leadleys Road. There is a line of mature gum trees to the east of the site.

**Existing Movement and Pedestrian Flow**

27. There are several existing bus stops along Birchs Road, the closest to the proposal being on the west side of the street, approximately 16 metres south from the intersection with Hamptons Road.

28. The key shared path track linking Christchurch to Little River, the 'Rail Trail Cycleway', is located along Birchs Road. This is typically well used from locals linking in from either Lincoln or Prebbleton, and from wider areas.

29. There has been a Traffic Assessment done by Novo Group outlining traffic movements along the adjacent roads. The busiest link is Birchs Road to the west of the site, with almost eight times as much traffic volume as Leadleys Road to the south. Hamptons Road is a no exit street and has minimal movement, given it is not a thoroughfare.

**Site Observations**

30. The site is to change from private, fenced off private land to public park space, therefore the dynamics will change dramatically. As the immediate proposed site is currently not activated, the surrounding observations form the key indicators for the implications of this change.

*Daytime Observations*

31. The site visit was undertaken late morning approximately 11am on a weekday morning. Weather conditions were clear, and observations were uninterrupted.

32. There was a consistent flow of people walking and cycling down the Birchs Road shared path adjacent to the site. No pedestrians or cyclists were observed along Leadleys Road or Hamptons Road.

33. There were signs of some littering in the form of discarded beer cans at the southeast corner of the site down Leadleys Road. This could be a site for lingering, even with the apparent lack of carparking or public space (only a large grassed road berm borders the road). Rubbish was again observed at this same location several weeks later, indicating the possible use of this area as a meeting location, rather than the alternative of being discarded from vehicle(s) traversing at speed down Leadleys Road.

34. There appears to be several properties, specifically rural blocks, for sale in the area including the immediate property to the south which is currently grazing.

35. I gathered photos from seven locations around the site in order to assess the surrounding links and visibility to the site. Photos were concentrated around the site, rather than within, in order to assess the existing 'eyes on site'. The photos are presented in Appendix 1 and the locations for these are shown in the diagram in Figure 3 below.

*Night / Evening*

36. The site visit was undertaken approximately 9pm on a weeknight. Weather conditions were poor with rain. The observations of activity include:

    a) Minimal / intermittent traffic flow down Birchs Road.

    b) No traffic flow down Hamptons Road or Leadleys Road.

    c) No public presence, either walking or cycling (note; weather conditions could have affected behaviour pattern).

    d) No private interface direct to site, being either visible (lit) windows or dwellings (outdoor areas) viewing out to site.

37. The existing lighting was non-existent; not unusual given the site is currently a private rural land block. Two lights are situated in the surrounding vicinity of the proposed site. One stationed at the corner of Leadleys and Birchs, and one at the intersection of Hamptons and Birchs. These are both singular street lights on the western side of the road, and do not create any light spill into the site.


**Figure 3: Onsite Photo Log (Source: Novo Group)**

# CPTED Considerations

## Access

*Wider scale*

38. The site location has its challenges from a CPTED perspective; particularly isolation and remoteness. Given it is in a rural location, that is away from the 'built-up' town, it appears quite removed. Generally, the site feels offset to the wider township.

39. The disconnection is further articulated via the rural-residential properties and their relationship to the road networks. The dwellings are offset from these roads with extensive screening and are often orientated away. To increase connectivity, it is encouraged that the existing surrounding areas be linked into the site as much as possible, through pathways, land use and infrastructure developments. It is appreciated that screening of private land is not within the control of the project.

40. The speed limit is anticipated to change in the immediate surrounding areas, where the limit will go from an existing 80 km/h to 60km/h. This is supported to ensure slower movement and increased time of visibility.

41. The high-speed limits of the adjacent roads, and the lack of infrastructural breaks (such as lights, intersections or roundabouts) at a wider scale acts to create unsafe zones i.e. being able to 'flee the scene' with minimal interference or disruption increases the possibility of offending. This is due to the nature of the surrounding rural environment.

*Site specific proposed interior access*

42. The Birchs Road carparks will be accessed via a single entranceway. This is encouraged from a CPTED perspective which detracts from vehicles swooping through past the public facilities at speed. Pull over zones where cars can interrupt pedestrians and there are no ways to remove from the situation is to be discouraged i.e. the parallel parking along Leadleys Road.

43. Access around the site has been allowed for with a variety of pathways and off-road trails. These paths have been defined as either shared paths or off-road cycle tracks. It would be encouraged that these links are maximised where possible so that decision nodes and options are made available. Clear and open entrances and edge treatments need to be encouraged to deter any hiding places.

44. The shared paths all appear to be well defined and necessary to reach set destinations. This is key in removing any potential for dead ends or entrapments.

45. A key potential linkage is in the northwest of the site, as defined on the masterplan as 'meadow space', surrounding subsequent planting and the 'feature entranceway'. The land-use in this area is inactive, mainly vegetation, passive activation and off-road tracks and paths. The opening of an access is the opportunity for creating a sense of arrival, wayfinding and demarcation of the park entrance. Ensuring the entranceway at Hamptons and Birches Road corner is 'opened up', clear and well-marked is key.

46. The southern intersection between Leadleys and Birchs Road is active space, with pause points for vehicles and pedestrians and visibly present dwellings in the vicinity. Ensure that this space is utilised for active uses where possible, and that the entrance be clear and obvious.

47. The intersection of active nodes i.e. the 'play spine', situated along paths is encouraged. This means use of the space will be seen, included and incorporated but is detached enough that the passer-by can choose to continue to walk the path if so chooses. These spaces along path network(s) create good exit and entry points for choice and escape.

48. The 'Pa Harakeke / Pa Toetoe' area appears to have several networks of paths which provide opportunity to divert from the main track. This is essential to ensure clear escape routes i.e. entrance and exit points are defined and not limited to one way in and one way out.

49. The junior sports hub has a main entrance across the boardwalk and additional smaller links across the stream to create track options to support various networks in and out. Path hierarchy should be supported.

50. There is a loop track, to the north and to the east of the wetland area, that could create areas for entrapment, hidden and/or dead space. Thoughts on how these could be extended into surrounding areas would be encouraged.

## Proposal Zones and Uses

### Surveillance

51. Future development of the area is likely to occur. The wider area is undergoing expansion and in response to this a build-up of the area is anticipated. To the north of the site is Rural Residential Strategy (RRS) Area 8 which could support another 50– 60 sections if subdivided (timeframe estimated at within 10 years or so). This could increase surveillance but could not be relied upon for current stages of the proposal.

52. The surveillance from surrounding fixed dwellings is very low. Virtually all houses in the vicinity are heavily screened from the surrounding roads. The houses located across the street from the proposal site on Birchs Road are bordered by thick mature hedging and shelter belts. Several houses, along Hamptons Road have some visibility to the site, as they have breaks in vegetation and are closer set to the road. There is one house along Leadleys Road, to the south east corner, with the most direct views to the site. Overall, observation from surrounding houses is practically absent and is therefore not a reliant source for surveillance to the site.

53. Given this, surveillance will then be mainly reliant on two factors. Firstly, the surrounding roads and secondly, the users of the park. In these ways activation and road views are the two key considerations in order to meet the surveillance CPTED criteria.

54. Birchs Road is the busiest network road next to the site. The shelter belt planting along Birchs Road street frontage would have potentially been established at some point for visual screening and noise reduction. The masterplan demarks this area as 'staged removal of hedge'; timing and portions of what to remove / when is not defined. It is

preferable to remove this hedge in order to open the site up for additional visual surveillance from the key arterial route and busiest street interface (Birchs Road) and from the greatest concentration of houses (although most of these are screened off as noted). If to be removed in stages, this should be clearly mapped out so that hidden areas or visual blocks are created. Staging should consider removing hedge portions at the most visible corners and feature entrances as priority.

55. A temporal spread of activities is essential given the lack of existing surveillance. The spread of activities across the day means the site is not known to be 'dead' or unseen at certain times. The potential for eyes on the site and passive surveillance is crucial in deterring criminal activity. See activation outline below.

## Activities, Measures and Operations

### Activity Mix and Activation

*Activities*

56. The dog park will introduce a high-turnover land-use, with users either driving to the site or linking in locally via the pedestrian paths. It is estimated the area will be at its busiest post-work hours circa 4 – 8pm depending on season during the weekdays, and (all) daylight hours over the weekend.

57. The sports fields will introduce that will occur at a temporal scale. Games could be a variety of types, including rugby, soccer, touch rugby, or cricket, at both a junior and senior level. Weekend use and some evenings is assumed for the high-use times. Otherwise, when a game is not scheduled, it is assumed these areas will be dormant and the park will be activated by the other land uses (the dogpark, pathways and playground / play / meadow areas).

58. The meadow area likely to be a flexible use area, possibly used for more informal sports ground uses, such as croquet, frisbee or open space for general outdoor use. This use would be sporadic and could be activated at any time. The flexibility for random activation is encouraged.

*Play Areas / Youth Spaces*

59. The youth space has been defined as potentially housing playground equipment, possible skate park or courts. Playgrounds bring life and variation to areas, but they also require a high degree of security. Generally, play areas are good for activation given their propensity to be used at any time of the day. Basketball courts could bring in activation and use at evening / night.

60. Once developed from the masterplan, the playground and youth spaces should be highly visible from the road and have clear routes in and out and options for entrances and exits. Vegetation around the area should be well defined.

*Staging*

61. Staging works can be a necessary component when developing a large site such as this, depending on budgeting and community requirements. Page 12 Masterplan demarks the

existing waterway is acting as a natural boundary edge through the site for staging purposes, with the initial area Stage One 2020 – 2022 being to the south. Stage Two is estimated from 2026 – 2027, meaning around 30% of the site will remain deactivated for some time post initial implementation. Notes for CPTED consideration:

a) Ensure removal of the dilapidated house and clearance of vegetation to the north (in area noted as Stage Two) as a part of Stage One criteria to avoid any loitering or use of the dilapidated building once the site has been shifted from private to public land.

b) The Stage Two area be perhaps delineated at the less activated part of the site nearer the east side.

c) Birchs Road incorporation is key. I articulate that activation at the further north west point of the site is encouraged to be a part of the initial stage of works 'Stage One' if possible, including hedge removal.

**Layout**

*Pathways*

62. As we enter a site, we instinctively look for the exit. The park needs to have clearly defined exit areas for people to comfortably enter and use it. For this to function correctly decision points or nodes will need to be created along the key paths proposed.

63. Entrapment spaces; a dead end invokes defensive responses and dissuades people from using it. There is potential for this in several areas particularly where activities are lacking or there are no active areas that paths are leading to. Options i.e. 'decision nodes' where traversers can choose to avoid or escape as / if required is encouraged along the shared and cycle paths.

64. The main shared path network is to be retained along Birchs Road, with a subsequent pathway shown as diverging into the park. This creates opportunity for decision nodes or escape routes i.e. the user of the Rail trail can option to deviate away from this or stay on course down Birches Road. The preference is to have these optional path routes, including that of continuation or retention of the shared path down Birchs Road, if passers-by do not feel comfortable traversing into the park area.

*Carparking*

65. Preference would be given to spaces that support groupings i.e. areas for parks as shown on masterplan, rather than parallel parking, where vehicles can easily 'escape'. Portions of fencing or bollards are encouraged to support appropriate controlled access and parking at temporal hours.

66. Parking along the Birchs Road main carpark will have the most visibility. Fencing and / or portions of bollards or fencing along the road facade is encouraged to control times of use. Good lighting along the paths and the carpark area is be imperative.

67. The service / maintenance area off Hamptons Road could be used as a congregation area. It will likely need to be detached, via bollards or fencing to dissuade this use. Detailed design on the arrangement of this area will be required once the design develops to ensure

visibility and safety of the area. It is noted several dwellings are located immediately across the road which will assist in surveillance, though the houses are relatively well screened / set back from the road.

68. Pull in areas for the police or fire emergency areas are to be considered, where large distances would not need to be covered on foot. There is a lack of linkage to the north eastern side of the site. If emergency services were required at north eastern areas (by waterways, walking tracks or dog exercise area), the distance links would be upwards of 300 metres across terrain to reach these areas.

*Buildings and Structures*

69. The buildings are situated well in relation to access and clear links. Each is in proximity to carparking for passive views from the roads and carparks. My discussions with the Police have suggested that break-ins, assaults or disturbances are well depleted when buildings are visible and are well connected, rather than set 'away' from the main access roads.

70. Clear paths, route options or decision nodes, and visibility should be maintained adjacent to the front of the (larger) building on Birchs Road. As noted, by Police data earlier, these areas can be problematic for crime.

71. The building near the dog park is set away from large portions of the site. Consideration could be made as to positioning this closer to the intersection areas down Leadleys Road service or maintenance area, depending on final arrangement of the park. Additional considerations should include the onsite observations results (see earlier section) which outlines there is good visibility from the house across the road but has suggested that this could be an area currently used for loitering.

*Vegetation*

72. Vegetation and shrubbery provide places to hide and conceal. While they are a crucial ecological part of park establishment, particularly when dealing with riparian margins, the species, design and layout of vegetation is very important to deter criminal activity. Riparian margin planting palettes will need to be considered for density and spread so that there will be no open areas created 'behind' plantings for concealment.

73. Larger trees and areas of planting should be concentrated away from key pathway links or areas where activity occurs at night.

74. There is several existing shelterbelts and large groupings of trees, in and /or adjacent to the site. Where these hedges block passive surveillance, particularly from Birchs Road, should be removed. The (minimal) interior site vegetation should also be cleared or lower branches that block sight lines be removed.

75. Development of plant palette species and will assist in further CPTED assessment. Canopy tree species and shrubs at lower levels are generally desirable species, to avoid any areas for concealment or hiding.

**Ownership and Quality Environments**

*Features*

76. Gates and fences are effective measures to control movement. Given the remoteness of the area it would practical to have some sort of gated access to all carparks.

77. Protection measures applied around key use areas particularly playgrounds. The play area, both natural and designed, should avoid any huts or building spaces as to deter any hidden areas for temporary lodgement or concealment.

78. Criminals are generally risk adverse. The visual presence of security cameras and fences and locks are often enough to dissuade or reduce criminal acts. These features are encouraged as they are effective to deter any criminal behaviour.

79. Lighting will need to be vandal resistant and well-maintained. This will be particularly important give the lack of existing lighting along Birchs Road and any spill lighting from surrounding properties. Bulb replacement could be put into an overall park management plan implemented.

**Actions for Consideration**

| CPTED Criteria | Assessment | Mitigations and Improvements Recommendation | Priority Level for Recommendations to Masterplan |
|---|---|---|---|
| Access | • A strong Birchs Road frontage is evident and is well utilised with the main carpark.<br>• The connection to Birchs Road intersection(s) display some connection and links for wayfinding.<br>• Overall route choices are available and evident in the interior space, with many paths.<br>• Play spine and nodes along path networks are desirable. | • Priority for intersection development, including north-east of site particularly, at corner entrance of Hamptons Road.<br>• Control of access and security gates is preferable.<br>• Links to all sports fields, Junior Sports fields and across the meadow area is encouraged.<br>• Access at key points be considered during staging. | Moderate |

| | | | |
|---|---|---|---|
| Surveillance | • Fixed visibility is not evident, and the site is not well viewed.<br>• Area lacks evident options to create further surveillance from fixed locations to site location and existing screening, unless using future development (property / expansion dependant).<br>• Main surveillance will be from Birchs Road.<br>• Isolation and remoteness will likely be a key CPTED issue. | • Improvements required to road frontage to maximise visual spectrum from Birchs Road particularly at the intersections.<br>• Given the lack of surveillance all efforts should be focused on opening out and maintaining views from and to Birchs Road as the key viewing platform. | High |
| Layout | • Good layout evident for sports fields, parks and youth spaces.<br>• Site specific / detailed layout for dogpark and for meadow undesirable, as links to the wider areas are not evident and are underutilised.<br>• Appropriate wetland and passive areas are evident as tie in inactive spaces with ecological links and creates pathways.<br>• Staging plan undesirable as does not include all of Birchs Road. | • Improvements required in refinement of key activities in relation to one another and in most visible areas.<br>• Meadow to considered for further activation in the 'active' intersection corner.<br>• Dogpark site specific treatments to ensure openness and links to wider park are included.<br>• Staging plan to be developed to include all active frontages in S1 (Birchs Road). | High |
| Activity Mix | • Evident given the good range and variety.<br>• Some areas are not evident given the 'dead spaces'<br>• Multi-use spaces desirable for flexibility and extension of activity mix. | • Links to each activity could be further considered.<br>• Temporal use and timing of each activity further defined, via pattern of use plan or otherwise, to ensure a proper maximised 'spread' of use.<br>• Link to layout of area north of Pa Harakeke needs refinement. | Moderate |
| Sense of Ownership | • Evident as all of the spaces will be diverted to public space.<br>• Evident as community engagement will be encouraged where possible. | The treatment of public space boundaries to define the area should be considered i.e. open and clear. | Low |

| | | | |
|---|---|---|---|
| Quality Environments | Evident as likely this will be of a high standard, given all spaces are newly established. | • Lighting required.<br>• Maintenance and management plan formulated.<br>• Details to be considered during development of plan. | Low |
| Physical Protection | | Notes above regarding fencing and lighting. This is in the masterplan for inclusion. | Low |

**Table 1: Priorities for Masterplan Adaptions for Consideration**

# Recommendations and Summary

## Summary

80. The proposed location in the block between Leadleys Road, Birchs Road and Hamptons Road is a in a rural area offset from the main town with low visibility. A key focus for the prevention of possible criminal activity is creating connections to the surrounding site; reducing the impression of isolation and creating community ownership and visibility.

81. Passing traffic mostly along Birchs Road, and secondary along Leadleys Road, provides movement and provides the majority of the visual audiences to survey the site. These should be highlighted and enhanced where possible.

## Overall Recommendations

82. The dog park will likely to be a well utilised asset for the area and will activate the site at a variety of times by both vehicular and pedestrian users. However, there may be issues with separation if it is not as included into the wider surroundings or main road links, and the other activities. This is as it is located at a poor surveillance area being offset from Birchs Road and the various (minimal) rural dwellings in the area. It is recommended that consideration be put into site specific components, such as open views and links, at a detailed level to meet CPTED requirements.

83. A key visual node is the corner of Hamptons Road and Birchs Road, due to the intersection pause point, the adjacent properties, the lead in to Prebbleton and the bus stops. It is recommended that this is activated rather than retained as future use only i.e. this should be included into Stage One of works. This will further activate the corner site and create a higher level of eyes on the site / additional surveillance, while increasing wayfinding and legibility. This area potentially holds the greatest opportunity for creating a sense of arrival by demarcation of the park entrance and should be made accessible and clear.

84. Community engagement is the best aversion for crime. The mix of activities, and the sports fields, are well suited and meet CPTED criteria such as quality, ownership, activations, and community buy-in. Encouragement for expansion, or variety for all community and park uses, is encouraged for additional activation.

85. It is recommended that the option for the existing shared path along the main Leadleys Road corridor is retained, rather than only diverted into the park, for ‘decision nodes’ to be

evident. This creates the choice to 'option out' and not traverse through the park if circumstances call for it, or if passer-by / users feel unsafe depending on the time of day or night.

86. The existing passive surveillance audiences in fixed locations is limited. This is due to the overall site location significantly lacking in fixed 'eyes on the site'. Where there are properties in the vicinity, they are usually well offset from the road and have extensive screening. It is recommended, where possible, that future activities in the area are encouraged such as cafes, commercial or retail activities (or otherwise) where possible. This will create additional views and interfaces with the site to create increased visibility and connection. In the evident absence of this, it is stressed that the key road interfaces, being Birchs and Leadleys Road, create the greatest surveillance through transient pedestrians or vehicles. Foremost efforts should be made to integrate by clearing vegetation, increasing pedestrian flow and slowing traffic movement past the site.

87. Vegetation around the site should be minimised around road frontages and no shrub species be proposed where sightlines would be blocked above 1000mm in height.

88. Lighting will be required. It is recommended that all the carparks and public facilities are well lit. It is recommended that the dog park area and subsequent toilet block be lit. It is also suggested that the main pathways down Birchs Road be lit as a key pedestrian route, and the ancillary areas adjacent, to avoid areas hidden in darkness direct accessing the paths.

*Future Development*

89. It is recommended that ongoing discussions, and/or a meeting, with the local police be undertaken in order to translate collected data into collaborative effective measures for crime prevention. This is particularly relevant once the masterplan is at a more detailed level, where security measures and finer details such as fencing or cameras, can be discussed.

90. It is recommended that a subsequent CPTED assessment and/or consultation be undertaken once the developed design has been undertaken on the concept masterplan, to review the plan regarding the finer details, such as seat locations and design of toilet blocks.

91. It is recommended that a Management and Maintenance Plan be developed in accordance with the park implementation, to uphold the CPTED criteria to display a sense of ownership and a high-quality environment.

# Appendix 1

# Photos: Site Observations

**Location 1: Looking west down Hamptons Road**

**Location 1: Looking south across existing shelterbelt plantings (adjacent to the site)**

**Location 2: Looking northwest on Hamptons Road to adjacent properties with some visibility. Most are partially or fully screened with hedges.**

**Location 2: Existing shelterbelt planting within the site along Hamptons Road. Clear open sight lines for visibility and surviellance is a CPTED principle.**

**Location 2: Delapidated house within the site**

**Location 3: Looking east down Hamptons Road**

**Location 3: Looking south at the intersection of Hamptons Road and Birchs Road area. The area is the busiest with vehicles traversing down Birchs (and across the Hamptons crossing) and the Rail Trail pedestrains / cyclists.**

**Location 3: Looking north down Birchs Road from Hamptons Road intersection. There is a fenced, unoccupied substation site on the corner. The speed limit changes to 60km/ph approximately 50m north (shown).**

**Location 4: Looking north down the east boundary of the site. Gum trees line the rural block (believed to be oustside of the site boundary).**

**Location 4: Looking west down Leadleys Road and the south boundary of the site. No active edges are present (across the road).**

**Location 4: Looking southeast from Leadleys Road to the closts dwelling. The house is one of the only in the vicinyt with open view sightlines to the proposal site.**

**Location 5: Looking east down Leadleys Road**

**Location 6: Looking south down Birchs Road to Leadleys Road interseciton. Most of these houses have the thick vegetative screening as shown on the left of the frame.**

**Location 6: Looking north down Birchs Road showing shelterbelt screening along residential boundaries.**

**Location 7: Looking south down Birchs Road**


**Location 7: Small break in vegtative screening down Birchs Road**

# Appendix G

Site Options Report

*Selwyn District Council*

# Prebbleton Sports Ground

# Site Options Assessment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Status: FINAL

# Executive Summary

This report commissioned by Selwyn District Council (SDC) seeks to undertake a preliminary site options assessment to evaluate the suitability of four sites identified by SDC for sports ground purchase/development purposes. The four sites considered are:

- Site One: Lot 2 DP 73548 (Shands Road)
- Site Two: Lot 1 DP 4932 (Hamptons Road)
- Site Three: Lot 2 DP 365486 (Birches/Leadleys Road)
- Site Four: Lot 1 DP 34032 (105 Tosswill Rd, Prebbleton)

Each site has been assessed against the following criteria:

- Geographical location, orientation and shape (suitability for sports ground layout)
- Access and traffic flows (pedestrian, cycle and vehicle)
- Connection to Prebbleton township and/or other complementary land uses
- Planning implications including zoning, designations and sites of significance
- Environmental constraints such as soil and hydrological constraints
- Contamination (high level check of the possibility of a site on the HAIL[1])
- Proximity to services
- Other distinguishable site features.

A weighted decision matrix was then been developed and used to determine the most suitable site for potential purchase and investigation into the development into a sports ground. The decision matrix is included in Appendix 2.

**Site Three** (Leadleys/Birches Road) has been identified as the preferred site option for the location of a new sports ground. Site Three provides opportunity for the establishment of at least four north-south orientated rugby pitches as well as additional amenities. The site has good connections to the 'Rail Trail', is within close proximity to residential development in Prebbleton and is within close proximity to Lincoln (5 minute drive). This site also provides for future expansion should this be required.

It is recommended that Site Three be investigated further for the development of a sports ground.

[1] The Hazardous Activities and Industries List (HAIL) is a compilation of activities and industries that are considered likely to cause land contamination resulting from hazardous substance use, storage or disposal (Ministry for the Environment, 2015).

# Contents

# Introduction

Selwyn District Council (SDC) have engaged Opus International Consultants to undertake a preliminary site options assessment to assess four greenfield sites for their suitability for sports ground purchase/development purposes. The appropriate greenfield site should accommodate at least four full sized sports pitches to meet short to medium term demand.

The Council has identified four (non-council owned) sites for consideration, all between 8 and 21 ha in size where a sports ground could be located. These sites are described below. A location map is also contained in Appendix One of this report.

- Site One: Lot 2 DP 73548 (Shands Road)
- Site Two: Lot 1 DP 4932 (Hamptons Road)
- Site Three: Lot 2 DP 365486 (Birches/Leadleys Road)
- Site Four: Lot 1 DP 34032 (105 Tosswill Rd, Prebbleton)

Council has also identified four alternative sites available for consideration should none of the four sites identified above be suitable to establish a new sports ground.

This report is a desktop study only; however, site visits were undertaken by Michele Frey and Kate Randell to identify any obvious physical constraints at each site.

This report assesses each sites against the following criteria:

- Geographical location, orientation and shape (suitability for sports ground layout)
- Access and traffic flows (pedestrian, cycle and vehicle)
- Connection to Prebbleton Township and/or other complementary land uses
- Planning implications including zoning, designations and sites of significance
- Environmental Constraints such as soil and hydrological constraints
- Contamination (high level check of the possibility of a site on the HAIL[2])
- Proximity to services
- Other distinguishable site features.

A weighted decision matrix has then been developed and used to determine the most suitable site for potential purchase and investigation into the development into a sports ground.

This report does not explore the need for an additional sports ground in Prebbleton nor does it make recommendations around land purchase. It is noted that all sites are currently in private ownership and it has been assumed that SDC will engage with the landowners and consider the cost to purchase in the detailed site assessment that will follow this report.

[2] The Hazardous Activities and Industries List (HAIL) is a compilation of activities and industries that are considered likely to cause land contamination resulting from hazardous substance use, storage or disposal (Ministry for the Environment, 2015).

# Decision Making Criteria

There are a number of factors that need to be taken into consideration when determining the most appropriate location for a sports ground. This section discusses the key factors that require consideration for a sports ground in Prebbleton.

## 1.1 Geographical location, shape and orientation

Best practice shows that sports grounds are best located within reasonable distance of populations. Rural, isolated land some distance from Prebbleton Township is therefore less desirable.

8 ha has been identified as the minimum land area required for a sports ground. This size is to accommodate a minimum of four full sized fields plus extra space for training/junior fields.

Any potential sports ground must be able to accommodate playing fields with competitive dimensions for rugby, soccer and cricket. The International Rugby Board (IRB) specifies that the field of play for rugby is 120 metres in length and 70 metres in width (8,400 $m^2$ in total). New Zealand Football (NZ Football) specified that the field of play for soccer is 105 metres in length and 68 metres in width.

The sports ground site must be able to accommodate four full sized rugby pitches side by side. It should be noted that the site must also be able to accommodate vehicle access ways, car parking, spectator areas, general play areas/training areas and clubrooms.

Sites should allow for north-south orientation of the sports field, which is desirable in comparison to an east-west orientation. Orientation of a site is also important when taking into account Crime Prevention through Urban Design (CPTED) principles. Sports field sites must be able to be orientated in a manner that discourages crime, provides for casual surveillance, and enhances perceptions of safety and way-finding.

Avoid directly conflicting activities that occur adjacent to or close to the proposed site. Conflicting activities might include existing rubbish dumps and industries discharging undesirable emissions for example.

## 1.2 Access and Traffic Flows

Current best practice suggests that successful sports grounds are those that can be accessed easily, both through vehicle use and by more active modes such as cycling and walking. Consideration should also be given to limitations caused by physical barriers such as major roads.

Vehicle access to facilities includes factors such as safe routes of travel, reasonable distance to travel and easy parking upon arrival at the facility for example.

Cycle access to facilities includes consideration of factors such as safe cycleway provision, reasonable distance to travel for cyclists and suitable cycle lock up facilities on site.

Walking access to facilities includes consideration of factors such as safe walkway provision and reasonable distance for walkers to get to the sports ground (taking into account any equipment that may need to be carried). A comfortable walking distance has been defined by Massey University's Centre for Social and Health Outcomes Research and Evaluation as 800 metres to community facilities.

Public transport should be another factor for consideration; however, currently there is very limited public transport provision in the Selwyn District. Location of the facility along public bus routes should be considered in the future where public transport options are available.

## 1.3 Connection to Prebbleton Township and/or other complementary land uses

Open spaces are important in providing physical linkages for transport routes, to connect activities and develop 'green corridors'.

The latest demographic data for Selwyn shows that Prebbleton is growing at a significant rate and subsequently demand for open space and associated facilities is also increasing. It remains important that sports grounds and other open spaces are developed in a co-ordinated manner to ensure they are well connected and effective to meet the demands of the community.

Sites located within close proximity to the existing Prebbleton Township and/or areas marked for significant residential subdivision development will be well connected to the community. This will help to install CPTED principles at the site as community ownership of a space encourages people to take care of the space and feel associated with it.

Multi-use of facilities (use by a number of sports codes as opposed to exclusive use) has been shown to be an effective, cost saving option for sports codes.

Trends and best practice suggests that the 'Sportville model' or the support of a variety of sports codes by one administrative body can have positive impacts on the respective codes. There is a reduced reliance on volunteer resources whilst the communities benefit from the greater efficiency of resource use such as paid staff.

## 1.4 Planning Implications

Given the scale of the sports ground development and the rural nature of all sites considered it is likely resource consent/s or a designation process could be required for its development on any of the site options. However, there are some planning requirements that could make development of a sports ground on a particular site undesirable. This includes storm water consent requirements on sites that require onsite storm water attenuation, irrigation requirements, large car parking shortfalls, and impacts on neighbours (in particular the effect of locating a recreational facility next to residential properties) with associated effects like increased traffic moments, lighting and noise.

Resource consent may be required from Environment Canterbury for any activities involving, earthworks, and discharges to surface and/or groundwater or to land where it may enter water, the take and use of groundwater and/or surface water and works within the bed of a river.

Resource consent or a designation process may be required from Selwyn District Council for the use of land and the associated car parking, traffic movement, lighting, noise and ancillary buildings.

In addition to this any site with an identified risk of discovery of archaeological material may require additional approvals from Heritage New Zealand Pouhere Taonga, which may be in the form of an archaeological authority. Cultural and heritage factors also require consideration.

A brief assessment has been made in terms of the planning implications at each site. Relative risks have been factored into the site analysis.

## 1.5 Environmental Considerations

Relatively flat land can help to reduce construction complexity and cost. A flat site is easier to remove topsoil and find solid ground.

Natural sports fields (sand and soil based) will not perform in extreme climatic conditions including drought, coldness, wind and high rainfall periods.

The physical properties of soil on-site can affect the type of sports field to be developed including the need for costly foundations for artificial turfs and structures on-site (such as goal posts, clubrooms, toilet blocks etc.).

Sites must have provision for water storage or stormwater detention ponds.

Excessive shade from trees can be detrimental to grass growth during winter. Tree roots may also pose risk to turf drainage systems resulting in drainage failure.

## 1.6 Contamination

Land is considered contaminated when there are any hazardous substances that could pose a threat to human health or the environment.

Hazardous land uses include orchards, market gardens and other horticultural land where chemicals may have been stored or spraying may have occurred; service stations and other underground or above-ground storage of hazardous substances; motor vehicle workshops, timber treatment sites and some industrial sites.

Environment Canterbury maintains a database, called the Listed Land Use Register (LLUR) to meet its requirements under S.30 of the Resource Management Act (RMA). This requires the identification and monitoring of contaminated land, which is land defined by the Ministry for the Environment (MfE) on the Hazardous Activities and Industries List2 (HAIL – Appendix 1).

Any site on the LLUR would require a preliminary and/or detailed site investigation to be undertaken by a suitability qualified person to determine the level of contamination and risk to human health. This may result in the need for the site to be remedied prior to the establishment of a sports ground.

With a proposed change of land use from agriculture to recreation, an investigation of contamination via a Preliminary Site Investigation (PSI) will be required as an initial step to comply with the

National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES).

## 1.7 Proximity to services

Given the predominately rural nature of Prebbleton not every site identified is serviced by reticulated sewer and/or water (or able to easily be connected to the reticulated network).

Sites unable to be serviced would result in the need to install onsite treatment systems for both water and sewer, which is costly.

# Site Analysis

## 2 Site One: Shands Road

Site one is described as Lot 2 DP 73548. The site is located on the western side of Shands Road approximately 280 metres south of the intersection with Trents Road (see figure one and figure two below).


Figure 1 – Aerial Photograph showing Site One (highlighted in red)


Figure 2 – Aerial Photograph of the site (outlined in red)

The site is owned by Wang Paul Ming-Lung & Julie Shou-Li: The Wang Family Trust No 2, is 10 ha in size and currently in pasture.

## 2.1 Geographical location, shape and orientation

The site is located approximately 1.7 km from the centre of Prebbleton Township on the east side of town on the road toward Christchurch. The surrounding sites are rural and there is a large lot directly opposite to the site on Shands Road that is earmarked for future rural-residential development. The site is, however, located close to the parcels of land identified in the Selwyn District Plan as the Kingcraft Drive existing residential development.

The site is rectangular in shape with an additional square block to the north.

The site is orientated toward the north. The site would accommodate approximately five north-south orientated sports fields.

Shelter belts surround eastern, southern and part of the western boundary of the site. These will provide shelter from the southerly and westerly winds.

Power lines cross over the middle of the site.

The site is located within Earthquake Zone B and the high wind zone.

## 2.2 Access and Traffic Flows

The site is accessed from Shands Road. There is currently partial driveway access to the site.

Shands Road is identified in the Selwyn District Plan as Arterial Road, which means that it is a road that connects areas of district importance not already provided by State Highways. Arterial roads connect the district's townships and other important places and activities together, including across district boundaries. Arterial roads are subject to high traffic flows. The speed limit 80 km/hour.

The site itself and Shands Road are identified within the area encompassed by the 2007 Christchurch, Rolleston and Environs Transportation Study (CRETS). CRETS identifies that following the extension of the Christchurch Southern Motorway a full interchange will be installed at the Shands/Marshs Roads Intersection, which will attract traffic to use Shands Road in preference to Springs Road.

Shands Road will create a significant barrier for access, especially for walking and cycling.

Given the site is 10 ha, which makes it on the larger side, there is plenty of space to establish car parking on the site. However, safe access to and from the site for vehicles from Shands Road may be difficult to establish without reducing the speed limit on the road.

There is no designated cycle or pedestrian access to the site currently. With regards to Massey University's 800 metres comfortable walking distance guide, a majority of the Prebbleton Township is located greater than 800 metres from the site.

## 2.3 Connection to Prebbleton Township and/or other complementary land uses.

As discussed in Section 2.1 above, the site is located approximately 1.7 km to the west of the Prebbleton Township. In terms of connection to the township the site's location on Shands Road creates a barrier in terms of having to cross an 80 km/hr road to get the township.

The site is located some distance from Prebbleton Township; however, it is noted that is directly opposite an area earmarked for possible future rural residential subdivision (RRS Areas). Should this future development occur it may provide linkages from the site to the residential development within the Kingscraft Drive subdivision.

The site is also not located close to any other parks and recreation facilities. It is, however, located close to the Shands Road Cemetery, which is a passive open space area.

## 2.4 Planning Implications

The site is currently zoned for 'Rural Inner Plains' use in the Selwyn District Plan (District Plan). The consequence of this is that a sports ground development would not be anticipated by the zoning requirements in the Plan and a resource consent or a designation process would be required. Given the open space nature of a sports ground it is likely that effects could be assessed as less than minor; however, this cannot be established until concept design for the development is undertaken.

The main planning constraint at the site will be around vehicle access: the Council would need to demonstrate safe entry and exit points from the site onto Shands Road and also the provision of sufficient onsite car parking.

Resource Consent would also likely be required from Environment Canterbury for the diversion of drainage water (if required), discharge of drainage water, discharge of stormwater from the site during construction and the taking of groundwater for irrigation if required. As the site is not serviced consent would also be required should the council decide to install an onsite human effluent discharge system (septic tank). The site is located within a Red (over allocated) groundwater zone meaning that there may be restrictions around irrigation. The site is also located in a red nutrient allocation zone, which means Environment Canterbury will generally control the amount of nitrogen able to be applied to the land (in relation to groundwater leaching). However, fertiliser application to sports fields is exempt from this requirement.

There are no known cultural or heritage risks associated the development of a sports ground at this site.

## 2.5 Environmental Considerations

The site and surrounding area is almost flat with a maximum slope of 0.5% (north to south).

The site is located in a high wind zone (44 metres/second) and is susceptible to both morning and evening frosts in the winter.

Landcare S-maps Soil describe the area of the proposed sports grounds as follows:

| Soil Type | Dominant soil texture: | Dominant soil drainage | Dominant soil depth | ECAN soil group | Weighted Average PAW 30cm: | Weighted Average PAW 60cm: | Confidence |
|---|---|---|---|---|---|---|---|
| Templeton Deep Silty Loam (60%) and Templeton Deep Silty Loam (40%) | Silty | Imperfectly Drained | Deep (>100cm) | Heavy | 52 | 98 | Moderate |

The site is located over the unconfined/semi confined aquifer system. Groundwater at the site is recorded at its highest at 4 metres below ground level.

## 2.6 Contamination

The site is not listed on ECan's LLUR as containing or previously containing a HAIL site. A review of aerial images dating back to the early-1940s indicate that currently and historically, the site appears to have been predominantly used for agricultural purposes, such as grazing and possibly cropping.

It is noted that general farming is not an activity listed on the Ministry for the Environment's (MfE) HAIL, and therefore the potential for the site being contaminated from past and current agricultural use is low. However, if SDC wishes to have more certainty with respect to the potential for soil contamination (e.g. pesticide use, or livestock dips), a more comprehensive Preliminary Site Investigation (PSI) could be undertaken. This would include investigating property files and the SDC databases, historic title searches, a site walkover by a contaminated land specialist.

## 2.7 Services

The site is not connected to any reticulated sewer, water or stormwater networks. Nor are there any neighbouring connections. Overhead power lines do run over the site.

There are existing wells onsite that could be utilised as water supply for the site, subject to a water permit being approved or transferred to the site. Please note that existing well is approximately 35 m deep and may be unsuitable for potable supply due to the unconfined/semi-confined nature of the first (topmost) aquifer in the area, and the expected elevated levels of contaminants (such as Nitrate-Nitrogen). This is likely due to the surrounding agricultural land use. Given this, deeper bores would be required to supply "clean" potable water to the site.

# 3 Site Two: Hamptons Road

Site two is described as Lot 1 DP 4932. The site is located on the southern side of Hamptons Road approximately 402 metres east of the intersection with Springs Road (see figure three and figure four below).


Figure 3 – Aerial Photograph showing Site Two (highlighted in red)


**Figure 4 – Aerial Photograph of the site (outlined in red)**

The site is owned by Frances David Phillip and James Alan and William, D Richardson and Gerard Thwaites, is 8.7 ha in size and currently in pasture.

## 3.1 Geographical location, shape and orientation

The site is located approximately 1 km from the centre of Prebbleton Township on the south west side of town. The surrounding sites are rural to the north and west of the site. The predominant land use to the east of the site is residential. There is a large lot close to the site that is earmarked for future rural-residential development.

The site is rectangular in shape. The site would accommodate at least four north-south orientated sports fields, but is possibly more suited to an east-west orientation.

Power lines run across the site's frontage with Hamptons Road.

## 3.2 Access and Traffic Flows

The site is accessed from Hamptons Road. There is currently no driveway access to the site.

Hamptons Road is identified in the Selwyn District Plan as an Arterial Road, which means that it is a road connecting areas of district importance not already provided by State Highways. Arterial roads connect the district's townships and other important places and activities together, including across

district boundaries. Arterial roads are subject to high traffic flows. The speed limit is 80 km/hour. This section of road is expected to have substantially higher traffic volume following the construction of the Christchurch Southern Motorway.

Given the site is over 8 ha it makes it on the larger side therefore there is plenty of space to establish car parking on the site. However, safe access to and from the site for vehicles from Hamptons Road may be difficult to establish without reducing the speed limit on the road.

There is no designated cycle or pedestrian access to the site currently. With regards to Massey University's 800 metres comfortable walking distance guide, the majority of the eastern side of the Prebbleton Township is located within 800 metres from the site. However, the township itself including the Primary School are located over 1 km away.

The rural nature of the site and the high speed limits on Hamptons Road may deter people from walking to the site. However, connections may be able to be made to the site via the proposed residential developments.

## 3.3 Connection to Prebbleton Township and/or other complementary land uses.

As discussed in Section 3.1 above, the site is located approximately 1 km to the south-west of the Prebbleton Township. In terms of connection to the township the sites has the potential to be connected via walkways through the existing and potential residential developments.

The site is located some distance from Prebbleton Township however it is noted that it is directly opposite an area earmarked for possible future rural residential subdivision (RRS Areas). Should this future development occur it may provide linkages from the site to the residential development within the Kingscraft Drive subdivision.

The site is also not located close to any other parks and recreation facilities.

## 3.4 Planning Implications

The site is currently zoned for 'Rural Inner Plains' use in the Selwyn District Plan (District Plan). The consequence of this is that a sports ground development would not be anticipated by the zoning requirements in the Plan and a resource consent or designation process would be required. Given the open space nature of a sports ground it is likely that effects could be assessed as less than minor however this cannot be established until concept design for the development is undertaken.

The main planning constraint at the site will be around vehicle access, the Council would need to demonstrate safe entrance and exit from the site onto Hamptons Road and also the provision of sufficient onsite car parking.

Resource Consent would also likely be required from Environment Canterbury for the diversion of drainage water (if required), discharge of drainage water, discharge of stormwater from the site during construction and the taking of groundwater for irrigation if required. As the site is not serviced, consent would also be required should the Council decide to install an onsite human

effluent discharge system (septic tank). The site is also located in a red nutrient allocation zone, which means Environment Canterbury will generally control the amount of nitrogen able to be applied to the land (in relation to groundwater leaching). However, fertiliser application to sports fields is exempt from this requirement.

There are no known cultural or heritage risks associated the development of a sports ground at this site.

## 3.5 Environmental Considerations

The site and surrounding area is almost flat with a maximum slope of 0.5% (north to south).

The site is susceptible to both morning and evening frosts in the winter.

Landcare S-maps Soil describe the area of the proposed playing grounds as follows:

| Soil Type | Dominant soil texture: | Dominant soil drainage | Dominant soil depth | ECAN soil group | Weighted Average PAW 30cm: | Weighted Average PAW 60cm: | Confidence |
|---|---|---|---|---|---|---|---|
| Eyre shallow loam (60%), Eyre shallow loam (40%) | Loamy | Well-drained | Shallow (20-44cm) | Medium | 63 | 85 | Moderate |
| Templeton deep silty loam (50%), Templeton moderately deep silty loam (30%), Templeton deep silty loam (20%) | Silty | Moderately well-drained | Deep (>100cm) | Heavy | 53 | 99 | Moderate |
| Templeton deep silty loam (70%), Templeton moderately deep silty loam (30%) | Silty | Moderately well-drained | Deep (>100cm) | Heavy | 58 | 106 | Moderate |

The site is located over the unconfined/semi confined aquifer system. Groundwater at the site is recorded at its highest at 7 metres below ground level.

## 3.6 Contamination

The site is not listed on ECan's LLUR as containing or previously containing a HAIL site. A review of aerial images dating back to the mid-1960s indicate that currently and historically, the site appears

to have been predominantly used for agricultural purposes, such as grazing and possibly cropping. It is noted that general farming is not an activity listed on the Ministry for the Environment's (MfE) HAIL, and therefore the potential for the site being contaminated from past and current agricultural use is low. However, if SDC wishes to have more certainty with respect to the potential for soil contamination (e.g. pesticide use, or livestock dips), a more comprehensive PSI could be undertaken. This would include investigating property files and the SDC databases, historic title searches, a site walkover by a contaminated land specialist.

## 3.7 Services

The site is not connected to any reticulated sewer, water or stormwater networks. An existing water line is in relatively close proximity to this site that could provide for a future connection. Overhead power lines run over the site.

There are no existing wells that can be utilised as water supply for the site. If a well was to be required for the site, please note that due to the unconfined/semi-confined nature of the first (topmost) aquifer in the area, is expected that some elevated levels of contaminants (such as Nitrate-Nitrogen) may be present in the shallow groundwater source. This is likely due to the surrounding agricultural land use. Given this, deeper bores would be required to supply "clean" potable water to the site.

# 4 Site Three: Birches/Leadleys Road

Site three is described as Lot 2 DP 365486. The site is located on the northern side of Leadleys Road at the intersection with Birches Road. The site has frontages onto both Birches and Leadleys Road (see figure five and figure six below).


Figure 5 – Aerial Photograph showing Site three (highlighted in red)


Figure 6 – Aerial Photograph of the site (outlined in red)

The site is owned by Stanley and Jennifer Laming, is 21.46 ha in size and currently in pasture. There is a dwelling located on the site.

## 4.1 Geographical location, shape and orientation

The site is located approximately 1.5 km from the centre of Prebbleton Township on the southern side of town. The surrounding sites are rural to the north and west of the site. The predominant land use to the north of the site is residential. There is a large lot adjacent to the site that is earmarked for future rural-residential development.

The site has street frontages on three sites, fronting Leadleys, Hamptons and Birches Road.

The site is rectangular in shape. The site would accommodate approximately eleven north-south orientated sports fields.

Power lines run across diagonally south-east corner of the site and then cross Leadleys Road.

There is a creek (water race) running through the site.

## 4.2 Access and Traffic Flows

The site is accessed from Leadleys, Hamptons and Birches Road. There is an existing driveway access to the site off Hamptons Road. There is currently no drive access from Leadleys or Birches Road.

Hamptons and Leadleys Roads are identified in the Selwyn District Plan as Arterial Roads, which means that they are roads that connect areas of district importance not already provided by State Highways. Arterial roads connect the district's townships and other important places and activities together, including across district boundaries. Arterial roads are subject to high traffic flows. The speed limit is 100 km/hour.

Birches Road is identified in the Selwyn District Plan as Collector Road. The speed limit on Birches Road at the site is 100 km/hr. Birches Road drops to a speed limit of 70 km/hr 40 metres north of the intersection with Hamptons Road and then to 50 km/hr following the intersection with Trices Road as the road enters the urban area of Prebbleton.

Given the site is over 21 ha there is plenty of space to establish car parking on the site; however, safe access to and from the site for vehicles from either Birches or Leadleys Road may be difficult to establish without reducing the speed limit on these roads.

The Rail Trail cycle track runs along the Birches Road frontage on the site and provides an excellent existing connection to the town. With regards to Massey University's 800 metres comfortable walking distance guide, the majority of the southern side of the Prebbleton Township is located within 800 metres from the site. However, the township itself including the Primary School are located over 1km away.

The rural nature of the site and the high speed limits on Birches and Leadleys Road may deter people from walking to the site. However, connections may be able to be made to the site via the proposed residential developments. Future development to the north of the site may also result in reduced speed limits on either Hamptons or Birches Road.

## 4.3 Connection to Prebbleton Township and/or other complementary land uses.

As discussed in section 4.1 above, the site is located approximately 1.5 km to the north of the Prebbleton Township. In terms of connection to the township the sites has the potential to be connected via walkways through the existing and potential residential developments.

The site is located some distance from Prebbleton Township; however, it is noted that is directly opposite an area earmarked for possible future rural residential subdivision (RRS Area). Should this future development occur it may provide linkages from the site to the township.

The site is not located close to any other parks and recreation facilities. This site is relatively close (a 5 minute drive) to Lincoln Township and the existing Rail Trail connection also provides an easily accessible route to this nearby town.

## 4.4 Planning Implications

The site is currently zoned for 'Rural Inner Plains' use in the Selwyn District Plan (District Plan). The consequence of this is that a sports ground development would not be anticipated by the zoning requirements in the Plan and a resource consent or designation process would be required. Given

the open space nature of a sports ground it is likely that effects could be assessed as less than minor; however, this cannot be established until concept design for the development is undertaken.

The main planning constraint at the site will be around vehicle access, the Council would need to demonstrate safe entrance and exit points from the site onto Leadleys and/or Birches Road and also the provision of sufficient onsite car parking.

Resource Consent would also likely be required from Environment Canterbury for the diversion of drainage water (if required), discharge of drainage water, discharge of stormwater from the site during construction, any extraction within 50 metres of the creek/drain running through the site and the taking of groundwater for irrigation if required. As the site is not currently serviced consent would also be required should the Council decided to install an onsite human effluent discharge system (septic tank). The site is also located in a red nutrient allocation zone, which means Environment Canterbury will generally control the amount of nitrogen able to be applied to the land (in relation to groundwater leaching). However, fertiliser application to sports fields is exempt from this requirement.

If the existing water race was closed and reverted to a drain, consent would be required for discharge of any drainage from the sports fields.

There are no known cultural or heritage risks associated the development of a sports ground at this site.

## 4.5 Environmental Considerations

The site and surrounding area is almost flat with a maximum slope of 0.5% (north to south).

The site is susceptible to both morning and evening frosts in the winter.

Landcare S-maps Soil describe the area of the proposed playing fields as follows:

| Soil Type | Dominant soil texture: | Dominant soil drainage | Dominant soil depth | ECAN soil group | Weighted Average PAW 30cm: | Weighted Average PAW 60cm: | Confidence |
|---|---|---|---|---|---|---|---|
| Eyre shallow loam (60%), Eyre very shallow loam (30%), Eyre shallow loam (10%) | Clayey | Well drained | Shallow (20-45 cm) | Very Light | 44 | 59 | Moderate |
| Flaxton deep silty loam (100%) Templeton deep silty loam (50%), | Silty | Poorly drained | Deep (>100 cm) | Poorly Drained | 86 | 158 | High |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Templeton moderately deep silty loam (30%), Templeton deep silty loam (20%) | | | | | | | |
| Temuka deep silty loam over clay (70%), Temuka deep clay (30%) | Silty | Moderately well-drained | Deep (>100 cm) | Heavy | 53 | 99 | Moderate |
| Wakanui deep silty loam (60%), Wakanui deep silty loam over sandy loam (40%) | Clayey | Imperfectly drained | Deep (>100 cm) | Poorly Drained | 78 | 133 | High |

The site is located over the unconfined/semi confined aquifer system. Groundwater at the site is recorded at its highest at 4.1 metres below ground level.

There is a drain that runs through the site splitting it in two. This would potentially be developed as a feature of the site.

## 4.6 Contamination

The site is not listed on ECan's LLUR as containing or previously containing a HAIL site. A review of aerial images dating back to the mid-1960s indicate that currently and historically, the site appears to have been predominantly used for agricultural purposes, such as grazing and possibly cropping. It is noted that general farming is not an activity listed on the Ministry for the Environment's (MfE) HAIL, and therefore the potential for the site being contaminated from past and current agricultural use is low. However, if SDC wishes to have more certainty with respect to the potential for soil contamination (e.g. pesticide use, or livestock dips), a more comprehensive PSI could be undertaken. This would include investigating property files and the SDC databases, historic title searches, a site walkover by a contaminated land specialist.

## 4.7 Services

The site is not connected to any reticulated sewer, water or stormwater networks; however, is there is reticulated stormwater running up Birches Road. The site provides room for stormwater detention ponds.

Nor are there any neighbouring connections. Overhead power lines run over the south east corner of the site.

There are two existing wells onsite that could be utilised as water supply for the site. However, both these wells are relatively shallow, and due to the unconfined/semi-confined nature of the first (topmost) aquifer in the area, is expected that some elevated levels of contaminants (such as Nitrate-

Nitrogen) may be present in the shallow groundwater source. This is likely due to the surrounding agricultural land use. Given this, the two bores are unlikely to provide “clean” potable water to the site and a deeper bore would be required.

# 5 Site Four: 105 Tosswill Rd, Prebbleton

Site four is described as Lot 1 DP 34032. The site is located at 105 Tosswill Road. The site fronts Tosswill Road approximately 218 metres north-west of the intersection with Trices Road (see figure seven and figure eight below).


**Figure 7 – Aerial Photograph showing Site three (highlighted in red)**


Figure 8 – Aerial Photograph of the site (outlined in red)

The site is owned by is Terrence Richard Waghorn and Myrtle Louise Davey, is 8.1 ha in size and currently in pasture. There is a dwelling and sheds located on the site.

## 5.1 Geographical location, shape and orientation

The site is located approximately 600 metres from the centre of Prebbleton Township on the south-eastern side of town. The surrounding sites are residential to the west of the site. The predominant land use to the north, east and south of the site is rural. There is a large lot adjacent to the site that is earmarked for future rural-residential development.

The site has street frontage to Tosswill Road and is located within close proximity to the existing Prebbleton Domain.

The site is rectangular in shape. The site would accommodate approximately four north-south orientated sports fields.

There is a creek running along the eastern and southern boundaries of the site.

## 5.2 Access and Traffic Flows

The site is accessed from Tosswill Road. There is an existing driveway access to the site off Tosswill Road.

Tosswill Road is identified in the Selwyn District Plan as collector road. The speed limit on Tosswill Road at the site is 70 km/hr. Tosswill Road drops to a speed limit of 50 km/hr 50 metres north of the of the site as the road enters the urban area of Prebbleton.

Given the site is 8 ha there is plenty of space to establish car parking on the site the lower speed limit on the road allows for the establishment of safe access to and from the site for vehicles.

There is no designated cycle or pedestrian access to the site currently. With regards to Massey University's 800 metres comfortable walking distance guide, the majority of the eastern side of the Prebbleton Township is located within 800 metres from the site. The centre of the township is located 600-800 metres from the site.

There is an opportunity to develop both cycle and walking connections to the site from the township given its close proximity to the urban area (including the Prebbleton Domain, which already contains walking and cycling connections to the township) and the lower speed limits on Tosswill Road.

## 5.3 Connection to Prebbleton Township and/or other complementary land uses.

As discussed in Section 3.1 above, the site is located approximately 600-800 metres to the south-east of the Prebbleton Township. In terms of connection to the township the sites has the potential to be connected via walkways through the existing and potential residential developments.

The site is located 100 metres away from the existing Prebbleton Domain.

## 5.4 Planning Implications

The site is currently zoned for 'Rural Inner Plains' use in the Selwyn District Plan (District Plan). The consequence of this is that a sports ground development would not be anticipated by the zoning requirements in the Plan and a resource consent or designation process would be required. Given the open space nature of a sports ground it is likely that effects could be assessed as less than minor however this cannot be established until concept design for the development is undertaken.

The main planning constraint at the site will be around vehicle access, the Council would need to demonstrate safe entrance and exit from the site onto Tosswill Road and also the provision of sufficient onsite car parking.

Resource Consent would also likely be required from Environment Canterbury for the diversion of drainage water (if required), discharge of drainage water, discharge of stormwater from the site during construction, any exaction within 50 metres of the creek/drain running through the corner of the site and the taking of groundwater for irrigation if required. The site is also located in a red nutrient allocation zone, which means Environment Canterbury will generally control the amount of nitrogen able to be applied to the land (in relation to groundwater leaching). However, fertiliser application to sports fields is exempt from this requirement.

There are no known cultural or heritage risks associated the development of a sports ground at this site.

## 5.5 Environmental Considerations

The site and surrounding area is almost flat with a maximum slope of 0.5% (north to south).

The site is susceptible to both morning and evening frosts in the winter.

Landcare S-maps Soil describe the area of the proposed playing fields as follows:

| Soil Type | Dominant soil texture: | Dominant soil drainage | Dominant soil depth | ECAN soil group | Weighted Average PAW 30cm: | Weighted Average PAW 60cm: | Confidence |
|---|---|---|---|---|---|---|---|
| Eyre shallow loam (60%), Eyre shallow loam (40%) | Loamy | Well-drained | Shallow (20-45 cm) | Medium | 63 | 85 | Moderate |
| Templeton deep silty loam (70%), Templeton moderately deep silty loam (30%) | Silty | Moderately well-drained | Deep (>100 cm) | Heavy | 58 | 106 | Moderate |
| Temuka deep silty loam over clay (60%), Flaxton deep silty loam over clay (40%) | Clayey | Poorly drained | Deep (>100 cm) | Poorly Drained | 84 | 140 | Moderate |
| Wakanui deep silty loam (85%), Templeton deep silty loam (15%) | Silty | Imperfectly drained | Deep (>100 cm) | Heavy | 50 | 91 | High |

The site is located over the unconfined/semi confined aquifer system. Groundwater at the site is recorded at its highest at 3.5 metres below ground level.

There is a drain that adjoins the south-eastern boundary of the site.

## 5.6 Contamination

The site is not listed on ECan's LLUR as containing or previously containing a HAIL site. A review of aerial images dating back to the mid-1960s indicate that currently and historically, the site appears to have been predominantly used for agricultural purposes, such as grazing and possibly cropping. It is noted that general farming is not an activity listed on the Ministry for the Environment's (MfE) HAIL, and therefore the potential for the site being contaminated from past and current agricultural use is low.

However, it is noted that parts of the site are shown to have been potentially used for material storage in the early to mid-1970s. Given this, to determine the level of contamination and remediation requirements with respect to the potential for soil contamination, a more comprehensive PSI would be required. This would include investigating property files and the SDC databases, historic title searches, a site walkover by a contaminated land specialist. If the PSI determines the potential for soil contamination, then a Detailed Site Investigation (DSI) would be required, and potentially a resource consent under the NES.

## 5.7 Services

The site is not currently connected to any reticulated sewer, water or stormwater networks; however, there is reticulated services (water and sewer) running adjacent to the site and connected to the neighbouring residential developments.

There are no overhead power lines run over or adjacent to the site. It can be assumed that there are electrical and telecommunication services in the adjacent residential subdivision.

There is one existing active well (and one inactive well) onsite that could also be utilised as water supply if required. However, both these wells are shallow, and due to the unconfined/semi-confined nature of the first (topmost) aquifer in the area, is expected that some elevated levels of contaminants (such as Nitrate-Nitrogen) may be present in the shallow groundwater source. This is likely due to the surrounding agricultural land use. Given this, the two bores are unlikely to provide "clean" potable water to the site and a deeper bore would be required.

# Recommendation

Each of the decision making criteria discussed for each site above has been applied through a decision-making matrix attached as Appendix Two. A weighting has been applied based on whether each criteria offers a significant opportunity or constraint i.e. site size has been weighted the highest weighting (4) as this factor is either an opportunity or constraint to the establishment of four sports fields and is not easily influenced. District and Regional consenting constraints have been given a low rating as these constraints can be addressed through the resource consent/ designation process, and therefore can be moderated.

A score has then been given to each site based as to whether or not the site offers opportunity or constraints in relation to the relevant criteria. A score of 1 has been given if a site presents an opportunity, a score of 0 has been given where a site offers no opportunity or constraint, and a score of -1 has been given when the particular criteria is a constraint.

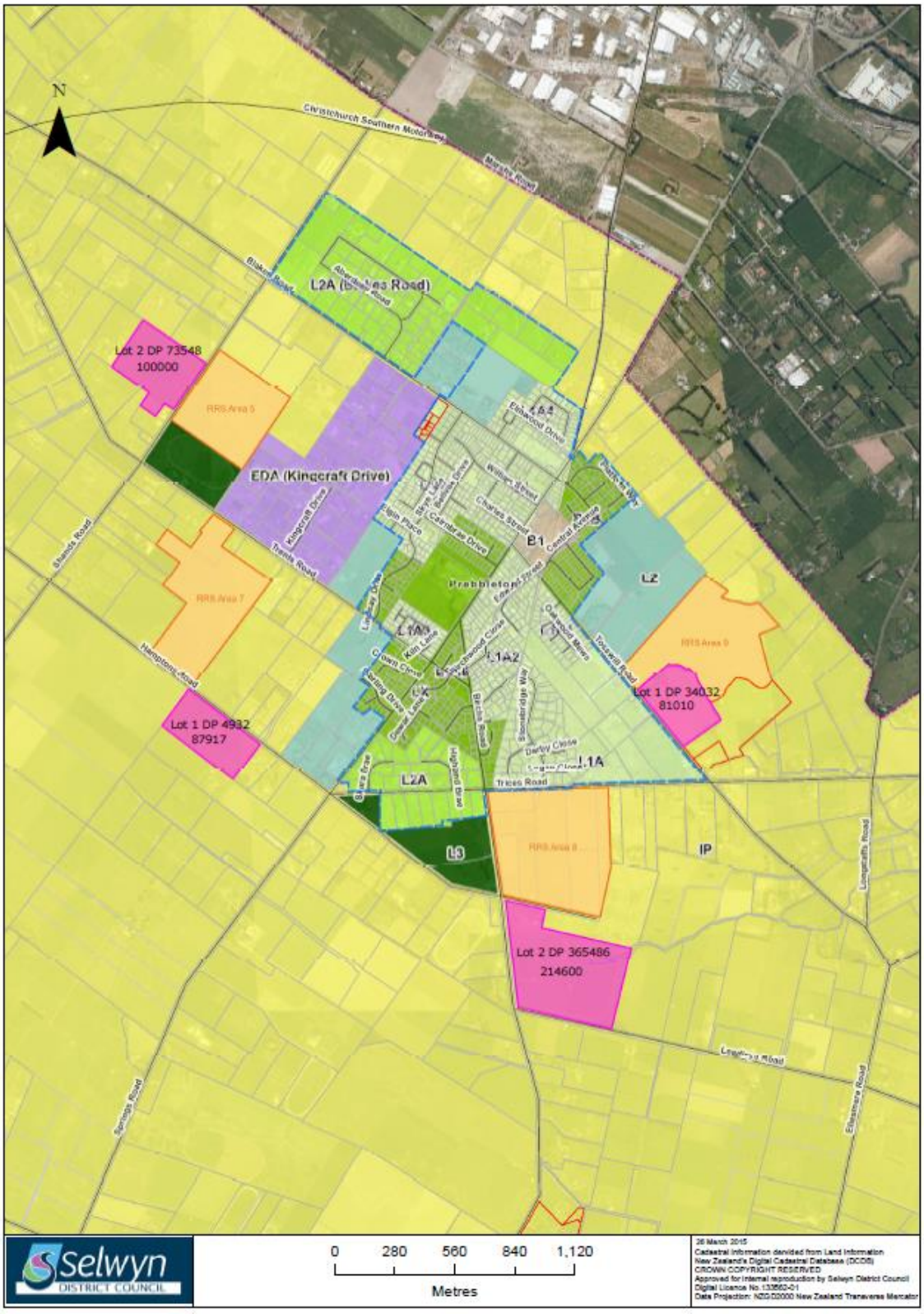
Using the results of the decision matrix and site options assessment in Section 2 to 5 above a recommendation is made that **Site Three** (Lot 2 DP 365486, Leadleys/Birches Road) is the preferred site for the development of a sports ground and should be subject to further investigation.

The location of the new sports grounds at **Site Three** presents the following opportunities:

- There is sufficient space to establish at least four north-south orientated sports fields plus additional room for car parking, walking and cycle links, sports clubrooms, public toilets and other amenities.
- There is sufficient space for future expansion for other recreational uses or additional sports fields or surfaces such as artificial turfs.
- The site has multiple street frontage, which offers opportunity for traffic flows through the site.
- Whilst both Leadleys and Birches Road currently have 100 km/hr speed limits adjacent to the site, the speed of Birches Road does drop to 70 km/hr approximately 40 metres from the intersection at Hamptons Road. Future residential development on Birches Road may result in the need to reduce the speed limit of Birches Road adjacent to Site Three.
- The site is located approximately 1.5 km to the south of the Prebbleton Township.
- The site has the potential to be connected to the township via walkways through the existing and potential residential developments.
- The site is adjacent to an area earmarked for future residential development.
- The site does not contain any known contamination or planning constraints (although it is likely that either a designation of the site or resource consent would be required).

- The site has excellent cycling and walking connectivity via the existing Rail Trail along Birches Road.
- The site is relatively close and has good connectivity to Lincoln and would help service recreational needs of this township.
- Whilst the site has a drain running through the middle of it, given site's size this will not restrict the development of sports fields and can instead be potentially utilised as an amenity feature.
- The sports field design will need to consider the high groundwater and soil type at the site. However, these are unlikely to constrain the development of sports fields on the site.
- The site is not on ECan's Listed Land Use Register as a potentially contaminated site, and the potential for the site being contaminated from past and current agricultural use is low. However, if SDC wishes to have more certainty with respect to the potential for soil contamination, a more comprehensive PSI could be undertaken.
- The site is not connected to any reticulated water or wastewater networks; however, future residential development opposite the site may present opportunity to connect.
- Overhead power lines cross one corner of the site, but this does not adversely affect the site's usability.
- There are two existing wells onsite that could be utilised as water supply for the site (although this may be subject to consent).

# Appendix One: Location Map



# Appendix Two: Decision Matrix

| Decision Criteria | Weighting | Site 1 | Site 1 | Site 2 | Site 2 | Site 3 | Site 3 | Site 4 | Site 4 |
|---|---|---|---|---|---|---|---|---|---|
| **Geographical Location, Shape,Orientation & Physical Constraints** | | | | | | | | | |
| The site is located adjacent to residential land uses (current or future) | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 |
| Site is greater than 8ha | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 |
| There are no conflicting activities adjacent | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| The site can fit at least 4 north-south oriented sports fields plus car park & ancillary facilities | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 |
| Space is available for future expansion | 3 | 0 | 0 | -1 | -3 | 1 | 3 | -1 | -3 |
| The site has substantial buildings/structures that require removal | 3 | 1 | 3 | 1 | 3 | 0 | 0 | -1 | -3 |
| The site has permanent infrastructure that will limit development potential | 4 | -1 | -4 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Access & Traffic Flows** | | | | | | | | | |
| Walkability -The site is within easy walking distance (800m) of a large proportion of residents | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| Cyclability - The site is easy and safe to get to by cycle | 3 | -1 | -3 | -1 | -3 | 1 | 3 | 0 | 0 |
| Driveability - The site is easily accessible for drivers (within 15 minutes drive of catchment) | 3 | 1 | 3 | 1 | 3 | 1 | 3 | 1 | 3 |
| The site has multiple road frontages | 3 | -1 | -3 | -1 | -3 | 1 | 3 | -1 | -3 |
| The site is safe to acccess by road (reduced speed environment) | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| **Connections to Prebbleton Township & Complementary Facilities** | | | | | | | | | |
| The site is located within 1 km of Prebbleton Township | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| The site is centrally located close to schools and education facilities | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| The site is connected to residential areas with opportunity for safe off road walking & cycling links - no barriers | 3 | -1 | -3 | -1 | -3 | 1 | 3 | 1 | 3 |
| There are nearby complementary facilities | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| **Planning Implications** | | | | | | | | | |
| District Planning constraints have been identified at the site | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Regional Planning constraints have been identified at the site | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Environmental Considerations** | | | | | | | | | |
| The site has free draining soils | 2 | -1 | -2 | 1 | 2 | -1 | -2 | 0 | 0 |
| Groundwater depth is greater than 6 metres | 2 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| The site has features that add to the amenity value | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 2 |
| There are trees/shelter belts on site that will be of value | 2 | 1 | 2 | 0 | 0 | 1 | 2 | 1 | 2 |
| **Contamination** | | | | | | | | | |
| The site is listed on Ecan's Listed Landuse Register | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| The site is a HAIL site or has been identified as having previous activities that have the potential to cause contamination | 3 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -3 |
| **Proximity to Services** | | | | | | | | | |
| Location near a reticulated waste water network | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| Location near a reticulated water supply network | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 |
| Location near a storm water network or discharge point | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| Location near a power supply network | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| **Total Score** | | | **12** | | **16** | | **35** | | **31** |

# Appendix H

Integrated Transport Assessment

Planning. Traffic. Development.

**Integrated Transport Assessment**

**prepared for**

# SELWYN DISTRICT COUNCIL

**Prebbleton Park**

**April 2020**

**Integrated Transport Assessment**

**prepared for**

# Selwyn District Council

**Prebbleton Park**

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| | |
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# Appendices

# Introduction

1. Selwyn District Council has commissioned Novo Group to prepare an Integrated Transport Assessment (ITA) for Prebbleton Park. The proposed layout is shown in **Figure 1** below.

2. This report provides an assessment of the transport aspects of the proposed development. It also describes the transport environment in the vicinity of the site, describes the transport related components of the proposal and key transport provisions in the District Plan. It has been prepared broadly in accordance with the Integrated Transportation Assessment Guidelines specified in New Zealand Transport Agency Research report 422, November 2010 and other relevant best practice guides.

3. It is proposed to develop a 22 hectare area of rural land at 27 Hamptons Road in Prebbleton for a community park. The Park will include three full sized fields and five junior fields to accommodate various sporting codes – together with ancillary changing room and separate toilet blocks. There is also a fenced dog exercise area and a meadow which may be developed for additional fields in the future. The main car park will be accessed from Birchs Road providing for approximately 250 car parks which will be sealed. A second car park will be provided from Leadleys Road which will accommodate around 35-45 spaces and provide access to the dog park. The remainder of the park provides for natural / landscaping areas and passive recreation.


**Figure 1: Proposed Reserve Layout**

# Transport Environment

## Road Network

### Birchs Road

4. Birchs Road is classified as a collector road with an 80km/h speed limit (reducing to 60km/h immediately north of the intersection with Hamptons Road). Birchs Road has a 7.3m wide carriageway which provides for one traffic lane in each direction and has flush grass berms on both sides. A 2.2m wide shared path forming part of the Rail Trail is provided on the eastern side.

5. The Mobile Road website estimates traffic volumes on Birchs Road as approximately 5,319 vehicles per day.

**Figure 2:Birchs Road looking South (towards Lincoln)**

### Hamptons Road

6. Hamptons Road is classified as a local road outside the site – and terminates approximately 300m to the east. This road however reverts to an arterial route to the west of Springs Road – approximately 1km to the north-west and has a posted speed limit of 80km/h. Hamptons Road outside the site has a metalled surface, although is sealed at the approach to the intersection with Birchs Road. Hamptons Road has a formed width of approximately 5.1m.

7. The Mobile Road website estimates traffic volumes on this section of Hamptons Road as approximately 64 vehicles per day.

**Figure 3: Hamptons Road, outside the site looking west (towards Birchs Road)**

## Leadleys Road

8. Leadleys Road is classified as a local road with an 80km/h speed limit. Leadleys Road has a sealed width of approximately 5.8m with wide grass berms.

9. The Mobile Road website estimates traffic volumes on this section of Leadleys Road as approximately 685 vehicles per day.

**Figure 4: Leadleys Road looking west (towards Birchs Road)**

### Crash History

10. The NZ Transport Agency Crash Analysis System (CAS) has been reviewed to identify crashes that have been reported on the frontage roads between 2009-2019. Two reported crashes were identified.

11. One crash occurred on Birchs Road, 20m north of the intersection with Leadleys Road as a result of a collision with a farm animal. This resulted in one fatality and one minor injury.

12. The second crash occurred at the intersection of Birchs Road and Leadleys Road as a result of a vehicle turning right failing to give way and colliding with a south bound cyclist. There was one minor injury.

13. The crash summary report from the CAS database is included in **Appendix 1**.

## Alternative Transport Modes

### Passenger Transport

14. The number 80 bus route (Lincoln to Parklands) operates along Birchs Road with a bus stop south of the intersection with Hamptons Road. Buses typically operate with 30 minute frequencies during the day with hourly frequencies in the evenings.

### Cycling

15. The Rail Trail Cycleway is located on Birchs Road providing a link from Christchurch to Little River via Prebbleton and Lincoln.

# The Proposal

16. The masterplan indicates that Prebbleton Park will provide for three full sized fields and five junior fields. This will accommodate a variety of codes such as cricket, soccer, rugby, touch rugby, frisbee and croquet. The meadow area may also be developed for additional fields in the future. Ancillary amenities are also provided including toilets / changing rooms (a club room may be considered in the future).

17. The remainder of the site provides for natural / passive recreation, play-grounds, a dog park and youth related facilities – including a basketball half-court.

18. The site will provide for 250 car parks in the main car park from Birchs Road, which will be sealed. During off-peak periods, parts of the car park may be used as additional hardstand areas for sports / recreation such as skating, roller blading and roller hockey. An additional car park accessed from Leadleys Road will provide access to the dog park in the south-east corner and will accommodate around 35-45 car parking spaces. Detailed parking layouts have not yet been developed however standard parking modules can be readily achieved as can compliant mobility parking.

19. 28 cycle parks are to be provided in several locations to cater for any cycle parking demand.

20. A shared path will be provided into the site which connects to the Rail Trail. This could be in addition to the existing path or replace the existing section of path. This will be discussed further below.

21. It is also proposed to reduce the speed limit on Birchs Road, Hamptons Road and Leadleys Road to 60km/h adjacent to the site.

**Traffic Generation and Parking Demand**

22. Recent surveys of the parking demand associated with Junior Rugby games at the existing Kirwee Reserve identified a peak parking demand for 87 and 185 vehicles on a typical Saturday and a Club Day respectively, with two fields operating concurrently. This equates to a typical parking demand for 44 spaces per field. It is noted that the Club Day volume is likely proportionate to the size of the club (membership) rather than the number of fields. There may not necessarily be a liner relationship between parking demand and the number of fields as not all fields are used concurrently.

23. Other traffic generation and parking demand for the various activities is estimated below. This has been extracted from survey data (where available) and from first principles. This is set out in **Table 1** below.

**Table 1: Survey information from NZ Trips and Parking Database**

| Facility surveyed | Site and survey info | Parking Demand | Trip Generation |
|---|---|---|---|
| Bay City Park, North Shore | 3 Soccer Fields<br>Sat. 9am -5pm | 55 spaces / field | 38 trips / hour / field |
| Silverdale War Memorial Park, Rodney | 3 Rugby Fields, 2 tennis courts, 1 hockey pitch, 3 bowling greens, Pony club. Sat in May | 283 peak parking demand | 318 trips |
| Ilam Fields, Christchurch | Wed 1200-1700 June. 4 Rugby fields and clubhouse | 168 peak parking demand | 102 vehicles per hour |

*Rugby*

24. The peak period associated with the Rugby fields typically occurs in the mornings when several junior rugby games are occurring at once. Five junior fields are proposed which could accommodate up to five games occurring simultaneously. Applying the Kirwee survey to this site suggests a typical parking demand of 220 spaces if games did occur concurrently on all fields (which is unlikely).

25. As a proxy for estimating traffic generation, the Silverdale survey identified turn-over of around 1.12 trips per parked vehicle[1] (the Ilam Fields survey suggested only 0.6 trips per parked vehicle, although it is not clear if this was associated with a training session or games). Applying the higher of these rates to the estimated 220 space parking demand suggests a traffic generation of 246 trips in the peak hour. This aligns well with the

[1] Apply the traffic generation to parking demand as a ratio (i.e., 318 trips / 283 space demand = 1.12 trips per vehicle in the peak hour).

operational observations which suggest vehicle parking duration is typically more than one hour. This accounts for warm-up times, game time, and after-game time lags. Furthermore, some cars will also be associated persons playing in or supporting more than one team etc.

26. Senior games typically have around 25 people (players and coaches, refs etc) per team. Accordingly, three senior fields could have up to six teams at any one time (150 people). With a conservative car occupancy of 2 people per car, this would equate to around 75 vehicles. Spectator volumes are more difficult to estimate; however, it is unlikely that parking demand would be higher than that which occurred during the surveyed junior games. The games are also longer than one hour and typically have greater gaps between games that are scheduled on the same fields hence there is also unlikely to be the same level of traffic generation as occurs in association with the junior games.

27. Some of the visiting senior teams also charter a bus, reducing the traffic generation and parking demand from that assessed above. Where buses are expected, a small number of car parks are coned off to provide for the bus parking.

28. Trainings typically occur on weekday evenings and are expected to be lower with typically only one team per field and no additional spectators (i.e., none other than parents driving children to the practise). Junior and Senior training times do not typically coincide (with junior trainings typically occurring earlier in the evening)

*Soccer*

29. The Bay City survey data above suggested a parking demand of 55 spaces per field – which we have assumed relates to senior games. This would suggest that three senior fields would create a demand for 165 spaces.

30. Junior games are likely to generate a similar parking demand to the junior rugby (noting the similarities in respect of age group games, smaller teams than seniors and parents spectating).

*Cricket*

31. Senior cricket matches typically have around 11 players (with only 1 or 2 reserves) and occur over several hours. Junior grades have shorter games and may be less than one hour. Senior cricket games also attract some spectators, coaches and organisers therefore an estimated 50 people per game would generate 25 vehicles however these would not likely arrive and depart in the same hour. Junior games may generate around 30 players and coaches (with a similar number of parents watching) and turn-over within an hour (estimated 60 trips). Cricket is also a summer sport only, so would not coincide with winter sporting codes.

*Other field games*

32. We are not aware of any survey data available for Frisbee or Croquet however it is unlikely that these codes have membership numbers as high as that occurring for Soccer and Rugby and as such the traffic generation of these codes is not likely to exceed that considered above.

*Dog Park*

33. We are not aware of any survey data for local dog parks. Casual observations suggest the demand also varies noticeably between different parks and across a day. A review of existing dog parks in Canterbury suggests that parking provision ranges between 11 and 30 spaces. Whilst it is unclear how the parking supply relates to demand, the 35 spaces provided adjacent to the dog park appear to be greater than that provided elsewhere and appropriate noting the rural location. Given the overall supply, we are confident that the parking along the grass berms outside the site would not be warranted.

34. Casual observations also indicate wide variability in duration of stay from around 20 minutes to over one hour. Adopting an average of 40 minutes and assuming the car park was full during the peak period this suggests a peak hour traffic generation of up to 105 vehicle movements[2].

*Passive Recreation*

35. The walking tracks, playgrounds. Etc. will likely generate some vehicle movements throughout the day with peak periods after school and work and on weekends. A small allowance for peak hour traffic is included for these uses as there is likely to also be some overlap with visits to the site for organised sport (i.e., a parent walking the dog whilst a child has practise, or a sibling using the pump track whilst another is playing etc.). An allowance of 10 vehicles associated with passive recreation is considered to be sufficient to include any additional traffic coinciding with the peak sporting periods.

Total

36. Peak demand is likely to occur during the winter months. Noting that junior and senior winter sports games typically occur at different times, the peak period can be summarised below:

**Table 2: Estimated Peak Periods (winter)**

| Sport | Parking demand | Traffic generation (hourly) |
|---|---|---|
| *Rugby / Soccer* | 220 | 246 |
| *Passive Recreation* | 10 | 20 |
| *Dog Park* | 35 | 105 |
| ***Total*** | **265** | **371** |

37. It is emphasised that this represents a worst case estimate of parking demand and traffic generation which would only occur very occasionally during the busiest period under near full utilisation of the park facilities. Regardless the parking provision exceeds this estimated demand and as such, parking demand can be readily met with the proposed supply.

[2] 35 spaces, turn-over on average 1.5 times per car park, two trips per vehicle = 105 movements.

38. Traffic generation and access related effects are assessed in the subsequent sections.

## District Plan Assessment

39. Designations are not required to comply with the rules in the District Plan however the Transport Standards in Appendix E10 (Rural) and E13 (Township) have been considered for guidance. These are also incorporated into **Appendix 1**. The proposal is consistent with all District Plan standards except in respect of:

    - A maximum of three vehicle crossings are permitted per site, four are proposed (including the emergency access)

40. It is noted that the car park layouts have not been determined at this stage however there is sufficient space to achieve compliant queuing and car park dimensions.

41. The assessment has been undertaken on the basis of the proposed 60km/h speed limit.

## Assessment of Effects

42. The key transport related effects can be grouped into topics of parking, on-site layout / circulation, access, and the road network. The effects of each of these aspects are assessed below.

### Parking

43. The analysis outlined above suggests that there is ample parking provision within the main and dog park car parks to cater for the estimated peak parking demand (refer to **Table 2**).

44. During off-peak periods part of the main car park is proposed to be used as additional hardstand areas for recreation / sports activities. Regular parking demand will be significantly lower than the weekend / competition day peak parking demand and parts of the main car park can easily be sectioned off without affecting access or circulation. Noting that any adverse effects can be readily managed by sectioning off the surplus parking area during off-peak demand, the proposed uses represents an efficient use of the space that would otherwise be un-used for the majority of the week.

45. The District Plan would suggest a minimum of 28 cycle parks and it is proposed to provide this. . It is recommended that these are split into several locations around the site including close to the changing room / public toilet, near the dog park and near the youth space.

### On-Site Layout

46. The parking layout will be finalised through the detailed design phase however it is recommended that the main car park be adjusted to provide for standard parking modules being 16.6m min. for a row of car parks each side of an aisle (i.e., 5.0m long stall, 6.6m wide aisle and 5.0m long stall) or 33.2m min. where four rows are provided with two aisles. This represents an efficient layout that aligns with both the Australian/New Zealand Standard and the District Plan, and is a reasonably intuitive shape to encourage effective

parking to occur in the metalled areas where parking spaces are not formally marked. Two connections should be provided to allow for vehicles to circulate and/or move between each area of the car park.

47. Consideration may need to be given to enabling parts of the car park to be gated to avoid undesirable behaviour when car parks are empty or during late evening hours.

48. The Birchs Road access should provide for a minimum of 25.5m queuing space and this can be readily achieved.

49. The dog park access should provide for a minimum of 10.5m queuing space and this too can be readily achieved.

50. The car parks are located along the western and southern parts of the Park and there are good pedestrian connections to the various features within the Park.

51. A pedestrian link is also provided from the northern end of Birchs Road to the future Meadow which will cater for the dominant flow of pedestrian movements to and from the North (Prebbleton Township) and the bus stop on Birchs Road.

52. The proposed connection to the Rail Trail and additional paths within the site provides good access for cyclists to the main areas within the park.

## Access

53. The main car park takes access from Birchs Road via a single access, noting that this is a collector road and that it will necessitate crossing the existing Rail Trail path. Subject to appropriate design, it will be sufficient to accommodate the anticipated traffic volumes (refer to **Appendix 3**). It is also noted that during the peak periods there will be multiple different games occurring with differing start and finish times which will spread the traffic generation more evenly over the peak hours.

54. An emergency access point is also provided for the main car park which can be opened in the event of a crash or other emergency event where the main access may not be available or sufficient on its own. Noting that this would be rare and infrequent, this access would only be opened when needed. This could be administered by club members, Council and/or emergency services – or a combination of all.

55. Several access designs for the main car park access were considered and the most preferable solution was to extend the 60km/h speed limit to a point south of Leadleys Road. This avoids the need for acceleration and deceleration lanes, which would be difficult to achieve within the road reserve width available. The 60km/h speed limit proposed also reduces the risk of serious injury and fatal crashes particularly associated with right turns into and out of the site. The 60km/h speed limit is also more consistent with the higher pedestrian and cyclist volumes that may occur near the Park (walking to Prebbleton, the bus stop etc).

56. Noting the proposed 60km/h speed limit, the access can be formed with standard radius and tapers and some seal widening on the opposite side of the access. These measures can be readily accommodated within the current road reserve space available. The shared

path can be curved to cross the access in a similar layout to that at the Leadleys Road intersection). A simple Tanner Analysis suggests that the delay for vehicles turning right into the site would be around 3.6 seconds and around 9.2 seconds for a right turn exit movement. A dedicated right turn lane would therefore not be required from a capacity perspective.

The access to the dog park is located on Leadleys Road and is well separated from the intersection and achieves excellent visibility in both directions. Noting the lower traffic generation at this access and lower traffic volumes on Leadleys Road, and the proposed 60km/h speed limit, no additional seal widening is necessary at this point.

57. The Hamptons Road service access is well separated from the intersection of Hamptons Road with Birchs Road. Noting the low volume of traffic anticipated at this access and that most users would be staff who would be familiar with the site, the access design can be dictated by the largest vehicles using the service lane (i.e., splays to accommodate the turning radius of any heavy vehicles for which access which may be required). The service space is of sufficient size that vehicles would not be required to reverse off the site.

## Road Network

58. The site is located on Birchs Road which is classified as a collector road and provides a key traffic connection between Lincoln and Prebbleton. This provides good connections to these townships and the wider road network and is likely to cater for the majority of travel to and from the site. Noting the existing traffic volumes on Birchs Road and the level of traffic generation anticipated, the traffic volumes will remain well within the capacity of a sealed two-way road[3]. It is also noted that the busiest periods typically occur on weekends outside of the peak commuter periods.

59. The site also provides access from Leadleys Road which connects to State Highway 76 for vehicles travelling to / from Tai Tapu and Halswell. The existing traffic volumes on Leadleys Road are relatively low and noting the level of traffic generation associated with this site will comfortably stay within a reasonable volume for a rural local road[4].

60. Some traffic to / from the west may also arrive via Hamptons Road, turning right onto Birchs Road to access the site. Noting there are also several other connections from Birchs Road toward the west, the proportion of vehicles utilising this route is not anticipated to be high. This section of Hamptons Road is a sealed local road. The existing formation of Hamptons Road can accommodate a small increase in traffic to / from this direction.

61. The majority of traffic is likely to use the Birchs Road access. There may be some increase in turning movements at the intersection of Leadleys Road and Birchs Road associated with vehicles to the dog park and or those parking close to the eastern-most playing fields. There may also be a small proportion of traffic approaching from the east that turn onto Birchs Road and use the main car park (which is closer to the clubrooms and junior fields). Leadleys Road forms a “T’ intersection with Birchs Road. The existing layout provides an approximately 12m wide limit line which allows for a left and right turning vehicle to wait /

[3] Around 900 vehicles per hour per lane for an edge side lane (Source: Austroads Guide to Traffic Management Part 3).
[4] For example Leadleys Road is anticipated to stay below 1,000 vehicles per day which is consistent with that for a Rural Local Road specified in Table 3.2 of the New Zealand Standard for Land Development and Subdivision Infrastructure (NZS4404:2010)

turn simultaneously (i.e., effectively provides for a left and right turn lane) and this will likely be sufficient to cater for any increased turning demand from Leadleys Road to Birchs Road. There is no right turn lane provided on Birchs Road however there is an existing sealed shoulder which allows for through traffic to pass around right turning traffic waiting at the intersection. The right turn volume should be monitored over time however it is generally anticipated that this would not be sufficient to warrant a dedicated right turn lane on Birchs Road.

62. Hamptons Road forms a cross-roads intersection with Birchs Road with priority afforded to traffic on Birchs Road. Both sides of Hamptons Road are stop controlled. The eastern arm of Hamptons Road is a dead-end road and as such through and turning volumes associated with this approach are not anticipated to be high. Furthermore, only service vehicle access is proposed to the Park from Hamptons Road and therefore any increase in traffic would be minimal and not likely to noticeably impact on the existing level or service or safety. Any increase in turning movements associated with the site would be anticipated to be right turns from Hamptons Road (west approach) onto Birchs Road and left turn movements from Birchs Road onto Hamptons Road. These can be readily accommodated by the existing formation of that intersection.

63. The site is also located on a bus route that provides for public transport connections from Lincoln, Prebbleton and Christchurch. For a rural location this is considered to provide a good level of public transport access.

64. Overall, the site is considered to be appropriately located within the road network and the surrounding road network is considered to have adequate physical capacity to cater for the anticipated increase in traffic generation.

## Summary

65. The site is anticipated to be self-sufficient in respect of car parking demand and there is ample space to achieve standard parking modules, good circulation for park search routes and provision for mobility parking. 25.5m queuing space is recommended and can be achieved at the main car park access and 10.5m at the dog park access.

66. The site is well connected to the Rail Trail and provides a number of walking and cycling connections through-out the site. It is proposed to provide 28 cycle parking spaces split across several locations which will likely cater for demand and there is ample space to provide additional cycle parks should demand warrant this in the future.

67. The site is well located within the road network for access by motor vehicle from all major destinations and is also accessible by public bus from Prebbleton, Lincoln and Christchurch.

68. Safe and efficient access to and from the site can be achieved from the main car park and dog park car park. A second exit point from the main car park provides for an alternative point of egress in the event of an emergency at the main access. The separate service access is appropriately located to accommodate the associated maintenance vehicles.

69. Extension of the 60km/h speed limit on the frontage roads Road has a number of benefits in respect of the increased concentration of vehicles, pedestrians and cyclists associated

with the Park as well as in respect of access design and reducing the risk of serious / fatal crashes associated with an increased number of turning vehicles.

# Appendix 1

# NZTA CAS Data

## Untitled query

**Crash year**

2009 — 2019

**Saved sites**

Prebbleton Park

## Plain English report

**2 results from your query.**

1-2 of 2

| Crash road | Distance | Direction | Side road | ID | Date | Day of week | Time | Description of events | Crash factors | Surface condition | Natural light | Weather | Junction | Control | Crash count fatal | Crash count severe | Crash count minor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BIRCHS ROAD** | 20m | N | LEADLEYS ROAD | 201300255 | 05/12/2013 | Thu | 21:53 | Car/Wagon1 SDB on BIRCHS ROAD hit obstruction, Car/Wagon1 hit animals (driven or led), i.e. under control | CAR/WAGON1, alcohol not suspected, tested and -ve (mot use onl, ENV: farm animal straying | Dry | Dark | Fine | Nil (Default) | Unknown | 1 | 0 | 1 |
| **BIRCHS ROAD** | | I | LEADLEYS ROAD | 201121970 | 06/06/2011 | Mon | 15:00 | Cycle1 SDB on BIRCHS ROAD hit Van2 turning right onto AXROAD from the left | VAN2, failed to give way at priority traffic control, misjudged another vehicle | Dry | Overcast | Fine | T Junction | Give way | 0 | 0 | 1 |

1-2 of 2

# Appendix 2

# Transport Compliance Assessment

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT |
|---|---|
| It is noted that the Transport Rules of the District Plan do not apply to Designations however the Transport standards in Appendices 13 (Township Volume) and 10 (Rural Volume) have been considered below as a guide. | |
| **E10.1.PARKING REQUIREMENTS** | |
| E10.1.1.1 Any on-site car parking or loading space located between the road frontage and the main entrance of any educational facility or any activity involving the retailing of goods and services to the public shall not have a metalled surface.<br><br>Notes:<br>(a) The reason for Rule E10.1.1.1 is to avoid the potential for stones to "fly up" from the tyres of vehicles, which may create a danger to school children and the public in general.<br>(b) Table E10.1 below provides a guide for the marking out of car parking spaces in the case of the developer or landowner wishing to provide a parking surface which is formed and sealed.<br>(c) The discharge of storm water from a large sealed area may require a discharge consent from Environment Canterbury. | N/A |
| E10.1.2.1 Any area required for on-site parking or loading, other than for a residential activity, shall be available at all times for staff and visitors during the hours of operation of the activity and shall not be diminished by any subsequent erection of any structure, storage of goods, or any other use. | Complies |
| E10.1.2.2 Garageable parking spaces for any residential activity shall have the following minimum internal dimensions: | N/A |
| E10.1.3.2 The minimum width of the entrance to a single garage shall be 2.4 metres. | N/A |
| E10.1.3.3 Any other parking space for any residential activity shall have the following minimum dimensions: | N/A |
| E10.1.4.1 The gradient of any on-site parking or loading area for any non-residential activity, shall be no more than:<br><br>(a) At 90° to the angle of parking - 1:16; or<br><br>(b) Parallel to the angle of parking - 1:20 | Will comply |
| E10.1.5.1 The manoeuvring area to and from any parking space shall be designed to accommodate at least the design motor car as set out in the Council's Engineering Code of Practice. | Complies |
| E10.1.5.2 The manoeuvring area to and from any loading space shall be designed to accommodate at least the design truck as set out in the Council's Engineering Code of Practice. | N/A |

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT |
|---|---|
| E10.1.5.3 No loading space shall obstruct any on-site car parking space or any vehicle or pedestrian access. | N/A |
| E10.1.5.4 No vehicle shall be required to reverse out of any site onto a road. | No vehicles will reverse out of the site |
| **E10.2 ACCESSWAYS AND CROSSINGS** | |
| E10.2.1.1 The minimum requirements for any shared private vehicle accessway for a site(s) shall be in accordance with Table E10.2.<br>2-3 Sites 4.5m legal width, 3.0m carriageway, turning areas and optional passing bay | N/A the accesses are not shared with other sites. |
| E10.2.1.2 Where Table E10.2 requires turning areas, turning within the shared accessway may be facilitated through the use of a hammerhead arrangement. Note: refer to the Council's Code of Practice for the design standard required. | N/A |
| E10.2.2.1 No part of any vehicle crossing shall be located closer to the intersection of any road than the minimum distances specified in Table E10.3 except that where the boundaries of a site do not allow the provision of any vehicle crossing whatsoever in conformity with the above distances, a single vehicle crossing may be constructed in the position which most nearly complies with the provisions of Table E10.3. (the Road Hierarchy for the District is set out in Appendix 9). | The vehicle accesses on Birchs Road and Leadleys Road are more than 60m from the nearest intersections. The service crossing is also more than 60m from the intersection of Birchs Road and Hamptons Road. |
| E10.2.2.2 No part of any vehicle crossing shall be located closer than 30 metres to the intersection of any railway line as measured from the nearest edge of the vehicle crossing to the limit line at the level rail crossing. | There are no railway crossings within 30m of the site. |

| | | Intersecting Road Type Distances in Metres | | | |
|---|---|---|---|---|---|
| Vehicle Crossing Joins to | Posted speed Km/hr | State Highway | Arterial | Collector | Local |
| State Highway | > 50 | 100 | 100 | 100 | 100 |
| | ≤50 | 30 | 30 | 30 | 30 |
| Arterial | > 50 | 100 | 100 | 100 | 100 |
| | ≤50 | 30 | 30 | 30 | 30 |
| Collector | > 50 | 75 | 75 | 60 | 60 |
| | ≤50 | 30 | 30 | 30 | 25 |
| Local | > 50 | 75 | 75 | 60 | 60 |
| | ≤50 | 25 | 25 | 25 | 10 |

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT |
|---|---|
| E10.2.2.3 The distance between any vehicle crossing and road intersection shall be measured along the centre line of the frontage road:<br>(a) From the point where the centre lines of the two roads intersect;<br>(b) To the point where the centre lines of the vehicle crossing and the frontage road intersect. | Noted |
| E10.2.2.4 Notwithstanding Rule E10.2.2.1 above, for any:<br>(a) service station; or<br>(b) truck stop; or<br>(c) any activity which generates more than 40 vehicle movements in any one day;<br>No part of any vehicle crossing onto any State Highway road or arterial road shall be located closer than:<br>(d) 60m to the departure side of any intersection; and/or<br>(e) 30m to the approach side of any intersection.<br>The distance shall be measured in accordance with Rule E10.2.2.3. | The site does not have a vehicle crossing to a State Highway or Arterial Road |
| E10.2.3.1 Vehicle crossings onto roads must provide the required minimum sight distances in Table E10.4 and Diagram E10.A1. | Birchs Road is straight and flat with visibility achieved in both directions. Visibility is not required on Leadleys Road or Hamptons Road as they are local roads. |

| Posted (Legal) Speed Limit (km/h) | State Highway, Arterial and Collector roads Required Sight Distances (m) |
|---|---|
| 50 | 113 |
| 60 | 140 |
| 70 | 170 |
| 80 | 203 |
| 90 | 240 |
| 100 | 282 |

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT |
|---|---|
| E10.2.4.1 Vehicle access to any site from any road or service lane shall be by way of a vehicle crossing constructed at the owner's or the developer's expense. | Noted |
| E10.2.4.2 The maximum number of residential vehicle crossings shall not exceed 1 per road frontage. | N/A |
| E10.2.4.3 Vehicle crossings to any site shall be constructed in accordance with:<br>E10.2.4.3.1 Diagram E10.B1 if the vehicle crossing is to provide access to a property from a State Highway with less than 30 equivalent car movements per day; or<br>E10.2.4.3.2 Diagram E10.B2 if the vehicle crossing is to provide access to a property from a State Highway with between 30 and 100 equivalent car movements per day; or<br>E10.2.4.3.3 Diagram E10.C1 if the vehicle crossing is to provide access to a dwelling and is to a local road; or<br>E10.2.4.4.4 Diagram E10.C2 if the vehicle crossing is to provide access to a dwelling and is to an arterial road or provides access to any activity and is to a collector road; or<br>E10.2.4.4.5 Diagram E10.D if the vehicle crossing is to provide access to a commercial activity or is a heavy vehicle access, other than State Highways. | The rural access arrangements are not applicable to a 60km/h speed environment. |
| **E10.3 ROAD STANDARDS** | |
| E10.3.1.1<br>Any new road shall be laid out and vested in the Council in accordance with the standards contained in Table E10.5. | N/A |
| E10.3.1.2<br>For determining the carriageway width in Table E10.5, the minimum carriageway widths shall be measured from the edge of seal to edge of seal.<br>Local Roads: 15-20m Road reserve width and 6.7-7m carriageway width | N/A |
| E10.3.1.3<br>The carriageway of any new road laid out and vested in accordance with the above shall be formed and sealed. | N/A |
| E10.3.1.4<br>Any cul-de-sac shall be constructed with a turning head of 26m diameter measured kerb face to kerb face. | N/A |

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT | |
|---|---|---|
| E10.3.2 Road Intersection Spacing (all roads) | N/A no new intersections are proposed | N/A |
| **E13.1.1 Parking Spaces to be Provided** | | |
| E13.1.1.1 - For any new activity, or any increase in an existing activity not complying with Section 10 of the Act (Certain Existing Land Uses in Relation to Land Protected), provision shall be made for on-site vehicle parking, for use by staff and visitors, in accordance with Table E13.1(a), E13.1(b) and E13.1(c), and in compliance with the car park dimensions in Table E13.2 and Diagram E13.1. | Sports grounds and playing fields: 15 spaces per hectare of playing fields;<br>Places of Assembly and/or Recreational Activities: 10 spaces per 100m2 public area or 1 space per 10 seats, whichever is greater<br>Approx. 4.99ha of playing fields = 75 spaces.<br>Or<br>6.09 if meadow included = 91 spaces<br>Approx. 400m2 GFA = 40 spaces<br>131 spaces required.<br>The parking provision exceeds this requirement.<br>It is noted that off-peak use of the car park for roller skating etc has not been assessed in the above calculations as it would not occur concurrently with the peak use of the sports fields. Nor does it result in a higher requirement than the sports fields, accordingly the calculations above represent the highest requirement that may occur at any one time. | |
| E13.1.1.2 - If an activity is not listed in Table E13.1, the activity closest in parking demand to the new activity shall be used. | Noted | |
| E13.1.1.3 - Where there are two or more similar activities in Table E13.1 and there is uncertainty over which rate is most applicable, the activity with the higher parking rate shall apply. | Noted | |
| E13.1.1.4 - Where there are two or more different activities listed in Table E13.1 occurring on the site, the total requirement for the site shall be the sum of the parking requirements for each activity. | Noted | |

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT |
|---|---|
| E13.1.1.5 - Where a parking requirement results in a fractional space, any fraction of one half or over shall be rounded up to the nearest whole number and any fraction under one half shall be disregarded except that there must be a minimum of one space for each activity. | Noted |
| E13.1.1.6 - Parking spaces for persons with impaired mobility shall be provided at the required rate (refer to Rules 5.5.1.5 and 17.5.1.4) and shall be included within the total requirement specified in Table E13.1. | 1 space is required for up to 10 spaces and then 1 space per 50 car parks. The car park layouts have not yet been finalised but complying accessibility parking will be provided. |
| E13.1.1.7 - Where an application includes two or more activities, and the nature of activities is unknown, the activity with the highest parking rate shall apply. | Noted |
| E13.1.1.8 - The parking requirement for Food and Beverage activities is based on PFA. Where PFA is not specified or is unknown, the parking requirement shall be calculated based on GFA. | Noted |
| **E13.1.2 Availability of Parking Spaces** | |
| E13.1.2.1 - Any area required for on-site parking or loading, other than for a residential activity, shall be available at all times for staff and visitors during the hours of operation of the activity and shall not be diminished by any subsequent erection of any structure, storage of goods, or any other use, except as required in the Rolleston Key Activity Centre in Rule E13.1.3.4 below. | Will be available |
| **E13.1.3 Parking Area Location** | |
| E13.1.3.1 - All parking required in Table E13.1 above and all loading (including unloading) areas shall be located on the same site as the activity for which the parking is required. This rule shall not apply to any required parking which complies with Rules E13.1.3.3 and E13.1.3.4 below. | Yes. |
| E13.1.3.2 - Any parking or loading area for any activity in a Business zone shall not have its access across land in any Living zone, except for any parking provided in Rolleston Reserve pursuant to Rule E13.1.3.4. | N/A |
| E13.1.3.3 - Within a Business 1, 2 or 2A Zone, parking required in table E13.1 above may be provided on a physically adjoining site, or on a site within 100m of the site on which the activity is undertaken, provided that it meets the conditions of E13.1.3.5 in either of these situations. | N/A |

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT |
|---|---|
| E13.1.3.4 - For Precinct 8 of the Rolleston Key Activity Centre, all car parking (required and/or provided) shall be provided in Precincts 1 and/or 6 in a public car park or public car parks, shall be available for general public use and shall meet conditions (c), (d) and (e) of Rule E13.1.3.5. | N/A |
| E13.1.3.5<br>(a) the parking shall be clearly associated with the activity by way of signage on both sites, or alternatively be available for general public use, and<br>(b) the parking is located on the same side of any road as the activity, and<br>(c) the most direct route provided or available for pedestrians from the parking area to the activity is not more than 200m and,<br>(d) if disabled parking cannot be physically accommodated on the same site as the activity, shall be provided at the closest point to the entrance to the activity with which they are associated and, the most direct route from the disabled parking spaces to the activity shall be accessible for mobility impaired persons and<br>(e) Parking on a separate site by an activity must be protected for the use of that activity (and any future activity on the activity site), or for the use of the general public, by an appropriate legal instrument. A copy of the appropriate legal instrument shall be provided to Selwyn District Council for their records. Note: Precinct 8 parking shall be protected for the use of the general public only. | N/A |
| **E13.1.4 Cycle Parking** | |
| E13.1.4.1 - Any activity, other than residential activities, temporary activities, activities listed in E13.1.4.2 and activities permitted under Part C, Living Zone Rules - Activities 10.9.1. is to provide cycle parking at a minimum of 2 spaces and then at a rate of 1 cycle space for every 5 car parking spaces required, to a maximum of 10 cycle spaces. | N/A |
| E13.1.4.2 - Any Place of assembly, recreation or education activity shall provide cycle parking at a minimum of 2 spaces and then at a rate of 1 cycle space for every 5 car parking spaces required. | 28 cycle parks suggested (in an urban area) – 28 proposed |
| E13.1.4.3 - All cycle parking required by rule E13.1.4.1 or E13.1.4.2 shall be provided on the same site as the activity and located as close as practicable to the building main entrance and shall be clearly visible to cyclists entering the site, be well lit and secure. The type of stand must comply with the Engineering Code of Practice requirements for cycle parking rack systems | Noted |
| **E13.1.5 Loading and Manoeuvring** | |
| E13.1.5.1 - All loading and manoeuvring shall be carried out on-site. The manoeuvring area to and from the loading zone shall be designed to accommodate at least the design truck as detailed in the Council's Engineering Code of Practice. | Will occur on-site |

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT |
|---|---|
| E13.1.5.2- No loading zone shall obstruct any on-site car parking space or any vehicle or pedestrian access. For clarification any loading spaces shall be in addition to parking spaces required in Table E13.1. | Noted |
| **E13.1.6 Parking Spaces for Residential Activities** | |
| E13.1.6.1 - Garageable parking spaces for any residential activity in any zone shall have the following minimum internal dimensions:<br>Single 3.1m wide & 5.5m deep<br>Double 5.6m wide & 5.5m deep | N/A |
| E13.1.6.2 - The minimum width of the entrance to a single garage shall be 2.4 metres. | N/A |
| E13.1.6.3 - Any other parking space for any residential activity shall have the following minimum dimensions: Width 2.5m Depth 5m | N/A |
| E13.1.6.4 - The manoeuvring area to and from the site access to the parking space shall be designed to accommodate at least the design motor car as set out in the Council's Engineering Code of Practice. | N/A |
| E13.1.6.5 - Where two parking spaces are required by for any residential activity (other than visitor spaces), they may be provided in tandem where onsite manoeuvring is provided. | N/A |
| **E13.1.7 Gradient of Parking Areas** | |
| E13.1.7.1 - The gradient for any on-site parking surface for any non-residential activity, shall be no more than:<br>(a) At 90° to the angle of parking - 1:16<br>(b) Parallel to the angle of parking - 1:20 | Will comply |
| **E13.1.8 Maximum Gradients for Access to any Parking Space(s)** | |
| E13.1.8.1 - The maximum average gradient of any access shall be 1 in 6. | Will comply |
| E13.1.8.2 - The maximum gradient shall be 1 in 4 on any straight section and 1 in 6 around curves, the gradient being measured on the inside line of the curve. | Will comply |
| E13.1.8.3 - The maximum change in gradient without a transition shall be no greater than 8°. | Will comply |

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT |
|---|---|
| **E13.1.9 On-site Manoeuvring** | |
| E13.1.9.1 - On-site manoeuvring shall be provided to ensure that no vehicle is required to reverse either onto or off a site where:<br>(a) Any site has access to a State Highway or arterial road (refer Appendix 7); or<br>(b) Any site has access to a collector road and required 3 or more parking spaces; or<br>(c) Any site containing a non-residential activity having access to a collector road; or<br>(d) Any access to a site that serves 6 or more parking spaces; or<br>(e) Any residential activity providing tandem parking. | All vehicles can drive forwards off the site. |
| E13.1.9.2 Parking spaces shall be located so as to ensure that no vehicle is required to carry out any reverse manoeuvring when entering any required parking space. | All car parks are located to enable a vehicle to drive forwards into the park |
| E13.1.9.3 Vehicles shall not be required to undertake more than one reverse manoeuvre when manoeuvring out of any required parking or loading space. | All car parks can be designed to enable this. |
| **E13.1.10 Queuing Spaces** | |
| E13.1.10.1 - A queuing space shall be provided on-site for all vehicles entering or exiting a parking or loading area. The length of such queuing spaces shall be in accordance with Table E13.3 below. Where the parking area has more than one access the number of parking spaces may be apportioned between the accesses in accordance with their potential usage. | Dog park (35-45 spaces) 10.5m – the final layout can achieve this.<br>Middle car parks (250 spaces) 25.5m – there is ample space to achieve this. |
| E13.1.10.2 - The queuing space length shall be measured from the road boundary to the nearest vehicle control point or point where conflict with vehicles or pedestrians on established pathways already on the site may arise. | Noted |
| **E13.1.11 Illumination** | |
| E13.1.11.1 - Any parking and loading areas, (excluding those for any residential activity), which are required at night shall be illuminated to a minimum maintained level of 2 lux, with high uniformity, during the hours of operation. | CPTED considered by others. |

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT |
|---|---|
| **E13.1.12 Surface of Parking and Loading Areas** | |
| E13.1.12.1 The surface of any parking, loading, and associated access areas (except parking areas for any residential activity) shall be formed, sealed and drained with the parking spaces permanently marked. | The sealed car parks will be permanently marked however the metalled spaces will not be. |
| **E13.2.1 Private Vehicle Accessway** | |
| E13.2.1.1 - The minimum requirements for any private vehicle accessway for a site(s) shall be in accordance with Table E13.4. | 5m carriageway width, turning and passing areas – all accesses comply |
| E13.2.1.2 - The minimum height clearance for any private vehicle access shall be 4.5m. | Noted |
| E13.2.1.3 - Where a private vehicle access serves more than two allotments, in any zone, it shall be formed and sealed. | N/A |
| E13.2.1.4 - Where turning areas are required in Table E13.4, this may be facilitated through the use of a hammerhead arrangement. Note: refer to the Council's Code of Practice for the design standard required. | N/A |
| E13.2.1.5 - The minimum width of an accessway serving a single site in the Living Zones shall be 3.5m. | N/A |
| **E13.2.2 Distances of Vehicle Crossings from Road Intersections** | |
| E13.2.2.1 - No part of any vehicle crossing shall be located closer to the intersection of any roads than the minimum distances specified in Table E13.5 except that where the boundaries of a site do not allow the provision of any vehicle crossing whatsoever in conformity with Table E13.5, a single vehicle crossing may be constructed in the position which most nearly complies. (Note that the Road Hierarchy for the District is set out in Appendix 7). | All accesses comply (more than 60m from intersections). |

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT |
|---|---|

**Table E13.5 – Minimum Distances of any Vehicle Crossing from Intersections**

| Intersection Road Type Distances in Metres | | | | | |
|---|---|---|---|---|---|
| **Vehicle Crossing Joins to** | **Posted speed Km/hr** | **State Highway** | **Arterial** | **Collector** | **Local** |
| ~~**Strategic**~~ **State Highway** | **> 50** | 100 | 100 | 100 | 100 |
| | **≤ 50** | 30 | 30 | 30 | 30 |
| **Arterial** | **> 50** | 100 | 100 | 100 | 100 |
| | **≤ 50** | 30 | 30 | 30 | 30 |
| **Collector** | **> 50** | 75 | 75 | 60 | 60 |
| | **≤ 50** | 30 | 30 | 30 | 25 |
| **Local** | **> 50** | 75 | 75 | 60 | 60 |
| | **≤ 50** | 25 | 25 | 25 | 10 |

| | |
|---|---|
| E13.2.2.2 - In applying E13.2.2.1 the distances specified in Table E13.5 shall be measured along the road boundary parallel to the centre line of the roadway of the frontage road from the kerb line, or formed edge, of the intersecting road – refer to Diagram E13.5. | Noted |
| E13.2.2.3 - No part of any vehicle crossing shall be located closer than 30 metres to the intersection of any railway line measured from the nearest edge of the vehicle crossing to the limit line at the level rail crossing. | The access is not within 30m of a railway line |
| **E13.2.3 Sight Distances from Vehicle Crossings** | |
| E13.2.3.1 - Any access on any road shall have minimum unobstructed sight distances that comply with Tables E13.6 below and measured in accordance with Diagram E13.2. | All Roads are straight and flat affording more than 203m visibility. |

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT |
|---|---|

**Table E13.6 – Minimum Sight Distances**

| Posted (Legal) Speed Limit (km/h) | State Highways and Arterials Required Sight Distances (m) | Collector and local roads | |
|---|---|---|---|
| | | Living Zones Sight Distances (m) | Business Zones Sight Distances (m) |
| 50 | 113 | 45 | 113 |
| 60 | 140 | 65 | 140 |
| 70 | 170 | 85 | 170 |
| 80 | 203 | 115 | 203 |
| 90 | 240 | 140 | 240 |
| 100 | 282 | 250 | 282 |

| E13.2.4 Vehicle Crossing Design and Siting | |
|---|---|
| E13.2.4.1 - Vehicle access to any site from any road or service lane shall be by way of a vehicle crossing constructed at the owner's or developer's expense. | Noted |
| E13.2.4.2 - For all sites in a Living Zone there shall be a maximum of one vehicle crossing per site. | N/A |
| E13.2.4.3 - For sites in the Business 2A Zone with frontage to roads other than State Highway and Arterial roads, there shall be a maximum of two vehicle crossings per site except that:<br>(a) There may be a maximum of three vehicle crossings per site where the road frontage is more than 100 metres in length. | N/A |
| E13.2.4.4- For sites in all other Business zones (excluding B2A zone) there shall be a maximum of one vehicle crossing per site, except where:<br>(a) the site has frontage to roads other than State Highway and Arterial roads, where there may be a maximum of two vehicle crossings per site if each crossing is a single exit or entry (one way flow), or | Three vehicle crossings permitted – Four proposed |

| APPENDIX E10 TRANSPORT (RURAL VOLUME) and APPENDIX E13 TRANSPORT (TOWNSHIP VOLUME) | COMMENT |
|---|---|
| (b) The site has a road frontage of more than 100m in length where there may be a maximum of three vehicle crossings per site. | |
| E13.2.4.5 - The maximum spacing and width any vehicle crossing shall comply with Table E13.7. | Crossings are less than 1m or more than 7m apart (compliant)<br>Crossing widths are between 4m and 7m (compliant). |
| E13.2.4.6 - For the purposes of measuring the distance between crossings specified in table E13.7, the distance between two vehicle crossings shall be measured along the edge of the carriageway parallel to the road centre line, between the full height kerb or edge of crossing seal and the full height kerb or seal edge of the adjoining crossing. | Noted |
| E13.2.4.7 - For the purposes of measuring crossing widths as specified in Table E13.7, the width of a vehicle crossing shall be measured at the property boundary (parallel with the road reserve). | Noted |
| E13.2.4.8 - Notwithstanding E13.2.4.5 above, for vehicle crossings onto a State Highway or Arterial road with a posted speed limit of 70km/h or greater the distances between crossings shall be taken from Diagram E13.4. | Access is not to a State Highway or Arterial Road |
| **E13.2.5 Standard of Vehicle Crossings** | |
| E13.2.5.1 - Vehicle crossings shall be constructed to the following minimum standards:<br>(a) Standard vehicle crossings shall be provided to sites capable of containing no more than 6 dwellings or which generate no more than 100 vehicle movements per day.<br>(b) Heavy-duty vehicle crossings shall be provided for all other sites. | Noted |
| **E13.3 Road Standards** | |
| E13.3.1 New Road … | N/A no new roads are proposed. |
| E13.3.2 Road Intersection Spacing (all roads) | N/A no intersections are proposed |

# Appendix 3

# Delay Analysis

**Table 3: Birchs Road Access Right Turn Entry Tanner Delay Analysis**

| Parameter | Performance |
|---|---|
| Major Stream Volume<br>(Birchs Road)<br>(NB: This has been based on a conservative assumption that peak hour traffic would not exceed 20% of AADT and includes turning volumes of priority movement (L-turn entry). Assumes half traffic volume is south bound (towards Lincoln). | 620 vph |
| Minor Stream Volume<br>(i.e. right turn volume into site)<br>(NB: This conservatively assumes 2/3 of peak hour trips, are entering and half are making a right turn. | 88 |
| Critical Acceptance Gap* | 5 seconds |
| Follow Up headway** | 3 seconds |
| Average Delay | 3.6 seconds (right turn) |
| Level of Service | A |

**Table 4: Birchs Road Access Right Turn Egress Tanner Delay Analysis**

| Parameter | Performance |
|---|---|
| Major Stream Volume<br>(SH8)<br>(NB: This has been based on a conservative assumption that peak hour traffic would not exceed 20% of AADT and includes turning volumes of priority movement (R-turn entry). Assumes half traffic volume is south bound (towards Lincoln). | 1,108 vph |
| Minor Stream Volume<br>(i.e. right turn volume into site)<br>(NB: This conservatively assumes 2/3 of peak hour trips, are exiting and half are making a right turn[5]. | 88 |
| Critical Acceptance Gap* | 5 seconds |
| Follow Up headway** | 3 seconds |
| Average Delay | 9.2 seconds (right turn) |
| Level of Service | A |

* Critical Acceptance Gap: The minimum gap in a traffic stream which will be accepted by entering drivers.
** Follow-Up Headway: The average headway between successive vehicles entering the same gap in a moving traffic stream from a stationary queue.
Average delay has been determined from Figure B.3(d), Austroads, Part 5. Level of Service has been extracted from the Highway Capacity Manual which suggests delays that are less than 10 seconds represent LOS A.

[5] It is noted that even if 2/3 were turning right the delay would be 10.3 seconds and level of service B which is still considered acceptable.

# Appendix I

Noise Assessment

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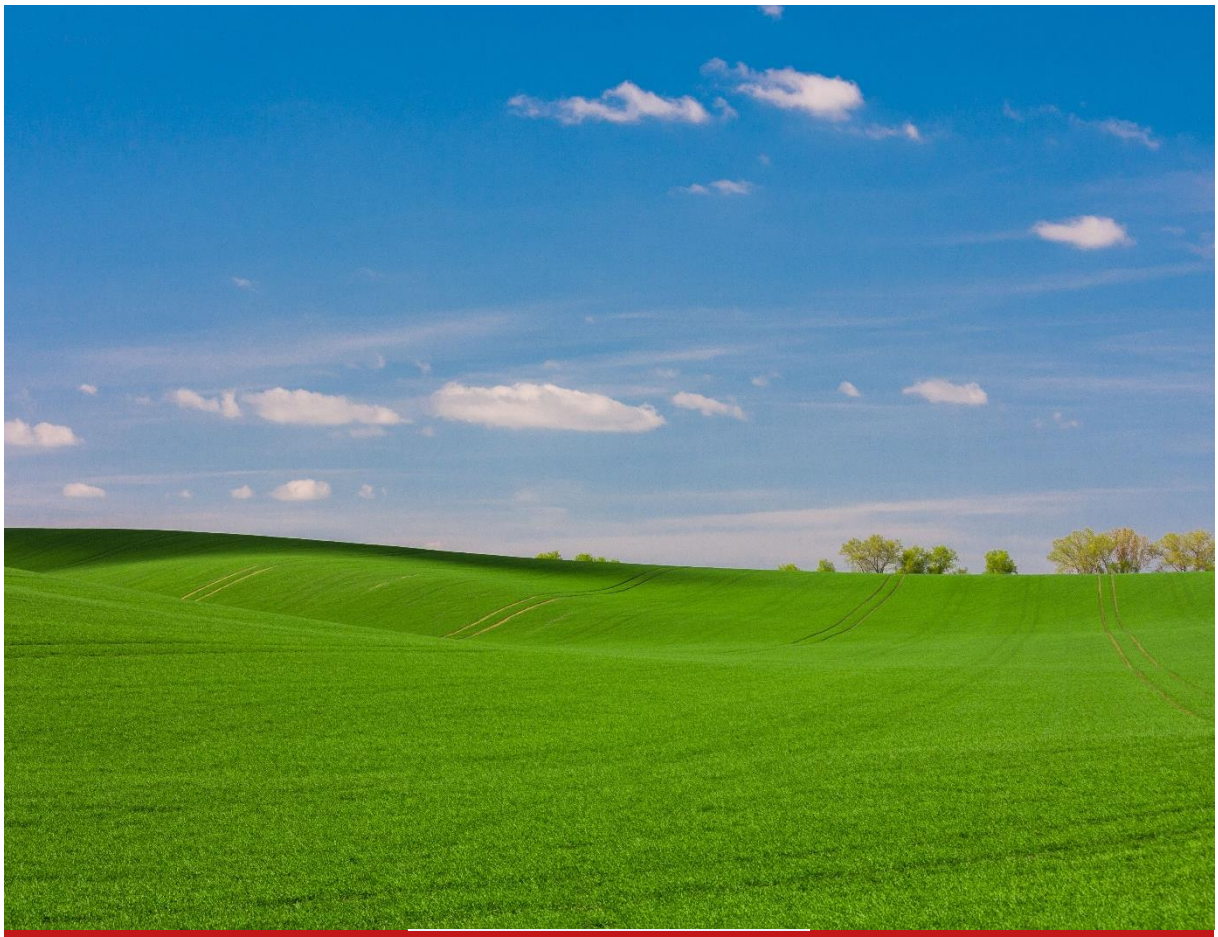

Report Number: AC19243 – 02 – R3

# Birchs Road Park, Prebbleton

## Assessment of Environmental Noise Effects

*Prepared for:*
Phillip Millar
Selwyn District Council
2 Norman Kirk Drive
ROLLESTON 7643

*Issued:*
15 April 2020

ACENZ

Association of Australasian Acoustical Consultants

## Revision History

| Reference | Status | Date |
|---|---|---|
| AC19243 – 02 – R1 | Revision 1 | 13 September 2019 |
| AC19243 – 02 – R2 | Revision 2 | 30 October 2019 |
| AC19243 – 02 – R3 | Revision 3 | 15 April 2020 |

## Document Acceptance

| Author | Signature |
|---|---|
| Aaron Zhao<br>*ME (Mech)*<br>Acoustic Engineer |  |
| **Reviewer** | **Signature** |
| Ms Clare Dykes<br>*MBSc, MASNZ*<br>Senior Acoustic Engineer |  |
| **Approver** | **Signature** |
| Dr Jeremy Trevathan<br>*PhD (Acoustic) BE Hons (Mech)*<br>Principal Acoustic Engineer |  |

## Table of Contents

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## 1.0 BACKGROUND

Acoustic Engineering Services (AES) has been engaged by the Selwyn District Council (SDC) to provide acoustic engineering advice in relation to the proposed Births Road Park, in Prebbleton, as part of the Notice of Requirement to designate the site.

The purpose of this precinct is to provide an outdoor recreational facility / park for increasing demand driven by population growth in Prebbleton and Lincoln area.

We have based our analysis on the following:

- Email correspondence with Phillip Millar titled *Request for Quote - Prebbleton New Park Noise Report*, dated the 21st of August 2019 and the 4th of September 2019.
- Master plan titled *Birchs Road Park Draft Concept Masterplan*, as prepared by Global Leisure Group and received on the 30th of October 2019.
- Traffic assessment report titled *Integrated Transport Assessment prepared for Selwyn District Council, Prebbleton Park*, as prepared by Novo Group Ltd, and dated the 30th of October 2019.

### 1.1 Site and surrounding area

The new Birchs Road Park is proposed to be located at 27 Hamptons Road to the south of the Prebbleton town centre. The site is located in the Inner Plains (IP) zones as defined by Selwyn District Plan, as are the adjoining sites to the north, west, south and east, with Living 3 zoned sites to the northwest across the intersection of Hamptons Road and Birchs Road, as shown in figure 1.1 below.

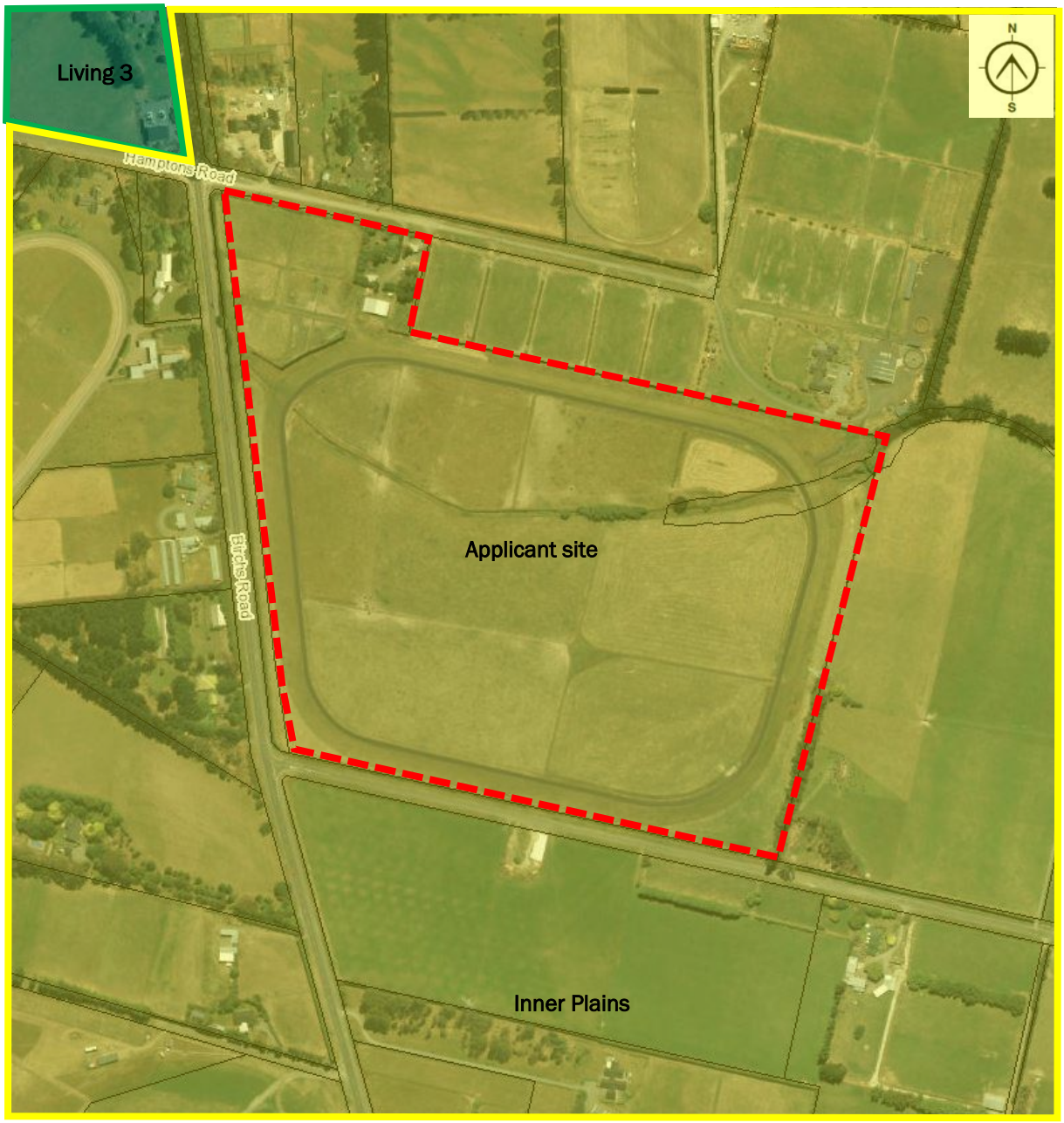



Figure 1.1 – Location of the Birchs Road Park site

## 1.2 Proposed activities

The proposed Birchs Road Park will be a 22 hectare large scale community park that aims to promote adventure, wilderness and play. We note that development of the site is expected to occur incrementally with two stages, as shown in figure 1.2 below. Final staging will depend on budget allocation. As such, details of various activities when the park eventually becomes operational may vary somewhat from those described below. However, currently the two stages are expected to be as follows:

*Stage 1:*

- 3 full size sports fields and one intermediate / junior sized field, which are potentially used for football, rugby and cricket training and competition.

- A fenced off-lead Dog Exercise Area.
- A youth space next the main carpark area.
- A main building facility with drinking fountains, shelter, public toilets and change rooms (a clubroom may be considered in the future).
- 250 carparks in the main carpark area next to Birchs Road, and 35 – 45 carparks at the Dog Exercise.

*Stage 2*

- 3 – 4 junior fields (or 1 – 2 full-size equivalent) as and when demand requires their establishment.
- Potential development of "The Meadow" based on emerging need (future use to be determined).

Based on correspondence, we understand that the sports fields are expected to be used for football, rugby and cricket competitions from 0730 to 2000 hours on weekends, with some evening games until 2200 hours on rare occasions. Training is expected until 2200 hours on weekdays.


Figure 1.2 – Proposed site layout

## 2.0 ACOUSTIC CRITERIA

The Resource Management Act requires consideration of the significance of any adverse effects associated with the proposal. Guidance as to the significance of any adverse noise effects may be obtained from several sources.

### 2.1 District Plan noise standards

As described in section 1.1 above, the site is zoned Inner Plains with the surrounding area comprised of a mixture of living and rural zones.

The noise standards which apply to the site are described in the Selwyn District Plan – *Rural Volume – Rules and Definitions – C9 Activities*; and are as follows:

*9.16.1 ...any activity shall be conducted so as to comply with the noise limits and within the time frames stated in the following tables in order to be a permitted activity:*

*Table C9.2 – Maximum noise limits at any Living Zone boundary*

*7.30am – 8.00pm* *55 dBA $L_{10}$ / 85 dBA $L_{max}$*

*8.01pm – 7.29am* *40 dBA $L_{10}$ / 70 dBA $L_{max}$*

*Table C9.3 – Noise limits assessed at the notional boundary of any dwelling, rest home, hospital, or classroom in any educational facility except where that dwelling, rest home, hospital or classroom is located within a Living zone*

*7.30am – 8.00pm* *60 dBA $L_{10}$ / 85 dBA $L_{max}$*

*8.01pm – 7.29am* *45 dBA $L_{10}$ / 70 dBA $L_{max}$*

However, Rule 9.16.6 then states that noise from any motor vehicle or any mobile machinery (including farm machinery and stationary equipment not fixed to the ground) is exempt from the above noise limits.

### 2.2 Existing noise environment

Aaron Zhao of AES visited the site between 1000 and 1100 hours on the 1st of September 2019 to observe the existing ambient noise environment. During this time, the traffic flow on Birchs Road was intermittent (ranging from 6 – 10 cars per minute and 1 bus once in a while). In addition to the dominant traffic noise from Birchs Road, the predominant noise source audible in the area was bird noise. At the same time, the traffic flow on Leadleys Road was low (1 – 2 cars per minute), with no vehicle along Hamptons Road to the north.

Other noise sources audible in the area from time to time are likely to include:

- Noise from cyclists in the bike lane;
- Noise from people talking on the street;
- Noise from residential activities on the adjacent sites.

Measurements were undertaken close to the boundaries of the site alongside Hamptons Road, Birchs Road and Leadleys Road. During our visit, the following ambient noise levels were recorded:

- Noise levels in the order of 71 dB $L_{Aeq}$ were recorded adjacent to the site on Birchs Road due to the traffic along Birchs Road.

- Noise levels of 43 to 62 dB $L_{Aeq}$ were recorded adjacent to the site on Hamptons Road at 15 – 180 metres from Birchs Road with the dominant noise from traffic on Birchs Road.

- Noise levels of 53 to 58 dB $L_{Aeq}$ were recorded adjacent to the site on Leadleys Road at a minimum 80 metres from Birchs Road with the dominant noise from traffic on Leadleys Road. When no vehicles were travelling past the site on Leadleys Road, noise levels of 37 dB $L_{Aeq}$ were measured at the eastern boundary of the site where the traffic from Birchs Road was inaudible.

## 2.3 New Zealand Standard 6802

NZS 6802:2008 *Acoustics – Environmental noise* outlines a guideline daytime limit of 55 dB $L_{Aeq\ (15\ minute)}$ (approximately 57 dB $L_{A10}$) and a night-time noise limit of 45 dB $L_{Aeq\ (15\ minute)}$ (approximately 47 dB $L_{A10}$) for "the reasonable protection of health and amenity associated with the use of land for residential purposes". A night-time noise limit of 75 dB $L_{AFmax}$ is outlined in the Standard with no $L_{AFmax}$ limit during the daytime period.

We note that the Standard provides guidelines in section 8.3 regarding 'daytime' and 'night-time' for use in situations where these are not specified. The timeframe recommended is 0700 to 2200 hours for daytime, and 2200 hours to 0700 hours the following day for night-time.

The Standard also describes how a – 3 dB adjustment may be applied to sound received for less than 50 % of the daytime period, and a – 5 dB adjustment may be applied to sound received for less than 30 % of the daytime period.

## 2.4 World Health Organisation

*Guidelines for Community Noise*[1], a document produced by the World Health Organisation based on extensive international research recommends a guideline limit of 55 dB $L_{Aeq\ (16\ hours)}$ (approximately 57 dB $L_{A10}$) to ensure few people are seriously annoyed in residential situations. A guideline limit of 50 dB $L_{Aeq}$ (approximately 52 dB $L_{A10}$) is recommended to prevent moderate annoyance. A guideline night time limit of 45 dB $L_{Aeq}$ (approximately 47 dB $L_{A10}$) is recommended to allow occupants to sleep with windows open.

## 2.5 Other District Plan noise limits

We are familiar with existing noise rules for many other District Plans throughout New Zealand, and consider these to provide some context.

In particular, the specified hours for the daytime and night-time periods vary considerably between districts, with some also providing an 'evening' period. However, the period between 0700 and 2200 hours is most commonly used to define daytime, and 2200 hours to 0700 hours for night time.

Therefore, the current Selwyn District Plan noise rules which apply at the Living zone and Rural zones are more restrictive in terms of the hours assigned to the day, being 0730 to 2000 hours, only a 12 and a half hour period, whereas most District Plans, NZS 6802 and the WHO anticipate or provide for 15 hours of daytime.

We also note that it is more common in other District Plans to utilise the $L_{eq}$ descriptor for intrusive or continuous noise.

[1] Edited by Berglund, B *et al. Guidelines for community noise.* World Health Organization 1999.

## 2.6 National Planning Standards

*New Zealand National Planning Standards* (2019) is a document which seeks to standardise aspects of regional and district plans, and other documents required under the Resource Management Act. Noise and vibration metrics are specifically discussed, with all District or Resource Management Plans are required (when going through an update) to adopt various stated metrics.

Section 15 *Noise and Vibration Metrics Standard* in the National Planning Standards outlines the noise and vibration standards required to be referenced in District and Resource Management Plans. The National Planning Standard references New Zealand Standard NZS 6802:2008 *Acoustics – Environmental Noise* which uses the $L_{eq}$ not $L_{10}$ noise descriptor.

## 2.7 Discussion regarding appropriate noise levels

In general, where noise levels comply with the District Plan noise limits at neighbouring residential sites we would consider the effects to be acceptable; however, we note the following:

- The $L_{10}$ descriptor referred to in the Selwyn District Plan is the noise level that is exceeded 10 % of the time, and therefore is directly related to the time period selected, the length of time that the noise source is on the site and the noise level they generate. This descriptor does not always well represent noise effects and is very difficult to calculate for intermittent noise sources, and hence is no longer used in the more recent standards.

- The current Selwyn District Plan noise rules which apply at the living and rural zones are restrictive in terms of the hours assigned to the day, being 0730 to 2000 hours, only a 12 and a half hour period, whereas most District Plans, NZS 6802 and the WHO anticipate or provide for 15 hours of daytime.

Based on the above, we consider noise at the following levels (measured and assessed in accordance with NZS 6801:2008 and NZS 6802:2008) when received at the notional boundary of the dwellings on the surrounding sites zoned Inner Plains and at the boundary of the Living 3 zoned sites, will have a minimal adverse effect:

| | |
|---|---|
| 0700 to 2200 hours | 55 dB $L_{Aeq}$ |
| 2200 to 0700 hours | 45 dB $L_{Aeq}$ / 70 dB $L_{AFmax}$ |

## 3.0 NOISE GENERATED BY THE ACTIVITY

Noise sources which may be associated with the use of Birchs Road Park are expected to be:

- Vehicles travelling about and parking on the site (engine noise, exhaust noise, road/tyre noise, reversing beepers and door slams)
- Heavy vehicles travelling to the Service / Maintenance Area
- Sporting activities such as Football, Rugby, Cricket and the like
- Spectators and referee whistles associated with sporting events
- Children playing in the Youth Space
- Dogs barking in the Dog Exercise Area
- Post-match gatherings which may occur from time to time in the main building

SoundPlan computational noise modelling based on ISO 9613 *Acoustics – Attenuation of sound outdoors – Part 2: General method of calculation* has been used to calculate the propagation of noise from the site, taking into account the topography of the area, and sound power levels for each of the noise sources.

With regard to cumulative noise, we expect that peak periods of the main building occupancy, traffic noise, maintenance and sport noise from the site will not occur concurrently and so the noise levels outlined below represent the worst-case levels expected at any given time.

We have considered the Stage 1 and Stage 2 activities (as discussed above) on the site together in our analysis.

### 3.1 Noise from activities between 0700 and 2200 hours

#### *3.1.1 Noise from sports and recreation activities*

Based on correspondence, we understand that sports fields will be used for Rugby (50 players per field), Football (30 players per field) and Cricket (50 people over 2 fields) with half of these numbers for each junior field and as many spectators watching the games as players. We note that the use of the 'Meadow' area has not been confirmed and has been assumed to be used for Rugby which is the worst case of these sports.

We have considered a peak operating scenario based on a busy Saturday morning for events or a weekday evening for training with the following activities (and associated noise sources) occurring simultaneously within the park:

- Senior Rugby – All three full size fields in use (approximately 50 players plus 50 spectators, officials and club volunteers for each field, with half the spectators speaking in raised voices on the sidelines, as well as 4 players / coaches speaking in raised voices)
- Junior Rugby – All five junior fields in use (approximately 25 players plus 25 spectators, officials and club volunteers for each field, with half the spectators speaking in raised voices on the sidelines, as well as 4 players / coaches speaking in raised voices)
- Meadow area – Used for a senior rugby game (approximately 50 players plus 50 spectators, officials and club volunteers, with half the spectators speaking in raised voices on the sidelines, as well as 4 players / coaches speaking in raised voices)
- Youth space – 6 children with half speaking in raised voices

- Fenced Dog Exercise Area – Approximately 15 dogs barking for 1 minute out of 15 minutes

We note the following:

- We have previously measured a noise level of 98 dB $L_{Aeq}$ at 1 metre from approximately 15 dogs barking. We have used this in our analysis and have assumed that the dogs would only bark for 1 minute out of the 15 minute period in the fenced Dog Exercise Area. This is a conservative assumption and we would expect the actual noise levels from the Dog Exercise Area to be lower.

- Expected noise levels due to the conversation of players and spectators have been based on the American National Standards Institute Standard ANSI S3.5 – 1997 *Methods for calculation of the Speech Intelligibility Index*, which contains information on the typical speech levels for both male and female speakers. Based on average values, for a raised voice effort, the sound power of a speaker may be deduced to be 78 dB $L_{wA}$.

Based on the above, the expected worst-case noise levels are shown in figure 3.1 below.

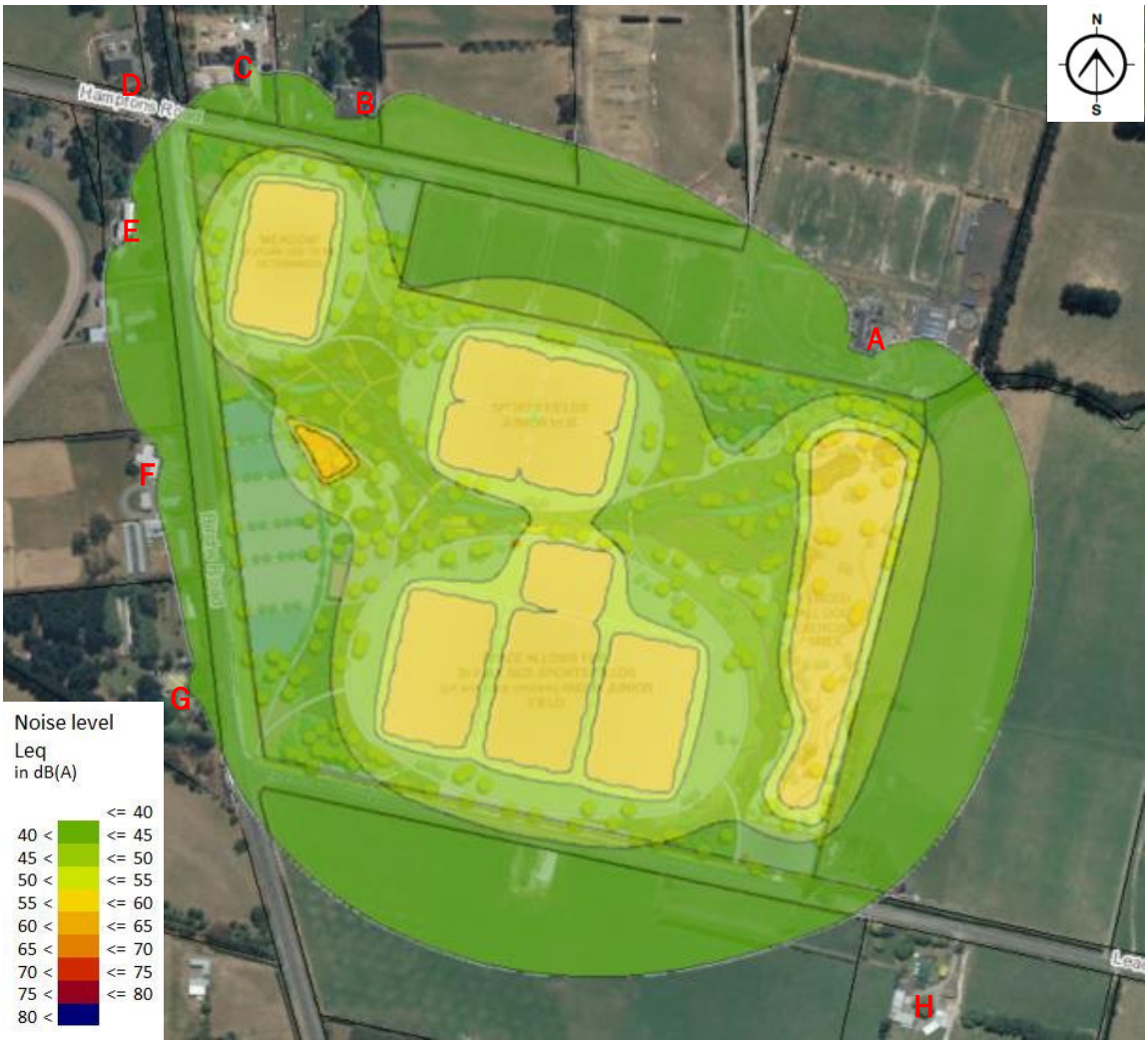



**Figure 3.1 – Noise emissions associated with peak activities in a worst case 15 minute period**

Based on the modelling, the worst-case noise levels shown in table 3.1 are expected at the nearest residential boundary or notional boundary labelled (A) to (H) in figure 3.1 above.

Table 3.1 – Noise levels from peak activities in a worst-case 15 minute period

| Location | Noise levels (dB $L_{Aeq}$) |
|---|---|
| A: Notional boundary of dwelling at 2 Hamptons Road | 43 |
| B: Notional boundary of dwelling at 32 Hamptons Road | 43 |
| C: Notional boundary of dwelling at 42 Hamptons Road | 42 |
| D: Site boundary of 116 Birchs Road | 39 |
| E: Notional boundary of dwelling at 142 Birchs Road | 42 |
| F: Notional boundary of dwelling at 160 Birchs Road | 41 |
| G: Notional boundary of dwelling at 176 Birchs Road | 41 |
| H: Notional boundary of dwelling at 333 Leadleys Road | 39 |

We therefore expect noise levels of less than 55 dB $L_{Aeq}$ between 0700 and 2200 hours at all neighbouring noise sensitive locations. We expect the effects of this noise to be minimal.

With regard to District Plan compliance, the noise limits within the District Plan are expressed in terms of the $L_{A10}$ parameter (rather than the $L_{Aeq}$ parameter recommended in most recent guidance) and $L_{AFmax}$ limits. Based on our noise measurements of the rugby activity, there is a + 3 dB difference between the $L_{Aeq}$ and $L_{A10}$ and a + 22 dB between the $L_{Aeq}$ and $L_{AFmax}$. Based on these adjustments, we have the following comments:

- Between 0730 and 2000 hours, we expect compliance with the District Plan noise limits of 60 dB $L_{A10}$ / 85 dB $L_{AFmax}$ at the notional boundary of all neighbouring properties in the Inner Plains zone and 55 dB $L_{A10}$ / 85 dB $L_{AFmax}$ at the site boundary of Living 3 zoned properties.

- If this worst-case scenario activity was to occur between 0700 and 0730 hours or between 2000 and 2200 hours, the noise limit of 70 dB $L_{AFmax}$ is expected to be complied with at all surrounding properties; however the noise limit of 45 dB $L_{A10}$ is expected to be exceeded by 1 dB at the notional boundary of dwellings at 2 and 32 Hamptons Road, and the noise limit of 40 dB $L_{A10}$ would be exceeded by 2 dB at the site boundary of 116 Birchs Road.

However, as discussed above, noise levels of less than 55 dB $L_{Aeq}$ are expected at the closest noise sensitive locations and we therefore expect the associated noise effects to be minimal.

### *3.1.2 Break-out noise from the building*

Based on correspondence, we understand that a building adjacent to the main carpark area on site is proposed to be used as changing rooms, public toilets and the like. We also expect that it may include a communal area which could accommodate post-match functions. Based on the use of the building, we have assumed a worst-case scenario based on the following activities in the building:

- A post-match gathering in the building with internal noise level of up to 85 dB $L_{Aeq}$

- The doors open on side facing the fields

Based on above, the expected worst-case noise levels are shown in figure 3.2 below.

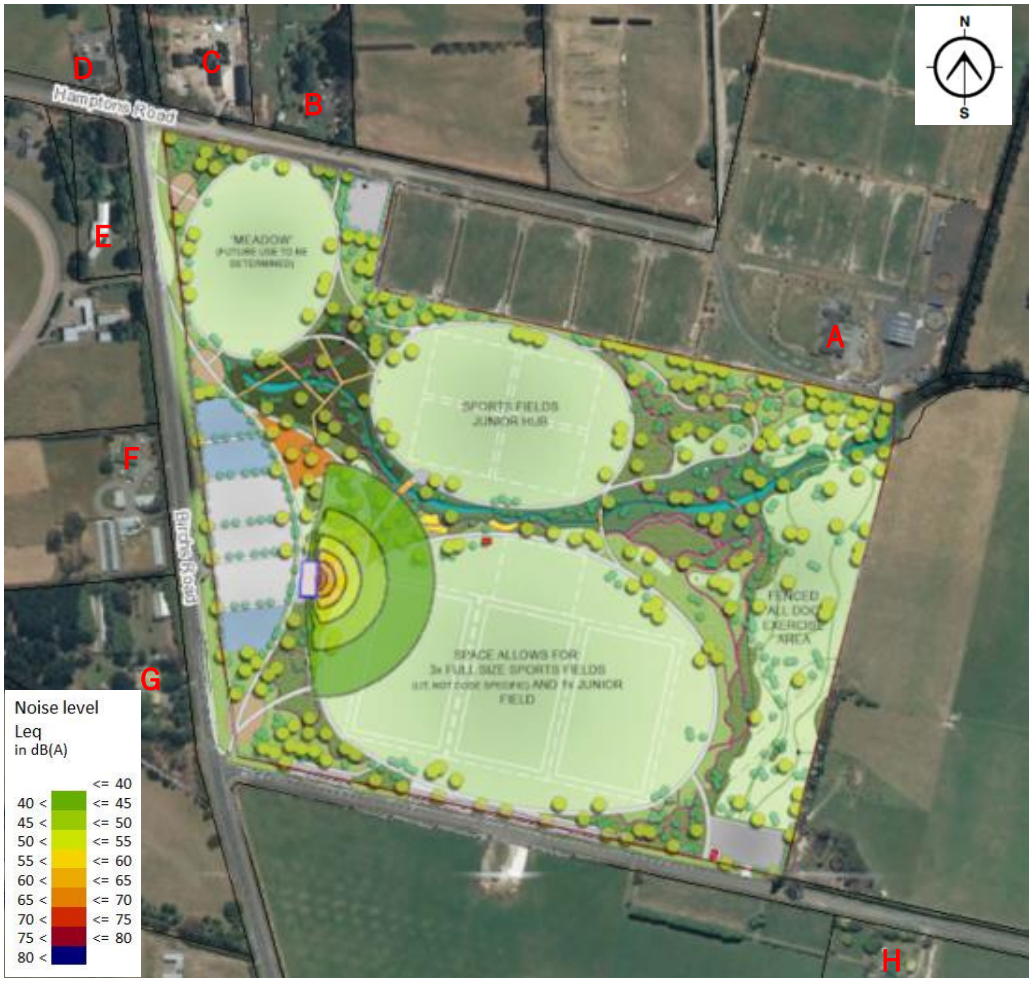



**Figure 3.2 – Noise emissions associated with the activities in the building**

Based on the modelling, the worst-case noise levels shown in table 3.2 are expected at the nearest residential boundary or notional boundary labelled (A) to (H) in figure 3.2 above.

**Table 3.2 – Break-out noise levels from the building**

| Location | Noise levels (dB $L_{Aeq}$) |
|---|---|
| A: Notional boundary of dwelling at 2 Hamptons Road | 26 |
| B: Notional boundary of dwelling at 32 Hamptons Road | 28 |
| C: Notional boundary of dwelling at 42 Hamptons Road | < 20 |
| D: Site boundary of 116 Birchs Road | < 20 |
| E: Notional boundary of dwelling at 142 Birchs Road | < 20 |
| F: Notional boundary of dwelling at 160 Birchs Road | < 20 |
| G: Notional boundary of dwelling at 176 Birchs Road | 20 |
| H: Notional boundary of dwelling at 333 Leadleys Road | 24 |

We therefore expect noise levels of less than 55 dB $L_{Aeq}$ between 0700 and 2200 hours. We expect the effects of this noise to be minimal.

With regard to District Plan compliance, we have considered a + 3 dB difference between the $L_{Aeq}$ and $L_{A10}$ for this type of sound. Based on this adjustment, full compliance with the District Plan $L_{A10}$ noise limits is expected with both the daytime and night-time noise limits at the notional boundary of all neighbouring properties in the Inner Plains zone and at the site boundary of Living 3 zoned properties.

Due to the nature of the activities we also expect full compliance with the District Plan $L_{AFmax}$ noise limits.

### *3.1.3 Noise from vehicle movements*

We understand that 250 carparks are proposed in the main carpark area, with 35 – 45 carparks adjacent to the fenced Dog Exercise Area.

Based on the traffic assessment report, it is expected there will be a maximum of 371 vehicle movements (246 movements for Rugby / Soccer, 20 movements for Passive Recreation and 105 for Dog Park). Assuming the vehicle movements during a worst-case period were evenly spaced over the hour, 93 vehicle movements would take place during a worst-case 15 minute period between 0700 and 2200 hours.

Based on the purpose of the vehicle movements, the following vehicle movements in each carpark area have been assumed in our calculations in a worst-case 15 minute period:

- 58 vehicle movements in the main carpark area
- 35 vehicle movements in the carpark area adjacent to the fenced Dog Exercise Area

We note that a typical light vehicle manoeuvring in a carpark setting is likely to emit a sound power of less than 90 dB $L_{wA}$ with a speed of 10 km/hr.

Based on the above, the following worst-case noise levels shown in table 3.3 are expected at the nearest residential boundary or notional boundary.

**Table 3.3 – Noise levels from the vehicle movements**

| Location | Noise levels (dB $L_{Aeq}$) |
|---|---|
| A: Notional boundary of dwelling at 2 Hamptons Road | 32 |
| B: Notional boundary of dwelling at 32 Hamptons Road | 35 |
| C: Notional boundary of dwelling at 42 Hamptons Road | 34 |
| D: Site boundary of 116 Birchs Road | 34 |
| E: Notional boundary of dwelling at 142 Birchs Road | 38 |
| F: Notional boundary of dwelling at 160 Birchs Road | 49 |
| G: Notional boundary of dwelling at 176 Birchs Road | 47 |
| H: Notional boundary of dwelling at 333 Leadleys Road | 40 |

We therefore expect noise levels of less than 55 dB $L_{Aeq}$ between 0700 and 2200 hours. We expect the effects of this noise to be minimal.

With regard to District Plan compliance, noise from motor vehicles is excluded from the District Plan noise limits and therefore full compliance is expected for this aspect of the activity.

### *3.1.4 Noise from Service / Maintenance Area*

We understand that the Service / Maintenance Area located to the north of the site is to be used for storage of maintenance vehicles and materials. The maintenance vehicles will be delivered to the site by a tractor or another heavy vehicle. We note that based on correspondence, irrigation pump systems are also expected to be located within this area within a pump house (similar to the pump house built for the irrigation system for the Foster Park in Rolleston) and therefore we do not expect the noise from the pump house would be problematic. Therefore, the main source in the Service / Maintenance Area is expected to be a heavy vehicle (such a tractor) manoeuvring in this area.

We have assumed a single heavy vehicle movement in a 15 minute period in the Service / Maintenance Area. We note that we have based our analysis on a heavy vehicle with a sound power of 108 dB $L_{wA}$ travelling at 10 km/h on site.

Based on the above, noise levels of 44 dB $L_{Aeq}$ or less are expected at the notional boundary of the surrounding dwellings. We expect the effects of this noise to be minimal.

As above, noise from motor vehicles is excluded from the District Plan noise limits and therefore full compliance is expected for this aspect of the activity.

## 3.2 Noise from activities between 2200 and 0700 hours

We expect that use of the fenced Dog Exercise Area and vehicle movements will be the primary noise sources between 2200 and 0700 hours.

### *3.2.1 Noise from dog barking*

We have considered the same assumptions for the dogs as discussed above. Based on this, the expected worst-case noise levels are shown in figure 3.3 below.

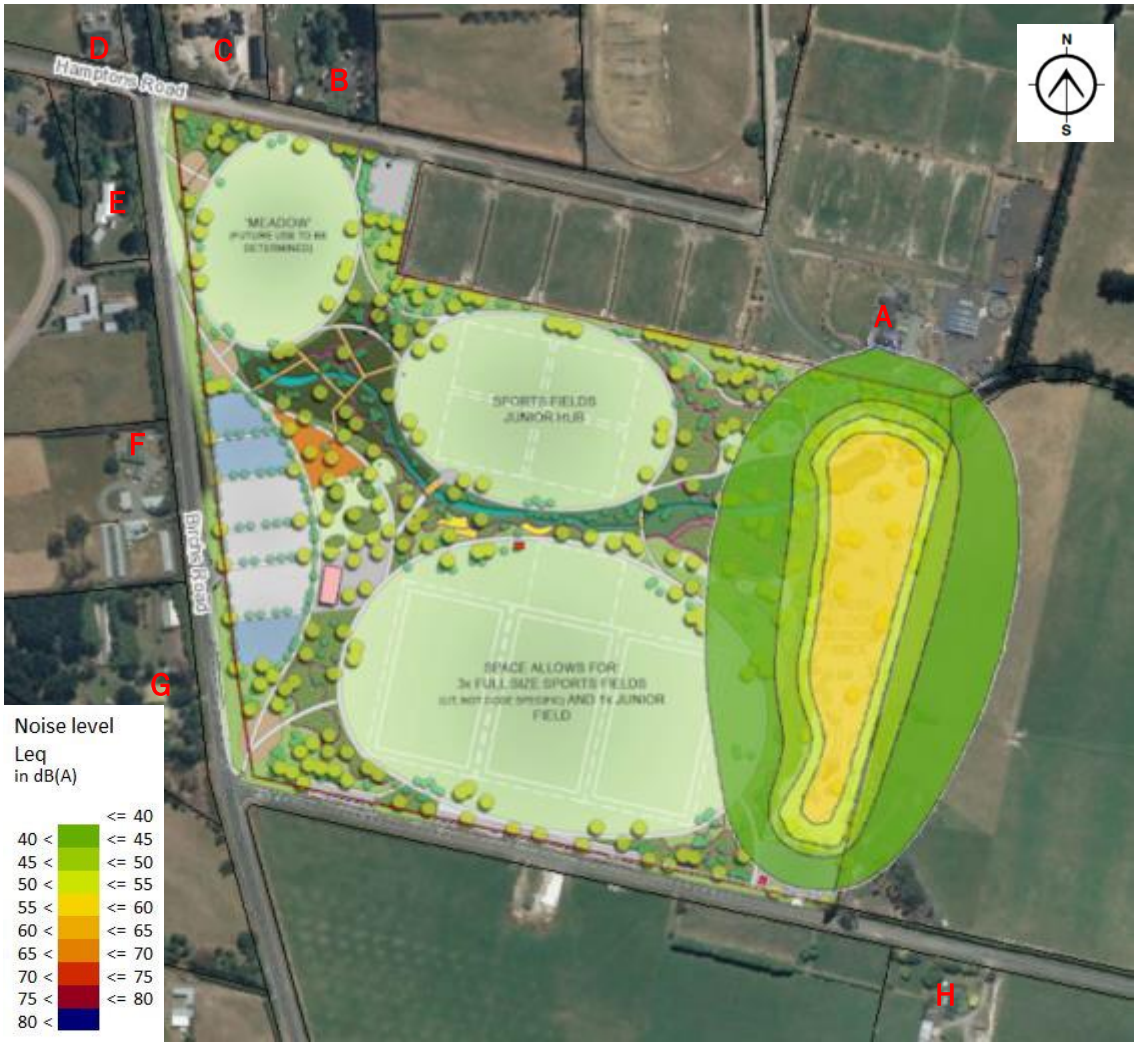



**Figure 3.3 – Noise emissions associated with the use of the dog exercise area between 2200 and 0700 hours**

Based on above, the following worst-case noise levels shown in table 3.4 are expected at the nearest residential boundary or notional boundary labelled (A) and (H) in figure 3.3 above.

**Table 3.4 – Noise levels from dogs barking**

| Location | Noise levels (dB $L_{Aeq}$) |
|---|---|
| A: Notional boundary of dwelling at 2 Hamptons Road | 42 |
| B: Notional boundary of dwelling at 32 Hamptons Road | 27 |
| C: Notional boundary of dwelling at 42 Hamptons Road | 25 |
| D: Site boundary of 116 Birchs Road | 25 |
| E: Notional boundary of dwelling at 142 Birchs Road | 27 |
| F: Notional boundary of dwelling at 160 Birchs Road | 28 |
| G: Notional boundary of dwelling at 176 Birchs Road | 29 |
| H: Notional boundary of dwelling at 333 Leadleys Road | 34 |

We therefore expect noise levels of 45 dB $L_{Aeq}$ or less to occur between 2200 and 0700 hours. We expect the effects of this noise to be minimal.

With regard to District Plan compliance, as discussed above, we have assumed dogs barking for 1 minute out of a 15 minute period and therefore less than 90 seconds within any 15-minute period. While dogs barking would potentially generate instantaneous noise levels in excess of 45 dBA at the neighbouring properties boundaries, they are not expected to spend enough time barking on the site to influence the $L_{A10}$ noise level, and therefore compliance with the night-time noise limits of 40 dB $L_{A10}$ and 45 dB $L_{A10}$ is expected at all neighbouring properties. Compliance with the District Plan noise limit of 70 dB $L_{AFmax}$ is also expected at all neighbouring properties.

### *3.2.2 Noise from vehicle movements*

We have assumed two vehicle movements via each vehicle entrance point to the main carpark area and carparks adjacent to the fenced Dog Exercise Area (4 vehicle movements in total) during a 15 minute period in the early morning or night-time period.

Based on above, the worst-case noise levels shown in table 3.5 are expected at the nearest residential boundary or notional boundary.

**Table 3.5 – Noise levels from the vehicle movements before 0700 hours**

| Location | Noise levels (dB $L_{Aeq}$) |
|---|---|
| A: Notional boundary of dwelling at 2 Hamptons Road | < 20 |
| B: Notional boundary of dwelling at 32 Hamptons Road | < 20 |
| C: Notional boundary of dwelling at 42 Hamptons Road | < 20 |
| D: Site boundary of 116 Birchs Road | < 20 |
| E: Notional boundary of dwelling at 142 Birchs Road | < 20 |
| F: Notional boundary of dwelling at 160 Birchs Road | 31 |
| G: Notional boundary of dwelling at 176 Birchs Road | 22 |
| H: Notional boundary of dwelling at 333 Leadleys Road | 20 |

We therefore expect noise levels of less than 45 dB $L_{Aeq}$ at all neighbouring noise-sensitive sites between 2200 and 0700 hours.

We have also considered noise levels generated by door slams and engine starts on the site. Calculations have been based on a maximum sound power level of 92 dB $L_{wA\ max}$. The highest $L_{AFmax}$ levels are shown in table 3.6 below.

**Table 3.6 – Noise levels from the door slams and engine starts on the site**

| Location | Noise levels (dB $L_{AFmax}$) |
|---|---|
| A: Notional boundary of dwelling at 2 Hamptons Road | 33 |
| B: Notional boundary of dwelling at 32 Hamptons Road | 38 |
| C: Notional boundary of dwelling at 42 Hamptons Road | 37 |
| D: Site boundary of 116 Birchs Road | 36 |
| E: Notional boundary of dwelling at 142 Birchs Road | 42 |
| F: Notional boundary of dwelling at 160 Birchs Road | 53 |
| G: Notional boundary of dwelling at 176 Birchs Road | 54 |
| H: Notional boundary of dwelling at 333 Leadleys Road | 45 |

These noise levels are less than 70 dB $L_{AFmax}$ between 2200 and 0700 hours.

We therefore expect the effects of this noise to be minimal.

As above, noise from motor vehicles is excluded from the District Plan noise limits and therefore full compliance is expected for this aspect of the activity.

## 4.0 CONCLUSIONS

Noise from all sources expected to be associated with the proposed Birchs Road Park have been considered.

Based on a review of the Selwyn District Plan, World Health Organisation Guidelines, and NZS 6802, we consider noise at the following levels (measured and assessed in accordance with NZS 6801:2008 and NZS 6802:2008) when received at the boundary of the surrounding residential sites and at the notional boundary of the dwellings on the surrounding rural sites will have a minimal effect on neighbouring properties:

| | |
|---|---|
| 0700 to 2200 hours | 55 dB $L_{Aeq}$ |
| 2200 to 0700 hours | 45 dB $L_{Aeq}$ / 70 dB $L_{AFmax}$ |

Our modelling of noise emissions from the site has confirmed that activities on the site would result in noise levels of less than 55 dB $L_{Aeq}$ between 0700 and 2200 hours and less than 45 dB $L_{Aeq}$ / 70 dB $L_{AFmax}$ between 2200 and 0700 hours at the residential site boundaries and at the notional boundary of the dwellings on the surrounding rural sites.

In terms of compliance with the District Plan, noise from vehicles is excluded from the District Plan noise limits. The relevant sources are the sports and recreation activities, and post-match gatherings. A 1 dB exceedance of the $L_{A10}$ noise limits may occur at the notional boundary of the dwellings at 2 and 32 Hamptons Road with a 2 dB exceedance at the site boundary of 116 Birchs Road if the peak activity on site occurred between 0700 and 0730 hours or between 2000 and 2200 hours. However, as discussed above, the noise levels are expected to be less than the recommended $L_{Aeq}$ noise levels at the neighbouring noise sensitive sites. We would therefore expect the associated noise effects to be minimal.

# Appendix J

Key Stakeholders Feedback

# 4 Appendix: Detailed Feedback

## 4.1 Birches Road Park – Specific Feedback

| Community Organisation / Stakeholder Inventory | Birches Road<br>Would they use it & Aspirations |
|---|---|
| **Waikirikiri Hockey**<br>**Membership**<br>**2017 = 212**<br>**2018 = 269** | **NO**<br>Another half turf at Fosters to help build sense of hub, and/or ideally a full turf on one of the football fields at LU.<br>Provision at Birches isn't as accessible and would detract from Fosters being the hockey hub, and too close to Nga Puna Wai for another full sized hockey turf |
| **Prebbleton Football** | **YES**<br>*Would still like to maintain a presence at Prebbleton Domain, and conscious it's more accessible for juniors. Perhaps one more field is retained and better positioned to use SDC change rooms i.e. Shift rugby No.2 ground. Club unsure whether that should be junior for accessibility reasons, or senior since field is so good.*<br>• 3 Senior & 4 Junior football fields (5 Full fields equivalent)<br>• Multi-use artificial floodlit training area - enabling year-round use would be ideal<br>• Training facilities<br>• Change & Gear Sheds<br>• Toilets<br>• Independently managed |
| **Selwyn United Football** | **YES** – football provision would be great<br>• Whatever is provided needs to be developed and then utilised in a co-ordinated and unified way for the benefit of more than just Prebbleton Football<br>• Selwyn Football would use it for training and potentially competition depending on what was developed<br>• Recommend a staged approach, to avoid over supply<br>• Complement rather than compete with Fosters |
| **Prebbleton Touch Module** | **NO** – needs are met at Prebbleton Domain<br>*About 1,000 participants and supporters on site each playing afternoon/evening drawing from a wide catchment well beyond Prebbleton and Lincoln.*<br>• Football could go there, currently they clash a little with Touch summer league<br>• Fitness trail |
| **Prebbleton Rugby** | **NO – Needs are met at Prebbleton Domain,** currently have 4 full rugby fields, would have 6 if football moved<br>• Football<br>• Bike Park & other youth activities<br>• Perimeter track<br>• Good access from Trices road |
| **Prebbleton Cricket** | **MIXED response**<br>**YES – for junior cricket**<br>**NO – for senior cricket, needs are met at Prebbleton Domain**<br>Mixed views, currently there are no local junior cricket teams, as there is no one to organise the competition, but there is interest.<br>• Football compatible<br>• Dog Park compatible |

| Community Organisation / Stakeholder Inventory | Birches Road<br>Would they use it & Aspirations |
|---|---|
| **Prebbleton Tennis** | **YES**<br>*Though improvements to existing facilities at Prebbleton and Lincoln was seen as more logical. Some potentially multi-purpose, and/or indoor provision for tennis at Birches road is desired.*<br>• Good space for football, aware of current clash with rugby<br>• Dog exercise area greater need than recreation riding<br>• Biggest issue is splitting of sports across multiple locations, could be better to have certain sports in each location |
| **Prebbleton Netball** | **YES** – minimum 6 netball courts, clubrooms for 2-3 teams, with storage & display space<br>*However improvements to existing facilities at Prebbleton was seen as more logical. Some potentially multi-purpose, and/or indoor provision for tennis at Birches road desired. They would like everything in one place, so either Prebbleton or Birches not split*<br>• Great accessible location<br>• Include shared clubrooms<br>• Include storage<br>• Make it a multi-use area, outdoor & indoor provisions, basketball, netball, futsal etc. |
| **Lincoln Rugby** | **YES** - For training overflow, maybe competitions<br>*Please note this may change if Lincoln Domain is developed further, as a more convenient location*<br>• Need full sized rugby fields<br>• lighting to at least 75 lumens<br>• it will need good car parking provisions |
| **Springston Pony Club/Recreation Riders** | **YES** – for informal recreational riding<br>• recreational riding on shared multi-use tracks<br>• At times some tracks could be closed for horses only for an event<br>• Possibly construct one or two introductory cross-country jumps, that could be used formally<br>• Horses and dogs don't mix, serious safety concerns, so would need to manage that<br>• Need to provide an area for parking of horse floats, depending on the scale<br>• Need to provide safe routes and entrance for those able to ride there |
| **Kevin Bann – Bike Track Successful LTP Submitter** | **YES**<br>*Previously preferred location was Prebbleton Domain, however on consideration greater potential was seen with Birches*<br>• Likes Adventure park, natural play, with multi-use tracks concept<br>• A decent skatepark/skate bowl for older more skilled skateboarders<br>• Range of pump tracks – with progressions<br>• Dirt tracks<br>• Slack lining area<br>• Climbing walls<br>• Outdoor Basketball – full court – multi-use<br>• A high ropes course, like Adrenaline forest<br>• Perimeter track needs to have humps and bumps, and challenges along the way to keep it interesting – needs to be a big wide track<br>• Birches Road is a safe road to cycle on, it's nice and wide<br>• Could extend the 50kph speed zone<br>• More football fields are needed |
| **Lincoln University** | **POTENTIALLY BUT UNLIKELY** – only for over flow or if fields are closed.<br>*Please note this may change if Lincoln Domain (which is more accessible) is developed further.* |

| Community Organisation / Stakeholder Inventory | Birches Road<br>Would they use it & Aspirations |
|---|---|
| **Lincoln High School** | **Yes** – but not during school hours, for special training/events etc.<br>*Please note this may change if Lincoln Domain (which is more accessible) is developed further.*<br>• Spectator friendly, lit with stands/ terraces<br>• Able to host events<br>• Incorporate water play (stream)<br>• A wee train around the outside<br>• Needs a protected cricket wicket<br>• 3-4 court gymnasium, everything under one roof (indoor tennis, basketball and futsal)<br>• Pioneer type Centre, similar to what's planned for Fosters<br>• Parking needs to be well planned<br>• Important to create a social environment so it becomes a hub<br>• Mountain bike and pump tracks<br>• NO SKATEBOARDING<br>• Concern over fragmentation with Prebbleton Domain – would prefer Council to purchase land adjacent to existing facilities<br>• Football, Prebbleton Football & Futsal – needs to link with Selwyn Football<br>• Hockey – another ½ turf for training<br>• Already have students who bike from Prebbleton – so accessible outside of school hours not an issue<br>• Like to see a natural play area, with a point of difference. Mounds for shelter and shelter belts.<br>• Recreational horse riding<br>• Make it fun for spectators<br>• Needs to provide opportunities for all age groups |
| **Prebbleton Primary** | **YES**<br>• An adventurous bike track like Maclean's Island would be wonderful |
| **Lincoln Primary** | **YES –** students would access outside of school hours<br>• Sealed path enables children to cycle/scooter there<br>• Keen on orbiter bus concept<br>• Dog Park<br>• Netball courts<br>• Athletics track |
| **Pre-school Parents**<br>**Prebbleton Kindergarten**<br>**&**<br>**Lincoln Pre-school** | **YES**<br>• • Love the wilderness, adventure, nature play concept, create a play area with a point of difference, focus on co-operation etc.<br>• Create a mini 'Bottle Lake Forest'<br>• Outside concrete tables for table tennis etc. like at Prebbleton Primary<br>• Mini golf course – bring your own clubs<br>• Needs to be a space for the whole family, something for all ages<br>• Water sport opportunities – kayak course<br>• Paddling pool, water play opportunities like Margaret Mahey<br>• Needs to be accessible, when you have little ones you don't travel as far<br>• There is more than enough rugby in the area – Prebbleton is a little rugby mad, it would be nice to offer younger ones a greater range of sports!<br>• Could have more football & hockey provision there<br>• Bike parks, pump track, road skills |

| Community Organisation / Stakeholder Inventory | Birches Road<br>Would they use it & Aspirations |
|---|---|
| | • Look at bus routes – need better bus stops<br>• Increase the 50km zone, to include Birches Park – safe access<br>• Link up with existing tracks and cycleways and reserves to create a safe network<br>• Balance out resources, provide a range of options across Eastern Selwyn<br>• Need to provide for a range of ages, and unisex options<br>• Orbiter bus options would be fantastic, it would certainly make facilities more accessible<br>• Dog exercise area |
| **Primary Students**<br>**Prebbleton & Lincoln Primary Schools** | **YES** – they are all happy to bike there<br>• Adventure/wilderness play - Include flying fox through the trees, high ropes, needs to be challenging for older children, there is enough around for younger children.<br>• Want to climb trees<br>• Big wide social slide<br>• Large swing for several people<br>• Spider web<br>• Hamster wheel<br>• Monkey bars<br>• Outdoor Pool with shade sail<br>• Something like Woodend Camp & Spencer Park<br>• Artificial multi-use turf for football, tennis, netball, hockey, basketball<br>• Indoor Sport Centre<br>• Basketball & skate park<br>• Running and biking tracks<br>• Mountain bike tracks of different grades<br>• 400m athletics training track |
| **Secondary Students**<br>**Lincoln High School** | **YES**<br>• Big interest in wilderness/adventure/nature play<br>• High ropes course<br>• Jumping pillows/trampolines<br>• Orienteering courses<br>• Frisbee golf<br>• Mini golf<br>• Pump track, progression of levels<br>• Drop in jump to airbags<br>• Multi-sided climbing towers, that allow for climbing and abseiling. One side shaped like a rock face, lots of different climbing options using the trees – even tree huts<br>• Outdoor swimming pool<br>• Man-made lake<br>• Ice Skating<br>• All-weather track/paths for walking, running, biking. Horse riding – create a mini 'Bottle Lake'<br>• Outdoor fitness trail around perimeter track<br>• Dogs – on leash in general area, off leash in a dog park area, with agility equipment<br>• Desire for locally based football club – Rolleston/Fosters too far away<br>**Accessibility**<br>• Need a better bus system, especially for Tai Tap – currently isolated. Need at least a bus from Tai Tap to Lincoln. |

| Community Organisation / Stakeholder Inventory | Birches Road<br>Would they use it & Aspirations |
|---|---|
| | • Keen on Orbiter bus concept<br>**Amenity provision**<br>• Rubbish bins with bags for dog poo<br>• Water fountains<br>• Car parking<br>• Bike Hire<br>• Café's |
| **Older Adults & Recreational Users**<br>**Prebbleton Walking Group** | **YES**<br>• Dog Park<br>• Cycle Track<br>• Connected walking tracks/paths<br>• Athletics track<br>• Bowling/croquet Green<br>• Swimming Pool<br>• Picnic Area<br>• Fitness Equipment<br>• Toilet Facilities<br>• Needs to be accessible, for wheelchairs and mobility scooters – easy, wide, flat access – suitable seating, |
| **Little River Rail Trust** | **YES**<br>• Public toilets and drinking fountains need to be provided for and positions so cyclists passing by can easily access them as well as sports park users<br>• Good provision for people to bike to, within, and around the area safely<br>• Provide bike racks<br>• Wide, safe, well-marked tracks |
| **Prebbleton Reserve Committee** | **YES**<br>• Need to be good walking and cycling connections between the two areas<br>• Bike Pump Track<br>• Car Parking provision<br>• Multi-use tracks/pathways, one main loop with a variety of loops off it<br>• Wilderness/Natural Adventure Play concept<br>• Youth Friendly 3x3 Basketball court<br>• CIPTED Elements considered<br>• Far end - great for dog park<br>• Drinking fountains<br>• Rubbish bins for dog waste<br>• Shade, seating, shelter & lighting |
| **Prebbleton Community Association** | • YES<br>• Dog park<br>• Bike Park<br>• Youth Friendly 3x3 Basketball & Volleyball, Climbing wall<br>• Golf Driving Range & mini-golf<br>• Men's Shed<br>• Good toilet & change provisions<br>• Pentanque pit |

| Community Organisation / Stakeholder Inventory | Birches Road<br>Would they use it & Aspirations |
|---|---|
| | • Space for football to grow<br>• Recreational horse riding<br>• Wilderness/Natural Adventure Play concept<br>• Involve schools in landscaping with natives<br>• Archery<br>• Shade, seating, shelter & lighting<br>• CPTED elements considered<br>• Edible Landscaping – e.g. plan labelled fruit trees |
| **LEC Manager & SDC Community Events Officer** | **YES – Community Events & Programmes**<br>• Wilderness, natural, adventure play<br>• Destination play area with a point of difference<br>• Bike Pump track<br>• Circuit of Multi-use connected tracks<br>• Local Equestrian Park, safe riding routes and float parking areas<br>• Rugby League<br>• Outdoor Basketball<br>• Mix of Green spaces and sports grounds<br>• **Need a Destination Bike Park/Area**<br>• One place that caters for all levels<br>• Allows for progression – inspiration<br>• Potentially for competition – talk to BMX<br>• Jump tracks and BMX. Needs to be co-ordinated with Reeds Pit, which could be developed more for noisy activities like motor cross since not so residential<br>• Hornby Bike Park & Bowenvale good examples |

# Appendix K

Handout and Community Feedback

Selwyn District Council

# Birchs Road Park Submission Form

Name _____

Address _____

Phone _____ Email _____

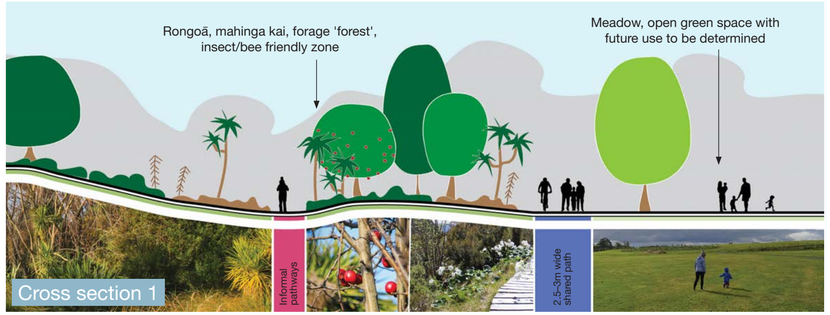
1. Are there any additional elements you would like to be considered for the reserve?

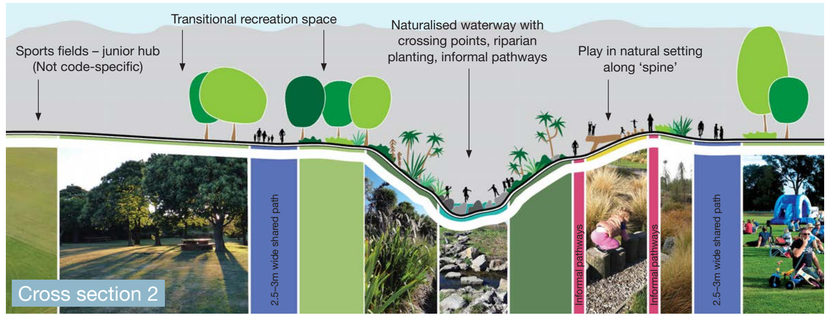
2. How would you use this park as a resident?

3. Do you have any suggestions for a name for the park?



# Indicative cross sections





*Cross sections not to scale*



Birchs Road Park, Prebbleton

# Draft Concept Masterplan

Selwyn District Council is seeking feedback from the local community on plans for a new reserve development in the Springs Ward, on Birchs Road, near Prebbleton. The Council intends to designate this area of land for 'Recreation Reserve Purposes'. This will require Council to submit a Notice of Requirement under the Resource Management Act (1991), in a similar manner to a resource consent application. Prior to undertaking this process, we want to hear what you think of the draft plan. There will also be a further opportunity for formal submission on the designation for the proposed recreation reserve in the near future.

Last year the Council carried out community consultation with local groups to identify what the community wanted. Some of the main elements identified included:

- **diverse play experiences** and settings, in particular for nature/ wilderness/adventure play with a point of difference, especially for older children and teenagers
- access and provision for **informal sporting** activity
- **safer bike opportunities** within a park setting away from vehicle traffic
- an off-lead **dog exercise area**
- additional **fields** for sporting activities.

This community feedback has helped to guide the development of a plan for the new reserve. The overall design reflects an emphasis on walking, cycling and outdoor gathering spaces. Features include:

- park and play spaces
- shade
- seating and picnic areas
- an off-leash dog exercise area
- pathways
- bike tracks, including connection to the Little River Rail Trail
- enhancement of the waterway
- sports fields.

This park was initially proposed in the Council's 2015–2025 Long-Term Plan which was adopted by the Council following public consultation in 2015.

## Your feedback

We now want to hear what you think of the draft plan. You can provide your feedback by going to selwyn.govt.nz/_____ or by filling out the attached form and dropping it off to the Council offices or any library or service centre, or post to:

Attention: Phil Millar SDC
Freepost 104-653
PO Box 90
Rolleston

You can also email feedback to phillip.millar@selwyn.govt.nz.

Feedback on the reserve development closes at 5pm on _____.

# Birchs Road Park Draft Concept Masterplan


## Masterplan key

- Site boundary
- Naturalised water race *(scale and alignment indicative)*
- Main shared path network
- Off road trails and cycle challenges
- Boardwalk/bridge
- Main car parking
- Youth space
- Multi-use hard surface/ Overflow car parking *(stage 2)*
- Gravel car parking *(incl. service/maintenance area)*
- Building: change rooms, public toilets etc
- Building: public toilet
- Indicative play area along 'play spine'
- Proposed trees
- Grass area
- Native vegetation 1
- Native vegetation 2
- Riparian vegetation
- Pā harakeke/Pā toetoe
- 1 Indicative cross section locations *(see back page)*

4. What items or exercise equipment would you like to see in the dog exercise area?

5. What sort of challenges or elements do you think could be included along the network of bike trails?

6. Do you have any general comments?

Feedback forms can be dropped off to the Council offices or any library or service centre, or post to:

Freepost 104-653
?
PO Box 90
Rolleston

You can also email feedback to: ?@selwyn.govt.nz

To provide feedback online, please visit www.selwyn.govt.nz/?

**Feedback on the reserve master plan closes at ?.**

Question 1: Are there any additional items you would like to be considered for the reserve?

| Submission Form Comments (repeating comments in brackets) | SDC Staff Reponse |
|---|---|
| Lake or pond | Have discussed internally and have concerns with given recent SDC parks and the health issues with large constructed/slow flowing waterways |
| Planting - Wildflower planting, Bee and insect friendly, Sensory plantings, Mixed native/exotic plantings, community vege garden, significant native habitat/botanical collections (2), deciduous trees (autumn leaves), trees for climbing/play, some more manicured gardens/ diversity of spp. for seasonal/visual interest, local character in plant selection | Exclusively native species will be used around park. Keen on supporting other initiatives such as sensory plantings and ecologically friendly features (ie bee/insect friendly) |
| Amenities - drinking fountains (6), sufficient/more toilets (3), sufficient seating (5), BBQ Areas (5), Recycle/rubbish bins (2), Shaded areas (2), picnic areas (6) see at the Groynes, less toilets | These are details that will be the focus of the next design phase - we will ensure there are excellent amenities and site furniture |
| Play - Flying fox (4), static playgrounds (2), Water play (7) (see Garden by the Bay Singapore), wetland themed play, coffee near play space, Astro football turf, separated play for under/over 5 years old (3), obstacle course, natural (& adaptable) play areas (2), all age activity zones, tramps in ground, swings, slide. See 'the Potters Children's Garden' Auk Botanical, Oamaru gardens | Don't have budget for water play, however wetland play may be more achievable. Keen to provide childrens playground and natural play/obstacle course |
| Horse dressage area | Not suitable at this park |
| Sport - Tennis full courts for public use (4), Tennis halfcourt/wall, Frisbee golf (2), Four Square (handball), Petanque, Squash court, Bowling green, Athletics track, basketball court/hoops (6), volleyball, sports that use less area than proposed large fields, netball hoop, Walls to kick a ball against | Can consider Frisbee golf, Four Square (handball), Petanque, basketball half court , volleyball, netball hoop, walls to kick a ball against |
| Wind shelter (2) | Will provide using planting and landform |
| Carparking - More carparking, Turning lanes into carpark, revise location for safety, consider overspill parking locations for busy events, along Leadleys Road, good access | Will provide multiple carparks. Location likely to stay, however special treatment to Birchs Road will be required (eg. Speed reduction and lanes for bikes/cars |
| Access to waterway - to watch eels, Place to feed ducks | Can consider as part of water way design |
| Signage - 'no freedom camping', bilingual, history/stories/interpretation, Planting interpretation panels | Will consider all suggestions as part of design |
| Style to reflect Prebbleton's history | Will consider as part of design |
| Space for coffee vendor etc | Yes |
| Pathways - Multiple entries to site (2), wide pathways, raised mounds, access point to link with anticipated subdivision off Hamptons Road, pram-friendly, perimeter track (2) | Will consider all suggestions as part of design. Would welcome the integration with future subdivision pathway |
| Biking - Mountain bike pump track/zone (2), cycle lock up, big park with 7 lines, childrens track | Will consider all suggestions as part of design |
| Passive surveillance | CPTED principles will be applied |
| Bus stop within an extended 50km speed zone | Need to talk to SDC Roading team re speeds |
| Dog park - bigger, separate fenced area for small dogs | Already large size. Will consider separation of small/large dogs |
| Sculpture art (2) | Will consider as part of design |
| Predator free/protected area | Could use traps instead, as predator fence would not be viable in this type of site |
| Rubbish bins designed for cyclists | Rubbish bins will be provided |
| Fitness equipment (2) | Park designed with fitness activities in mind (walk/cycle) and natural play, rather than specific fitness activities. |
| Mini road network/cycle safety course | Will consider space requirements - Steph Hautler keen on this. Goes well with bike theme |
| 4-6 Croquet greens | Will consider as part of design. Budget, access and security all potential issues. Potential to provide space in another site. |
| Footpaths and crossings to new reserve (3) | Feed back to Council- beyond our scope |
| Ensure water will flow and not become toxic | Very important. Maybe wetlend ponds with water race off this. Ideas: Talk to Dan Meehan SDC, talk to Hydro Engineer and Hagen (Waterforce) |
| Large youth space that can be used by multiple groups/events | Good size youth space to be included |
| Consider views to Port Hills | Yes |
| Hard surface for wheelchair users in all carparks | Ok, will keep in mind during design |
| Rail trail to follow previous line of railway | Will consider as part of design |
| Skatepark/bikepark | No skate park, Yes bike park |

Question 2: How would you use this park as a resident?

| **Submission Form Comments** | **SDC Staff Reponse** |
|---|---|
| Dog exercise off leash area (22) | |
| Walking (23) | |
| Biking (21) | |
| Picnics (15) | |
| Taking family/friends/grandchildren (9) | |
| Watching sport/watching sport (8) | |
| General leisure (2) | |
| With local school/childcare (2) | |
| Play (9) | |
| Tennis (?) | Not likely to be included |
| Basketball (3) | |
| Running/fittness (6) | |
| Exploring/Connection with nature (2) | |
| Wouldn't as it replicates available facilities | |
| Sit and enjoy | |
| Meeting place (2) | |

Question 3: Do you have any suggestions for a name for the park?

| **Submission Form Comments** | **SDC Staff Reponse** |
|---|---|
| Erebus Reserve | |
| Ladbrooks Reserve | |
| Hei whai Reserve ('to share') | *A Māori name may be suitable |
| Hei takaro Reserve ('to play') | *A Māori name may be suitable |
| Hamptons Reserve | **Could be appropriate |
| Punanga | *A Māori name may be suitable |
| Prebbleton Park | |
| Birchs Road Park (2) | **Could be appropriate |
| Prebbleton Fun Park | |
| Prebbleton Outdoor Recreation Park | |
| Prebbleton Sports and Recreation Park | |
| Prebble Park/Reserve (3) | **Could be appropriate |
| Avoid word 'Prebbleton' | |
| Reflect the history of area/those who previously owned land/did a lot for the area (4) | |
| Springs Recreation Reserve | **Could be appropriate |
| Recognition of Steve Hansen | |
| Birchs Park/Reserve | **Could be appropriate |
| Steve Hansen, Hansen Park | |
| Gathering place 'wahi huihuinga' | *A Māori name may be suitable |
| Multi purpose 'whakaaro maha' | *A Māori name may be suitable |
| A Maori name of significance | *A Māori name may be suitable |
| Hurford Park (first Selwyn Mayor) | |
| Selwyn Park | |
| Hansen-Selwyn Park | |
| Ao tūroa (light of day, world, earth, nature, enduring world, natural world) | *A Māori name may be suitable |
| Taiao (world, earth, natural world) | *A Māori name may be suitable |
| Pātoetoe park | *A Māori name may be suitable |
| A local hero's name | |
| Hartnell Reserve | |
| Ask Rūnanga to gift one | *A Māori name may be suitable |
| Name to reflect use | |
| Tuhawaiki' - a great local Ngai Tahu chief of the 1830's who defeated Te Rauparaha. This fact could be coupled with the Te Reo idea of work/leisure balance: "Nga mahi a te rehia" to form the official name " Nga mahi a te rehia Tuhawaiki Reserve", or "Tuhawaiki Reserve" for short | *A Māori name may be suitable |
| | *Would need to ask Rūnanga to gift a name, if it was going to be a Māori/bilingual name. Potentailly they may like to have a name associated with a specific space (the Pā Harakeke?) rather than whole park?<br>**Favourite is a reference to 'Springs' (English/Māori/bilingual) as we are in Springs Ward . EG. Prebble Springs Reserve/Park etc, Springs Reserve |

Question 4: What items or exercise equipment would you like to see in the dog exercise area?

| Submission Form Comments | SDC Staff Reponse |
|---|---|
| Tunnels (6) | Yes |
| Climbing slopes (3) | Yes |
| Ensure it is fenced and identifiable as a dog area (6) | Yes |
| Carparking - Sufficient car parking (2), Direct access to fenced area from carpark | Yes |
| Walkway within dog park, Figure 8 walking track | Will consider as part of design |
| Seating | Yes |
| Dog poo bins (5), Bokashi system for poo (in ground treatment) | Yes to bins, though will have to look further into Bokashi suggestion |
| Small/large dog areas separated (2) | Yes |
| Agility (2) | Yes |
| Water access for play (5) | TBC - see earlier comments around water quality issues |
| Natural features (logs, bushes) (2) | Yes |
| Shade | Will provide natural shade as part of design |
| Drinking areas for dogs (7) | Yes |
| Childrens play area close by | Childrens' play will be focussed on other side of park/along play spine |
| Hurdles | Yes |
| Weaving | Yes |
| Tables | Yes |
| Outcrops | Will consider as part of design |
| See Pakowhai Dog Park (Hastings) | |
| Dog wash (2) | Unlikely given maintenance and cost |
| See the Groynes | |
| Keep dogs on leash outside of fenced area | Refer SDC policy - Not allowed off leash in playgrounds or when sports are being played on fields |
| Grass | Yes |
| Similar to Foster Park | |
| Obstacle course | Yes |
| Seating and tie up area | Will consider as part of design |
| | |

Question 5: What sort of challenges or elements do you think could be included along the network of bike trails?

| Submission Form Comments | SDC Staff Reponse |
|---|---|
| Slopes/hills/ramps (4) | Yes |
| Multi-generational challenges/attractions (4) | Yes |
| Children - Area for younger children to build confidence (3), Humps and dips for kids (4), Wiggley path (2), Kids sealed area/road safety (2) | Yes, will consider as part of design |
| Bridges (2) | Will consider as part of design |
| See: Onepoto Park bike pathway North Shore, Western Rail Trail Hamilton, Mcleans Park | |
| Bike fix stations (3) | Will consider as part of design (near Rail Trail) |
| Pump track (5) | May include elements of pump style riding |
| Jump line (5) | Will consider as part of design |
| Berms (3) | Yes |
| Ford thru water | Will consider as part of design though ecologically not desireable (see report) |
| Clear marking on shared paths/bike only etc | Yes, will consider where this will be most effective |
| See-saw (2) | Will consider as part of design |
| Beams/balance planks (2) | Yes |
| Space to share all types of path with pedestrians | Not all paths will be dedicated shared paths. Some separation between bikes and pedestrians will be planned for |
| BMX track | May include elements of bmx style riding |
| Drinking fountains around tracks to minimise water bottles | Yes, will place where best suited |
| Suitable for scooters too | Yes |
| E-bike compatible | Yes |
| Rocks | Yes |
| Separate walking/cycling | In part |
| Bilingual signage re planting selection adjacent pathways | Will consider as part of design |

Question 6: Do you have any general comments?

| Submission Form Comments | SDC Staff Reponse |
|---|---|
| Would support wider connected path network around the area (as in Nelson/Golden Bay) | This park will be connected to the Rail Trail |
| Native planting/habitat and focus to increase birdlife /wildlife | Yes |
| Question the need for more playing fields (3) | Need has been determined. Current Domain over subscribed |
| Fenced dog park a great idea (2) | Yes |
| Can rest of reserve be dog free/on lead (2) | Will talk to SDC dog control team for on-lead only outside dog park |
| No electric scooters in park | Not initially, and will review with use |
| Thanks for the opportunity to contribute (7) | |
| Looking forward to having the park in the area | |
| Impressed with plans and beauty of design | |
| Great to see high eco value planting area | |
| More carparking for dog park? | Will consider around space requirements/in conjunction with traffic report recommendations |
| Like the idea of different lengths of walk | |
| We need the dog park | |
| Agree on need for bike tracks locally | |
| Prebbleton already has an off leash dog area (domain), picnic tables, seating in reserve/domain | |
| Consider safety/practicalities of cycle use along rail trail | Will do |
| Consider potential issues with water quality at end of water race | Will do |
| Too similar to Prebbleton Domain | Disagree - this will have a very different feel and focus |
| Need a theme and identity different to existing sites (ie. 'Prebbleton Outdoor Adventure Park'?) | |
| Fantastic idea/looks great (7) | |
| Lots for youth please | Agree |
| Thanks for investment in our community | |
| Useable in all seasons | Yes |
| More innovation needed, not replicating things in district | This park will have a very different feel and focus to other Selwyn |
| Great asset to community (3) | |
| Please make sure access to the park is safe for all | |
| Happy to provide further feedback (2) | |
| Consider all sports, not just rugby (Softball, hockey, atheletics oval maybe?) | Sport usage will be allocated according to demand and spread of facilities across Selwyn |
| Thanks for diverting the rail trail into park and providing facilities to be shared by rail trail users | |
| Love that water race has been incorporated. It is part of the areas history. Thankyou. | |
| Ensure sufficient carparking (2) | Will provide numbers based on traffic reports |
| Insufficient toilets | Will look at positioning carefully |
| Changing rooms may get congested | Noted |
| Consider enty/exit from Hamptons Rd as Birchs too busy (2) | Will do more work with traffic consultant |
| What is a 'youth space?' | |
| Who will harvest the harakeke? | Rūnanga will likely manage and harvest. Will need to be discussed further |
| Block easterly wind | Will provide natural shelter as possible |
| Plan planting well to avoid future re planting en masse | Noted |
| Will management of space  be regular? (weeds/waterway) | Yes |
| Pram friendly | Yes, main pathways will be |
| Meadow could be picnic area - tables, water feature, bbqs etc | These features will be spread around the park. Water feature unlikely as we already have a natural water course |
| Plant large shade trees | Yes (native) |
| Exciting! | |
| Would like to see this up and running asap - within 3 years? | We have started |
| Is there free wifi? | Will consider |
| Why can't anyone harvest the flax? | Could, depending on how the mass planted areas are going to be managed (need to harvest correctly) |
| Needs a point of difference | Bike/nature focus we feel is different to other parks/reserves in the area |
| Need to attract those out of district | Major focus of this park is the Springs Ward |
| BBQ in youth space please | Will consider |
| Thankyou for working to restore native/natural areas in our world | |
| Please get advice from (ie) Colin Muerk for plant selection | We will take other professional advice |
| Meadow could be for public events. Perhaps need toilets closer to meadow | Will consider |

| | |
|---|---|
| Good stop off point for those doing Rail Trail | |
| Ensure needs of all generations are considered | Agree |
| Great idea for near Prebbleton (2) | |
| Consider CPTED/user safety in design solution (2) | Yes |
| Pavillion needs to be big enough - multi use for indoor sports, functions? | This is changing rooms rather than a pavillion.Outdoor space will be large enough for gatherings |
| We would like to be consulted with to discuss connections through our subdivision to the Domain (George and Jeffs families) | Yes |