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Notice of Requirement - Recreation Reserve Designation

27 Hamptons Road, Prebbleton

Integrated Transport Assessment Peer Review

Prepared for:	Selwyn District Council
Job Number:	SDC-J023-15
Revision:	A
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Reviewed by:	Jo Draper, Associate Transportation Planner

1. Introduction

Abley was engaged by Selwyn District Council (SDC) to provide an independent peer review of the Integrated Transport Assessment submitted as part of a Notice of Requirement (NOR) to designate land for recreation reserve purposes, located at 27 Hamptons Road, Prebbleton. The location of the site is shown in **Figure 1.1** below.

Figure 1.1 Site Location

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The key features of the proposal with respect to the potential transport related effects are as follows:

- The site is located in the Rural Inner Plains Zone of the Selwyn District Plan.
- The existing site is relatively flat.
- It is proposed to develop a 22 hectare area of rural land for a community park. The development will include:
  - Three full sized fields and five junior fields to accommodate various sports – with associated changing rooms and separate toilet blocks. At this stage the fields are not proposed to be code specific.
  - A fenced dog exercise area and meadow is also proposed. This area may be converted to additional fields in future.
- There is an existing dwelling on the site and three farm shed buildings. Vehicle access to the site is currently provided from Hamptons Road via two formed crossings. The western-most vehicle crossing will be decommissioned, and the eastern-most crossing will be upgraded to provide access to the proposed service/maintenance area. This service area will be used for storage of maintenance vehicles and materials.
- Three new additional vehicle crossings will be provided to the site, two on Birchs Road and one on Leadleys Road.
  - The main vehicle access to the site will be located on Birchs Road, which will provide access to the main parking area.
  - The second vehicle crossing on Birchs Road will provide emergency access only, to be used if the main entrance cannot be utilised or is not sufficient on its own. The emergency vehicle access will be 5.5-6m wide without splays.
  - Birchs Road is classified as a collector road at this location with a speed limit of 80 km/h (reducing to 60km/h immediately north of the intersection with Hamptons Road). Hamptons Road and Leadleys Road are both classified as local roads at this location and have a speed limit of 80 km/h.
- Hamptons Road outside the site has an unsealed surface.
- It is proposed to reduce the existing speed limit on Hamptons, Birchs and Leadleys Roads from 80km/h to 60km/h. The proposed 60km/h speed limit will be pursued separately to this notice of requirement application under the Resource Management Act.
- The land immediately surrounding the site is predominantly rural residential land uses – large sites with single dwellings and pastoral land with farming activities. The surrounding lots are also zoned Inner Plains.
- Two parking areas are proposed to service the site:
  - The main car park to be accessed from Birchs Road will provide approximately 250 sealed car parks. This carpark 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 etc.
  - A second car park will be provided from Leadleys Road which will accommodate approximately 35-45 spaces and provide access to the dog park area. The second parking area is proposed to be unsealed.
- A 2.2m wide existing 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. A shared path will connect the Rail Trail that runs along Birchs Road to the application 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. Additionally, a series of shared paths will be created within the site.
- Twenty-eight cycle parks will be provided in several locations around the reserve to cater for any cycle parking demand.
- Lighting will also be installed in the car parking area, dog park, public facilities/toilets and along selected shared paths.

Figure 1.2 Proposed Layout (extracted from the NOR report, prepared by Incite Ltd)

The proposal will be developed in two stages as detailed below:

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.

Stage 2: The northern area will be developed (2026-2027).

This will involve the junior sports fields and the 'Meadow' area.

A site visit to the application site was undertaken on 29 May 2020 at 1.30pm to inform this review

In preparing this review the following documents have been taken into consideration:

- The Notice of Requirement prepared by Incite Ltd and dated 05 May 2020.
- The Integrated Transport Assessment (ITA) prepared by Novo Group and dated April 2020.
- S92 responses (email) prepared by Incite Ltd and received on 08 June 2020.

2. Trip Generation and Parking Demand Assessment

2.1 Trip Generation

The predicted traffic generation in the ITA is shown in **Figure 2.1** below.

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

Figure 2.1 Predicted traffic generation (extracted from the integrated Transport Assessment prepared by Novo Group April 2020)

The ITA calculates the peak hour trip generation estimate identified in **Figure 2.1** above, from traffic surveys undertaken for the following recreational facilities which share similar characteristics with the proposal:

- Kirwee Reserve
- Bay City Park, North Shore
- Silverdale War Memorial Park, Rodney
- Ilam Fields, Christchurch

Based on the survey data available for the above recreational facilities, the ITA draws the following assumptions based on the type of activity catered for within the facility, as summarised below:

Sports Fields (Rugby, Soccer, Cricket etc)

The ITA references the Silverdale War Memorial Park Survey which accommodates 3 Rugby Fields, 2 tennis courts, 1 hockey pitch, 3 bowling greens, Pony club, and has a turn-over rate of approximately 1.12 trips per parked vehicle[1]. Applying this turnover rate to the proposal (which the ITA estimates has a parking demand of 220 parking spaces) results in a trip generation of 246 trips in the peak hour.

Dog Park

The ITA indicates that casual observations were undertaken of similar facilities which indicated wide variability in duration of stay (ranging from 20 minutes to an hour). The ITA adopts an average stay of 40 minutes and assumes that the car park (35 proposed parking spaces) is full during the peak period to estimate a peak hour trip generation of 105 vehicle movements[2].

Passive Recreation

The ITA makes an allowance of 10 vehicle movements in the peak hour for passive recreation within the facility.

Summary

[1] 318 trips / 283 space demand = 1.12 trips per vehicle in the peak hour
[2] 35 spaces, turn-over on average 1.5 times per car park, two trips per vehicle = 105 movements)

Based on the above assumptions, the ITA estimates a peak hour trip generation of 371 vehicle movements.

We agree with the first principles approach adopted to estimate the trip generation of the proposal due to the variability of the proposed activities within the site. It is considered that the peak hour trip generation rate estimated in the ITA is aligned with the trip generation rates of the quoted surveyed recreational facilities.

We therefore agree with the assessment in the ITA that the proposal is expected to generate 371 vehicle movements in the peak hour.

Impact on the Surrounding Transport Network

Birchs Road provides the primary connection between the site to the surrounding wider road network and is likely to cater for the majority of travel to and from the site. The peak trip generation of the activity of 371 vehicle movement is likely to occur on weekends and club days and therefore does not coincide with commuter weekday peak periods. It can therefore be assumed that a lower volume of traffic will be generated by the site during weekday peak periods.

Birchs Road is two way, collector road with an estimated 5,319 vehicle movements per day[3]. There are no traffic counts available indicating traffic volumes along Birches Road during the morning an afternoon peak period. As a general assumption we can estimate that 10% of the Birchs Road vehicle movements occur during the period periods (532 vehicle movements). If the proposed activity produces an additional 186 vehicle movements in the peak commuter hour (50% of the peak trip generation of the activity), this will result in three additional vehicle movements per minute along Birchs Road. It is assumed that this can be accommodated without significant negative effects on the Level of Service of Birchs Road.

Noting the existing traffic volumes along Birchs Road, the level of trip generation anticipated from the proposal, and the assumption that the peak trip generation is likely to occur outside of the commuter peak period, we can assume that the increased traffic volumes along Birchs will likely remain within the capacity of the road and the surrounding network.

The site will also be accessed 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 the anticipated level of traffic generation associated with the minor access to this site from Leadleys Road is likely to be accommodated without significant impacts on the operation of the road.

It is also noted that within the activity's peak period there will be multiple different games occurring with differing start and finish times which will likely spread the traffic generation more evenly over the peak hour.

Overall, it is considered that the surrounding road network has adequate physical capacity to cater for the anticipated increase in traffic generation from the proposal.

2.2 Parking Demand

The predicted traffic generation in the ITA is shown in **Figure 2.1** below.

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

Figure 2.1 Predicted parking demand (extracted from the integrated Transport Assessment prepared by Novo Group April 2020)

[3] The Mobile Road website

The ITA calculates the parking demand identified in **Figure 2.1** above, from traffic surveys undertaken for the following recreational facilities which share similar characteristics with the proposal:

- Kirwee Reserve
- Bay City Park, North Shore
- Silverdale War Memorial Park, Rodney
- Ilam Fields, Christchurch

Based on the survey data available for the above recreational facilities, the ITA draws the following assumptions based on the type of activity catered for within the facility, as summarised below:

- Surveys of the parking demand associated with Junior Rugby games at the existing Kirwee Reserve identified a peak parking demand of 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. Applying the Kirwee survey to proposal suggests a typical parking demand of 220 parking spaces[4] if games did occur concurrently on all 5 junior fields.

- The Bay City Park survey data results in a parking demand of 55 spaces per field – which the ITA assumes relates to senior games. This rate would suggest that three proposed senior fields would create a demand for 165 spaces.

- The ITA reviewed existing dog parks in Canterbury which indicated that parking provision ranges between 11 and 30 spaces. The ITA thereafter infers that the proposed 35 spaces adjacent to the dog park will be greater than that provided elsewhere and is therefore appropriate for the facility.

Summary

Based on the above assumptions, the ITA estimates a peak parking demand of 265 parking spaces.

We agree with the first principles approach undertaken to estimate the parking demand of the proposal due to the variability of the proposed activities within the site. It is considered that the peak parking demand rate estimated in the ITA is aligned with the parking demand rates of the quoted surveyed recreational facilities.

We therefore agree with the assessment in the ITA that the proposal is expected to demand 265 parking spaces in the peak per hour.

The activity proposes a total of approximately 285-295 parking spaces. We agree with the ITA's conclusion that there is sufficient parking provision within the main and dog park car parks to cater for the estimated peak parking demand.

3. Access

3.1 Vehicle Access

Vehicle access to the site will be provided as summarised below:

Birchs Road

- A vehicle access to the main car park will be provided from Birchs Road (identified as a Collector Road in the SDP). The ITA indicates that this vehicle access will be designed in accordance with the requirements of a frontage road with a speed limit of 60km/hr. The application proposes to reduce the existing speed limit on Hamptons, Birchs and Leadleys Roads from 80km/h to 60km/h. The proposed 60km/h speed limit will be pursued separately to this Notice of Requirement application under the Resource Management Act.

[4] 44 parking spaces x 5 fields = 220 parking spaces

It should be noted that if the speed limit along Birchs Road is not reduced to 60km/hr, the design of the proposed vehicle access to the main carpark must be compliant with the requirements of the SDP for accesses on a 80km/hr collector road.

- An emergency vehicle access point is also proposed on Birchs Road 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. The proposed emergency vehicle access will be 5.5-6m wide without splays.

- A dedicated right turn lane on Birchs Road into the main carpark is not proposed. The ITA has undertaken a Tanner Analysis which indicated that that the delay for vehicles turning right into the site would be approximately 3.6 seconds and approximately 9.2 seconds for a right turn exit movement. A dedicated right turn lane would therefore not be required from a capacity perspective. Considering the constraints of the site and the expected delays for right turn movements into the site, we agree that a dedicated right turn lane along Birchs Road is not required.

Hamptons Road

- A vehicle access to the proposed maintenance area will be provided along Hamptons Road. It is anticipated this access will be primarily used by staff familiar with the site. The access will be designed to accommodate the largest expected vehicles to use the service area (i.e., splays to accommodate the turning radius of any heavy vehicles for which access which may be required). The section of Hamptons Road in vicinity of the site is unsealed as shown in **Figure 3.1** below. Additionally, rocks are currently placed along the edge of the eastbound traffic lane (refer to image below), which may impede manoeuvrability due to the narrow carriageway.

Figure 3.1 Hamptons Road

The applicant has indicated low volumes of vehicle movements to and from the service maintenance area are expected which do not necessitate the sealing of the length of Hamptons Road. The applicant has further indicated that the existing rocks will be removed from beside the carriageway.

Leadleys Road

- The proposed vehicle access on Leadleys Road will provide access to the dog park and or those parking close to the eastern-most playing fields. The applicant has indicated that the vehicle crossing to this carpark will be sealed for the first 6m. The remainder of the carpark will be unsealed; however, the applicant has indicated that this carpark may be sealed in future following monitoring of the volume of vehicle use.

- Leadleys Road forms a “T’ intersection with Birchs Road. The ITA indicates that a small proportion of traffic is expected to approach from the east which then turns onto Birchs Road to use the main car park. The existing intersection layout provides an approximately 12-13m wide limit line which allows for a left and right turning vehicle to turn simultaneously. We agree with the ITA recommendation that the existing width will likely be sufficient to cater for any increased turning demand from Leadleys Road onto Birchs Road. There is no right turn lane provided on Birchs Road to turn on Leadleys Road however there is an existing sealed shoulder of approximately 1-1.5m wide will allow for through traffic to pass around right turning traffic.

3.2 Pedestrian and Cycle Access

There are good pedestrian and cycle connections proposed within the site and to the existing Rail Trail along Birchs Road. Due to the rural environment, the provision of pedestrian footpaths and other cycle paths is limited in the area surrounding the site.

The ITA notes that the proposed pedestrian link from the northern end of Birchs Road to the future ‘Meadow’ will cater for the expected dominant flow of pedestrian movements to and from the Prebbleton township and the bus stop on Birchs Road.

The ITA proposes to reduce the speed limit along Birchs Road from 80km/hr to 60km/hr, which is more consistent to supporting pedestrian and cyclist crossing movements. The applicant has indicated that no additional infrastructure is proposed to the support pedestrian and cyclist crossing movements across Birchs Road.

While we support the reduction of the speed limit along this section of Birches Road to 60km/hr, we do not agree that this alone is sufficient to support safe pedestrian crossing movements between the existing bus stop along Birches Road and the designation site. We therefore recommend that additional infrastructure to increase the safety of these crossing movements is provided as part of the proposed development.

Interface with Rail Trail

The applicant has indicated that the interface of the rail trail with the vehicle access into the main carpark will include the ‘slowing’ of cyclists and pedestrians via the incorporation of a ‘bend’ in the shared path prior to the junction. It is recommended that priority for cyclist and pedestrians is provided at the interface with the vehicle access. This should be considered further in the detailed design stage.

4. Conclusion

This report describes an independent peer review of the Integrated Transport Assessment submitted as part of a Notice of Requirement (NOR) to designate land for recreation reserve purposes, located at 27 Hamptons Road, Prebbleton.

There are no transport-related reasons why designation should not be granted. However, we recommend the following designation conditions:

- An Integrated Transport Assessment shall be prepared and accompany any Outline Plan of Works. The ITA should cover as a minimum:
  - Safe crossing facilities and footpath provisions for pedestrians and cyclists crossing Birchs Road to access the existing bus stop from the designation site.
  - Appropriate design features to provide priority for cyclist and pedestrians at the interface of the Rail Trail shared path with vehicle accesses to the designation site.
  - Appropriate infrastructure improvements to accommodate significant volumes of heavy vehicles accessing a service/maintenance area via an unsealed road.
  - Design of bus entry/egress movements from the main carpark from and to Birchs Road which incorporate a safe and appropriate drop off/pick up area and bus turning circles.
  - Any vehicle and cycling parking to ensure compliance with the requirements of the Selwyn District Plan.