Proposed Rural Industry Activity

1799a Great South Road | Bombay | Auckland

Traffic Impact Assessment

Address	1799a Great South Road | Bombay | Auckland
Project:	Proposed Rural Industry Activity
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1 INTRODUCTION

This report examines and describes the traffic and parking effects of a proposal to operate a mulching operation on the existing property at 1799a Great South Road in Bombay. Reporting includes an assessment of the proposal against the Auckland Unitary Plan (AUP) Chapter E27 rules and requirements.

The legal description of the site is Lot 6 DP 156089 and the property has a total land area of approximately 8.673ha. The site is located within a Rural – Mixed Rural Zone according to the AUP zoning maps.

The location of the site relative to the surrounding road network and neighbouring properties is shown in Figures 1 and 2 below.

Figure 1:Subject site in relation to surrounding road network.

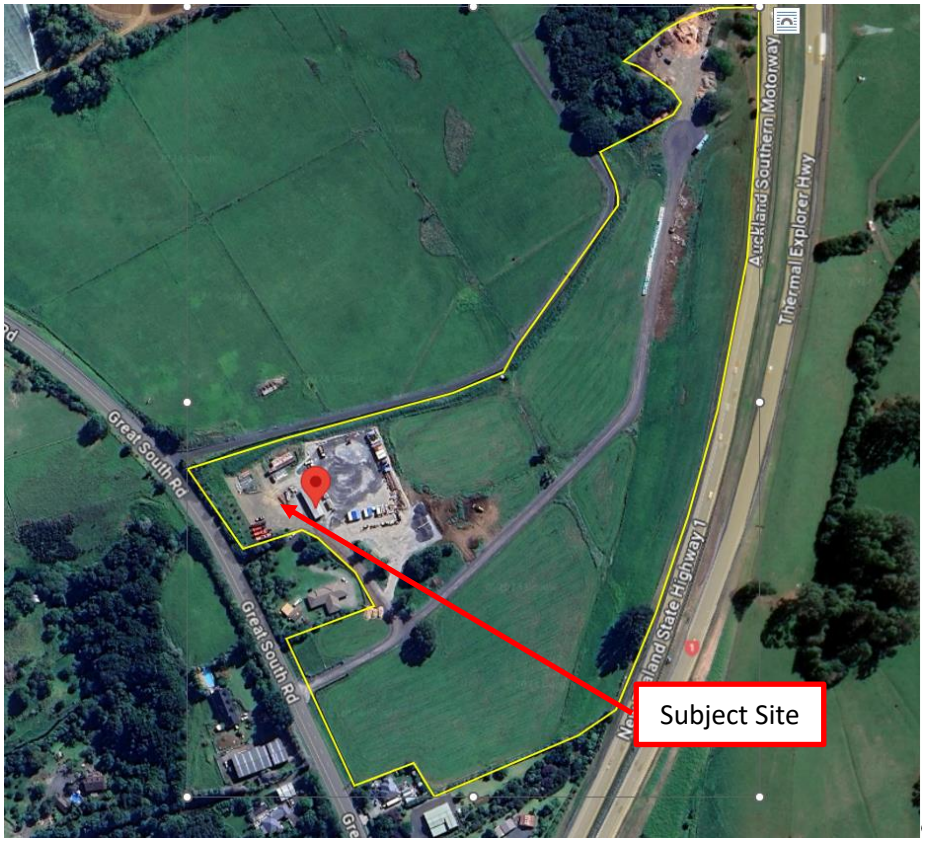


Figure 2: Subject site in relation to neighbouring properties.

Figure 3 below shows the site within the AUP zoning map.

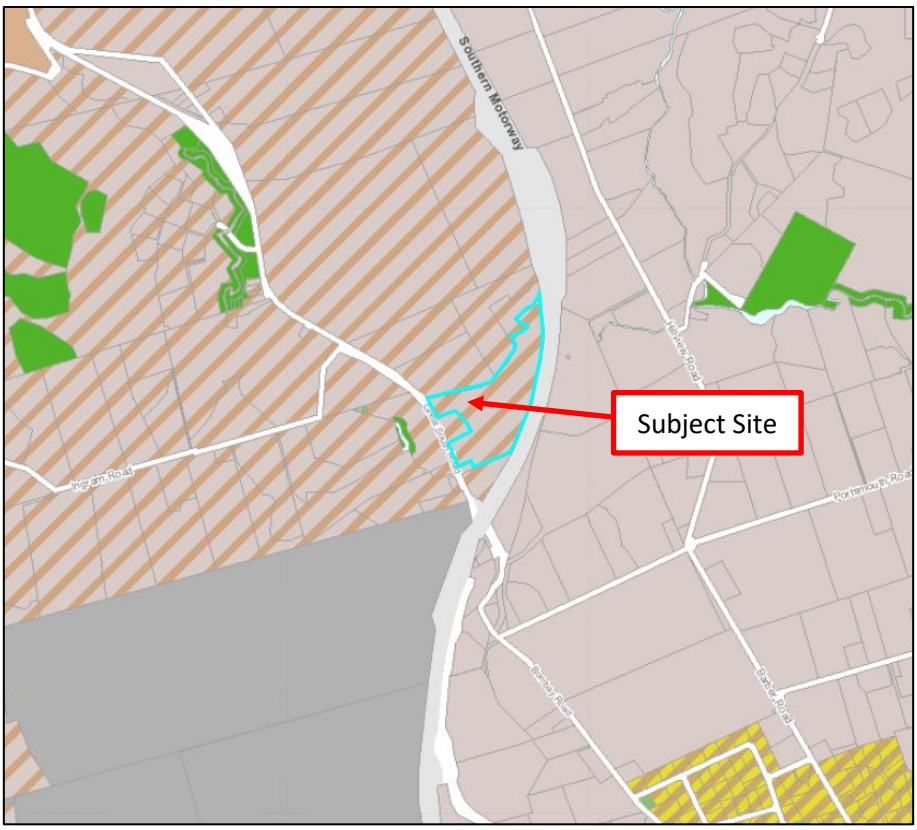


Figure 3: Subject site within AUP zoning map.

2 EXISTING SITUATION

Great South Road generally runs in a north – south direction and the subject site is located on the eastern side of Great South Road.

A portion of the site has a metalled area of 3,721m2 that is the subject of this application. A mulching operation has been carried on the site and Council has requested that consent for this operation be formalised.

2.1 Roading Characteristics

Great South Road is classified as a Collector Road in the Auckland Council GIS system. Great South Road adjacent to the property generally runs in an east – west direction and the property is located between the motorway and Great South Road.

The road reserve is approximately 21.4 metres wide whilst the carriageway on Great South Road is circa 11.4 metres wide and consists of one lane in the northbound direction and two lanes in the southbound direction. The lanes are separated by double yellow no overtaking lines. There are edge lines marked along the sides of the seal. Parking is permitted on both sides of Great South Road although this road is within a rural environment with no kerb or channel and parking can be dangerous.

The seal width consists of three traffic lanes that are circa 3.5 metres wide and sealed shoulders on both sides of the road that are approximately 0.5 metres wide.

This section of Great South Road is relatively straight and flat with a sweeping horizontal curve north of the entrance.

2.2 Traffic Counts

Auckland Transport has copies of traffic surveys carried out throughout the region. There have been no traffic surveys undertaken on Great South Road.

The Mobile Road App is an alternative system that contains data showing the anticipated volume of vehicles that Auckland Transport believe various roads around the region to be carrying. The app was consulted to see the volume of vehicles using Great South Road and AT expected there to be 1,773 vehicles per day.

According to ATCOP Chapter 4, Collector Roads are expected to carry traffic volumes in excess of 10,000 vehicles per day. Great South Road typically has one lane in each direction and the existing volumes are within the capacity of the road.

The current volume is appropriate for the environment in the vicinity of the subject site and the carriageway is expected to be able to cater for any additional traffic generated by the activities from this development.

2.3 Speed Environment

Great South Road has a posted speed limit of 80 km/h. Where no speed measurements are available the Guidelines for Visibility at Driveway RTS 6 recommends that the 85th percentile speed is calculated by adding 15 percent to the posted speed limit. Where the posted speed limit is 80 Km/h the calculated 85th percentile speed is 92.0km/h.

An 85th percentile vehicle speed of 92 km/h will be used for visibility calculations.

2.4 Crash History

A study has been made of the crash record maintained by NZTA for the full five-year period 2019 to 2023 inclusive. Also included in the search were the crashes that have been processed and were on file for 2024.

The crash search area covered the section of Great South Road extending 200 metres each side of the entrance.

There were no reported crashes within the searched area and time period.

On this basis, the type of reported crashes indicates that there are no inherent safety or operational concerns with the layout of Great South Road in the vicinity of the subject site.

2.5 Passenger Transport Amenities

There are no bus services near the property.

On this basis there is very limited public transport options for staff and it is expected that all staff will drive to the site.

2.6 Bicycle Amenities

There are no cycling facilities near the site however local roads are considered safe and appropriate for cyclist to use and the topography of the area is relatively flat and locals will be able to cycle if they so desire. However, given Great South Road has limited sealed shoulder width it is unlikely that staff would cycle to the site.

2.7 Walking

The Austroads “Guide to Traffic Engineering Practice Part 13 – Pedestrians” indicates that the practical walking distance for non-recreational walking trips is in the order of 1.5 km. The primary walking catchment area for pedestrians has therefore been based on a 1.5 km radius of the centre of the site as shown in the figure below.

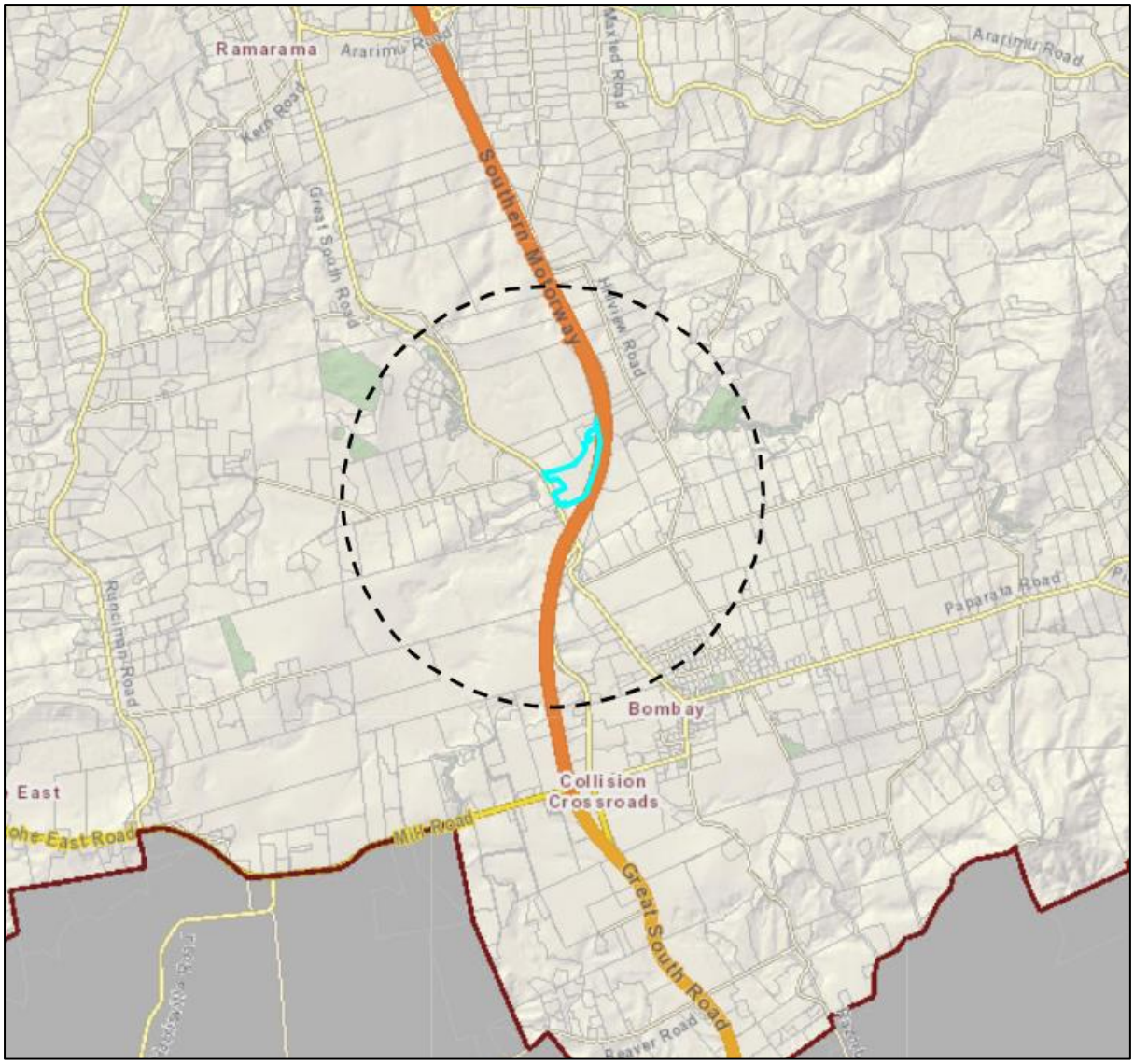


Figure 4: Walking Catchment

Based on the above and a starting point of the entrance to the property pedestrians do not have any areas of interest that they could potentially walk to.

On this basis, as there are no pedestrian facilities near the property it is most unlikely that there will be any pedestrian activity to or from the site.

3 PROPOSED SITUATION

The proposal seeks to redevelop a small portion of the existing property at 1799a Great South Road in Bombay to provide a storage area for mulch and overnight parking for three trucks. The area has been in use for this purpose for some time and the area has been formed and is in use.

The site will operate between the hours of 6.00am and 6.00pm Monday to Friday plus 6.00am to 2.00pm on Saturdays. There will be four staff and typically three of the staff will pick up the trucks in the morning and return to the depot at night with material.

The layout of the proposed area is shown in figure 5.

Figure 5: Proposed layout of the site

3.1 Parking

3.1.1 Parking Requirements

The site is located within a Rural – Mixed Rural Zone, and therefore parking requirements for the site are defined in Table E27.6.2.4 'Parking rates – area 2' of the AUP. The relevant parking rates defined in the AUP are summarised in the following table.

Table 1: AUP Parking Requirements

AUP Parking Requirements			
Activity		Minimum Parking Rate	Maximum Parking Rate
(T80)	All other activities where located in rural zones	No Minimum	No maximum

On this basis, with no formal parking spaces the parking provision satisfies the AUP requirements. There is adequate room on site to accommodate three car parking spaces plus three truck parking spaces and is expected this number of spaces will cater for the parking demand by the activities.

3.1.2 Manoeuvring

There are no formal car parking or truck parking spaces however there is more than adequate room for four cars to park and truck have ample room to turn around on the site.

On this basis, there are no formal parks the dimensional characteristics of the site provides adequate room and is suitable for the intended use and acceptable from a traffic engineering perspective.

3.1.3 Bicycle Parking

The provision of bicycle parking for such a small commercial development in a rural area is not required.

3.1.4 Loading Requirements

The proposal will have a minimum of three informal truck parking spaces.

3.1.5 Lighting Requirements

Under E27.6.3.7 where 10 or more car parking spaces are provided a lighting plan must be provided. The parking and manoeuvring areas must be adequately lit during use in a manner that complies with the rules in Section E24 Lighting.

This development has provision for three car parking spaces plus three truck parking spaces and the provision of a lighting plan is not a requirement. It is anticipated that there will be some form of security lighting provide on the property.

3.2 Traffic Generation

The likely traffic generation can be estimated by using some assumptions about the operation of the site. There will be four staff employed and the majority of these staff will start work at 6.00am. Four trips will be made entering the site. Three staff will depart the site at just after 6.00pm and this will generate a further three trips.

Visitors are not generally expected to visit the site however for the purposes of this exercise two visitors per day are assumed to visit the site. This equates to four trips per day.

Three staff will leave the site in trucks just after 6.00am to head to the various work sites. Some trucks will be away from the depot for several days depending upon the type of activities being carried out. For ease of estimation, it is assumed all trucks will leave in the morning and return at night between 5.00pm and 6.00pm. These movements will account for six heavy vehicle movements per day.

In total it is estimated that there will be a maximum of 12 car trips plus 6 heavy vehicle trips per day. The majority of the trips will occur outside of the morning or evening peak periods and are expected to have little if any impact on the operation of Great South Road.

This level of traffic generation is considered to be of little significance from an operational and capacity perspective. The additional volume on Great South Road is unlikely to be noticed on the roading network.

On this basis, the traffic generation of the proposed development is considered to be acceptable from a traffic engineering perspective.

3.3 Site Access

3.3.1 Vehicle Crossing Arrangement

It is proposed to use the existing vehicle crossing that is in the order of 6.0 metres wide at the boundary.

The dimensional requirements for vehicle crossing widths are defined in Table E27.6.4.3.2 of the AUP. These requirements are shown in the following table.

Table 2: AUP vehicle crossing width requirements

AUP vehicle crossing width requirements.			
Item	Number of parking	Minimum width of crossing at site boundary	Maximum width of crossing at site boundary
(T156)	Rural Zones	3.0m	6.0m (9.0m if required for heavy trucks)

The existing vehicle crossing was recently constructed, currently functions safely and efficiently and complies with the Unitary Plan requirements. A plan of the crossing is attached in Appendix B and is still awaiting final approval from Auckland Transport.

Under Item T146 there should be only 1 vehicle crossing per 25 metres of frontage. There is only be one vehicle crossing providing access to this property.

There is another rule under item T146 that requires 6.0 metres of separation between crossings on the same site. As there is only one crossing this rule does not apply.

Under E27 there should also be a minimum separation of 2.0 metres between vehicle crossings on adjacent sites. In this instance the existing vehicle crossing more than 10 metres from the neighbours crossing and therefore the separation distance complies with this rule.

Overall, the proposed vehicle crossing arrangement is considered to be suitable for the intended use and acceptable from a traffic engineering perspective.

3.3.2 Visibility

The available visibility has been assessed in both directions along Great South Road from the location of the proposed vehicle crossing.

The visibility in both directions was assessed as in excess of 220 metres.

The visibility at an intersection on a road is often measured using the Safe Intersection Sight Distance (SISD). Where the 85th percentile speed is 92km/h the SISD is 210 metres. The visibility requirement at a vehicle crossing is usually considered by using the Safe Stopping Distance (SSD) measurement. The SSD where the 85th percentile speed is 92km/h is 133 metres.

The visibility in both directions exceeds the SISD standard and is appropriate in this rural environment.

Overall, the available visibility from the proposed vehicle crossing location is considered to be acceptable from a traffic engineering perspective.

3.3.1 Vehicle Access

The AUPOP requirements for access widths are related to the proposed number of car parking spaces on a site and in this case fall under Rule T156 of Table E27.6.4.3.2.

There is no minimum formed access width for a site that lies within a rural zone. The proposed access is a minimum of 6.0 metres wide and therefore complies with the requirement.

On this basis, the vehicle access is acceptable from a traffic engineering perspective and is expected to function safely and efficiently.

3.3.2 Gradients

The AUP contains gradient related requirements as per the following:

- Vehicle accesses serving commercial activities must have a gradient no steeper than 1:6.
- Transition sections must be provided where the access has a change in gradient exceeding 1:8 at a summit, or exceeding 1:6.7 at a sag.
- A 4.0-metre-long platform is to be provided at the boundary that is no steeper than 1:20.
- All parking spaces must have a gradient no steeper than 1:20.
- All manoeuvring areas must have a gradient no steeper than 1:8.

The first 4.0 m of the access will be at a grade of about 1:50. The main area of the site is used for parking and manoeuvring and will be formed as level as practicable and may have a slight fall of 1:50 to assist stormwater runoff.

On this basis, the relevant gradients are considered to be suitable for the intended use and acceptable from a traffic engineering perspective.

3.3.3 Vehicle Access Restriction Assessment

According to standard E27.6.4.1 'Vehicle Access Restrictions' (VAR), a vehicle access restriction assessment is triggered where a site boundary has frontage to an Arterial Road, or where a vehicle crossing is located within 10 metres of any intersection as measured from the property boundary.

The proposed entrance to the property is located clear of all intersections and this portion of Great South Road is not an Arterial Road and a VAR assessment is not required.

In summary, the existing access arrangements for the development meet the requirements of the Unitary Plan, are suitable for the intended use and are expected to operate in a safe and efficient manner.

3.3.4 Pedestrian Access

There are no footpaths and the site is located in a rural environment. No pedestrians are expected to walk to the site. It is anticipated that only staff and the occasional visitor will walk around the site. There are no specific pedestrian facilities provided on the site and as there will be very few traffic movements on the site that could in any way hinder pedestrians on the site.

On this basis, the proposed pedestrian arrangements are considered to be suitable for the intended use and acceptable from a traffic engineering perspective.

3.4 Loading and Servicing

There is no formal building on the property and only vehicles will be parked on the site. Staff will take any small items of rubbish they may have home at night

Overall, the loading and servicing arrangements of the proposal have been assessed and are considered to be acceptable from a traffic engineering perspective.

3.5 Construction Traffic Management Plan

The construction contractor will be required to submit a site-specific Construction Traffic Management Plan (CTMP) to be approved by Auckland Council for the site preparation and construction phases of the project.

The approved CTMP will be used to manage the movement of construction traffic to and from the site, while maintaining the safe and efficient movement of vehicles and pedestrians in the vicinity of the site.

Given the good site access arrangements available for construction and also the good connectivity to the surrounding road network, there is not expected to be any issues in this regard.

The information required to prepare a CTMP is not available at this juncture, given that a construction contractor has yet to be engaged. Until this occurs, the construction methodology and timing, the type of trucks, the routes to/from the site and the frequency of movements are all unknowns.

On this basis, it is recommended that the provision of a 'Construction Traffic Management Plan' forms a condition of consent, with the following suggested wording (or similar):

Construction Traffic Management Plan

At least ten working days prior to works beginning, the consent holder shall prepare a Construction Traffic Management Plan (CTMP) to address the control of the movement of earthmoving vehicles, heavy vehicles, and deliveries to and from the site, and the management of traffic resulting from undertaking works in a road corridor.

The CTMP shall be submitted to the Council Team Leader Compliance Monitoring for certification that the CTMP gives effect to the objectives and requirements set out in the condition below. No work shall commence until confirmation is provided from the council that the CTMP is in accordance with the Auckland Council Code of Practice requirements and shall satisfactorily manage traffic effects and any required measures referred to in that plan have been put in place.

The provision of an approved Construction Traffic Management Plan will ensure that any potential effects will be controlled and minimised.

4 UNITARY PLAN STANDARDS ASSESSMENT

Section E27 of the Auckland Unitary Plan sets out the development standards relating to transport. Table 5 below lists the relevant standards that apply to this development and comments on compliance. The site is located within a **Rural Mixed Rural Zone.**

Table 3: Auckland Unitary Plan Transport Standards Assessment

Auckland Unitary Plan Transport Standards Assessment.	
AUP Standard	**Assessment**
E27.6.2. **(1) Number of Vehicle Parking Spaces** Defines the minimum and maximum number of parking spaces allowed on-site. **Table E27.6.2.4 Parking Rates – Area 2** (T80) All other activities were located in rural zones. No Minimum and no maximum	**Complies:** No formal parking spaces are to be provided however, there is adequate room for four car parking spaces plus three truck parking spaces.
E27.6.2. **(6) Number of Bicycle Parking Spaces** Defines the number of bicycle parking spaces required to be provided. **Table E27.6.2.5 Required bicycle parking rates**	**Complies:** N/A
E27.6.2. **(7) End of Trip Facilities** Defines the end of trip facilities to be provided for office, education or hospital facilities. **Table E27.6.2.6 Required end-of-trip facilities**	**Complies:** N/A
E27.6.2. **(8) Number of Loading Spaces** Defines the number of loading spaces required to be provided on-site. **Table E27.6.2.7 Minimum loading space requirements**	**Complies:** There is room for three truck parking spaces.
E27.6.2. **(10) Accessible Parking** Defines the number of accessible parking spaces required to be provided on-site.	**Complies:** N/A.
E27.6.3.1. **(1) Size and Location of Parking Spaces** Defines the size, use, and location of parking spaces. **Table E27.6.3.1.1 Minimum car parking space and manoeuvring dimensions**	**Complies:** The spaces are not formally marked

(T118) 2.5m wide, 5.0m deep 6.7m manoeuvring	
E27.6.3.2. Size and Location of Loading Spaces Defines the size, use, and location of loading spaces. **Table E27.6.3.2.1 Minimum loading space dimensions**	**Complies:** The truck parking spaces are not marked but there is room for three spaces that are 3.5m wide by 11.0m long.
E27.6.3.3. Access and Manoeuvring Defines the requirements for the access and manoeuvring of design vehicles, to and from parking spaces on-site. **Table E27.6.4.3.2 Vehicle crossing and vehicle access widths**	**Complies:** An 85th percentile vehicle can enter and leave all the car parking spaces in a single manoeuvre.
(T150) 3.0m Min 3.5m maximum. The minimum formed access width is 3.0 m.	**Complies:** The existing crossing is 6.0m wide. The existing access is a min of 6.0m metres wide.
E27.6.3.4. Reverse Manoeuvring Defines the conditions in which reverse manoeuvring is acceptable to and from a site.	**Complies:** All vehicles are able to turn around on the site and exit in a forward direction.
E27.6.3.5. Vertical Clearance Defines the minimum vertical clearance to overhead structures. (a) 2.1m for residential activities (b) 2.3m for all other activities (c) 2.5m for accessible parking (d) 3.8m for loading	**Complies:** There are no structures.
E27.6.3.6. Formation and Gradient Defines the formation and gradients for all parking spaces and manoeuvring areas. (3)(a) Max gradient 1:25 for accessible spaces. (3)(b) Max gradient 1:20 for all other parking spaces. (4) Max gradient 1:8 for manoeuvring areas.	**Complies:** The grades are a min of 1:20 around the site
E27.6.3.7. Lighting Lighting is required where there are 10 or more parking spaces which are likely to be used during the hours of darkness. The parking and manoeuvring areas and associated pedestrian routes must be adequately lit during use in a manner that complies with the rules in section E24 Lighting.	**Complies:** N/A.
E27.6.4.1. Vehicle Access Restrictions	

Defines the acceptable locations of access points in relation to strategic roads and intersections.	**Complies:** N/A
E27.6.4.2. Width and Number of Vehicle Crossings Defines the number of vehicle crossings, proximity to other vehicle crossings, and permitted widths of vehicle crossings.	
Table E27.6.4.2.1 Maximum number of vehicle crossings and separation distance between crossings (T146) Max number of vehicle crossings per site: 1/25m of frontage or part thereof.	**Complies:** There is only one vehicle crossing.
Min separation between on-site crossings and neighbouring crossings: 2m	**Complies:** The crossing is more than 10.0m from the neighbours crossing.
Min separation between crossings on same site: 6m	**Complies:** N/A.
E27.6.5. Design and Location of Off-road Pedestrian and Cycling Facilities Defines the requirements for off-road pedestrian and cycle facilities.	**Complies:** N/A

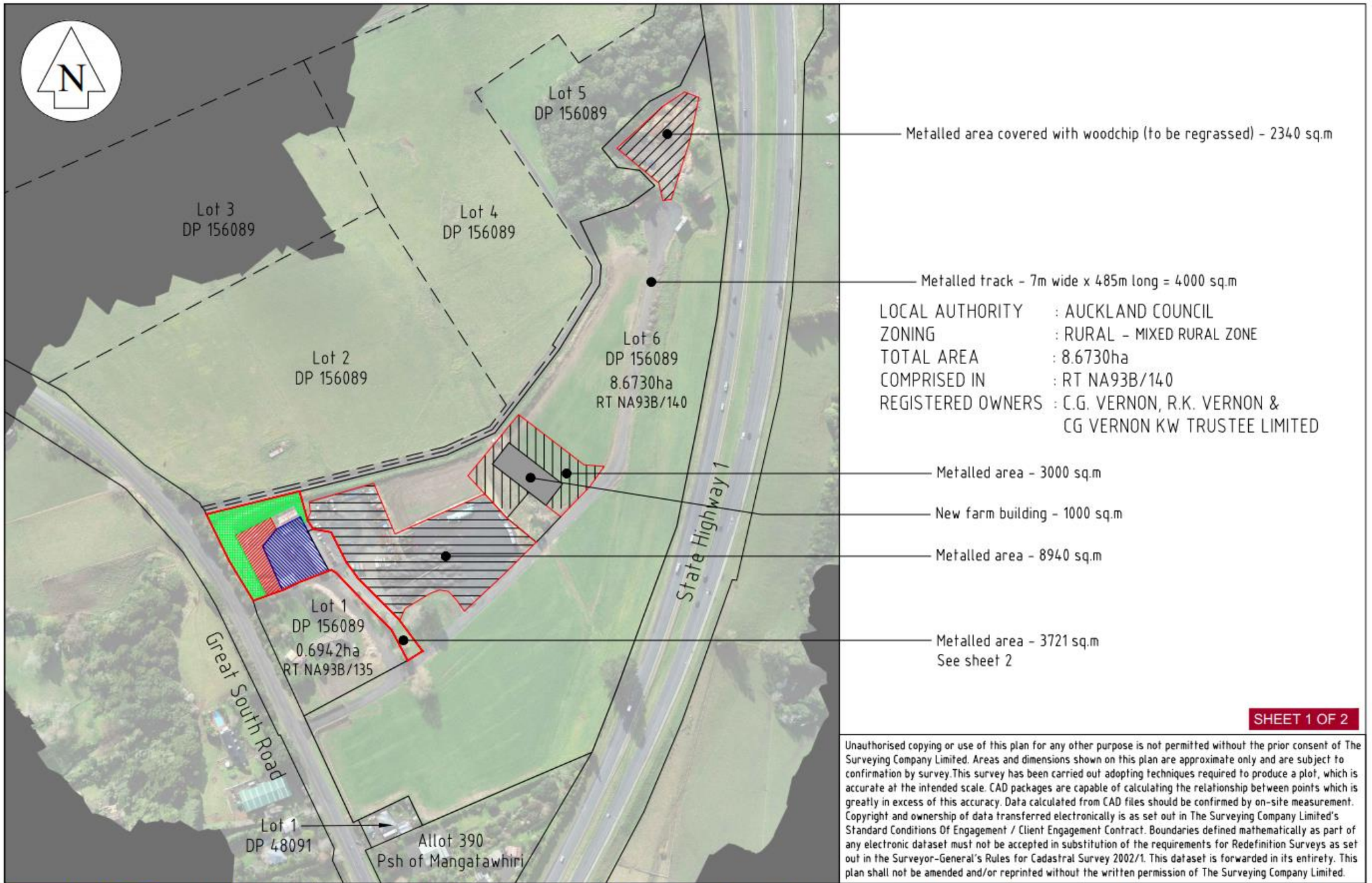
5 CONCLUSION

This report discusses the traffic-related aspects of an application to operate a small rural activity on the property at 1799a Great South Road in Bombay

- The crash history does not indicate the presence of any inherent safety or operational concerns with the layout of the development.
- The site is well located for access but there are no passenger transport options.
- The proposed parking arrangement complies with the requirements of the AUP, and is acceptable from a traffic engineering perspective.
- The anticipated level of additional traffic generated by the proposal can be easily accommodated by the existing road network, and is acceptable from a traffic engineering perspective.
- The proposed vehicle crossing arrangement is acceptable from a traffic engineering perspective and complies with the AUP standard.
- The gradients of the manoeuvring area and proposed parking spaces satisfy the requirements of the AUP.
- The loading and servicing arrangements for the site are considered to be acceptable from a traffic engineering perspective.

Overall, it is considered that the traffic engineering aspects of the proposal are appropriate for the intended use, and are not expected to result in any operational or safety issues from a traffic engineering perspective.

APPENDIX A: PLAN OF THE SITE



APPENDIX B: EXISTING VEHICEL CROSSING AN ACCESS