WAIHOEHOE PRECINCT

To: Andrew McCarthy, Oyster Capital
From: Daryl Hughes and Gabriela Surja, Stantec
Date: 16 February 2021
Re: Transport Memo – Oyster Capital Fast Track Referral Application

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1	05/02/2021	Draft Memo	G Surja	D Hughes	D Hughes	D Hughes
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1 Introduction

Oyster Capital ("Oyster") proposes to lodge an application for a referred project under the Covid-19 Recovery (Fast-track Consenting) Act 2020 (the "Act") to utilise the fast-track consenting process via an expert consenting panel. This application relates to the development of a contiguous landholding at 76, 76A, 116, 136 and 140 Waihoehoe Road ("the site").

This landholding forms part of a larger land area within Drury East that is currently subject to a private plan change process - Waihoehoe Precinct Private Plan Change ("PC50") - to rezone the land from Future Urban to the Terraced Housing and Apartment zone under the Auckland Unitary Plan ("AUP") which will enable quality urban development and well-functioning urban environments. Oyster has a sale and purchase agreement for the site, and has full control of the site for the purpose of rezoning and future residential development.

This proposal for a referred project will give effect to the purpose of the Act to promote employment and New Zealand's recovery to the economic and social impacts of Covid-19 through the enabled construction and delivery of a comprehensive development that offers employment opportunities and an accelerated supply of quality housing choice and diversity.

To support the application for a referred project, this memo provides a high-level review of the transport aspects of the proposal, including:

- Summary of the proposal and site description.
- Summary of work completed to date.
- High level transport assessment of proposal.
- Overview of works required to achieve the proposal.

2 Site Description and Proposal

2.1 Site Description

The site as outlined in red and blue of Figure 2-1 below comprises 34.65ha of land at 76, 76A, 116, 136 and 140 Waihoehoe Road which is currently zoned Future Urban ("FUZ") under the AUP. It is land area in red and blue of Figure 2-1 below which Oyster has a sale and purchase agreement over which provides full control of the site for future residential development.

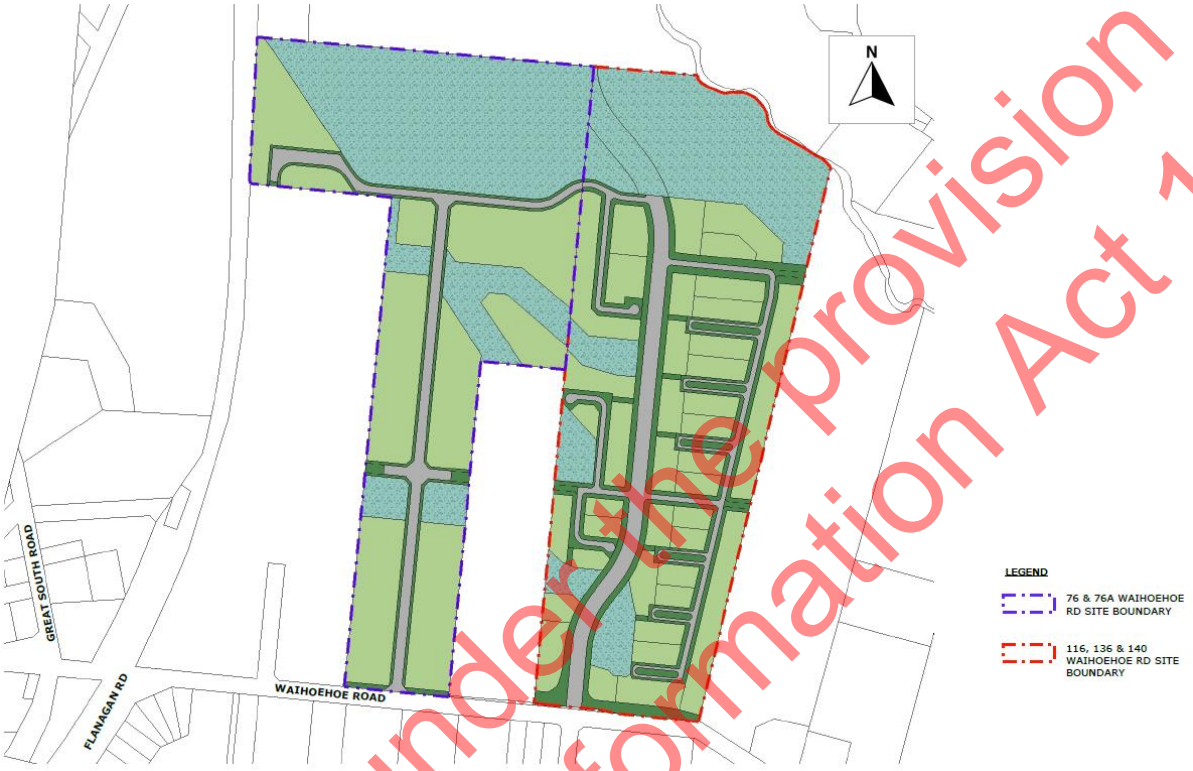

Figure 2-1: Oyster site subject to this application for a referred project outlined in red and blue

The Oyster site is located approximately 30km south east of Auckland's central business district,14km southeast of Manukau, 6km south of Papakura, and within 1km of the existing Drury Town Centre. The site is bounded by Waihoehoe Road to the south and rural land area to the north, west and east of the site. Waihoehoe Road is currently a rural road with no walking or cycling facilities. The North Island Main Trunk runs north-south across the west of the site. The site is located at the confluence of several major roads such as SH1, SH22 and Great South Road.

2.1.1 Proposal

Oyster is proposing the staged development of this land into a mix of terraced and detached housing, 9 residential superlots and supporting roading and servicing infrastructure.

The west portion of the site, 76 and 76A Waihoehoe Road (blue area of Figure 2-1), is being master planned at a high level of detail, which includes planning for bulk earthworks to facilitate the construction of key roads, key services (waste water, storm water, power, and telecommunication), and residential superlots. The superlots will be subject to a further consenting process at a later date. It is estimated that the superlots would be able to accommodate up to 272 dwellings in the future.

The development on the east portion of the site; 116, 136, and 140 Waihoehoe Road (red area of Figure 2-1) will include establishment of 376 dwellings comprising of a mix of terrace and detached housing. It also includes new roads and upgrades of existing roads to provide multi-modal access, and to connect the activities within the site to the wider network including the new Drury East train station. This includes the new Opaheke Road which will be delivered by Oyster as a new arterial route running north-south of the site, with dedicated bus lanes and walking and cycling facilities. This is discussed later in the memo.

Figure 2-2 shows the proposed development in the 116, 136 and 140 Waihoehoe Road site

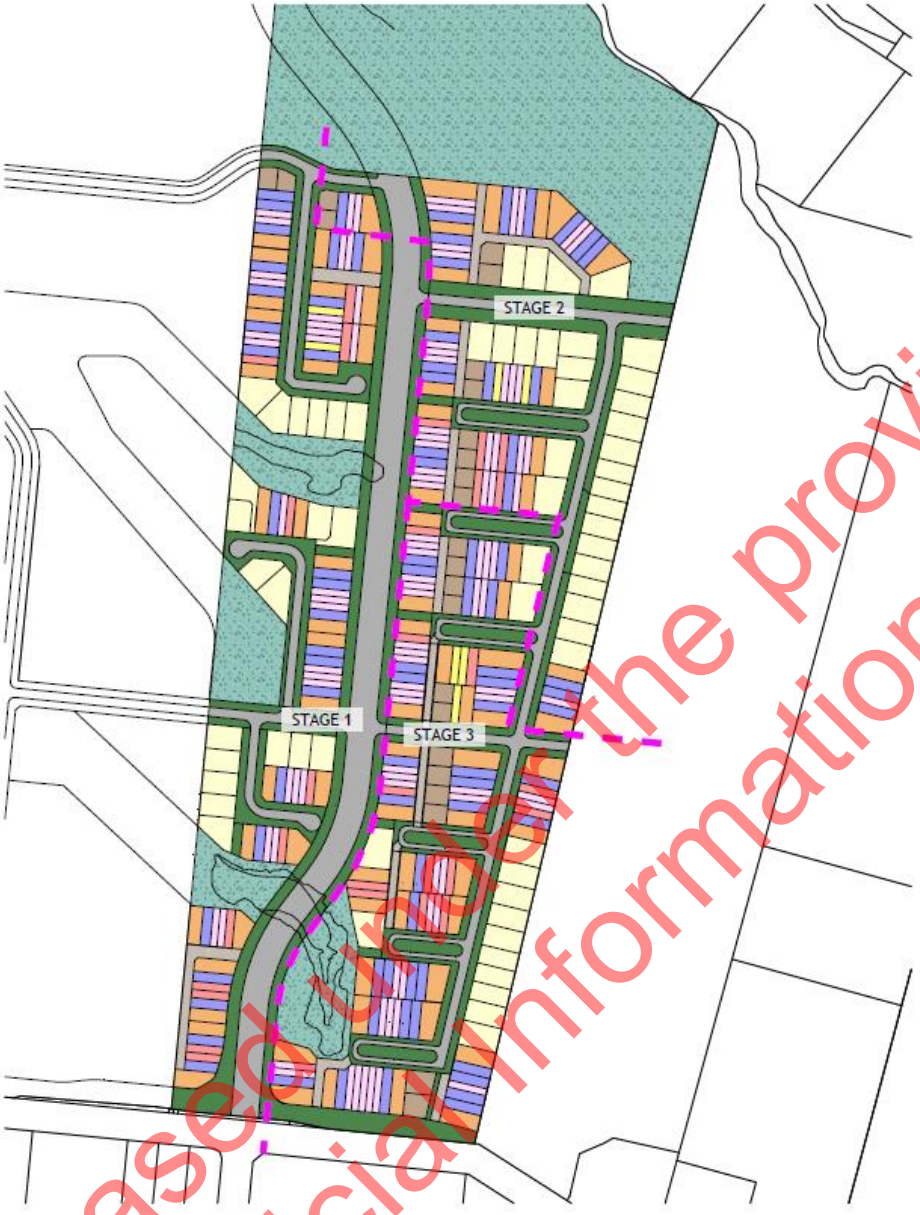

Figure 2-2 Plan of proposed development at 116, 136 and 140 Waihoehoe Road

3 Background Analysis

Extensive investigations and transport modelling of Drury have been undertaken by Stantec to inform the transport assessments supporting PC 50. The extent of this background analysis includes the site area for this application and can therefore be relevantly applied to transportation considerations for the proposed subdivision and development of the land as shown on the masterplan prepared by HUE. The various background assessments undertaken for PC 50 and informing our conclusions and recommendations for the application are summarised below:

3.1 Plan Change

An Integrated Transport assessment (ITA) was prepared by Stantec to support PC 50. The ITA demonstrate how the intended development can be accommodated on the surrounding road network while maintaining acceptable levels of safety and efficiency well into the future, with an additional upgrade to the Great South Road / Waihoehoe Road intersection in the first two decades. The ITA also assesses how the proposed residential development by Oyster is complementary to the adjacent developments by Kiwi Property and Fulton Hogan Land Development (FHLD), and its ability to capitalise on its proximity to the future Drury East train station in order to achieve the optimum levels of land use-transportation integration.

Traffic modelling for the plan change was comprehensive and conservative, and holistically assessed the transport impact of the developments within the Drury East area. The focus of the model was to determine how the developments can be accommodated on the surrounding network for the next three decades (up to 2048). The traffic modelling has been undertaken using a three-tiered approach, consisting of a macro strategic model (MSM), a mesoscopic project model (SATURN), and a localised intersection operational model (Sidra Intersection). The Auckland Forecasting Centre (AFC) MSM model – the base for both the Plan Change model and the Southern Growth Alliance (SGA) model – has been reconfigured to align with the proposed development yields and realistic timeframes in the Drury East. The Plan Change modelling has been undertaken on the basis of these reconfigured land uses. Further detail of the traffic modelling methodology is available in the Plan Change ITA (March 2020).

The original modelling prepared for the Plan Change was based on the timeframes for infrastructure upgrades identified by the SGA through their ITA for the Drury-Opāheke and Pukekohe-Paerata Structure Plans. The modelling was subsequently updated to include the New Zealand Upgrade Programme (NZUP) upgrades announced by the Government in January 2020. This traffic model has informed the land use and trip generation thresholds included in the proposed Precinct Plan for PC 50, shown below in Table 3-1 and Table 3-2. These tables outline the additional infrastructure upgrades (in addition to the NZUP projects) that are required to support the enabled development. Also inherent within the proposed precinct provisions are a suite of additional measures deemed necessary to urbanise the environment and enable strong walking, cycling and public transport uptake.

Extensive liaison and discussions with Auckland Council and their transport experts have been undertaken to date.

3.2 Additional Studies

In addition to the above process, Oyster together with Kiwi Property and FHLD, have maintained extensive communication with the authorities, which include Auckland Council, Auckland Transport, SGA and Waka Kotahi.

Stantec has undertaken transportation assessments and traffic modelling for all three of the plan changes in Drury East, to demonstrate whether the developments proposed by the plan changes require any of the Drury East plan change development areas on any of the Drury Transport Infrastructure Programme Upgrades (DTIP Upgrades). The modelling results were presented to Auckland Council in July 2020. The assessments consist of some sensitivity tests relating to the provision of local upgrades within Drury West and Drury East areas, however all assuming no provision of any of the DTIP upgrades. The assessments conclude that the developments proposed by Kiwi Property, Oyster, and FHLD in the Drury East area, that would be enabled by the plan changes do not rely on the DTIP upgrades. Alongside the NZUP schemes, Drury East and Drury West trigger upgrades are sufficient to support the developments. It is noted that although delays would exist throughout the network, especially by 2048, these are not to the extent where developments would be impeded.

SGA has provided initial feedback on the transport assessments and transport modelling outlined above via a memo dated 8 December 2020, which includes several technical observations for SGA's consideration in their modelling sensitivity testing. A meeting was held on 12 February 2021 for SGA to report back on part of their modelling findings. SGA noted that the results of their modelling test on the full build-out scenario (year 2048) compare reasonably well with the PC modelling results.

Further liaison is expected to occur to discuss the remaining of SGA's findings of the transport assessment, with the next meeting scheduled for 25 February 2021.

Table 3-1: GFA Thresholds Proposed for PC 50

New/ Additional Dwelling Threshold	New/ Additional Retail GFA Threshold	New/ Additional Commercial GFA Threshold	Transport Upgrades Required to Exceed the Dwelling, Retai/Commerciall GFA Thresholds
Prior to any new dwellings, retail or commercial development			• Interim safety upgrade to the Waihoehoe / Great South Road to provide safe crossing facilities for pedestrians and cyclists on all approaches.
3,406	62,430m²	34,800m²	• Upgrade of the Waihoehoe / Great South Road intersection to signals.
4,640	83,960m²	46,800m²	• Capacity upgrade of the Waihoehoe / Great South road interection (western arm only).
6,428	107,650m²	60,000m²	• Capacity upgrade of the Waihoehoe / Great South road interection (on all approaches).

Table 3-2: Trip Generation Thresholds Proposed for PC 50

Inbound Trip Generation in vehicles per hour (vph)	Outbound Trip Generation in vehicles per hour (vph)	Transport Upgrades Required to Exceed the Trip Generation Thresholds
Prior to any new dwellings, retail or commercial development		• Interim safety upgrade to the Waihoehoe / Great South Road to provide safe crossing facilities for pedestrians and cyclists on all approaches.
AM Peak: 1,890 PM Peak: 2,860	AM Peak: 2,340 PM Peak: 2,470	• Upgrade of the Waihoehoe / Great South Road intersection to signals.
AM Peak: 2,620 PM Peak: 3,730	AM Peak: 3,220 PM Peak: 3,270	• Capacity upgrade of the Waihoehoe / Great South road interection (western arm only).
AM Peak: 3,510 PM Peak: 4,910	AM Peak: 4,020 PM Peak: 4,560	• Capacity upgrade of the Waihoehoe / Great South road interection (on all approaches).

4 The Masterplan

The masterplan for the development is aligned with the transport principles and outcomes that have been developed as part of the plan change process. The masterplan provides residential development supported by a new roading network consistent with the Structure Plan adopted by the Council. Active modes and public transport links within the site will be provided to enhance site connectivity from an early stage. At this stage, the new Drury Central train station is also anticipated, which will be fed from the newly developed residential catchments in the wider Drury East areas.

High-level transport assessments of the proposal as part of this application for a referred project have been undertaken and are discussed below.

5 Assessment

5.1 Trip generation

The trip generation assessment for the site has been estimated at a high-level using first principles approach as p r the RTA guide[1], and based on the types of activities that are proposed within the site. We understand that FHLD and Kiwi Property are also pursuing applications for referred projects for which Stantec are also providing transportation advi e on. To ensure a holistic view of the assessment and capacity of the transport network consideration was also given to the proposed applications for referred projects in Drury East by Kiwi Property and FHLD, which consist of retail and residential activities.

The proposed retail development by Kiwi Property has been assessed using the average peak hour generation rate corresponding to similar shopping centre total floor areas. The residential developments by Oyster, Kiwi Property, and FHLD have been assessed using the average rates appropriate for similar housing typologies.

Assumptions have been made in regard to the proportion of generated trips that are external to Drury East. This has been conservatively set at 90% for both retail and residential activities. Further assumptions have been made in regard to the inbound and outbound trip proportions for the residential and retail activities. For ret il, a 50/50 spl t is assumed for both PM peak and weekend peak. For residential, an 80/20 split is assumed for outbound and inbound trips, proportionally, in the AM peak; and vice versa in the PM peak.

The resulting trip generations for the proposed activities within the referred project application areas of Oyster, FHLD and Kiwi Property are summarised in Table 5-1.

Table 5-1: Trip Generation - Kiwi Property, Oyster, and FHLD fast-tracked sites

	TRIP GENERATION (veh/hr)					
	AM Peak		PM Peak		Weekend Peak	
Activities	*IN*	*OUT*	*IN*	*OUT*	*IN*	*OUT*
Retail	188	0	942	942	1249	1249
Residential	207	827	827	207	517	517
Total	**395**	**827**	**1769**	**1149**	**1766**	**1766**

As can be seen in Table 5-1, the highest trip generation occurs in the weekend peak, at 1,766 vehicles per hour for both inbound and outbound directions. These are lower than the trip generation thresholds outlined in Table 3-2 that correspond to the signalisation upgrade of the Waihoehoe / Great South Road intersection. This indicates that major capacity upgrade of the existing local road network is not required to accommodate the trip generation resulting from this proposal by Oyster Capi al in isolation, or for the two other proposals for residential development by FHLD and Kiwi Property. For the avoidance of doubt, our ass ssment reveals that there is sufficient capacity in the existing transport network to accommodate the extent of deve pment proposed in all three applications for referred projects without any major capacity upgrades. However, it is proposed to provide an interim safety upgrade at that location, as outlined further below.

5.2 Transport Works Required

5.2.1 Multi-modal connections

Public transport and active modes are at the heart of the development philosophy, and as such, the development will ensure that appropriate multi-modal connections are provided within the site from the initial stage of the development, in particular between the site and the Drury East train station. Provision of public transport services within and surrounding the site is subject to further discussions with Auckland Transport, and could take form of a diversion of existing PT servic s or a provision of additional shuttle services at the initial stage.

5.2.2 Site Access

The site will be mainly accessible via the new Waihoehoe Road / Opaheke Road / Fitzgerald Road intersection. The form and layout of the upgraded intersection are subject to discussions with Auckland Transport. The new intersection will allow for efficient and safe movements of traffic, public transport and active modes to and from the site. This upgrade will be delivered jointly by Oyster Capital, Kiwi Property, and Fulton Hogan.

[1] Roads and Traffic Authority: Guide to Traffic Generating Developments, Version 2.2, New South Wales

Another access off Waihoehoe Road is also proposed to provide connection with the western portion of the site (76 and & 76A Waihoehoe Road), to the west of the Waihoehoe Road / Opaheke Road / Fitzgerald Road intersection. The form and layout of this intersection are subject to discussions with Auckland Transport, and will be delivered by Oyster Capital.

5.2.3 Road Urbanisation

At present, the existing roads in the area are rural in nature, with soft shoulders and no walking or cycling facilities. It is therefore proposed that the key corridors within and surrounding the site will be upgraded to cater for higher movement of traffic and provide appropriate links for active modes. This includes Waihoehoe Road which bounds the site to the south. The interim upgrades will involve provision of footpath and cycle lane on each side of the road and two traffic lanes. All of the necessary interim upgrades can be achieved within the existing road reserve corridor widths of 20m without the requirement for any further land acquisition to achieve the upgrades, as shown in Figure 5-1

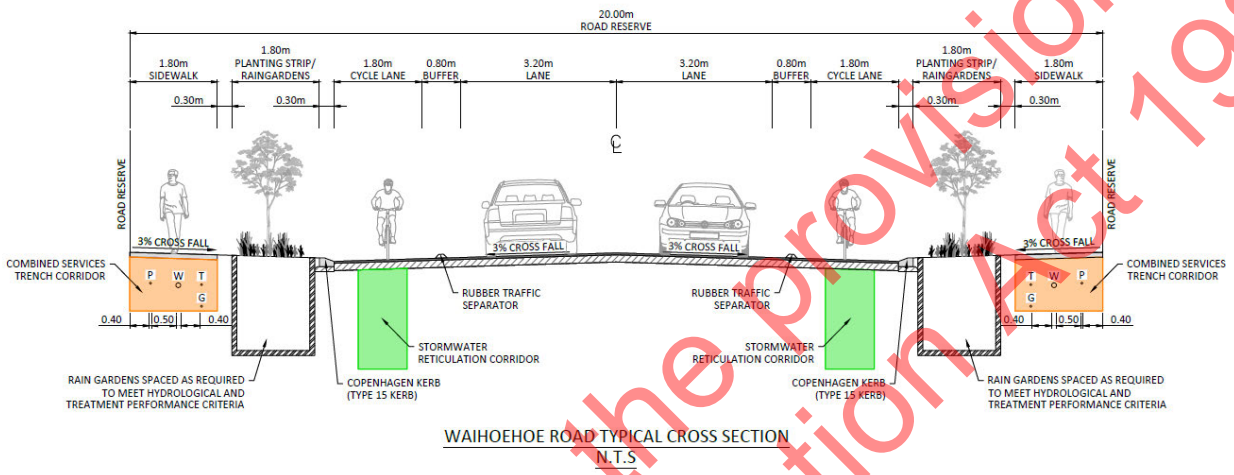

Figure 5-1: Interim cross-section for a 20m corridor

Within the site and along all developed site frontages, full/final cross sections will apply, according to the proposed roading hierarchy and cross section as detailed in the PC 50 ITA. An exception to this is the new Opaheke Road (Fitzgerald Road Extension) which runs north-south of the site. The new Opaheke Road will be provided as a new arterial route with dedicated bus lanes and walking and cycling facilities, in line with the SGA's Drury Arterial Road Improvements project. This section of the north-south Opaheke Road will be funded, constructed and delivered by Oyster Capital to service the extent of residential development proposed in this application.

Using this method, the interim cross sections will be converted to full and final cross sections as each land block is developed.

5.2.4 Great South Road / Waihoehoe Road Intersection

Consistent with the approach proposed in PC 50, an interim safety upgrade to the Great South Road / Waihoehoe Road intersection will be undertaken prior to any development taking place. This is proposed to be undertaken by fitting raised pedestrian and cycle crossings on each intersection arm, as shown in Figure 5-2. This is a common retrofit upgrade that Auckland Transport is popping or has recently installed in several locations around Auckland where walking and cycling facilities are considered sub-standard, but a capacity upgrade is not required.

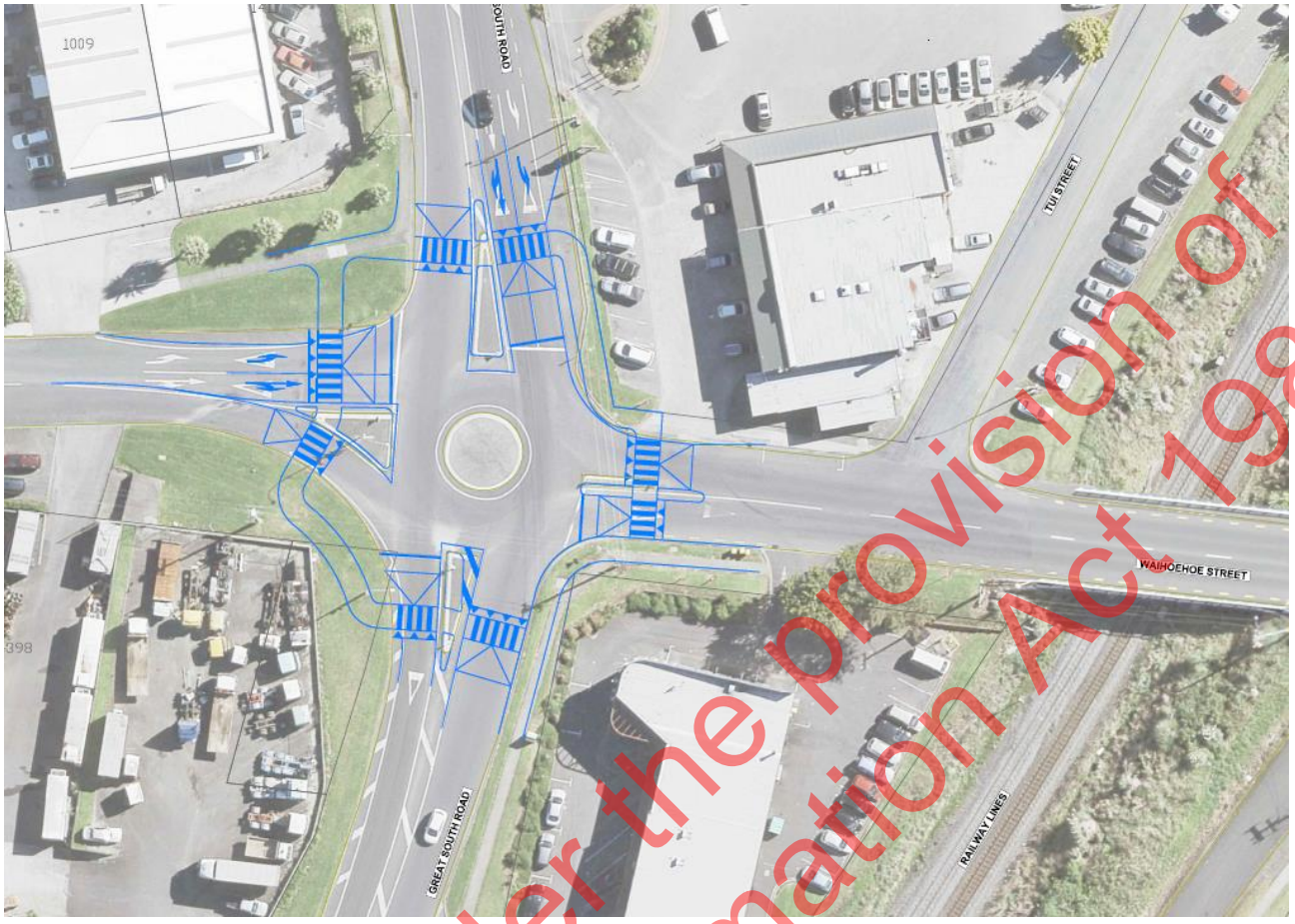

Figure 5-2: Interim Safety Upgrade on Great South Road / Waihoehoe Road

6 Conclusion

In summary, there is no traffic engineering and transport planning reasons that would preclude implementation of the development by Oyster Capital as shown on the masterplan by HUE.

The proposal for development within the site subject to this application will require transport infrastructure upgrades in order to cater for the new land use and associated demands. Based on the previous transport assessments and the review of the masterplan, it is expected that all anticipated upgrades can be accommodated on the surrounding road network in a sustainable manner and in the existing public road corridor. Further design work on these upgrades will be undertaken in the subsequent planning and design stages.