

Wellington City Urban Cycleways Programme

Design Report: Eastern Suburbs Cycleways – Miramar Avenue Improvements

25th August 2017

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1. Introduction

1.1 Background

Over recent years, Wellington City Council (WCC) has committed a significant amount of capital funding for cycleway development through its Long Term Plan and Annual Plan processes. The investments aim to contribute towards cycling becoming “safer and more convenient”¹ by increasing the level of service for people who use bikes.

The Government-funded Urban Cycleways Programme (UCP) has provisionally allocated \$9.5 million to Wellington City for investment by 30 June 2019. The aim of this funding is to accelerate completion of urban cycle networks and achieve a step-change in cycling participation. When contributions from rates and the National Land Transport Fund (NLTF) are taken into account, some \$37.5 million will be invested in cycling over the next three years (by 30 June 2019), with \$1.5 million allocated to Miramar Avenue.

The WCC established a working group in the Eastern Suburbs made up of local ward councillors, local community representatives and the NZ Transport Agency, to identify preferred route options to recommend to the WCC. The Working Group identified priority corridors and preferred cycleway routes that public opinion was sought on in April-May 2016. These routes were reviewed and refined as part of the refresh of the Wellington City Urban Cycleways Programme in June-July 2016.

At its meeting on 11 August 2016, the WCC’s Transport and Urban Development (TUD) Committee agreed to adopt the refreshed programme and approved the routes for improvement along Miramar Avenue and across other parts of the Eastern Suburbs.

This report presents the process undertaken and the outcomes of the next phase of work, the identification and evaluation of treatment types along this route, including details of how the community has been engaged throughout the process.

1.2 Project Objectives

The Miramar Avenue Cycleways Project is part of the WCC’s investment in a safe and comprehensive cycle network to give people more transport choice, reduce congestion and emissions, and make Wellington a more attractive place to live, work and visit.

The primary objective was to provide transport improvements which maximised the benefits for all users and in particular addressed the poor level of service for people who travel by bike on Miramar Avenue.

It has been agreed² that a sensible and pragmatic approach to infrastructure to be undertaken as a first phase in the development of the network.

The proposed improvements are expected to:

- Improve the level of service for people on bikes along identified routes, likely via a sensible and pragmatic approach;
- Maintain or improve the level of service for people using buses along identified routes;
- Maintain or improve the level of service for pedestrians;
- Maintain an acceptable level of service for general traffic movements;

¹ WCC, Cycling Policy, November 2008

² By the TUD Committee at its meeting on 11 August 2016

- Minimise impacts to on-street parking and increase parking supply if feasible.

1.3 Study Area

The route for improvements along Miramar Avenue that are to be delivered over the next three years (to June 2019) and is the focus of this project is shown in **Figure 1**.



Figure 1 – Miramar Avenue Cycleway Study Area

Note, the design of cycle improvements both ends of the study area (i.e. at the Shelly Bay Road intersection and the Park Road intersection) is currently being considered as part of a separate projects.

1.4 Existing Situation

Miramar Avenue is a busy Principal Road³ that does not provide a high level of service for cyclists. The road serves a number of conflicting demands; it is a busy bus route, serves a high proportion of through traffic and provides access to a number of shops and local businesses.

Miramar Avenue typically provides a single traffic lane in each direction and a flush median (4 to 4.5m in varying width) to allow for right turning movements. Kerbside parking is provided where space permits. The total carriageway width is around 14m wide between Shelly Bay Road and Tauhinu Road and 16.5m wide between Tauhinu Road and Park Road.

Park Road is a Collector Road that provides access to residential and commercial areas within northern parts of Miramar.

Tauhinu Road and Tahi Street are both local roads. As such they are intended to provide access to nearby property.

³ As defined in the WCC District Plan road hierarchy

There are five intersections along this section of road. Listed from west to east they are:

- **Shelly Bay Road** – Provides access to Shelly Bay and is priority controlled;
- **Maupuia Road** – Provides access to Maupuia and is priority controlled;
- **Tauhinu Road** – Provides access to local residential and commercial areas and is a roundabout;
- **Stone Street** – Provides local access to residential and commercial areas and is priority controlled;
- **Park Road** – Provides access to northern parts of Miramar and is a roundabout.

1.5 Purpose of this Report

The purpose of this Design Report is to set out the process undertaken for the identification and evaluation of treatment options for the proposed cycleway route along Miramar Avenue, including details of how the community has been involved.

This Design Report will be a key piece of supporting material used for consultation with the community.

The WCC is evaluating the projects using the NZ Transport Agency's business case process. To date the 'Strategic', 'Programme' and 'Indicative' phases have been completed. The content of this Design Report forms part of the evaluation required to compile the Detailed Business Case. The Detailed Business Case is the basis of the WCC's request for funding from the UCP and NLTF (administered by the NZ Transport Agency), to enable the project to proceed to the implementation phase.

1.6 This Report

This Design Report is structured as follows:

- Section 2 outlines the collaborative engagement approach used for this project;
- Section 3 consider the nature of the problems and issues;
- Section 4 set out in detail the process that has been undertaken to determine the recommended treatment option;
- Section 5 provides details of the Safety Audit undertaken of the recommended treatment option. Note, at this stage no safety audit has been undertaken. This section will be completed in future versions of the design report;
- Section 6 confirms the details of the recommended option.

This report uses data and information collected from the 5 August 2016 Issues Paper.⁴ For background information, please refer to this paper.

⁴ 5 August 2016, Eastern Cycleways – Miramar Avenue Improvement Options Issues Paper, Jacobs NZ Ltd

2. Community and Key Stakeholders

2.1 Working Group

In March 2017, two open days were held at the ASB Sports Centre to gather initial thoughts about the eastern cycleways connections. Locals identified safety concerns, talked about things they valued, made suggestions, with representatives of the Miramar BID observing and participating.

Council has been working with the Miramar BID since 2016 to identify the issues, investigate transport demand, and come up with a short list of options for discussion with the wider community.

The Miramar BID met seven times between April and July. During these 2 to 3 hour evening workshops the members worked together to consider the Council and Government's investment objectives for the funding on offer, developed their own community objectives, and came up with a long-list of possible options.

With the help of the transport planners, engineers and urban design consultants employed for each of the cycleways projects, the Miramar BID working group, in coordination with Council and NZ Transport Agency staff, developed a check-list of criteria based on all the objectives. The long-lists of options were then assessed against the criteria to come up with a short-list of options, which were then further scrutinised.

By the fifth workshop, members had confirmed the long list of options with a total of 6 options put forward to the next stage of evaluation. At the sixth workshop, the long list of options was further evaluated against all criteria and objectives, resulting in a short list of 2 options. At the seventh and final workshop, the short list of options was reviewed with the workshop members determining that a single option would be presented for the section of Miramar Avenue between Shelly Bay Road and Tauhinu Road and 2 options would be offered for the section of Miramar Avenue between Tauhinu Road and Park Road.

The Miramar BID working group spent many hours poring over plans, asking questions, looking at things from a range of different perspectives, debating the pros and cons, grappling with challenges and trade-offs, and whittling down the alternatives to come up with the most practical options to go out to the wider public.

Among other things, the groups talked about parking, the needs of residents and businesses, trees, heritage features, lane widths, safer speeds, painted median strips, driveways, existing safety issues, pedestrian crossings, intersections and bus stops.

2.2 Investment Partners

The delivery of cycleways along Miramar Avenue is a collaborative exercise between the WCC and the NZ Transport Agency, with support from Greater Wellington.

2.2.1 WCC

The WCC is the Road Controlling Authority for the majority of the roads forming the cycling network and has responsibility for planning, operations, management and maintenance of these roads. The WCC is also responsible for land-use planning in Wellington City. It prepares and updates area plans to give effect to the relevant strategic directions for transport planning for the city.

The WCC is the lead agency progressing proposals for cycleways along Miramar Avenue.

2.2.2 New Zealand Transport Agency

The NZ Transport Agency is the crown entity responsible for planning and investing in land transport networks, managing the state highway network and providing access to, and use of, the land transport system.

In addition to having responsibility for the allocation of funding under the NLTP, the NZ Transport Agency also administers the Government's investment in cycling via the UCP, which the Miramar Avenue cycleways programme is a key element of in Wellington. Accordingly, there has been close liaison with the NZ Transport Agency, particularly the Planning and Investment – Central and the National Cycling teams in the development of proposals for cycleways along Miramar Avenue.

2.2.3 Greater Wellington Regional Council

Greater Wellington Regional Council (GWRC) is primarily responsible for overall regional planning and Public Transport planning. Greater Wellington is also responsible for the Public Transport network and delivering Public Transport services across Wellington. It undertakes asset management, planning, including for new works, manages the operation of the network, is responsible for arranging funding and contracts for service delivery.

Greater Wellington undertake a number of cycling activities across the Wellington region, such as delivering cycle skills training, providing cycling information (including an online Cycling and Walking Journey Planner), providing cycle parking at Railway Stations and trialling bike racks on buses.

3. Issues, Constraints and Opportunities

3.1 Introduction

This section sets out the problems and issues for cycling in Wellington City and for cycleway proposals along Miramar Avenue specifically.

3.2 Defining the Problem

3.2.1 Cycling in Wellington City - Wider Issues

As part of the development of the Wellington City Cycle Network Strategic Case⁵ three problems relating to cycling in Wellington City were identified. These three problems were confirmed during the development of the Programme Business Case.

1. Poor Cycling Perception - Poor cycling uptake, due to the perception that cycling is unsafe and inconvenient, is reducing cycling's contribution to the transport system;
2. Unappealing Environment - An unappealing environment for people on bikes is reducing transport and recreation choices for Wellingtonians;
3. High Crash Risk - Unforgiving infrastructure and poor road user behaviour is resulting in significantly higher than average rates of harm to people on bikes;

⁵ WCC, Wellington City Cycle Network Strategic Case, August 2015

These three problems were discussed by stakeholders involved in the Miramar Avenue Working Group at the first workshop on 30 November 2016 (Solution Working Group Session #1).

During the workshop, it was noted there is significant conflict between vehicles and cyclists both at intersections along Miramar Avenue (in particular the Tauhinu Road roundabout) and also at the numerous driveways along Miramar Avenue which provides access to retail developments.

The roundabout at Tauhinu Road was identified as having a significant safety problem for cyclists, with two crashes being recorded on the CAS crash database⁶ during the five-year period from 2011 to 2015.

Overall the environment was noted as being unappealing for cyclists due to:

- the significant volume of traffic turning into and out of properties;
- the high through flows on Miramar Avenue;
- the roundabouts at Tauhinu Road and Park Road being difficult for cyclists to negotiate;
- the speed of eastbound traffic approaching from a 70km/h speed zone; and
- the lack of specific provision for cyclists east of Maupuia Road.

3.2.2 Issues Paper Summary

An Issues Paper was completed by Jacobs in August 2016⁷. Briefly, the report highlighted the following issues:

- Transport demands are highest in the weekend with there is more intense activity within Miramar;
- There is little in the way of infrastructure for cyclists at present;
- People on bikes are over represented in the crash history (1% of traffic but 15% of crashes);
- The Maupuia Road and Tauhinu Road intersections are currently operating at capacity at times during the weekend;
- The roundabouts on Miramar Avenue are not seen as being cycle friendly;
- There are large numbers of turning movements into and out of driveway accesses along Miramar Road;
- Car parking is highly utilised. There are compliance issues;
- Minor flooding issues are known to occur towards the eastern end of the study area;
- Future transport demands are likely to increase with increased development occurring within the peninsula; and
- Public transport services will change in 2018 requiring changes to bus stop infrastructure.

The paper found that in common with most urban centres, the demand for space within the road corridor of Miramar Avenue is high. There is a need to provide space for access, parking and movement while also providing a streetscape that meets urban design objectives (for example creating a greater sense of place) and attracts people to Miramar. For this reason, any improvements will need

⁶ National database of reported crashes administered by the NZ Transport Agency

⁷ Jacobs, Eastern Suburbs Cycleways – Miramar Avenue Improvement Options, Issues Paper, 5 August 2016

to balance a number of competing objectives. The Issues Paper highlighted transport demands are highest in the weekend when there is more intense activity within Miramar.

There is little in the way of cycle infrastructure at present. West of the Miramar / Maupuia intersection, there is existing shared path along the northern side of the street which connects with a shared path extending along the seaward side of Cobham Drive.

Cycle flows are currently low for much of the week. The highest flows occur towards the western end of Miramar Avenue. Two groups of cyclists are evident by the patterns of flow. They are commuter cyclists on midweek days and recreational cyclists in the weekend. The highest cycle flows occur in the weekend, with up to 50 peak hour movements recorded at the Cobham / Miramar Shelly Bay intersection. Flows east of the intersection on Miramar Avenue are around 30 cycles per hour at that time.

Crash data from the CAS database shows over the 2011-15 five-year period all the recorded cyclist crashes in the study area occurred on Miramar Avenue between the Tauhinu / Portsmouth intersection and Cobham Drive. This grouping may be a reflection of the higher cycle flows in this area. People on bikes are over represented in the crash history (1% of traffic but 15% of crashes).

The Miramar / Maupuia and Miramar / Tauhinu / Portsmouth intersections are currently operating at capacity at times during the week and weekend. Capacity issues occasionally result in a westbound queue extending eastward from the Miramar / Portsmouth / Tauhinu intersection almost as far as the Miramar / Hobart / Park intersection.

The Miramar / Park / Hobart and Miramar / Tauhinu / Portsmouth intersections are both configured as roundabouts. While roundabouts carrying low flows can provide a high level of service for cyclists, the particular roundabouts on Miramar Avenue carry high flows and are considered less cycle friendly as they require cyclists to “take the lane” and subject them to significant conflicting turning movements.

There are large numbers of turning movements into and out of driveway accesses along Miramar Avenue during the weekend. The existing flush median is important for providing storage for these turning movements to occur. The flush median is also used by a large number of pedestrians crossing the street. Most cross using the flush median as opposed to crossing at crossing points or pedestrian crossings.

Car parks are generally well utilised, particularly during the weekend. It is noted that there is an issue of lack of compliance and enforcement with some cars parking all day within short-term parks.

Minor flooding issues are known to occur towards the eastern end of the study area, on Tahi Street, Park Road and Stone Street in a 50-year flood event.

In the future, transport demands are expected to increase with increased residential development within the peninsula. In the short term, a 300-lot subdivision is planned in Shelly Bay. This future development may result in the eventual need to upgrade the Miramar / Shelly Bay, Miramar / Maupuia and Miramar / Tauhinu / Portsmouth intersections.

The GWRC intends to provide improved bus services in Wellington from 2018. Within Miramar, this will mean a greater frequency of services using Miramar Avenue. The new Miramar Avenue ‘mini hub’ stops will be used to transfer between buses and so double bus stops will be required, located to the immediate west of the Miramar / Hobart / Park intersection. Changes will also be required at the Miramar / Tauhinu / Portsmouth Intersection roundabout to accommodate larger buses.

All these competing issues have and will need to continue to be considered in the development of options for upgrading Miramar Avenue to better provide for people on bikes and pedestrians.

4. Cycleways Treatment Evaluation

4.1 Introduction

As noted in Section **Error! Reference source not found.** of this report, a Working Group was established to assist with the WCC's decision-making in developing options for improving transport solutions on Miramar Avenue and find a solution that best achieves WCC Investment Objectives. The Working Group was made up of representatives from the Miramar Business Improvement District (BID), the GWRC, the WCC Cycleway planning team, and Jacobs.

Workshops were held regularly, aiming to arrive a short list of route treatment options for Miramar Av that can be taken forward for further public consultation.

Workshops were loosely based on a general process involving:

- **Examining the current issues of the route**, and the capturing the characteristics of the area.
- **Developing objectives for the Working Group** to determine what they are trying achieve with the project. The Working Group Objectives made up the third set of criteria in the multi-criteria assessment (appended) after the fatal flaws had been identified, and the WCC investment objectives had been assessed.
- **Creating long list of options** to ensure that all possible options are considered.
- **Short listing of options** from the long list to create a short list of options. Note that due to the nature of this project, where design components were interchangeable between options, short listed options evolved by retaining design components favoured by the Working Group to create the final short list.
- **Iterative refinement of short listed options.** The working group examined options and then recommended enhancements and refinements.

The following WCC Investment Objectives were presented to the working group at each workshop and acted to guide the group to ensure fundable were produced.

4.2 WCC Investment Objectives

The WCC objectives, which make up part of the assessment criteria for the route treatment options assessment, are:

- Achieve a high level of service for cyclists within an integrated transport network;
- Improve cycling infrastructure and facilities so that cycling makes a much greater contribution to network efficiency, effectiveness and resilience
- Cycling is a viable and attractive transport choice
- The crash rate, number and severity of crashes involving people on bikes is reduced
- Providing transport choices by increasing the opportunity for people to ride bikes so as to improve the sustainability liveability and attractiveness of Wellington

These objectives formed the second set of criteria in the multi-criteria assessment (appended) after the fatal flaws analysis had been undertaken.

4.3 Miramar Av Working Group Workshops

The preferred options for the Miramar Avenue Improvements were developed through a series of seven workshops with the Working Group between November 2016 and July 2017.

The minutes from the workshops held by the Working Group are contained in Appendix A. The general process followed to develop a preferred option(s) is shown below in **Error! Reference source not found.**

Details of the process are described in the following section

Table 1: Summary of Working Group Treatment Identification and Evaluation Process

Date	Meeting	Work Undertaken between Meetings
30/11/2016	Working Group Meeting 1	Identified issues and opportunities
		The issues paper was presented
		Options 1, 2 and 3 developed
7/12/2016	Working Group Meeting 2	Reviewed WCC objectives and identified objectives specific to Miramar Avenue
		Reviewed three options presented at the meeting
		Rated options based on objectives
		Long list options developed and assessed
		WCC and Jacobs recommended a short list of options
2/02/2017	Working Group Meeting 3	All options were considered by the Working Group
		Recommended analysis be undertaken of the effects of options on the performance of the Tauhinu Road intersection
		Amendments to options were recommended to develop two options to carry forward for consultation
		Jacobs development two long term options (Options A and B)
		SIDRA intersection analysis undertaken of Options A and B
9/03/2017	Working Group Meeting 4	Two long term options (Option A and B) were presented. Each long term option also had a short term interim solution
		The Working Group accepted these two options
15/03/2017	Public Open Day 1	Option A and B presented to the public at the open day
4/04/2017	Working Group Meeting 5	It was requested that an urban designer be engaged to take a fresh look at information to date and options currently being considered
		Isthmus, with technical support from Jacobs, develop two new options (Options C and D)
6/06/2017	Working Group Meeting 6	Sketch designs for Options C and D were presented
		It was recommended that these two options be carried forward and refined
		Jacobs presented the detailed results of the SIDRA analysis for Options A and B.
		It was agreed that traffic signals were required at the Tauhinu Road intersection for all options
		Isthmus refined drawings for Options C and D including providing perspective drawings
28/06/2017	Working Group Meeting 7	Refined drawings for Options C and D were presented at the meeting
		The Working Group agreed on a single preferred solution for the section of Miramar Avenue to the west of the Tauhinu Road intersection (to be developed as Phase 1 of this project)

4.3.1 Workshop 1, 30/11/2016

At the first workshop the Issues Report was presented to provide background information to the Working Group.

The Working Group brainstormed ideas based on three questions:

- What is the existing character/feel of Miramar Ave?
- What do you see as some of the current issues for Miramar Ave?
- What are the opportunities for Miramar Ave?

The Working Group noted, amongst other things, the area looks somewhat unattractive at present and there were issues with cyclist safety, a lack of parking, and safety for vehicles turning right out of properties. There was a need to address stormwater / wastewater issues.

During the discussion on opportunities, it was noted that there may be potential to use Tahi Street for some movements. As well, it was suggested that a raised central median could be used to prohibit right turns and make Stone Street left in left out.

It was agreed that Jacobs would develop high-level options prior to the next Working Group workshop to initiate discussions.

The WCC would distribute a summary of previous engagement with the Miramar BID.

4.3.2 Option Development (Options 1, 2 and 3)

Following Workshop 1, Jacobs produced three concept options, intended to promote discussion at Workshop 2. These concept options were based issues raised at the Workshop 1 including:

- Traffic stopping in lane blocking through traffic;
- Safety issues with right turns out of property;
- Cyclist safety, especially at intersections and driveways; and
- Speeding through traffic.

Responding to these issues, the following three options were developed:

Option 1 - Two Way North Side Cycleway provided an off road two way cycle path extending along the northern side of Miramar Avenue adjacent to the carriageway. To allow for cyclists to cross the Tauhinu Road intersection, traffic signals would be installed at this intersection. Parking would be removed along the northern side of Miramar Avenue. The existing flush median would be retained.

Option 2 - Protected Cycle Lanes Raised Median provided separate protected cycle lanes along the edge of the existing carriageway. The existing flush median would be replaced with a raised median restricting access to property to be left in / left out. The existing roundabout at the Tauhinu Road intersection would be enlarged and upgraded to better provide for cyclists.

Option 3 – Off Road Cycle Path provided separate off road one-way cycle paths along the northern and southern sides of the Miramar Avenue. The existing flush median would generally be retained, except in the vicinity of Stone Street where bus stops were provided in the centre of the carriageway. Stone street would be restricted to allowing only left in / left out movement.

Copies of plans for these options are provided in Appendix B.

4.3.3 Workshop 2, 09/12/2016

At Workshop 2 the WCC investment objectives were reviewed and the Working Group developed their own set of objectives that they would assess possible treatment options for Miramar Avenue against. The Working Group objectives are to:

- Create an attractive destination for people to visit, relax in etc. not just for cars;
- Reduce traffic congestion, but slow traffic;
- Improve resilience of Miramar Av to future proof including improving stormwater and waste water;
- Create a safer environment for cars, pedestrians and cyclists;
- Cater for the increase in bus numbers without increasing congestion, or reducing safety for pedestrians, cyclists and turning traffic;
- Retain current number of on-street parks if at all possible.

These objectives were intended to supplement the WCC investment objectives described previously in section 4.2.

The Working Group then discussed how well the three concepts (Option 1, Option 2 and Option 3) addressed the objectives.

It was agreed that Option 1 has operational and safety concerns due to conflicts between cyclists and vehicles turning out of driveways. The concerns relate to the high volume of traffic using the driveways, intervisibility between cyclists and drivers being restricted by the existing pohutukawa trees and contra flow cyclists in the footpaths being unexpected.

It was also suggested that a fourth option be produced which would be a hybrid of Option 1 and Option 3. West of Tauhinu Avenue, the Option 1 design would be used, as there are almost no driveways along this section of Miramar Avenue, and east of Tauhinu Avenue the Option 3 design would be used.

4.3.4 Long List of Options (Options 1 to 13)

Following Workshop 2, Jacobs prepared a long list of 13 options to ensure all viable options were considered at an early stage of this project, including options involving Tahi Street.

The long list was based on concepts sketches and discussions from the earlier workshops with a focus on addressing the Working Group objectives identified in section 4.3.3.

The following options were developed:

Option 4 – Cycle Paths Option 1/3 Combination is a combination of Option 1 and Option 3. West of the Tauhinu Road intersection, it provided a two-way cycle path extending along the northern side of the road. At the intersection a roundabout would be retained. West of the roundabout separate off road one-way cycle paths would be provided on the northern and southern sides the road adjacent to the carriageway.

Option 5 – Protected Cycle Lanes Flush Median is similar to Option 2 with the exception that existing flush median would be retained and would not be replaced with raised median. As such, access to property would not be restricted. The option drawings note that either a roundabout or traffic signals could be provided at the Tauhinu Road intersection.

Option 6 – “Sharrows” provided road marking to encourage cyclists to ride along the centre of the traffic lane and to warn drivers of the presence of cyclist.

Options 7 to 13 investigated the potential for using Tahi Street (running parallel to Miramar Avenue) for one or more transport mode (i.e. deviating cyclists, traffic or public transport along this street).

A sketch of each option is contained in Appendix B.

The long list was agreed with WCC in January 2017. Some options that were not considered to be feasible, were excluded from the long list of options. This includes:

- The provision of bus lanes along Miramar Avenue. Bus lanes are only beneficial along sections of road where congestion occurs at a time when passenger transport numbers are high. On Miramar Avenue, during the commuter peak period there is little congestion and so there would not be any benefit in providing bus lanes.
- Options involving significant land acquisition were also not considered as the project costs would be too high to be funded.

4.3.5 Evaluation of Long List

To reduce the long list of options to a short list of preferred options, the effects of options and how each option meet the objectives was considered. A copy a table which summaries this evaluation is provided in Appendix C.

The WCC and Jacobs then considered this evaluation and recommended a short list of options to be carried forward for further consideration. The recommended Options were:

- Option 2 - Protected Cycle Lanes, Raised Median;
- Option 4 - Cycle Paths Option 1/3 Combination;
- Option 5 - Protected Cycle Lanes, Flush Median;
- Option 6 - Sharrows.

Table 2 provides a summary of the reasons why the WCC and Jacobs recommended particular options be eliminated from further consideration.

Table 2: Reasons for WCC and Jacobs Recommending Elimination of the Option

Option	Name	Reason for Elimination of the Option
1	Two Way North Side Cycleway	Limited visibility for vehicles exiting driveways on north side is likely to result in drivers waiting in the cycle lane before turning into the traffic lane, blocking oncoming cyclists. There are safety issues for cyclists as drivers turning into or out of driveways on the north side will not expect westbound cyclists. Bus stop positioning is not ideal as the stops are not adjacent to each other and the eastbound bus stop is located at the edge of the urban centre. Traffic signals would be required at Tauhinu Rd to allow westbound cyclists to cross the intersection.
3	Off Road Cycle Paths	Low level of service for cyclists, as the surface would be undulating (at driveways and trees), and there would be pedestrian conflicts. There could be safety issues from vehicles turning into or out of properties, as they would not expect cyclists to be on the footpaths. If the Tauhinu Road roundabout was retained then there would not be any improvement in cycle safety at this intersection.
7	Cyclists on Tahi Street	Less direct route for cyclists travelling towards Seatoun or Miramar South. Will not improve attractiveness or environment on Miramar Avenue.
8	Remove Through Cars	It is difficult for eastbound vehicles to turn at bus only section of Miramar Avenue. Flows along the section of Park Road within the urban centre will increase, which could significantly affect the environment for adjacent businesses. With reduced traffic flow on Miramar Avenue, petrol stations and other vehicle-orientated businesses will lose customers. There will be increased traffic flow on Tahi Street, which is a residential street. There could be capacity issues at roundabouts.
9	Remove Through Cars and Buses	Provides similar disbenefits to Option 8. In addition, for public transport, bus routes would be less direct and so travel distances and time would slightly increase.
10	One way Cars (Westbound on Miramar Ave)	Complex layout will be difficult to understand. Use of space is inefficient, as the bus lane would carry few buses. With reduced traffic flow on Miramar Avenue, petrol stations other vehicle-orientated businesses will lose customers. There could be an issue with pedestrian safety within the urban section of Miramar Avenue, as pedestrians may not expect the infrequent westbound bus movements. Similarly, there could be an issue with safety for westbound cyclists, as drivers may not expect cyclists to be riding along contra flow along Miramar Avenue. Increases flows on Tahi Street and other residential streets in the area. Has high conflict at intersections as eastbound traffic needs to cross-westbound traffic.
11	One Way Cars (Eastbound on Miramar Ave)	This option is similar to Option 10 and so disbenefits are similar to this option. An additional disbenefit is that there would be more crossing movements at the intersections and so more conflict.
12	One Way Cars and Cyclists (Westbound on Miramar Ave)	This option is similar to Option 10 and so disbenefits are similar to this option. An additional disbenefit is that eastbound cyclists would have further to travel, as they would need to use Tahi Street.
13	One Way Cars and Buses (Westbound on Miramar Ave)	Similar disbenefits to Option 10, 11 and 12 with the removal of 50% of car traffic from Miramar Ave. Eastbound bus stop cannot be located on Miramar Ave, could be located on Park Road just north of Miramar Avenue. Split bus stops not idea.

4.3.6 Workshop 3, 02/02/2017

Following the long list assessment, the long list of options was discussed with the Working Group in Workshop 3 together with the recommendation that four options be shortlisted (Options 2, 4, 5 and 6).

Option 2 and 4 were refinements of concepts discussed at previous Working Group workshops. Option 5 and 6 were new options.

These four options were discussed in detail in this workshop.

- It was recognised that banning right turn movements from driveways would put additional pressure on the existing roundabouts at both ends of Miramar Avenue and SIDRA analysis would be required to further understand this impact;
- The Working Group commented that vehicles turning right out of driveways are causing more congestion than vehicles turning right into driveways;
- It was suggested that Option 2 and Option 5 be combined, breaking the median in some places to allow right turns into businesses, but limit right turns out;
- GWRC advised that the bus stop design used in Option 4 was not suitable for buses, as one bus could not pass another bus that was stopped at the bus stop. As a result it was recommended that this option be amended to provide a more conventional bus stop design;
- Option 6 received positive feedback and was suggested to be a good interim solution;
- The Working Group stated that they would like only two options to take forward to consult on.

The Working Group did not entirely eliminate any of the Options 1 to 6. At the request of the Working Group, desirable aspects of Options 1 to 6 were carried forward to develop the two new options.

Options using Tahi Street (Options 7 to 13) were entirely eliminated from further consideration, as the Working Group agreed with the recommendation from WCC and Jacobs that these options be eliminated (refer to the reasons set out in **Table 2**).

4.3.7 Development of Options A and B

Following Workshop 3, Jacobs developed the two new options, as requested by the Working Group. These options were named **Option A** and **Option B**.

- **Option A** – This option was a combination of long list Option 2 and Option 5 with some refinements. It provided on road protected cycle lanes on both sides of the carriageway. Right turns out of developments were restricted through the provision of raised median islands. The Tauhinu Road intersection was reconstructed with a larger diameter roundabout that provided cycle lanes and slowed traffic. The Shelly Bay Road intersection would need to be signalised to allow westbound cyclists to cross over to reach the cycle path on the seaward side of Cobham Drive.
- **Option B** – Is equivalent to long list Option 4 with some refinements. It is noted that Option 4 was then derived from a combination of Option 1 and Option 3 so design elements from these Options were also carried forward. East of Tauhinu Road, the design provided separate off road one-way cycle paths on the northern and southern sides of the Miramar Avenue. The existing flush median was retained. The Tauhinu Road intersection would be signalised. West of Tauhinu Road a two-way cycle path would be provided on the northern side of Miramar Avenue.

Concept plans showing these two options are contained in Appendix E.

Alongside these long-term options, a short-term interim solution was developed for each option providing a design that could be implemented within the funding currently available. East of the Tauhinu Road intersection, the short-term solution for both options would be to install 'sharrows'.

The design of the Shelly Bay Road intersection was not developed. It was assumed this intersection would be signalised as a part of the proposed redevelopment of land within Shelly Bay. The design of this intersection was being progressed as a part of this project.

4.3.8 SIDRA Analysis

WCC engaged Jacobs to carry out SIDRA analysis of the Tauhinu Road intersection to determine the performance of Options A and B. The analysis was undertaken for the times of greatest traffic demands for this section of road being the evening peak hour (4:30pm - 5:30pm) and weekend peak hour (11:00am - 12:00pm). The modelling used survey data collected from the Issues Report.

A memo containing a description of the SIDRA analysis of options is contained in Appendix D.

This analysis, together with earlier analysis undertaken by Jacobs and reported in the Issues Report showed:

- The intersection is currently operating at close to capacity during the weekend peak hour, with the Miramar East approach having a degree of saturation of around 1.0⁸, and queues of 240m on this approach. These queues at times affect access to retail developments on Miramar Avenue. During the evening peak period there is still some spare capacity as the highest degree of saturation is only around 0.72. While the traffic modelling of roundabouts can be slightly inaccurate making it difficult to predict their capacity exactly, the results suggest that if there is any growth in demands at the intersection during the weekend, then delays and queuing are expected to increase greatly. Reduced performance of this intersection would be of concern as this intersection lies on Miramar Avenue, which is the key arterial road providing access to Miramar. Both public and private transport would be affected.
- The long-term design for Option A, which provides an enlarged roundabout at the Tauhinu Road intersection and restricts the right turn movement out of property would not perform well. Its capacity would be greatly exceeded in the weekend peak (degree of saturation for the Tauhinu Road approach of 1.3), due to the extra demands place on the intersection from the right turn movements out of developments being restricted. While the short term design would not restrict the right turn movements and so the roundabout layout would provide adequate performance initially, this result suggests it would not be worthwhile investing money in upgrading the roundabout to better provide for cyclists, as the roundabout would need to be replaced by traffic signals when the long term design was constructed.
- Option B, which provides traffic signals, would give adequate performance, although the Miramar Avenue west approach would have a degree of saturation of around 0.9 during the weekend and evening peak periods and so there would not be much spare capacity to allow for future traffic growth.
- Further modelling was carried out to see if additional capacity could be provided without greatly increasing the footprint of the intersection (which would impact on the environment). Option B was modelled with a left slip lane on the Miramar Avenue (west) approach. This improved the intersection performance, with the highest degree of saturation reducing to 0.82. However, this improvement relies on the slip lane not being signalised. This then means this

⁸ Degree of Saturation (DoS) measures how high traffic flows are compared with available capacity. For example, a DoS of 1.0 means flows are at capacity, whereas a DoS of 0.5 means flows are only half as high as the available capacity

the slip lane could only be incorporated with Option A which has on road cycle lanes. Option B would require the slip lane to be signalised to provide for cyclists, and because of this there would not be an improvement in performance for this option.

- Apart from potentially providing a left turn slip lane, the analysis concluded there are no easy solutions for providing additional capacity for the traffic signal layout without significantly increasing the size of the intersection footprint.

4.3.9 Workshop 4, 09/03/2017

At Workshop 4, Options A and B were presented to the Working Group.

The need for traffic signals at the Tauhinu Road intersection the short term was raised with the Working Group.

It was agreed that for Option B the Tauhinu Road intersection needs to be signalised as eastbound cyclists on the two-way cycle path on the northern side of the road are not able to safely enter the roundabout. Drivers approaching the roundabout on Tauhinu Road would not expect an eastbound cyclist to be entering the roundabout from the cycle path and so would not give way to them.

GWRC commented that they preferred the bus stop location shown in Option A. The westbound bus stop in Option B extended across a driveway and residential properties, which was not ideal.

The Working Group generally accepted these two long term and short term options and they were presented at the open days which were held on the 15th and 18th of March.

4.3.10 Public Open Day 1, 15/03/2017

Options A and B were presented to the public at an open day held at the ASB Centre in Kilbirnie on Wednesday 15 March and Saturday 18 March. The public feedback on the options was positive, with the public in particular liking the Option B two-way cycle path west of the Tauhinu Road intersection.

4.3.11 Workshop 5, 04/04/2017

At Workshop 5 the Working Group requested that an urban designer be engaged to take a fresh look at the options as well as creating perspective views to improve readability of the plans. As a result, WCC engaged Isthmus for urban design services.

The proposed traffic light solution at Tauhinu Road was questioned for the short-term solution, and it was requested that Jacobs consider how a roundabout could be retained in the short term.

4.3.12 Isthmus Designs

Prior to Workshop 6, Isthmus was commissioned to provide a fresh look at options for Miramar Avenue from an urban design perspective.

In response, Isthmus developed Two Options (Options C and D). Drawings of these Options (as presented in Workshop 7) are provided in Appendix F.

Option C – This option is almost identical to Option B. The main differences are in the detail of the design, although functionally the options are essentially identical.

It provides separate cycle paths on the northern and southern sides of Miramar Avenue. West of the Tauhinu Road intersection the paths would be two way on the northern side of the road and one way westbound on the southern side. East of the intersection the separate paths would continue, but the path on the northern side would only be one way westbound. Here the carriageway would be narrowed to accommodate additional landscaping and a raised median would be provided in some

places to restrict turning movements. Traffic signals would be provided at the Tauhinu Road intersection.

Option D – This option is similar to Option 1 from the long list of options. East of Tauhinu Road it would provide a two-way cycle path behind the kerb on the northern side of the road. The carriageway would be narrowed and no median would generally be provided to accommodate turning movements. Traffic signals would be provided at the Tauhinu Road intersection.

The main physical difference between this option and previous options that had been considered relate to the narrowing of the carriageway and the entire removal of the flush median. The eastbound and westbound traffic lanes would then only be separated by a white centreline. It is intended that some turning movements would be restricted.

4.3.13 Workshop 6, 06/06/2017

Options C and D were presented to the Working Group. Like Options A and B, these options could be constructed in stages. These options were then considered alongside Option A and Option B.

The Working Group approved Options C and D to be taken forward due to the landscaping benefits these options presented from a narrowing of the carriageway.

The Working Group requested the drawings be refined and perspective drawings be provided to better explain the drawings.

Jacobs presented the detailed results of the SIDRA analysis which had been undertaken previously for Options A and B. Following this the Working Group accepted that traffic signals would be required at the Tauhinu Road intersection once the long-term options were developed (due to restrictions in traffic movement at properties which then increased traffic flows at the intersection). They also agreed that it would not be worthwhile spending significant amounts of money on upgrading the existing roundabout to better provide for cyclists when the life of these improvements was only limited. It was agreed that traffic signals would need to be provided in the short term.

4.3.14 Workshop 7, 28/06/2017

Isthmus presented updated concept plans and perspective views for Options C and D to the Working Group. These drawings are contained in Appendix F and Appendix G.

The Working Group agreed that the development of Miramar Avenue should be staged. Phase 1 should focus on Shelly Bay Road to Tauhinu Road, including the upgrade of Tauhinu Road intersection to provide traffic signals. In stage 1, sharrows would be provided to the east of the Tauhinu Road intersection. In stage 2, the cycleway would be fully developed to the east of Tauhinu Road as shown in the concept plans. These drawings are contained in Appendix F and Appendix G.

The Working Group agreed on the preferred solution for phase 1, an off-road cycleway on the northern side of Miramar Ave and upgrading the Tauhinu Road intersection to traffic signals with provision for crossing cyclists. There did not appear to be any worthwhile alternative to this option.

The Working Group also agreed to consult with the public on the sections of Options C and D to the west of the Tauhinu Road intersection.

4.3.15 Decision on Recommended Option

This section is to be completed in later versions of this report.

5. Safety Audit

A safety audit of the preferred options has not currently been undertaken. This section is to be completed in later versions of this report.

6. Conclusion

This report provides a record of the design process for the Eastern Suburbs Cycleways – Miramar Avenue Improvements project including recording project objectives, designs considered and decisions made by the Working Group and other stakeholders. The report will be updated as the design process proceeds.

Initial stages of the design process examined a wide range of options (13 in total) before focusing more recently on essentially two options, Options C and D.

Important decisions that have been made by the Working Group to date include:

- Elimination from further consideration of options which divert cyclists, buses or general traffic to use Tahi Street. The reasons for this are outlined in **Table 2**;
- Agreement that traffic signals should be provided at the Tauhinu Road intersection to better allow for future traffic, pedestrian and cyclist flow;
- The Working Group recognised that some movements into or out of commercial property may need to be controlled to address congestion and / or safety issues.

The Working Group currently has shown a strong preference for Options C and D. These options are essentially refinements of a number of earlier options and are considered by the Working Group to best meet the Working Group, WCC and WCC Investment objectives.

The design process is still at the concept stage and so in future stages of this project, considerable consultation and design work will be undertaken.

Appendix A – Working Group Minutes

Miramar Avenue Improvements

Meeting Minutes Bid Workshop 1

Meeting: Miramar Town Centre Planning Workshop

Venue: Helfen, 127 Park Road Date: 30 November 2016

Job No: 86075.008 Time: 19:00

Attendees: WCC, Jacobs, Miramar BID representatives

Apologies: Wellington Water

	Agenda Item:
1	Introductions
2	Miramar Ave - Brainstorm:
a	<p>What is the existing character/feel of Miramar Ave?</p> <ul style="list-style-type: none">• Unattractive Scruffy Racetrack• Extend the feel of area surrounding Roxy Theatre.• Pedestrian mall feel• Retain some trees or provide greenery in median• Safety is important• No traffic lights if possible
b	<p>What do you see as some of the current issues?</p> <ul style="list-style-type: none">• Pohutukawa Trees need to go• Traffic stopping in lane blocking through flow• Stormwater/Wastewater issues• Traffic Compliance. Busses speeding• Limited turning space for trucks• Safety issues with right turns out of property• Cyclists using footpath• Cyclist safety. Especially intersection/driveway conflicts• Stone Street congestion• Lack of parking
c	<p>Miramar Ave Opportunities?</p> <ul style="list-style-type: none">• Vehicles use Tahi Street to bypass Miramar Ave. Potentially one way• Cyclists use Tahi Street to bypass Miramar Ave• Cycle parking to encourage trips to shops• More pedestrian crossings. Will calm traffic• Install flashing warning lights for pedestrian crossings

	<ul style="list-style-type: none"> • Potential for bus stops to be relocated onto Hobart St / Ira St • Potential for bus platforms to be located in the centre of road, similar to tram platforms in Melbourne • Beautification. Incorporate art, seating and tables, flags • Remove trees for indented bus stop outside New World • Make Stone Street one-way or left in left out • Raised central median to prohibit right turns. • Potential to replace 2nd footpath on north side of Miramar Ave with cycleway • Potential for 2-way cycleway on north side of Miramar Ave to join Cobham Dr
3	<p>Actions:</p> <ul style="list-style-type: none"> • Jacobs to develop three high level options for discussion at next meeting • WCC to distribute summary of previous engagement with Miramar BID • Wellington Water to address BID representatives regarding stormwater and wastewater
4	<p>Next Meeting:</p> <ul style="list-style-type: none"> • Wednesday 7th December 7:00pm

Miramar Avenue BID Workshop 2

Minutes

Meeting: Miramar Avenue Planning Workshop 2


Venue: Helfen, 127 Park Road, Miramar Date: 7-Dec-16

Job No: 86075.008 Time: 19:00

Attendees: Jan Noering, Bernarr Alexander (WCC), Joshua Aldridge (Jacobs), Charles Agate (GWRC), Thomas Wutzler, Tim Alexander, Ann Privett, Taryn Playle (Miramar BID)

	Item	Actions
1	<p>Review WCC investment objectives:</p> <ul style="list-style-type: none"> - Level of Service - Achieve a high level of service for cyclists within an integrate transport network. - Network Efficiency - Improve cycling infrastructure and facilities so that cycling makes a much greater contribution to network efficiency, effectiveness and resilience. - Cycling Uptake - Cycling is a viable and attractive transport choice. - Cycle Safety - The crash rate, number and severity of crashes involving people on bikes is reduced. <p>Wellington City Improvements - Provide transport choices by increasing the opportunity for people to ride bikes so as to improve the sustainability, liveability and attractiveness of Wellington.</p>	None
2	<p>Specific objectives to Miramar:</p> <ul style="list-style-type: none"> - Create an attractive destination for people to visit, relax in etc. not just for cars - Reduce traffic congestion, but slow traffic; - Improve resilience of Miramar Av to future proof including improving SW & WW. - Create a safer environment for cars, pedestrians and cyclists; - Cater for the increase in bus numbers without increasing congestion, or reducing safety for pedestrians, cyclists and turning traffic. - Retain current number of on-street parks if at all possible. 	<p>WCC to rationalise and confirm list of investment criteria.</p> <p>Criteria to be agreed at next BID meeting.</p>
3	<p>General Discussion:</p> <ul style="list-style-type: none"> - BID support replacement of tress (at least a selection). WCC confirm backing. - Important to identify key stakeholders and engage early, particularly those who are anticipated to oppose change. - Consult with Miramar/Maupuia Progressive Association (Robin Boldarin) early to get buy in. - Potential to share car park areas by providing better connections through building blocks. 	WCC will carry out stakeholder mapping and maintain issues register.
4	<p>General discussion and rating options based on objectives</p> <p>ATTRACTIVENESS: 3 – 2 – 1</p> <ul style="list-style-type: none"> - Option 3 because of unique bus stops making Miramar Ave more of a destination 	None

	<ul style="list-style-type: none"> - Option 2 has potential for tress within median - Option 1 makes Miramar more of a race track. <p>TRAFFIC CONGESTION: 1 – 3 – 2</p> <ul style="list-style-type: none"> - Option 1 allows all right turns. No reduction in traffic operations. Also removes busses from busiest portion of Miramar Ave. - Option 3 best separates busses from through traffic and still allows most right turns. - Option 2 prohibits right turns and may to worsen congestion at roundabouts. <p>RESILIENCE: 3 – 1 – 2</p> <ul style="list-style-type: none"> - Option 3 has least effect on existing kerbs and footpaths, removes 50% of tress as a step towards final layout and SW/WW upgrade. - Option 1 only modifies kerb and footpath on north side of Miramar Ave. - Option 2 involves construction of raised median and planting tress which may limit future development. <p>SAFETY (CYCLISTS): 3 – 2 – 1</p> <ul style="list-style-type: none"> - Option 3 provides an off road option to cater for casual and inexperienced cyclists. - Option 2 provides for protected on-road cycleways to improve safety. - Option 1 creates safety concerns due to the two lane nature of the cycleway, and the large number of driveways. <p>SAFETY (PEDESTRIANS): 2 – 1 – 3</p> <ul style="list-style-type: none"> - Option 2 provides the greatest separation between pedestrians and vehicles/cyclists. It also provides a continuous median to which will help pedestrians cross the road. - Option 1 keeps pedestrians and cyclists separate but potentially makes crossing the road more difficult. - Option 3 cyclists to be located at same level as footpath, engineering solutions will need to be used to separate cyclists from pedestrians. <p>SAFETY (VEHICLES): 3 – 2 – 1</p> <ul style="list-style-type: none"> - Option 3 reduces conflict between vehicles and cyclists/busses. - Option 2 reduces vehicle conflict by eliminating right turns however may introduce safety issues at roundabouts. <p>Option 1 has the potential to reduce the safety of vehicles and cyclists due to the 2 way nature of the bike lane. Engineering solution could possibly be used to improve this safety concern (flashing lights, warning signs etc.)</p> <p>BUS INTEGRATION: 3 – 1 – 2</p> <ul style="list-style-type: none"> - Option 3 provides separation between bus bays and traffic lanes and gives priority on re-entry. - Option 1 provides separation between bus bays and traffic lanes but does not give priority on re-entry - Option2 provides the least bus/car separation, using a more traditional design for the bus stops, potentially causing congestion at the bus stops. 	
5	<p>Further feedback on options:</p> <p>OPTION 1:</p> <ul style="list-style-type: none"> - All agree that option 1 between Tauhinu Rd and Park Rd roundabouts has 	BID members continue to provide feedback

	<p>serious operational and safety concerns due to conflicts between cyclists and vehicles turning out of driveways.</p> <p>OPTION 2:</p> <ul style="list-style-type: none"> - Consider providing a slip lane for vehicles turning right out of Shelly Bay Road so signals only stop eastbound traffic. Similar to Onslow Rd. <p>OPTION 3:</p> <ul style="list-style-type: none"> - Consider providing a slip lane for vehicles turning right out of Shelly Bay Road so signals only stop eastbound traffic. Similar to Onslow Rd. - Refer to example in Palmerston North (below)  <ul style="list-style-type: none"> - Move bus stop further west, fit between Tauhinu Rd and Stone St. - Consider pedestrian demand and crossing points <p>OPTION 4: HYBRID</p> <ul style="list-style-type: none"> - Use Option 1 from Cobham Dr to Tauhinu Rd, Option 2/3 from Tauhinu Rd to Park Rd. - Left-in left-out for private properties, not for Stone Street - Combine New World entry/exit to reduce driveway constraints on bus stop location - Include pedestrian crossing between Maupuia Rd and Tauhinu Rd 	<p>to WCC/Jacobs on options.</p> <p>Jacobs to develop plan, cross section and perspective view for Option 4.</p> <p>Taryn to set up online folder for file sharing.</p>
6	<p>Next meetings</p> <ul style="list-style-type: none"> - Tim Alexander & WCC rep. to meet with Wellington Water next Thursday - Next BID/WCC meeting late January / early February 2017 to carry out stakeholder mapping and plan next steps. 	

Miramar Avenue BID Workshop 3

Minutes

Meeting:	Miramar Avenue Planning Workshop 3		
Venue:	Helfen, 127 Park Road	Date:	2-Feb-17
Job No:	86075.008	Time:	19:00
Attendees:	Councillor Sarah Free, Councillor Simon Marsh, Jan Noering, Bernarr Alexander (WCC), Charles Agate (GWRC), Mary Anderson, Taryn Playle, Phil Hughes, Steve Satherley, Karen Saterley, Tim Alexander, Debbie Natoli, Jerry Hamm, John Willis (BID), Joshua Aldridge (Jacobs), Tim Strang (Wellington Water)		

Apologies Thomas Wutzler, Anne Privett, Lalita Kasanji

	Item	Owner
1	WCC Summary of previous meeting outcomes, including WCC & BID objectives	JN
2	Jacobs outlined option process and presented short list (options 2, 4, 5 and 6)	JA
3	<p>Feedback on options:</p> <ul style="list-style-type: none"> - Option 4 was ruled out based on advice from GWRC. Layout would not allow buses to overtake each other. - Discussions were had as to which option best suited the Bus Hub. It was generally agreed that bus stops should be located between Stone Street and Park Road as this is the 'Hub' of Miramar. - Business owners also expressed concern that centrally located bus stops would add to congestion around busy car parks (New World Palmers etc) - Discussion about right hand turns from either side of Miramar Ave. It was expressed that traffic turning right out of driveways is blocking through traffic more than traffic turning in. - How to make the existing parking work better. Agreed that internal connectivity of car parks is not part of the scope of Miramar Ave improvements. - Positive feedback was received on option 6. Generally agree that raised threshold treatment will calm traffic. Potential for speed bump design with gaps for buses/cyclists. Consider option 6 as possibly a good interim solution to maximise the \$1.5M currently available and leave the options open for other future development. - Combine option 2 and 5. Break central median in places to allow some right turns. - Current pedestrian bay and crossing locations to be reassessed. 	JA
4	<p>Infrastructure / funding discussion:</p> <ul style="list-style-type: none"> - Tim Strang of Wellington Water stated solutions for the flooding problem should be able to be assessed in a years' time. Tim mentioned that to fully fix the flooding problems in the order of \$10M - \$20M would be required. 	JN

	<p>However, Tim also noted there were several intermediate fixes that could resolve a significant number of issues in the short term. To assess these interim options Tim was asked if Wellington Water could undertake CCTV assessment of the pipes below Miramar Av aiming to assess their current condition and understand where tree roots are causing obstructions.</p> <ul style="list-style-type: none"> - The \$1.5ml which has been set aside for the development of Miramar Ave has a time limit on it and it was said that this \$1.5ml is not rate payers' money but money from the Central Government's Urban Cycleway fund. - The current camber of road is considered an issue for cyclists, so an interim option would still have to deal with this issue. 	
5	<p>Engagement strategy</p> <ul style="list-style-type: none"> - Open days are planned for the 15th and 18th of March to discuss what is happening throughout the eastern area (Evans Bay, Miramar, Kilbirnie). It is suggested that the Options workshopped out to date are not presented here. - It was agreed that options should be reduced down to two options for presentation to key stakeholders / community. Comments are requested to be sent through on two options once sent out, however a final meeting may be required to confirm these options. - Miramar BiD to organise engagement process with WCC support (Ben Alexander). 	BA
6	<p>Next Steps</p> <ul style="list-style-type: none"> - Joshua & Jan are to come back to the BiD with only 2 options. BiD members to provide feedback on 2 options once issued to finalise material for consultation. A further meeting may be required to confirm option and agree on engagement strategy. Meeting to be post 6 March 2017. - Options are to be presented to the Community in a series of workshops starting in March 2017, it was suggested that either the Bowls Club or the Rugby club be venues for the workshops. 	JA / JN

Miramar Avenue BID Workshop 4

Minutes

Meeting:	Miramar Avenue Planning Workshop 4		
Venue:	Helfen, 127 Park Road	Date:	9-March-17
Time:	19:00		
Attendees:	Mary Anderson, Thomas Wutzler, Joe Vegar, Milan Vegar, Taryn Playle, Steve Satherley (BID), Charles Agate (GWRC), Chris Calvi-Freeman, Sarah Free, Bernarr Alexander, Jan Noering (WCC), Andrew Lawson, Joshua Aldridge (Jacobs)		
Apologies	John Willis, Ann Privett, Lalita Kasanji, Phil Johnson, Uli Mueller, Paul Vegar, Luke Benner (BID), Simon Marsh (WCC), Tim Alexander (BID).		

	Agenda Item	Owner
1	<p>WCC Summary of previously agreed objectives:</p> <p>WCC investment objectives:</p> <ul style="list-style-type: none"> - Level of Service - Achieve a high level of service for cyclists within an integrate transport network. - Network Efficiency - Improve cycling infrastructure and facilities so that cycling makes a much greater contribution to network efficiency, effectiveness and resilience. - Cycling Uptake - Cycling is a viable and attractive transport choice. - Cycle Safety - The crash rate, number and severity of crashes involving people on bikes is reduced. - Wellington City Improvements - Provide transport choices by increasing the opportunity for people to ride bikes so as to improve the sustainability, liveability and attractiveness of Wellington. <p>Specific objectives to Miramar:</p> <ul style="list-style-type: none"> - Create an attractive destination for people to visit, relax in etc. not just for cars - Reduce traffic congestion, but slow traffic; - Improve resilience of Miramar Av to future proof including improving SW & WW. - Create a safer environment for cars, pedestrians and cyclists; - Cater for the increase in bus numbers without increasing congestion, or reducing safety for pedestrians, cyclists and turning traffic. - Retain current number of on-street parks if at all possible. 	Jan Noering
2	<p>Jacobs presented options for discussion</p> <ul style="list-style-type: none"> - Presented two long term and two short term options, wanting to finalise two options for community engagement. 	Josh Aldridge
3	<p>Discussion of Options</p> <p>JV: New World has 20,000-25,000 customers per week. New World/Foodstuffs oppose any proposal that impedes vehicle access and movement at Miramar New World. New World/Foodstuffs oppose the removal of any trees on Miramar Av. Not qualified to comment on design specifics, will seek independent legal and expert advice.</p> <p>TW: Is NW open to proposals which utilise land in front of NW?</p>	All

<p>JV: No comment, will be seeking independent advice.</p> <p>SF: Change is inevitable, important to adapt</p> <p>CCF: Is the NW site in your ownership of Foodstuffs?</p> <p>JV: Prefer not to comment</p> <p>CCF feedback on options</p> <p>Seen plans for the First time. Comments from a traffic design perspective; In general Miramar Ave is wider than necessary. Wide lanes result in drivers do not positioning themselves correctly on the road and encourages higher speeds. Near misses common at Tauhinu roundabout. Primary concern is conflicts at junctions.</p> <ul style="list-style-type: none"> • COBHAM DRIVE cycleway is straight forward with cyclists on seaward side from Evans Bay Parade to Shelly Bay Road (SBR) and new separate footpath further towards sea. This will encourage more cyclists. • SHELLY BAY RD (SBR) intersection has four challenges; already hard to turn right out with high through volume towards cutting, high number of pedestrians crossing SBR will only increase, additional vehicle traffic due to Shelly Bay development, more cyclists (better for them to cross SBR than Calabar road). Thinks signals are likely to be required. • MAUPUIA RD intersection. Miramar Av through traffic is aggressive and people still have a 70km/h mind set (both directions), not comfortable for cars trying to turn out, heavy right turn demand, this is also a bus route. Even one direction cyclists (EB) has potential safety issues, two directions would likely require signals. Noted that through cyclists vs turning traffic is biggest cause of cyclist fatalities. Could direct behind first car(s) but cyclists resist sharp turns and stopping for traffic. • TAUHINU RD intersection. Roundabout not compatible with 2 way north side cycleway. Agree option B needs signals. Option A U-turns at small roundabouts not good practice. • GENERAL COMMENTS: Why not carry on with two-way on north side of Miramar av to Park Rd? (this was ruled out due to safety issues around driveways and 2 way Cycleway, would require tree removal to implement safety and efficiently). Concerned with Cycleway in door zone. Considered crossing cyclists mid-block? <p>JN: Noted that details can be addressed in subsequent stage.</p> <p>JV: Noted only 3 BID members present. What happened to early proposal taking cycleway through back streets?</p> <p>BA: Ruled out options where cars and/or busses and/or cyclists used Tahi St. Decided that cyclist will likely still use Miramar Av, as Tahi street only useful to those living off Park road + people wanting to go to shops etc. on Miramar av. Also not considered in anyone's best interest, especially business owners from an economic perspective.</p> <p>CCF/SF: WCC is committed to providing good quality cycle routes and listening to community.</p> <p>BA: Take two options to community to get feedback.</p> <p>SF: WCC acknowledge that Island Bay was not perfect, but people are beginning to accept it and many are realising positive benefits. Minimal impact on businesses, many flourishing. Better safety record due to slower traffic and higher awareness. Change is always resisted, what we are proposing in Miramar is a smaller change and not comparable with Island Bay.</p> <p>CCF: Discussed pros/cons of roundabouts vs signals for operation/safety/visual streetscape</p> <p>TW: All agree there is a desire to slow/calm traffic.</p> <p>JN: Noted the short term options all propose calming and Sharrows.</p> <p>JV: All want \$1.5M to be spend wisely</p> <p>SF: NZTA putting in \$2 for every \$1 WCC is spending.</p> <p>TW: What is WCC marketing budget?</p> <p>JV: Any option that proposes removal of even one tree will be strongly opposed by some.</p> <p>SF: Many views, want to draw on collective wisdom. WCC committed to delivering what community want. Still have a long way to go.</p>	
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	<p>CA: GWRC view on bus stops:</p> <ul style="list-style-type: none"> • Most important is central location. Also to not split stops for ease of transfers. • Happy with location in both option A and B. • Either option can be implemented without removing trees. • Not ideal that option B location is across driveways, realise this is difficult to avoid with limited free kerb space along Miramar Av. • GWRC committed to replacing car parks removed by bus stops. Noted that removing Park Rd stops will free up parking space. Also potential on Stone St. • Also look into more official loading zones. • Keep stops between Maupuia and Tauhinu, GWRC is engaged with Portsmouth employers to encourage public transport use. <p>CCF: should be safe crossing point in this area</p> <p>CCF: Confirm bus from Miramar North is shuttle service? CA: Yes</p> <p>CCF: Raised issue with GWRC regarding 2 transfers from Miramar North to Newtown. Why not take Miramar North to Kilbirnie instead? Not much further than dead running and turning at Calabar RAB. CCF and CA Agree to discuss further offline.</p> <p>TW: Any independent consultants that are engaged by Foodstuffs/Miramar New World should talk directly with Jacobs</p> <p>BA: Agree. Important for transparency.</p> <p>Foodstuffs have Wellington based traffic consultants</p> <p>SF: Is there potential to mix and match options? JN: Yes</p> <p>CCF: Have cycle advocacy groups been engaged? JN: Not yet</p> <p>CCR: Agree that a good scheme from Shelly Bay Road to Tauhinu is priority for continuity</p> <p>JN: Sharrows should not be a long term solution for Tauhinu Rd to Park Rd. Ok as interim solution. There is a desire from BID to retain Roundabouts / avoid implementing signals.</p> <p>TW: Initial thoughts on options: Prefer to physically slow traffic with speed hump etc. rather than just signs and lines which require public to comply. (people disrespect current speed limit). It will be easier to sell improvements that slow traffic and raise awareness of all road users compared with large step changes such as signals.</p> <p>SF: Agree, how the Avenue looks is important too.</p> <p>TW: Would be mark out widths on site to help visualise.</p> <p>Agree that Jacobs / WCC representative should host site walkover with BID members. Discuss each intersection/access.</p> <p>SS: Should be during busy time (AM/Lunch/PM peak). Suggest Tuesday 11:45-1:30</p> <p>SS: Have not discussed pedestrians. Miramar Ave is not pedestrian friendly</p> <p>SS: Liquorland also has 4 axle trucks for delivery. Estimate 1300-1500 customers per week. Just LiquorLand, carpark is shared with several other businesses.</p>	
4	<p>WCC Open Days</p> <p>JN: Two open days.</p> <ul style="list-style-type: none"> • Wednesday 15th March 5pm-8pm • Saturday 18th March 10am-4pm <p>There will be five stands – one for each project, will be set up to show flow.</p> <p>SF: Would you like BID representation / participation</p> <p>BA: Yes, important to have BID involvement / participation</p> <p>TW: Agree, good to have BID representation TP: Will attend</p> <p>JN: What does the BID want presented?</p>	Ben

	<p>TW: Must communicate the big picture /story of why we are doing these improvements. Use perspective images to help community understand without imposing our ideas, let community have their say. Agree to show our two options for discussion at the open days.</p> <p>MA: How has the open days been communicated?</p> <p>BA: Newspaper, Facebook, Flyers Letter drops</p>	
5	<p>Engagement plan for Early April (NOT DISCUSSED IN DETAIL)</p> <p>TW: Laminate perspective views and display in public place</p> <p>CCF: Places where people wait are good. Doctors, hairdressers.</p> <p>TW: Suggest WCC sends plans/visuals to community/businesses</p> <p>MA: I have email addresses for businesses.</p> <p>SF: The more feedback received the better</p>	Ben
6	<p>Next Steps</p> <ul style="list-style-type: none"> • Jacobs will update option plans to reflect feedback for open days • WCC will send invite to site walkover Tuesday lunch time • MA: Send names of anyone else who should be involved in process <p>JV: Who is Chair of BID? JN: Thomas Wutzler</p> <p>JV: Comment 'BID Representative' not correct term, JN: apologies, will amend for future.</p> <p>JV: Noted that he will need to bring advisors up to speed.</p> <p>JN: Noted current plans are not set in stone.</p> <p>SF: Note, not asking BID/Businesses/community to make decisions. The final decision will be from WCC. WCC will be mindful of community response.</p> <p>CCF: Comment on importance of cycling infrastructure to realise the benefits of cycling. <i>"cyclised city is a civilised city"</i></p>	<p>JA</p> <p>BA</p> <p>All</p>

NZTA Objectives:

- Ability to deliver within timeframes
- Low risk (avoiding areas of high uncertainty)
- Consenting
- Extent of car parking removal
- Achievable within timeframes
- Extent of prior engagement and momentum
- Buildability/complexity of construction
- Cost to implement and maintain

Miramar Avenue BID Workshop 5

Minutes

Meeting: Miramar Avenue Planning Workshop 5

Venue: Helfen, 127 Park Road Date: 4-April-17

Time: 15:00

Attendees: David Chick, Jan Noering, Bernarr Alexander (WCC), Mary Anderson, Taryn Playle, Steve Satherley, Tim Alexander, Thomas Wutzler

Apologies Na

	Item	Action
1	<p>Urban Design</p> <ul style="list-style-type: none"> - Initially it was proposed that the Urban Design brief should include creating 4-5 cross-sections along with a plan view for each option, developed to a concept plan level of detail. - Thomas Wutzler stated a desire for a wider brief to be developed for the urban designers. It was proposed that the engineering constraints identified to date and the WCC and Miramar BID investment objectives developed in earlier workshops are provided to the urban designers, but leaving the rest to a blank canvas. - It was reiterated that traffic calming measures are very important – design should mean people drive slower. It was queried if having a separated cycleway may encourage cyclists to race too. Jan stated that they can be designed to limit this behaviour. - The proposed traffic light solution was queried for the short term option. Jan was to investigate with Jacobs of how the roundabout could be retained with the proposed short term solutions. 	<p>Jan – Confirm traffic modelling results to inform engineering constraints for Urban design brief.</p> <p>Jan – Challenge Jacobs to come up with a roundabout solution for the short term options (instead of requiring traffic lights)</p> <p>Jan – engage urban designer to quickly come up with some plans to workshop with the BID. Isthumus and SPA are being spoken to.</p>
2	<p>Stakeholder mapping</p> <ul style="list-style-type: none"> - Process was out lined: <ul style="list-style-type: none"> o Identify all stakeholders o Put together a working group consisting of representatives from the stakeholder groups identified, including the BID. o Workshop the plans, alter fatal flaws and finalise an option to take forward. o Engage with the public, erecting plans of what is proposed. o Change any fatal flaws. - Stakeholders identified: <ul style="list-style-type: none"> o BID 	<p>Ben - Put together a list of all stakeholders identified and send out to the BID for comment.</p>

	<ul style="list-style-type: none"> ○ Residents association groups (Robin Baldwin) ○ Schools ○ Churches ○ Bowling club ○ Ecological society ○ Airport ○ Cyclists ○ Seatoun Residents association ○ Art club ○ Library ○ Tennis club ○ Rugby clubs (Seatoun, Rangers, Aueries) 	
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Miramar Avenue BID Workshop 6

Minutes

Meeting: Miramar Avenue Planning Workshop 6

Venue: Helfen, 127 Park Road

Date: 06-June-17

Time: 18:00 – 20:00

Attendees: Thomas Wutzler, Mary Anderson, Tim Alexander (*BID*), Lisa Rimmer, Maria Bergvall (*Isthmus*), Jan Noering, Bernarr Alexander, Lyn Murphy, Bridget Parrott (*WCC*), Andrew Lawson (*Jacobs*)

	Agenda Item	Actions
1	<p>Summary of previously agreed objectives:</p> <p>WCC investment objectives:</p> <ul style="list-style-type: none"> - Level of Service - Achieve a high level of service for cyclists within an integrate transport network. - Network Efficiency - Improve cycling infrastructure and facilities so that cycling makes a much greater contribution to network efficiency, effectiveness and resilience. - Cycling Uptake - Cycling is a viable and attractive transport choice. - Cycle Safety - The crash rate, number and severity of crashes involving people on bikes is reduced. - Wellington City Improvements - Provide transport choices by increasing the opportunity for people to ride bikes so as to improve the sustainability, liveability and attractiveness of Wellington. <p>Specific objectives to Miramar – <i>Needs to be updated with SMART version for NZTA approval:</i></p> <ul style="list-style-type: none"> - Create an attractive destination for people to visit, relax in etc. not just for cars - Reduce traffic congestion, but slow traffic; - Improve resilience of Miramar Av to future proof including improving SW & WW. - Create a safer environment for cars, pedestrians and cyclists; - Cater for the increase in bus numbers without increasing congestion, or reducing safety for pedestrians, cyclists and turning traffic. - Retain current number of on-street parks if at all possible. 	
2	<p>Jacobs & WCC presented SIDRA analysis of Miramar av current scenario, with 10% growth then analysis of options A & B.</p> <ul style="list-style-type: none"> - See data attached to minutes for details - TW: Confirmed that there are significant cues in the weekend as highlighted in the SIDRA analysis. Cues extended out along Cobham drive. Questioned if there was any to avoid traffic lights being required at Miramar av / Tauhinu Road? - AL: Traffic lights or roundabout are your main option in this scenario. Roundabout is currently at or over capacity. - TW: What about a 1-way system using Tahi Street? 	

	<ul style="list-style-type: none"> - AL: 1-way system will not solve the problem of that intersection. Still the same number of cars etc. using this intersection. 	
3	<p>Isthmus presented plans of 2 further options (in addition to options A & B developed by Jacobs previously), named options C & D.</p> <ul style="list-style-type: none"> - Sketched cross-sections of all proposed options are attached to these minutes. - Both options C & D included off road cycleways (Option C included 1-lane cyclelanes on both sides of the road, Option D included a 2-way cycleway at kerb level on the northern side of Miramar av). Both options aimed to reduce speeds along Miramar av, and maximise the area dedicated to pedestrians etc. aiming to create a destination. - Isthmus suggested that in the longer term, a laneway could be created to run behind the businesses on the northern side of Miramar Av. This would reduce the reliance on entrances from Miramar Av, reducing conflict points and potentially creating a more welcome street front along this section. 	<p>JN and LR to sit down and agree scope and timing. LR to amend plans to include a 2-way cycleway on the northern side through the cutting for both options C & D.</p>
4	<p>Next Steps</p> <ul style="list-style-type: none"> - TH, TA, MA as Miramar BID representatives, suggested that options C & D were preferred. - JN instructed Isthmus to develop options C & D to concept level drawings to take back to the Miramar BID for agreement to go forward to public consultation. Timeframes were to be confirmed. - It was discussed that in the short-term, the section from Cobham Drive to Tauhinu Road should be concentrated on, utilising the current funding available. - Discussions were had about how the Miramar cutting could be developed as an entrance to Miramar. Isthmus requested that historical photos be sent to them. - Engagement process was discussed. Miramar BID to discuss possibility of Laneway behind business on the northern side of Miramar Av with businesses. - BA, LM & BP to develop story board of how we got to where we are now, highlighting the reasons why. - MA to talk to snap shot of businesses and residents to understand general feeling – to be undertaken once concept drawings are finalised. 	<ul style="list-style-type: none"> - WCC to create Story board and document the reasons Why and what options were not progressed. - JN/MA to book in time for next meeting once timeframe discussed with Isthmus. – now locked in for 28 June. - BID to discuss appetite for a laneway with businesses

Miramar Avenue BID Workshop 6 Minutes

Absolutely Positively
Wellington City Council
Me Heke Ki Pōneke

1. Existing Layout (As reported in the 5 August 2016 Issues Report)

*This model has gap acceptances that have been derived to correct the calibration of the model.



1.1.1 No Growth

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.270	23.8	C	8.6	0.104	34.6	C	3.4
Miramar Ave (east)	0.716	12.3	B	57.0	0.993	47.9	D	238.8
Tauhinu Rd	0.713	26.5	C	44.3	0.896	42.6	D	91.3
Miramar Ave (west)	0.442	5.3	A	27.4	0.454	5.3	A	28.8
Intersection Average		11.1	B			27.1	C	

1.1.2 10% added flow

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.365	31.9	C	12.4	0.112	34.2	C	3.6
Miramar Ave (east)	0.832	17.5	B	90.5	1.105	122.0	F	512.7
Tauhinu Rd	0.903	50.8	D	88.7	1.115	137.8	F	283.5
Miramar Ave (west)	0.502	4.7	A	33.5	0.498	4.6	A	33.1
Intersection Average		16.3	B			70.2	E	

2. Option A – Short Term

Note for this model, gap acceptance on the Portsmouth Rd arm has been improved from that used in Existing Layout model.



2.1.1 No Growth

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.078	10.6	B	4.3	0.029	16.4	B	1.7
Miramar Ave (east)	0.731	8.3	A	60.4	0.974	34.8	C	208.6
Tauhinu Rd	0.849	36.6	D	72.6	1.079	125.5	F	259.4
Miramar Ave (west)	0.442	1.8	A	27.5	0.452	1.8	A	28.8
Intersection Average		9.4	A			36.4	D	

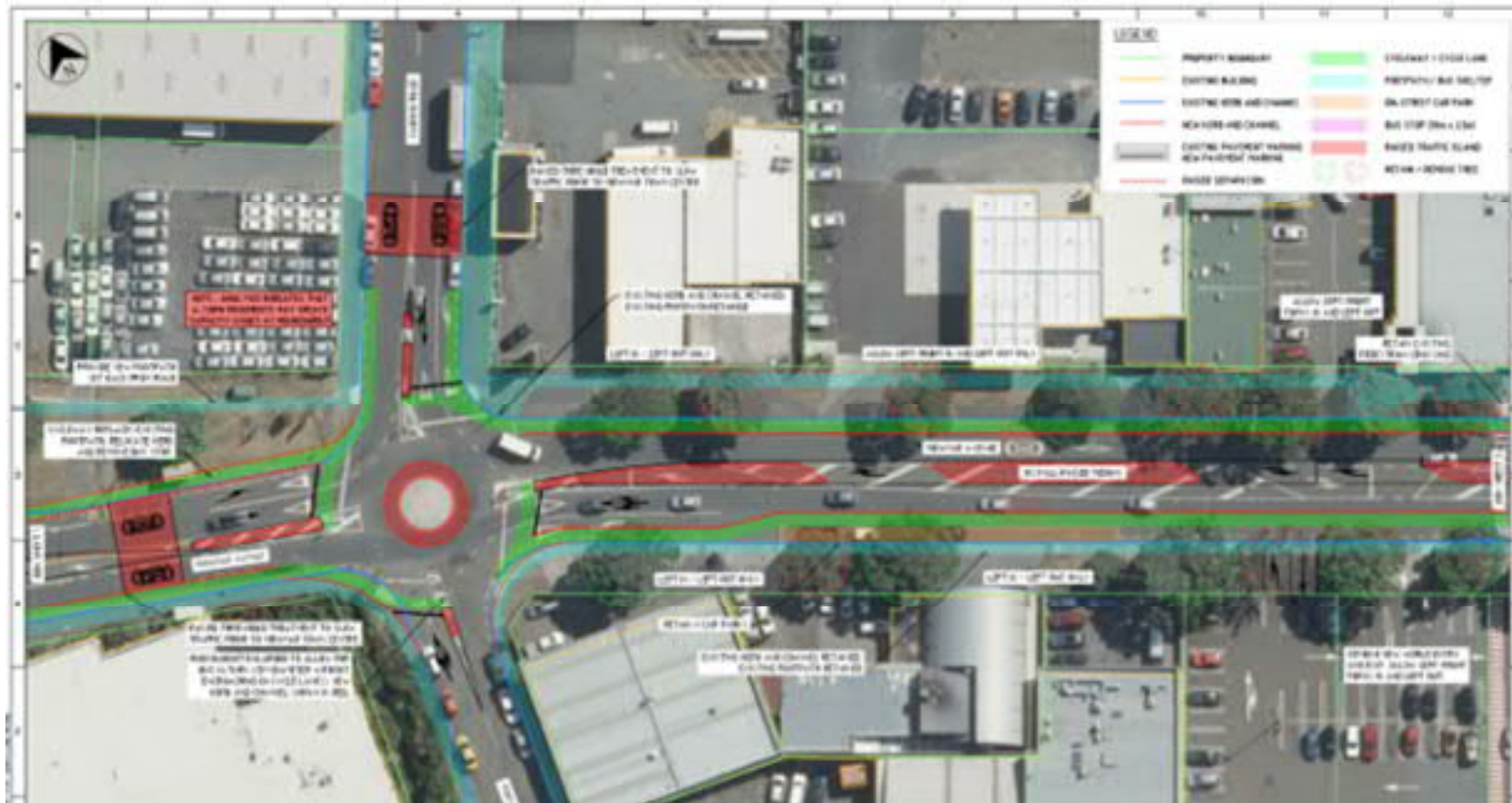
2.1.2 10% added flow

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.099	11.9	B	5.6	0.029	16.4	B	1.7
Miramar Ave (east)	0.824	12.2	B	87.6	0.974	34.8	C	208.6
Tauhinu Rd	1.074	131.0	F	226.8	1.079	125.5	F	259.4
Miramar Ave (west)	0.500	2.0	A	33.4	0.452	1.8	A	28.8
Intersection Average		25.6	C			36.4	D	

3. Option A – Long Term

Note for this model, gap acceptance on the Portsmouth Rd arm has been improved from that used in Existing Layout model.

This model allows for right turning traffic into **all** driveways, but most right turns out are not allowed.



3.1.1 No Growth

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.106	14.1	B	6.1	0.031	17.5	B	1.8
Miramar Ave (east)	0.888	16.2	B	123.7	1.031	61.4	E	341.0
Tauhinu Rd	1.151	196.6	F	283.5	1.266	280.9	F	477.1
Miramar Ave (west)	0.532	3.7	A	37.1	0.493	3.1	A	33.0
Intersection Average		35.6	D			74.0	E	

3.1.2 10% added flow

Modified Layout, plus 10% volumes (allowing right turning traffic into driveways, but not all allowed out)

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.128	15.0	B	7.4	0.034	17.1	B	2.0
Miramar Ave (east)	0.939	21.8	C	175.2	1.099	110.4	F	556.5
Tauhinu Rd	1.547	539.2	F	636.6	1.608	584.0	F	849.7
Miramar Ave (west)	0.608	4.4	A	49.0	0.545	3.2	A	38.3
Intersection Average		87.9	F			146.7	F	

4. Option B – Short Term



This is a conservative result as the phase for Portsmouth Rd has been run every cycle where in reality it would only be run every second or third cycle.

4.1.1 No Growth

With Portsmouth Rd every cycle

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.136	26.6	C	8.2	0.028	27.0	C	2.1
Miramar Ave (east)	0.469	9.1	A	53.7	0.613	10.6	B	101.0
Tauhinu Rd	0.839	33.3	C	62.1	0.843	35.0	C	89.1
Miramar Ave (west)	0.872	23.1	C	172.8	0.895	28.6	C	209.0
Intersection Average		20.7	C			23.6	C	

With no Portsmouth Rd phase

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Miramar Ave (east)	0.469	9.6	A	55.3	0.660	13.0	B	118.6
Tauhinu Rd	0.848	33.8	C	64.1	0.855	39.1	D	103.4
Miramar Ave (west)	0.900	26.7	C	189.5	0.854	25.5	C	206.1
Intersection Average		22.8	C			23.8	C	

4.1.2 10% added flow

With Portsmouth Rd every cycle

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.128	31.5	C	11.3	0.027	37.1	D	3.5
Miramar Ave (east)	0.518	11.7	B	78.4	0.701	16.1	B	175.3
Tauhinu Rd	0.878	43.5	D	93.3	0.879	51.3	D	152.8
Miramar Ave (west)	0.897	28.8	C	254.7	0.886	32.6	C	310.4
Intersection Average		26.2	C			30.5	C	

With no Portsmouth Rd phase

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Miramar Ave (east)	0.691	12.8	B	79.7	0.735	17.3	B	174.3
Tauhinu Rd	0.855	41.2	D	90.9	0.868	46.0	D	139.6
Miramar Ave (west)	0.871	25.0	C	32.7	0.893	32.6	C	297.4
Intersection Average		24.0	C			29.8	C	

5. Option B – Short Term (added left slip lane & cycle lanes on both sides of rd to west of intersection)

The slip lane means that the cycle lanes will need to be redesigned, therefore the Miramar Ave (east) right turn no longer needs the full protection that was required for the cyclists in Section 5. A basic 2-phase cycle has been used.

5.1.1 No Growth

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.125	15.0	B	4.2	0.031	18.7	B	1.3
Miramar Ave (east)	0.626	8.3	A	44.1	0.701	8.7	A	75.9
Tauhinu Rd	0.587	14.9	B	27.5	0.809	22.1	C	52.1
Miramar Ave (west)	0.870	12.6	B	99.2	0.816	10.4	B	98.3
Intersection Average		11.7	B			12.0	B	

5.1.2 10% added flow

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.156	19.7	B	6.2	0.032	21.2	C	1.7
Miramar Ave (east)	0.558	7.2	A	51.0	0.731	10.2	B	102.9
Tauhinu Rd	0.839	24.2	C	47.9	0.901	31.5	C	81.4
Miramar Ave (west)	0.873	13.3	B	128.5	0.892	17.4	B	160.9
Intersection Average		13.4	B			17.6	B	

6. Option B – Short Term (assumed no protection for cyclists)

Due to the level of improvement from the slip lane, the intersection has been modelled without the cyclist protection or the slip lane. A basic 2-phase cycle has been used.

6.1.1 No Growth

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.125	15.0	B	4.2	0.028	17.7	B	1.3
Miramar Ave (east)	0.626	8.3	A	44.1	0.735	10.4	B	83.3
Tauhinu Rd	0.587	14.9	B	27.5	0.726	19.4	B	47.8
Miramar Ave (west)	0.870	15.2	B	99.2	0.777	11.4	B	94.4
Intersection Average		13.1	B			12.6	B	

6.1.2 10% added flow

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.136	18.6	B	6.0	0.029	20.3	C	1.7
Miramar Ave (east)	0.583	8.2	A	54.2	0.758	12.0	B	111.7
Tauhinu Rd	0.736	20.7	C	43.1	0.831	25.8	C	71.4
Miramar Ave (west)	0.814	12.3	B	112.7	0.802	13.0	B	128.8
Intersection Average		12.5	B			15.1	B	

Miramar Avenue BID Workshop 7

Minutes

Meeting: Miramar Avenue Planning Workshop 7

Venue: Miramar Bowls Club, 75 Darlington Road **Date:** 28-June-17

Time: 18:30 – 20:30

Attendees: Thomas Wutzler, Mary Anderson, Tim Alexander (BID), Lisa Rimmer, Maria Bergvall (Isthmus), Jan Noering, Bernarr Alexander, Lyn Murphy, Bridget Parrott (WCC), Andrew Lawson (Jacobs)

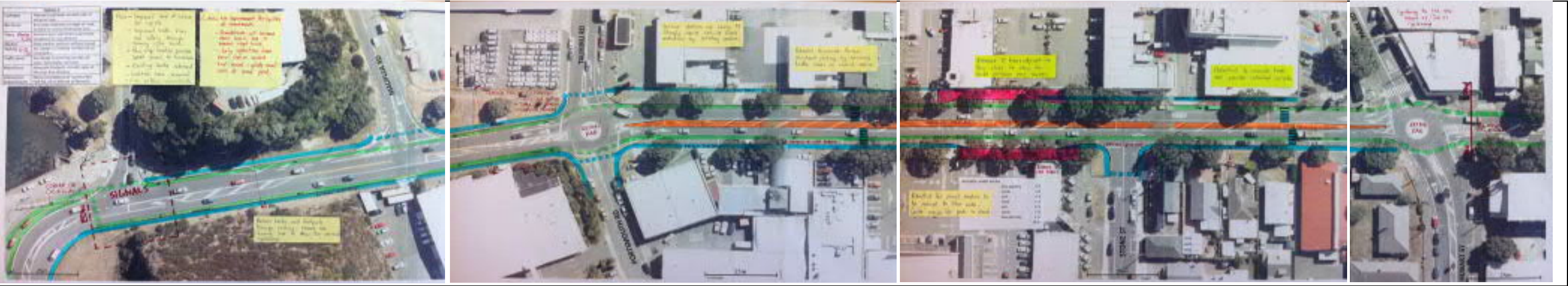
	Agenda Item	Actions
1	<p>Isthmus presented concept plans, cross sections and perspective views of options C & D.</p> <ul style="list-style-type: none"> - Isthmus presented the same options discussed at Workshop 6, however developed the options further and presented artist impressions of what it may look like going forward. - Parking removal was raised as a concern for both options. Parking loss has been mitigated through a reconfiguration of the parks outside the pharmacy on Stone Street. Additionally Palmers was open to the suggestion of providing parking for movie goers etc. after their own store is closed. - Isthmus again suggested that in the longer term, a laneway could be created to run behind the businesses on the northern side of Miramar Av. This would reduce the reliance on entrances from Miramar Av, reducing conflict points and potentially creating a more welcome street front along this section. It was agreed that this should be pursued by the businesses, and falls outside of the scope of the current project. 	<ul style="list-style-type: none"> - Options C and D to be taken forward to community consultation. - Phased approach accepted by those present. Meaning that Phase 1 will aim to utilise the current funding available to upgrade Miramar av from Shelly bay road to Tauhinu Road. A 2-way cycleway to link in with Cobham drive was considered the only option worthwhile putting forward. It was agreed that phase 1 option will go directly to traffic resolution. Bus stops and pedestrian crossing will still need to be upgrade on the rest of Miramar av as part of the Phase 1 works. - Phase 2 for options C and D, will continue to consult on 2 different options.
2	<p>Next Steps</p> <ul style="list-style-type: none"> - BA, LM & BP to develop story board of how we got to where we are now, highlighting the reasons why. - MA to talk to snap shot of businesses and residents to understand general feeling – to be undertaken once concept drawings are finalised. 	<ul style="list-style-type: none"> - WCC to create Story board and document the reasons Why and what options were not progressed. - TA to confirm with Weta plus property owner regarding the closure of 15 Miramar Av driveway. JN to confirm requirements from WCC to close driveway (<i>none, apart from agreement from owner</i>). - Phase 1 to be taken straight through a traffic resolution process.

Appendix B – Long List Option Plans

Option 1 - Two Way North Side Cycle Path



Option 2 - Protected Cycle Lanes Raised Median



Option 3 - Off Road Cycle Path



[illegible][illegible]

Option 7 - Cyclists on Tahi Street



Option 8 - Remove Through Cars



Option 9 - Remove Through Cars and Buses



Option 10 - One Way Cars (Westbound on Miramar Avenue)



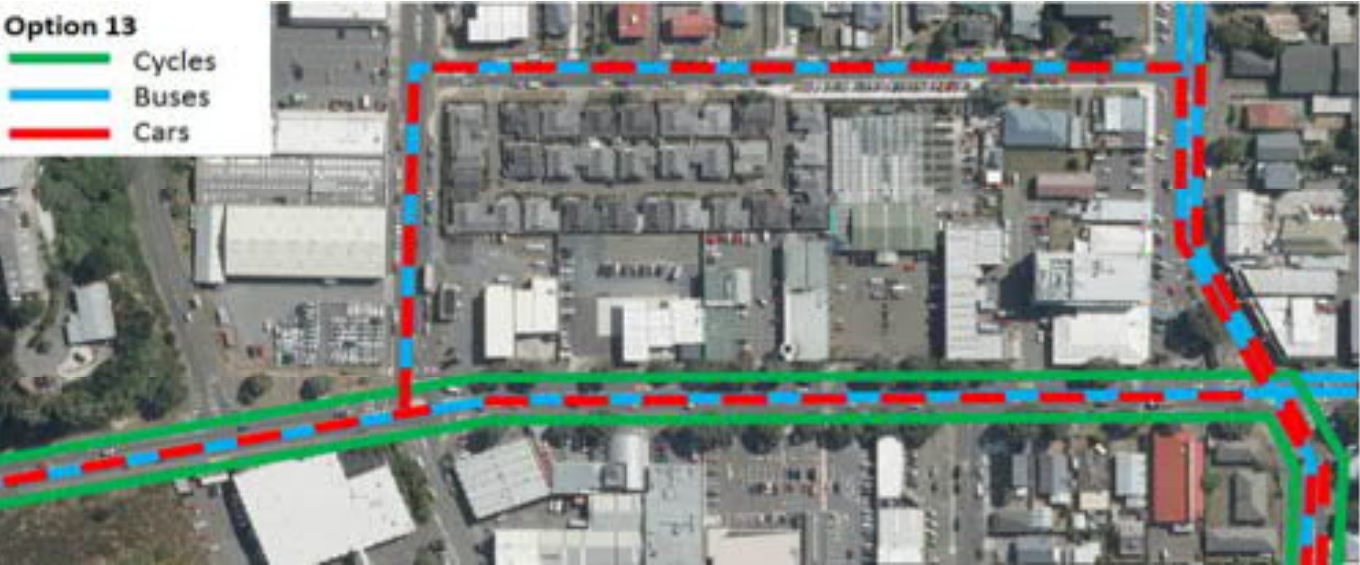
Option 11 - One Way Cars (Eastbound on Miramar Avenue)



Option 12 - One Way Cars / Cyclists (Westbound on Miramar Avenue)



Option 13 - One Way Cars / Buses (Westbound on Miramar Avenue)



Appendix C – Description of Option Effects and How They Meet Objectives

	Criteria	Consideration	Option 0 (DM)	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8	Option 9	Option 10	Option 11	Option 12	Option 13
Objectives	Community objectives	Create an attractive destination for people to visit		Limited space available to improve landscaping	Potential to add landscaping to the central median islands constructed to the east of Tauhinu Road	Limited space available to improve landscaping	Limited space available to improve landscaping	Limited space available to improve landscaping	Limited space available to improve landscaping	Details of this option have not been developed but removing cyclists from Miramar Avenue would not preclude other improvement works occurring.	Would possibly free up a small amount of road space in Miramar Avenue for landscaping	Would free up a large amount of existing road space in Miramar Avenue for landscaping	Would possibly free up a small amount of road space in Miramar Avenue for landscaping	Would possibly free up a small amount of road space in Miramar Avenue for landscaping	Would possibly free up a small amount of road space in Miramar Avenue for landscaping	Would free up some existing road space in Miramar Avenue for landscaping
		Reduce traffic congestion		Refer to WCC objectives for maintaining an acceptable level of service for general traffic movements												
		Slow traffic		Potential to provide traffic management to slow traffic.	Potential to provide traffic management to slow traffic.	Potential to provide traffic management to slow traffic.	Potential to provide traffic management to slow traffic.	Potential to provide traffic management to slow traffic.	Potential to provide traffic management to slow traffic.	Potential to provide traffic management to slow traffic.	Potential to provide traffic management to slow traffic.	Potential to provide traffic management to slow traffic.	Potential to provide traffic management to slow traffic.	Potential to provide traffic management to slow traffic.	Potential to provide traffic management to slow traffic.	Potential to provide traffic management to slow traffic.
		Improve resilience and future proof infrastructure above and below Miramar Avenue		No effect identified.												
		Create a safer environment for cars, pedestrians and cyclists		There are safety issues for cyclists as drivers turning into or out of driveways on the north side will not expect westbound cyclists.	There are safety issues for cyclists using the Tauhinu Road roundabout.	There are safety issues for cyclists as drivers turning into or out of driveways may not expect cyclists on the cycle paths. Vision of them would be blocked by trees.	There are safety issues for cyclists as drivers turning into or out of driveways may not expect cyclists on the cycle paths. Vision of them would be blocked by trees. This safety issue is of less concern for this option compared with other options, as right turns in and out of most properties is restricted.	There are safety issues for cyclists using the Tauhinu Road roundabout. If traffic signals are provided then it is expected that cycle safety will be improved.	There are potential safety issues at the Tauhinu Road roundabout from cyclists conflicting with traffic. In particular eastbound cyclists will enter the roundabout at an unsafe location and will probably not be seen by drivers on the Tauhinu Road approach.	Details of this option have not been developed but removing cyclists from Miramar Avenue would not preclude other improvement works occurring.	Details of this option have not been developed and so it is unclear it it would create a safer environment.	Details of this option have not been developed and so it is unclear it it would create a safer environment.	Details of this option have not been developed and so it is unclear it it would create a safer environment.	Details of this option have not been developed and so it is unclear it it would create a safer environment.	Details of this option have not been developed and so it is unclear it it would create a safer environment.	Details of this option have not been developed and so it is unclear it it would create a safer environment. Potentially there could be a safety issue from contraflow eastbound cyclist movement not being expected by some drivers who were turning into or out of developments.
						There are potential safety issues at the Tauhinu Road roundabout from cyclists conflicting with traffic.	There are potential safety issues at the Tauhinu Road roundabout from cyclists conflicting with traffic.									
		Cater for the increase in bus numbers without increasing congestion, or reducing safety for pedestrians, cyclists and turning traffic		The design provides for an increase in bus numbers	Buses are likely to be disrupted with general congestion at the Tauhinu Road roundabout.	The design provides for an increase in bus numbers	The design provides for an increase in bus numbers	The design provides for an increase in bus numbers	The design provides for an increase in bus numbers	The design provides for an increase in bus numbers		The design provides for an increase in bus numbers	The design provides for an increase in bus numbers	The design provides for an increase in bus numbers	The design provides for an increase in bus numbers	The design provides for an increase in bus numbers
	Retain current number of on-street parks		Refer to WCC objectives for parking													

[illegible]

Appendix D – Traffic Modelling Memorandum

1. SIDRA Modelling Outcomes

1.1 Existing Layout (As reported in the 5 August 2016 Issues Report)

*This model has gap acceptances that have been derived to correct the calibration of the model.



1.1.1 No Growth

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.270	23.8	C	8.6	0.104	34.6	C	3.4
Miramar Ave (east)	0.716	12.3	B	57.0	0.993	47.9	D	238.8
Tauhinu Rd	0.713	26.5	C	44.3	0.896	42.6	D	91.3
Miramar Ave (west)	0.442	5.3	A	27.4	0.454	5.3	A	28.8
Intersection Average		11.1	B			27.1	C	

1.1.2 10% added flow

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.365	31.9	C	12.4	0.112	34.2	C	3.6
Miramar Ave (east)	0.832	17.5	B	90.5	1.105	122.0	F	512.7

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Tauhinu Rd	0.903	50.8	D	88.7	1.115	137.8	F	283.5
Miramar Ave (west)	0.502	4.7	A	33.5	0.498	4.6	A	33.1
Intersection Average		16.3	B			70.2	E	

1.2 Option A – Short Term



Note for this model, gap acceptance on the Portsmouth Rd arm has been improved from that used in Existing Layout model.

1.2.1 No Growth

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.078	10.6	B	4.3	0.029	16.4	B	1.7
Miramar Ave (east)	0.731	8.3	A	60.4	0.974	34.8	C	208.6
Tauhinu Rd	0.849	36.6	D	72.6	1.079	125.5	F	259.4
Miramar Ave (west)	0.442	1.8	A	27.5	0.452	1.8	A	28.8
Intersection Average		9.4	A			36.4	D	

1.2.2 10% added flow

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.099	11.9	B	5.6	0.029	16.4	B	1.7
Miramar Ave (east)	0.824	12.2	B	87.6	0.974	34.8	C	208.6
Tauhinu Rd	1.074	131.0	F	226.8	1.079	125.5	F	259.4
Miramar Ave (west)	0.500	2.0	A	33.4	0.452	1.8	A	28.8
Intersection Average		25.6	C			36.4	D	

1.3 Option A – Long Term

Note for this model, gap acceptance on the Portsmouth Rd arm has been improved from that used in Existing Layout model. This model allows for right turning traffic into **all** driveways, but most right turns out are not allowed.



1.3.1 No Growth

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.106	14.1	B	6.1	0.031	17.5	B	1.8
Miramar Ave (east)	0.888	16.2	B	123.7	1.031	61.4	E	341.0
Tauhinu Rd	1.151	196.6	F	283.5	1.266	280.9	F	477.1

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Miramar Ave (west)	0.532	3.7	A	37.1	0.493	3.1	A	33.0
Intersection Average		35.6	D			74.0	E	

1.3.2 10% added flow

Modified Layout, plus 10% volumes (allowing right turning traffic into driveways, but not all allowed out)

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.128	15.0	B	7.4	0.034	17.1	B	2.0
Miramar Ave (east)	0.939	21.8	C	175.2	1.099	110.4	F	556.5
Tauhinu Rd	1.547	539.2	F	636.6	1.608	584.0	F	849.7
Miramar Ave (west)	0.608	4.4	A	49.0	0.545	3.2	A	38.3
Intersection Average		87.9	F			146.7	F	

1.4 Option B – Short Term



This is a conservative result as the phase for Portsmouth Rd has been run every cycle where in reality it would only be run every second or third cycle.

1.4.1 No Growth

With Portsmouth Rd every cycle

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.136	26.6	C	8.2	0.028	27.0	C	2.1
Miramar Ave (east)	0.469	9.1	A	53.7	0.613	10.6	B	101.0
Tauhinu Rd	0.839	33.3	C	62.1	0.843	35.0	C	89.1
Miramar Ave (west)	0.872	23.1	C	172.8	0.895	28.6	C	209.0
Intersection Average		20.7	C			23.6	C	

With no Portsmouth Rd phase

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Miramar Ave (east)	0.469	9.6	A	55.3	0.660	13.0	B	118.6
Tauhinu Rd	0.848	33.8	C	64.1	0.855	39.1	D	103.4
Miramar Ave (west)	0.900	26.7	C	189.5	0.854	25.5	C	206.1
Intersection Average		22.8	C			23.8	C	

1.4.2 10% added flow

With Portsmouth Rd every cycle

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.128	31.5	C	11.3	0.027	37.1	D	3.5
Miramar Ave (east)	0.518	11.7	B	78.4	0.701	16.1	B	175.3
Tauhinu Rd	0.878	43.5	D	93.3	0.879	51.3	D	152.8
Miramar Ave (west)	0.897	28.8	C	254.7	0.886	32.6	C	310.4
Intersection Average		26.2	C			30.5	C	

With no Portsmouth Rd phase

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Miramar Ave (east)	0.691	12.8	B	79.7	0.735	17.3	B	174.3
Tauhinu Rd	0.855	41.2	D	90.9	0.868	46.0	D	139.6
Miramar Ave (west)	0.871	25.0	C	32.7	0.893	32.6	C	297.4
Intersection Average		24.0	C			29.8	C	

1.5 Option B – Short Term (with added left slip lane and cycle lanes on both sides of the road to the west of the intersection)

The slip lane means that the cycle lanes will need to be redesigned, therefore the Miramar Ave (east) right turn no longer needs the full protection that was required for the cyclists in Section 1.4. A basic 2-phase cycle has been used.

1.5.1 No Growth

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.125	15.0	B	4.2	0.031	18.7	B	1.3
Miramar Ave (east)	0.626	8.3	A	44.1	0.701	8.7	A	75.9
Tauhinu Rd	0.587	14.9	B	27.5	0.809	22.1	C	52.1
Miramar Ave (west)	0.870	12.6	B	99.2	0.816	10.4	B	98.3
Intersection Average		11.7	B			12.0	B	

1.5.2 10% added flow

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.156	19.7	B	6.2	0.032	21.2	C	1.7
Miramar Ave (east)	0.558	7.2	A	51.0	0.731	10.2	B	102.9
Tauhinu Rd	0.839	24.2	C	47.9	0.901	31.5	C	81.4
Miramar Ave (west)	0.873	13.3	B	128.5	0.892	17.4	B	160.9
Intersection Average		13.4	B			17.6	B	

1.6 Option B – Short Term (assumed no protection for cyclists)

Due to the level of improvement from the slip lane, the intersection has been modelled without the cyclist protection or the slip lane. A basic 2-phase cycle has been used.

1.6.1 No Growth

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.125	15.0	B	4.2	0.028	17.7	B	1.3
Miramar Ave (east)	0.626	8.3	A	44.1	0.735	10.4	B	83.3
Tauhinu Rd	0.587	14.9	B	27.5	0.726	19.4	B	47.8
Miramar Ave (west)	0.870	15.2	B	99.2	0.777	11.4	B	94.4
Intersection Average		13.1	B			12.6	B	














1.6.2 10% added flow

Approach	PM				WE			
	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)	Degree of Saturation (v/c)	Average Delay (sec)	Level of Service	95% Back of Queue (m)
Portsmouth Rd	0.136	18.6	B	6.0	0.029	20.3	C	1.7
Miramar Ave (east)	0.583	8.2	A	54.2	0.758	12.0	B	111.7
Tauhinu Rd	0.736	20.7	C	43.1	0.831	25.8	C	71.4
Miramar Ave (west)	0.814	12.3	B	112.7	0.802	13.0	B	128.8
Intersection Average		12.5	B			15.1	B	

Appendix E – Jacobs Option Plans for Options A and B

Option A - Protected On Road Cycle Lanes - Long Term

OPTION A: PROTECTED ON ROAD CYCLE LANES (LONG TERM)

	PROPERTY BOUNDARY		CYCLEWAY / CYCLE LANE
	EXISTING BUILDING		FOOTPATH / BUS SHELTER
	EXISTING KERB AND CHANNEL		ON-STREET CAR PARK
	NEW KERB AND CHANNEL		BUS STOP (30m x 2.5m)
	EXISTING PAVEMENT MARKING		RAISED TRAFFIC ISLAND
	NEW PAVEMENT MARKING		THRESHOLD TREATMENT
	RAISED SEPARATION		

SHELLY BAY ROAD

MAUPUJI ROAD

REMOVE TRAFFIC ISLANDS
AND RELOCATE LIMIT LINE

REMOVE TURNING BAY AND TIGHTEN KERB
RADIUS. CYCLISTS HAVE RIGHT OF WAY

RETAIN KERB AND FOOTPATH ON NORTH
SIDE OF MIRAMAR AVE. PROVIDE
KERBSIDE CYCLEWAY AT ROAD LEVEL

TIE INTO COBHAM DRIVE PROJECT.
PROVIDE SMOOTH TRANSITION TO
ROAD LEVEL FOR CYCLISTS.
PROVIDE SIGNALISED CROSSING
FOR PEDESTRIANS & CYCLISTS

NEW RAISED THRESHOLD
TREATMENT TO SLOW TRAFFIC
ENTERING MIRAMAR AVENUE

RETAIN KERB AND FOOTPATH ON
SOUTH SIDE OF MIRAMAR AVE

SIGNALISE INTERSECTION TO BE DESIGNED





ANALYSIS INDICATES THAT U-TURN MOVEMENTS ARE LIKELY TO CREATE CAPACITY ISSUES AT ROUNDABOUT

PROVIDE NEW FOOTPATH SET BACK FROM ROAD

CYCLEWAY REPLACES EXISTING FOOTPATH. RELOCATE KERB AND INDENT SINGLE BUS STOP.

NEW RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC ENTERING MIRAMAR AVENUE

ROUNDABOUT ENLARGED TO ALLOW FOR BUS U-TURN (25M DIAMETER WITHOUT ENCROACHING ON CYCLE LANES). NEW KERB AND CHANNEL SHOWN IN RED.

TAUHINU ROAD

RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO MIRAMAR TOWN CENTRE

Z ENERGY SERVICE STATION

NEW WORLD SERVICE STATION

EXISTING KERB AND CHANNEL RETAINED. EXISTING FOOTPATH RETAINED

LEFT IN / LEFT OUT ONLY

ALLOW LEFT/RIGHT TURNS IN AND LEFT OUT

RETAIN EXISTING PEDESTRIAN CROSSING

MIRAMAR AVENUE

INSTALL RAISED MEDIAN

MIRAMAR AVENUE

LEFT IN / LEFT OUT ONLY

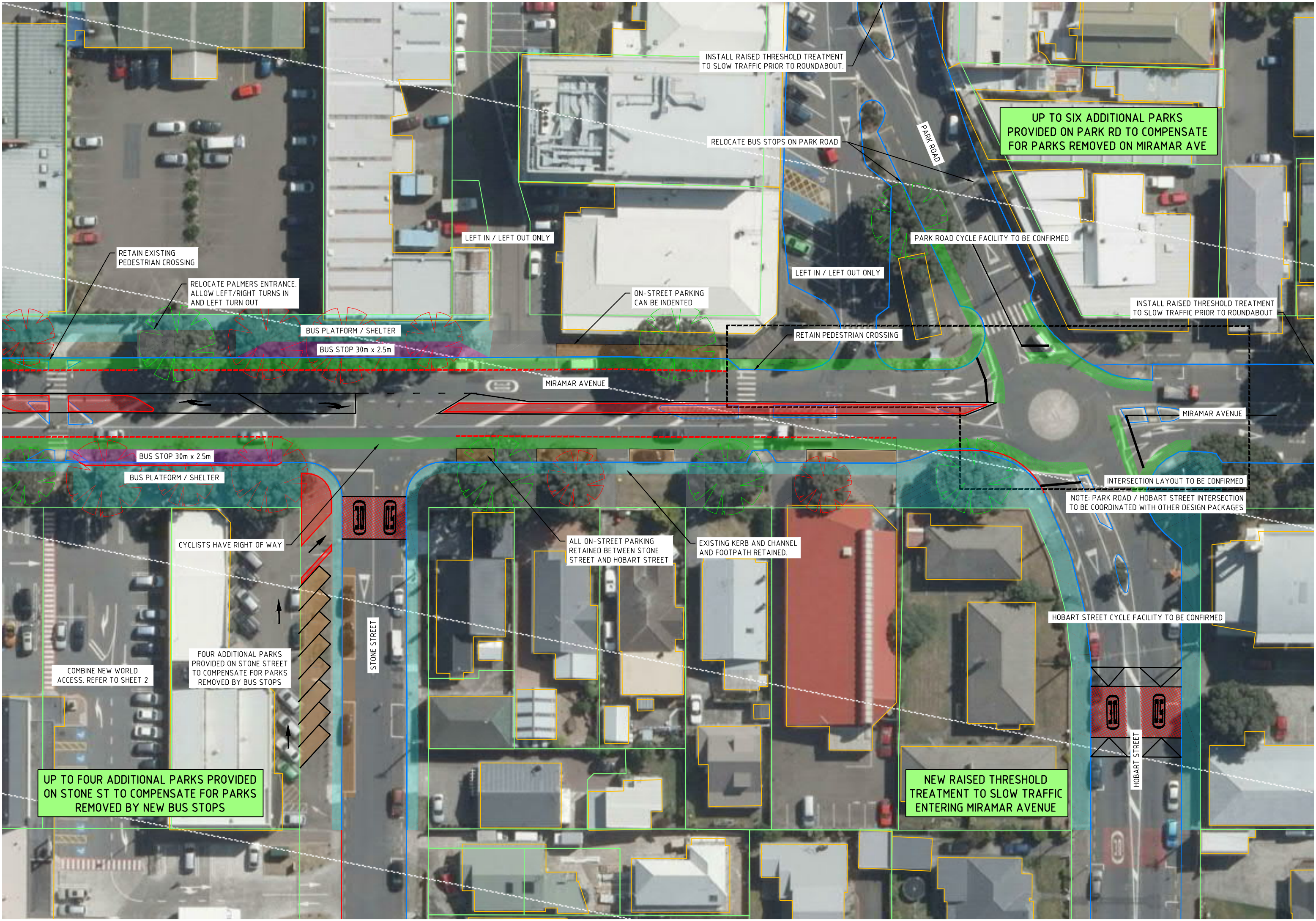
LEFT IN / LEFT OUT ONLY

RETAIN 8 CAR PARKS

EXISTING KERB AND CHANNEL RETAINED. EXISTING FOOTPATH RETAINED

COMBINE NEW WORLD ENTRY AND EXIT. ALLOW LEFT/RIGHT TURNS IN AND LEFT OUT.

PORTSMOUTH ROAD



INSTALL RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO ROUNDABOUT.

RELOCATE BUS STOPS ON PARK ROAD

UP TO SIX ADDITIONAL PARKS PROVIDED ON PARK RD TO COMPENSATE FOR PARKS REMOVED ON MIRAMAR AVE

RETAIN EXISTING PEDESTRIAN CROSSING

RELOCATE PALMERS ENTRANCE. ALLOW LEFT/RIGHT TURNS IN AND LEFT TURN OUT

LEFT IN / LEFT OUT ONLY

PARK ROAD CYCLE FACILITY TO BE CONFIRMED

LEFT IN / LEFT OUT ONLY

ON-STREET PARKING CAN BE INDENTED

INSTALL RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO ROUNDABOUT.

BUS PLATFORM / SHELTER

BUS STOP 30m x 2.5m

RETAIN PEDESTRIAN CROSSING

MIRAMAR AVENUE

MIRAMAR AVENUE

BUS STOP 30m x 2.5m

BUS PLATFORM / SHELTER

INTERSECTION LAYOUT TO BE CONFIRMED

NOTE: PARK ROAD / HOBART STREET INTERSECTION TO BE COORDINATED WITH OTHER DESIGN PACKAGES

CYCLISTS HAVE RIGHT OF WAY

ALL ON-STREET PARKING RETAINED BETWEEN STONE STREET AND HOBART STREET

EXISTING KERB AND CHANNEL AND FOOTPATH RETAINED.

HOBART STREET CYCLE FACILITY TO BE CONFIRMED

COMBINE NEW WORLD ACCESS. REFER TO SHEET 2














FOUR ADDITIONAL PARKS PROVIDED ON STONE STREET TO COMPENSATE FOR PARKS REMOVED BY BUS STOPS

UP TO FOUR ADDITIONAL PARKS PROVIDED ON STONE ST TO COMPENSATE FOR PARKS REMOVED BY NEW BUS STOPS

NEW RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC ENTERING MIRAMAR AVENUE

HOBART STREET

OPTION A: PROTECTED ON ROAD CYCLE LANES (SHORT TERM)

	PROPERTY BOUNDARY		CYCLEWAY / CYCLE LANE
	EXISTING BUILDING		FOOTPATH / BUS SHELTER
	EXISTING KERB AND CHANNEL		ON-STREET CAR PARK
	NEW KERB AND CHANNEL		BUS STOP (30m x 2.5m)
	EXISTING PAVEMENT MARKING		RAISED TRAFFIC ISLAND
	NEW PAVEMENT MARKING		THRESHOLD TREATMENT
	RAISED SEPARATION		

SHELLY BAY ROAD

RETAIN KERB AND FOOTPATH ON NORTH SIDE OF MIRAMAR AVE. INSTALL KERBSIDE CYCLEWAY AT ROAD LEVEL

TIE INTO COBHAM DRIVE PROJECT. PROVIDE SMOOTH TRANSITION TO ROAD LEVEL FOR CYCLISTS. PROVIDE SIGNALISED CROSSING FOR PEDESTRIANS & CYCLISTS

SIGNALISE INTERSECTION TO BE DESIGNED

RETAIN KERB AND FOOTPATH ON SOUTH SIDE OF MIRAMAR AVE

REMOVE TRAFFIC ISLANDS AND RELOCATE LIMIT LINE

REMOVE TURNING BAY AND TIGHTEN KERB RADIUS. CYCLISTS HAVE RIGHT OF WAY

NEW RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC ENTERING MIRAMAR AVENUE





ANALYSIS INDICATES THAT U-TURN MOVEMENTS ARE LIKELY TO CREATE CAPACITY ISSUES AT ROUNDABOUT

PROVIDE NEW FOOTPATH SET BACK FROM ROAD

CYCLEWAY REPLACES EXISTING FOOTPATH. RELOCATE KERB AND INDENT SINGLE BUS STOP.

NEW RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC ENTERING MIRAMAR AVENUE

ROUNDABOUT ENLARGED TO ALLOW FOR BUS U-TURN (25M DIAMETER WITHOUT ENCROACHING ON CYCLE LANES). NEW KERB AND CHANNEL SHOWN IN RED.

RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO MIRAMAR TOWN CENTRE

Z ENERGY SERVICE STATION

NEW WORLD SERVICE STATION

EXISTING KERB AND CHANNEL RETAINED. EXISTING FOOTPATH RETAINED

INSTALL 'SHARROWS' IN CENTRE OF TRAFFIC LANE BETWEEN TAUHINU ROAD AND PARK ROAD

RETAIN EXISTING PEDESTRIAN CROSSING

MIRAMAR AVENUE

RETAIN 8 CAR PARKS

EXISTING KERB AND CHANNEL RETAINED. EXISTING FOOTPATH RETAINED

RETAIN NEW WORLD ACCESS

PORTSMOUTH ROAD



INSTALL RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO ROUNDABOUT.

RELOCATE BUS STOPS ON PARK ROAD

UP TO SIX ADDITIONAL PARKS PROVIDED ON PARK RD TO COMPENSATE FOR PARKS REMOVED ON MIRAMAR AVE

PARK ROAD

PARK ROAD CYCLE FACILITY TO BE CONFIRMED

INSTALL RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO ROUNDABOUT.

RELOCATE PALMERS ENTRANCE. ALLOW LEFT/RIGHT TURNS IN AND LEFT TURN OUT

INSTALL 'SHARROWS' IN CENTRE OF TRAFFIC LANE BETWEEN TAUHINU ROAD AND PARK ROAD

RETAIN EXISTING PEDESTRIAN CROSSING

BUS PLATFORM / SHELTER

BUS STOP 30m x 2.5m

LEFT IN / LEFT OUT ONLY

RETAIN ON-STREET PARKING

LEFT IN / LEFT OUT ONLY

RETAIN PEDESTRIAN CROSSING

MIRAMAR AVENUE

MIRAMAR AVENUE

BUS STOP 30m x 2.5m

BUS PLATFORM / SHELTER

INTERSECTION LAYOUT TO BE CONFIRMED

NOTE: PARK ROAD / HOBART STREET INTERSECTION TO BE COORDINATED WITH OTHER DESIGN PACKAGES

CYCLISTS HAVE RIGHT OF WAY

RETAIN NEW WORLD ACCESS

FOUR ADDITIONAL PARKS PROVIDED ON STONE STREET TO COMPENSATE FOR PARKS REMOVED BY BUS STOPS

STONE STREET

ALL ON-STREET PARKING RETAINED BETWEEN STONE STREET AND HOBART STREET

EXISTING KERB AND CHANNEL AND FOOTPATH RETAINED.

HOBART STREET CYCLE FACILITY TO BE CONFIRMED













HOBART STREET

UP TO FOUR ADDITIONAL PARKS PROVIDED ON STONE ST TO COMPENSATE FOR PARKS REMOVED BY NEW BUS STOPS

NEW RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC ENTERING MIRAMAR AVENUE

Option B - Off Road Cycleway - Long Term

OPTION B: OFF-ROAD CYCLEWAY (LONG TERM)

	PROPERTY BOUNDARY		CYCLEWAY / CYCLE LANE
	EXISTING BUILDING		FOOTPATH / BUS SHELTER
	EXISTING KERB AND CHANNEL		ON-STREET CAR PARK
	NEW KERB AND CHANNEL		BUS STOP (30m x 2.5m)
	EXISTING PAVEMENT MARKING NEW PAVEMENT MARKING		RAISED TRAFFIC ISLAND
	RAISED SEPARATION		THRESHOLD TREATMENT

SHELLY BAY ROAD

MAUPUIA ROAD

POTENTIAL SAFETY ISSUE WITH
VEHICLES NOT EXPECTING TWO
WAY CYCLISTS TO BE RESOLVED

REMOVE LEFT TURN BAY.
CYCLISTS HAVE RIGHT OF
WAY OVER MAUPUIA ROAD

RELOCATE KERB ON NORTH SIDE OF MIRAMAR
AVE. PROVIDE 1.8m WIDE FOOTPATH AND 3.6m
WIDE CYCLE FACILITY AT FOOTPATH LEVEL

TIE INTO COBHAM DRIVE PROJECT.
PROVIDE SMOOTH TRANSITION TO
ROAD LEVEL FOR CYCLISTS.
PROVIDE SIGNALISED CROSSING
FOR PEDESTRIANS & CYCLISTS

NEW RAISED THRESHOLD
TREATMENT TO SLOW TRAFFIC
ENTERING MIRAMAR AVENUE

RETAIN KERB AND FOOTPATH ON
SOUTH SIDE OF MIRAMAR AVE

SIGNALISE INTERSECTION TO BE DESIGNED





TAUHINU ROAD

RETAIN ENTRY AND EXIT FOR BOTH SERVICE STATIONS

INSTALL THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO MIRAMAR TOWN CENTRE

Z ENERGY SERVICE STATION

NEW WORLD SERVICE STATION

RETAIN EXISTING KERB. KERBSIDE FOOTPATH BECOMES CYCLEWAY.

RETAIN PEDESTRIAN CROSSING

RETAIN KERB AND CHANNEL

3.6m WIDE CYCLEWAY AT FOOTPATH LEVEL. RETAIN BUS STOP

SIGNALISE INTERSECTION

MIRAMAR AVENUE

MIRAMAR AVENUE

NEW RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC ENTERING MIRAMAR AVENUE

RETAIN 8 CAR PARKS

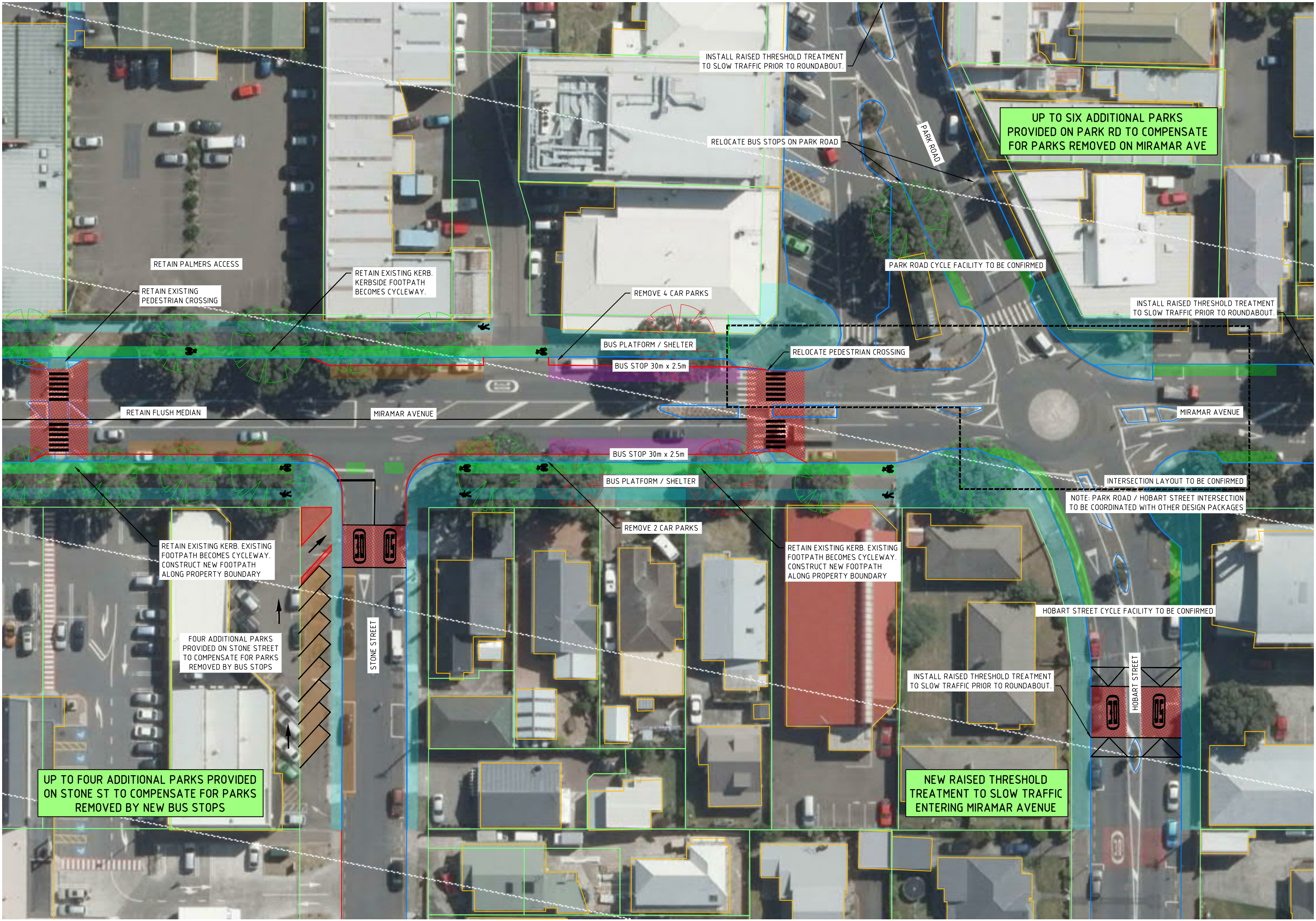
SHARED SPACE

INCLUDE SIGNALISED CROSSING ON ALL FOUR APPROACHES.

RETAIN EXISTING KERB. EXISTING FOOTPATH BECOMES CYCLEWAY. CONSTRUCT NEW FOOTPATH ALONG PROPERTY BOUNDARY

RETAIN NEW WORLD ACCESS

PORTSMOUTH ROAD



INSTALL RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO ROUNDABOUT.

RELOCATE BUS STOPS ON PARK ROAD

UP TO SIX ADDITIONAL PARKS PROVIDED ON PARK RD TO COMPENSATE FOR PARKS REMOVED ON MIRAMAR AVE

PARK ROAD

PARK ROAD CYCLE FACILITY TO BE CONFIRMED

INSTALL RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO ROUNDABOUT.

RETAIN PALMERS ACCESS

RETAIN EXISTING PEDESTRIAN CROSSING

RETAIN EXISTING KERB. KERBSIDE FOOTPATH BECOMES CYCLEWAY.

REMOVE 4 CAR PARKS

BUS PLATFORM / SHELTER

BUS STOP 30m x 2.5m

RELOCATE PEDESTRIAN CROSSING

RETAIN FLUSH MEDIAN

MIRAMAR AVENUE

MIRAMAR AVENUE

BUS STOP 30m x 2.5m

BUS PLATFORM / SHELTER

INTERSECTION LAYOUT TO BE CONFIRMED

NOTE: PARK ROAD / HOBART STREET INTERSECTION TO BE COORDINATED WITH OTHER DESIGN PACKAGES

REMOVE 2 CAR PARKS

RETAIN EXISTING KERB. EXISTING FOOTPATH BECOMES CYCLEWAY. CONSTRUCT NEW FOOTPATH ALONG PROPERTY BOUNDARY

RETAIN EXISTING KERB. EXISTING FOOTPATH BECOMES CYCLEWAY. CONSTRUCT NEW FOOTPATH ALONG PROPERTY BOUNDARY

HOBART STREET CYCLE FACILITY TO BE CONFIRMED

FOUR ADDITIONAL PARKS PROVIDED ON STONE STREET TO COMPENSATE FOR PARKS REMOVED BY BUS STOPS

STONE STREET












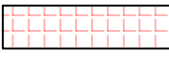
INSTALL RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO ROUNDABOUT.

HOBART STREET

UP TO FOUR ADDITIONAL PARKS PROVIDED ON STONE ST TO COMPENSATE FOR PARKS REMOVED BY NEW BUS STOPS

NEW RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC ENTERING MIRAMAR AVENUE

OPTION B: OFF-ROAD CYCLEWAY (SHORT TERM)

	PROPERTY BOUNDARY		CYCLEWAY / CYCLE LANE
	EXISTING BUILDING		FOOTPATH / BUS SHELTER
	EXISTING KERB AND CHANNEL		ON-STREET CAR PARK
	NEW KERB AND CHANNEL		BUS STOP (30m x 2.5m)
	EXISTING PAVEMENT MARKING NEW PAVEMENT MARKING		RAISED TRAFFIC ISLAND
	RAISED SEPARATION		THRESHOLD TREATMENT

SHELLY BAY ROAD

MAUPUIA ROAD

POTENTIAL SAFETY ISSUE WITH
VEHICLES NOT EXPECTING TWO
WAY CYCLISTS TO BE RESOLVED

REMOVE LEFT TURN BAY.
CYCLISTS HAVE RIGHT OF
WAY OVER MAUPUIA ROAD

RELOCATE KERB ON NORTH SIDE OF MIRAMAR
AVE. PROVIDE 1.8m WIDE FOOTPATH AND
3.6m WIDE CYCLE FACILITY AT ROAD LEVEL

TIE INTO COBHAM DRIVE PROJECT.
PROVIDE SMOOTH TRANSITION TO
ROAD LEVEL FOR CYCLISTS.
PROVIDE SIGNALISED CROSSING
FOR PEDESTRIANS & CYCLISTS

NEW RAISED THRESHOLD
TREATMENT TO SLOW TRAFFIC
ENTERING MIRAMAR AVENUE

RETAIN KERB AND FOOTPATH ON
SOUTH SIDE OF MIRAMAR AVE

SIGNALISE INTERSECTION TO BE DESIGNED





TAUHINU ROAD

RETAIN ENTRY AND EXIT FOR BOTH SERVICE STATIONS

INSTALL THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO MIRAMAR TOWN CENTRE

Z ENERGY SERVICE STATION

NEW WORLD SERVICE STATION

INSTALL 'SHARROWS' IN CENTRE OF TRAFFIC LANE BETWEEN TAUHINU ROAD AND PARK ROAD

RETAIN EXISTING KERB AND FOOTPATHS

RETAIN PEDESTRIAN CROSSING

RELOCATE KERB AND CHANNEL

3.6m WIDE CYCLEWAY AT FOOTPATH LEVEL. RETAIN BUS STOP

SIGNALISE INTERSECTION

MIRAMAR AVENUE

MIRAMAR AVENUE

RETAIN 8 CAR PARKS

NEW RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC ENTERING MIRAMAR AVENUE

RETAIN NEW WORLD ACCESS

PORTSMOUTH ROAD



INSTALL RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO ROUNDABOUT.

RELOCATE BUS STOPS ON PARK ROAD

UP TO SIX ADDITIONAL PARKS PROVIDED ON PARK RD TO COMPENSATE FOR PARKS REMOVED ON MIRAMAR AVE

PARK ROAD CYCLE FACILITY TO BE CONFIRMED

INSTALL RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO ROUNDABOUT.

RETAIN PALMERS ACCESS

EXISTING KERB AND FOOTPATHS RETAINED

REMOVE 4 CAR PARKS

BUS PLATFORM / SHELTER

BUS STOP 30m x 2.5m

RELOCATE PEDESTRIAN CROSSING

RETAIN FLUSH MEDIAN

MIRAMAR AVENUE

MIRAMAR AVENUE

BUS STOP 30m x 2.5m

BUS PLATFORM / SHELTER

INTERSECTION LAYOUT TO BE CONFIRMED

NOTE: PARK ROAD / HOBART STREET INTERSECTION TO BE COORDINATED WITH OTHER DESIGN PACKAGES

INSTALL 'SHARROWS' IN CENTRE OF TRAFFIC LANE BETWEEN TAUHINU ROAD AND PARK ROAD

RETAIN EXISTING PEDESTRIAN CROSSING

REMOVE 2 CAR PARKS

EXISTING KERB AND FOOTPATH RETAINED

HOBART STREET CYCLE FACILITY TO BE CONFIRMED

FOUR ADDITIONAL PARKS PROVIDED ON STONE STREET TO COMPENSATE FOR PARKS REMOVED BY BUS STOPS

STONE STREET

INSTALL RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC PRIOR TO ROUNDABOUT.













HOBART STREET

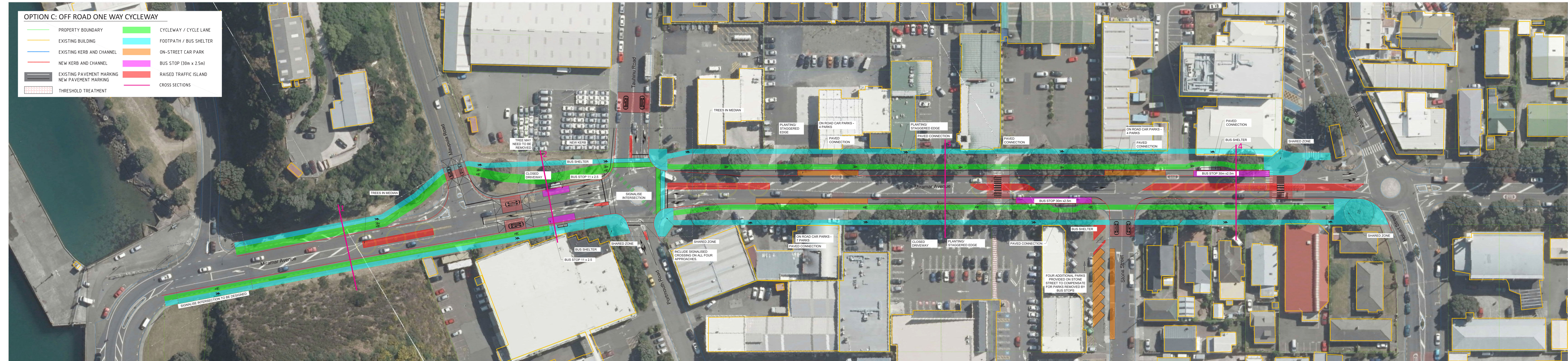
UP TO FOUR ADDITIONAL PARKS PROVIDED ON STONE ST TO COMPENSATE FOR PARKS REMOVED BY NEW BUS STOPS

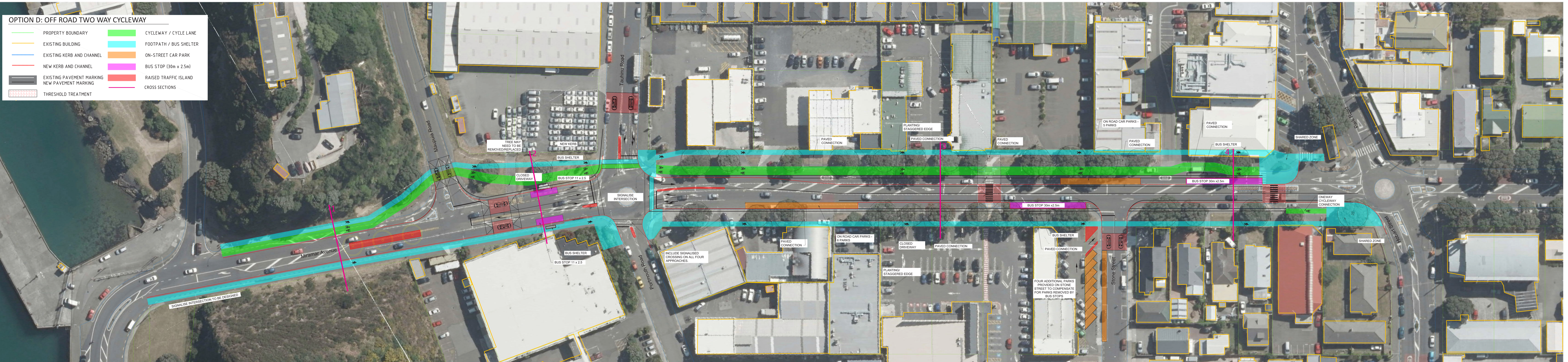
NEW RAISED THRESHOLD TREATMENT TO SLOW TRAFFIC ENTERING MIRAMAR AVENUE

Appendix F – Isthmus Option Plans For Options C and D

OPTION C: OFF ROAD ONE WAY CYCLEWAY

- | | | | |
|--|---------------------------|---|------------------------|
|  | PROPERTY BOUNDARY |  | CYCLEWAY / CYCLE LANE |
|  | EXISTING BUILDING |  | FOOTPATH / BUS SHELTER |
|  | EXISTING KERB AND CHANNEL |  | ON-STREET CAR PARK |
|  | NEW KERB AND CHANNEL |  | BUS STOP (30m x 2.5m) |
|  | EXISTING PAVEMENT MARKING |  | RAISED TRAFFIC ISLAND |
|  | THRESHOLD TREATMENT |  | CROSS SECTIONS |





Appendix G – Isthmus Perspective Views for Options C and D

MIRAMAR CYCLEWAY

URBAN & LANDSCAPE DESIGN - PRELIMINARY CONCEPT

WELLINGTON CITY COUNCIL MIRAMAR CYCLEWAY 2017

Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept

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Intentionally blank

Existing Views



View 1



View 3



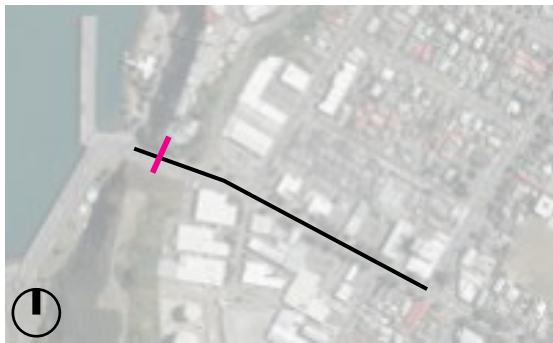
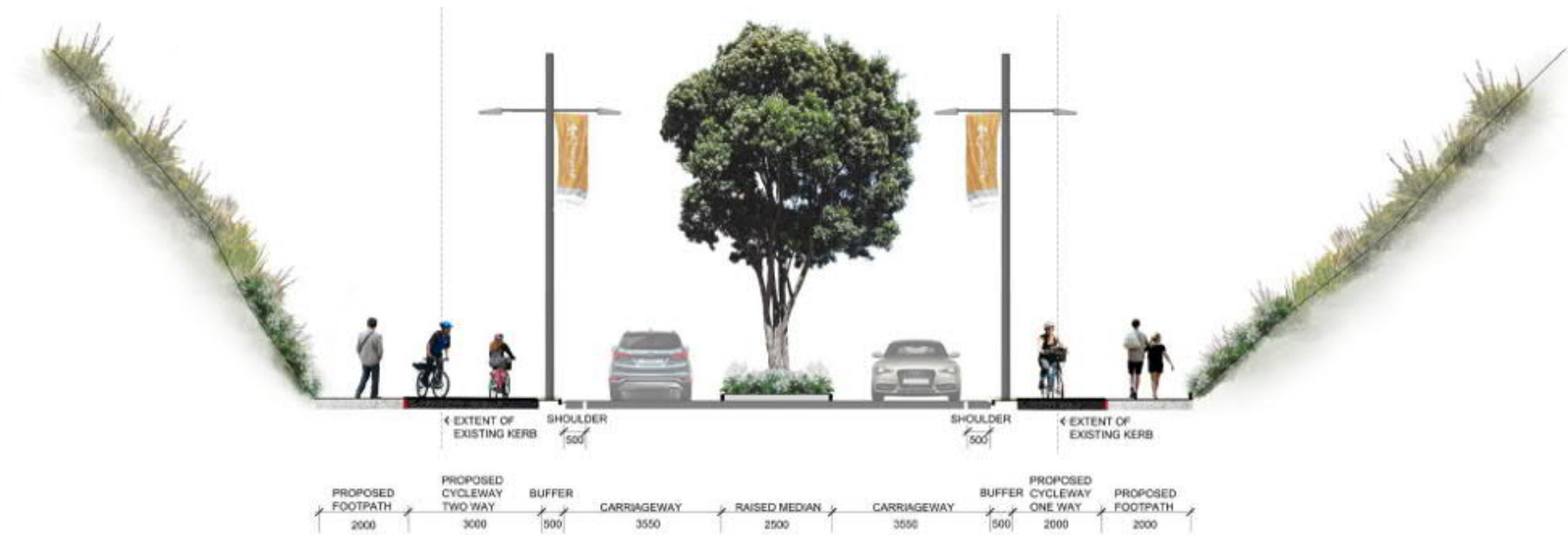
View 2



View 4

Option C - Section 1

Off road one way cycleway with two way connection to Miramar Wharf



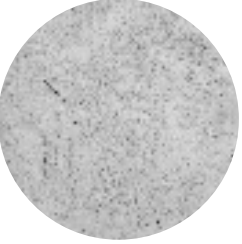
Hard surface



Asphalt paving
- Cycleway



Brick separation
between paths



Concrete paving
- Footpath

Bank & median planting



Renga Renga Lily



Flax



Pohutukawa



Option C - View 1

Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept

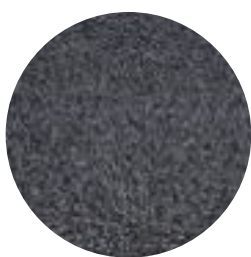
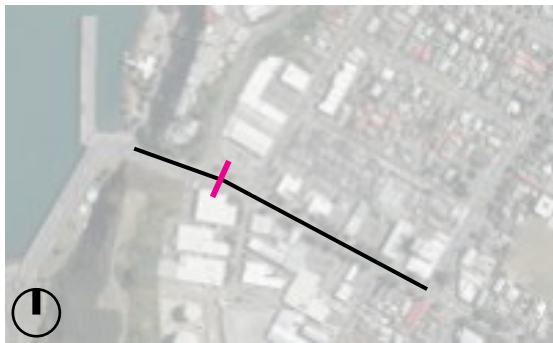
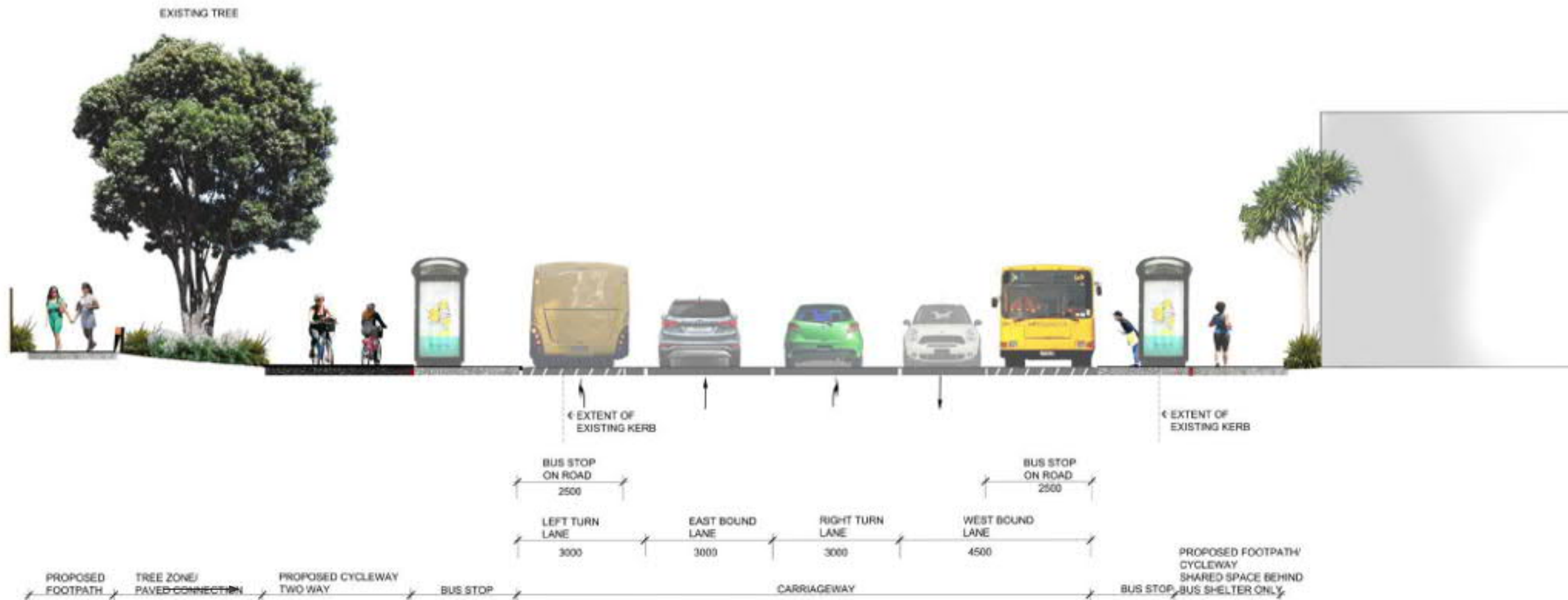
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Wellington City Council
Me Heke Ki Pōneke

Isthmus.

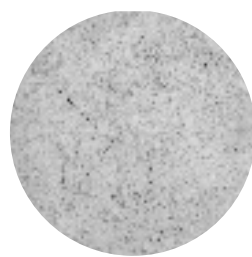
Option C - Section 2
 Off road one way cycleway with two way connection to Miramar Wharf



Asphalt paving
- Cycleway



Brick separation
between paths



Concrete paving
- Footpath



Light bollards



Renga Renga Lily



Flax

Planting under trees



Option C - View 2

Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept

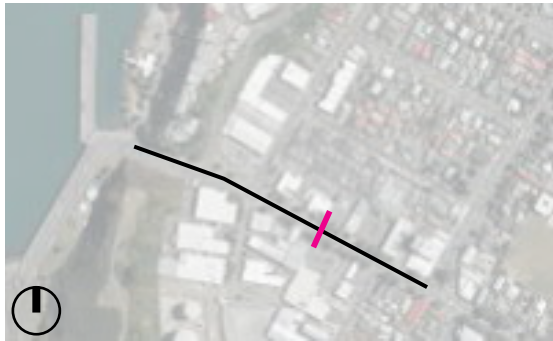
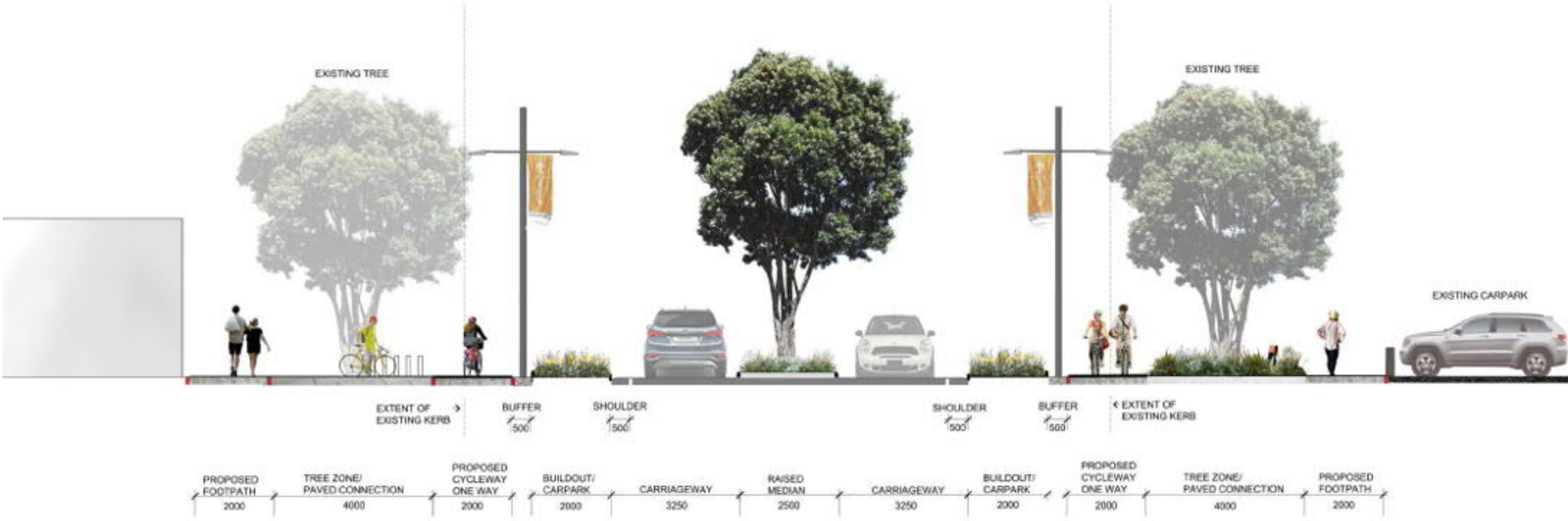
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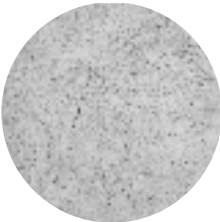
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Option C - Section 3 Off road one way cycleway with two way connection to Miramar Wharf



Hard surface



Concrete paving
- Footpath
- Cycleway, vary finish or continue paving unit



Brick separation between paths



Paved connections

Planting under trees



Renga Renga Lily



Upright flax



Amenity/colourful planting

Planting in buildouts



Bike racks



Street lights



Light bollards

Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept
Section Scale1:50 @ A1 / 1:100 @ A3
DRAFT

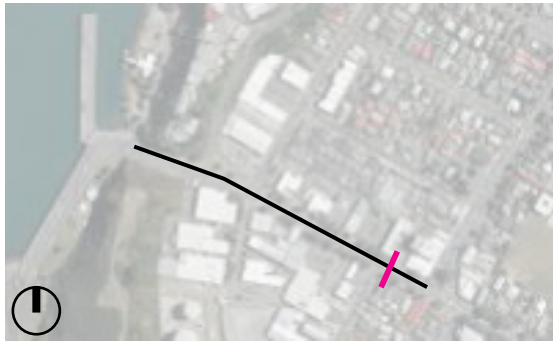
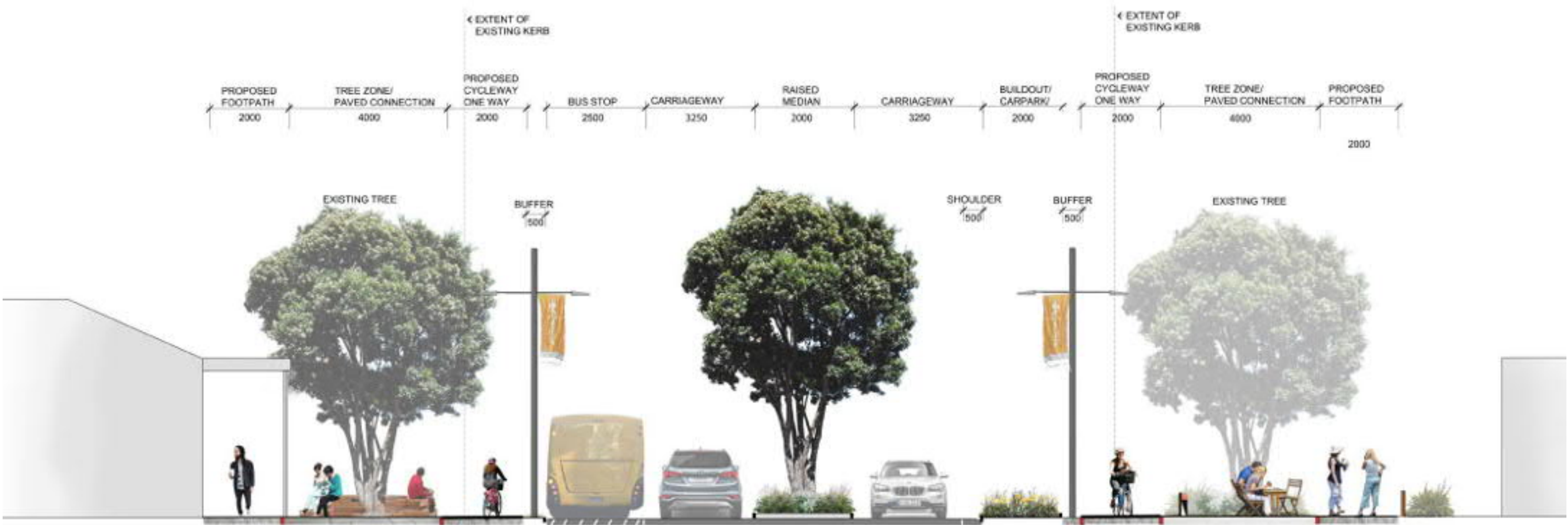


Option C - View 3

Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept

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Option C - Section 4
 Off road one way cycleway with two way connection to Miramar Wharf





Paved connections



Brick separation between paths



Concrete paving
- Footpath
- Cycleway, vary finish or continue paving unit



Renga Renga Lily



Upright flax



Amenity/colourful planting



Timber seating under trees



Cafe style seating under trees



Light bollards

Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept
Section Scale 1:50 @ A1 / 1:100 @ A3
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Option C - View 4

Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept

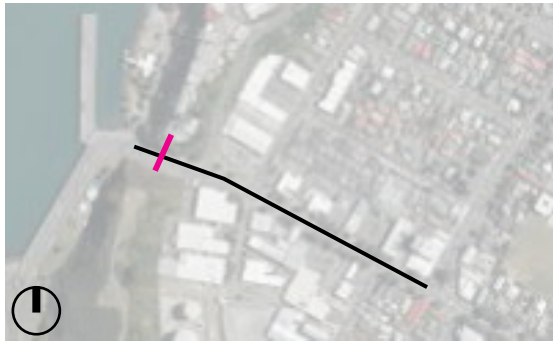
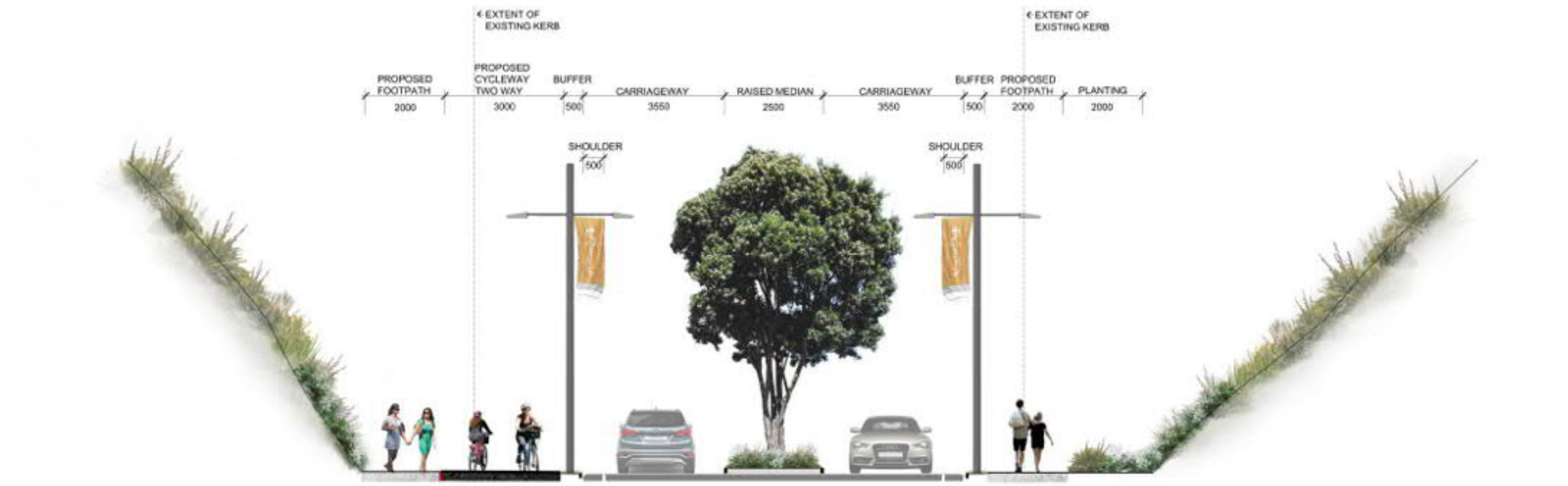
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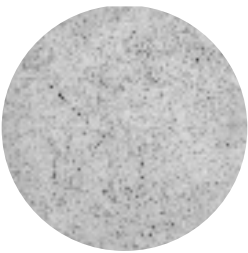
Option D - Section 1
Off road two way cycleway



Asphalt paving
- Cycleway



Brick separation
between paths



Concrete paving
- Footpath



Renga Renga Lily



Flax



Pohutukawa

Bank & median planting

Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept
Section Scale 1:50 @ A1 / 1:100 @ A3
DRAFT

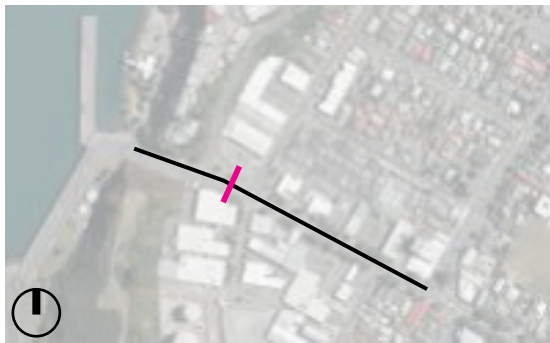
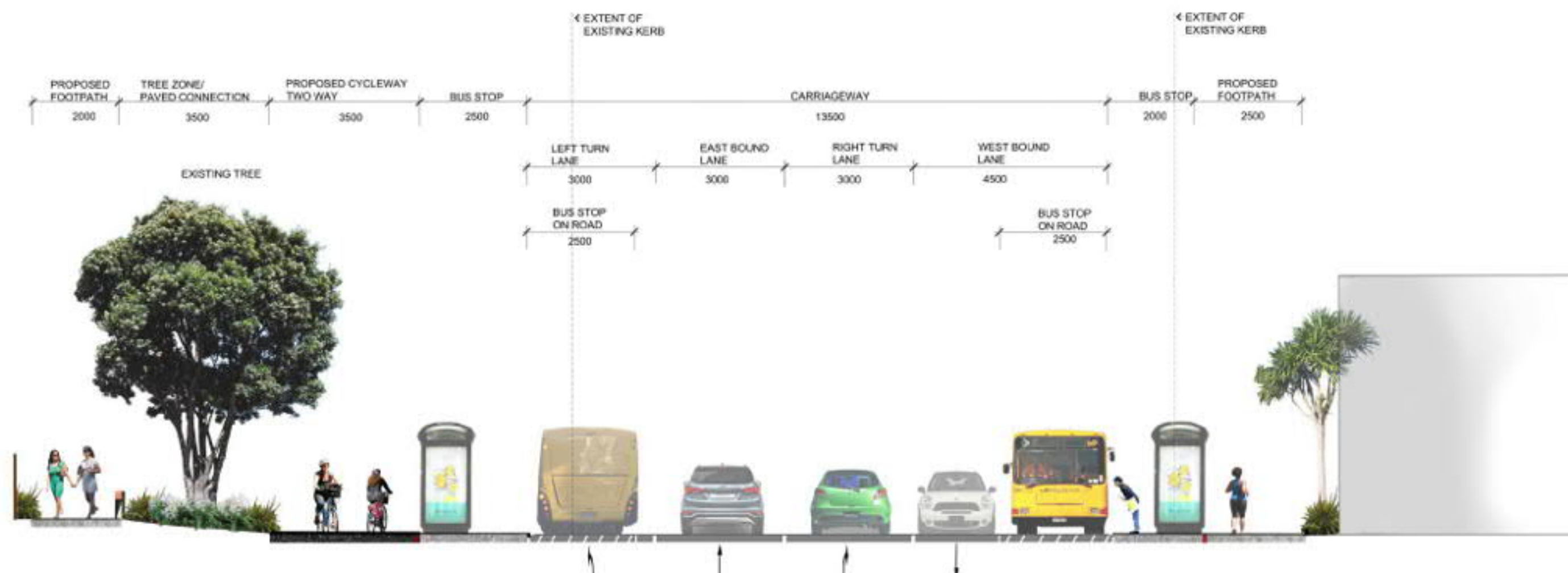


Option D - View 1

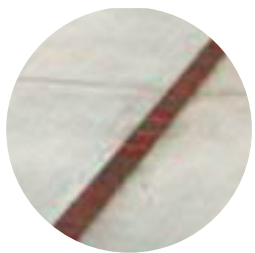
Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept

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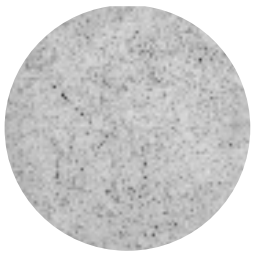
Option D - Section 2
Off road two way cycleway



Asphalt paving
- Cycleway



Brick separation
between paths



Concrete paving
- Footpath



Light bollards



Renga Renga Lily



Flax

Planting under trees

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Urban and Landscape Design Preliminary Concept
Section Scale 1:50 @ A1 / 1:100 @ A3
DRAFT



Option D - View 2

Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept

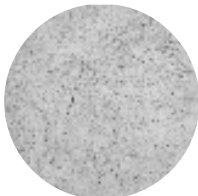
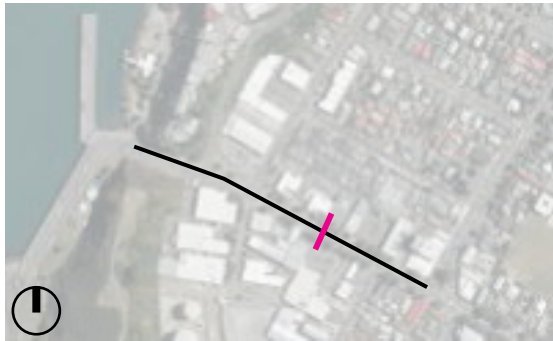
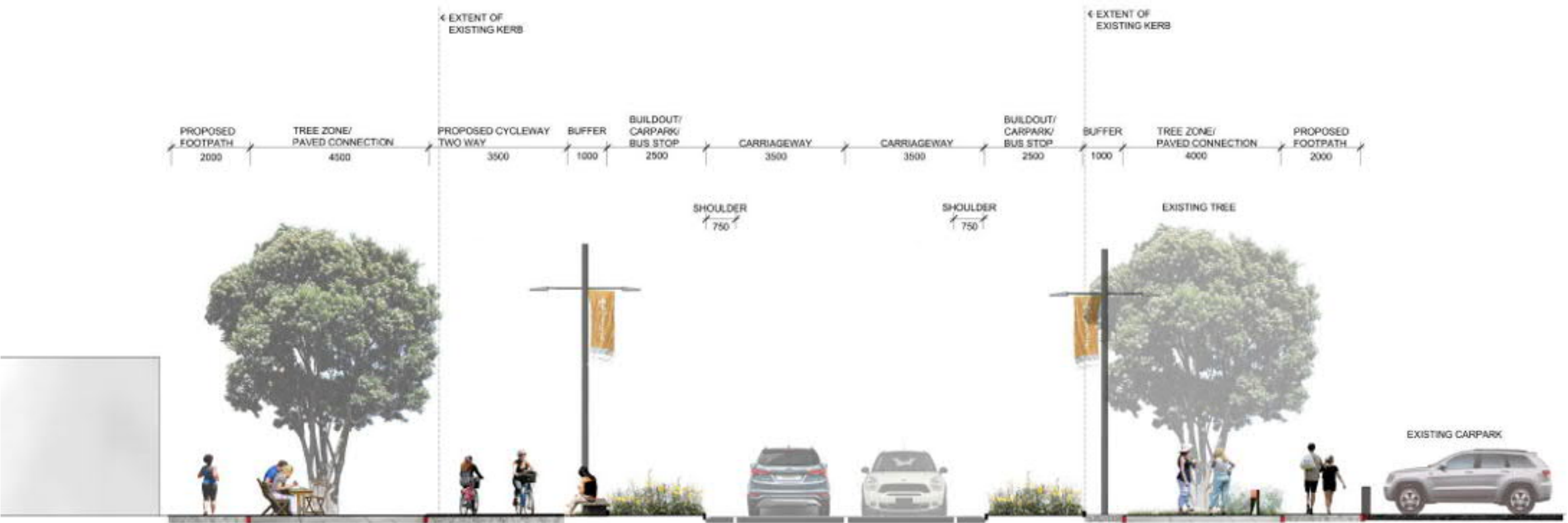
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Isthmus.

Option D - Section 3
Off road two way cycleway



Concrete paving
- Footpath
- Cycleway, vary finish or continue paving unit



Brick separation between paths



Paved connections



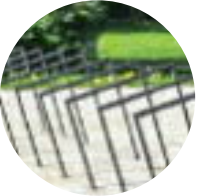
Planting under trees
Renga Renga Lily



Upright flax



Planting in buildouts
Amenity/colourful planting



Bike racks



Cafe style seating under trees



Light bollards

Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept
Section Scale 1:50 @ A1 / 1:100 @ A3
DRAFT



Option D - View 3

Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept

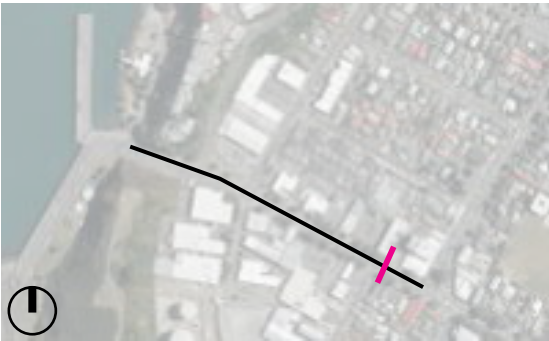
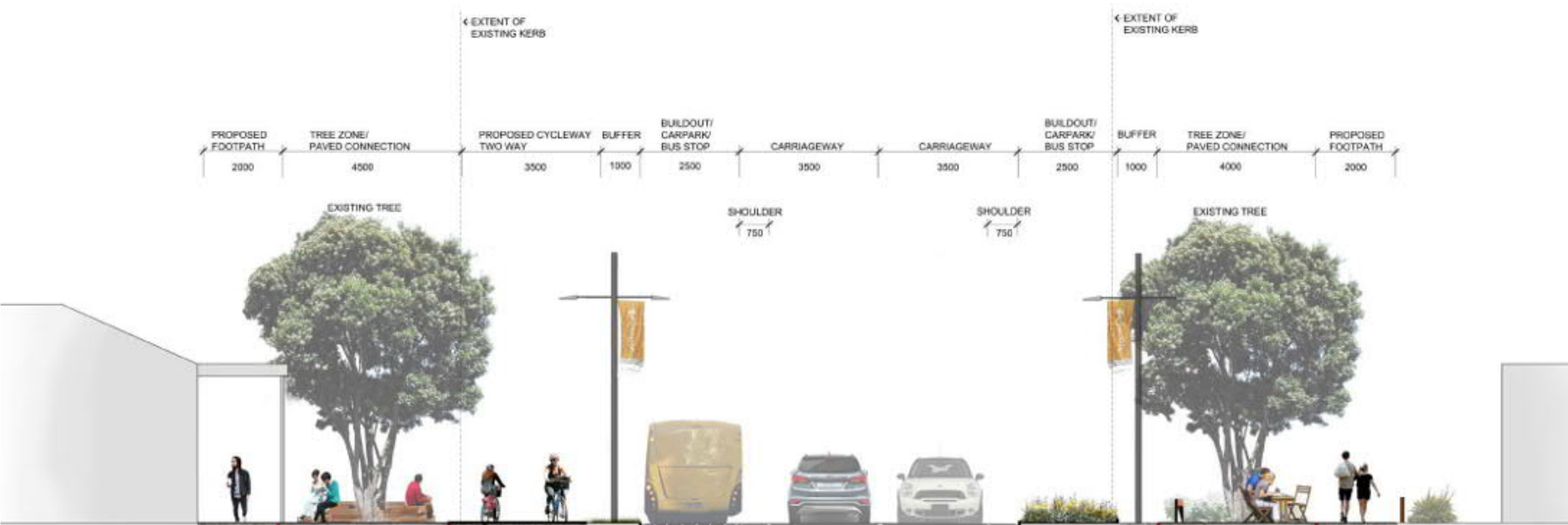
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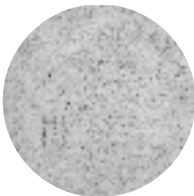
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Isthmus.

Option D - Section 4
Off road two way cycleway



Paved connections



Concrete paving
- Footpath
- Cycleway, vary finish or continue paving unit



Brick separation between paths



Renga Renga Lily



Upright flax



Amenity/colourful planting



Timber seating under trees



Cafe style seating under trees



Light bollards

Planting under trees

Planting in buildouts



Option D - View 4

Miramar Cycleway - July 2017
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Epiphyte



Glowworms



Glowworms



James Camerons Avatar - tree of life seedling








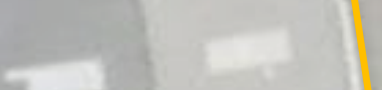

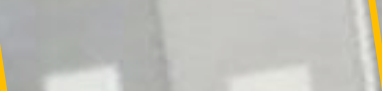

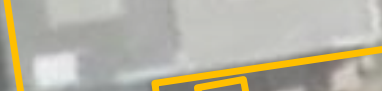



The Miramar Cutting design opportunities

Miramar Cycleway - July 2017
Urban and Landscape Design Preliminary Concept

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Appendix H – Isthmus Option Plans For Phase 1 and 2

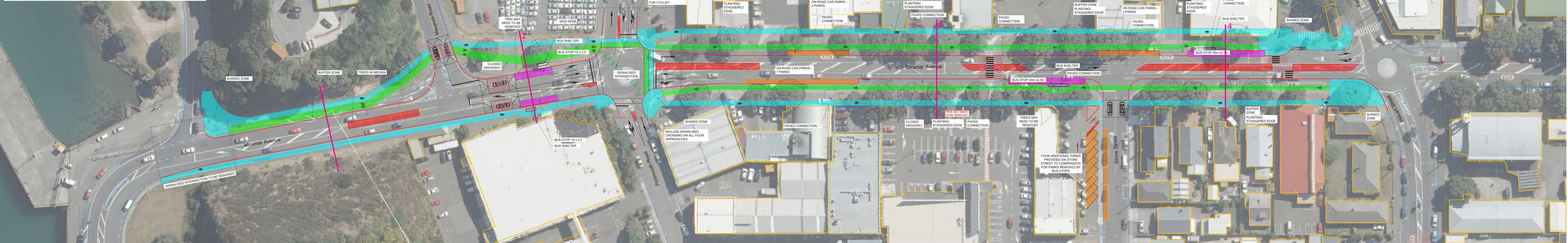
PHASE 1 : OFF ROAD TWO WAY CYCLE WAY

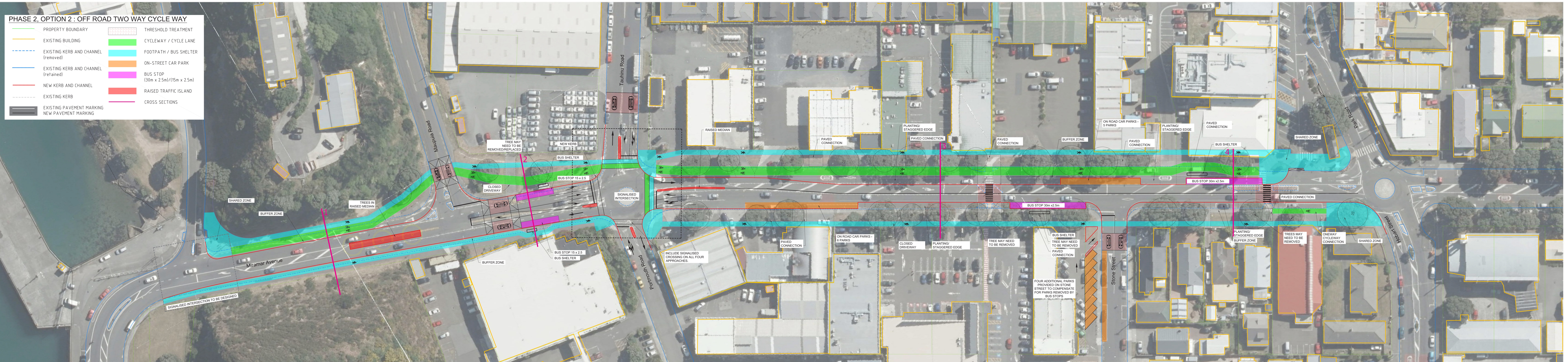
- | | | | |
|--|--------------------------------------|--|------------------------------------|
|  | PROPERTY BOUNDARY |  | THRESHOLD TREATMENT |
|  | EXISTING BUILDING |  | CYCLEWAY / CYCLE LANE |
|  | EXISTING KERB AND CHANNEL (removed) |  | FOOTPATH / BUS SHELTER |
|  | EXISTING KERB AND CHANNEL (retained) |  | ON-STREET CAR PARK |
|  | NEW KERB AND CHANNEL |  | BUS STOP (30m x 2.5m)/(15m x 2.5m) |
|  | EXISTING DRIVEWAY |  | RAISED TRAFFIC ISLAND |
|  | EXISTING PAVEMENT MARKING |  | CROSS SECTIONS |
|  | NEW PAVEMENT MARKING | | |



PHASE 2, OPTION 1 : OFF ROAD ONE WAY CYCLE WAY

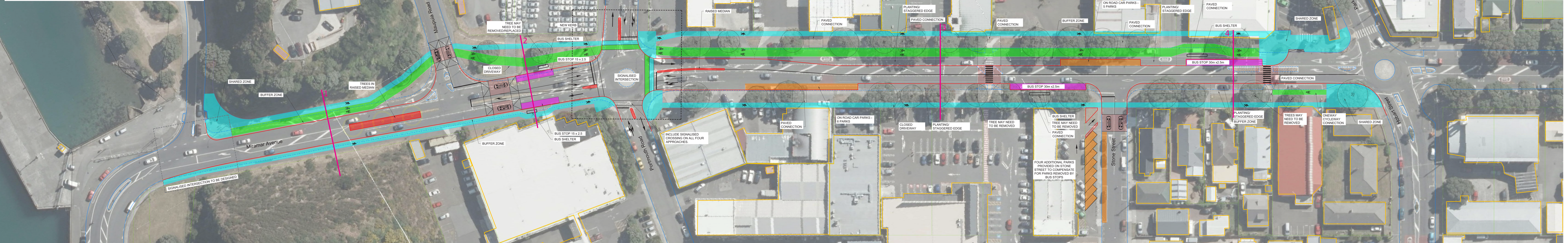
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|--|--------------------------------------|--|------------------------------------|
| | PROPERTY BOUNDARY | | EXISTING PAVEMENT MARKING |
| | EXISTING BUILDING | | NEW PAVEMENT MARKING |
| | EXISTING KERB AND CHANNEL (removed) | | THRESHOLD TREATMENT |
| | EXISTING KERB AND CHANNEL (retained) | | CYCLEWAY / CYCLE LANE |
| | NEW KERB AND CHANNEL | | FOOTPATH / BUS SHELTER |
| | FENCE | | ON-STREET CAR PARK |
| | EXISTING DRIVEWAY | | BUS STOP (30m x 2.5m)/(15m x 2.5m) |
| | | | RAISED TRAFFIC ISLAND |
| | | | CROSS SECTIONS |





PHASE 2, OPTION 2 : OFF ROAD TWO WAY CYCLE WAY

- | | | | |
|--|--------------------------------------|--|------------------------------------|
| | PROPERTY BOUNDARY | | THRESHOLD TREATMENT |
| | EXISTING BUILDING | | CYCLEWAY / CYCLE LANE |
| | EXISTING KERB AND CHANNEL (removed) | | FOOTPATH / BUS SHELTER |
| | EXISTING KERB AND CHANNEL (retained) | | ON-STREET CAR PARK |
| | NEW KERB AND CHANNEL | | BUS STOP (30m x 2.5m)/(15m x 2.5m) |
| | EXISTING KERB | | RAISED TRAFFIC ISLAND |
| | EXISTING PAVEMENT MARKING | | CROSS SECTIONS |
| | NEW PAVEMENT MARKING | | |



Appendix I – Isthmus Perspective Views for Phase 1 and 2

MIRAMAR CYCLEWAY

PHASE 1, URBAN & LANDSCAPE DESIGN - PRELIMINARY CONCEPT

100 M 100 M 100 M 100 M

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Intentionally blank

Existing Views



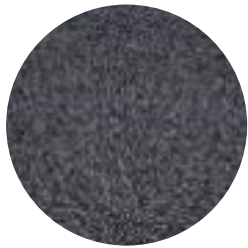
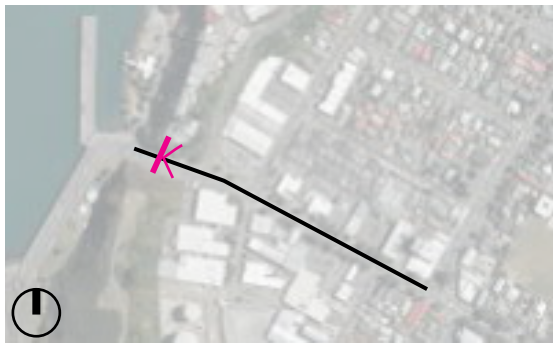
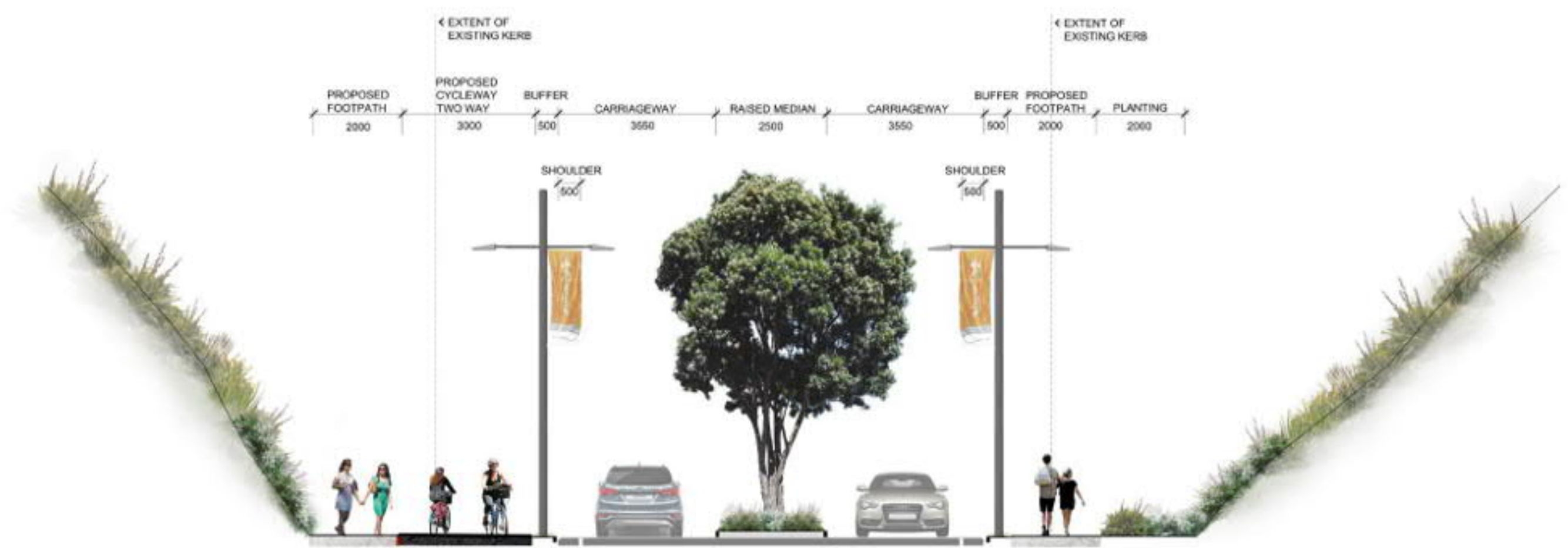
View 1



View 2

Phase 1 - Section 1

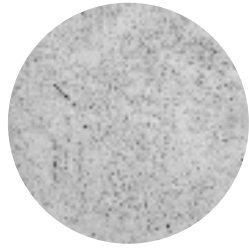
Off road two way cycleway connection to Miramar Wharf from Tauhinu Road.
Sharrow markings along Miramar Avenue



Asphalt paving
- Cycleway



Flush separation
between paths



Concrete paving
- Footpath

Bank & median planting



Renga Renga Lily



Flax



Pohutukawa

Miramar Cycleway - August 2017
Phase 1, Urban and Landscape Design
Section Scale 1:50 @ A1 / 1:100 @ A3
DRAFT

Phase 1 - View 1

Off road two way cycleway connection to Miramar Wharf from Tauhinu Road.
Sharrow markings along Miramar Avenue



Miramar Cycleway - August 2017
Phase 1, Urban and Landscape Design

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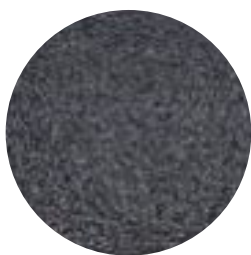
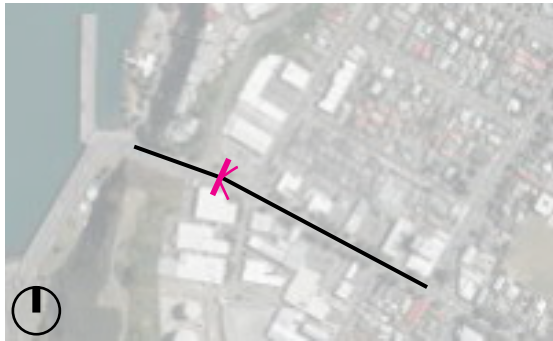
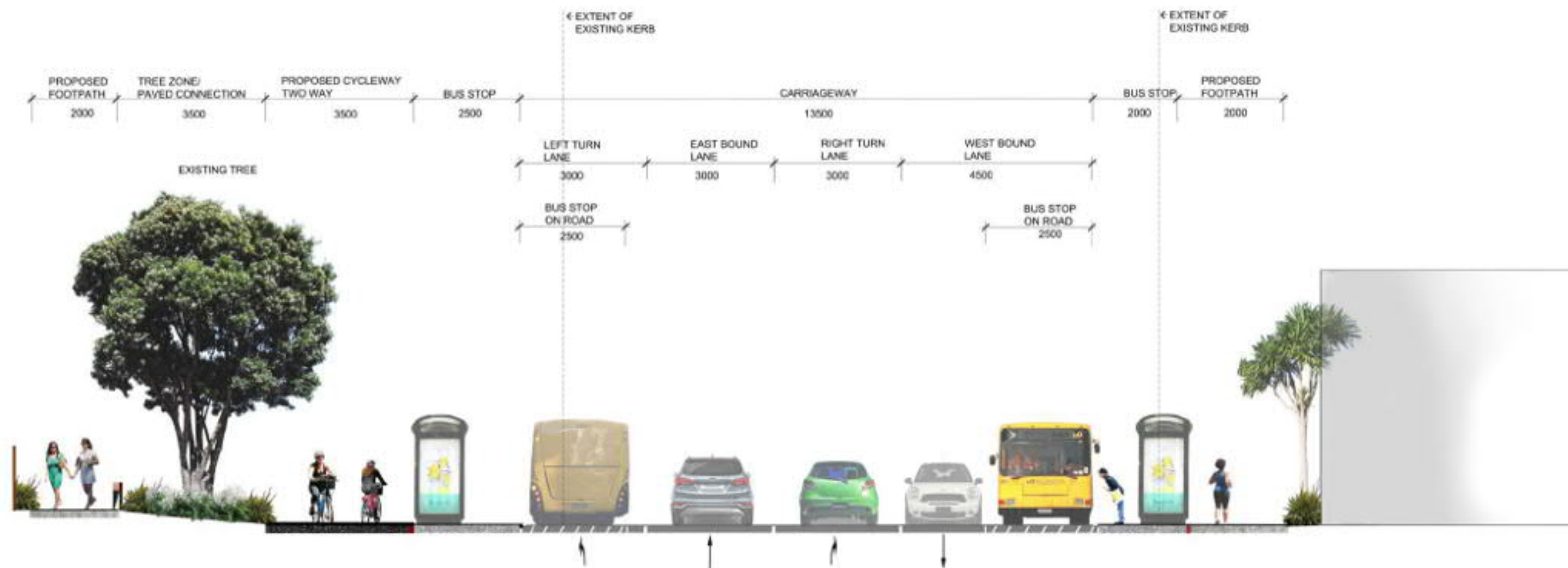
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Isthmus.

Phase 1 - Section 2

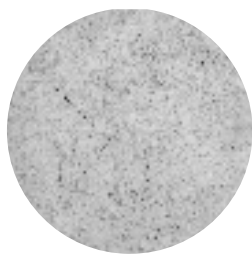
Off road two way cycleway connection to Miramar Wharf from Tauhinu Road.
Sharrow markings along Miramar Avenue



Asphalt paving
- Cycleway



Flush separation
between paths



Concrete paving
- Footpath



Light bollards



Renga Renga Lily



Flax

Planting under trees

Miramar Cycleway - August 2017
Phase 1, Urban and Landscape Design
Section Scale 1:50 @ A1 / 1:100 @ A3
DRAFT

Phase 1 - View 2

Off road two way cycleway connection to Miramar Wharf from Tauhinu Road.
Sharrow markings along Miramar Avenue



Miramar Cycleway - August 2017
Phase 1, Urban and Landscape Design

DRAFT

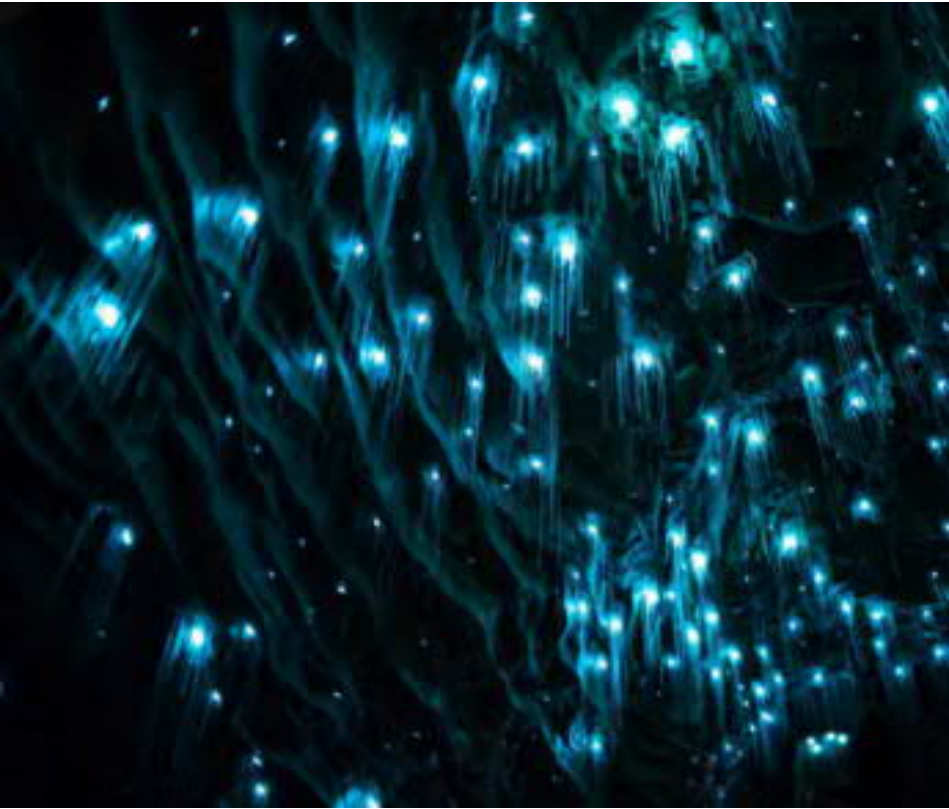
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The Miramar Cutting design opportunities

Miramar Cycleway - August 2017
Phase 1, Urban and Landscape Design

DRAFT

MIRAMAR CYCLEWAY

PHASE 2, URBAN & LANDSCAPE DESIGN - PRELIMINARY CONCEPT

10/11/2024 10:11 AM 10/11/2024 10:11 AM 10/11/2024 10:11 AM

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Intentionally blank

Existing Views



View 1



View 3



View 2



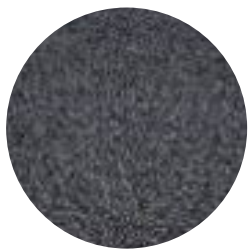
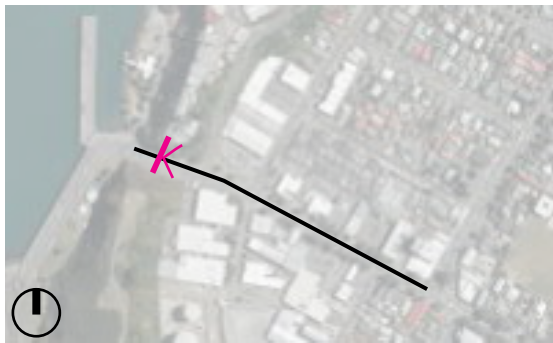
View 4

View 1

Phase 2 - Section 1

OPTION 1

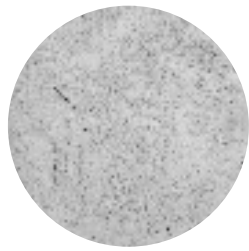
Off road one way cycleway with two way connection to Miramar Wharf



Asphalt paving
- Cycleway



Flush separation
between paths



Concrete paving
- Footpath

Bank & median planting



Renga Renga Lily



Flax



Pohutukawa

Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design
Section Scale 1:50 @ A1 / 1:100 @ A3
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Phase 2 - View 1

OPTION 1

Off road one way cycleway with two way connection to Miramar Wharf



Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design

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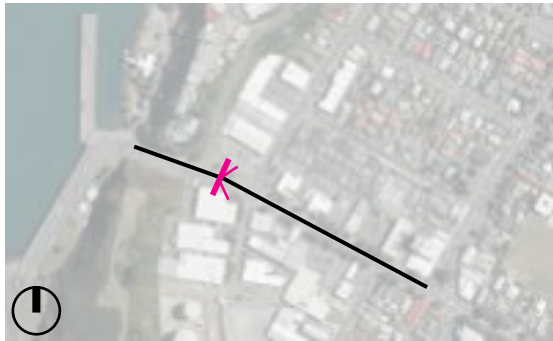
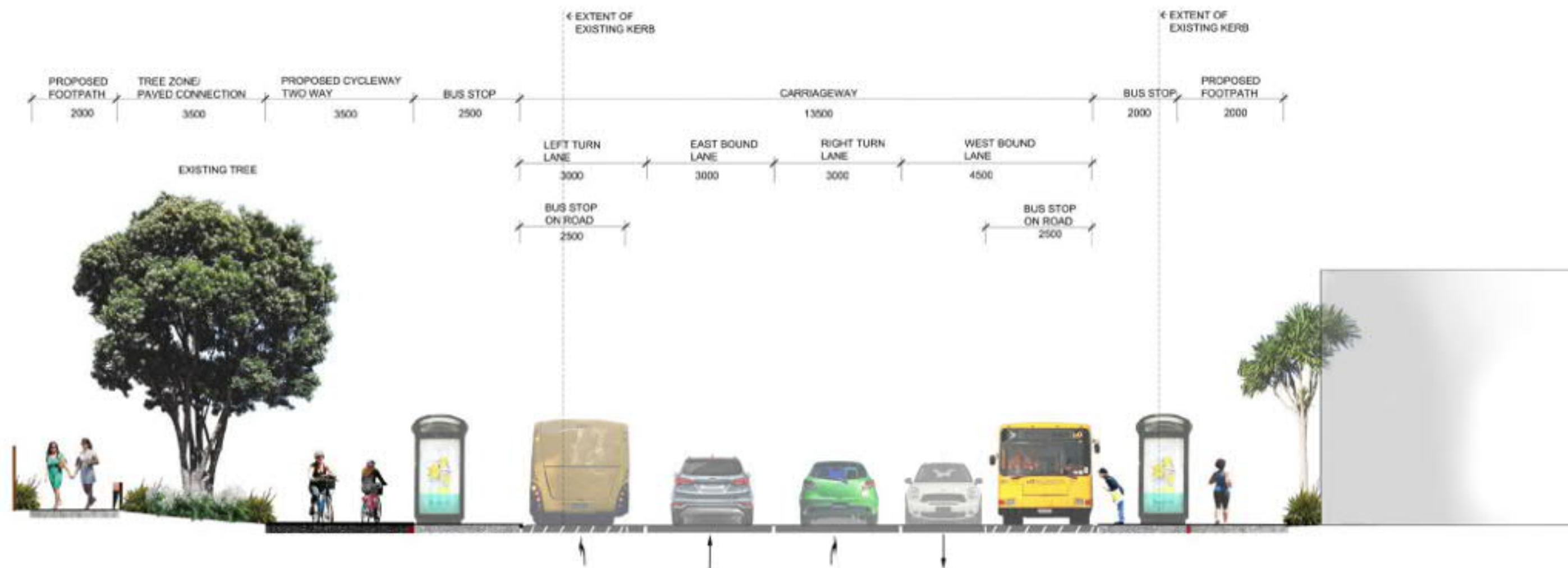
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Phase 2 - Section 2

OPTION 1

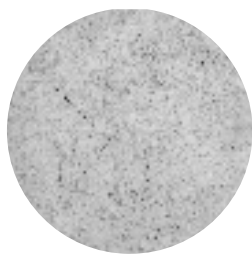
Off road one way cycleway with two way connection to Miramar Wharf



Asphalt paving
- Cycleway



Flush separation
between paths



Concrete paving
- Footpath



Light bollards



Renga Renga Lily



Flax

Planting under trees

Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design
Section Scale 1:50 @ A1 / 1:100 @ A3
DRAFT

Phase 2 - View 2

OPTION 1

Off road one way cycleway with two way connection to Miramar Wharf



Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design

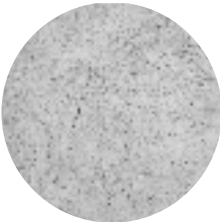
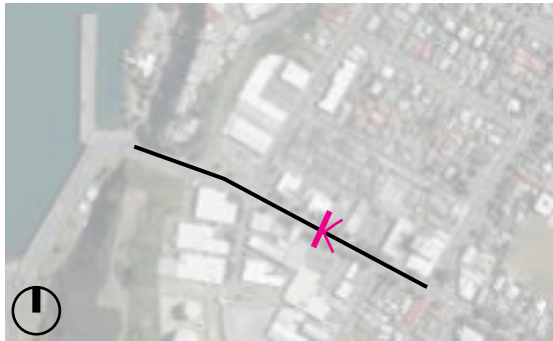
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Phase 2 - Section 3
OPTION 1
Off road one way cycleway with two way connection to Miramar Wharf



Concrete paving
- Footpath
- Cycleway, vary finish or continue paving unit



Flush separation between paths



Paved connections



Renga Renga Lily



Upright flax

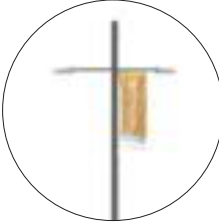


Amenity/colourful planting

Planting under trees



Bike racks



Street lights



Light bollards

Planting in buildouts

Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design
Section Scale1:50 @ A1 / 1:100 @ A3
DRAFT

Phase 2 - View 3

OPTION 1

Off road one way cycleway with two way connection to Miramar Wharf



Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design

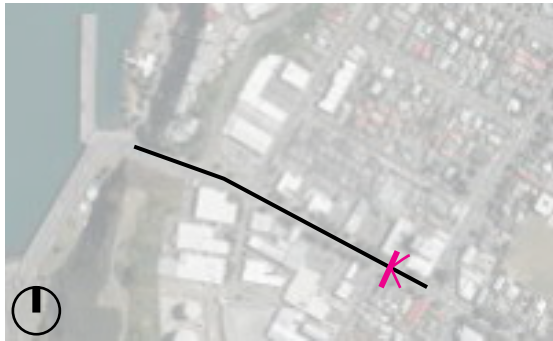
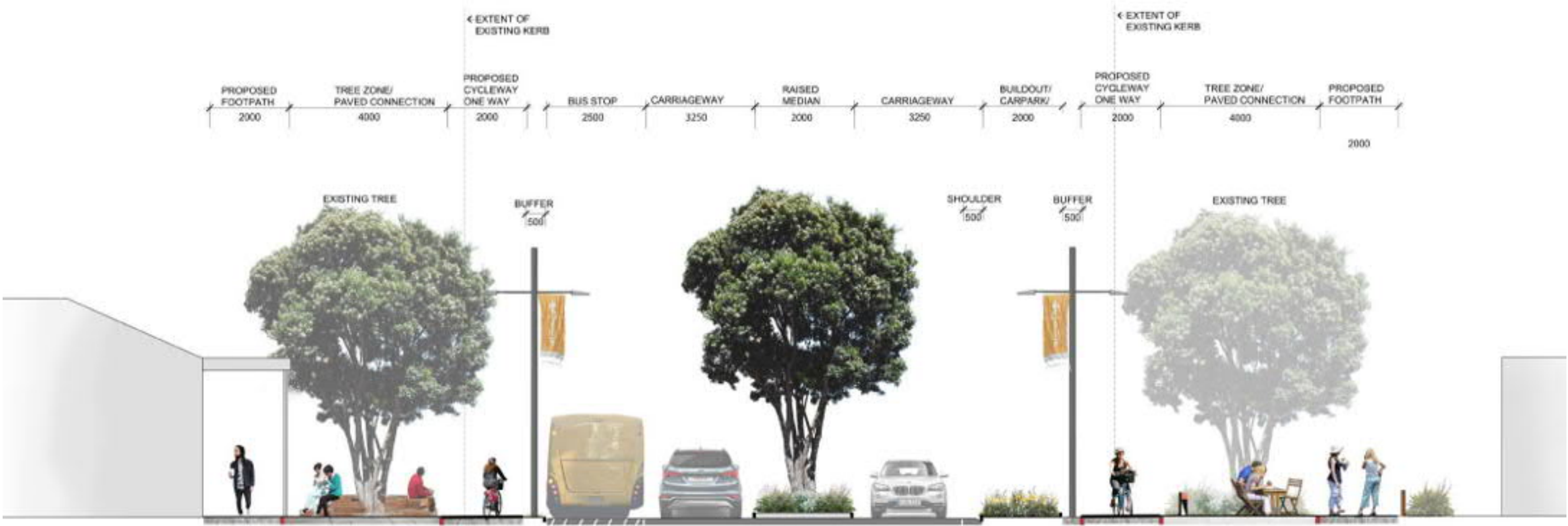
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Phase 2 - Section 4
OPTION 1
Off road one way cycleway with two way connection to Miramar Wharf



- Paved connections

Flush separation between paths

Concrete paving
- Footpath
- Cycleway, vary finish or continue paving unit

Renga Renga Lily

Upright flax

Amenity/colourful planting

Timber seating under trees

Cafe style seating under trees

Light bollards
- Planting under trees

Planting in buildouts

Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design
Section Scale1:50 @ A1 / 1:100 @ A3
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Phase 2 - View 4

OPTION 1

Off road one way cycleway with two way connection to Miramar Wharf



Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design

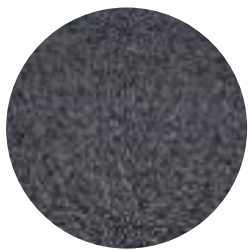
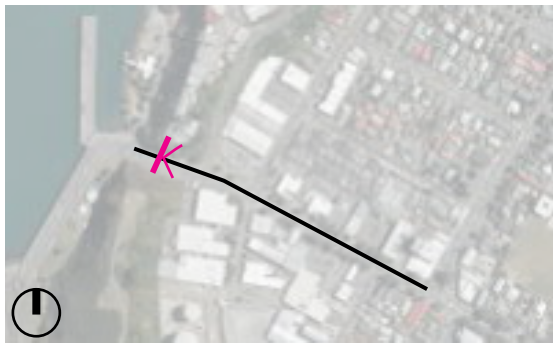
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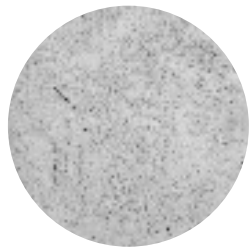
Phase 2 - Section 1
 OPTION 2
 Off road two way cycle way



Asphalt paving
- Cycleway



Flush separation
between paths



Concrete paving
- Footpath

Bank & median planting



Renga Renga Lily



Flax



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Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design
Section Scale 1:50 @ A1 / 1:100 @ A3
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Phase 2 - View 1

OPTION 2

Off road two way cycle way



Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design

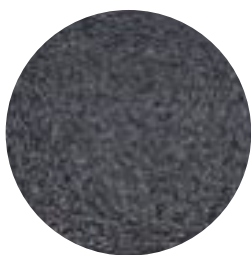
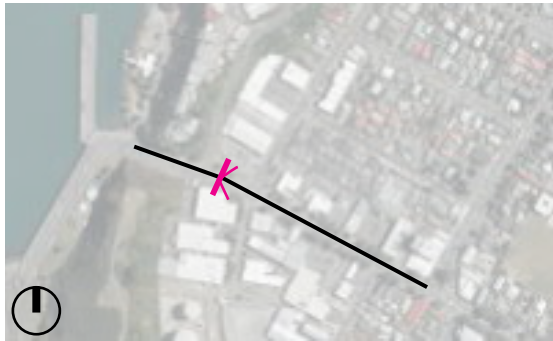
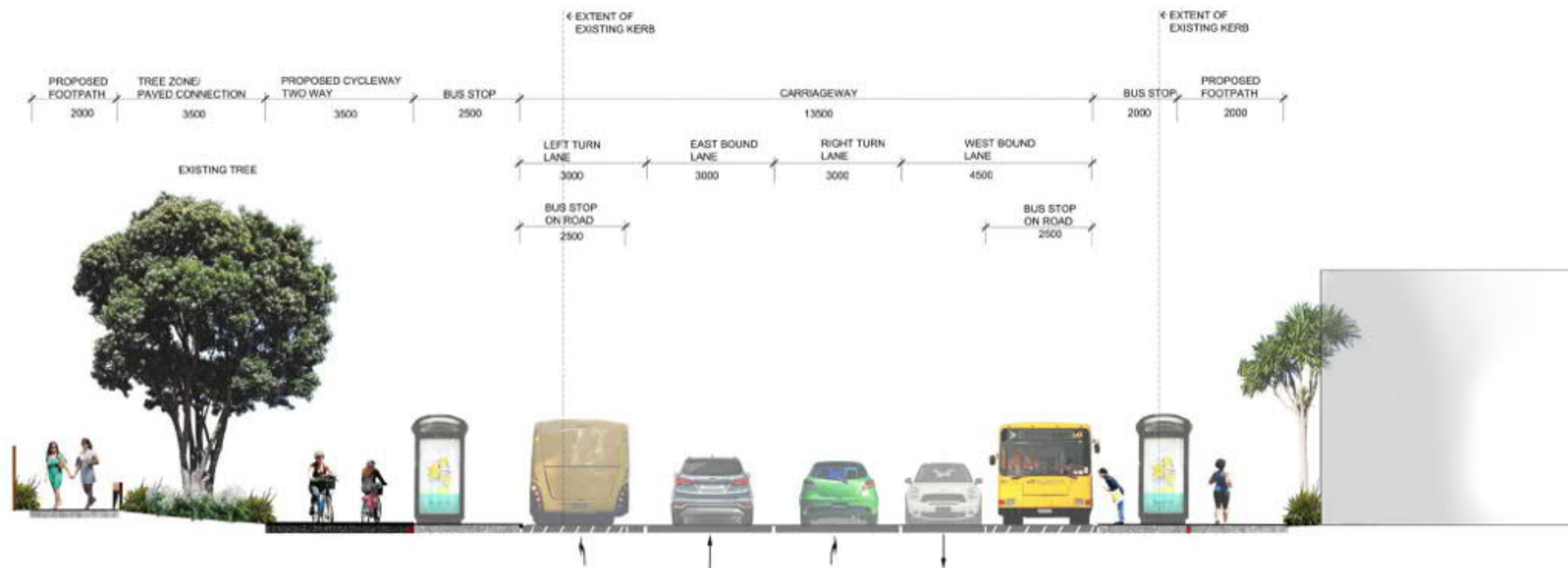
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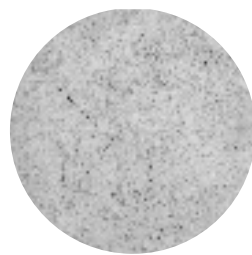
Phase 2 - Section 2
OPTION 2
Off road two way cycle way



Asphalt paving
- Cycleway



Flush separation
between paths



Concrete paving
- Footpath



Light bollards



Renga Renga Lily



Flax

Planting under trees

Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design
Section Scale 1:50 @ A1 / 1:100 @ A3
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Phase 2 - View 2

OPTION 2

Off road two way cycle way



Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design

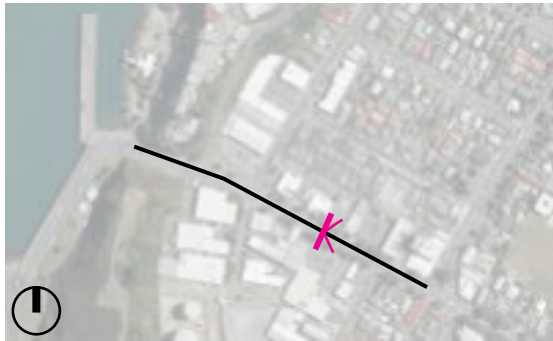
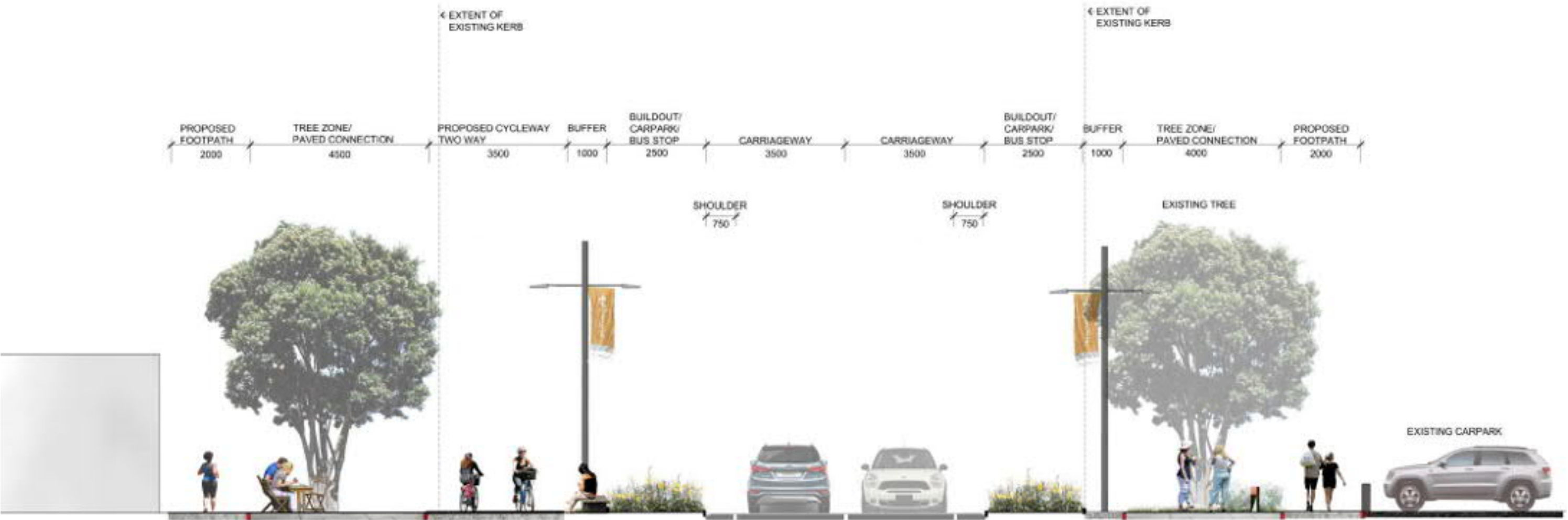
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Phase 2 - Section 3
OPTION 2
 Off road two way cycleway



Concrete paving
 - Footpath
 - Cycleway, vary finish or continue paving unit

Flush separation between paths

Paved connections

Planting under trees

Renga Renga Lily

Upright flax

Planting in buildouts

Amenity/colourful planting

Bike racks

Cafe style seating under trees

Light bollards

Miramar Cycleway - August 2017
 Phase 2, Urban and Landscape Design
 Section Scale 1:50 @ A1 / 1:100 @ A3
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Phase 2 - View 3

OPTION 2

Off road two way cycleway



Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design

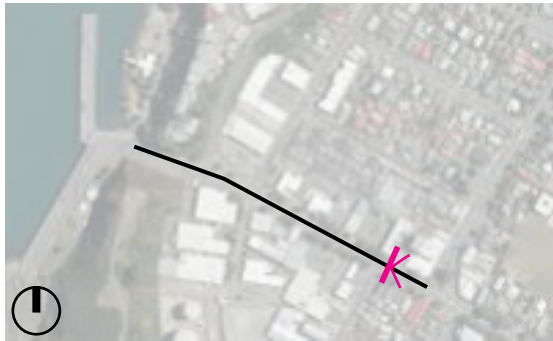
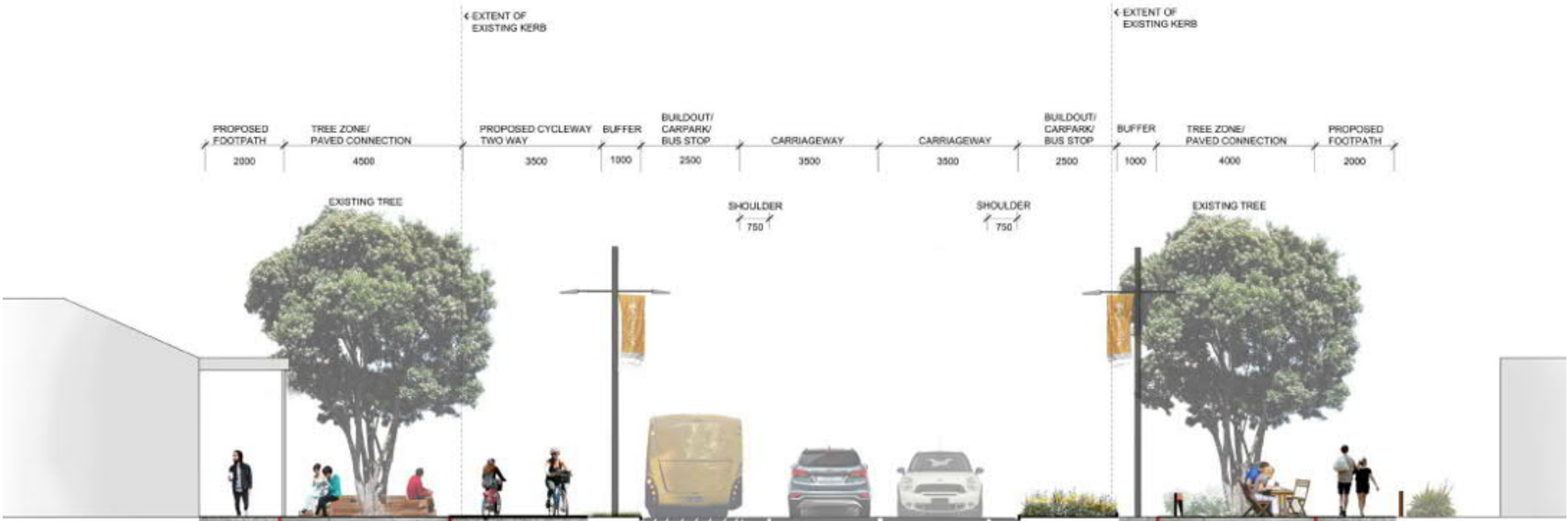
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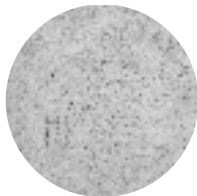
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Phase 2 - Section 4
 OPTION 2
 Off road two way cycleway



Paved connections



Concrete paving
- Footpath
- Cycleway, vary finish or continue paving unit



Flush separation between paths



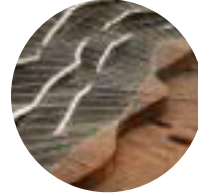
Renga Renga Lily



Upright flax



Amenity/colourful planting



Timber seating under trees



Cafe style seating under trees



Light bollards

Planting under trees

Planting in buildouts

Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design
Section Scale 1:50 @ A1 / 1:100 @ A3
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Phase 2 - View 4

OPTION 2

Off road two way cycleway



Miramar Cycleway - August 2017
Phase 2, Urban and Landscape Design

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Isthmus.