SH20 MANUKAU HARBOUR CROSSING

URBAN DESIGN FRAMEWORK

NORTHERNGATEWAY ALLIANCE

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CONTENTS

1.0 INTRODUCTION

1.1 Purpose

The SH20 Manukau Harbour Crossing – Urban Design Framework (the Framework) provides a consistent design approach to landscape and urban design for the SH20 Manukau Harbour Crossing Project (the Project). The Framework will establish the overall direction for urban design matters with an aspiration to create a quality environment that reflects community values.

The Framework deals predominantly with the physical form of the SH20 Manukau Harbour Crossing project area (the Project Area) and its surrounds. This includes the relationship between buildings, structures and open space, traffic access, landscape design/treatment and ecological processes. It considers how these physical aspects relate to broader social and economic issues – the mix of activities, economic opportunities and community safety.

The design, construction and delivery of this Project may be carried out by an Alliance comprised of various design teams, consultants and contractors. This Framework has been created to ensure that a robust and consistent approach to quality design is applied to relevant aspects of the Project. It is intended to inform designers, contractors and managers working on the Project. It should complement the more technical design and assessment parameters of the Project.

1.2 Urban Design

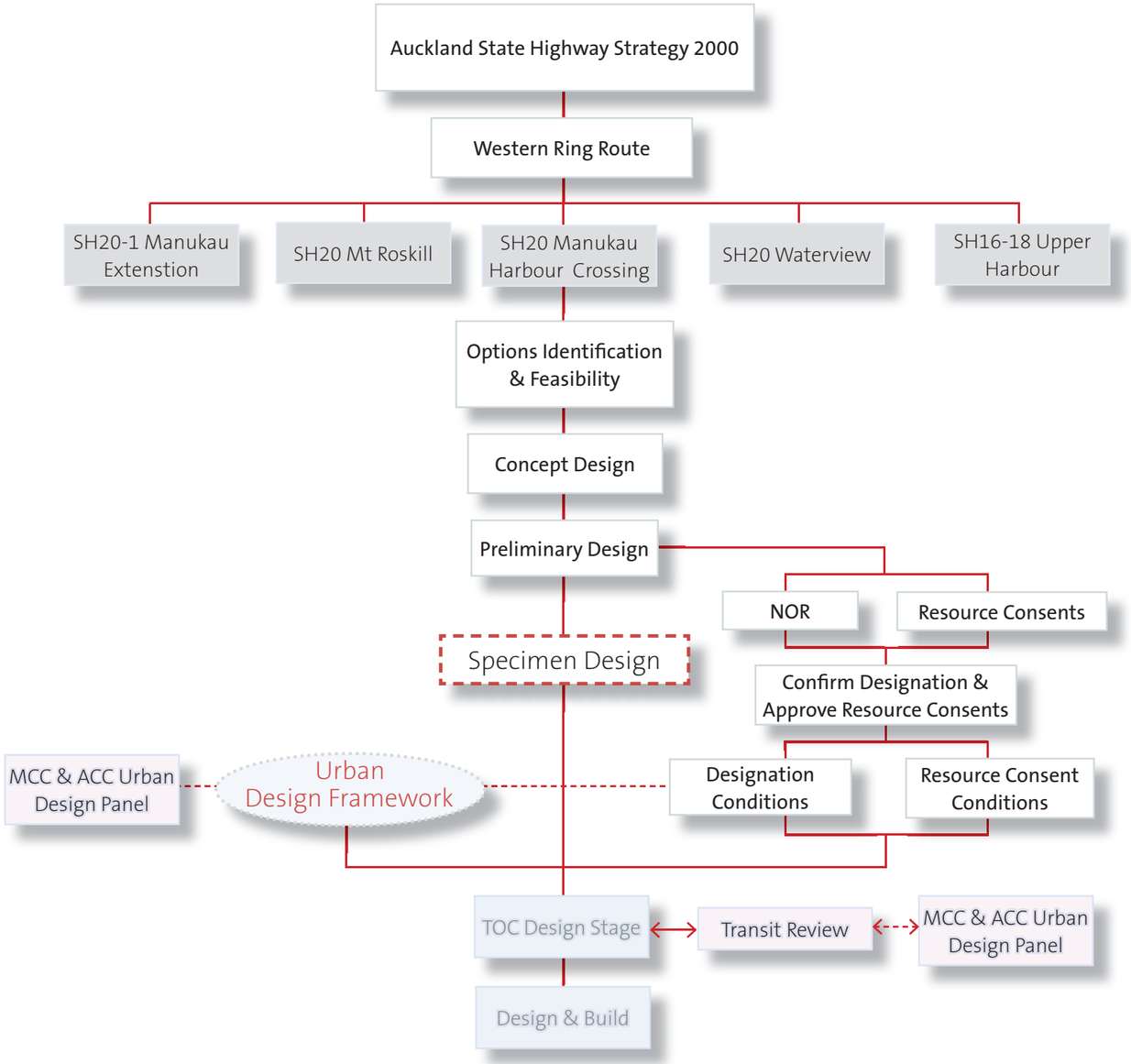
Urban design is an increasingly important discipline in New Zealand. In order to ensure quality urban design outcomes, the term and its value must be understood correctly.

Urban design is concerned with the design of buildings, places, spaces and networks that make up our cities, and the ways people use them. It ranges in scale from a regional and metropolitan level down to streets, spaces, buildings and structures. Urban design is not concerned just with appearances and built form, but with the environmental, economic, social and cultural consequences of design. It is an approach that draws together many different sectors and professions and it includes both the process of decision-making as well as the outcomes of design.

The Roads and Traffic Authority of New South Wales (RTA) have included a definition in their practice notes 'Beyond the Pavement'(Issue December 1999) that provides a useful explanation in the context of road design:

> *"Urban design is the generally accepted name for the process of giving physical design direction to urban growth, conservation and change.*
>
> *It is understood to include landscape as well as buildings, both preservation and new construction and rural areas as well as cities".*

In essence for the Project, it should be understood that roads are very important physical structuring elements in urban and regional environments. The quality of their design has both physical and social consequences. Roads occupy a significant proportion of all urban areas, and a high proportion of people's open/public space. Subsequently urban design initiatives are an important aspect of the Project to ensure it contributes positively to the quality of the environment and people's wellbeing.



1.3 Role & Structure of the Framework

1.3.1 Role of the Framework

This Framework has been prepared alongside the engineering specimen design for the Project. Notices of Requirement (NoR) and resource consents have already been lodged in May 2006.

It is envisaged that the Framework will provide the overall direction for urban design initiatives on the Project, and bridge the interface between 'engineer-designed solutions' and their compatibility with the natural and human environment. As a result, the Framework has developed concepts and initiatives that seek to minimise any adverse effects on the urban environment and enable urban design opportunities to be r ealised.

1.3.2 Structure of the Framework

The Framework intends to capture and analyse the existing features and character of the environment in which the Project corridor traverses (across a variety of scales), and use this work to inform design outcomes for the Project. This will ensure the Project assists with reinforcing local communities and landscape values.

The Manukau Harbour and the areas of the city through which the route traverses are unique environments. They have distinctive natural and cultural landscape characteristics, ecological qualities and history that are important to maintain and enhance. The Framework will identify ways to uphold the integrity of these elements while enabling the transport improvements proposed by the Project.

The structure of the Framework closely follows the series of tasks that have been carried out to prepare the document. These tasks include:

1. Consideration of current planning and urban design strategies and policies;
2. Identification of opportunities and actions for urban design improvements through a process of the following:
   a. The systematic evaluation of the Project area and its surrounds;
   b. Understanding and analysis of the Project improvements proposed in the NoR and resource consents;
   c. Consultation with community;
   d. Workshops with key stakeholders;
3. Development of initiatives and projects for area-specific improvements; and
4. Methods for implementation.

Quality urban design is not about subjective judgements. As such, the Framework provides the analysis and grounding for physical design outcomes that will maintain and enhance the natural landscape, built form, connectivity, urban structure, heritage qualities and community values of the area.

This Framework is referenced by the Principals Requirements for the Project. The Framework supplements the Principles Requirements and Specimen Design for the Project by providing the environmental context for the Project and Project-fundamentals for subsequent design stages of the Project.

1.4 An Integrated Approach

The design of roads and state highways involve a range of specialist skills. It is therefore important to integrate the different values and perspectives within a multi-disciplinary team together to ensure systematic, soundly based decisions are made about the weight given to these different values and perspectives. This can be assisted through the preparation of a framework that will:

- Establish agreed project/improvement aspects;
- Identify common values and project procedures;
- Understand the existing/receiving environment;
- Agree on areas that should be maintained and enhanced;
- Identify areas of concern or areas with a need for further study/investigation;
- Recognise the potential contribution of a range of different professional and community approaches;
- Provide a co-ordinated direction for subsequent work

2.0 SH20 MANUKAU HARBOUR CROSSING

2.1 Project Description

The SH20 Manukau Harbour Crossing Project (the Project) covers an existing stretch of SH20, 4.7 kilometres long between Queenstown Road and Walmsley Road. Transit New Zealand (Transit) has indicated that the purpose of the SH20 Manukau Harbour Crossing Project is:

"To provide additional capacity across the harbour and adjoining road networks".

The Project seeks to upgrade the motorway by addressing congestion and manage traffic efficiency. It also aims to provide better access and increased safety for pedestrians and cyclists.

2.2 Project Objectives

The objectives of the Project are:

"To provide an integrated, safe, responsive and sustainable land transport system on the existing South Western Corridor between the SH20A interchange and the SH20: Mt Roskill extension that will:

- *provide a high standard strategic transport connection as part of the regional alternative route to State Highway 1, connecting Manukau and Auckland cities (the Western Ring route);*
- *improve efficiency and safety in this part of the existing South Western Corridor; and*
- *improve access between the South Western and Onehunga-Pakuranga Corridors".*

2.3 Key Project Features

The drawing below outlines the engineering preliminary design for the Project that has been lodged with Manukau City Council, Auckland City Council and the Auckland Regional Council for the confirmation of Notices of Requirement and resource consent approval. The proposal will be subject to further design development at the Specimen Design, TOC and Design & Build stages of the Project.

Project features include:

- Four lanes of traffic in each direction across Manukau Harbour;
- A duplicate Manukau Harbour bridge (crossing) to the east of the existing;
- Three lanes of traffic on either side of Manukau Harbour bridge;
- An auxiliary lane for local traffic;
- Dedicated bus shoulder lanes;
- Upgrade of Gloucester Park interchange;
- New pedestrian walkway from lower Onehunga to Orpheus Drive;
- Pedestrian and cyclist access across Gloucester Park interchange, connecting Onehunga to the foreshore;
- New pedestrian overbridges with ramps at Beachcroft Ave (Onehunga) and Hastie Ave (Mangere);
- New Pedestrian and cycle route under the southern approach of Mangere Bridge to Mahunga Drive; and
- Streetscaping and pedestrian lighting associated with the areas above.

2.4 Project Status

At the time of preparing the Framework, confirmation of the route alignment and preliminary design has occurred. Planning approvals - Notices of Requirement (NoR) and resource consents have been lodged with the relevant consent authorities (Auckland Regional Council, Auckland City Council and Manukau City Council) for consideration.

The preliminary design phase (including preparation of NoR and resource consent applications) included an urban design assessment and a number of preliminary concepts. These have been integrated into this document and the specimen design for the Project.

Specimen design for the Project is currently being finalised (early 2007). In accordance with Transits Competitive Alliance Procurement Model. Two further identified design stages will occur where all design responses will need to demonstrate adherence to the direction set out in the Framework. These two stages are the:

1. TOC (Total Out-turn Costs) Design Phase. This will occur following specimen design. The purpose of this design phase will be for each alliance team to convey fulfilment of the specimen design requirements by way of individual proposals that may include variations to the design, construction method, management and procurement for the Project in order to cost and tender for the construction contract; and
2. Further design refinement stage(s) following the award of the construction contract to make any allowances for further design innovation or re-work required to accommodate unforeseen issues.

It is anticipated that construction of the Project will commence in 2008, and be completed by 2011.

2.5 The Western Ring Route

The Project is a key component in realising the benefits of the Western Ring Route (a 48 kilometre north-south motorway) as a viable alternative to SH1 between Albany and Manukau City. While the Project involves upgrading an existing stretch of SH20, these improvements are necessary to ensure efficient traffic flows for existing connections while providing additional capacity in this location when other projects that form part of the Western Ring Route connection are completed.

Other projects forming part of the Western Ring Route include:

- **SH20 to SH1 Manukau Extension** *(currently in construction phase);*
- **SH20 Mt Roskill Extension** *(ccommencing construction phase);*
- **SH20 Waterview Connection** *(currently in planning and investigation phase);* and
- **SH16/18 Upper Harbour Corridor** *(currently in construction phase).*

3.0 PLANNING CONTEXT OF THE FRAMEWORK

This Framework has been prepared in the context of:

- Relevant national, regional, and district planning documents and strategies (as listed below); and
- The information and design submitted as part of the NoR and resource consent applications lodged by Transit in May 2006;

The Framework respects the aims and objectives of existing planning documents and strategies. It is noted that the Project seeks to upgrade an existing stretch of motorway, and an existing designation exists along the length of the route. The Project intends to provide traffic efficiency and safety benefits while avoiding or minimising land use conflicts. This Framework is a mechanism for assisting to ensure this goal is met, and that quality urban design outcomes are achieved.

3.1 Relationship to Other Frameworks and Documents

The Framework has been prepared cognisant of the following documents:

- New Zealand Urban Design Protocol 2005;
- Transit New Zealand Policy Planning Manual 1999;
- Transit New Zealand Urban Design Implementation Guidelines/Principles 2006;
- Transit New Zealand Urban Design Outcomes (www.transit.govt.nz);
- Transit New Zealand Residential Noise Standards (year);
- Guide to Traffic Engineering Practice Part 14 – Bicycles, Austroads Standards Australia 1999;
- Auckland State Highway Strategy 2000;
- Auckland Regional Land Transport Strategy 2003;
- Auckland Regional Policy Statement 1999;
- Auckland City District Plan – Isthmus 1999;
- Auckland City Council Growth Management Strategy 2003;
- Auckland City Council Walking & Cycling Strategy 2002;
- Auckland City Council Urban Design Strategy 2004;
- Auckland City Council Draft Onehunga Bay Reserve Concept Plan 2006;
- Manukau City District Plan (Operative) 2002;
- Tomorrows Manukau 2006 (Strategic Plan); and the
- Manukau City Draft Walking and Cycling Strategy 2005-2015.

4.0 CONTEXTUAL ANALYSIS

4.1 Historic Background

The Manukau Harbour has a rich history. It was first settled by Maori with the arrival of the Tainui waka in 1350. Mangere itself, was one of the earliest sites of recorded Maori settlement (1575) . Europeans arrived and established a timber trading and processing post at the Manukau Harbour in 1835, taking advantage of the area's proximity to Kauri stands and its harbour setting.

Integral to settlement, industry and activity in this part of the Manukau Harbour was the establishment of Onehunga Wharf in 1858 (now the Port of Onehunga), and the residence of the Royal New Zealand Fencibles in Onehunga from 1847 onwards. Onehunga was considered a key location in the military and naval defence of the western perimeter of Auckland during times of Maori unrest, and the residence of discharged British soldiers was encouraged. These ex-soldiers provided a permanent resident base for business, activity and community in Onehunga.

Historically the growth of Onehunga has been closely associated with growth in Mangere Bridge. The two suburbs were linked in 1875 with the opening of the first Mangere Bridge. The bridge provided an effective connection between these two suburbs, its route only to be superseded with the opening of the existing Manukau Harbour Crossing in 1984.

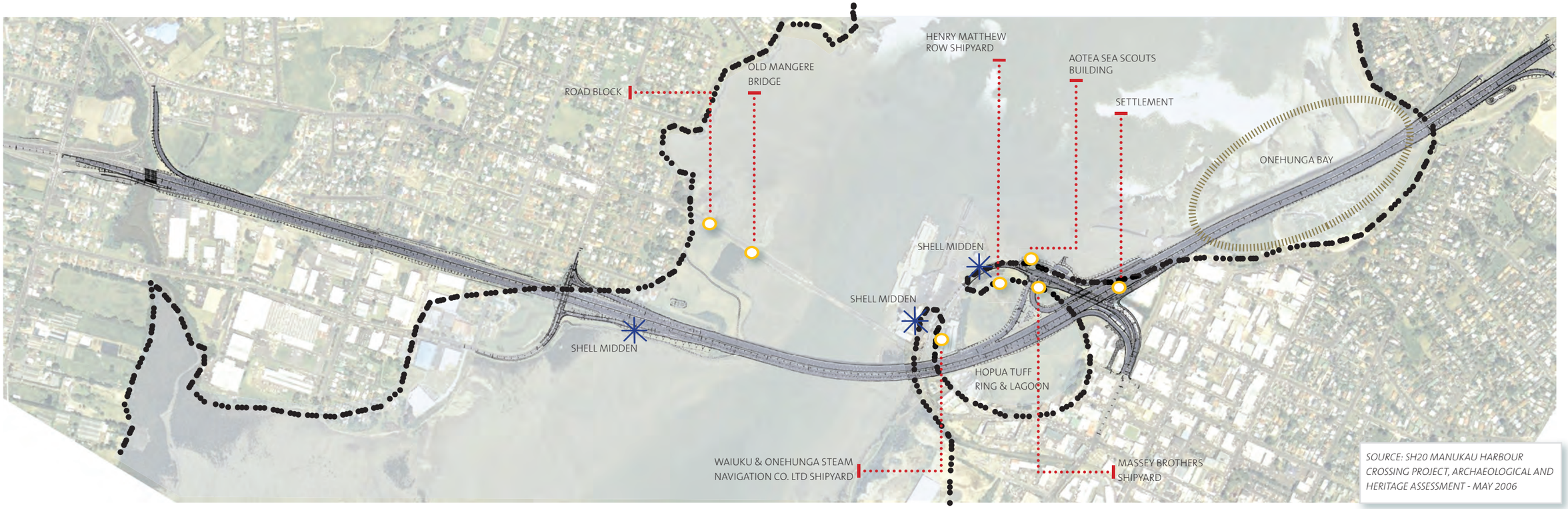
A programme of reclamation along the harbour edge commenced in the early 1960's, which continued for the next 20 years in the area south of Neilson Street between Galway Street and Waikaraka Cemetery, together with Pikes Point east and west; and also along Mangere Bridge east. These works have provided additional space for industry and motorway construction, however they have dramatically altered the physical appearance of the coast in these locations.

Mangere Bridge, Under Construction c1913

View Across Manukau Harbour, Towards Mangere Mountain. Date Unknown

Seacliffe Road Area C1940's

Onehunga Wharves c1860



SOURCE: SH20 MANUKAU HARBOUR CROSSING PROJECT, ARCHAEOLOGICAL AND HERITAGE ASSESSMENT - MAY 2006

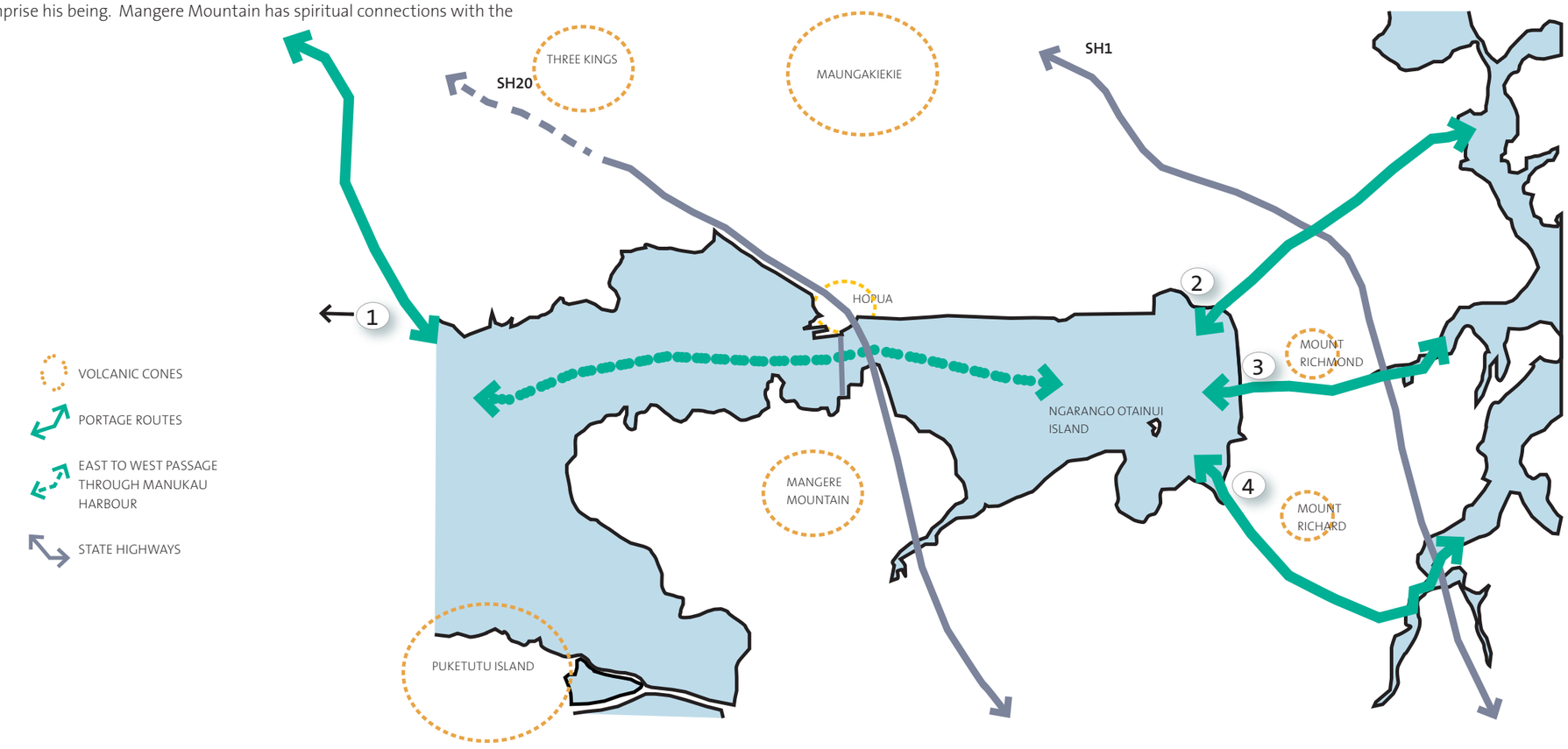
4.2 Maori History

The Manukau Harbour has a rich Maori history. Tribes from the north of Auckland (such as te Kawerau, and Ngati Whatua), and Waikato (Tanui) have intermittently settled upon the shores of the Harbour since before the 1350's. The Harbour due to its shallow waters has traditionally been an abundant source for seafood and fish.

Maori arrivals into the area have historically been made by canoe either into the Manukau Harbour directly, or incidentally along a number of portage routes across from the Waitemata Harbour carrying their canoes. There are a number of important portages linking the Manukau and Waitemata Harbours. These include:

1. The Whau – over 3 kilometres in length connecting the upper Waitemata Habour with the northern part of Manukau Harbour;
2. The Karetu – linked Anns Creek with Karetu, which is located south of Panmure Basin;
3. Te Tapotu o Tainui – this is possibly the most important link between Manukau and Waitemata Harbours. It is centrally located, short in length (under 1 kilometre) with an undemanding gradient. It is believed that his was the portage used by the Tanui Waka which arrived in the Manukau Harbour in 1350, along with the Nga Rango e rua o Tainui skids; and
4. Te Waokauri or Pukaki portage. This is located in the Middlemore-Grange Golf Course towards the eastern arm of Waokauri Creek, and was used to avoid travelling around Mangere.

Mangere Mountain has particular significance in the area as a result of homage to the Maori volcano deity – Mataoho. Mataoho is the guardian of all volcanoes in Auckland, and his name is revered across the cultural landscape of the Auckland region. A number of the volcanic cones in Auckland are associated with elements that comprise his being. Mangere Mountain has spiritual connections with the forehead of Mataoho.



4.3 Topography/Geology

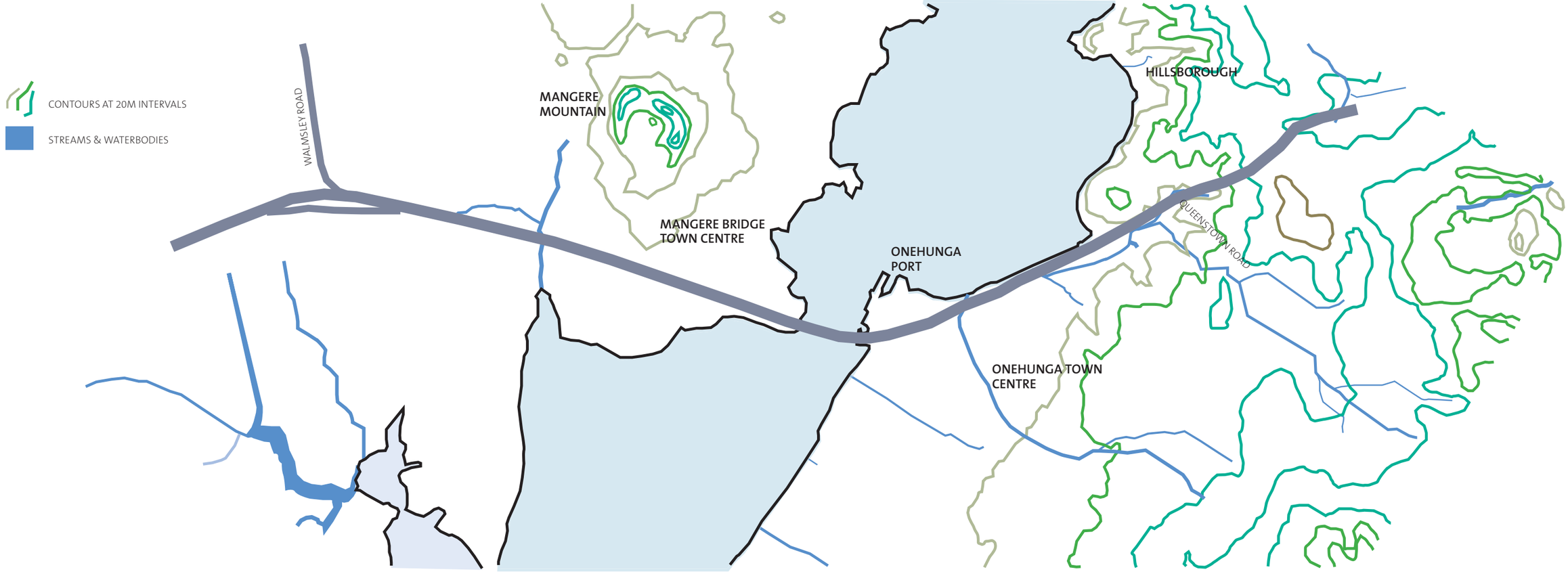
The Project corridor sits upon an alluvium and basalt base. There are also extensive areas of reclamation in the vicinity of both the Old Mangere Bridge and Mangere Bridge abutments which are likely to comprise (insert material?).

The landscape characteristics of the route comprise a variety of landforms and water bodies that include:

- The volcanic cone of Mangere Mountain and volcanic crater/tuff ring of Hopua;
- The Manukau Harbour and its indented natural and man-made coastlines. It includes the smaller Mangere Inlet to the east of the bridge, reclamation at Onehunga Bay, Hopua, and the area south of Neilson Street, and the tidal reaches of Tararata Creek; and
- The old volcanic lava flows from Maungakiekie and Mangere Mountain.

While the landscape of the route has been markedly urbanised, the underlying land and water forms still represent a diverse landscape of inherent interest and quality. This is due predominantly to the relationship between land and water, the indented coastal edge, natural habitats of the mudflats, the Manukau Harbour and volcanic formations.

For the most part the route travels along a relatively flat gradient. The exception to this exists at the northern extent of the Project route where it connects with SH20 Mt Roskill at Queenstown Road. Here the landform rises towards the steep Hillsborough tree lined cliffs, and elevated levels of Onehunga Heights in the vicinity of Beachcroft Avenue and Bel Air Drive. This same landform also offers an elevated location for expansive views of Manukau Harbour.



4.4 Land Use & Built Form

Onehunga and Mangere Bridge town centres are located inland from the coast and encompass a similar 'mainstreet' style structure. Both mainstreets run north to south and are based upon a walkable grid structure consisting of blocks that can be easily walked within 5 minutes (typically 180m x 180m), which provide for good levels of connectivity.

In Onehunga, the mainstreet is characterised by two story buildings comprising a mix of commercial building styles from the late 19th century to more recent contemporary additions. To the south and west of Onehunga town centre are commercial and industrial land use activities. These commercial and industrial buildings are typified by their high stud heights, large building footprints and outdoor storage yards. They are mostly 1-2 storeys in height and feature simple facades with few exterior embellishments. Residential dwellings are located to the north and east of the town centre and feature early 20th century villas and bungalows as well as modern terraced housing and apartment developments.

Mangere Bridge town centre is smaller than Onehunga. Commercial and industrial uses are located away from the town centre on the eastern side of SH20. Residential dwellings abut the town centre and building styles vary from late 19th century/early 20th century to mostly 1960's /1970's construction. A pocket of recent two story family homes are located south of the town centre near the Walmsley Road on-ramp.

Pockets of open space exist throughout both areas, with Mangere Bridge (the suburb) providing good linear open space connections along its coastline between Miro Road (in the east) and Ambury Regional Park (in the west).

Land use planning is administered by Auckland City Council in Onehunga under the Operative Auckland City District Plan – Isthmus 1999, and by Manukau City Council in Mangere Bridge under the Operative Manukau City District Plan 2002.

BUILT FORM: ONEHUNGA

Modern Higher Density Residential Apartments/ Mixed Use

Onehunga Town Centre - Two Storey Commercial Buildings

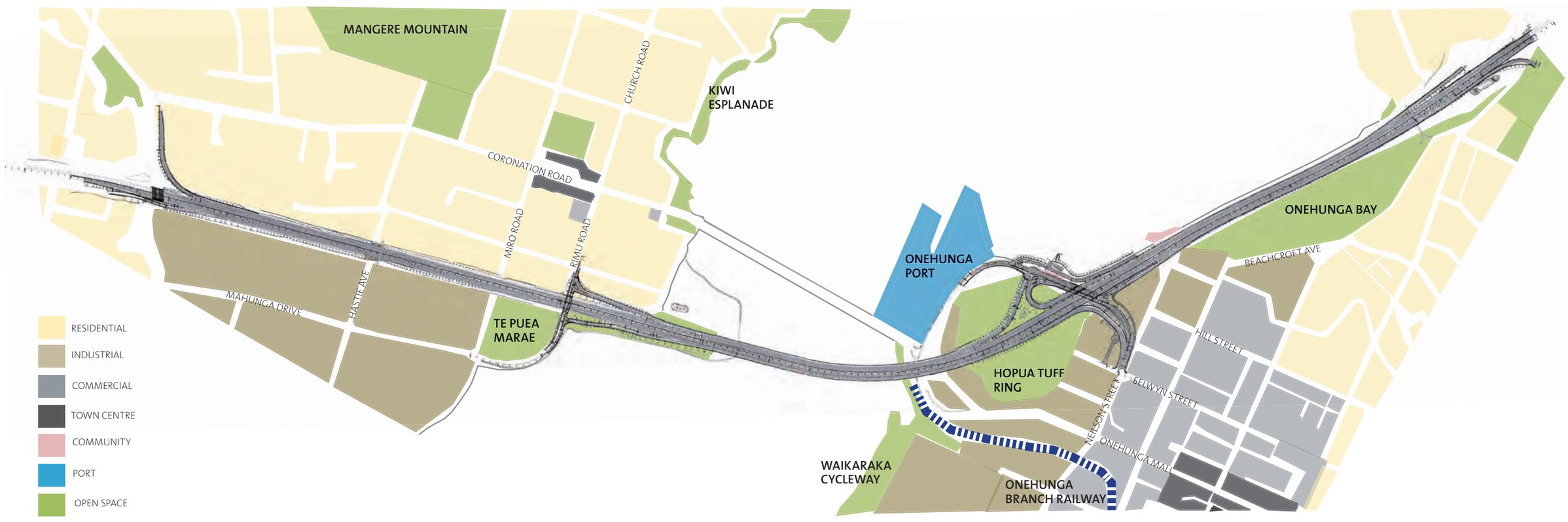
High stud industrial Buildings - south of Church Street

BUILT FORM: MANGERE BRIDGE

Late 19th Century/Early 20th Century Residential

Town Centre/Commercial Buildings

Industrial Buildings - Mahunga Drive



4.5 Surrounding Character

4.5.1 Character Areas

1 **Volcanic Cones/Craters**

2 Mangere Mountain and the less obvious Hopua tuff-ring are physical expressions of the unique volcanic landscape of the Auckland region within the Project corridor. These two features tie the Project area with the larger-scale landscape qualities of Auckland. Mangere Mountain is a local landmark that emphasises Mangere as a place. It is particularly a visual reference (at 106 metres above sea level) for both motorists travelling along SH20, and boats in the harbour.

3 **Port of Onehunga**

The Port of Onehunga is well located to service the large and growing industrial and commercial areas located in Onehunga and south Auckland. All buildings and activities oriented towards the harbour edge. A large carpark separates the main Port buildings from Onehunga Harbour Road. A low-level stone wall provides boundary definition between a 1.0m footpath and the site. There are no distinctive entrance features, and lack of signage denoting a Port with the exception of motorway signs. Heavy vehicles associated with transporting goods travel frequently to and from the Port.

4 **Old Mangere Bridge**

A bridge connection has existed in this location since 1875. The first was a timber bridge that was replaced by the current ferro-concrete bridge in 1914. Old Mangere Bridge now provides an important visual link to the history of both Mangere Bridge and Onehunga suburbs. It is also frequently used as a local crossing for pedestrians and cyclists, as well as an outpost for recreational fishing. The bridge has been constructed close to the water level of the harbour. This provides for an excellent relationship between users and the harbour (however does not provide east to west passage below the bridge for boats).

5 **Orpheus Drive**

Orpheus Drive is a coastal route connecting Onehunga Harbour Road and Seacliffe Road. The Aotea Sea Scouts Building and the Manukau Cruising Club are the only two buildings located in this area. The Aotea Sea Scouts building has significant heritage value. It was constructed in 1911 and remains the sole surviving heritage building on the shores of the Manukau Harbour.

The Aotea Sea Scouts and Manukau Cruising Club buildings do not incorporate active edges. Inconjunction, the exposed wind conditions in this location and proximity to motorway traffic flows contribute towards a somewhat disconnected and under-utilised environment. The area currently has low pedestrian amenity and lacks a continuous pedestrian footpath along its length.

6 **Onehunga Bay Reserve**

Onehunga Bay Reserve consists of a tidal lagoon, which is a remnant of the former coastal bay that was severed by the development of this stretch of SH20 in the 1970's. The reserve is overlooked by elevated south-facing residential houses along Beachcroft Avenue. Picnic tables, formalised footpaths and a children's playground are located along the northern edge of the reserve. Sea lettuce is growing at the lagoon, which is compromising the environmental and recreational value of the Reserve. Auckland City Council have prepared a draft management plan that proposes a number improvements to enhance local community use of the reserve as well as its wetland and vegetation features.

7 **Onehunga and Hillsborough Residential**

8 The majority of residential homes in both of these locations enjoy elevated views of Manukau Harbour. Hillsborough has a mix of housing styles, which are typically 1-2 storey detached dwellings. The area is primarily residential in nature with limited retail or other commercial services.

Onehunga also comprises a mix of residential styles, with a large number of bungalow and villa houses. More recent higher density development is occurring in the suburb, in locations closer to the town centre. Residential development is comparatively better serviced by public transport and local retail shops.

9 **Mangere Bridge Residential**

Early residential homes in Mangere Bridge have a similar era of construction as those in Onehunga. This reflects the relationship between the two suburbs and how they developed alongside one another. Mangere Bridge displays a variety of housing styles most from the late nineteenth century up until the 1970's. There are few examples of more contemporary development besides some new development occurring in the vicinity of Tanners Road.

10 **Mangere Bridge Industrial**

The Mangere Industrial precinct is located east of SH20 along Mahunga Drive. The character of Mahunga Drive reflects the commercial/industrial nature of the uses located along the street. The majority of buildings are 1-2 stories, occupy large building footprints, are set back from the road (many with driveways or carparking separating buildings from the street), have visible vehicle loading areas/garaging, and display commercial signage (at an automotive scale). The road also features wide grass berms with intermittent mature trees and low lying planting along property boundaries.

11 **Te Puea Marae**

Te Puea Memorial Marae is an urban marae that is situated at the northern most boundary of the Tanui tribal area. The whare nui and associated marae buildings are clustered towards the south of the site along Miro Road, where entry to the Marae grounds is obtained. The site covers approximately 2.1 hectares. A large open space is situated at the north of the site along the Rimu Road and Mahunga Drive frontages.

12 **Kiwi Esplanade**

Kiwi Esplanade covers a length of x kilometres along the southern shores of the Manukau Harbour between Ambury Regional Park and Mangere Bridge. It features a formalised pedestrian footpath that provides key views of the harbour towards Hillsborough and Onehunga.

The Esplanade possesses high amenity value. It provides a scenic buffer between the harbour, Kiwi Esplanade Drive and the residential houses that overlook this street. It is well maintained, and provides a distinctive coastal edge that is unique along the shores of the Manukau Harbour. The walkway along Kiwi Esplanade also forms part of the national walking route – Te Araroa (which in this location connects at Old Mangere Bridge, and includes the length of Kiwi Esplanade to Ambury Regional Park towards either the Mangere Wastewater Treatment Plant or the Otuataua Stonefields).

13 **Onehunga Industrial**

The Onehunga Industrial area is located south of Onehunga Town Centre, and occupies an area bounded largely by the harbour and motorway. The area is characterised by generous building setbacks to accommodate vehicle manoeuvring (such as along Neilson Street), and utilitarian warehouse-style developments with high stud heights, large building footprints and outdoor storage yards. These buildings are typically 1-2 storeys in height. They feature simple façade treatments with few exterior embellishments.

4.5.2 Growth Nodes

Auckland City Council: Growth Management Strategy 2003

a. Auckland City Areas of Change

Auckland City Council has prepared the ***Auckland City: Growth Management Strategy 2003*** (ACGMS), which identifies how future growth and development can be accommodated. Onehunga has been listed as a 'Priority Two Area of Change'. Areas of Change are those town centres or suburbs where it is considered increased growth can be supported. This approach is already becoming prevalent in Onehunga, with a number of new residential and mixed use developments becoming established within walking distance of Onehunga Town Centre.

The ACGMS is driven strongly by a 'liveable communities' focus where there is strong desire to ensure future development provides for quality urban living, and residents have good access to transport, open space, commercial and community services.

b. Auckland City Areas of Business Development

The ACGMS also identifies 'Business Development Communities'. These are areas of the city that have a strong commercial and employment base with the potential to support additional employees through having capacity for growth, market interest in development and expansion, along with good access to passenger and goods transport. They are predominantly focused upon commercial and industrial centres.

The commercial and industrial area to the immediate south and east of Onehunga Town Centre has been identified in the ACGMS as a Priority 2 Business Development Community. The area is known as the South Eastern Edge Business Precinct. The intention is to foster high levels of employment and attract further economic development. Detailed planning and development strategies to pursue this work will be initiated by Auckland City Council once resources become available or when critical infrastructure to support development is in place.

4.6 Linkages & Connections

The Project route forms part of the larger SH20/Western Ring Route, which once completed will provide a 48 kilometre connection between Manukau City and Albany and become a viable alternative to the main SH1 motorway connection through Auckland. While it is recognised that the route is part of this larger network, the connections and linkages analysis focuses predominantly on the length of the route where improvements are proposed as part of this Project.

The Project route bridges two city council boundaries on either side of Manukau Harbour. It provides a fundamental connection across this area, and is a well-used route for traffic travelling Auckland International Airport, Onehunga Port and Auckland City.

Both Onehunga and Mangere Bridge suburbs were established prior to the development of the SH20 route. As such the nature of some of the streets and linkages in both these suburbs have changed over time due to the construction of the motorway and associated reclamation. Streets such as (Old Mangere Bridge) Coronation Road, Church Road, Onehunga Mall, Princes Street, Miro Road, and Hastie Avenue now function in a different sense, however there are still land uses, built form patterns and desire lines that influence the movement of people along these routes. Today, these routes are associated with recreational links rather than being the primary means for traffic and movement across the area.

4.6.1 Roading Hierarchy

Gloucester Park Interchange is a significant junction. Regional and district arterial routes connect at this location. Neilson Street provides an important connection from SH1 Mt Wellington, and Selwyn Street is a busy thoroughfare for vehicles and buses from downtown Auckland City (in conjunction with Hillsborough Road). Walmsley Road appears to be the most well used interchange towards the southern extent of the route providing a connection with both Mangere and Mangere Bridge suburbs. Public transport however uses the interchange at Rimu Road instead.

4.6.2 Cycling/Walking

Cycling strategies have been prepared by both Manukau and Auckland City Councils. These strategies typically identify routes that are currently being used. In both suburbs they run along coastal edges and through both town centres. These strategies also show Old Mangere Bridge as the means of access for cyclists across Manukau Harbour.

Walking routes follow similarly to these cycling routes, particularly for recreational walking.

4.6.3 Public Transport/Bus Routes

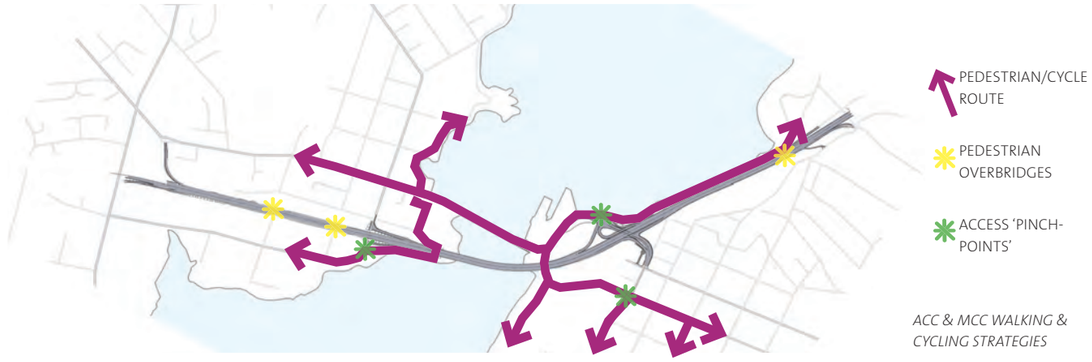
Public transport runs through both Onehunga and Mangere Bridge mainstreets. Onehunga is better served by public transport with a higher number of route alternatives available. A bus depot/interchange is also located in Onehunga along Pearce Street (between Selwyn Street and Onehunga Mall).

4.6.4 Function and Use

As illustrated in the drawings to the right, there exists a relationship between open space and the cycling/recreational links in the Project area. It encourages use and movement through open space areas, and reinforces the provision/viability of open space resources. It also reflects the desirability of a route, which has more to do with being the 'most obvious route'. A pedestrian's/cyclists decision to move along a particular route is influenced by a number of factors relating to variety and interest, which also include other considerations such as views, safety, light and shade, landscape and land use. As such there exist factors in the existing environment that should be maintained and enhanced in this sense in order to sustain these connections.

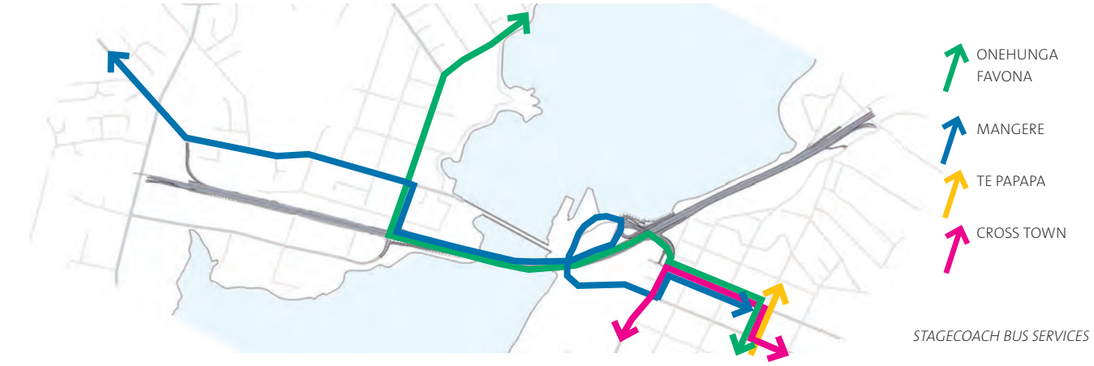
ROADING HIERARCHY

PEDESTRIAN & CYCLE ROUTES



ACC & MCC WALKING & CYCLING STRATEGIES

BUS ROUTES



STAGECOACH BUS SERVICES

DESTINATIONS

4.7 Landscape Values & Vegetation

Wider Manukau Harbour and Landscape Features

At the broadest spatial scale, the coastal environs of the wider Manukau Harbour provide the landscape context to the Project. At this scale, the context is characterised by the distinct and highly varied landforms and topography of the distant Manukau Heads and associated ridgelines. At a less distant scale the unmodified landforms of the Waitakere uplands reinforce these natural landform characteristics by continuing the perspective sequence of headland and ridgeline features. The expansive open water and tidal coastline qualities of the Manukau Harbour also contribute to the dominant coastal character of this landscape context.

Inner Manukau Harbour and Landscape Features

This area is significantly more modified specifically in relation to built landscape elements, modified landcover and land use patterns. This is particularly evident in relation to residential development on the hillsides of Hillsborough, the Port of Onehunga facilities, the constructed shoreline elements and open spaces of Mangere Bridge, the scale, bulk and grid layout of commercial and industrial buildings in Onehunga. Two distinct natural landscape features at this scale are Mangere Mountain and Maungakiekie.

Vegetation

Vegetation along the route is made of typical domestic suburban gardens, large trees at key locations, coastal shrubs, forest edges and saline wetland plant communities. Larger trees are located near the existing northbound on and off ramps at Gloucester Park Interchange, and include Pohutukawa, Oak, and Macrocarpa trees. Younger coastal specimens are located along the remainder of the route to screen residential properties. These plantings consist of Ngaio, Flax, Cabbage Trees, Karamu and Pohutukawa.

MANGROVES

MATURE TREES (POHUTUKAWA, OAK, MACROCARPA, NORFOLK PINES)

YOUNG COASTAL SPECIES (POHUTUKAWA, CABBAGE TREE, KARAKA, KARAMU, FLAX, NGAIO, KARO, MANUKA)

4.8 Significant Views

4.8.1 General

The Project corridor is a 4.5 kilometre length of motorway that is located in a diverse landscape setting that crosses multiple coastal edges. The interplay between land and water (including water bodies) creates an interesting landscape element.

The Project corridor can be seen from a number of viewpoints. These viewpoints range in distance from immediately adjacent to the motorway to distances of more than two kilometres away. Significant viewpoints of the motorway are obtained from:

- The volcanic cones of Mangere Mountain and Maungakiekie;
- The shoreline of Mangere Bridge; and
- Onehunga Heights.

From each of the above viewpoints, the motorway and Manukau Harbour Crossing bridge appear as central components within these panoramic vistas.

4.8.2 Viewing Audience

The viewpoints established below are those experienced by two groups of viewing audiences:

Static

- Residents;
- Workers and visitors to light industry properties located in both Onehunga and Mangere Bridge;

Transient

- Commuters/Motorists; and
- Recreational users of shoreline reserves and harbour.

4.8.3 Close-Range Viewpoints

Landform and distance significantly affect the extent and quality of views. The corridor tends to be seen either from close or from considerably more distant locations. The closer viewpoints include:

In Mangere Bridge:

- Residential homes;
- Te Puea Mare;
- Industrial warehouses between Walmsley Road and Rimu Road; and
- The reserve on the southern abutment.

Old Mangere Bridge and in Manukau Harbour:

- Pedestrians/Cyclists/Recreational Fishers on Old Mangere Bridge; and
- Recreational harbour users.

Onehunga

- Waikaraka Foreshore walkway/cycleway;
- Industrial businesses at Gloucester Park;
- A small number of Onehunga Business; and
- Onehunga Bay Reserve.

4.8.4 Driver Experience - Southbound Sequence

The southbound driver experience is one that is frequently used by Auckland City motorists en route towards Auckland International Airport. The route experiences high traffic volumes, and provides a succession of different view points that display the diverse range of land uses and land use character that stretch alongside the motorway corridor.

Key views on the southbound journey are summarised as follows:

A View of Queenstown Road Overbridge. The view is taken before the commencement of the Project route. The corridor slopes down from SH20 Mt Roskill. A change in grade emphasises the transition from SH20 Mt Roskill into the Project corridor.

B Beachcroft Overbridge. This provides the first visual point of reference for southbound travellers within the Project corridor, rising 5.8 metres above ground.

C View towards Onehunga Bay Reserve. A relatively dense planting of (to be inserted) close to the motorway edge.

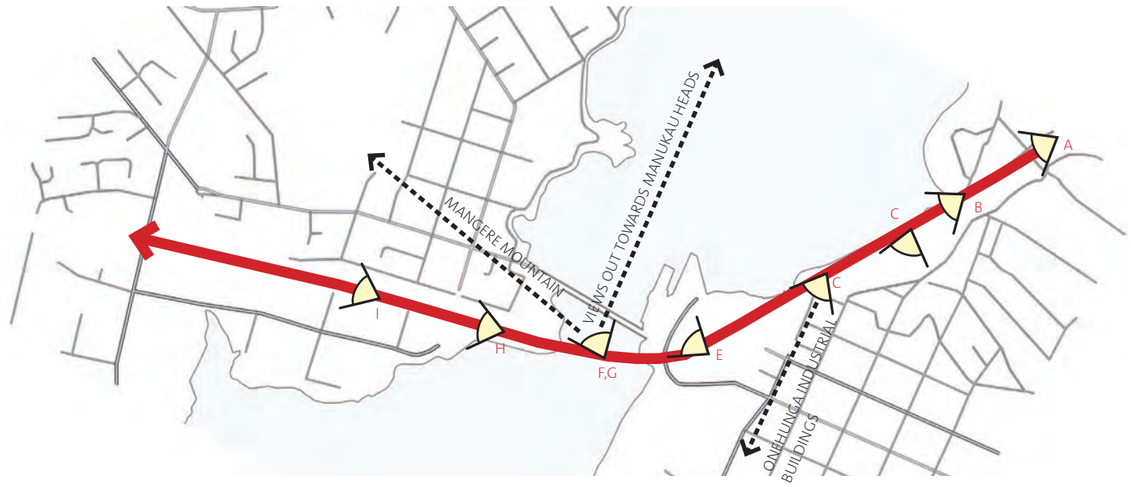
D Neilson Street off-ramp to the left. View of motorway corridor interspersed with Transpower 220kv double circuit towers as part of the Otahuhu – Mt Roskill link.

E View towards apartments located along Onehunga Harbour Road that overlook Gloucester Park South.

F,G View from Mangere Bridge towards Mangere Mountain, the suburb of Mangere Bridge and towards the Manukau Heads.

H View of Rimu Road and extent of existing Manuka, Karamu and Cabbage tree planting.

I Hastie Ave Foot/Overbridge. Showing the contrast between mature flax, Manuka, Karamu and Cabbage tree specimens alongside residential homes to the right of the corridor and very little planting on the left hand side adjacent to industrial buildings.



4.8.5 Driver Experience - Northbound Sequence

A significant feature of the northbound journey are the views of Old Mangere Bridge from Mangere Bridge. Mangere Bridge provides an amphitheatre setting from which to admire views of Old Mangere Bridge, Onehunga Port, the cement silos and natural landforms of the Manukau Heads, Hillsborough and Maungakiekie.

Key views on the southbound journey are summarised as follows:

A Views towards Mangere Mountain from motorway.

B Hastie Ave Foot/Overbridge. Framing the view of Maungakiekie in the distance.

C View of Rimu Road Overbridge. Showing dense growth of Manuka, Karamu and Pohutukawa Trees on the western/residential side of the motorway corridor.

D View across open space area located to the west of the southern Mangere Bridge abutment looking towards Kiwi Esplanade and outer Harbour headlands.

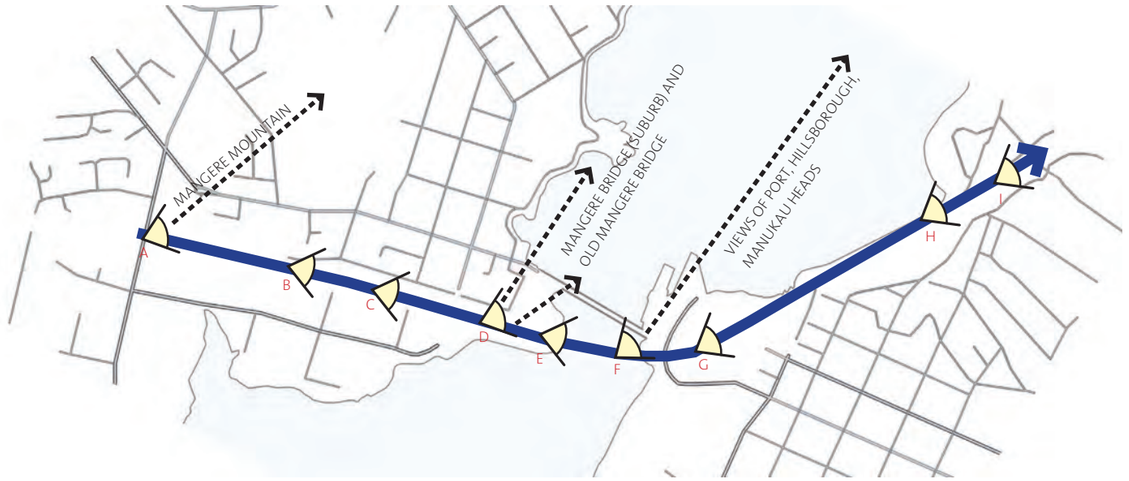
E View driving across Mangere Bridge with a sight of Maungakiekie in the distance.

F View towards Onehunga Port, the cement silos, and Hillsborough in the distance.

G Neilson Street off-ramp. View of the motorway at this point along the corridor, with the Aotea Sea Scouts Halls on the left.

H At the Orpheus Drive – Seacliffe Road interface with Beachcroft Ave Overbridge in the middle distance. View shows the existing wire-mesh fence located between the motorway and Orpheus Drive.

I Queenstown Road Off-Ramp and Beachcroft Overbridge. View in the distance of SH20 winding up towards SH20 Mt Roskill.



5.0 URBAN DESIGN PRINCIPLES

5.1 Principles for Design & Improvement

Natural Landscape

- Maintain and enhance views of Manukau Harbour and surrounding volcanic cones/features. Ensure development reinforces the visual richness, landscape quality and local identity of the area. Also consider the driver experience of appreciating the environment;
- Investigate opportunities to reflect the landscape and cultural history of Manukau Harbour through design and enhancement works;

Coastal

- Respect and enhance the fundamental elements, ecological qualities and unique west coast character of Manukau Harbour;

Open Space & Linkages

- Unify open spaces and enhance pedestrian/cycle links to provide improved open space access and local-scale connectivity;

Local Community

- Development should provide opportunities to enhance the existing function and quality of both Onehunga and Mangere Bridge town centres, as well as improving relationships/linkages between both these areas;
- Existing land uses are important to the overall character and identity of the environment. Motorway design and operation should seek to minimize any intrusion on the amenity and function of residential and commercial uses;

Partnering

- Investigate opportunities to work with Councils, iwi, local groups and communities to deliver high quality open space areas and public features.

6.0 URBAN DESIGN KEY OPPORTUNITIES & INITIATIVES

The Project provides a number of improvement and enhancement opportunities for the surrounding environment. The intention of this Framework is to identify opportunities and initiatives that will improve and enhance the environment with regard to the proposed works. As such, the Framework identifies a range of opportunities both within and beyond the (existing and proposed) Transit designation that are considered to create or influence quality built form and urban design outcomes. This approach has been adopted to ensure that the environment in which the Project is located has been considered in its entirety, and that there is coherency for individual initiatives.

Opportunities and initiatives have been identified on both a Project-wide basis, and for each individual sector. It is noted that at a later stage of this Project a distinction will be made as to the responsibility or cost-sharing for these initiatives.

6.1 Project-Wide Improvement and Enhancement Opportunities

Project-wide improvement and enhance opportunities relate to features and actions associated with the Project on a whole. While there is flexibility for these features or actions to reflect location-specific characteristics (in relation to topography, views, coastal aspect and vegetation), this section of the Framework identifies some key ideas and direction that should inform the design and functionality of these features.

These features include:

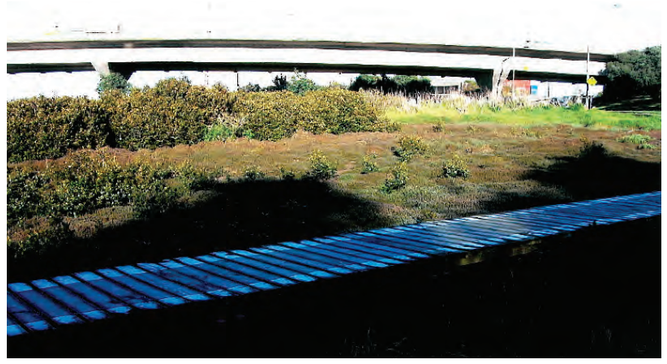
- Open space connections;
- Motorway elements, such as:
  - Noise walls
  - Retaining walls
  - Sign gantries
  - Median/crash barriers
- Pedestrian overbridges;

6.2 Sector-Based Initiatives

Key urban design initiatives for the Project have been identified in seven sector areas that make up the Project length. These initiatives are based on the proposed Project improvements and issues, opportunities and constraints identification. They also take into account the analysis presented in Section 4 of this Framework, the Principles in Section 5, and work previously carried out in reports submitted as part of the Notice of Requirement and resource consent documentation, in particular the landscape and visual assessment, and urban design assessment.

These initiatives include actions specific for each of the six sector areas, which will guide subsequent design and development phases for built environment outcomes. Some of these initiatives and actions will be subject to further work, consultation, investigation or economic assessment at a later date.

7.0 PROJECT-WIDE IMPROVEMENT & ENHANCEMENT OPPORTUNITIES



7.1 Open Space Connections

The Project provides an opportunity to recognise and enhance open space connections in the vicinity of the route. Open space areas are concentrated along the coastal edge of both Onehunga and Mangere Bridge, however access to these areas has been severed by the SH20 motorway corridor particularly on the Onehunga side of Manukau Harbour.

The identified open space areas (which are defined as parks, and open spaces specified in the Auckland City Council and Manukau City Council district plans, and include Old Mangere Bridge and Orpheus Drive) have the potential to be better linked to form an 'open space network'. A network of open spaces is often more useful for visual amenity, recreational use (enabling cycling and walking circuits) and ecological value than isolated and unrelated pockets of open space.

There should be an emphasis on the quality of open spaces, as well as ensuring that present quantity of open space is not diminished as a result of the Project. The typology and mix of open spaces is important in this respect. It is noted that most of the existing open space areas reflect a coastal esplanade character, which assists in defining and maintaining views of the harbour. However collectively, there is a good mix of open spaces as described on the following page:

Mangere Mountain

Mangere Mountain occupies a land area of approximately 31.8 hectares, and rises to a height of 107 metres. The recreational attributes of Mangere Mountain include its frequent use as a walking, running and mountain biking track. The mountain can be accessed from a carpark located at the Mangere United Sports Club on Domain Road. Football and softball are the major activities of this club. A childrens playground is located at the end of Domain Road, where walking tracks up the mountain commence.

Kiwi Esplanade

A coastal esplanade reserve that runs from the southern abutment of Old Mangere Bridge to Ambury Regional Park. It covers approximately 9.2 hectares and features a formalised pedestrian path along its length. Kiwi Esplanade provides a particularly scenic and open coastal pedestrian environment which is unique along the Manukau Harbour foreshore. The esplanade is overlooked by residential homes that front onto the street. The area is predominantly used for leisure walks. There are also picnic tables and boat launching facilities.

Southern Bridge Abutment

Has the appearance of 'left over space' from the construction of Mangere Bridge in the early 1980's. It covers approximately 26.6 hectares There are no formalised pedestrian paths or facilities to encourage use and activity here. The slope in the space immediately north of Waterfront Road features a strong man-made linear aspect, reflecting the reclamation associated with its establishment. A narrow strip of space exists on the eastern side of the main bridge. The space generally has low amenity and is poorly developed.

Waikaraka Cycleway/Walkway

Waikaraka Cycleway runs 12 kilometres from Pikes Point, Onehunga to Hillsborough Road in Mt Roskill. The cycleway is currently under construction, however in the vicinity of the northern (SH20) bridge abutment, a boardwalk has already been constructed across mangroves that connects with Onehunga Harbour Drive. This link provides a unique point of interest along the route and utilises the coastal aspect of the route. This open space connection is very much a route for passage, with few suitable areas for resting or other recreational activities/sports.

Gloucester Park

SH20 bisects Gloucester Park into two 'north' and 'south' sections. The northern area (approximately 4.4 hectares) is accessed from Onehunga Mall Extension Road and is currently used as an Aussie Rules sports field. It also features a small gravel carpark and temporary toilet facilities. Gloucester Park South (approximately 2.9 hectares) on the other hand does not have any sporting facilities or park amenities. There is poor access into and through the park. The Aotea Sea Scouts occasionally use this space for various organised group activities.

Onehunga Bay Reserve and Onehunga High School

Onehunga Bay Reserve (9.4 hectares) features a tidal lagoon, walking paths, picnic tables and a childrens playground. As such, it is capable of hosting a variety of recreational activities ranging from swimming and kayaking to group events and informal sports groups. ACC have initiated a draft concept plan to improve the quality and use of the reserve. Onehunga High School provides a complementary open space link in the network of open spaces located on the northern side of the motorway at the Queenstown Road end of the Project.

Old Mangere Bridge

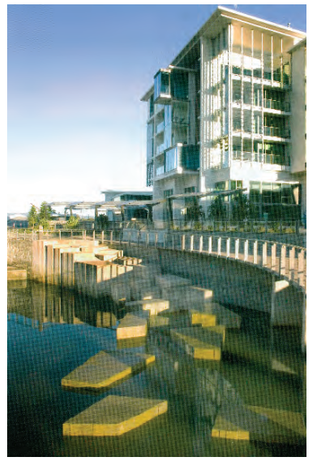
Is used today as a recreational walking and cycling link across the Harbour. Old Mangere Bridge also a popular fishing spot, and the location and height of the bridge deck maintains a pleasant relationship with the Harbour. Visitors are able to stroll along the bridge or sit in parked cars to admire the views of the Harbour or activity of the fishing locals.

Orpheus Drive

Similarly to Old Mangere Bridge, Orpheus Drive primarily provides a connection for cyclists and pedestrians. Its coastal edge locations naturally lends itself to be the chosen route for pedestrians and cyclists. There are few opportunities to rest or linger along the route, besides Orpheus Drive Reserve located at the northern end of the road. A grassed spot with picnic tables is located here.

7.1.1 Opportunities to Enhance Open Space Areas/Linkages

- Enhance and increase the awareness of identified walking/cycling linkages in the Auckland City Council and Manukau City Council Walking/Cycling Strategies;
- Investigate and implement opportunities to link existing open spaces on either side of SH20 between Queenstown Road and Onehunga Harbour Road to create a continuous open space/recreation/green link;
- Investigate opportunities to remove, conceal or modify existing underpasses and structures that diminish existing open space and pedestrian amenity in the vicinity of Manukau Harbour Bridge Crossing;
- Ensure that the location of bridge piers (for the new duplicate bridge) does not obstruct pedestrian/cycle passage along coastal routes;
- Investigate ways to enhance and encourage use at Onehunga Bay, Kiwi Esplanade, Orpheus Drive and Onehunga Harbour Road; and
- Investigate the opportunity for new buildings, landscape treatment and landscape design to enhance the quality, profile and identity of open spaces and recreational linkages.



7.1.2 Initatives & Key Actions

- Define the legibility of Hopua Tuff Ring;
- Establish a continuous pedestrian/cycle link along Onehunga Harbour Drive. Ensure this link is at least 3 metres wide to accommodate shared use in accordance with AustRoads Standards.
- Use lighting, landscape, and streetscape elements to enhance, attract and define open space areas, linkages, and streets;
- CPTED guidelines are to incorporated into all design and location of structures, routes, planting, recreation and resting places associated with the Project;
- Investigate a redesign for the northern abutment of Old Mangere Bridge so that it is more navigable for pedestrian/cyclists and links better with routes towards Orpheus Drive and Onehunga Mall;
- Maintain views for pedestrian/cyclists along coastal open space and recreational links. Ensure there is adequate space and a level of safety for walking, resting and admiring views;
- Motorway elements interfacing/in the view of significant views from open space areas (as identified in Part 4.8 of this Framework) should comprise elegant, simple forms as to not detract from the unique views and environment of Manukau Harbour; and
- Look to provide better definition of intersecting recreational and open space linkages by creating/providing defined visual links, formalised paths, signage and visible (or well surveillanced) pathways.

7.2 Motorway Elements

7.2.1 Noise Walls

Noise assessments for the Project have been carried out by Marshall Day Acoustics. They have advised that in order to achieve Transit Noise Guidelines for residential properties adjacent to the motorway corridor, noise walls are required in the following locations:

- Walmsley Road southbound off-ramp;
- Along the western side of SH20 between Walmsley Road and Rimu Road;
- Eastern side of SH20 in the vicinity of Miro Road;
- Western side of SH20 adjacent to the apartments located on Hopua Tuff Ring;
- Along Onehunga Bay Reserve; and
- Along the Queenstown Road northbound off-ramp.

Both concrete, timber and metal post noise walls (or variations of) will be used in the above locations. Planting will be utilised to screen and soften views of these walls , particularly from motorway-side locations. At this stage timber noise walls will be used along the residential stretch of noise walls between Walmsley Road and Rimu Road, and a noise wall that combines elements of visual permeability is preferred along Onehunga Bay Reserve to maintain views towards the harbour.

Noise wall design and construction will generally be constrained by lack of space and the location of drainage channels/filters (particularly the case along the Auckland City side of the route).

7.2.1.1 Opportunities

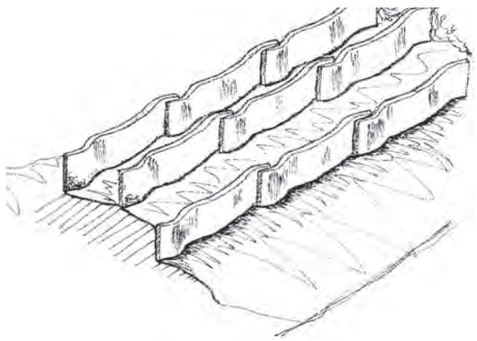
- The potential for noise walls to provide better edge definition and a canvas for local expression.

7.2.1.2 Initiatives/Key Actions:

- Noise wall structures shall complement adjacent landforms, and land uses. Where possible they should incorporate contemporary design and form. The final design of noise walls shall adhere to the following parameters:

  - Minimum height required to Transit noise standards for noise mitigation; and
  - Materiality and form that reflects the location-specific character (derived from land use, landform and any other significant landscape values such as views, vegetation and topography) of the space in which the noise wall occupies.

- Consider static and transient views in the design, form and materiality of noise walls;
- Night-time views of noise walls shall be considered. Lighting can add another aesthetic dimension to noise walls;
- Consider the use of planting to screen and soften the appearance of noise walls. Where possible noise walls could be set back to accomodate sufficient room for planting;
- Consider the views and treatment for the 'fronts and backs' of noise walls, particuarly in locations such as Onehunga Bay Reserve, and between Rimu Road and Walmsley Road.
- CPTED guidelines shall be used to inform the design and location of noise walls.



7.2.2 Retaining Walls

Retaining walls will be used in several locations along the Project route to facilitate widening of the corridor and to accommodate necessary structures. Most of the higher retaining walls are situated in the vicinity of Gloucester Park interchange to enable the construction of the motorway overbridge and ramps. Some higher retaining walls will also be located near the duplicate bridge abutments.

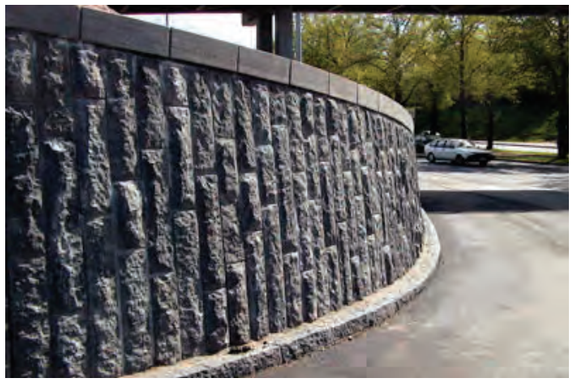
The immediate area adjacent to the motorway corridor is that of an already modified environment. However, due to their height and visibility, it is preferable for retaining walls to combine some additional aspect that lends them to be either a feature in their environment or a more neutral element in the environment.

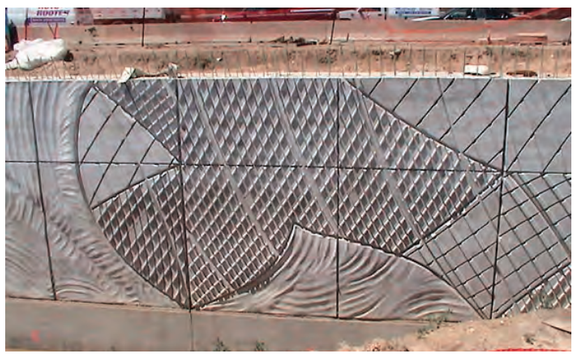
7.2.2.1 Opportunities

- The potential to use retaining walls as a canvas or opportunity to reflect local identity and 'sense of place'. Retaining walls can themselves be features that provide the mechanism for creating memorable and identifiable places.
- Retaining walls may be able to create additional opportunities for planting or feature spaces.

7.2.2.2 Initiatives/Key Actions

- Design responses for either option will need to show a relationship between the existing environment, natural landscape values, culture, history or identity of the area in which it is located.
- Particular consideration should be had to retaining walls in the following locations due to their size, height and high visibility to ensure their placement, surface and edge treatments are considerate of their context, visibility and viewing audiences.
  - Gloucester Park Interchange;
  - Both bridge abutments of the duplicate Mangere Bridge; and
  - Any location where retaining walls exceed 2 metres in height and 5 metres in length.
- Consider static and transient views in the design, form and materiality of retaining walls;
- Night-time views of retaining walls shall be considered. Lighting can add another aesthetic dimension to noise walls;
- Consider the use of planting to screen and soften the appearance of retaining walls. If possible retaining walls could be set back to accomodate sufficient room for planting;
- Retaining walls should be mindful of CPTED guidelines, pedestrian safety, views, important pedestrian and motorist sightlines and overshadowing effects.





7.3 Pedestrian Overbridges

7.3.1 Beachcroft Avenue

Existing

Beachcroft Ave Overbridge provides a useful connection between the hill top houses located along Seacliffe Ave and further back in Hillsborough with Onehunga Bay Reserve, Onehunga, and in particular Onehunga High School. Hillsborough is characterised by suburban family homes, and the overbridge provides a well-used connection for school students across the motorway.

Beachcroft Ave Overbridge is currently a single span bridge. The width of the bridge is 3 metres. Ground levels on the Seacliffe Ave side are elevated above the motorway. This provides a natural location from which to launch the bridge. The bridge deck level is also skewed towards the Seacliffe Ave end

A ramp on the Onehunga Bay Reserve side brings the bridge down to street level along Beachcroft Ave. Bollards are located at both ends of the bridge, however the width of these still provides the ability for cycle passage.

Specimen Design

In order to accommodate two additional traffic lanes (one in each direction) along this stretch of the motorway, the existing piers of the overbridge will need to be relocated. As a result, the Project proposes to replace the existing Beachcroft Ave Overbridge.

The Project proposes a new 'basket handle' bridge. The arch profile of this bridge intends to evoke the volcanic cone qualities of the region. The proposed bridge seeks to provide a vista for motorists, particularly southbound motorists travelling down the slope from the SH20 Mt Roskill section that frames views towards the harbour and provides a focal point, or perception of an entranceway.

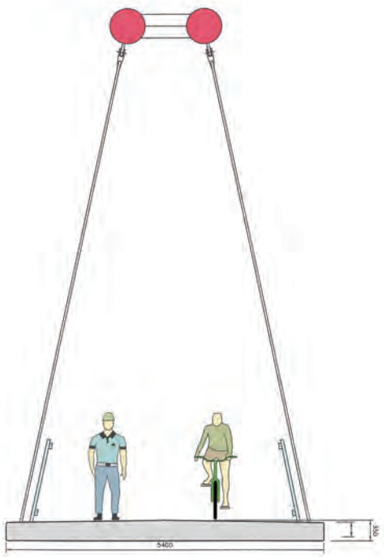
7.3.1.1 Opportunities

- To better define the functionality and existence of this route by enhancing the identity of the bridge.
- Encourage more pedestrian and cycle use of Beachcroft Ave Overbridge, by increasing user amenity of the bridge.
- To widen the with of the bridge to more comfortably accommodate pedestrians and cycle use (freely at the same time).
- Promote use of the bridge as a component of a recreation circuit that links open space and walk/cycleways on both sides of the motorway (making use of Orpheus Drive and Onehunga Bay Reserve).

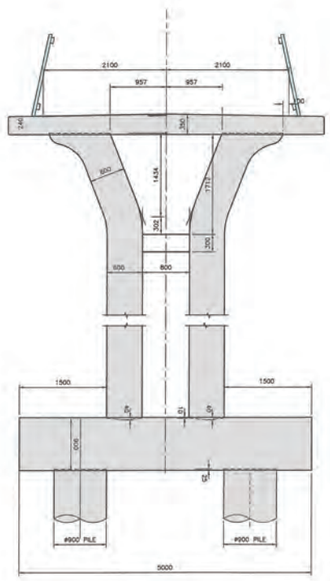
7.3.1.2 Intiatives/Key Actions

- A single span bridge across the motorway (as existing) is preferable to maintain views beneath the bridge deck towards the Harbour.
- Ensure the bridge terminates at a logical location within Onehunga Bay Reserve or with existing/new formalised footpaths.
- Views beneath the structure are important. This includes the ramps in Onehunga Bay Reserve. Clearance beneath these enables a visual linkage across Onehunga Bay. Embankments will obscure these views and physically impede these connections.
- The existing bridge is a slender structure. The existing handrails also provide visibility across the bridge above the bridge deck. The replacement bridge should also incorporate similar features. There should be emphasis on the environment, adjacent open space and coastal cliff character of the area – as such the form and appearance of the bridge should not detract from these elements.
- Consider night time views and pedestrian/cycle safety.

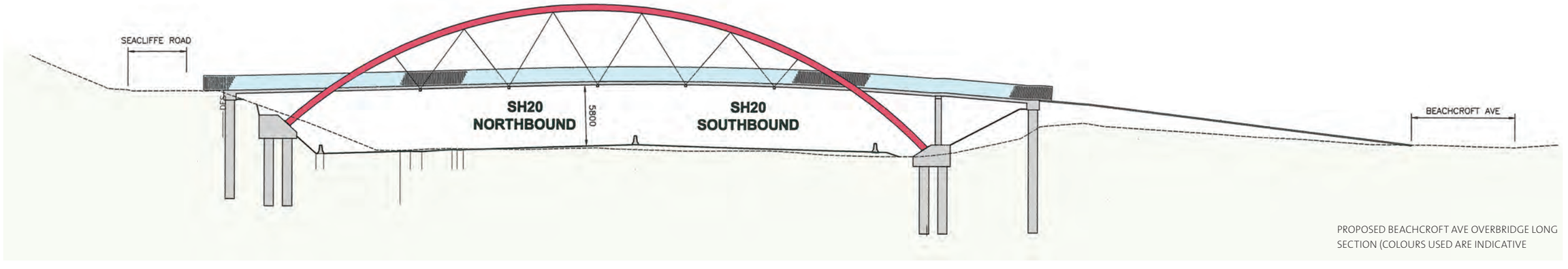
7.3.1.3 Specimen Design



BEACHCROFT AVE OVERBRIDGE - CROSS SECTION OF BRIDGE DECK



BEACHCROFT AVE OVERBRIDGE - CROSS SECTION OF BRIDGE STRUCTURE



PROPOSED BEACHCROFT AVE OVERBRIDGE LONG SECTION (COLOURS USED ARE INDICATIVE

7.3.2 Hastie Ave

Existing

Hastie Ave Overbridge/Footbridge provides a pedestrian connection between Mangere Bridge Town Centre and the industrial and commercial premises located along Mahunga Drive. It is located along one of the streets that were severed by the construction of SH20 initially in the 1970's.

The overbridge features only stairwell access currently. There are no ramps or bicycle access. The eastern stairwell is more obvious to motorists. The western access on the Mangere Bridge side is well screened by mature Manukau, Karamu and Pohutukawa specimens. The existing bridge is approximately 2 metres wide and rises 5.8 metres above the northbound traffic lanes.

Specimen Design

Similar to Beachcroft Ave Overbridge, the piers of Hastie Ave Overbridge need to be relocated to accommodate the proposed lane widening. As a result, the Project intends to replace the existing Hastie Ave Overbridge with a redesigned single-span pedestrian bridge that will be of a similar width to the existing. The new bridge will also incorporate ramps that are compliant with disabled and cycle access grades. The new bridge will be located along a similar alignment to the existing bridge, however will be constructed approximately 1 metre to the south of the existing position.

The design of the new bridge continues the sequence of the arches that punctuate the skyline in a similar way to the volcanic cones of Auckland. The arch bridge proposed for Hastie Ave also has a dual purpose of framing and defining views. Particularly for northbound motorists and their views towards Maungakiekie.

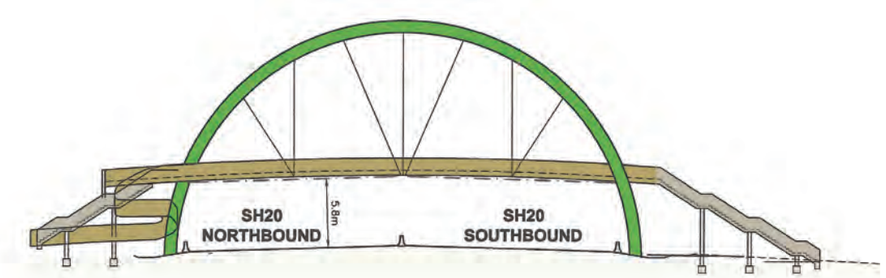
7.3.2.1 Opportunities

- To better define the functionality and existence of this route by enhancing the identity of the bridge.
- Encourage more pedestrian and cycle use of Hastie Ave Overbridge, by increasing user amenity of the bridge.
- Promote use of the bridge as a component of a recreation circuit that links open space and walk/cycleways on both sides of the motorway (making use of Mahunga Drive, Rimu Road, Crawford Ave and Coronation Road).

7.3.2.2 Intiatives/Key Actions

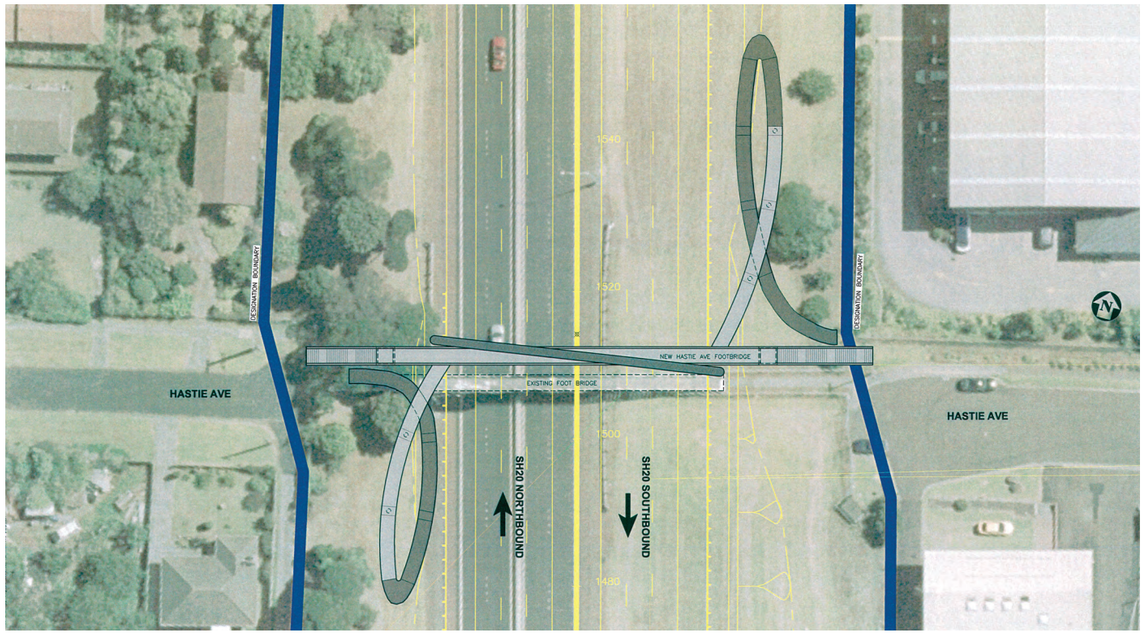
- A single span bridge across the motorway (as existing) is preferable to maintain views beneath the bridge deck towards the Harbour and Maungakiekie.
- Ensure the bridge terminates/is integrated with existing formalised footpaths along Hastie Ave.
- There are extensive ramps to enable cycle and disability access. The final design will need to consider CPTED principles, provide good pedestrian sightlines and avoid entrapment spots.
- The existing bridge is a slender and minimal structure. The existing handrails also provide visibility across the bridge above the bridge deck (however they are blocked by motorway signs). The replacement bridge should also seek to incorporate similar visibility and appearance features. In this location there should be an emphasis on the views gained when driving along the motorway. Bridge design should emphasise rather than detract from this.

7.3.2.2 Specimen Design



PROPOSED HASTIE AVE OVERBRIDGE
NORTH ELEVATION

PROPOSED HASTIE AVE OVERBRIDGE
PLAN VIEW



7.3.3 Neilson Street Overbridge

Existing

The proposed Neilson Street Overbridge seeks to enhance traffic flow efficiencies on Neilson Street and Onehunga Harbour Road. Currently there is no overbridge, and the interchange ramps in this location wind around Gloucester Park at-grade. Both Onehunga Harbour Road and Neilson Street are heavily used. The establishment of the Neilson Street Overbridge will consolidate traffic movements to Neilson Street in a safer and efficient manner, while also providing the benefits of removing motorway traffic from Onehunga Harbour Drive.

Specimen Design

The specimen design provides a five lane wide overbridge, with a 3-metre wide pedestrian/cycle path on the northern side of the overbridge (23 metres wide). There is a 5.5 metre clearance for vehicles below the bridge deck.

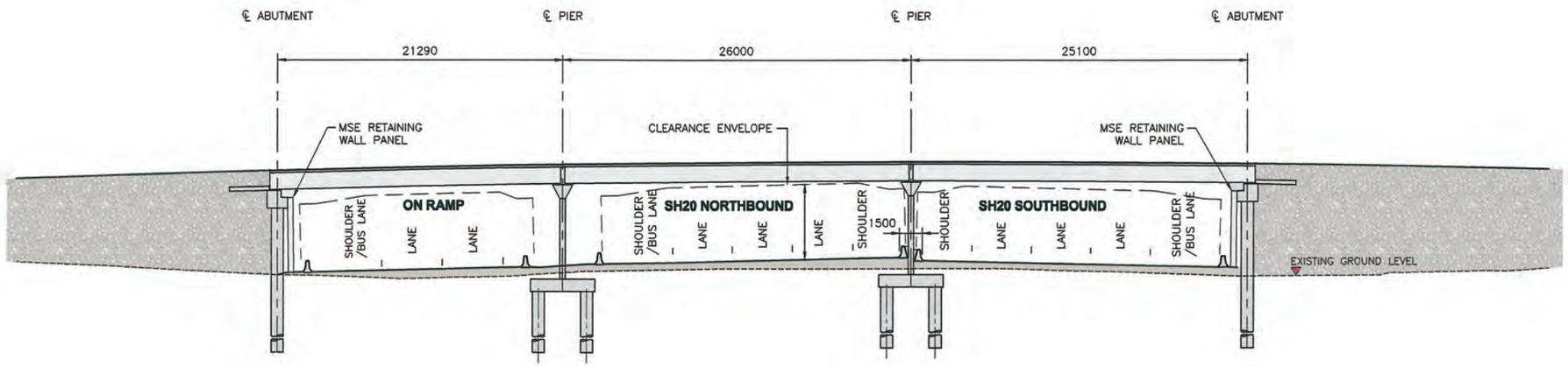
The structure will be supported on two piers. These will be located on either side of the northbound lanes.

7.3.3.1 Opportunities

- To assist with defining the legibility of Hopua tuff ring
- Creating a pedestrian and cycle link across the motorway at this location. This increases access between communities and the coast.
- Define the open space located at Gloucester Park.
- Use of colour and lighting to make a statement or assist in the definition of Hopua tuff ring.

7.3.3.2 Initiatives/Key Actions

- There is a desire to create one 'opening' beneath the overbridge to minimise any intrusion on the tuff ring. However due to unstable/unsuitable ground, this cannot be achieved structurally. As such, it is considered wall piers should be as slim as possible to minimise their physical and visual presence.
- Neilson Street Overbridge should reinforce its underlying volcanic cone characteristics, and assist in building an identity for Hopua tuff ring. Above ground treatment and design of retaining walls, bridge abutments, bridge deck, handrails and stairs should bring this aspect through. All bridge elements should be integrated and relate seamlessly.
- Ensure the design of the overbridge enables pedestrians and cyclists travelling across the bridge have a safe route across the bridge and that there are also safe and logical connections to and from the overbridge.



7.4 Mangere Duplicate Bridge






Existing

The existing Mangere Bridge provides four lanes of traffic (two lanes in each direction). The bridge is characterised by its curvilinear alignment that rises 18 metres above mean high water springs at its highest point (at the top of the bridge deck). The bridge provides a vantage point for impressive views of the inner and outer Manukau Harbour and headlands.

A pedestrian/cycleway is located below the bridge deck. This narrow corridor is poorly used and does not provide an effective link between Mangere Bridge and Onehunga. Old Mangere Bridge provides a more popular alternative.

Specimen Design

The proposed Duplicate Bridge will provide another four lanes of traffic. It will be situated to the immediate east of the existing bridge, and follow a similar form to Mangere Bridge in regard to its:

- Bridge Piers;
- Bridge deck levels (however the bridge is cambered slightly (downwards) on the western side);
- Motorway edge barriers, and lighting systems (these will align with those on the existing bridge); and
- Surface treatment (standard concrete finish).

There will be a system of eight new pairs of bridge piers to support the superstructure of the bridge. These piers will be slightly thicker than those supporting the existing bridge. These will be 2.5 metres in diameter, and be spaced approximately 5 metres apart.

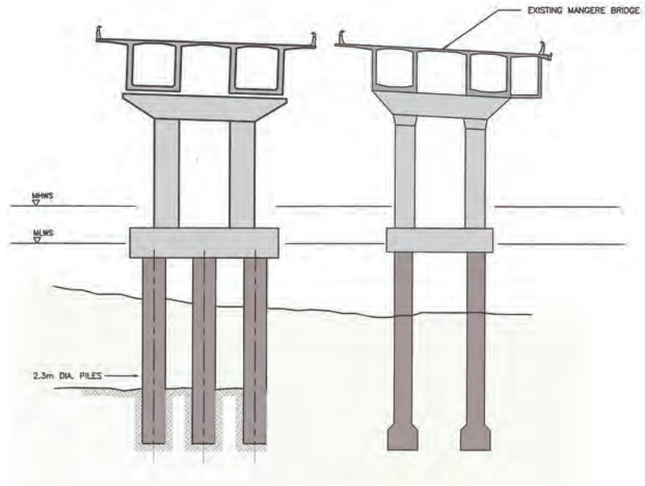
7.4.1 Opportunities

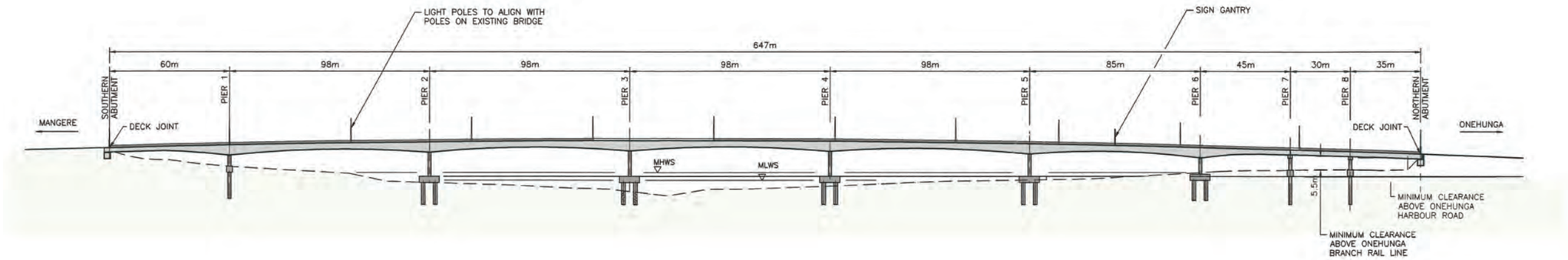
- To continue the existing motoring experience across Mangere Bridge, where views of the harbour assist in defining the travel experience across the harbour between Auckland and Manukau cities; and
- To consider the pedestrian/cycle/motorist experience below the bridge and in the vicinity of the Mangere Bridge abutments. Visual or user amenity is not apparent in these spaces. The Projects provides the opportunity to revisit the use and treatment of these areas so they are more user-friendly and better integrated to their surrounds.

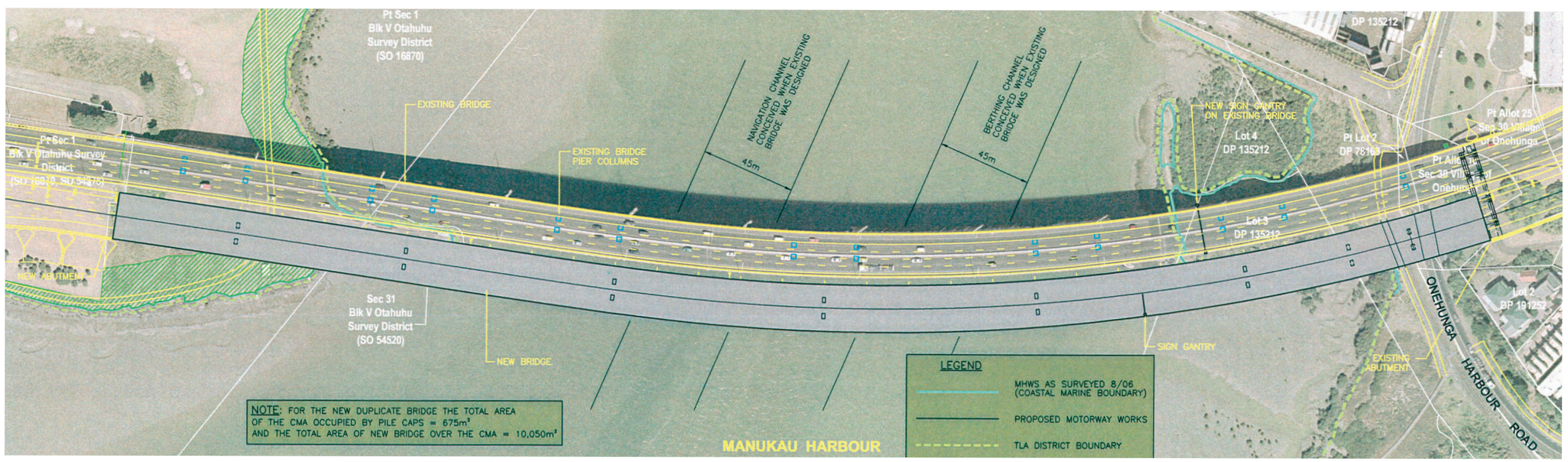

7.4.2 Initiatives/Key Actions

- Where possible rationalise the spacing or number of bridge piers to provide the least visually obtrusive response to duplicating Mangere Bridge;
- Consider the views from key vantage points on land and water to determine the final location of bridge piers for the duplicate bridge;
- Achieving a relationship between the existing bridge and duplicate bridge is important. The specimen design has incorporated dual pier shapes in this respect. However also consider the use of surface treatments or striations along the new bridge piers to create a slimmer appearance;
- Where possible maintain views across both sides of the harbour (however it is understood that due to the camber of the motorway, views for northbound traffic towards the east may be obscured). This includes motorway barrier/edge treatment along the bridge; and
- The use of creative under bridge lighting to offset any additional shadowing or dominance effects from two overhead bridges, particularly along Onehunga Harbour Road and the walking route/waka launching spot at the southern abutment.

7.4.3 Specimen Design







8.0 PROJECT SECTOR INITIATIVES

In addition to the Project-wide opportunities, sector specific initiatives have been identified. These initiatives build on the landscape concept plans prepared and submitted as part of the Notice of Requirement and resource consent documentation, and reflect location-specific characteristics. The seven sectors discussed in the Framework are:

1. Walmsley Road to Southern End of Crawford Avenue;
2. Southern End of Crawford Avenue to North of Miro Road;
3. North of Miro Road to North of Waterfront Road;
4. Manukau Harbour Crossing;
5. Gloucester Park Interchange;
6. Onehunga Bay; and
7. Seacliffe Avenue to Queenstown Road.

8.1 Sector 1 - Walmsley Road to Southern End of Crawford Avenue

Sector 1 provides the interface between the remainder of SH20 south of the Project corridor where it carries on towards Auckland International Airport and SH1 at Manukau City. This Sector of the Project is characterised by commercial and residential properties backing onto the motorway. Timber fences, trees and shrubs are located in the road reserve of the motorway.

Northbound and southbound motorway on and off ramps in this vicinity are off-set. Motorists exiting and entering SH20 do so at two distinctly different points. This can affect the legiblity of the motorway system. It is noted that motorists travelling along the Coronation Road on and off-ramps experience a longer, sweeping route that is less direct than the ramps associated with Walmsley Road.

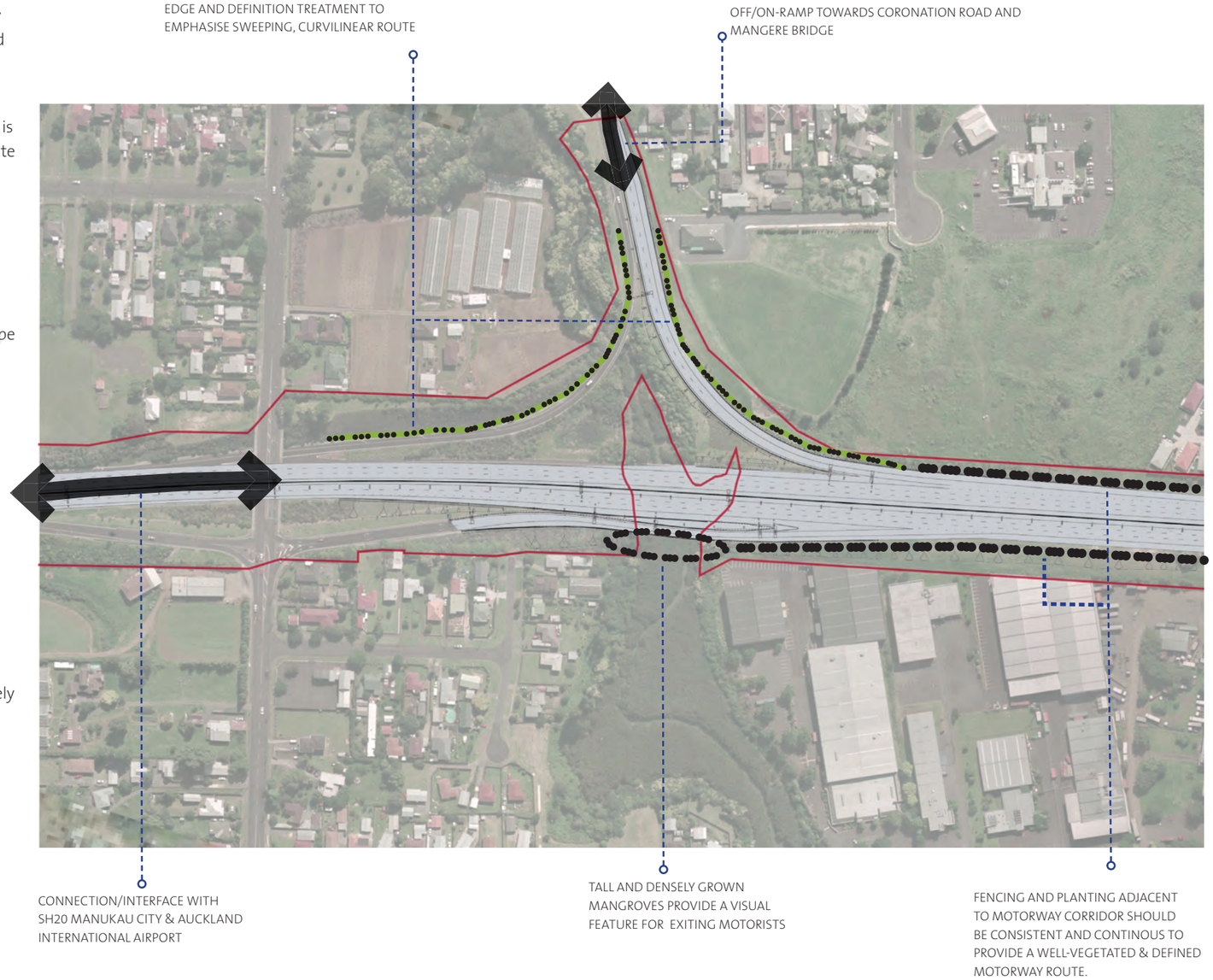
Considerations

Important urban design considerations in this sector include:

- Maintaining a continuous and consistent link in the design of structures, motorway features, landscape and travel experience with that part of SH20 immediately south of Sector 1 towards the Airport;
- Walmsley Road is the first interchange for southbound traffic that provides the most direct link between SH20 and Mangere , the largest and most populated suburb in the vicinity of the Project in Manukau City;
- Tararata Creek and its tall, dense mangroves provide a distinctive feature for motorists driving along Walmsley Road off-ramp;
- Coronation Road on and off-ramps should emphasise their curvilinear and sweeping road geometries through planting and edge treatments (at a scale appropriate for motorists) .

Initiatives

- The southbound off-ramp in this location should make use of views towards and of the tall and densely grown mangroves adjacent to the bridge.
- Treatment of the motorway road reserve (including planting, fences and/or other structures) should achieve consistency with the adjacent sectors of the Project (sectors 2 and 3).



8.2 Sector 2 - Southern End of Crawford Avenue to North of Miro Road

Adjacent residential and commercial uses define the edge of this Sector of the Project. Adjacent residential homes are located at the west of the motorway and commercial/industrial uses are situated to the east. Buildings associated with these land uses are generally sited approximately 10 metres back from the edge of the motorway seal and are typically 4-8 metres high for residential, and 10-15 metres high for commercial and industrial buildings.

However the topography in this Sector where the eastern side of the motorway is set slightly below the carriageway level of the motorway, and the western side sits slightly elevated has resulted in the buildings on both sides of the motorway appearing at similar height levels.

The road reserve in this Sector is grassed, and generally planted with low lying shrubs and young coastal tree specimens varying in height between 5-12 metres. There is more dense growth apparent on the western side of the motorway. As such the commercial and industrial land uses appear dominant in the foreground of views for motorists.

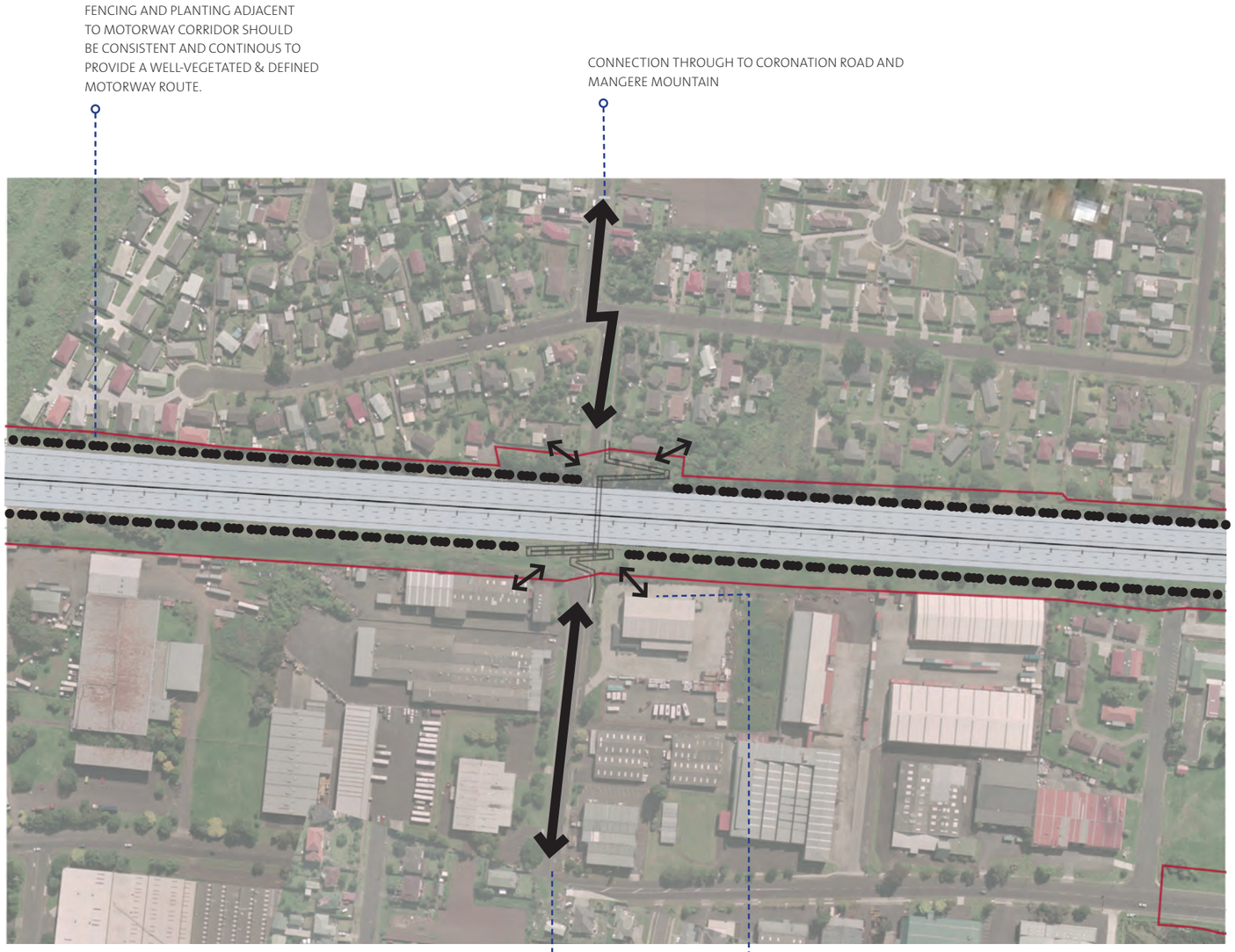
Hastie Ave footbridge is located in this Sector and rises approximately x metres above the motorway.

Considerations

- Effective access to and from Hastie Ave footbridge.
- CPTED considerations regarding overbridge structures and associated paths, planting, surveillance.

Initiatives

- Ensure visibility between pedestrian overbridge users and motorists.
- Provide visibility between ramps and stairs on the pedestrian overbridge and residential homes and passing motorists.
- Continue planting presence along motorway edge to create the look of a green corridor and to provide screening and visual relief from 1 kilometre long continuous noise wall (subject to surveillance requirements in relation to pedestrian overbridge).
- Investigate how to ensure a ‘dead space’ does not result between proposed noise walls and existing residential property fences.



8.3 Sector 3 - North of Miro Road to North of Waterfront Road

This stretch of the corridor passes alongside the suburb of Mangere Bridge. Views of the Manukau Harbour, its mudflats and intertidal areas can been seen by motorists as they travel through this sector. The area around the southern bridge abutment remains predominantly in open space (with small tree plantings), and Te Puea Marae is situated in the bottom left hand corner of the sector. As such, the sector retains a sense of openness and provides a transition area between the narrow linear, enclosed motorway corridor of the previous sectors (between Walmsley Road and Miro Road and wide expansive views as motorists drive across the bridge.

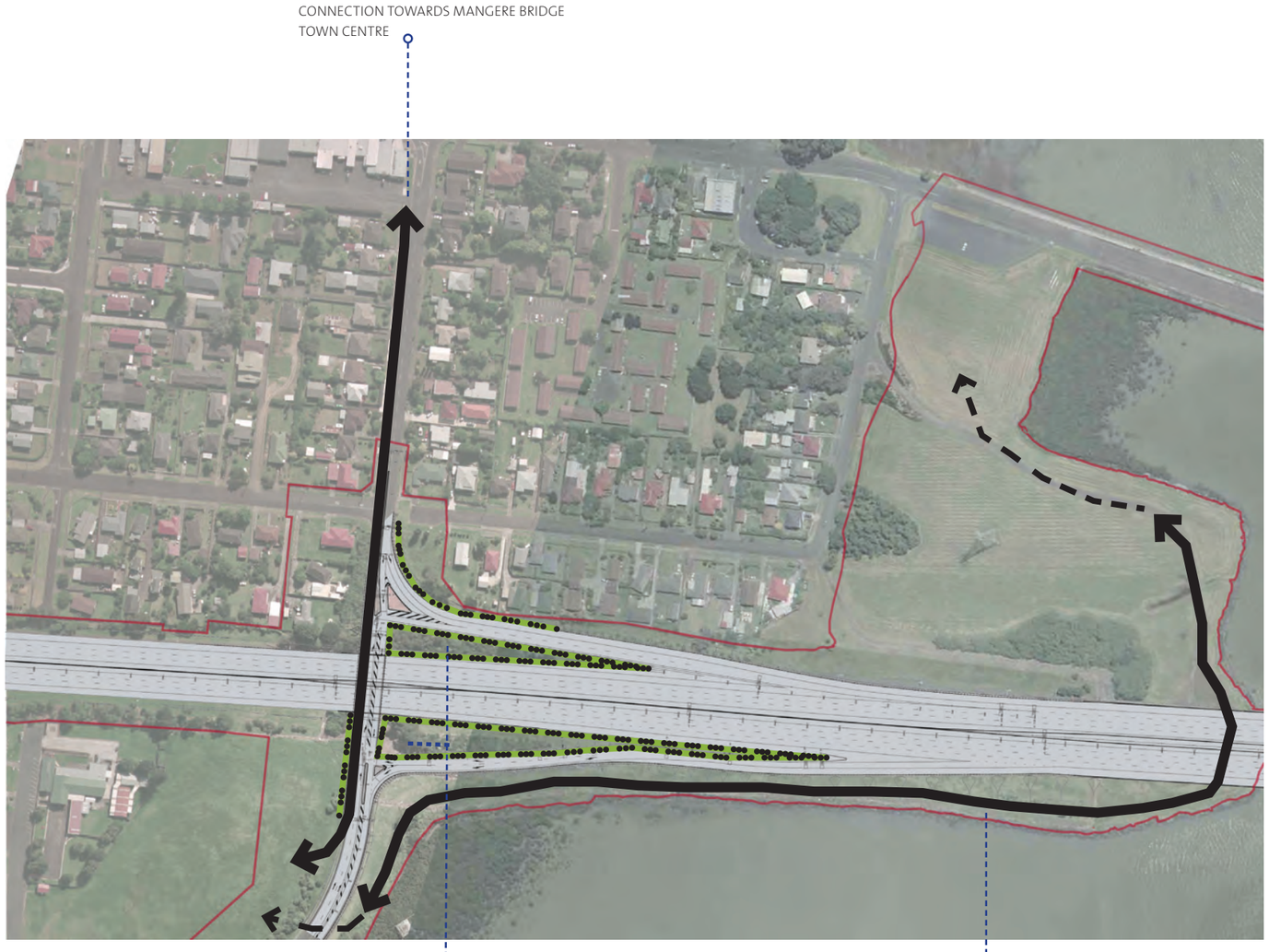
This sector provides the most convenient link between SH20 and Mangere Bridge Town Centre.

Considerations

- Character residential homes of Mangere Bridge.
- Areas adjacent to the Rimu Road interchange/overbridge are currently not well-defined. Consider planting and edge treatments here.
- New planting adjacent to the motorway corridor should maintain and enhance views out towards the harbour, Kiwi Esplanade, Mangere Inlet, Old Mangere Bridge and Onehunga.

Initiatives

- Better define the access towards Mangere Bridge and Te Puea Marae.
- Provide a coastal walkway connection between Kiwi Esplanade and Te Puea Marae. The stretch of this connection between the southern bridge abutment and Rimu Road on the east is narrow. Investigate the option of constructing a boardwalk to achieve a safe connection. Investigate providing/defining a circuit back towards the town centre.



8.4 Sector 4 - Manukau Harbour Crossing

The Project will duplicate the existing bridge. Currently expansive views of the harbour and surrounds can be enjoyed while travelling along this sector. It is unknown whether once the second bridge is constructed whether motorists will still be able to see across both sides of the harbour while they travel through this sector. At the moment the motorway crash barrier along the edge of the bridge is of a height conducive to views from cars. New crash barriers should seek to maintain this visibility.

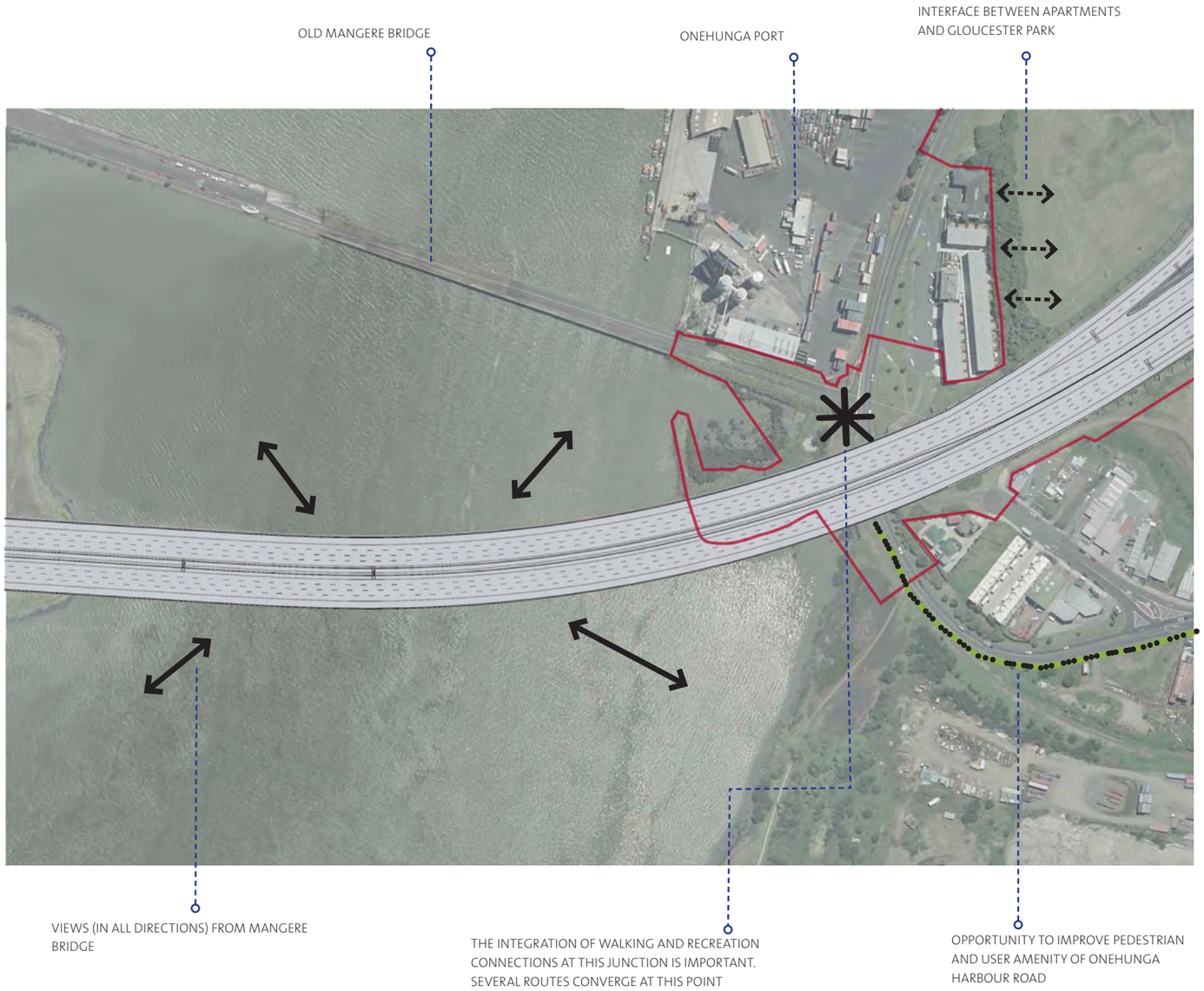
The Manukau Harbour Crossing also provides a platform to view Old Mangere Bridge. There are unique community and historic ties associated with the Old Bridge, and the existing motorway crossing provides a good vantage point to view the structure.

The cement silos (at x height) are a preliminary visual marker for Onehunga Port. It is near this point where the motorway corridor begins to curve and provide a wider view range for motorists.

The Waikaraka Cycleway is located to the east of the northern bridge abutment.

Considerations

- Views from the Bridge are important. For those motorists who are not residents of the area, these views form the basis of the identity they associate with the Manukau Harbour
- The association between the Manukau Harbour Crossing and Old Mangere Bridge – a 'past and present' connection, which also has connotations of:
  - ocal and regional;
  - Leisurely and expeditious
  - Recreation route and trafffic conduit
  - Multi-purpose and single purpose
  - Inferior and superior
  - On the water and above the water
- The interface between Onehunga Port and the public realm
- The removal of traffic flows from Onehunga Harbour Drive, and the potential to improve the street environment for pedestrians and cyclists
- Ensure opportunities for connections between Old Mangere Bridge, Waikaraka Cycle/Walkway, Onehunga Mall, the coast, Orpheus Drive and Gloucester Park are not precluded as part of this Project.



Initiatives

- Ensure views are maintained. Consider this in detailed bridge design (superstructure and deck), and barriers.
- Provide a continuous pedestrian footpath along the length of Onehunga Harbour Road of at least 3 metres (including towards Neilson Street). This width reflects the 'coastal walk' notion along this road connecting with Orpheus Drive. Urban coastal edges should accommodate wider footpaths to provide space for pedestrians, cyclists, and those stopping to appreciate views. Formalising a useable footpath will improve the use and amenity along this road.
- Redesign and re-grade the Old Mangere Bridge northern abutment so that it provides a more convenient connection for pedestrians and cyclists at Onehunga Harbour Road.
- Consider CPTED guidelines for all redesign and redevelopment.
- Investigate options for improving the interface between the street and the apartments located on the edge of Gloucester Park South.

8.5 Sector 5 - Gloucester Park Interchange

The Gloucester Park Interchange sector is characterised by Hopua tuff ring, SH20 itself and traffic movements. The tidal lagoon of the tuff ring was reclaimed when SH20 was originally established. Today there is poor legibility of the tuff ring. The balance of Hopua exists as open space.

SH20 separates the Park into Gloucester Park North and Gloucester Park South. Gloucester Park North is used as a sports ground, however there is limited permanent sporting facilities or equipment to emphasise this presence. Gloucester Park South is a passive open space with a small marsh area. The Aotea Sea Scouts use this space for group activities.

Commercial buildings back onto the edge of Gloucester Park. There is poor surveillance of activities within the Park.

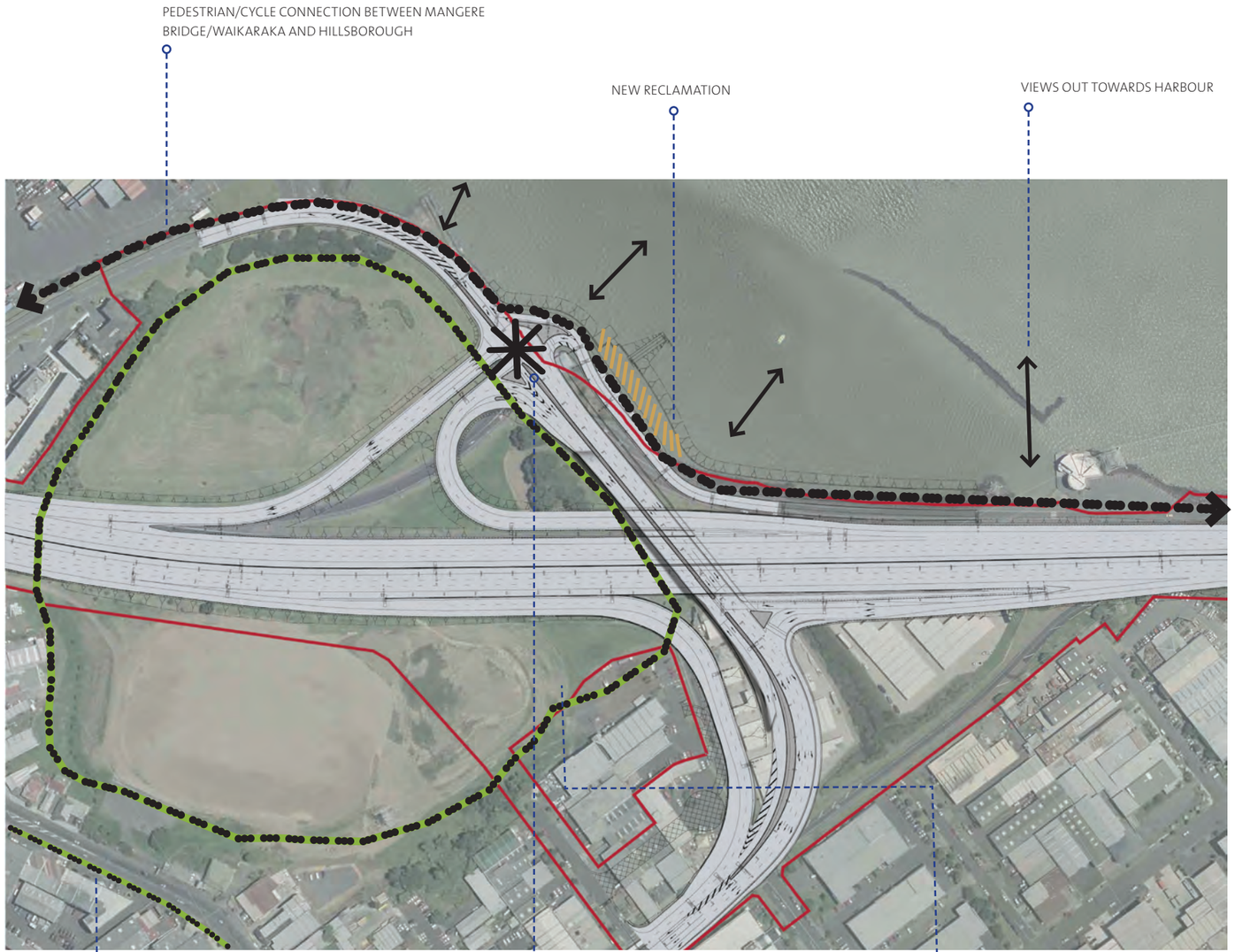
Orpheus Drive is a coastal access road. However there are limited opportunities along the length of the route for motorists, pedestrians and visitors to engage with the coast. The Aotea Sea Scouts Hall and Manukau Cruising Club are the only two buildings located along this route. New reclamation is required to accommodate the interchange. As a result, the Aotea Sea Scouts Hall will be relocated to maintain its coastal edge position.

Considerations

- Improve the legibility of Hopua Tuff Ring.
- The management of cyclists and pedestrians in the vicinity of the Onehunga Harbour Road, Orpheus Drive and motorway on/off ramps to reduce conflicts with motorists.
- Views and access to the coast.
- Discuss with Auckland City Council and other key stakeholders the long term plan or vision for Gloucester Park, and how it relates to other open spaces in the area.

Initiatives

- Investigate design responses in liaison with Councils, the Volcanic Cones Society and other interested parties on how to achieve better legibility and recognition of Hopua Tuff Ring. Ensure that design responses are also appropriate with the wider context of the environment (i.e the coast, culture, identity of the area).
- Continue pedestrian/cycle paths along Onehunga Harbour Drive from Sector 4.
- Extent of reclamation should be discussed with DoC and ACC as key stakeholders and custodians of the coastal environment and public realm.
- Aesthetic treatments of retaining walls in this sector shall respond to their location, prominence/ visibility. An element of creativity should be encouraged to provide a distinct identity for the area.



- Investigate options of providing improved pedestrian passage through this sector. The sector is characterised by busy local and motorway traffic. Innovative solutions should be encouraged.
- Work with Auckland City and other key stakeholders to identify the long term role and function of Orpheus Drive, so that a concept can be created to develop its future identity, form and function.



8.5.1 Legibility of Hopua Tuff Ring

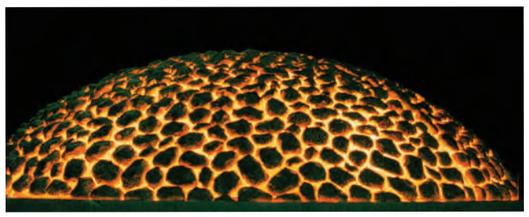
The Project recognises the importance of enhancing the legibility and identity of Hopua tuff ring. At the S92 stage of the Project, the interchange configuration was redesigned to provide a less physically and visually obtrusive motorway ramp system. It was considered that the integrity of Hopua tuff ring was important. As a result, it was preferable to minimise the number of retaining wall and other vertical structures to ensure the open space of Hopua could continue to be 'read as one' in a spatial sense.

The Project presents the opportunity to investigate options for defining the appearance and function of Hopua/Gloucester Park. Presently, the legibility of the tuff ring is poor, and for most motorists there exists few visual cues to indicate a former crater and lagoon was once located here.

A formal concept has not yet been developed, and will need to be prepared with further input from the aforementioned parties. Landscape treatments proposed along with the proposed 'quarter diamond interchange' in August 2006 provided the option of planting around the outer edge of the tuff ring to define the shape and identity of the feature.

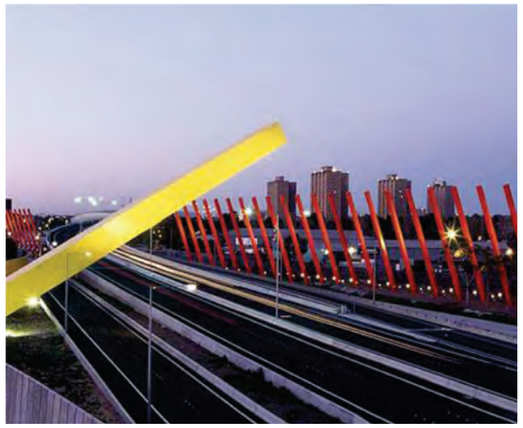
Considerations

- Any concept prepared to better define the legibility and reinforce the existence of the tuff ring, as a minimum should include the following the following fundamentals:
  - Treat Hopua tuff ring as one reformed entity;
  - Maintain the passive and active recreational attributes of Gloucester Park;
  - Be visible/recognisable across various scales: the pedestrian, cyclist and motorist;
  - Reflect the volcanic character of Hopua, be sensitive to the context of Onehunga and contribute towards the character of Auckland;
  - Should not undermine the existing physical, geological or visual elements of Hopua; and
  - Consider Hopua tuff ring's relationship with Manukau Harbour.
- Look at ways to enhance vehicle and pedestrian entry points into Gloucester Park; and
- Presently many of the adjacent commercial properties back onto Gloucester Park. In the future, ways to enable better passive surveillance of the park should be investigated.

Initiatives

- Work with key stakeholders to produce concepts to enhance the legibility and definition of Hopua tuff ring, along with a long term management plan (or Reserves Management Plan in accordance with the Reserves Act 1977) for Gloucester Park;
- Ensure a collaborative approach is adopted for the creation of concepts; and
- Concepts should also consider how to better relate Gloucester Park with its physical surrounds and community.




8.6 Sector 6 - Onehunga Bay

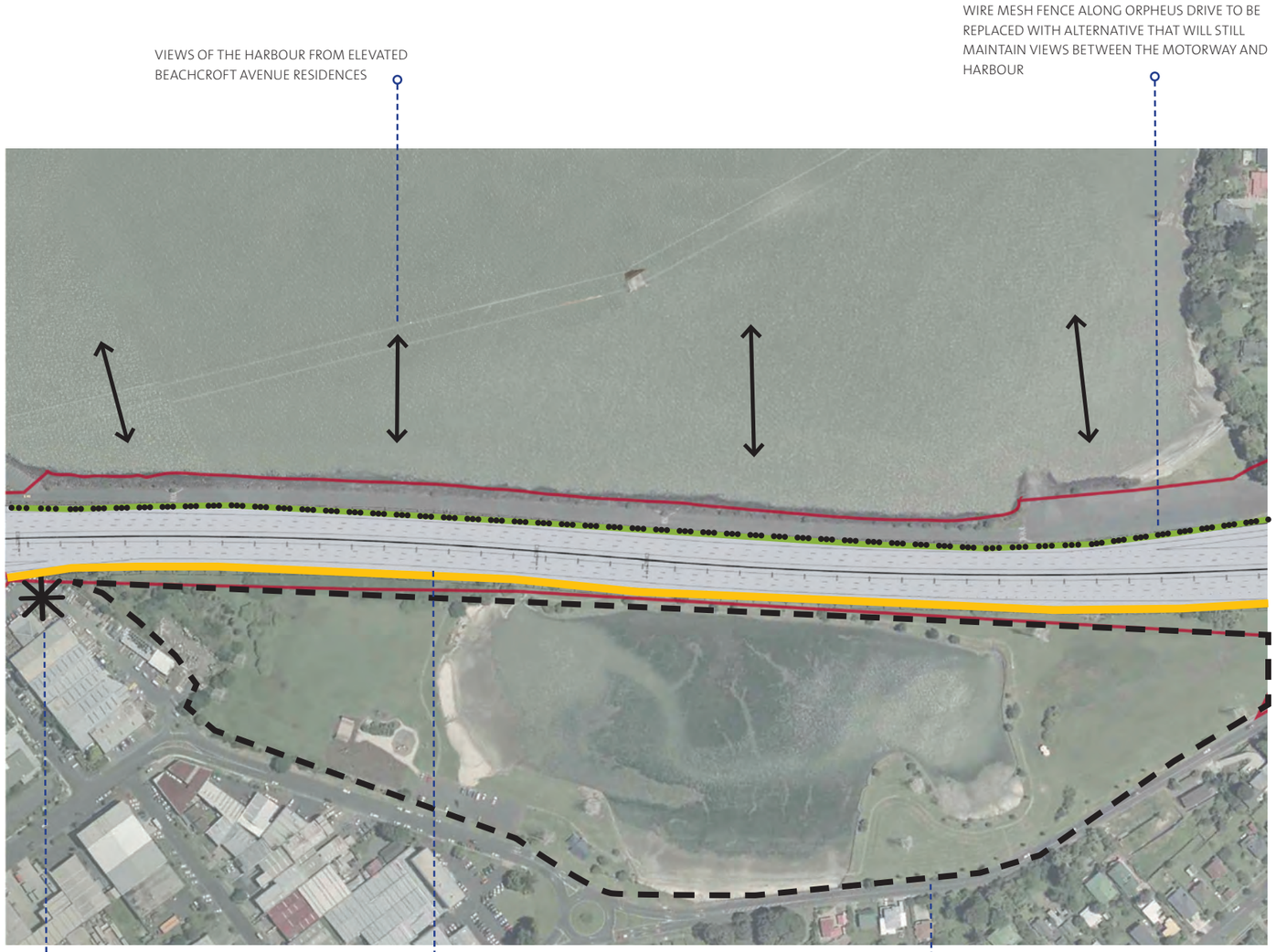
Two bodies of water surround this stretch of SH20. However, presently both water bodies appear under utilised. Onehunga Bay is surrounded by open space, and park amenities, it is also overlooked by the residential homes along Beachcroft Ave. It is at this point along the motorway that the commercial and industrial activities at Onehunga give way to residential use.

Considerations

- Auckland City Council has prepared a management strategy and concept for the future of Onehunga Bay Reserve. Initiatives for the noise wall or any other edge treatment at the interface of the motorway and Reserve should be cognisant of these prepared strategies.
- A connection at the south of Onehunga Bay with Gloucester Park North should be investigated to achieve an open space connection/green link.
- Views across the motorway from the reserve are important. This visual link between the coast and Onehunga Bay is one of the last standing links between the two areas which were originally connected.
- Wire mesh fence between Orpheus Drive and the motorway should be replaced with an alternative that still provides views out towards the harbour.

Initiatives

- Work with ACC and other interested parties to develop noise wall solutions along this sector, that provide for interest, creativity and the display of local identity for both motorists and reserve users. The noise wall shall seek to minimise any visual or physical obtrusive on the function and appearance of the Reserve.
- The noise wall and fence (located between Orpheus Drive and the motorway) should seek to maintain views across the motorway between the Reserve and coast.



8.7 Sector 7 - Seacliffe Avenue to Queenstown Road

This sector interfaces with the SH20 Mt Roskill Project and traverses through a gully with residential homes located on the elevated slopes of either side of the motorway. An extension of Onehunga Bay Reserve runs parallel to the motorway up to Queenstown Road, where a stormwater pond associated with the SH20 Mt Roskill Project is located. There is less space on the western side of the motorway, where the landform rises more abruptly. These slopes are however well planted with existing vegetation.

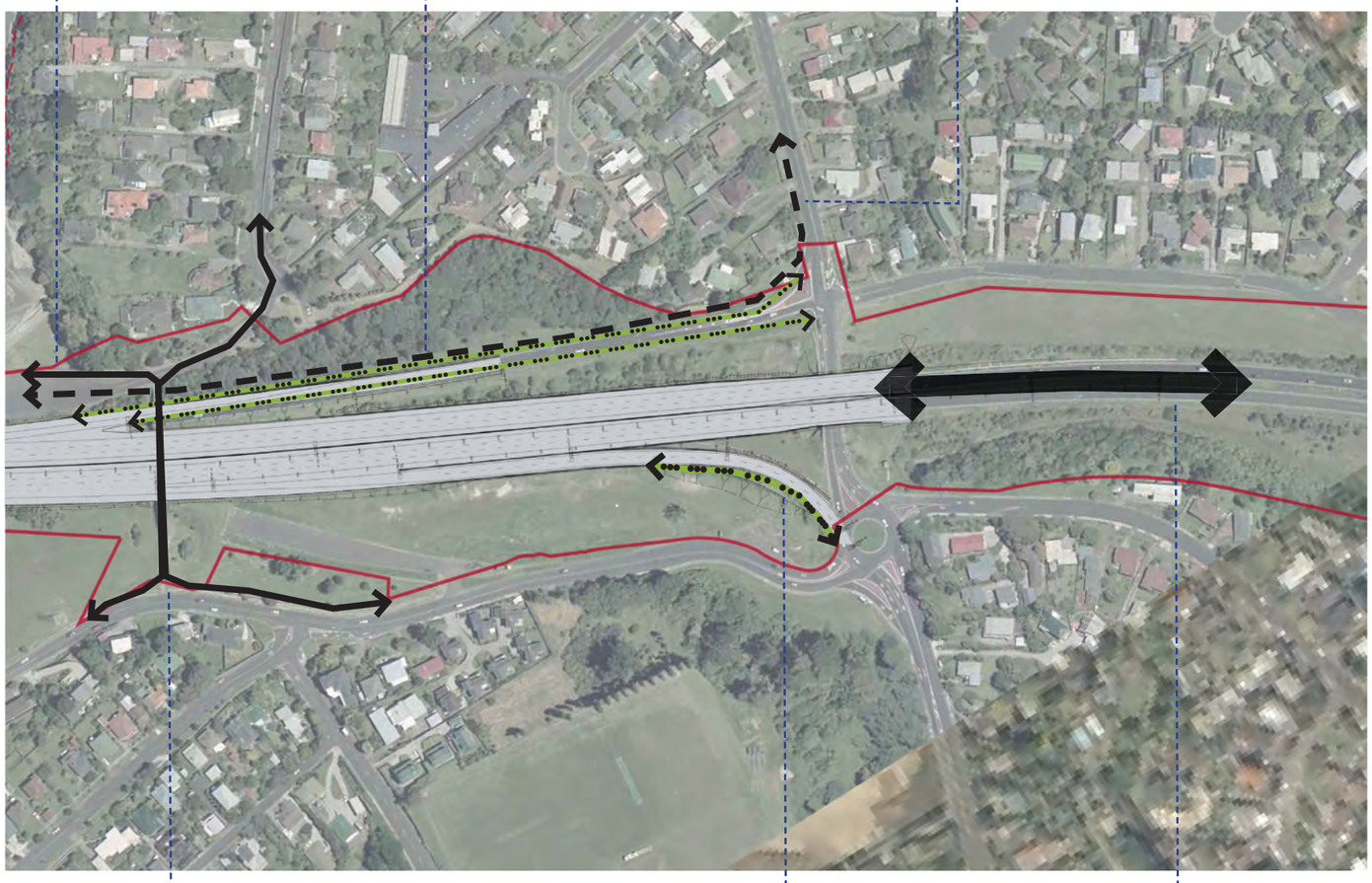
Beachcroft Overbridge is suspended over the motorway towards the end of Seacliffe Ave. This link is used frequently by Onehunga High School students, and provides a connection across the motorway in the vicinity of Orpheus Drive Reserve.

Considerations:

- Ensuring a sense of continuity along SH20 where two different projects (Mt Roskill and Manukau Harbour Crossing) interface.
- The northbound off-ramp is comparatively long and southbound on-ramp is curvilinear, both of these features provide opportunities to better define the entrance and exit from SH20 through better edge treatment, visual interest and planting.
- The Waikaraka Cycleway/Pedestrian Walkway extends along Orpheus Drive up through to Seaclfife Ave before connecting with Hillsborough Road. There may exist an opportunity to locate the cycleway alongside the northbound off-ramp at Queenstown Road to provide a more effective connection.
- For southbound travel – the journey experience coming from SH20 Mt Roskill down the motorway slope where the motorway corridor widens to views of Manukau Harbour.

Initaitives:

- Investigate (in conjucation with ACC) the feasibility of relocating a section of the Waikaraka Cycleway along the northbound off-ramp at Queenstown Road to provide a more direct cycle link towards Hillsborough Road.
- Use the Beachcroft overbridge connection to provide a circuit for walkers and cyclists. This circuit could comprise Orpheus Drive, Beachcroft Overbridge, Onehunga Bay Reserve and Gloucester Park.
- Improve the definition and driver experience along the southbound on-ramp and northbound off-ramp.
- Consider the views from elevated residences north of Beachcroft Ave and towards Bel Air Drive in any landscape treatment for Onehunga Bay Reserve extension or establishment of motorway structures in this vicinity. The piece of open space is important for providing views/visual relief for residents and local community.



9.0 IMPLEMENTATION

The Urban Design Framework will provide a 'touchstone' for achieving and assessing quality urban design for the Project. It will assist Transit, funding bodies, Councils, key stakeholders and interested third parties in understanding and realising the urban design outcomes sought for the Project.

The Urban Design Framework provides direction from the Specimen Design stage of the Project onwards. Transit will be applying their Competitive Alliance Procurement Model to this Project. As such there will be scope for details of the Specimen Design to be altered in order for Alliance teams to differentiate themselves, by enabling innovation and the potential for cost savings in the budgeting and construction phases of the Project.

The Project will commence construction in 2008, and has an anticipated completion date of 2011. As a result the Framework relies on professional teams working as a cohesive unit towards agreed Project principles.

9.1 Steps to Implementation

9.1.1 Principal's Requirements

In accordance with the Competitive Alliance Procurement Model, Transit will be requesting Expressions of Interest for a competitive tendering phase. When tender parties have been selected, Transit will request that each tender party (or Alliance) submit a price to carry out the procurement, construction and construction management. This price must also demonstrate that compliance with the Principal's Requirements has been met.

The Principal's Requirements essentially specify the baseline requirements of the Project, or a set of 'must haves'. These must-haves are considered fundamental to the integrity of the Project. In relation to urban design, Principal's Requirements have been written for 'Landscape and Urban Design' in Part A17 and these must be incorporated into any Alliance teams TOC.

Transit's Competitive Alliance Procurement Model focuses on 'deliverables'. As such, the means of construction, final design, and procurement for the Project is to the discretion of each Alliance, in so far they meet the fundamental must-haves or Principal's Requirements for the Project.

While it is agreed that this method can encourage design and delivery innovation, it also results in a degree of uncertainty unless good grounding or a framework is established to ensure quality processes and rationale are employed. Good urban design cannot always be attributed to a tangible end product. In many cases it is part of what shapes and creates a successful road corridor or Project. As such importance is also paid to (as indicated in Transits Urban Design Implementation Principles):

- Assisting economic development in an urban context;
- Improving safety for all state highway users;
- Improving access and mobility for motorists, pedestrians, cyclists, and passenger transport;
- Protecting and promoting public health through the state highway being appropriately integrated with an interconnected urban road network; and
- Ensuring environmental sustainability through appropriate use of materials and influencing surrounding land use development.

9.1.2 Principal's Requirements and the Urban Design Framework

The content of the Framework has informed the urban design and landscape design Principal's Requirements and Specimen Design for the Project. As such, in the instance of any deviation from the Specimen Design or scope for innovation, the Urban Design Framework should be consulted. Any new ideas or designs should be consistent with the processes and rationale detailed in the Framework. The information set out in the Framework should underpin all design responses for the Project to ensure that regard has been given to urban design principles and considerations set out in the document.

9.1.3 Urban Design Concepts

As part of the TOC stage, Alliances will be required to prepare urban design concepts for the Project. These will provide a further level of detail, build upon the Principals Requirements and be consistent with the direction of the Framework. It is anticipated that an illustrated urban design report will be prepared to demonstrate this.

The Urban Design Report will also need to be accompanied by:

- An indicative implementation process. It should show who will be involved in the design and construction, particularly of any discrete elements (that may be carried out by sub-contractors/consultants). A consideration of the relationship between each of these elements (and their designers), the public realms, natural landscape, culture, and existing development shall also be demonstrated; and
- An 'action plan' that prioritises areas or elements of the Project (where necessary), establishes indicative budgets, personnel, timeframes of delivery and the process of delivery. This element of the Urban Design Concept will be integral to setting goals for timeframes and the delivery of quality urban design outcomes.

It is preferable for the Urban Design Report to also look long term at the asset management and maintenance stages of the Project to ensure sustainable outcomes.

9.1.4 Design Review

A design review process will need to be built into the design and delivery of the Project. This will assist in ensuring quality design outcomes. It should consist primarily of the Principal or the Principal's advisors and include qualified designers, planners and engineers. It is preferable to have an independent peer review body/persons involved. The ACC and MCC urban design panels may be suitable for this role.

9.2 Draft Transit and ACC Memorandum of Understanding

A draft Memorandum of Understanding between Transit and ACC has been prepared to set out potential cost sharing and responsibility roles for the Project. While this is being finalised, the document provides the potential for both parties to consider their position in relation to wider environmental outcomes along with the possibility of further collaboration on some aspects.

A similar document could also be produced between Transit and MCC.

10.0 URBAN DESIGN PANEL COMMENTS

This section of the Framework was completed in May 2007, following presentations to both the Auckland City Council Urban Design Panel (8 February 2007), and the Manukau City Council Urban Design Panel (28 February 2007). In both cases, a summary of the information contained in this Framework was presented, and feedback was sought on the fundamental approach of this Framework.

It is suggested that the following be read inconjunction with the Framework.

Auckland City

MINUTES OF A MEETING OF THE URBAN DESIGN PANEL 2 HELD ON THURSDAY, 8 FEBRUARY 2007 AT 3:05PM

PRESENT: Prof. J Hunt [Convenor]
Mr M Bradbury
Assoc. Prof D Brand
Mr W Thresher

ABSENT: Mr P Fontein

1. **APOLOGIES**

That the apologies for Mr P Fontein for absence be recorded.

CARRIED

2. **CONFIRMATION OF MINUTES**

That the minutes of the Special Urban Design Panel meeting held on Wednesday, 7 February 2007 be confirmed as a true and correct record.

CARRIED

3. **ONEHUNGA/MANUKAU HARBOUR (STATE HIGHWAY 20)**

The panel thanks the applicant for their presentation and makes the following observations.

The panel considers there are two fundamental urban design considerations for this project. The first relates to the impact of the proposal on the wider community and the second to the experience of the motorway user.

The panel considers that there will be significant physical and social impacts on the existing communities, and therefore, that the design should incorporate compensatory measures. These appear to be relatively minimal in the proposal.

The panel suggests there is a need to more clearly define and articulate community and public destinations in the vicinity of State Highway 20 and to create opportunities to connect these, and to create new public open spaces. For example, the panel suggests a significant upgrading of the Orpheus Drive esplanade, an improved relationship between the Onehunga Bay Reserve and the motorway extension, reinforcing the integrity and the volcanic nature of the tuff ring of the Hopua crater as defining a landscape space, and incorporating the Onehunga Port as a significant historical destination.

The panel recommends a more thorough exploration of the experience of the motorist. This should include simple and elegant design responses to the existing cultural and physical landscape. The panel recommends this as a strategy for creating a 'gateway' experience, rather than reliance upon superficial urban design elements. For example the work of Bernard Lassus may be informative.

There being no further business the Chairman declared the meeting closed at 6:41 pm.

Manukau City Council
Urban Design Panel Recommendations

For additional information please contact:
Preeti Kumar (ext. 8256)
Urban Design Panel Coordinator
Level 9, Civic Building
pkumar@manukau.govt.nz

MINUTES FOR: **Wednesday 28th February, 2007 – 11.30am to 12.30pm**

Present:	Members of the Urban Design Panel: James Lunday (Chair) Kevin Brewer Annette Jones
Apologies:	None
Secretary:	Preeti Kumar

Project Address:	15R Waterfront Road, Mangere Bridge
Ward:	Mangere
Project Name:	SH20
Review Number:	One
Council Staff:	Farida Dean – Resource Management Planner
Delegation:	Chris Bentley – Environmental Manager – NGA Deborah Lee Sang – Urban Designer – NGA Sarah Cronwright – Planner – Transit Jacqui Bell – Urban Designer – Transit
Use:	The existing Mangere Bridge will be duplicated to the east so that four traffic lanes and a shoulder lane for bus priority will be provided in each direction.
Zoning:	Public Open Space
Application Status:	Resource Consent Application Number – PNO 29759
Applicant:	Transit New Zealand

Te Kaunihera o MANUKAU City Council

Background:

The SH20 Manukau Harbour Crossing Project involves new construction and upgrades for an existing 4.7kilometre stretch of SH20 between Queenstown Road, Hillsborough and Walmsley Road, Mangere.

The project forms a component of the Western Ring Route, which Transit NZ intends to complete in order to provide an alternative route to SH1, relieving traffic congestion and taking away unnecessary traffic from Auckland's CBD.

In essence, the project requires extensions and alterations to an existing motorway designation that is currently listed in both Auckland and Manukau District Plans. This is to accommodate the carriageway widening and associated temporary construction areas required to complete the project. Reclamation, outfalls and works within watercourses require approval from the Auckland Regional Council.

The Northern Gateway Alliance (NGA) is currently preparing an Urban Design Framework that would provide an overall direction for design based initiatives for the project. The objective of coming to the Urban Design Panel was to brief the design panel on the current status of the project, discuss the urban design framework and discuss design principles and ideas.

Applicant's Introductory Comments:

Sarah Cronwright from Transit gave a brief introduction to the project and a background and current status of the project. Initial investigations into upgrading SH20 began in year 2000, which sought to identify harbour crossing options to relieve congestions along the route. By 2006, Resource Consents had been lodged with Auckland City, Manukau City and the Auckland Regional Council. Construction is planned to commence in 2008 and finish by 2011.

Chris Bentley from the Northern Gateway Alliance (NGA), than went onto describe the various areas that would be upgraded, constructed or restored. These include footbridges, noise walls, duplication of the current bridge, retaining walls, improvement of pedestrian and cycle paths and on/off ramps.

Te Kaunihera o MANUKAU City Council

Panel Recommendations:

The panel requests that the following issues are included in the urban design framework:

- The old Mangere Bridge is already the dominant pedestrian and cycle route between Onehunga and Mangere Bridge. The number of pedestrians and cyclists will only increase in the future. The existing bridge's footpaths are narrow and unsuited for this role. Transit and Manukau City should collectively plan to make these changes. The importance of this pedestrian and cycle route should be emphasised in the framework.
- The panel strongly suggests that the footpath on the existing motorway bridge be closed for safety reasons. Improvements to the old bridge are than required to maintain pedestrian and cycle linkages.
- The panel suggests that the two footbridges may not be appropriate gateway structures. The motorway bridge over the Manukau Harbour is perhaps a better gateway location. The bridge design should celebrate that it crosses the harbour. The view of the motorway bridge from Mangere Bridge should be considered. Tenderers should be encouraged to consider this option.
- The framework could emphasise and celebrate the differences between the two cities – Auckland and Manukau – in the design approach of the waterfronts.
- The panel encourages relocation of the south bound off ramp to Rimu Road to create a wider coastal esplanade.

EVALUATION:

Deferral

Related Commentary:

The panel requests a copy of the Urban Design Framework once completed.