



Item D | Volume 1 Environmental and Urban Design Master Plan  
**Urban Design Master Plan**



**Contents**

- Background and Current Conditions
- Urban Design Drivers
- Urban Design
- Softscape Elements
- Hardscape Elements
- Landscape Masterplan
- Appendices



### 1.4 Local Context

#### PROJECT DESCRIPTION

The route passes through rural lowlands on the edge of the Upper Waitemata. The gently rolling landforms are broken by shallow gullies and numerous perennial and ephemeral water courses in the Totara and Waiarohia catchments. Landscape units in this area consist of:

- Exposed ridges
- Alluvial flats
- Gullies, streams and riparian margins
- Wetlands
- Coastal edges

Existing vegetation cover consists of exotic shelterbelts defining paddocks of grass and horticultural cropping. Native and exotic riparian species line water courses and populate low lying wet areas. Mangroves at coastal edges contribute to the scenic values of the area.

Pressure from urban expansion will result in sequential changes to residential land uses for Hobsonville Airbase, the Waiarohia Structure Plan area, the Massey North Concept Plan area and the area south of SH18 that is proposed for future industrial land use. The design of SH16 & SH18 will be responsive to the sensitivities of adjacent land users and travellers resulting from this developing interface.

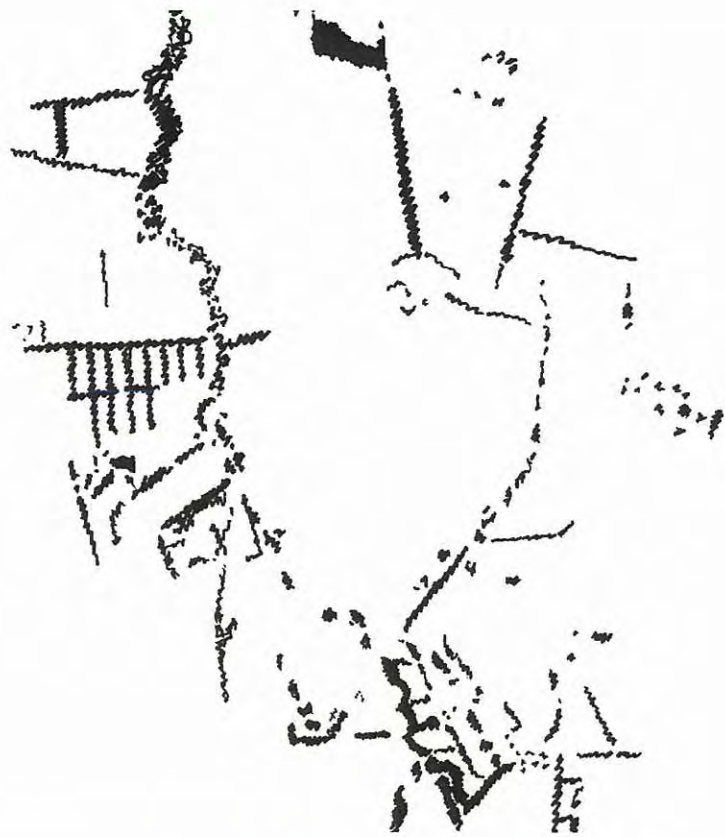
The designation boundaries provide generous working areas. Not all areas are required by the landscape works and can be returned to land owners following the completion of works. This will assist with the integration of the motorway into the rural environment with a varying depth of landscape treatment and proximity of adjacent land uses.



View East from Trig Road







**SITE GRAIN**

The rural planted grain provides a character that is distinctive to this site:

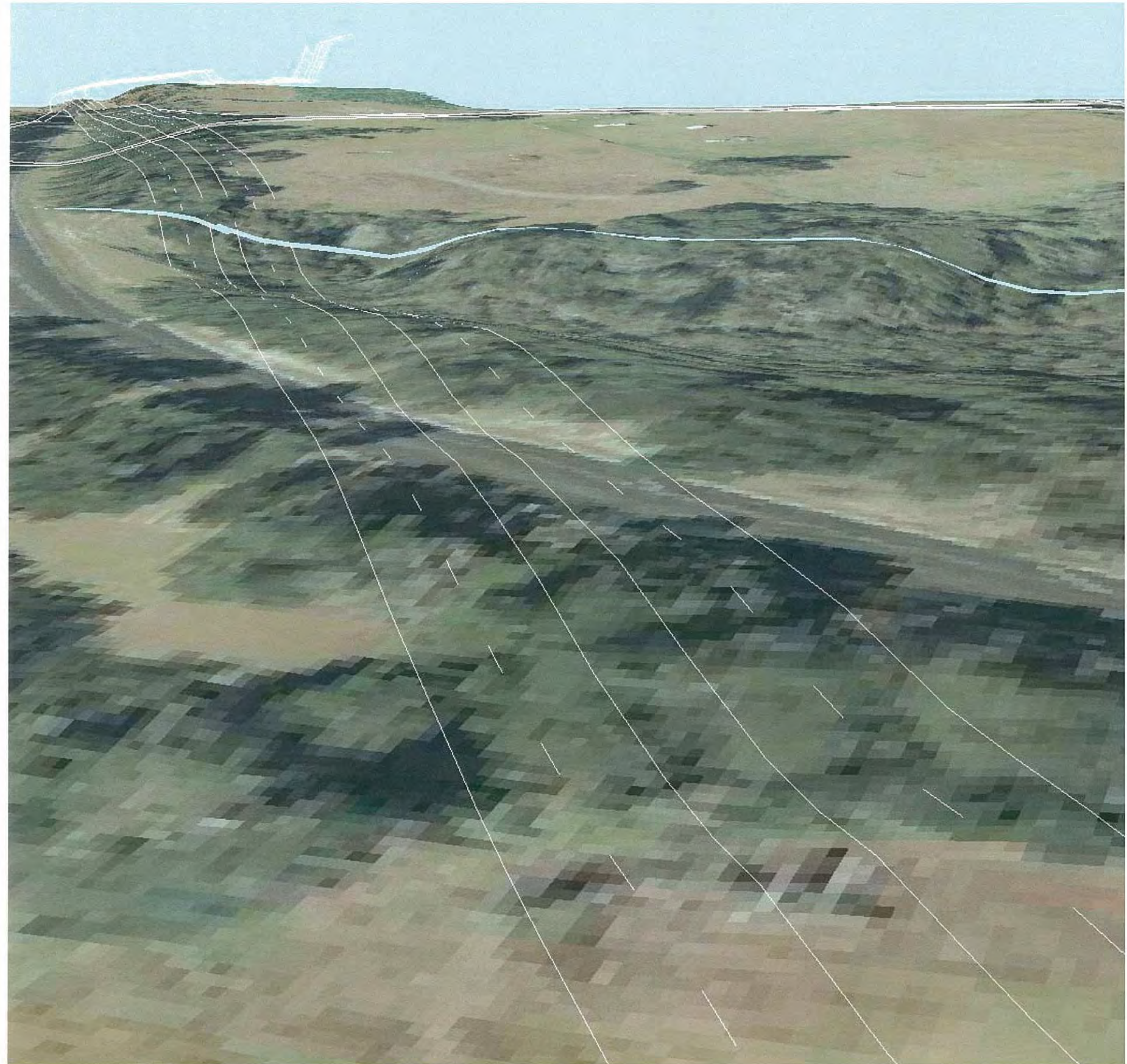
- Shelterbelts are arranged north-north-east to south-south west and perpendicular
- Open cultivated fields and grazing paddocks over rolling terrain
- Scattered clumps of trees and homestead plantings
- Remnant native vegetation along water courses such as Totara Creek
- These qualities are able to be preserved and enhanced to continue the legacy of this character through the future growth and development of this area





#### LANDFORMS

- The existing rolling landforms through the SH18 section characterise this section of the motorway
- These qualities are able to be preserved and enhanced to continue the legacy of this character through the future growth and development of this area







IEWS AND SCREENING

- It is important that the motorway does not enclose and disconnect the traveller from the surrounding landscape and urban environment
- Views to key landmarks have been identified including Rangitoto and the Waitakere Ranges
- Views to the open rural landscape east of SH16 extension + North of SH18, should be preserved wherever possible to maintain a connection with the rural landscape
- Views along the alignment to the future Clarks Lane footbridge offer opportunities for the bridge to serve as a landmark
- Quality views from the Upper Harbour Bridge of the coastal edge and west along SH18 suggest the need for well considered design solutions for bridges and plantings
- Views to future industrial and residential developments on the south side of SH18 should be filtered rather than screened to maintain a connection with an active urban environment and to protect valued views to off site landmarks. The scale of likely large format industrial / commercial buildings can be moderated through the careful arrangement of plantings





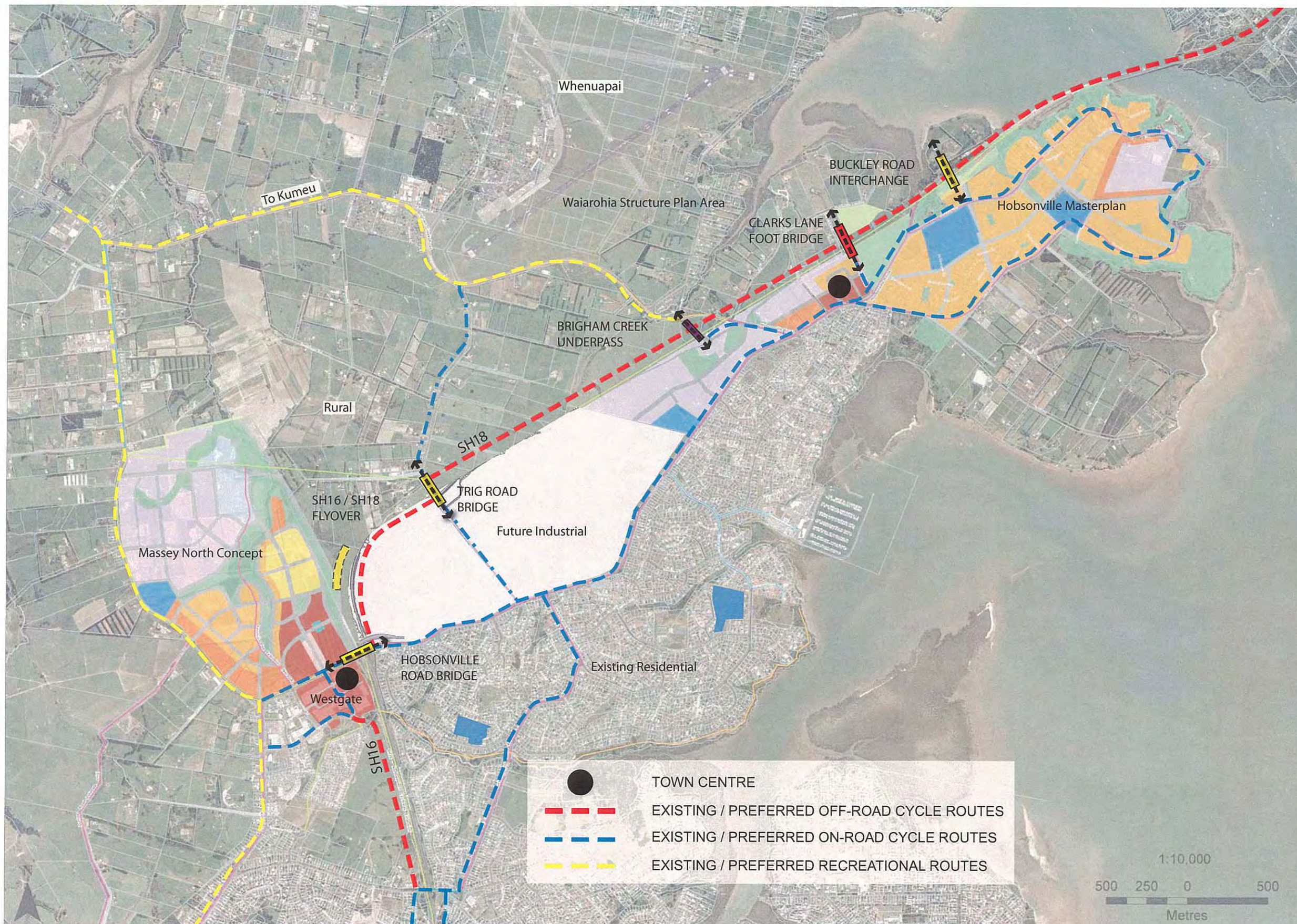
**WATERWAYS AND COASTAL EDGES**

- A significant amount of waterways are present within the project area, which offer both opportunities and constraints:
  - Planted up with local native riparian species, the waterways can add value to urban ecology and the North-West Wild Link regional strategy
  - A wide planted buffer strip of 10m minimum should be planted to filter sediments and pollutants from overland flows
  - Riparian plantings along water courses will provide a character that is common to both SH16 and SH18. Textured plants such as flaxes and cabbage trees will provide this
- The coastal edge features a steep escarpment at the Upper Harbour end and views into Wilsons Inlet beside Monterey Park
  - Maintain views to water wherever possible
  - Draw on Auckland region coastal aesthetic which features drifts of Pohutukawa on well drained slopes











**URBAN DESIGN ANALYSIS**

**Landuse / Connectivity / Character & Identity**

The urban design investigation into the SH18 Hobsonville Deviation looks into the aspects of existing and future landscape and urban fabric including land use, pedestrians / cyclists' connectivity, and local networks in conjunction with character and identity of the area, significant views and the motorway development.

The SH18 Hobsonville Deviation is a big infrastructure development that has significant impacts on the surrounding natural, cultural, social and economic environments. The proposed alignment traverses through urban residential, rural and coastal landscapes with panoramic views to Rangitoto Island, Waitakere Ranges and Waitamata Harbour.

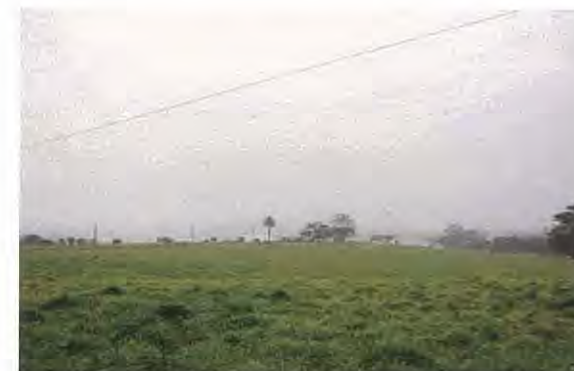
The SH18 Hobsonville Deviation displaces local networks such as historic Clarks Lane, links between villages and urban areas, footpaths and cycle routes. The spatial integration of displaced networks, existing (Westgate, Hobsonville Village) and future changes in landuse (Massey North Concept, Hobsonville Masterplan, Waiarohia Structure Plan and Future industrial) is enabled by road re-alignments and new access roads and bridges.

The motorway development which is a network of traffic routes and bridges is also an opportunity to provide well planned traffic structures (roads, bridges etc) in the walking and cycling network, attractively designed in the context of their urban, rural and coastal surroundings, to facilitate a clear sense of orientation and enhance the experience of pedestrians, cyclists' and motorists alike.

The following extract from 'Providing for Pedestrians: Principles and Guidelines to Destinations and Urban Spaces, July 2003' is key to achieving good urban design outcome for pedestrians / cyclists:

"It is important that facilities for pedestrians are built that are not only functional, but also good to look at. The pedestrian environment is not just a collection of footways and crossings. It includes buildings, spaces, views, trees, street furniture and the carriageway and traffic. High quality urban design will address permeability, legibility, human scale, functionality and a sense of place in order to create places where people feel that walking is a pleasure and not a necessity."

In addition, the analysis looks at the principles of safety, comfort, directness, coherence and attractiveness (Pedestrian network planning and facilities design guide - Land Transport New Zealand) along the routes to provide safe solutions for pedestrians and cyclists.





## BACKGROUND & CURRENT CONDITIONS

### 1.10 SWOT Analysis

ITEM	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
<b>Coastal Edge</b>	<ul style="list-style-type: none"> <li>Dramatic vertical escarpments and views through to inlets to harbour</li> <li>Upper Harbour Bridge descends from North Shore City side to reveal dramatic views of water, coastal edge and straight alignment of SH18 and its attendant sequence of bridges</li> </ul>		<ul style="list-style-type: none"> <li>Plant escarpments with coastal Pohutukawa trees. Draw inland to extend costal experience – similar treatment proposed for Te Atatu interchange and Waterview coastal edge</li> </ul>	<ul style="list-style-type: none"> <li>Views to costal edge and harbour may be interrupted by noise attenuation mounds/walls in places</li> </ul>
<b>Linkages</b>	<ul style="list-style-type: none"> <li>Green field site. Less constraints regarding location of multi-modal routes relative to motorway alignment</li> </ul>	<ul style="list-style-type: none"> <li>Several crossings including the Hobsonville Road Bridge are conflict areas that complicate the journey with multiple crossing points required</li> <li>Variable topography including landscape mounding requires a compromise between a straight and direct alignment and an acceptable gradient along the route</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity to set aside provision for future off road shared cycle/walkway an optimum distance from the motorway environment to achieve a safe and high amenity environment</li> <li>Ability to locate shared cycle/walkway on north side of SH18, which will take longer to develop, therefore providing a better quality environment than one positioned between the backs of industrial buildings and motorway</li> </ul>	
<b>Planting</b>	<ul style="list-style-type: none"> <li>Rural backdrop with open views and low density shelterbelts</li> <li>Coastal edge at eastern end</li> <li>Predominance of waterways along and across the alignment including requirement for storm water ponds and swales</li> </ul>	<ul style="list-style-type: none"> <li>Industrial land uses proposed along south side of SH18 will require screening</li> </ul>	<ul style="list-style-type: none"> <li>Existing rural scale shelter plantings provide a planted character worth preserving and building on</li> <li>Concepts developed for SH16 (in a separate project) provide a basis for the development of a planted character for SH16 and the coastal edge at the Upper Harbour Bridge</li> <li>Develop different planted character for SH18</li> <li>Develop visually contrasting planted character for waterways and wetland areas</li> <li>Planting layout supports "Fluid Landscape" concept along SH18</li> </ul>	
<b>Environmental</b>	<ul style="list-style-type: none"> <li>Waterways and storm water treatment ponds and swales</li> </ul>	<ul style="list-style-type: none"> <li>High level of treatment of stormwater runoff from motorway prior to entering waterways and harbour</li> </ul>	<ul style="list-style-type: none"> <li>Eco-corridor along SH16 supports WCC's aspirations</li> <li>North-West Wild Link a regional strategy to connect and extend habitat areas to improve urban ecology</li> </ul>	<ul style="list-style-type: none"> <li>Damage to existing habitats</li> </ul>
<b>Landforms</b>	<ul style="list-style-type: none"> <li>Preserve and enhance rolling landforms that characterise this area</li> </ul>		<ul style="list-style-type: none"> <li>Utilise all surplus dirt won from the site to form soft rolling landscape forms and reduce need to transport soil from site</li> <li>Design landforms around infrastructure to incorporate into landscape</li> </ul>	
<b>Noise Attenuation</b>	<ul style="list-style-type: none"> <li>Reduces impacts of motorway on lifestyles of adjacent occupants</li> </ul>	<ul style="list-style-type: none"> <li>Restricts views to the wider landscape</li> </ul>	<ul style="list-style-type: none"> <li>Surplus dirt able to be utilised to form earth bunds in place of walls</li> <li>Where space doesn't allow, colourful walls may be incorporated which will integrate with earth bunds</li> <li>Earth bunding continuous with desire to accentuate undulating landforms. Integrate earth bunds with walls where required</li> </ul>	
<b>Retaining Walls</b>	<ul style="list-style-type: none"> <li>Few walls required</li> <li>Ability to reduce height and lengths of walls optimised</li> </ul>	<ul style="list-style-type: none"> <li>Keystone best value option at SH16/SH18 Flyover</li> </ul>	<ul style="list-style-type: none"> <li>Green walls along SH16 a high character element</li> <li>Opportunity to characterise retaining walls to support arts programme</li> </ul>	
<b>Bridges</b>	<ul style="list-style-type: none"> <li>Sequence of bridges provide linkages across motorway alignment</li> </ul>		<ul style="list-style-type: none"> <li>Surface treatments of barriers, abutments, walls and pier cladding able to support arts programme</li> <li>Clarks Lane footbridge to form urban landmark along SH18 and off site within the visual catchment</li> </ul>	



# Index

Item A |

## Non-Price Attributes

- Executive Summary
- Relevant Experience
- Track Record
- Technical Skills
- Resources
- Management Skills
- Methodology
- Tags and Clarifications
- Appendices
- *Curricula Vitae*
- *PACE Reports*
- *Additional Information*

Item B | Volume 1

## Tender Submission Report Conceptual Design Statement

Item B | Volume 2

## Tender Submission Report Conceptual Design Statement – Traffic Modelling Report

Item B | Volume 3

## Tender Submission Report Conceptual Design Statement – Geotechnical Information

Item B | Volume 4

## Tender Submission Report Conceptual Design Statement – Geotechnical Information

Item B | Volume 5

## Tender Submission Report Conceptual Design Drawings

- Index
- Roadworks
- Structures
- Earthworks

Item B | Volume 6

## Tender Submission Report Conceptual Design Drawings

- Pavements and Surfacing
- Traffic Services
- Environmental

Item B | Volume 7

## Tender Submission Report Conceptual Design Statement and Drawings – Delivery

- Access to Site
- Construction Staging and Traffic Management
- Utilities Strategy
- Land Use Strategy
- Programme
- Maintenance Strategy

Item C |

## Road Safety Audit Report

Item D | Volume 1

## Environmental and Urban Design Master Plan Urban Design Master Plan

- Background and Current Conditions
- Urban Design Drivers
- Urban Design
- Softscape Elements
- Hardscape Elements
- Landscape Masterplan
- Appendices

Item D | Volume 2

## Environmental and Urban Design Master Plan Environmental Management

- Stormwater Management
- Noise Mitigation
- Temporary Environmental Control Measures

Item E |

## Tender Information Schedules

Item F |

## Commitment of Key Resources

Items G and H |

## Price Information

- Tender Form
- Schedule of Prices





**1.0 BACKGROUND & CURRENT CONDITIONS**

1.1 Design Statement	4
1.2 Deliverables	5
1.3 Regional Context	6
1.4 Local Context	8
1.9 Urban Design Analysis	14
1.10 SWOT Analysis	16

**2.0 DESIGN PROPOSAL**

**2.1 URBAN DESIGN DRIVERS**

2.1.1 The Big Idea	19
2.1.2 Art Opportunities	20
2.1.3 Integrated Art Components	22
2.1.4 Arts Briefs	30

**2.2 URBAN DESIGN**

2.2.1 Urban Design Principles	35
2.2.2 Urban Design Recommendations	37

**2.3 SOFTSCAPE ELEMENTS**

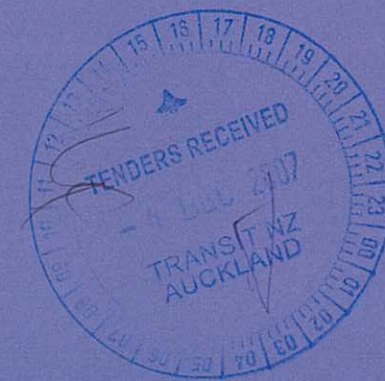
2.3.1 Planting Precincts	40
2.3.2 The Green Route	42
2.3.3 Concept Plan	44
2.3.4 Cross Sections	60
2.3.5 Planting Schedules	64
2.3.6 Planting Images	68
2.3.9 Maintenance	72

**2.4 HARDSCAPE ELEMENTS**

2.4.1 Structures	74
2.4.2 Hobsonville Road Bridge	76
2.4.3 SH16 / SH18 Flyover	78
2.4.4 Trig Road Bridge	80
2.4.5 Brigham Creek Underpass	82
2.4.6 Clarks Lane Footbridge	84
2.4.7 Buckley Interchange	86
2.4.8 Key Stone Wall	88
2.4.9 Retaining Walls	89
2.4.10 Spillthrough Abutments	90
2.4.11 Bridge Barriers	91

**3.0 APPENDICES**

3.5 Elevation	93
3.6 Slope Analysis	94
3.7 Land Use	95





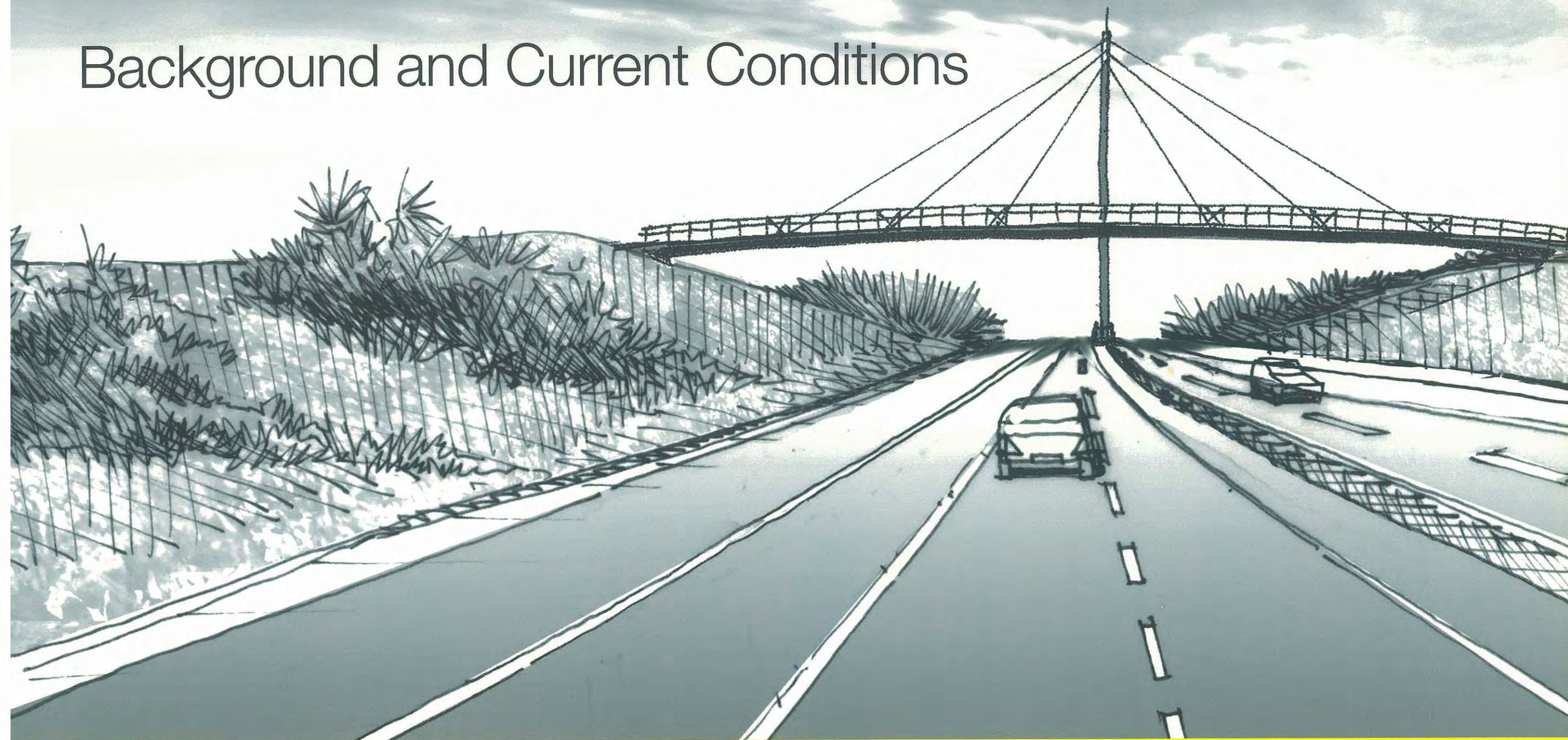


THE AUCKLAND TRANSPORT  
TRUST  
1000 QUEEN STREET  
AUCKLAND  
NEW ZEALAND

TENDERS RECEIVED  
10 10 2007  
TRANSIT AUCKLAND  
10 10 2007



# Background and Current Conditions





### DESIGN STATEMENT

The Landscape and Urban Design Masterplan has been conceived and developed across a range of disciplines including:

- Art
- Landscape architecture
- Urban design
- Architecture (bridges and retaining walls)
- Civil and structural engineering
- Planning
- Contractors

Integration of large scale infrastructure into green field sites involves an array of complex issues that need to be addressed to ensure the 'best fit' with the urban environment. These issues include:

- The identification of landscape qualities that characterise the site and the development of a methodology to preserve and enhance them
- The development of a legibility overlay to assist way-finding
- Prioritise multi-modal linkages to minimise the divisive effects of the motorway corridor
- Identify valued view shafts and where screening is required
- Identify view catchment and propose appropriate treatments
- Achieve a visual and thematic continuity with other sections of the motorway network
- Provision of an environment that is safe and comfortable for all modes of travel
- Development of a 'whole of life' legacy vision
- Achievement of an aggregate gain in environmental quality for waterways, coastal marine areas, natural habitat and urban ecology
- Provision of a scale that is appropriate to the setting and for all modes of travel

### Key Components of the Proposal

#### Character

- Identification of specific landscape qualities to be preserved and enhanced:
  - o rural planted grain
  - o fluid landforms
- Development of a landscape and urban character that will identify each alignment (SH16 & SH18) and:
  - o provides a high level of legibility to assist way-finding through plantings and the design of structures such as bridges and walls
  - o contributes to the character of the Western Ring Route experience
  - o is supportive of Waitakere City's aspirations as an 'Eco-City' and a 'Creative City'

#### Art

- The design team has included the services of a lead artist at the outset to develop an arts programme that has assisted in:
  - o the development of the 'Big Idea':
    - SH16 – the 'Green Route'
    - SH18 – the 'Gallery Route'
    - 'Interdependence'
  - o the conceptual design of bridge barriers, retaining walls and abutments including green walls on SH16 and orange 'Ribbon Walls' for noise attenuation
  - o the development of outline 'Arts Briefs' to guide future artists commissions for the design of Clarks Lane Footbridge 'Clay Carpet' and Brigham Creek 'Industrial Exchange'
  - o liaison with John Radford to ensure the best fit of 'Sinton Windows' at Clarks Lane Footbridge
  - o the development of concepts to integrate heritage elements in the Clarks Lane footbridge - 'Clay Carpet'
  - o a methodology for future coordination with Waitakere City

### Continuity

- Maintain and enhance the soft rolling landscape character along SH18 through:
  - o close collaboration with engineers to reduce the heights and lengths of vertical retaining walls
  - o the use of all spoil won from the site to form:
    - sculpted earth mounds for noise attenuation
    - soft rolling landforms
  - o informing the design of infrastructure including:
    - the shape and alignment of retaining walls to blend into the contours wherever possible
    - the rounded shape of central clad piers on Trig Road and Hobsonville Road bridges
    - horizontal corrugated formwork on bridge barriers, retaining walls, central clad piers and spill through abutments
- Maintain open grassy areas to:
  - o minimise land take and make adjacent land available for continuance of rural activities
  - o achieve visual continuity with adjacent rural areas
  - o maintain views off site to rural areas and landmarks
- Maintain scale of rural planted grain through:
  - o the retention of existing shelter belts wherever possible
  - o planting of additional lines of shelter belts within the motorway environment
- Incorporation of concepts developed for the SH16 Waterview to Royal Road Specimen Design abutting sections including:
  - o the continuity of 'Green Walls' along SH16
  - o adoption of coastal Pohutukawa clad escarpments proposed for Waterview and Te Atatu at the Upper Harbour section of this project
  - o continuity of the 'Eco-Corridor' along SH16 and in support of the 'North-West Wild Link' regional urban ecology strategy





**Urban Design**

- Urban Designers, Landscape Architects and Architects have collaborated to provide a high level overview to:
  - o identify CPTED issues associated with the provision of the future shared off road cycle / walkway
  - o identify the best route for the future shared off road cycle / walkway and achieve best quality linkages and landscape amenity
  - o integrate the MfE 7 C's to achieve the 'best fit' for the motorway in the urban environment
  - o identify the necessary steps to ensure this project is continuous with the Western Ring Route 'travelling experience'
  - o minimise land take to encourage development and activity close to the motorway corridor thus reducing the separating effects of the motorway on urban areas
  - o drive the design of the Clarks Lane cable stay footbridge with 24m high central column to form a highly visible landmark on this section of the Western Ring Route
  - o identification of appropriate locations to provide screening and visual permeability with planting and earthworks

**Sustainability**

- Sustainable practices have informed the design of the following:
  - o the use of all spoil won from the site to form sculpted landforms. All soil placement will be undertaken as close as possible to the source to minimise cartage
  - o the use of recycled materials in SH16 green wall fascia panels such as glass etc
  - o reduction of land take to return adjacent land to rural land use or future development

- o ratio of planted areas to grassed areas to balance best fit with the urban environment and long term maintenance costs
- o treatment of all storm water runoff through vegetated swales and treatment ponds and generous planted buffer for all water courses to filter overland flows
- o careful selection and placement of locally sourced native plantings to enhance urban ecology such as the 'Eco-Corridor' along SH16 and the 'North-West Wild Link' regional urban ecology strategy
- o the use of self regenerating native planting mixes to reduce ongoing maintenance costs
- o the use of low mow grass species to reduce ongoing maintenance costs

**Consents**

- All conditions for consents and property agreements regarding land modification, earthworks and works in water courses will be met through:
  - o landscape treatments to sensitive waterways and coastal areas in coordination with a qualified terrestrial and freshwater ecologist
  - o appropriate mitigation treatments to boundaries and other sensitive areas to provide visual screening and noise attenuation
  - o appropriate landscape treatments to best integrate infrastructure into the landscape
  - o procurement of eco-sourced native plants
  - o the design, management and maintenance of landscape works to achieve successful establishment

**Deliverables**

This report has been produced by qualified landscape architects, urban designers, architects and an artist in close coordination with various engineering disciplines, planners and contractors.

We have read and fully understand the documents listed in the Principal's Requirements 18.3 and including:

- The Principal's Requirements, in particular 2.3
- Instructions for Tendering, in particular 7.3.5
- The Principal's Requirements, A18 - Environmental and Urban Design
- Construction is underway; due for completion 2009

- Appendix K – Landscape Mitigation
- The Specimen Design Landscape Concept Plans by Opus Consultants
- Artwork Implementation Report
- Cultural Heritage Report
- Transit NZ Guidelines for Highway Landscaping
- Transit NZ Urban Design Professional Services Guide
- MfE Urban Design Protocol

The enclosed Landscape and Urban Design Masterplan consists of the following:

- An illustrated report and overall concept plan to a scale of not less than 1:1000 establishing and developing the design features for the route
- Plans, typical cross sections and perspectives to illustrate the range of features or treatments utilised to achieve the environmental and urban design integration at bridges, retaining walls and noise attenuation structures
- Plans to a scale of not less than 1:250 showing the landscape design including landforms for landscape or mitigation purposes and planting and bedding layout with plant mixes indicated
- Schedules indicating the proposed plant species, mixes, sizes and densities for the different planting themes including terrestrial, riparian and wetland
- Details regarding incorporation of heritage features
- Details of any provisions made to enable future maintenance of the works
- Artworks strategy report

Also included:

- A report illustrating architectural treatments to bridges and structures





#### THE WESTERN RING ROUTE EXPERIENCE

A variety of landscape units, urban conditions and political boundaries characterise and influence the contextual setting of the Western Ring Route - between the Southern Motorway in Manukau and the Upper Harbour section of the Northern Motorway. The route traverses the Auckland isthmus with both west coast and east coast experiences within a relatively short distance. Auckland's volcanic field shapes the topography along this route, providing points of reference for way finding and emphasising Auckland's underlying geology and natural history. An understanding of these qualities and how they relate as a series of events will guide the development of a well considered and choreographed route that is "distinctive" to the Auckland region.

The route features a mixture of sections with existing urban infrastructure and others that are new greenfield sites. The urban character of the Western Ring Route will develop over time as new urban areas populate the route. These developing areas rely on an understanding of the undeveloped landscape character and qualities of these sites to ensure the best environmental fit for the city as it grows.

The planning and design of State Highways 20, 16 and 18 into at least 9 different project areas risks fragmenting the Western Ring Route into distinct contextual packages that bear little resemblance to each other. The design of these sections will need to consider the route in its entirety and the landscape and urban design context of the sections that they abut.

The development of Auckland's urban areas will respond positively to the improved connectivity that this route will provide for the long term benefit of the region. The Western Ring Route will be an integral component of the city fabric and should provide a lasting series of images that contribute to the identity of the region.

#### SH20 – THE 'VOLCANIC HIGHWAY'

Volcanic landmarks along the route connect the traveller with the wider landscape and are a reminder of Auckland's unique location within a volcanic field.

A variety of landscape units, topography and urban conditions characterise the journey between the Southern Motorway in Manukau, the Airport and the North Western Motorway. The planning and design of these has led to segmentation of SH20 into distinct contextual packages. The overall experience along the planned western ring route has its beginnings here.

Design of the gateways at either end of SH20 (sections 1 & 5) should draw inspiration from their immediate environment and use these qualities to characterise and signal a change to the SH20 network. Common elements can be drawn through from the design of previously constructed sections to support themes that make them part of the "SH20 experience".

#### 1. SH1/SH20 Manukau Extension

- A greenfield site between civic, residential and industrial land uses
- Design of the 5 bridges, along with the planting, noise attenuation and retaining walls are supported by an integrated arts programme that celebrates the Pacifica culture and underlying volcanic geology
- The section forms a 'gateway' to Auckland and Manukau City through its positioning and the careful design of infrastructure and landscape elements
- Construction is currently underway and is due for completion end 2009

#### 2. Puhinui Road – Walmsey Road Section

- Residential and industrial land uses either side. Embankments planted with mixed native species enclose the corridor
- An unremarkable section of SH20

#### 3. The Manukau Harbour Crossing

- Central experience is around the water crossing, Onehunga coastal edge, the Hopua tuff ring and the presence of tall volcanic cones – Mangere Mountain, Maungakiekie and Mt Roskill
- Design concepts address the Hopua tuff ring in the centre of the section, the cultural make-up of Mangere and the reduction of the scale of the infrastructure. Beachcroft footbridge a landmark element in this section
- Construction is due for completion 2011

#### 4. Mt Roskill Section

- A largely greenfield site between established mixed residential/ industrial land uses
- Design of bridges and retaining walls highly contextual and elements of this have been incorporated into the design of the previous section
- Landscape design contrasts sharply with previous section

#### 5. The Waterview connection

- The final section of connecting SH20 with SH16 – a greenfield site between residential land uses
- Design of this should draw on its coastal connection, residential urban grain and generous park-like setting

#### SH16 – 'THE GREEN ROUTE'

Dubbed the 'Green Route' in response to Waitakere City's "Eco-City" branding and their desire to establish an eco-corridor along the Waitakere City section of SH16. Current work underway by Connell Wagner and Jasmox includes the SH16 Waterview to Royal Road Specimen Design. This study has resulted in the development of design concepts that can be drawn into other sections of SH16 including the 'Green Walls' and the treatment of roadside planting areas to support the establishment of an 'Eco-Corridor'. These features will provide a character that is unique to this section of the Western Ring Route.

#### 6. SH16 from Waterview to Royal Road

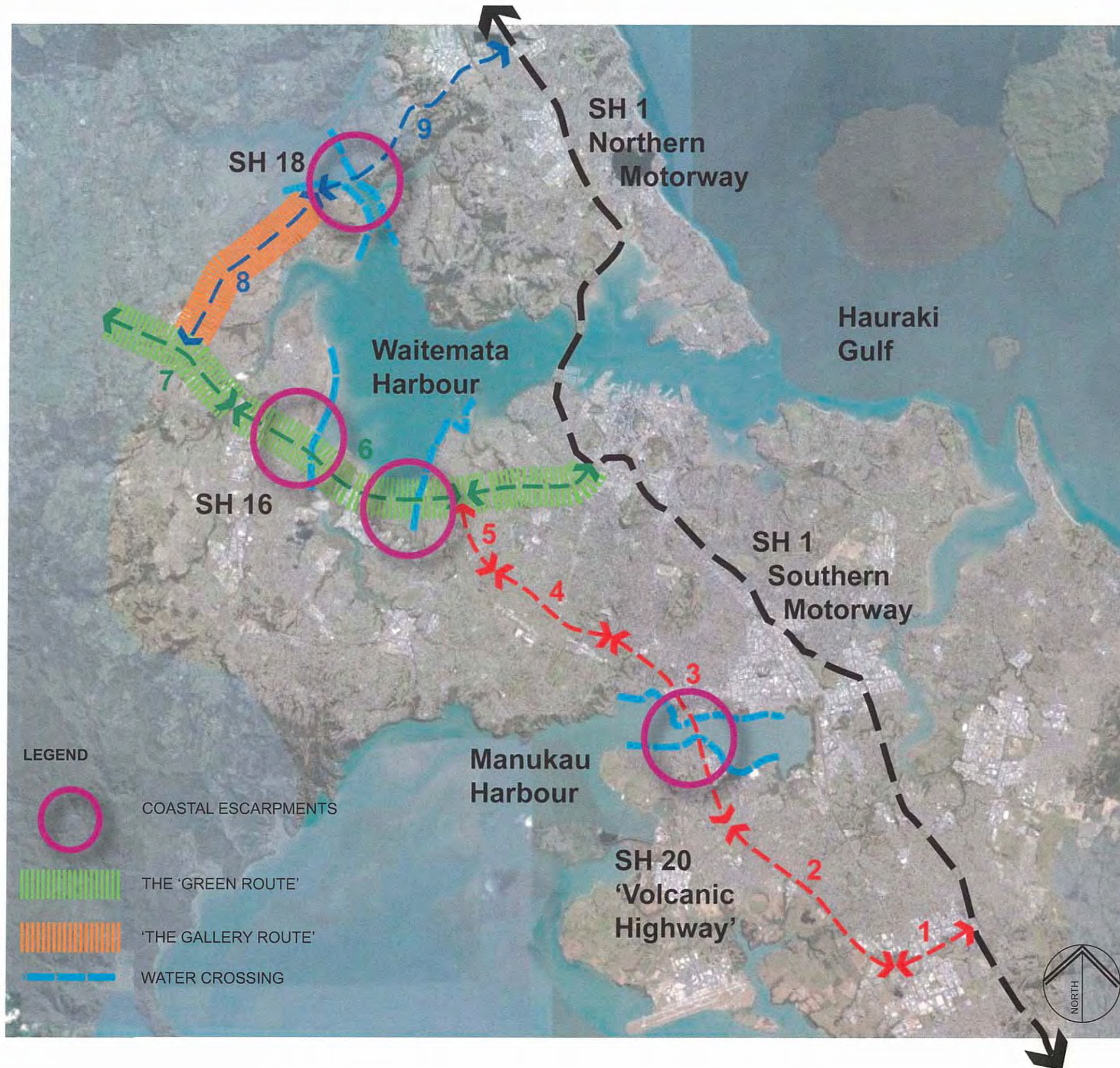
- Widening of the existing alignment along an established corridor resulting in extensive retaining walls that are proposed to be green
- A water crossing with extensive harbour and city views
- Te Atatu Interchange – the 'gateway' into Waitakere close to the coastal edge will draw on concepts developed for the coastal escarpments for Manukau Harbour Crossing, Waterview and the Upper Harbour edges which includes extensive Pohutukawa plantings

#### 7. The Royal Road to Brigham Creek Extension

- A largely greenfield site with future Massey North development planned alongside the alignment
- The intersection between SH16 and SH18 marks the transition from an urbanised character to a semi rural character north along SH16 and east along SH18
- Green walls, the Hobsonville Road Bridge in cut and SH16/SH18 Flyover represent large scale infrastructural interventions and highly modified topography







**SH18 – 'THE GALLERY ROUTE'**

Dubbed the 'Gallery Route' in support of Waitakere City's aspirations to develop a 'creative city' culture. The urban form of SH18 will be characterised by future new developments alongside the alignment, the final mix of which is not yet established. The gentle undulating topography and current rural land uses will drive the development of a landscape character that is green, spacious and patchy with generous views to the wider landscape. The arts focus for the Waitakere City side of SH18 will inform the integration of art into bridges, structures and landforms and the placement of stand-alone artefacts by local artists.

- SH16 to Upper Harbour Bridge
  - Low density rural pastureland and cropping on gently undulating topography with small shallow gullies and rural scale shelter and woodland plantings
  - Landscape concepts support the continuation of gentle rolling contours in place of structural retaining and noise attenuation walls wherever possible
  - The alignment will occupy a greenfield site that is under pressure from urban expansion from the proposed Massey North development adjacent to the SH18/SH16 interchange and the proposed HNZC Hobsonville development adjacent to the Upper Harbour Bridge. Possible additional low density development is proposed at Waharohia, between Whenuapai and the HNZC Hobsonville site. This project assumes all areas adjacent to the alignment will be subjected to future development from residential and industrial land uses
  - Loss of heritage elements along the alignment will be referenced through sculpture and/or structures with additional arts elements to support Waitakere City's aspirations for an "arts route" to be established. Concepts include the integration of art into infrastructure including walls, bridges and landform

- The Greenhithe section between Upper Harbour Bridge and the Northern Motorway**
  - A 5.5km section of the alignment that includes 4 interchanges, significant areas of cut with resulting retaining walls and batters
  - Landscape character is defined by large areas of native woodland, variable topography and waterways
  - The assumption is that a mix of residential, commercial and industrial developments will populate either side of the alignment