

27 January 2006

# Harbour Link Designation Process

## Introduction

This document has been prepared as a summary of information for Year 13 Geography students and should not be viewed as a complete summary of all approval processes for the Harbour Link project.

Information has been sourced and summarised from a variety of documents.

A. Project Summary:

**1. Designation of the Route**

The process followed under the RMA is as attached (see Page 5)

The key provisions of the Act that apply are in Section 168A as attached (see Pages 5 & 6) and the Part II purposes (see Page 2).

**2. Options Considered**

See attached plans of five options (see Pages 8-15).

## B. Excerpt from Resource Management Act: Part II Principles

### **5. Purpose—**

- (1) The purpose of this Act is to promote the sustainable management of **natural and physical resources**.
- (2) In this Act, "sustainable management" means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while—
  - (a) Sustaining the potential of natural and physical resources (excluding **minerals**) to meet the reasonably foreseeable needs of future generations; and
  - (b) Safeguarding the life-supporting capacity of air, **water**, soil, and ecosystems; and
  - (c) Avoiding, remedying, or mitigating any adverse effects of activities on the **environment**.

### **6. Matters of national importance—**

In achieving the purpose of this Act, all **persons** exercising functions and powers under it, in relation to managing the use, development, and protection of **natural and physical resources**, shall recognise and provide for the following matters of national importance:

- (a) The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:
- (b) The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:
- (c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:
- (d) The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:
- (e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, Waahi tapu, and other taonga.
- [(f) The protection of **historic heritage** from inappropriate subdivision, use, and development.]
- [(g) The protection of **recognised customary activities**.]

### **7. Other matters—**

In achieving the purpose of this Act, all **persons** exercising functions and powers under it, in relation to managing the use, development, and protection of **natural and physical resources**, shall have particular regard to—

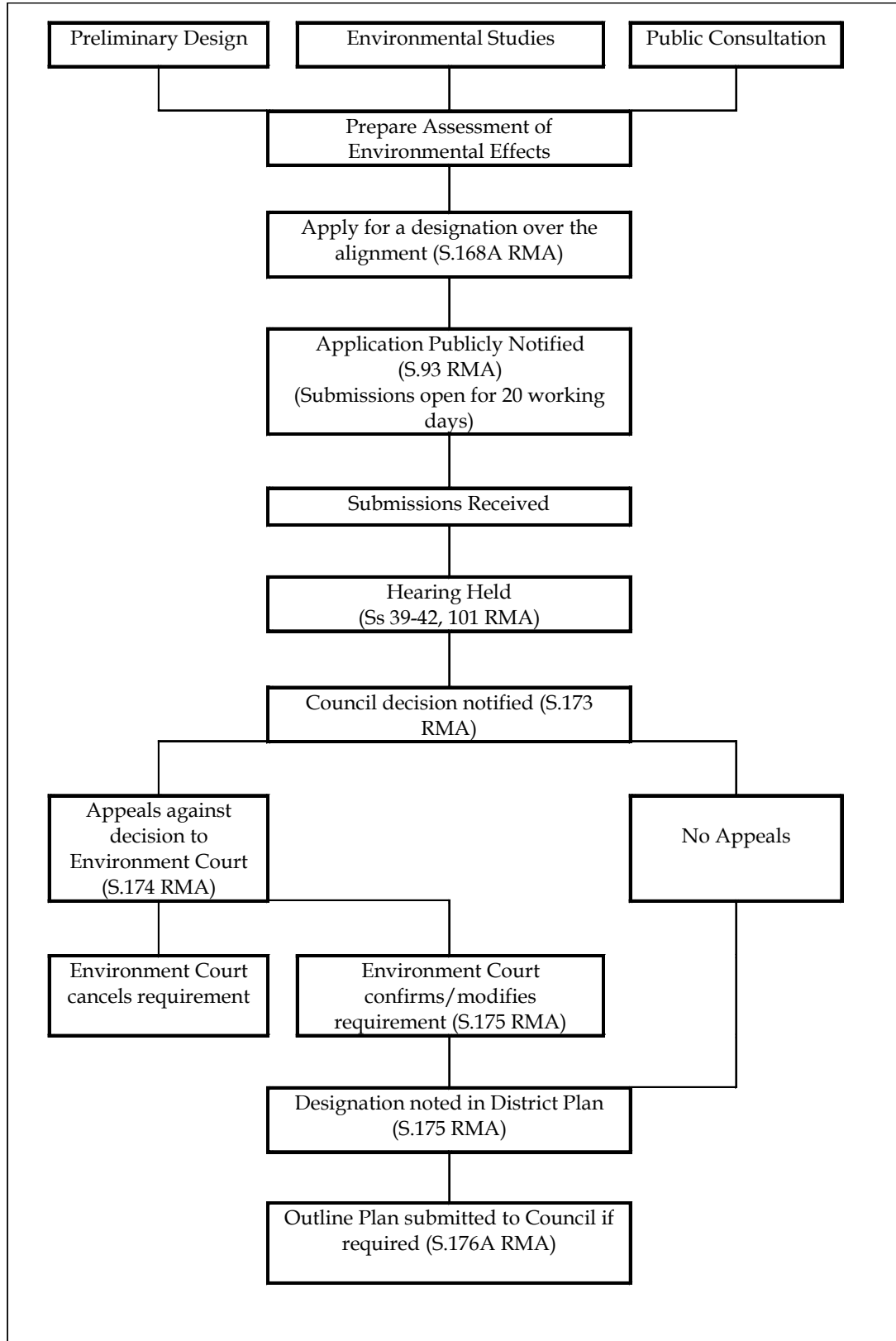
- (a) **Kaitiakitanga**:  
[(aa)The ethic of stewardship:]

- (b) The efficient use and development of natural and physical resources:  
[(ba)The efficiency of the end use of energy:]
- (c) The maintenance and enhancement of **amenity values**:
- (d) **Intrinsic values** of ecosystems:
- (e) Repealed.
- (f) Maintenance and enhancement of the quality of the **environment**:
- (g) Any finite characteristics of natural and physical resources:
- (h) The protection of the habitat of trout and salmon:
- [(i) The effects of **climate change**:]
- [(j) The benefits to be derived from the use and development of **renewable energy**.]

#### **8. Treaty of Waitangi—**

In achieving the purpose of this Act, all **persons** exercising functions and powers under it, in relation to managing the use, development, and protection of **natural and physical resources**, shall take into account the principles of the [Treaty of Waitangi \(Te Tiriti o Waitangi\)](#).

C. Excerpt from project consultant's planning documents



D. Excerpt from Resource Management Act

**[168A. Notice of requirement by territorial authority—**

- (1) When a **territorial authority** proposes to issue notice of a requirement for a **designation**—
- (a) For a **public work** within its **district** and for which it has financial responsibility; or
  - (b) In respect of any land, **water**, subsoil, or airspace where a restriction is necessary for the safe or efficient functioning or operation of a public work—

it shall ~~[[notify the requirement in accordance with section 93(2)]]~~; and the provisions of section 168, with all necessary modifications, shall apply to such notice.

- (2) Sections . . . , 96, 97, and 99 to 103 shall apply, with all necessary modifications, in respect of a notice under subsection (1), as if every reference in those sections—
- (a) To a **resource consent** were a reference to the requirement; and
  - (b) To an **applicant** ~~[[or a **consent authority**]]~~ were a reference to the territorial authority; and
  - (c) To an application for a resource consent were a reference to the notice under subsection (1).

~~[[~~(3) When considering a requirement and any submissions received, a territorial authority must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to—

- (a) any relevant provisions of—
  - (i) a **national policy statement**;
  - (ii) a **New Zealand coastal policy statement**;
  - (iii) a **regional policy statement** or proposed regional **policy statement**;
  - (iv) a plan or **proposed plan**; and
- (b) whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if—
  - (i) the **requiring authority** does not have an interest in the land sufficient for undertaking the work; or
  - (ii) it is likely that the work will have a significant adverse effect on the environment; and
- (c) whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought; and
- (d) any other matter the territorial authority considers reasonably necessary in order to make a decision on the requirement.]]

[[ (4) The territorial authority may decide to—

- (a) confirm the requirement:
- (b) modify the requirement:
- (c) impose conditions:
- (d) withdraw the requirement.]]

[[ (5) Sections 173, 174, and 175 apply, with all necessary modifications, in respect of a decision made under subsection (4).]] ]

E. Summary of material prepared by project consultant for Options Assessment Report prior to designation.

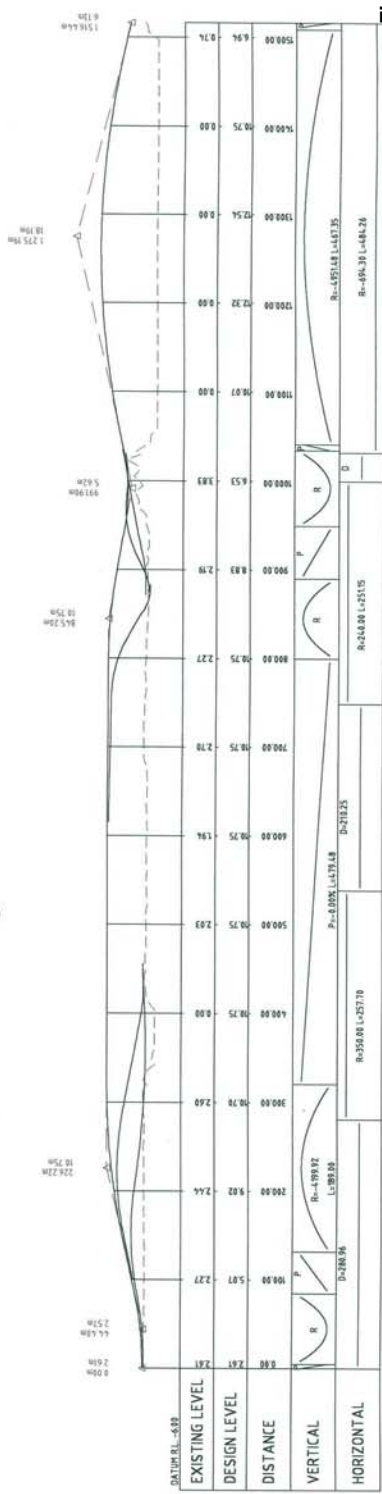
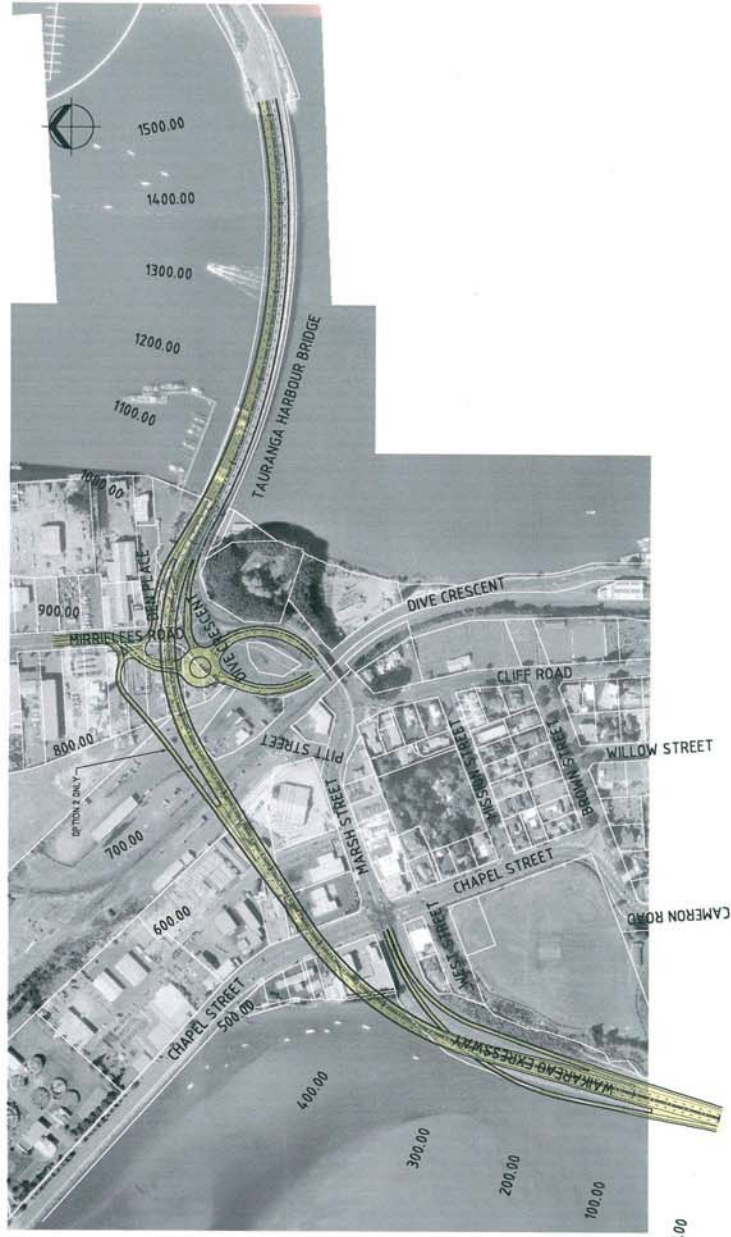


Figure 3.1

<p>Client: <b>Beca Carter Hollings &amp; Ferner Ltd</b>                  Consulting Engineer                  BECA Wellington, Auckland, Christchurch, Hamilton, New Plymouth, Tauranga                  BECA Architects Wellington, Auckland, Christchurch, Hamilton, New Plymouth, Tauranga</p>	<p>Project: <b>ROUTE P TO HARBOUR BRIDGE</b></p>	<p>Discipline: <b>CIVIL</b>                  Drawing No: <b>1399CK09</b></p>
<p>Drawn: [ ]                  Checked: [ ]                  Approved: [ ]</p>	<p>Scale: <b>AS NOTED</b></p>	<p>Revision:</p>

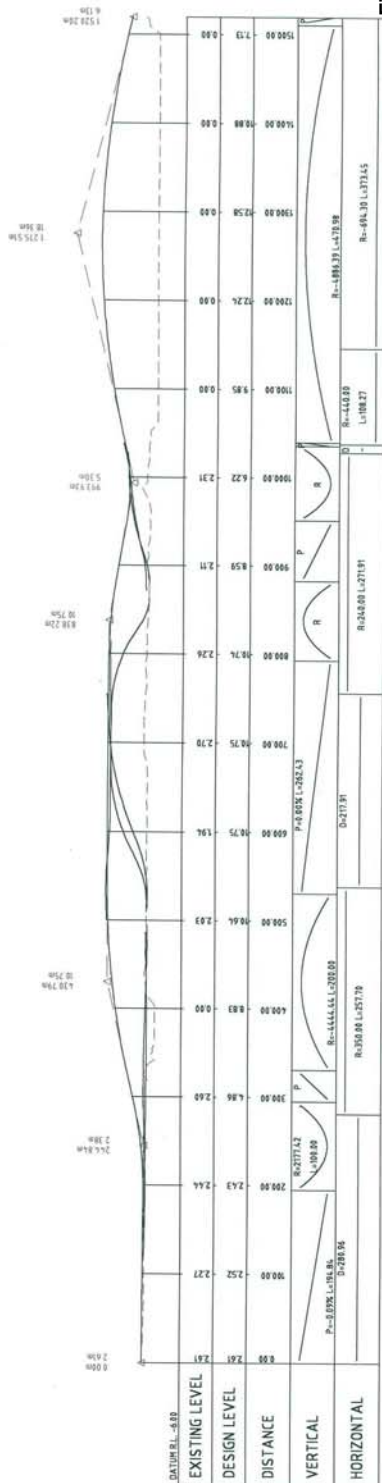
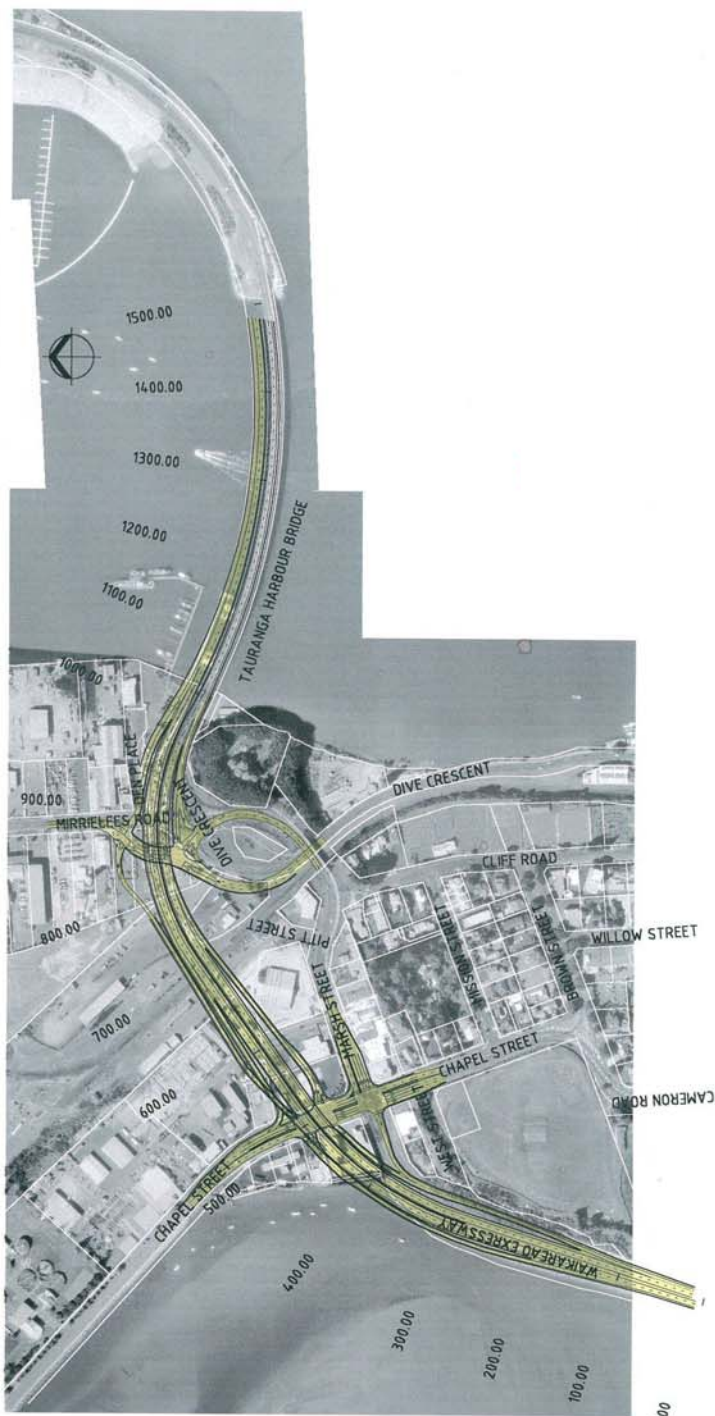


Figure 3.2

<p>Client: <b>BECA</b>                  Address: 1000/1001, Tauranga, Bay of Plenty                  Phone: 07 376 1000                  Fax: 07 376 1001                  Website: www.beca.co.nz</p>	<p>Project: <b>ROUTE P TO HARBOUR BRIDGE</b></p>	<p>Discipline: <b>CIVIL</b></p>
<p>Project No: <b>1399CK08</b></p>	<p>Option: <b>OPTION 3 FULL DIAMOND AT CHAPEL ST VICEROADS INTERSECTION</b></p>	<p>Scale: <b>C</b></p>





## Comparative Assessment of Options

### Options Summary

#### Options 1 and 2: 3-lane Viaduct with Split Diamond

The latest traffic modelling analysis suggests that a single westbound lane would have limited capacity life. Consequently if adopted it is likely that a 4 lane viaduct would actually be constructed, making it the most expensive of the viaduct options. Therefore, these 3-lane options have become impractical.

**In the visual assessment the narrower 3-lane viaduct was slightly preferred over the 4 lane viaduct, hence the preference for these options would be reduced.**

The additional traffic analysis also suggests that the roundabout at Dive Crescent and intersections on Mirrielees Road also have limited capacity life. Dual roundabouts or a large oval roundabout encompassing both the Harbour Bridge ramps would need to be considered, but it is unlikely that these would have sufficient capacity for the longer term. Ultimately co-ordinated signalised intersections may be required at this location.

The sub-option 2 provides a direct ramp from the viaduct to Mirrielees Road. This is strongly favoured by the Port of Tauranga and helps the project achieve its strategic goals, even though the flows on the ramp are not that heavy.

#### Option 3: 4-lane Viaduct with Full Diamond at Chapel Street

This option provides the best traffic operation splitting the local traffic, cross harbour trips between the Mirrielees/Dive Crescent and Chapel Street ramps. The critical elements in terms of traffic capacity are the pair of linked traffic signals on Chapel Street between Marsh Street and the single point diamond interchange below the viaduct. Initial modelling within TRIPs and simulation modelling within AIMSUM suggest that it would have sufficient capacity for the 2016 flows and some time beyond, although more detailed analysis of this is still required. In providing the best traffic distribution this option provides the greatest road-user benefits.

This option is the least preferred option in terms of:

- Landscape assessment, due to the wider viaduct and additional ramps although it is only marginally worse than the 3-lane viaducts.
- Ecological assessment, due to the greater shading and number of piles in the estuary, however the assessment concludes that the effects of any of the viaduct options are unlikely to be severe or represent a major constraint to those options being considered.

Access constraints on the Amida Holdings' leases can be partially mitigated by lowering the access road under the viaduct. This will allow service vehicles and trucks to traverse the industrial park.

#### Option 4: Tunnel with Split Diamond

In terms of transportation issues this option is similar to Option 1, in that it does not provide a link between the tunnel and Mirrielees Road, and the Mirrielees Road and Dive Crescent intersections are required to handle significant traffic flows. Consequently, although it has higher costs than all other options, it does not handle the traffic as well. However, the additional costs improve the environmental issues.

This option is the most preferred in terms of landscape and noise due to significant traffic flows being underground for part of the length.

### Option 5: 3-lane Viaduct with At-Grade Chapel Street Intersection

As with the other 3-lane viaducts, this viaduct would have a limited traffic capacity life and consequently it is likely that a 4-lane viaduct would be constructed from the outset.

Traffic modelling also revealed that a very large at-grade intersection is required to even accommodate the 2016 flows. Five approach lanes and three departure lanes on almost all approaches, making each road eight lanes wide. This has significant adverse effects on properties and accessways along Marsh Street. Grade separation of the Marsh Street/Chapel Street intersection would be required soon after 2016 with Chapel Street going over the top. Unfortunately the Waikareao to Harbour Bridge link would remain with the signalised intersection thereby not providing the best “level of service” for the Strategic Roding Network.

This option has the lowest initial construction cost, and hence the highest benefit to cost ratio. However, the costs and benefits of the subsequent grade separation of the Chapel Street/Marsh Street intersection have not been factored into the equation.

### Option Rankings

The table below provides a summary ranking of the options.

Although there are five options, only four rankings have been provided as, in most assessments, at least two of the options rank equally.

Route Options		Option 1	Option 2	Option 3	Option 4	Option 5
	Social	λ	v	σ	4	v
	Noise	σ	σ	λ	4	v
	Constructability	4	4	λ	v	σ
	Cultural/ Archaeological	-	-	-	-	-
	Ecology	σ	σ	v	λ	4
	Landscape	σ	σ	v	4	λ
	Strategic Goals	σ	4	4	σ	v
	Geometrics Safety	σ	σ	λ	4	v
	Distribution/ Capacity	σ	σ	4	λ	v

Key:	4	Most Preferred
	λ	Next Preferred
	σ	Next Preferred
	v	Least Preferred

## Summary

### **Council's Preferred Option (Option 3) Four Lane Viaduct with a Full Diamond Interchange at Chapel Street.**

This option would provide a 4-lane route including a viaduct commencing 250 m along Takitimu Drive, cross over part of the existing business area to the north of Marsh Street and connect to the Harbour Bridge.

The harbour bridge crossing increased to four lanes using a duplicate bridge structure on the northern side of the existing Harbour Bridge. A cycle lane/footway will also be located on the duplicate bridge. The four lane route will continue on to the intersection with Tasman Quay, including the duplication of the Aerodrome Bridge.

Off-ramps in all directions will terminate in a signalised intersection with Chapel Street, underneath the viaduct.

Dive Crescent, Mirrielees Road and the Dive Crescent roundabout will be realigned further westwards to allow for ramp connections.

Seven ramps would be constructed to:

- Allow eastbound traffic to join and leave the route at both Chapel Street and Mirrielees Road.
- Allow westbound traffic to leave the route at both Chapel Street and Mirrielees Road.
- Westbound traffic from Mirrielees Road will be able to join the route at Chapel Street only.

The project is being developed in parallel to the proposed widening of Hewletts Road to four lanes with a view to connecting the two proposals at the Tasman Quay intersection (the existing roundabout adjacent to Ballance Agri-Nutrients).

The Council has commissioned Beca Carter Hollings & Ferner Ltd to prepare an Assessment of Effects on the Environment and lodge a Requirement for Designation for the route. It is anticipated that this requirement will be lodged in mid 2002.

Public Open Days on the proposal will be held as part of the Tauranga District Council Expo on 16 and 17 April 2002 from 10.00 am to 6.00 pm at Baycourt, Durham Street.

F. Excerpt from Assessment of Environmental Effects document:  
summary of the preferred option that was designated.

## **Assessment of Environmental Effects for Designation**

### **Visual**

#### **Existing Environment**

- The Takitimu Drive to Tasman Quay link would be sited on reclaimed land, currently used for industrial purposes, immediately to the north of the Otamataha Peninsula and military cemetery before crossing the harbour and causeway and linking up with Hewletts Road.
- The military cemetery at Otamataha and Tauranga Harbour have been identified as Outstanding Natural Features and Landscapes.
- Sensitive visual receptors in the vicinity of the route include people at The Elms mission house site, dwellings along the northern Otamataha Peninsula escarpment, and Whareroa Marae.

#### **Potential Impacts**

- The viaduct further blocks some existing views of the harbour from some residences and The Elms (where these have not already been blocked by continuing industrial developments) See photo montages.
- Views of the top part of Mauao would remain unaffected.
- Impacts on the Elms rear garden would be least during summer when trees are in full leaf when the rear garden area experiences its period of greatest use.
- Houses on Cliff Road, West Street, and Chapel Street (adjacent to the Marsh Street intersection) would likely lose their views of the estuary.

#### **Whareroa Marae**

- The duplicated harbour bridge would have less than minor impacts on the existing important view shaft between the marae and the cemetery at Otamataha.

#### **Tauranga Harbour**

- Both the existing and duplicate harbour bridge structures would appear as one structure reducing the potential to visually obstruct views along the harbour.

#### **Potential Mitigation**

- The bridge design has been modified to be as simple and slim and be supported by as few pillars as possible to increase its visual permeability (views from one side to the other).
- Maintain planting along the causeway bund.

A number of other mitigation measures are being considered to change the appearance of the viaduct itself, including making a feature of the viaduct and bridge, these include:

- An external lighting scheme to 'light-up' the viaduct and harbour bridge structures at night. This is effectively used on many European and USA structures to make positive features of a structure (see below). A good smaller example of this is the old Post Office building on the corner of Harington and Willow Streets.
- Artistic attention to the viaduct in the form of murals, mosaics, or sculptures along its length.
- Planting along the sides and beneath the viaduct to create a park-like setting.

## **Ecological Effects**

### **Existing Environment**

An ecological survey has revealed that there are no habitats of district or local significance which would be affected in the Waikareao Estuary as a result of the proposal and the minor reclamation on the eastern side would be within the modified habitats of the Port Zone.

### **Potential Impacts**

- The most significant impact is that arising from contaminants entering the estuary or harbour via stormwater off the route. (See mitigation.)
- Unlikely to affect fish and bird use of the estuary.
- During pile placement there will be localised and short term decrease in water quality around the construction area and a medium to high level of disruption to marine communities.

### **Mitigation**

Stormwater is to be treated (see Stormwater).

## **Stormwater**

### **Existing Environment**

Stormwater from the existing harbour bridge goes directly into the harbour.

Stormwater from existing roads in the area is collected by the Council's stormwater system.

### **Potential Impacts**

- An assessment of the existing stormwater drain fans in the harbour has noted that the highest levels of contaminants were found in sands and coarser materials, rather than silts and clays.
- Embankments associated with the road will affect overland flow paths.

### **Proposed Mitigation**

- Collection of stormwater (to a 100 year AEP event (100 year storm)) along the viaduct and duplicate harbour bridge and provision of coarse sedimentation traps to remove coarse silt, sand and grit prior to discharge.

## **Noise**

### **Existing Noise Environment**

- Noise surveys of the existing ambient noise environment indicate that the existing noise environment in those areas adjacent to the proposed route most sensitive to noise is controlled by noise from the existing roads in the area (eg Marsh Street, Chapel Street, etc). In the case of Whareroa Marae the noise environment is also dictated by surrounding activities.

### **Predicted Impacts**

- Impacts were predicted using standard noise models and assessed using information on the human response to transport noise. The Impacts assume mitigation measures identified below.

**Table 1 - Impacts on Sound Levels (by 2016)**

Site	Existing	Predicted	Design	Comment
Dwellings at 29 and 31 Chapel Streets	64dBA	64dBA	67dBA	No change
Dwelling at 6/51 Cliff Road	63dBA	63dBA	66dBA	No change
Flats at 72 Cliff Road	63dBA	63dBA	66dBA	No change
The Elms, dwelling at 11 Cliff Road	57dBA	59dBA	62dBA	Incremental change at 0.5dBA per year is very small and would not be noticeable.
Whareroa Marae	57dBA	60dBA	62dBA	

**Note:** Ambient Sound Levels (Leq24hr), Design Levels based on Transit NZ Guidelines. These findings are based on a number of assumptions.

### **Proposed Mitigation**

#### Operational

- Quiet road surface
- 0.8m concrete barriers on the viaduct structure
- 1.5m height increase for the causeway bund is under investigation.

#### Construction

- It is recommended that noise arising from construction be consistent with NZS6803P:1999 'The Measurement and Assessment of Noise from Construction, Maintenance and Demolition Work'.

### **Air Quality**

Globally there are concerns as to the possible health effects of fine particulate matter and elevated levels of carbon monoxide especially from vehicle exhaust emissions.

Environment BOP is responsible for air quality monitoring within the region and has a programme for monitoring at specific locations. A monitoring site for particulate matter and carbon monoxide is currently located at the intersection of Marsh Street and Chapel Street.

Existing data has shown that Carbon Monoxide levels at the site are currently well below Ministry for Environment Guidelines.

## **Decision of Independent Hearing Commissioners 2002**

The links below will take you to the Commissioners' decision, which has been broken into four parts to keep file sizes as small as possible.

[Decision Part 1](#)

[Decision Part 2](#)

[Decision Part 3](#)

[Decision Part 4](#)