

27 January 2006

Harbour Link Resource Consents 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.

Designation first, then resource consents

Having achieved designation of land required for this project, the next process required was preliminary design. Part of the design process was obtaining resource consents for effects on land and the harbour.

A. Excerpts from Environment Bay of Plenty (Regional Council) documents.

Resource Consents/Approvals

(a) Consent for Structures in Coastal Marine Area (including occupation and disturbance to the foreshore and seabed):

- Waikareao Estuary
- Off ramp (approx. 11 piles)
- Viaduct (1 pile cap).
- Duplicate Harbour Bridge (12 pile caps and associated piles, these will all be parallel to existing piles and to a depth of up to 50m).
- Duplicate Aerodrome Bridge (12 piles – these will all be parallel to existing piles).
- Removal of the existing slipway and southern jetty to the northwest of the Harbour Bridge.
- Repair of existing seawall at the northwest of the Harbour Bridge by the slipway.
- Reinforcement of existing seawalls at Aerodrome Bridge.
- Temporary staging platforms.

(b) Earthworks

- Excavation on reclamation of between 20,000 m³ and 25,000 m³ earth for the purposes of constructing pile caps for the viaduct and on/off ramps.
- Fill at the bridge abutments, causeway roadworks and earthworks at the Ballance Curve (refer to page on Earthworks).

(c) Stormwater Discharges

This will include new coarse sediment trap treatment, extension of existing pipes and grass swale treatment (refer to page on Stormwater).

Other Approvals Required

Department of Conservation

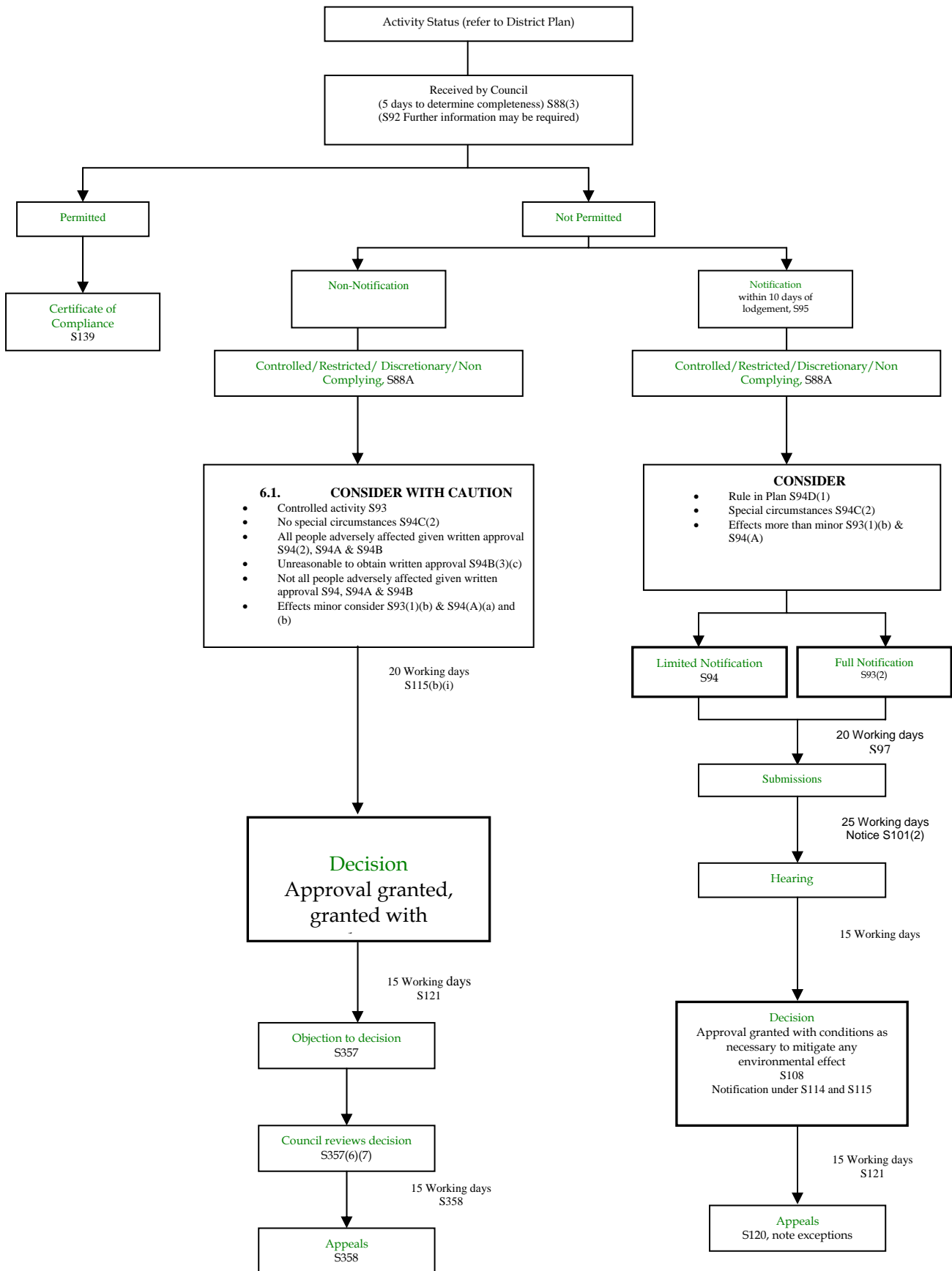
- Wildlife Act 1953 – Structures in the Waikareao Estuary within the coastal marine area.
- Reserves Act 1977 – Change of reserve status from recreation reserve to road reserve adjacent to the Waikareao Estuary.

The duration of the resource consents for occupation of the coastal marine area and discharge of stormwater is requested for 35 years. The duration of resource consents for construction (including earthworks) is to coincide with the designation, which was 10 years from October 2002.

The process followed under the RMA is as attached (see Page 3).

The key provisions of the Act that apply are Part II matters (see Page ...)

Resource Consent Process



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 \(Te Tiriti o Waitangi\)](#).

D. Summary of Assessment of Environmental Effects (AEE)

Assessment of Environmental Effects for Resource Consents

Sub Surface Investigation

Profile of Bored Holes to Date

The boreholes show the types of materials found at depth. The profile shows the results from the boreholes drilled to date, which are approximately half completed. As more holes are drilled the results are plotted on this profile to increase the knowledge of the layers of materials.

Most of the materials are sands of various strengths. The number on the side of the log of the hole are indicative levels of strengths. The higher the value, the greater the strength. The lower strength sands in the upper levels are susceptible to liquefaction in earthquakes.

For the new bridge and viaduct the piles that will support the structures will be driven to be located in the '50'-strength type of material.

The borehole information will be used by geotechnical and structural engineers in the design of bridges.

At each pier that supports the bridge structure there will be a number of piles into the ground. The number could range for 10 to 20 piles.

Earthworks

It is estimated a total of between 20,000 m³ and 25,000 m³ of soil will be excavated for the pile caps. All excavated soil will be re-used at the site for various fills for abutments. It is anticipated a further 2,000 m³ to 3,000 m³ of excess fill will be required form off the site to complete abutments. The earthworks contractor will establish the source of this fill. Below is a range of earthworks volumes anticipated for the Harbour Link:

	Excavation	Backfill to GL	Retaining Wall		Fill above GL	Excess
			Below GL	Above GL		
1. Pile Caps at Viaduct and Ramps	10000-12000	5000-7000			-	4000-6000
2. Abutment (Approach Fills)	8000-10000	1000-2000	7000-8000	9000-10000	All Retaining Wall	(-) 9000-10000
3. Causeway Roadworks	3000-4000	-	-	-	-	3000-4000
4. Ballance Curve Roadworks	500-600				1000-2000	(-) 700-900
Totals	20000-25000	7000-8000	7000-8000	9000-10000	1000-2000	(-) 2000-3000

Note: All volumes are in cubic metres (m³), GL = Ground Level.

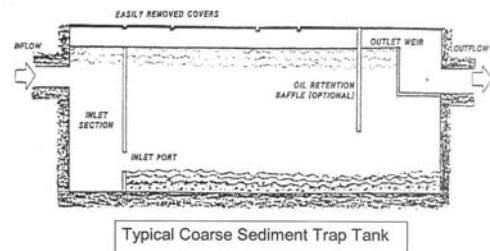
Stormwater

Stormwater from the new structures will need to be discharged to the harbour and resource consents are required for this.

In a report done by ecological specialists, it was noted that over 80% of the contaminant “load” in stormwater generated by the roadway could be removed through coarse sediment stormwater treatment. The ecological specialists support the stormwater management proposal to provide coarse sedimentation treatment and this will also be in accordance with the Tauranga City Council Code of Practice for Development.

The Consent Application for stormwater for Harbour Link is in accordance with the design standard adopted by “Stormwater Treatment Devices – Design Guidelines Manual” (TP N^o 10, October 1992), which has the objective of removing 75% of the sediment load. Coarse sediment traps are sized to remove debris and coarse sediment (coarse silt and coarser) from runoff, see diagrams adjacent. The following stormwater treatment techniques are proposed to be used in the project:

- To collect the first flush of stormwater from the existing bridge, as well as all the stormwater from the new bridge and viaduct, and treat prior to discharge into the harbour. This could be done using new stormwater reticulation and installing new treatment devices. Thus, stormwater will be improved, as runoff from the existing bridge is currently discharged direct to the harbour untreated.
- For the Causeway and roadway from the Harbour Bridge to Hewletts Road, the stormwater reticulation was originally developed to accommodate a four-lane road, which will continue to be used. Coarse sediment removal in these areas will be achieved by regular maintenance of existing catchpits. Roadside table drains and grass swales will be used to provide treatment for stormwater prior to discharge into the harbour.
- Collection and disposal of stormwater from existing roads on the Sulphur Point peninsula will not be changed.
- The 1 in 5 year storm flows via the proposed coarse sediment traps are:
 - East end of main bridge – 142 litres/second.
 - Takitimu Drive – 504 litres/second.
 - Slipway – 803 litres/second.



Note: This method was changed through the Hearing process.

Ecological Effects

Ecological specialists have recently carried out an ecological assessment. Following is a summary of their findings:

- **Marine Habitats and Communities**
 - A moderate to high level of disruption to marine communities, including birds and fish, is anticipated in and around the works area during the construction period but, once completed, the new bridge structures are unlikely to affect marine habitats for birds or fish.
 - Shellfish densities were investigated on the tidal sand flat area immediately to the south and east of the causeway. The most common shellfish found was tuangi, or cockle. The assessment concludes that construction activity is not expected to affect the populations of cockles within the area sampled. The probability of the proposed works affecting any significant shellfish beds utilised by the public is very low.
 - The new hard surfaces in the coastal marine area are anticipated to be colonised by a diversity of organisms such as barnacles, periwinkles, Pacific oysters, small black mussels, tube worms, snails and crabs.
 - Swallows may use the underside of the new bridge's carriageway for breeding, gulls and shags may also use the bridges structures for roosting.
 - In comparison with the total area of similar habitat within Tauranga Harbour, the proposed works are relatively minor regarding habitat loss and potential construction effects.
- **Flora and Fauna**
 - No identified significant trees or areas of vegetation will be affected by the development.
 - There will be little effect on the colonisation and survival of mangroves within the works area.
 - Hope to transplant Pohutukawas from recreational reserve adjacent to the Waikareao Estuary – subject to arborist report at time of construction.
- **Sediment Quality**
 - Subtidal Harbour sediments were mostly gravelly sand and were of good quality.
 - Testing has shown sediment quality is relatively high and the probability of a toxic effect from other constituents, as a result of sediment disruption during construction, is very low even prior to any reasonable mixing occurring.
- **Stormwater**
 - Adverse effects during the proposed construction would be minor and short-term. Effects on the ecology of the harbour during operation of Harbour Link are most likely to result from roadway-derived stormwater, however, treatment of stormwater from the existing bridge using a "first flush" system will result in a net improvement in the quality of roadway-derived stormwater entering the harbour.

Noise Effects

Acoustic engineers have carried out an additional noise assessment for the noise impacts in the coastal marine area. They predict that the noise mitigation measures specified in the original designation conditions for the rest of the project will mean that noise from Harbour Link, once operational, will not exceed Transit New Zealand's guidelines on noise levels and any requirements under the Bay of Plenty Regional Coastal Environment Plan.

The measures required by the conditions of the Designation include:

- Quiet road surface.
- 800 mm concrete barriers on the sides of the flyover and new bridge.
- Acoustic fence added to the existing noise bund on the eastern causeway with additional planting.
- Acoustic Perspex panels on Aerodrome Bridge.

Decisions of the Regional Council

Following a Hearing the Regional Council made the following decisions:

Link to:

Coastal Permit 62630

Resource Consent 62631

Discharge Permit 62632.

NOTE: This is not the full list of project consents.