

**WHAKATU ARTERIAL LINK, HASTINGS**

LANDSCAPE AND VISUAL ASSESSMENT

JUNE 2014

isthmus

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## Appendix One: Graphic Supplement

## **1.0 EXECUTIVE SUMMARY**

### **1.1 Potential Environment Effects**

The potential landscape and visual effects of the Whakatu Arterial Link (WAL) project on the local environment have been identified as:

- Biophysical effects;
- Landscape Character effects; and
- Visual Amenity effects.

The potential landscape and visual effects relate to section 6(a), 6(b), 7(c) and 7(f) of the resource Management Act (1991).

### **1.2 Assessments Undertaken**

The following key methods and assessments have been undertaken in relation to the project:

- Familiarisation with the environment including site visits, a desk top analysis of plan provisions, and a review of existing reports, statutory documents, project drawings and information to help provide an understanding of the landscape and visual components of the project;
- Analysis of the existing landscape provided an understanding of landscape character of the site and the surrounding environment and resulted in the project area being categorised into four landscape character areas;
- Analysis of the viewing audience and visibility of the proposal from indicative viewing locations, in particular, potential views from public roads and nearby residences were considered. A number of local properties were visited;
- An assessment of the potential landscape and visual effects of the proposal on the site and surrounding area, including roads and private properties;
- Recommendations of any appropriate measures identified as necessary to mitigate potential landscape and visual effects; and,
- Preparation of a **Graphic Supplement**, including maps, plans and site photographs to support and illustrate the assessment report.

### **1.3 Results of the Assessment**

The results of the assessment process outlined above have been summarised in relation to the potential landscape and visual effects identified within the four landscape character areas across the project area:



Summary of Bio-physical effects:

Character Area	Magnitude	Effect	Mitigation	Effects following mitigation
Pakowhai	Moderate	Changes to landform and loss of some parkland and orchards.	Tree protection, new planting and integration with the Park	Low
Whakatu	Very Low	Predominantly industrial area of low amenity	Amenity and screen planting, integration with existing infrastructure	Very Low
Mangateretere	Moderate	Changes to landform and orchards.	Amenity and screen planting; Benefits to Karamu Stream corridor through planting.	Low
Napier Road	Moderate	Changes limited with little effect on landform or vegetation.	Tree protection and planting edges of orchard to 're-seal' blocks.	Very Low

Summary of Landscape Character Effects:

Character Area	Magnitude	Effect	Mitigation	Effects following mitigation
Pakowhai	Moderate	Alteration to Pakowhai Regional Park features and attributes; raised embankment at approach to Karamu stream.	New planting; proposed condition for works within the Park with potential for integration through redesign of the park entry; attention to earthworks and design around bridge.	Low
Whakatu	Very Low	No alteration to key elements features or attributes.	New planting, improved transport connectivity.	Very Low
Mangateretere	Low	Small amount of change to underlying character and composition; some level differences require careful treatment.	New planting; attention to earthworks, particularly next to the stream corridor.	Low
Napier Road	Very Low	Slight change to landscape character.	Proposed new planting	Very Low

Summary of Visual Amenity effects on Landscape Character areas:

Character Area	Magnitude	Effect	Mitigation	Effects following mitigation
Pakowhai	High	Proposal forms a prominent part of available views from the Pakowhai Country Park.	Proposed condition for works within the Park with redesign of the park entry and new planting to redirect views.	Low
Whakatu	Low	Proposal will be a limited component of available views.	Amenity and screen planting	Low
Mangateretere	Very Low	Proposal will be mainly screened by existing orchards.	Amenity and screen planting.	Very Low
Napier Road	Very High	Three houses (Omahuri Orchards Ltd, Haley, Ward) are in close proximity to proposed roads.	Fencing and screen planting	Low

Summary of Visual Amenity Effects on Private Properties:

Property	Magnitude	Mitigation	Effects following mitigation
Ward	Moderate-high	Tree/screen planting within property	Low
Haley	High	Planting within and on the boundary of the property	Low
Omahuri Orchards Limited	Moderate	Either shelterbelt/screen planting within designation or amenity/ screen planting within property	Low
Dillon	Low	Bank planting on road	Low
Edwards	Low	Bank planting on road	Low

#### 1.4 Suggested Approach for the Effects Identified

The avoidance and management of landscape and visual effects has largely been undertaken throughout the process for the selection of the route and the design of the road and associated earthworks and structures. There will, however, be some potential adverse and landscape effects as

a result of the proposal. These effects will be managed through the implementation of the Landscape Concept Plan which includes the following outcomes:

- Assistance with the implementation of the Pakowhai Regional Park Concepts, including planting.
- Shelter belt planting on the boundary of the Dillon property to re-define and 'seal' the edge of the property, reducing the potential visibility towards the bridge and the new road.
- Re-vegetation planting on the edges of the Karamu Stream.
- Shelter belt or small tree planting on the boundary of the Edwards property to reduce potential visibility of the road.
- Shelter belt planting on the boundary of the Mr Apple property.
- Shelter belt planting on the boundary of the Omahuri orchard Ltd property.
- Garden or small shelter belt planting within and on the boundary of the Haley property.
- Garden or small tree planting on the boundary of the Ward property.
- Planting within the roundabout and at key intersection with Pakowhai Road, Whakatu Road and Napier Road, to be undertaken in consultation with the Hastings District Council to ensure consistency with other Council amenity and road planting.

## **2.0 INTRODUCTION**

### **2.1 Background**

Isthmus Group Ltd (Isthmus) has been engaged to evaluate the potential landscape and visual effects of the proposed Whakatu Arterial Link (WAL) between State Highway 2 (SH2) North and Pakowhai Road near Hastings.

The WAL has been identified for implementation in the Hawke's Bay Regional Land Transport Strategy (2012) short term programme. It will provide a strategic link between SH2 North and Pakowhai Road to connect heavy and other vehicles travelling to and from the Whakatu Industrial Area and the Port of Napier to the Hawke's Bay Expressway (the Expressway) as an alternative to using Napier's Marine Parade.

In order to undertake this evaluation, visits were made to the site and its surroundings on 19 August, 2 September 2013 and on 28 March 2014. The authors of this assessment are familiar with the area.

The assessment is based on the information presented in the Whakatu Arterial Link Project Description Report (GHD 2014a).

The purpose of the assessment is to identify the potential landscape and visual effects of the project, and where possible to recommend measures to mitigate adverse effects. This landscape and visual assessment report considers the proposed WAL in relation to three groups of effects;

- Biophysical and landscape quality;
- Visual amenity; and
- Landscape character.

The assessment is based on the premise that the design process will seek to avoid and reduce effects, and that planting and other mitigation forms an integral part of the design in order to achieve this. Consequently, it is anticipated that a significant degree of mitigation will be ‘built-in’ to the design and incorporated into the proposal, rather than being an aspect to be considered separately.

This report forms part of the Assessment of Environmental Effects (AEE), which accompanies the application documents for the Notice of Requirement (NoR) and the Resource Consent applications for the WAL. It should be read in conjunction with the **Graphic Supplement**, a separate A3 folio prepared as visual support to the text, which provides maps, plans, photographs and landscape concepts for the WAL. Figures within the **Graphic Supplement** are referred to throughout.

### **Key Facts**

- The WAL extends in a general southeast direction from Pakowhai Road near Rangitane Road (closed) through to SH2 near the current intersection with Napier Road
- The corridor of land required for the WAL is approximately 3,500 metres long, a maximum of 80 metres wide and an average of approximately 36 metres wide.
- The WAL will cross the Karamu Stream approximately 450 metres east of Pakowhai Road.
- Three new roundabouts are proposed where the WAL intersects with Pakowhai Road, Whakatu Road and SH2.
- Traffic volume of 16,750 vpd on the northern section of the WAL, 9,750 vpd on the southern section.
- A pedestrian / cycle underpass will be installed on the existing Hastings – Clive iWay alignment.

## **2.2 Methodology**

The following methodology has been used to assess the site, the proposal and its landscape and visual effects:

- Familiarisation with the environment including site visits, a desk top analysis of plan provisions, and a review of existing reports, statutory documents, project drawings and information to help provide an understanding of the landscape and visual components of the project;
- Analysis of the existing landscape provided an understanding of landscape character of the site and the surrounding environment;

- Analysis of the viewing audience and visibility of the proposal from indicative viewing locations. In particular, potential views from public roads and nearby residences were considered.
- Recommendations of any appropriate measures identified as necessary to mitigate potential landscape and visual effects;
- An assessment of the potential landscape and visual effects of the proposal on the site and surrounding area; and
- Preparation of a Graphic Supplement, including maps, plans and site photographs to support and illustrate the assessment report.

Due to the height of the bridge adjacent to the Dillion/Edwards properties photographs were taken to establish intervisibility with a quadcopter. A series of photos was taken with an HD GoPro camera from 5m (representative of the height of the handrails on the proposed bridge) and 8m (representative of the top of a heavy commercial vehicle on the bridge). A spotter at the Dillon property could not see the quadcopter at any stage.

### **3.0 THE PROPOSAL**

The WAL is to provide a strategic transport link between State Highway 2 North (SH2) and Pakowhai Road in order to improve connections into and out of the Whakatu Industrial area through to the Hawke's Bay Expressway and to the Port of Napier. The following summary of the project is taken from the Whakatu Arterial Link - Assessment of Environmental Effects.

Key elements of the proposed WAL from a landscape and visual perspective are:

- The WAL extends in a southeast direction from Pakowhai Road near Rangitane Road (closed) through to SH2 near the current intersection with Napier Road.
- The corridor of land required is approximately 3,500 metres long, a maximum of 80 metres wide and an average of approximately 36 metres wide.
- The alignment crosses 14 lots owned by private landowners with the balance of land owned by Hawke's Bay Regional Council and the Crown.
- The WAL will cross the Karamu Stream approximately 450 metres southeast of its' connection to Pakowhai Road.
- Three new roundabouts are proposed where the WAL would intersect with Pakowhai Road, Whakatu Road and SH2.
- A street lighting design is proposed introducing new lights at each of the roundabouts.
- A pedestrian / cycle underpass will be installed on the existing Hastings-Clive Highway alignment.

The basic layout of the proposal is set out in **Figure 2** of the **Graphic Attachments**. Refer to the Project Description (GHD 2014a) for a full description of the proposal and detailed plans.

#### **4.0 THE SITE AND LANDSCAPE CONTEXT**

##### **4.1 Description of the Wider Context**

The project is located in the Hawke's Bay, within the Hastings District.

The landforms of the Hawke's Bay are an expression of the active tectonic forces under its surface and the rivers that find their way across the expansive plains to the coast. The hills and ranges in central and northern Hawke's Bay are made of mudstone, limestone, sandstone and argillite, while the limestone ranges and hills from Havelock North south are harder rock.

Linking the Wairarapa to southern Hawke's Bay is a belt of flat land made up of soft, sedimentary rocks deposited by rivers. It is hemmed in by mountain ranges and hills on either side. The plains are narrow in southern Hawke's Bay but widen into the Ruataniwha and Heretaunga plains south of Napier.

The Heretaunga Plains have been an important source of income and food since settlement by Maori, a role that expanded with the railway and subsequent establishment of Hastings. The commercial orchards developed at the beginning of the century have helped create the character of the area and its identity as 'the fruit bowl of New Zealand'.

Agriculture and horticulture has developed to include viticulture which has brought associated benefits such as processing and bottling, tourism and hospitality. Cycling and wine trails are increasingly popular in the area. Other land use changes, including industrial and agricultural processing activities have been accelerated by the railway and then followed by residential and commercial growth.

The key natural landscape features on the plains are the rivers, streams, and vegetation patterns. Overlaying these natural features are the cultural patterns that also contribute to the landscape character. Within the area, these generally comprise productive land use patterns such as vineyards, orchards, agricultural and horticultural farming, infrastructure (roads, power lines, railway, drainage etc) and buildings. The overall pattern of natural landscape features along with productive and urban development are illustrated on **Figure 1: Landscape Context Plan** in the **Graphic Supplement**.

In 1996, a landscape assessment of the Hastings District was carried out by Isthmus Group for the Hastings District Council. The report notes that the 'natural character' of the landscape through most of the Hastings District (except for the axial ranges) now owes more to landform patterns, or geomorphology, than to native vegetation and identifies the contrast between the plains and surrounding hills as important. It also notes that the plains are an increasingly enclosed and compartmentalised landscape with key landscape elements including shelter belts, geometric and often gridded patterns of crops and

orchards, packing sheds, and roadside stalls and produce signs. The report summarises the character of the Heretaunga Plains as flat with a compartmentalised horticultural/viticultural landscape, intense productivity, rivers reinforced by Lombardy Poplars and stopbanks weaving a natural pattern across the grid.

In April 2013, a review of the assessment was carried out by Boffa Miskell Ltd. This review endorsed the findings of the Isthmus report but also refined the assessment and mapping. As with the earlier report, there was no particular landscape significance awarded to the Heretaunga Plains. The importance of the contrast between the hills and plains was confirmed.

In 2011 Hastings District Council produced a Landmarks Development Plan. This included landscape features and views recognised as making up part of the “essential character” of Hastings, and covered features and elements such as gateways, open space network, walkways and cycleways, rivers and water, viewpoints and vistas, icons and landmarks, and historic markers.

The Plains Area is identified as one of three broad land use character areas with the following characteristics:

- Flat plains accentuated by long rows of orchards with contrasting reticulated views of fruit trees or vines behind tall shelterbelts; and
- Clusters of settlements with a mix of residential and commercial activities becoming more intensive with coolstores and large industrial plants at the fringes of urban Hastings.

When considered at a Regional and Local level, in relation to previous landscape and character studies, the WAL traverses relatively flat topography, much of it modified by horticultural and industrial activity. There are no identified landscape features of significant value.

## **4.2 Description of the Site**

The proposed route extends between Pakowhai Road and SH2 to the North East of Hastings Township. The location of the project is indicated on **Figure 1: Landscape Context Plan** in the **Graphic Supplement**.

The adjacent land use and zoning is predominantly industrial with horticultural properties located towards the eastern and western ends of the alignment. Each of the small horticultural and industrial sub-landscapes in which the route is located has a distinctive character. The route has been divided into four landscape character areas, based on land use, landcover and landscape features.

### **Pakowhai Character Area**

This character area comprises the area around the intersection of the WAL with Pakowhai Road and the length of the WAL up to the Karamu Stream. The landscape character of the area is influenced by

the surrounding land use, notably the orchards either side of the southern part of the character area, the low lying land adjacent to the Raupare Stream to the east (proposed as future parkland), and the existing Pakowhai Regional Park at the confluence of the Clive River, Karamu Stream and Raupare Stream. The Ngaruroro River is to the north of the Pakowhai Regional Park. Stop banks in the area create some topographical and visual separation between the Ngaruroro River, the Clive River and the surrounding plains landscape.

The photograph from **Viewpoint 16** in the **Graphic Supplement** illustrates the character of the Pakowhai Character Area.

### **Whakatu Character Area**

This area lies between the WAL Karamu Stream bridge and the boundary between the Plains and Industrial zones. The WAL passes through established industrial areas, orchards, and an area susceptible to flooding (at the northwest end). This area is predominantly flat, with the exception of the stream corridor, which cuts a line into the plains. The WAL in this area includes a roundabout at Whakatu Road, and the route crosses the Palmerston North – Gisborne railway line and the Hastings-Clive cycleway. As the WAL crosses between Whakatu Road and the Palmerston North – Gisborne Railway it is located between existing industrial buildings.

A key characteristic of this area, other than the flat topography and stream corridor, is the industrial typology with large utilitarian buildings and areas of hardstand used for outdoor storage. Interspersed are remnant orchards, while established residential areas are close by to the northeast.

**Photographs** taken from **Viewpoints 10, 11, 12, 13 and 14** in the **Graphic Supplement** illustrate the character of the Whakatu Character Area.

### **Mangateretere Character Area**

This area is characterised by the adjacent stream corridor and the orchard properties through which the WAL passes. With the exception of the stop banks, the land is predominantly flat and the road will be raised for most of its length (up to 2 metres). Some parts also have steep banks at a grade of 1 in 3.

**Photographs taken from Viewpoints 7, 8 and 9 in the Graphic Supplement** illustrate the character of the Mangateretere Character Area.

### **Napier Road**

This character area includes the new roundabout and intersection in the vicinity of Napier Road and State Highway 2. This area is characterised by strong visual enclosure and residential development along the western side of the road corridor, and open expansive farmland to the east.



Large tree plantings line property boundaries and fence lines and shelter belts compartmentalise the orchards and other horticultural activities.

**Photographs from Viewpoint 4, 5 and 6 in the Graphic Supplement** illustrate the character of the Napier Road Character Area.

### **Overview**

General landscape and amenity features of the area around the route include:

- The defined channels of the rivers and streams, accentuated by stopbanks and river corridor stabilisation planting;
- Rural /Open space amenity, including productive agriculture, horticulture, viticulture, and open spaces;
- Sense of spaciousness from flat terrain and open sky;
- The openness and amenity of the Pakowhai Regional Park;
- Associated elements of productive land including patterns, fences, shelterbelts, trees and crops;
- Relative quietness, punctuated by traffic, trains and rural noises - existing speed limits in the rural area of 80 km/h with 50km/h through the Whakatu urban area and the Palmerston North-Gisborne railway line through site;
- Scattered clusters of buildings including houses, sheds, rural service structures and industrial buildings;
- Linearity of roads, streams and railway, including associated trails;
- Absence of signage and urban clutter.

## **4.3 Planning Context**

### **Resource Management Act 1991 (RMA)**

The RMA provisions that are relevant and are considered by this assessment are:

- s6(a) Effects on the natural character of the coastal environment, wetlands and rivers and their margins
- s6(b) Effects on outstanding natural features and landscapes
- s7(c) Effects on amenity values; and
- s7(f) Effects on the quality of the environment

There is an inevitable overlap between landscape and visual aspects within the landscape assessment process and with some of the other specialist disciplines involved in the project. In particular, cultural landscapes are covered in the Cultural Impact Assessment by Ipurangi Developments Ltd, and details of the existing vegetation and ecology is described in the report by EAM Environmental Consultants.

### **Operative Hastings District Plan (HDP)**

The Operative Hastings District Plan (the District Plan) recognises that the transportation network is a key element in the daily functioning of the Hastings District while also identifying the need to avoid or mitigate the effects of inappropriate transport activity on the environmental and amenity values of the community (Objective 2.5.3 T02).

The District Plan recognises the need for urban development to be accommodated and the need for urban places to be attractive places to reside, work and undertake business and recreation (Section 2.3.4) as well as providing appropriate levels of amenity.

The Hastings Urban Development Strategy (HUDS) reinforces the requirement for residential amenity in a range of residential zones while limiting development in other areas to protect existing amenity and character.

The WAL passes through the Plains Zone and Industrial 1 zone. Section 6.2 of the District Plan sets out the resource management issues for the Plains Zone, including amenity expectations.

Existing amenity issues identified for the zone include:

- Noise levels being consistent with the character and amenity of the Plains Zone;
- Dust, odour and spray drift;
- Microclimate change due to shelterbelts;
- The particular amenity requirements of the wine industry; and
- Amenity levels and standards related to industrial zones and areas.

There are a number of objectives set out in section 6.3 to address these issues including those of primary relevance to this proposal such as the requirement to ensure that existing levels of amenity associated with primary production on the Plains are maintained, and to avoid, remedy or mitigate potential adverse effects of land use activities on the rural community.

While the Operative District Plan remains in place, the Proposed District Plan (PDP) has been notified and signals the future direction for the Hastings District. Under the PDP the proposed route is partly within the Plains Production Zone and partly within the General Industrial Zone (through the

Whakatu area). Objectives identified are similar to those set out under the Operative Plan including objectives to ensure that the versatile land across the Zone is not fragmented or compromised by building and development, and to retain the existing rural character and amenity values of the Zone.

The Proposed Plan sets out policies to support the objective to maintain a transport network that supports the social and economic wellbeing of the District while avoiding adverse effects on the natural and physical environment.

### **Relevant Non-Statutory Initiatives and Strategies**

While there are no nationally or regionally significant natural or landscape features within the area, the Heretaunga Plains are valued for their land use and landscape patterns, open space and amenity qualities. This is reflected in the Heretaunga Plains Urban Design Strategy and associated studies that identified a number of issues related to biophysical and landscape quality, including:

- The importance of managing growth and development to reduce unplanned urban form and ad hoc land use management;
- The versatile land and water resources of the Heretaunga Plains are a regionally, if not nationally, significant resource for food production and ultimately underpin the economy of the Region;
- The natural environment and associated biodiversity contained within the Heretaunga Plains contributes to its appeal as a destination to live work and play; and
- The agriculture, viticulture and horticulture activity on the plains is of high economic importance as well as contributing to the protection and enhancement of healthy green spaces, local character, ecosystem services, and high cultural values.

The Karamu and Raupare Streams are particularly valued by the community, and planned improvements at Pakowhai Regional Park and Whakatu indicate additional places of community value.

Council and community initiatives relevant to the project include the Pakowhai Regional Park Concepts, Karamu Stream enhancement, and Whakatu gateway concepts.

The Pakowhai Regional Park Concept is at the preliminary stage and builds on a number of other projects, including the Karamu & Raupare Stream and Clive River confluence project, regional parks network plan, and recording of maori history and place names.

Park development concepts were prepared in November 2012 that include drawings of the existing public space environment, Pakowhai Regional Park amenity development, a high level concept plan, and overbridge ideas.

Karamu Stream enhancement projects date back to the early 1970's when a channel clearance and willow control programme was started to untangle and unclog the waterway. Subsequently, the St. Columba's Havelock North Environmental Group and The Regional Council began restoration works, and the Karamu Enhancement Group formed in 2010 to continue the work and increase community access. Other active guardians of the stream are Ruahapia, Waipatu, Matahiwi and Kohupatiki Marae and the Anderson Park Community Group.

The Whakatu Concepts were developed in October 2011 as part of a masterplan process to enhance the Whakatu area over a 5 to 10 year period. The aims of the project are to enhance river access and amenity; improve sense of identity (including activities and amenity for the village heart); improve the historical interface; improve transportation links; and enhance recreation and community opportunities.

Whakatu Road where it enters the Whakatu area has been identified as a key gateway with opportunities for enhancement.

## **5.0 ASSESSMENT OF LANDSCAPE AND VISUAL EFFECTS**

The assessment of landscape and visual effects focuses on effects in relation to three interrelated aspects:

- Biophysical change;
- Visual amenity; and
- Landscape character.

The landscape and visual effects of the proposal are assessed, and consideration is given to these three key factors. The magnitude of the effects on each of these categories is also evaluated.

This assessment uses the following 7 point effects rating scale as suggested by the New Zealand Institute of Landscape Architects (NZILA) Best Practice Note on Landscape Assessment and Sustainable Management<sup>1</sup>:

extreme/very high/high/moderate/low/very low/negligible

While there is some disagreement within in relation to the use of emotive language in the 7 point effects rating, such as the word 'extreme', the 7 point effects scale itself is generally accepted by the profession.

For the purposes of this assessment, very low or negligible effects are used to determine the less than minor threshold, low is minor, and the ratings above low are more than minor.

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<sup>1</sup> [http://www.nzila.co.nz/media/53268/nzila\\_ldas\\_v3.pdf](http://www.nzila.co.nz/media/53268/nzila_ldas_v3.pdf). Accessed 3 June 2014.

The main potential landscape and visual effects that may arise as a result of the proposal are:

- i) Effects on the natural character of ...wetlands and rivers and their margins (s6(a));
- ii) Effects on outstanding natural features and landscapes (s6(b));
- iii) Effects on landscape amenity (s7(c)) including:
  - a. Effects on landscape character & aesthetics, recreational users, and the 'fit' of the proposal with surrounding topography and patterns;
  - b. Visual effects from surrounding properties and representative viewpoints; and
  - c. The experience for future users;
- iv) Effects on natural components (biophysical aspects) of the landscape (s7(f)); and
- v) Temporary landscape effects during construction (s7(c) & s7(f)).

### 5.1 Biophysical effects

The assessment of biophysical effects considers the extent and significance of modifications to landform, waterways and vegetation. As part of this work, a study of the road alignment and elevation plans was carried out, together with the typical cross sections generated by the roading design team. The assessment included identifying and assessing effects on landscape features identified as having regional or local significance.

The scale for assessing biophysical change used is set out below:

**Table 1: Biophysical Effects Scale in relation to level of change.**

Scale	Level of Change
Extreme	Loss of key feature/attributes
Very high	Fundamental alteration to key feature/attributes
High	Major alteration to key feature/attributes
Moderate	Noticeable alteration to key feature/attributes (partially changed)
Low	Minor change to landscape, with no noticeable change to key feature/attribute (i.e. similar to before)
Very low	Slight change, with no change to any key feature/attribute and change barely distinguishable
Negligible	No discernible change

The scale of the proposed works and required geometric design of the WAL mean that substantial changes to the landform and existing vegetation will be unavoidable in places, and there will be some fragmentation and loss of farmland. In addition, there will be some physical impact on the edge of the Pakowhai Regional Park associated with the construction of the road and roundabout at Pakowhai Road. There will be some physical change around individual dwellings.

The scale of landscape change for the construction of the road is assessed relative to the existing level of landscape modification, particularly the existing stop banks, roads, urban areas and productive horticultural uses. The scale of existing landform interventions, such as stop banks, bridges and abutments, chanelising existing water courses, roads and earthworks for productive land uses is part of the existing landscape. The WAL design requires relatively small scale landform changes and will in some cases be subservient to existing landforms and structures.

There will be no removal of vegetation of any ecological or landscape significance within the project area and no adverse effects on sensitive areas, notably the streams and their riparian areas (with reference to the Ecological assessment by EAM). It is also noted that no impacts on waahi tapu or landscape cultural areas have been identified (with reference to the Cultural Impact assessment by Ipurangi Developments Ltd). Opportunities for enhancement of these areas either directly as part of the project, or in collaboration with others, have been noted throughout this assessment.

Generally, the proposed alignment and design has minimised major changes to the landform and removal of indigenous vegetation as far as possible, recognising that such permanent changes to natural landforms reduce the integrity of the natural components of the landscape.

As a result of a reduced footprint, however, there is limited space for planting outside the road corridor so that mitigation works are mostly restricted to the road reserve area or to recreating the edges of land uses, which have been disturbed on adjacent private properties. The magnitude of biophysical/ landscape quality effects for each Character Area is set out in the table below:

**Table 2: Results of the Biophysical Assessment by Character Area**

Character Area	Magnitude	Effect	Mitigation	Effects following mitigation
Pakowhai	Moderate	Changes to landform and loss of some parkland and orchards.	Tree protection, new planting and integration with the Park	Low
Whakatu	Very Low	Predominantly industrial area of low amenity	Amenity and screen planting, integration with existing infrastructure	Very Low
Mangateretere	Moderate	Changes to landform and orchards.	Amenity and screen planting; Benefits to Karamu Stream corridor through planting.	Low
Napier Road	Moderate	Changes limited with little effect on landform or vegetation.	Tree protection and planting edges of orchard to 're-seal' blocks.	Very Low

The table shows that the magnitude of biophysical landscape effects without mitigation will vary between **very low** and **moderate**. For those areas assessed as having moderate effects, it is considered effects are able to be reduced, but this will require carrying out work outside the designation corridor and may occur over a long time period. In summary, it is considered that the **moderate** biophysical effects are able to be managed, are likely to be temporary, and effects will be **negligible** or **nil** in the long term as the WAL and associated mitigation works are assimilated into the existing biophysical landscape.

#### 4.2 Landscape character effects

Landscape character is the distinctive combination of landscape attributes that gives an area its identity, and is derived from a combination of landform, land cover and land use. The effects on landscape character relate to changes in land use, (new or different activities); changes to existing patterns and elements in the landscape such as vegetation, water bodies, landform, and building patterns; and the introduction of new elements and patterns including roads and the various associated earthworks, structures, planting and traffic.

The scale used to determine landscape character change is set out below.

**Table 3: Landscape Character Effects Scale in relation to level of change**

Scale	Level of Change
Extreme	Significant change affecting the overall landscape character
Very high	Fundamental alteration to key features/ attributes, character largely changed (with little ability to mitigate effects)
High	Alteration to several key elements or features/ attributes, major change to character and composition.
Moderate	Readily noticeable alteration to key element/s, feature/s or attribute/s, with character and composition partially changed
Low	Small amount of change to underlying character and composition, similar to before
Very low	Very slight change to landscape character, change barely distinguishable
Negligible	No discernible change of character

As described above, the agriculture, viticulture and horticulture activity on the plains contributes to local character as well as supporting open space and cultural values. In addition, the Clive River, Karamu and Raupare Streams are physical elements that strongly influence the character of the area and its amenity value. The Ngaruroro River and associated stop banks also influence the character and amenity of the area – particularly for motorists using Pakowhai Road.

Equally influential, but less attractive, is the industrial area with its utilitarian buildings and external storage and parking areas.

The HUDS recognises the need for urban development to be accommodated and it is expected that further industrial development will displace existing orchards located on Industrial Zone land at Whakatu. It is also likely that pressure for improved ecosystem services, identity and access for recreation will result in enhancement of the stream corridors and amenity enhancement (through the Pakowhai Regional Park concepts, Karamu Stream enhancement, and Whakatu gateway concepts).

For this reason, the existing character is evolving and this assessment acknowledges and anticipates ongoing changes. As a large piece of infrastructure, the WAL introduces a new element and a type of activity into the area that will change its character to some degree. In particular, such infrastructure may interrupt natural and man-made patterns, bisecting the landscape and altering the natural



topography, waterbodies, roads and open spaces. The degree of change relates to the contrast between the existing (varying) character and the scale of the footprint of the WAL in relation to the existing landscape character.

The footprint of the WAL has been minimised to reduce effects but there will be a contrast between the elevated road and flat surrounds in some areas. Notwithstanding this, the proposed landform will be similar in appearance and character to the existing stop banks in the area, such as those alongside the Clive and Ngaruroro Rivers and the Karamu Stream, so that the contrast will not be significant. In addition, surrounding orchards and shelter belts will mostly screen the road, particularly from a distance.

Proposed mitigation planting will partially screen road barriers and vehicles. Recommended mitigation measures are described in greater detail in section 5.0 of this report. Refer to **Figures 3 to 7: Landscape Concept Plans** in the **Graphic Supplement**.

The change of character will be mostly experienced in the immediate vicinity of the WAL corridor, and effects will increasingly lessen with distance. The least effect on landscape character values will occur where the WAL is located within existing transport corridors (for example, SH2/Napier Road, Pakowhai Road and Whakatu Road).

The greatest effects can be expected where new infrastructure is introduced into non-urban and natural areas or crosses natural waterbodies, and in this case, the combination of the new bridge and the raised approach between the Pakowhai and Whakatu character areas means that special attention will be required to mitigate effects in this location. Similarly, while it is considered that the WAL can be effectively integrated with the Karamu Stream corridor, this will require landscape and planting mitigation. Refer to **Figure 3** of the **Graphic Supplement**.

In summary, effects on landscape character vary in relation to land use and land cover, the scale of the infrastructure, and the degree of contrast between the existing and proposed elevation.

The magnitude of landscape character effects in the character areas as set out in the table below:

**Table 4: Landscape Character Effects Summary in relation to character areas**

Character Area	Magnitude	Effect	Mitigation	Effects following mitigation
Pakowhai	Moderate	Alteration to Pakowhai Regional Park features and attributes; raised embankment at approach to Karamu stream.	New planting; proposed condition for works within the Park with potential for integration through redesign of the park entry; attention to earthworks and design around bridge.	Low
Whakatu	Very Low	No alteration to key elements features or attributes.	New planting, improved transport connectivity.	Very Low
Mangateretere	Low	Small amount of change to underlying character and composition; some level differences require careful treatment.	New planting; attention to earthworks, particularly next to the stream corridor.	Low
Napier Road	Very Low	Slight change to landscape character.	Proposed new planting	Very Low

The table illustrates that the magnitude of landscape character effects will range from **very low** to **moderate** without mitigation. In the mid to long term, mitigation measures and the implementation and integration with other proposed concepts will reduce effects to negligible.

### 5.3 Visual amenity effects

Visual amenity is a component of the overall amenity of a place and therefore contributes to peoples' appreciation of the pleasantness and aesthetic coherence of the environment. This aspect considered the effects of the visual change for the viewing audience.

Contributing factors that influence the relative magnitude of effect include:

- Size of viewing audience (higher/lower density populations);
- Proximity to the route
- Type/size of view (orientation; elevation; peripheral/central);

- Visibility of traffic; and
- Outlook (e.g. proposal blocks desirable views).

The scale used to determine the magnitude of change to visual amenity is set out below.

**Table 5: Visual Amenity Effects Scale in relation to level of change**

Scale	Level of Change
Extreme	Proposal may dominate/obscure views for a large viewing audience
Very high	Proposal is prominent and would be a focus of views for a large viewing audience or within close proximity of residences (e.g. within 50 to 100m)
High	Proposal is likely to be a major element of view for a large number of people and/or be a focus of view.
Moderate	Proposal is likely to form a visible and recognizable new element within the overall scene
Low	Proposal is likely to be either a limited component of a wider scene, and/or make little difference to the overall scene (i.e. may be missed by a casual observer)
Very low	Proposal will form a very limited component of the wider scene and/or be viewed from a considerable distance
Negligible	Proposal will not be identifiable within available views

The viewing audience for the WAL comprises 3 key groups:

- Publicly available views such as those available to road users, people recreating in Pakowhai Regional Park and on the bike/walking tracks adjacent to the Karamu Stream and railway;
- People working in the industrial and farming areas; and
- Views from private residential properties, particularly dwellings.

Representative viewpoints were selected to illustrate the character of the landscape and to fairly represent the range of views towards the project area. The location of the viewpoints is shown in **Figure 8 of the Graphic Supplement** and the views are illustrated from the 16 mapped viewpoints.

In relation to the evaluation of views, effects will vary depending on the position of the viewer, whether they are transitory or static, their focus of attention, and the view frame – whether the view is expansive or narrowly focussed, close or distant.

### **Publicly available views**

For road users on connecting and link roads, views will generally be contained by existing shelterbelts, orchard trees and, in the Whakatu character area, buildings and storage areas. These tend to focus views on the road corridor and limit views outside of the corridor.

For future road users on the WAL, new views will become available. Some of these will be similarly constrained by shelterbelts, orchard trees and buildings in the industrial area, while others will be more open, particularly where the road is elevated. Future road users of the WAL will be using the road as part of their improved road travel experience.

Views from the Pakowhai Regional Park will be affected by the WAL, as a result of the existing viewing opportunities from the bridge and stop banks towards the project area. In addition, the works will result in visual change to the entry and carpark at the Regional Park. The Ngaruroro River and historic Raupare Stream bridges are adjacent to the existing entry and afford elevated views towards the east over existing orchards to the Ranges. The access path to the bridge will be severed by the works and new views will include the WAL as it passes through areas of orchard.

As a result there will be high temporary visual effects as well as some permanent effects that could only be mitigated through redesign of the park entry and new planting to redirect views.

An elevated view from the Pakowhai Regional Park over the northern end of the WAL is presented from **Viewpoint 16** in the **Graphic Supplement**.

It is noted that the Hastings District Council has engaged with the Hawke's Bay Regional Council (as the agency responsible for management of the Pakowhai Regional Park) to develop a concept plan for the integration of the WAL with the Park. With landscape and technical input from consultants to the Hawke's Bay Regional Council (Boffa Miskell), this concept plan, and a series of related conditions, have been agreed and are included in the Proposed Condition (HDC 2014d). The concept plan successfully mitigates the potential effects on the Pakowhai Regional Park. The integrated WAL and Regional Park interface will become part of the amenity experience for park users.

Close views of the WAL will also be afforded from the track and bridge at Ruahapia Road, and existing and future tracks along the Karamu River. These tracks and routes include other features of interest including other roads, existing bridges and stop banks. The WAL will be a major feature of available views or result in significant adverse visual effects. Views within these areas will be mitigated by proposed amenity planting along the interface of the WAL and stream corridor.

Other more distant views may be available from greater distances across the Karamu Stream corridor (for example from Ruahapia Marae). In these views, the road may form part of more distant views and vistas but foreground features are likely to hold more interest, and planting along the road will soften and partially screen views of the road itself.

### **Views from industrial and farming areas**

For people working in the industrial and farming areas, it is likely that on balance, the WAL will have a neutral impact on visual amenity due in part to the complementary utilitarian character of the proposed development and to the viewer's attention being primarily focussed on the function of the industrial and farming activities.

The WAL will improve the transport connection to the industrial area, in particular, and WAL users will benefit from this increased level of service.

### **Views from private residences**

The WAL alignment generally avoids residential areas so that only solitary dwellings in rural areas are located close to the proposed road. In addition, those most visually impacted are proposed to be removed (a dwelling close to Rangitane Road and a dwelling on Napier Road).

The following properties were identified as being potentially affected by landscape and visual impacts associated with the proximity and intervisibility of the road, including traffic and other visual elements such as lighting:

- Ward
- Haley
- Omahuri Orchards Ltd
- Dillon
- Edwards

### ***Effects on the Ward property***

Refer to the photograph from **Viewpoint 3** in the **Graphic Supplement**.

The Ward property is located in a rural setting within the Napier Road character area. The dwelling is primarily orientated west/east and currently set back from the Napier Road/SH2 by approximately 80m and Pilcher Road to the north, by 120m. Tall trees along the southern boundary filter views to the south. At the time of the photography during the site visit (March 2014), tall seasonal crops screened views beyond the property to the south, north and east as illustrated in the photograph from **Viewpoint 3**.

Under the WAL proposal, the existing intersection between SH2 and Pilcher Road to the north of the Ward dwelling will be replaced with a new route to the south and east of the dwelling. The new road will be slightly elevated in this area, so that from viewpoint 3 (when not in tall crops) it is likely to be visible, together with traffic signs and light poles. Existing vegetation (including crops) and existing trees will provide partial screening particularly at those times of year when the crops are at their mature height. However effects are rated as **moderate-high** due to the proximity of the road, approximately 30m from the dwelling at the nearest point.

Exotic roadside tree planting, similar to the existing oaks alongside Pilcher Road, with a combination of smaller shrubs, could effectively screen views of the road from the property, reducing the level of visual effect while minimising potential shading.

Subject to this planting (a **Landscape Concept Plan** is provided in **Figure 7**), visual effects would be reduced to **low**.

### ***Effects on the Haley property***

Photograph **from Viewpoint 2** in the **Graphic Supplement** illustrates the character of the property and existing views.

The Haley property is a lifestyle block within a rural/horticultural setting. It is located within the Napier Road character area and fronts on to SH2. The dwelling is currently set back approximately 70m west of SH2. A tall conifer hedge along the road boundary, and a mature heavily planted front garden screens views to the road. The existing conifer shelter belt on the SH 2 boundary will remain in place outside of the WAL project footprint and in conjunction with existing planting within the property will screen views of SH 2 and the roundabout from the dwelling.

The primary outdoor living area is focused to the west of the dwelling, in the southwest corner of the property.

The route of the proposed WAL is immediately to the south of the property so that the property will become bounded by roadways with 80km speed limits on two sides. The WAL will be approximately 10m from the Haley dwelling at the closest point. The WAL is adjacent to the property boundary for the length of the property's southern boundary including the outdoor living area, and will be slightly elevated above ground level, before the alignment veers north into the adjacent Mr Apple property.

The existing vegetation within the property will visually screen much of the road and traffic from view, however it is likely that large trucks will be partially visible and vehicle and street lights will be noticeable. Potential visual effects are rated as **high** due to the proximity of the proposed road to the length of the Haleys' southern boundary, including both the dwelling and primary outdoor living area.

There is room on the western side of the Haley residence for mitigation planting due to the 10 metre set back between the residence and the property boundary. The planting would need to be undertaken in the area in the foreground of the view illustrated in the photograph taken from **Viewpoint 2**. Mitigation planting would reduce visual effects to **moderate** as the openness and views from the property on the western side would be restricted as a result of the planting.

### ***Effects on the Omahuri Orchards Limited property***

Refer to the **photograph taken from Viewpoint 1** in the **Graphic Supplement**.

The *Omahuri Orchards* property is in an orchard setting within the Napier Road character area and is situated immediately south of the Haley property. The south end of the WAL is partially located on this property. The dense conifer shelterbelt extends south from the Haley's to mark the boundary between the *Omahuri Orchards* property and SH2. The dwelling is setback approximately 20m from the existing road, at the closest point. The primary outdoor living area is orientated north, away from SH2 and towards the WAL alignment.

A large shed to the northeast, along with a small block of orchard trees lies between the dwelling and the proposed road, which is approximately 50m away. See the photograph from **Viewpoint 1**. While many of the trees and part of the shelterbelt will need to be removed inside the property as part of the WAL, approximately 3 rows of trees will remain to filter views to the road and traffic. The shed will also screen views. Nevertheless, it is likely that the road and traffic will be partially visible, primarily at night due to vehicle and street lighting.

Where possible, the existing shelterbelt will be retained along the SH2 frontage so that the status quo will be maintained and there will be no visual effects from the eastern side of the house. The northern section of the existing shelter belt, for a length of approximately 10 metres south of the project footprint at the roundabout will be required to be removed for vehicle sightlines. The section of the shelter belt immediately east of the residence and the outdoor living area to the north of the residence will remain in place.

The living rooms and outdoor living area face north, towards the WAL approximately 50m away. While there is existing planting within this separation area, it is expected that the road and vehicles will be partially visible.

Additional planting within and on the boundaries of the Omahuri Orchards property will be required in order to provide additional depth and screening to the existing vegetation. Where existing shelter belt planting is removed to allow for the construction of the WAL, new shelter belts will be planted on the boundaries, to reinstate the pattern of horticultural planting and to 're-seal' the edges of the property.

It is recommended that, through consultation with the owner or occupier, additional planting is carried out within the property to reinstate the productive patterns on the orchard and to further screen the road from view. To effectively mitigate the identified effects the planting will need to:

- Provide boundary screening through the reinstatement of a shelter belt, or similar; and
- Provide additional depth of planting inside the orchard through planting replacement orchard trees.

Effects on the visual amenity of the property are assessed as **moderate** due to the addition the road through the *Omahuri Orchards* property. The productive pattern of the use of the land can be reinstated, while providing additional screening and depth to views towards the WAL. The SH2 and WAL intersection roundabout will not be visible from the residence once the property boundary shelter belt is reinstated.

With the recommended mitigation measures in place, visual effects will be reduced to **low**.

#### ***Effects on Dillon property***

The Dillon property is located amongst orchards in the Pakowhai character area and is bounded to the north by the Karamu Stream. Shelterbelts and riparian vegetation mark the southern edge of the stream. The dwelling is set back approximately 60m east of the nearest road, Ruahapia Road and is approximately 70 metres from the Karamu Stream. The outdoor living area is primarily orientated to the north, separated from the surrounding orchards by a planted border.

The proposed WAL will cross the stream approximately 130m northeast of the dwelling. The bridge will be elevated with a maximum height of 3.2m above ground level.

The view of the area of the Karamu

Stream crossing is illustrated in the photograph taken from **Viewpoint 15** in the **Graphic Supplement**. Investigations using a quadcopter have indicated that there would be no views of the bridge available from the dwelling (refer to the **photograph from Viewpoint 15 and the Landscape Mitigation Plans** in the visual attachments) due primarily to the extensive intervening vegetation inside the orchard and the relatively low slung height of the bridge. The methodology for the use of the quadcopter is set out in section 2.2 above.

With the exception of the gap in the shelter belt where **Viewpoint 15** is located, the Karamu Stream boundary is planted with an established shelter belt which screens all ground level views outside of the site. There will be close views available to part of the road and bridge from within the property to the north of the residence.



As part of the proposal, bank planting is recommended to integrate the proposed road into the setting in views from the property. In addition an offer will be made for further planting within the inaccessible areas close to the stream and the road, which would also provide amenity enhancement and screening.

Visual effects for residents are assessed as **low** as they relate to a small part of the orchard and do not affect the residence.

### ***Effects on the Edwards property***

The Edwards Property is also located in the Pakowhai character area. It is bounded to the west by Ruahapia Road, to the south by the Whakatu Road bridge and to the east by Karamu Stream. The dwelling is set back approximately 35m from Ruahapia Road and 80m from Whakatu Road.

The dwelling is part of a cluster of buildings that, together with pockets of vegetation, will obscure views to the proposed WAL to the north and east across the Karamu Stream. Intervening vegetation will largely screen views to the bridge from elsewhere on the property however the new road between the bridge and Whakatu Road and the roundabout at Whakatu Road will be visible across Karamu Stream from the eastern side of the property, at distances of approximately 200m. The road and associated traffic will be viewed in the mid-ground with the existing industrial buildings from the Whakatu Industrial area beyond.

The photograph from **Viewpoint 14** in the **Graphic Supplement** illustrates the existing view from the northeast corner of the property. The WAL will not be visible from the residence due to intervening vegetation within the property and on the edge of the Karamu Stream. Views are also not available from the southern parts of the property due to vegetation on the stream margins.

While further planting between the WAL and stream would provide additional visual amenity and screening, even without this mitigation overall visual effects are assessed as **low**.

### **Summary**

The table below summarises the magnitude of visual effects before and after mitigation.

**Table 6: Visual Amenity Effects Summary in relation to character areas**

Character Area	Magnitude	Effect	Mitigation	Effects following mitigation
Pakowhai	High	Proposal forms a prominent part of available views from the Pakowhai Regional Park.	Proposed condition for works within the Park with redesign of the park entry and new planting to redirect views.	Low
Whakatu	Low	Proposal will be a limited component of available views.	Amenity and screen planting	Low
Mangateretere	Very Low	Proposal will be mainly screened by existing orchards.	Amenity and screen planting.	Very Low
Napier Road	Very High	Three houses (Omahuri Orchards Ltd, Haley, Ward) are in close proximity to proposed roads.	Fencing and screen planting	Low

**Table 7: Visual Amenity Effects on private properties**

Property	Magnitude	Mitigation	Effects following mitigation
Ward	Moderate-high	Tree/screen planting within property	Low
Haley	High	Planting within and on the boundary of the property	Low
Omahuri Orchards Limited	Moderate	Either shelterbelt/screen planting within designation or amenity/ screen planting within property	Low
Dillon	Low	Bank planting on road	Low
Edwards	Low	Bank planting on road	Low

Within the Pakowhai Country Park, **high** effects are anticipated initially but through the implementation of the agreed concept plan (as discussed above) effects are expected to be **negligible** or **nil** in the long term.

In the Napier Road character area, there will be **very high** adverse effects initially for a very small number of residents. With mitigation measures, however, effects can be reduced to **low** although some measures (e.g. planting or other form of screening) may be required on private land with agreement by owners.

The table illustrates that the magnitude of visual amenity effects will range from **very low** to **very high** without mitigation. In the long term, effects for those places rated as **high** or **very high** may be reduced to **negligible** or **low**, but this may require works outside the designation area on public and private land.

#### **5.4 Temporary Effects**

For the purposes of this assessment, temporary effects are defined as those effects created by the proposed construction process over and above the effects of the earthworks and changes to the landform and vegetation already considered in this assessment. These effects have been considered from a review of the construction process outlined in the Project Description Report (GHD 2014a). It is also noted that the contractor appointed for the construction phase will be required to finalise and submit for certification the Construction Environmental Management Plan (GHD 2014i) which will include further detail on the mitigation of construction effects.

The extent of earthworks will be confined to the area within the designation boundary. Final heights of the road carriageway and the associated structures and banks are shown on the civil engineering plans and drawings.

Exposed, recently earth-worked areas will be visible but this will change as the grassing and planting is implemented. Special attention may be required for those banks with a grade of 1 in 3 and tree and shrub planting of the earthworks will be carried out in optimal environmental conditions to maximise plant survival and establishment. As the banks are seeded and plants grow, the landscape and visual effects will progressively reduce. Eventually the constructions effects themselves will reduce to nil.

There will be increased activity around places where the bridge and retaining walls are being built, and at the interchanges. All of the activities within the construction designation will be fenced within defined areas. For the most part the temporary fencing will be familiar to most people, and although it will be visible from public roads, it is unlikely to be intrusive or result in any adverse landscape or visual effects.

The visual effects of the construction of the road will lead to a change in the view from a number of residences and public areas. The construction effects will be similar to any other road or other large

scale construction project. The short term nature of the construction effects will generally ensure that as grassing, planting and other mitigation and integration works are carried out, the project will be assimilated into the landscape and will be accepted at a positive change required to improve traffic access to the area.

## **6.0 AVOIDANCE, REMEDYING AND MITIGATION OF EFFECTS**

Throughout the design process the aim has been to avoid adverse effects. However, consideration of landscape and visual effects is only part of the potential effects that were addressed in the design process, and given the scale of the proposed works, complete avoidance of adverse effects is not possible.

Consequently, where avoidance of effects has not been possible, mitigation measures are included in the alignment and design of the WAL.

The key principles that have guided the landscape input to the WAL design process are:

- Avoid, where possible, disturbance of water bodies and intact landforms (natural and stopbanks);

- Avoid, where possible areas of significant vegetation (large trees and shelterbelts, indigenous vegetation);

- Where avoidance is not possible, minimise the extent of modification;

- Recognise the local character of the landscape along the route and reflect that character through landscape design and plant species selection;

- Seek to achieve a design where the WAL integrates into the landscape as far as is possible, minimising effects on existing land use and production;

- Seek to include environmental benefits where possible, for example biodiversity;

- Recognise the visual and amenity effects on the receiving communities (firstly) and the WAL user experience; and

- Ensure proposed plantings are sustainable in the long term, through appropriate design based on effective maintenance.

Comprehensive landscape design measures are proposed as a best practice approach to maintain amenity and remedy or mitigate adverse effects. The measures include specific design or conditions for the fixed elements of the project (the bridge, roading elements and fencing) and planting.

Such an approach includes the following measures:

a) Designing a high quality treatment of the road corridor and its elements;

b) Adopting recessive or neutral colours for all structures;

- c) Forming any excess spoil into low contoured bunds to screen the ground surface around bridge abutments;
- d) Easing the bottom of embankments where appropriate, to merge with surrounding terrain and achieve a close fit with topography;
- e) Carrying out broad scale planting to integrate the WAL into the landscape by emphasising existing patterns, such as shelter belts and watercourses, and planting groups of trees in strategic locations to provide foreground features; and
- f) Carrying out specific planting to mitigate views from houses adjacent to the WAL.

In addition, a Draft Landscape Concept Plan (LCP) has been prepared as part of this assessment and is attached in the **Graphic Supplement** to this report. This will be finalised prior to construction in accordance with the Proposed Conditions (HDC 2014d) and incorporates mitigation measures as summarised above for each character area.

Specific landscape mitigation has been incorporated and taken into account when determining the proposal's effectiveness in maintaining and/or enhancing the existing landscape character and visual amenity. Key objectives for successful landscape mitigation for the WAL have been identified as:

- Avoiding a standard approach to mitigation treatment along the entire route, ensuring instead that an appropriate localised response to the existing character and amenity is provided;
- Ensuring that the integration and design of landform is used as a mitigation measure where appropriate, especially the finishing details; and
- Integrating with other improvement strategies proposed in the area, for example Pakowhai Regional Park concepts, Karamu Stream enhancement, and Whakatu gateway concepts.

Location of the road into the existing landscape, minimising its extent, and the shape and design of any modified or new landforms are considered key to successful integration. Minimising the footprint and extent of the WAL means, however, that there are limited opportunities for mitigation, and planting is also constrained by sightlines.

Proposed planting consists of three main types:

- Bank and screen planting – planting of the upper part of bank where the road is raised above existing grade, to provide partial screening of the road;
- Amenity planting – trees and/or hedging to provide visual foreground planting or screen planting; and

- Low planting – roundabouts and other areas where grass would be difficult to maintain for reason of access.

In addition, in concert with the recommendations of the ecological assessment (EAM 2014a), there are opportunities for planting in association with stormwater solutions, particularly along swales and around stormwater outlets.

Other opportunities for mitigation planting include areas outside the designation boundary. For example, shelterbelts on neighbouring orchards could provide visual amenity and spray protection, while planting associated with historical and iwi place making may be identified through further consultation.

The proposed planting on the Landscape Concept Plan includes the following:

- Assistance with the implementation of the Pakowhai Regional Park Concepts, including planting.
- Shelter belt planting on the boundary of the Dillon property to re-define and ‘seal’ the edge of the property, reducing the potential visibility towards the bridge and the new road.
- Re-vegetation planting on the edges of the Karamu Stream.
- Shelter belt or small tree planting on the boundary of the Edwards property to reduce potential visibility of the road.
- Shelter belt planting on the boundary of the Mr Apple property.
- Shelter belt planting on the boundary of the Omahuri orchard Ltd property.
- Garden or small shelter belt planting within and on the boundary of the Haley property.
- Garden or small tree planting on the boundary of the Ward property.
- Planting within the roundabout and at key intersection with Pakowhai Road, Whakatu Road and Napier Road, to be undertaken in consultation with the Hastings District Council to ensure consistency with other Council amenity and road planting.

## **7.0 CONCLUSION**

The assessment of effects shows that highest effects relate to visual amenity effects for residents close to SH2, particularly on the Haley property, and effects on Pakowhai Regional Park.

Overall, biophysical effects vary between moderate and very low, which reflects the value placed on existing horticulture and public open space and waterways, compared with works within the existing transport corridor and industrial area. For those areas assessed as having moderate effects, it is considered effects are able to be reduced, although this will involve works outside the designation corridor and may occur over a long time period.

In relation to effects on landscape character, effects are low or very low except for the Pakowhai Character Area, which is moderate. This reflects the fact that the WAL will introduce new roading elements into a sensitive area around the Pakowhai Regional Park, and create a readily noticeable alteration of patterns and ground levels through existing orchards. In addition, a new bridge will cross the Karamu Stream, with associated structures.

Over time, however, the project is expected to be integrated into the landscape as its components become less visible, and proposed grass and planting establishes and matures. In addition, the assessment notes opportunities for Council to undertake planting of residual areas, resulting in positive community outcomes and improved amenity of the Karamu Stream corridor.

It is therefore recommended that the mitigation measures proposed in this assessment and outlined in the Draft LCP in Appendix A be adopted and incorporated into the detailed designs for the WAL, and further consultation be undertaken to finalise the LCP prior to construction commencing.

It is also recommended that landscape mitigation measures be coordinated with other improvement concepts, and related mitigation measures arising from the project, for example ecological and cultural.

*Isthmus*

June 2014

JUNE 2014

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# WHAKATU ARTERIAL LINK, HASTINGS

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GRAPHIC SUPPLEMENT TO THE LANDSCAPE AND VISUAL ASSESSMENT

*DRAFT*

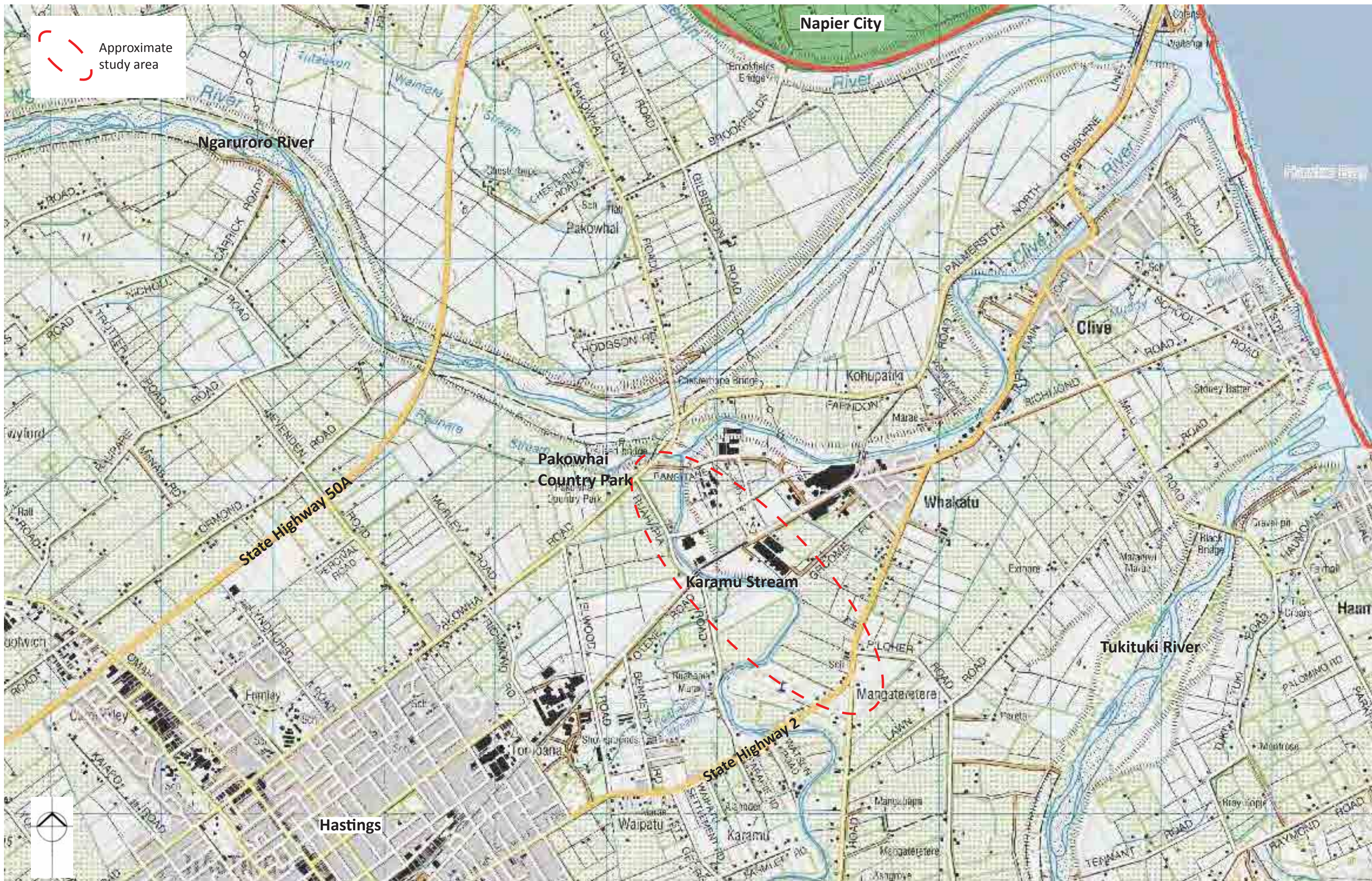
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4	FIGURE 1	Landscape Context Plan
5	FIGURE 2	Whakatu Arterial Link Route Overview Plan
6	FIGURE 3	Landscape Concept Plan 1
7	FIGURE 4	Landscape Concept Plan 2
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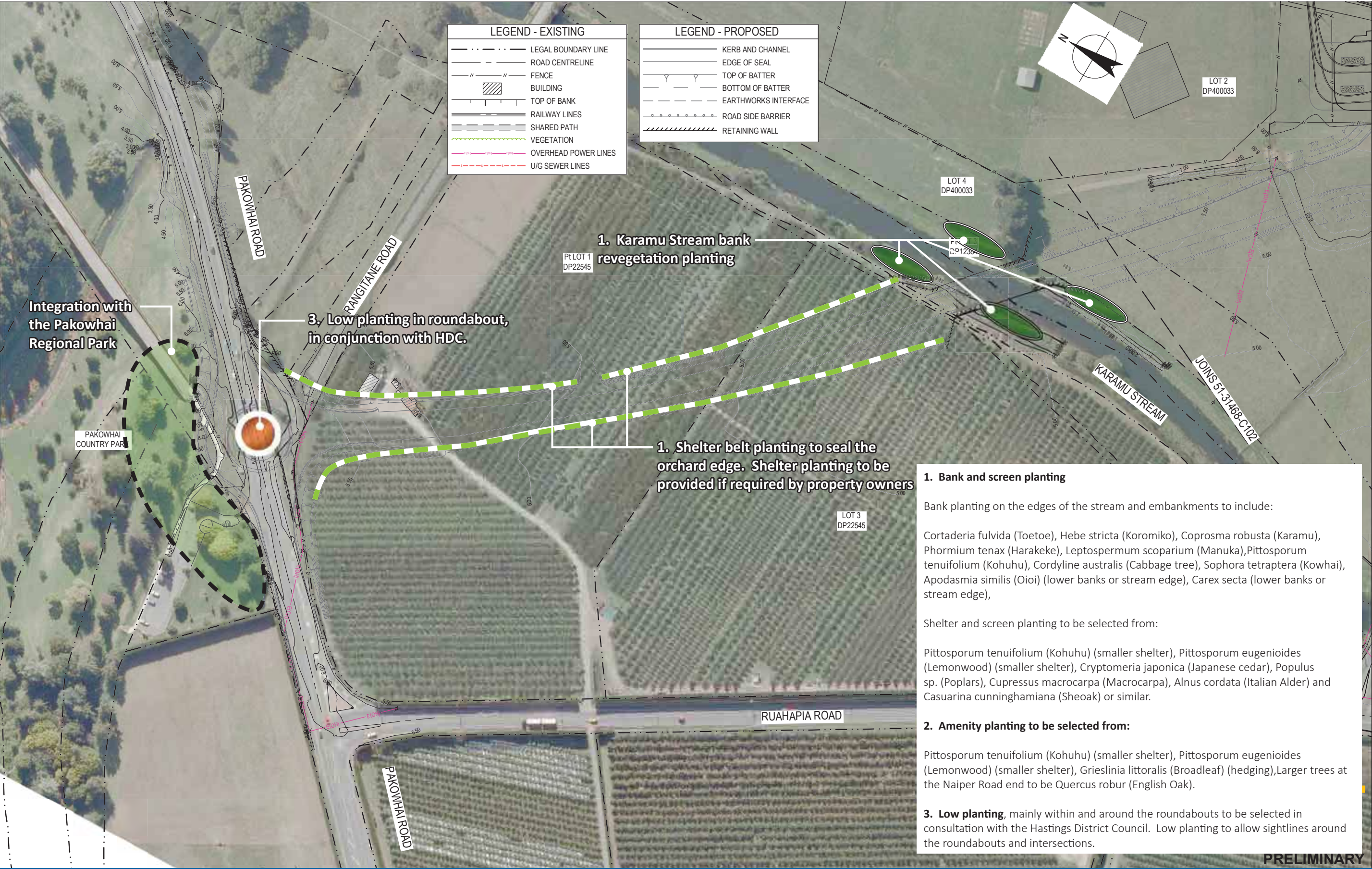
## WHAKATU ARTERIAL LINK, HASTINGS

FIGURE 1 - Landscape Context Plan









C DESIGN UPDATE			NM		
B BERM CHANGES AT PAKOWHAI ROAD			NM		
A PRELIMINARY			NM		
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director
Plot Date: 14 May 2014 - 3:40 p.m.			Plotted by: Nicki Mackie		
Card File No: G:\5131468 Whakatu\CADD\Drawings\51-31468-C101_C105.dwg					

HASTINGS DISTRICT COUNCIL

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Drafting Check

Approved (Project Director)

Date

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Designer N. DEVERY

Design Check

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Client

Project

Title

Original Size

**HASTINGS DISTRICT COUNCIL  
WHAKATU ARTERIAL PROJECT  
SITE SURVEY PLAN  
SHEET 1**

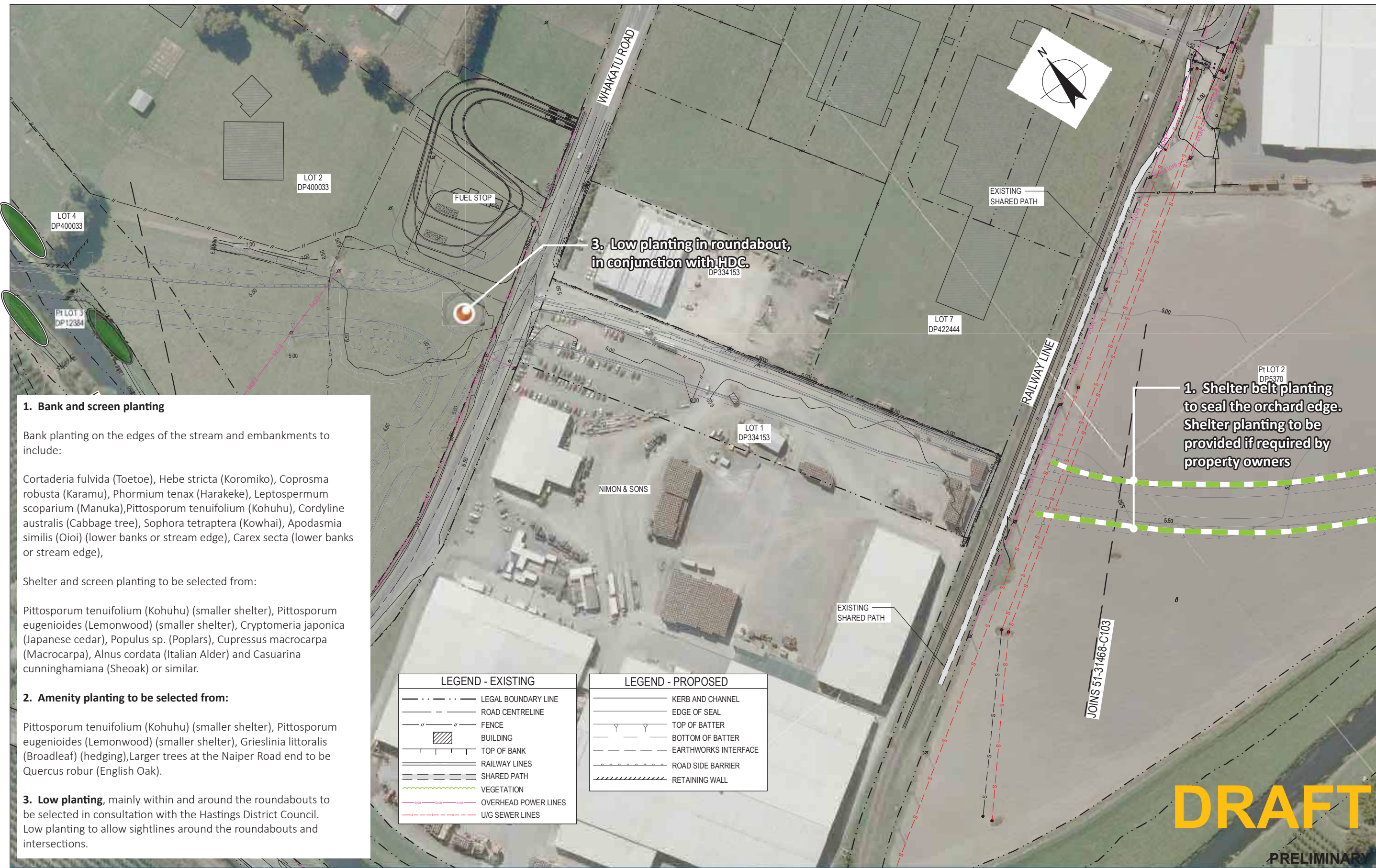
**A1 Drawing No: 51-31468-C101**

**Rev: C**

WHAKATU ARTERIAL LINK, HASTINGS

FIGURE 3 - Landscape Concept Plan 1





1. Bank and screen planting

Bank planting on the edges of the stream and embankments to include:

Cortaderia fulvida (Toetoe), Hebe stricta (Koromiko), Coprosma robusta (Karamu), Phormium tenax (Harakeke), Leptospermum scoparium (Manuka), Pittosporum tenuifolium (Kohuhu), Cordyline australis (Cabbage tree), Sophora tetraptera (Kowhai), Apodasmia similis (Oioi) (lower banks or stream edge), Carex secta (lower banks or stream edge),

Shelter and screen planting to be selected from:

Pittosporum tenuifolium (Kohuhu) (smaller shelter), Pittosporum eugenioides (Lemonwood) (smaller shelter), Cryptomeria japonica (Japanese cedar), Populus sp. (Poplars), Cupressus macrocarpa (Macrocarpa), Alnus cordata (Italian Alder) and Casuarina cunninghamiana (Sheoak) or similar.

2. Amenity planting to be selected from:

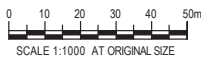
Pittosporum tenuifolium (Kohuhu) (smaller shelter), Pittosporum eugenioides (Lemonwood) (smaller shelter), Grieslinia littoralis (Broadleaf) (hedging), Larger trees at the Naipera Road end to be Quercus robur (English Oak).

3. Low planting, mainly within and around the roundabouts to be selected in consultation with the Hastings District Council. Low planting to allow sightlines around the roundabouts and intersections.

LEGEND - EXISTING	
	LEGAL BOUNDARY LINE
	ROAD CENTRELINE
	FENCE
	BUILDING
	TOP OF BANK
	RAILWAY LINES
	SHARED PATH
	VEGETATION
	OVERHEAD POWER LINES
	U/G SEWER LINES

LEGEND - PROPOSED	
	KERB AND CHANNEL
	EDGE OF SEAL
	TOP OF BATTER
	BOTTOM OF BATTER
	EARTHWORKS INTERFACE
	ROAD SIDE BARRIER
	RETAINING WALL

B DESIGN UPDATE		NM			
A PRELIMINARY		NM			
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		Drawn	Job Manager	Project Director	Date



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Drawn N. MACKIE Designer N. DEVERY

Drafting Check

Design Check

Approved (Project Director)

Date

Scale 1:1000

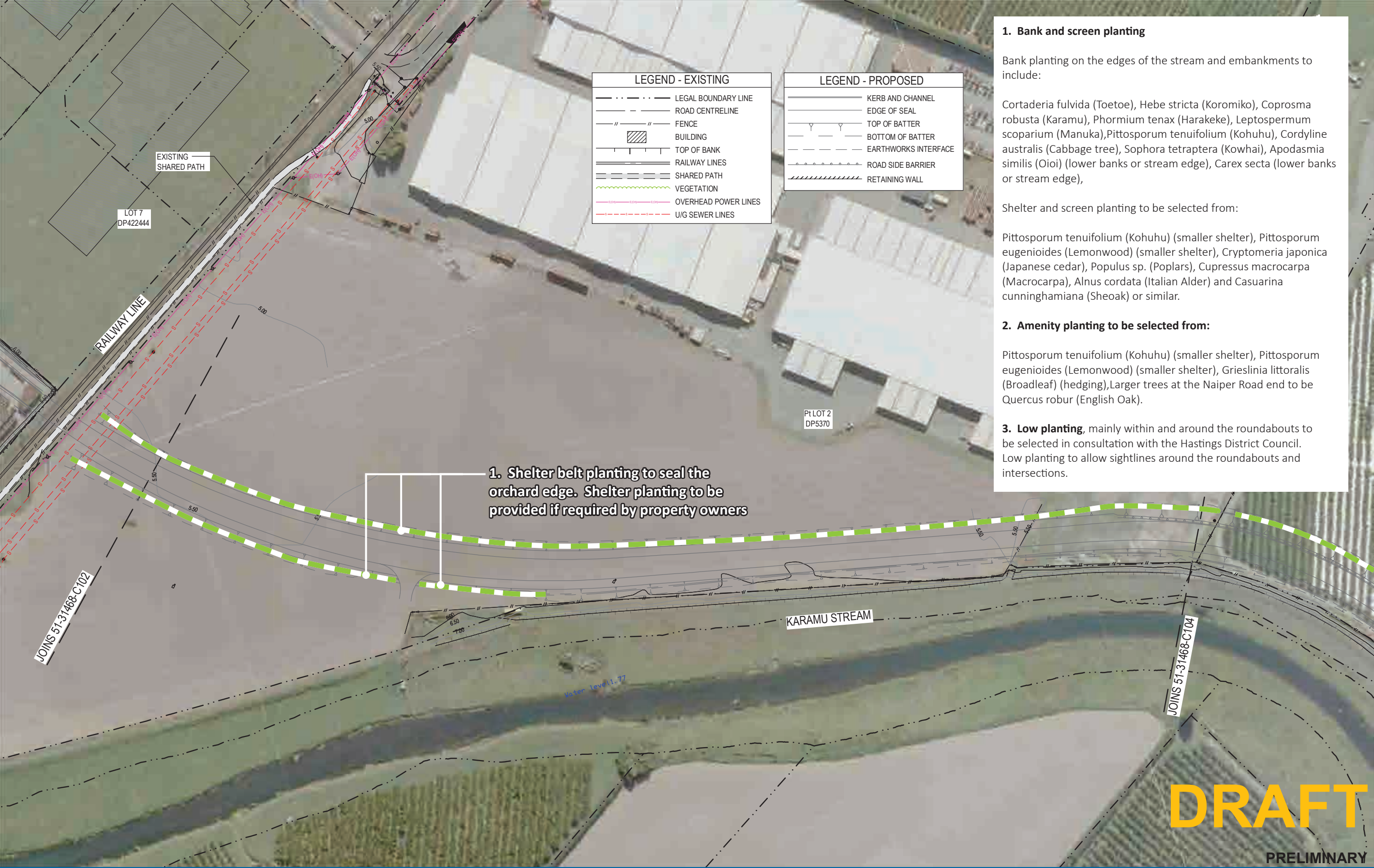
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Title  
HASTINGS DISTRICT COUNCIL  
WHAKATU ARTERIAL PROJECT  
SITE SURVEY PLAN  
SHEET 2

Original Size  
Drawing No: 51-31468-C102

Rev: B





1. Bank and screen planting

Bank planting on the edges of the stream and embankments to include:

Cortaderia fulvida (Toetoe), Hebe stricta (Koromiko), Coprosma robusta (Karamu), Phormium tenax (Harakeke), Leptospermum scoparium (Manuka), Pittosporum tenuifolium (Kohuhu), Cordyline australis (Cabbage tree), Sophora tetraptera (Kowhai), Apodasmia similis (Oioi) (lower banks or stream edge), Carex secta (lower banks or stream edge),

Shelter and screen planting to be selected from:

Pittosporum tenuifolium (Kohuhu) (smaller shelter), Pittosporum eugenioides (Lemonwood) (smaller shelter), Cryptomeria japonica (Japanese cedar), Populus sp. (Poplars), Cupressus macrocarpa (Macrocarpa), Alnus cordata (Italian Alder) and Casuarina cunninghamiana (Sheoak) or similar.

2. Amenity planting to be selected from:

Pittosporum tenuifolium (Kohuhu) (smaller shelter), Pittosporum eugenioides (Lemonwood) (smaller shelter), Grieslinia littoralis (Broadleaf) (hedging), Larger trees at the Naiper Road end to be Quercus robur (English Oak).

3. Low planting, mainly within and around the roundabouts to be selected in consultation with the Hastings District Council. Low planting to allow sightlines around the roundabouts and intersections.

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<b>B DESIGN UPDATE</b>				NM								Drafting Check	Design Check	Project	<b>WHAKATU ARTERIAL PROJECT</b>			
<b>A PRELIMINARY</b>				NM								Approved (Project Director) Date		Title	<b>SITE SURVEY PLAN SHEET 3</b>			
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing		Drawn	Job Manager	Project Director	Date					Scale 1:1000	This Drawing must not be used for Construction unless signed as Approved	Original size	<b>A1 Drawing No: 51-31468-C103</b>		Rev: B	







**1. Bank and screen planting**

Bank planting on the edges of the stream and embankments to include:

Cortaderia fulvida (Toetoe), Hebe stricta (Koromiko), Coprosma robusta (Karamu), Phormium tenax (Harakeke), Leptospermum scoparium (Manuka), Pittosporum tenuifolium (Kohuhu), Cordyline australis (Cabbage tree), Sophora tetraptera (Kowhai), Apodasmia similis (Oioi) (lower banks or stream edge), Carex secta (lower banks or stream edge),

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**2. Amenity planting to be selected from:**

Pittosporum tenuifolium (Kohuhu) (smaller shelter), Pittosporum eugenioides (Lemonwood) (smaller shelter), Grieslinia littoralis (Broadleaf) (hedging), Larger trees at the Naiper Road end to be Quercus robur (English Oak).

**3. Low planting**, mainly within and around the roundabouts to be selected in consultation with the Hastings District Council. Low planting to allow sightlines around the roundabouts and intersections.

**1. Shelter belt planting to seal the orchard edge. Shelter planting to be provided if required by property owners**

**2. Amenity planting on the boundary and inside the property, in conjunction with the property owners.**

**3. Low roundabout planting in conjunction with HDC**

**2. Large scale amenity plantings. Trees similar to existing in the area - Oaks. (subject to design for user safety and sightlines)**

**LEGEND - EXISTING**








- LEGAL BOUNDARY LINE
- ROAD CENTRELINE
- FENCE
- BUILDING
- TOP OF BANK
- RAILWAY LINES
- SHARED PATH
- VEGETATION
- OVERHEAD POWER LINES
- U/G SEWER LINES

**LEGEND - PROPOSED**

- KERB AND CHANNEL
- EDGE OF SEAL
- TOP OF BATTER
- BOTTOM OF BATTER
- EARTHWORKS INTERFACE
- ROAD SIDE BARRIER
- RETAINING WALL

**DRAFT**

**PRELIMINARY**

LEGEND - PROPOSED	
	KERB AND CHANNEL
	EDGE OF SEAL
	TOP OF BATTER
	BOTTOM OF BATTER
	EARTHWORKS INTERFACE
	ROAD SIDE BARRIER
	RETAINING WALL



**DRAFT**

**PRELIMINARY**

[illegible]





WHAKATU ARTERIAL LINK, HASTINGS

FIGURE 8 - Viewpoint Location Map

2 Photograph location and approximate extent





**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 9** - Viewpoint 1 from the Omahuri Orchards Ltd Property









**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 10** - Viewpoint 2 from the Hayley Property









**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 11** - Viewpoint 3 the from the Ward Property









**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 12** - Viewpoint 4 from the State Highway 2 / Pilchard Road intersection









**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 13** - Viewpoint 5 from the State Highway 2 / Pilchard Road intersection





WHAKATU ARTERIAL LINK, HASTINGS





**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 14** - Viewpoint 6 from Napier Road









**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 15** - Viewpoint 7 from Mr Apple Property adjacent to Karamu Stream









**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 16** - Viewpoint 8 from Mr Apple Property adjacent to Karamu Stream









**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 17** - Viewpoint 9 from cycleway/walkway connecting Otene Road to Anderson Road









**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 18** - Viewpoint 10 from the cycleway/walkway connecting Otene Road to Anderson Road









**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 19** - Viewpoint 11 from the cycleway/walkway bridge connecting Otene Road to Anderson Road









**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 20** - Viewpoint 12 from Whakatu Road





WHAKATU ARTERIAL LINK, HASTINGS





**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 21** - Viewpoint 13 from Whakatu Road









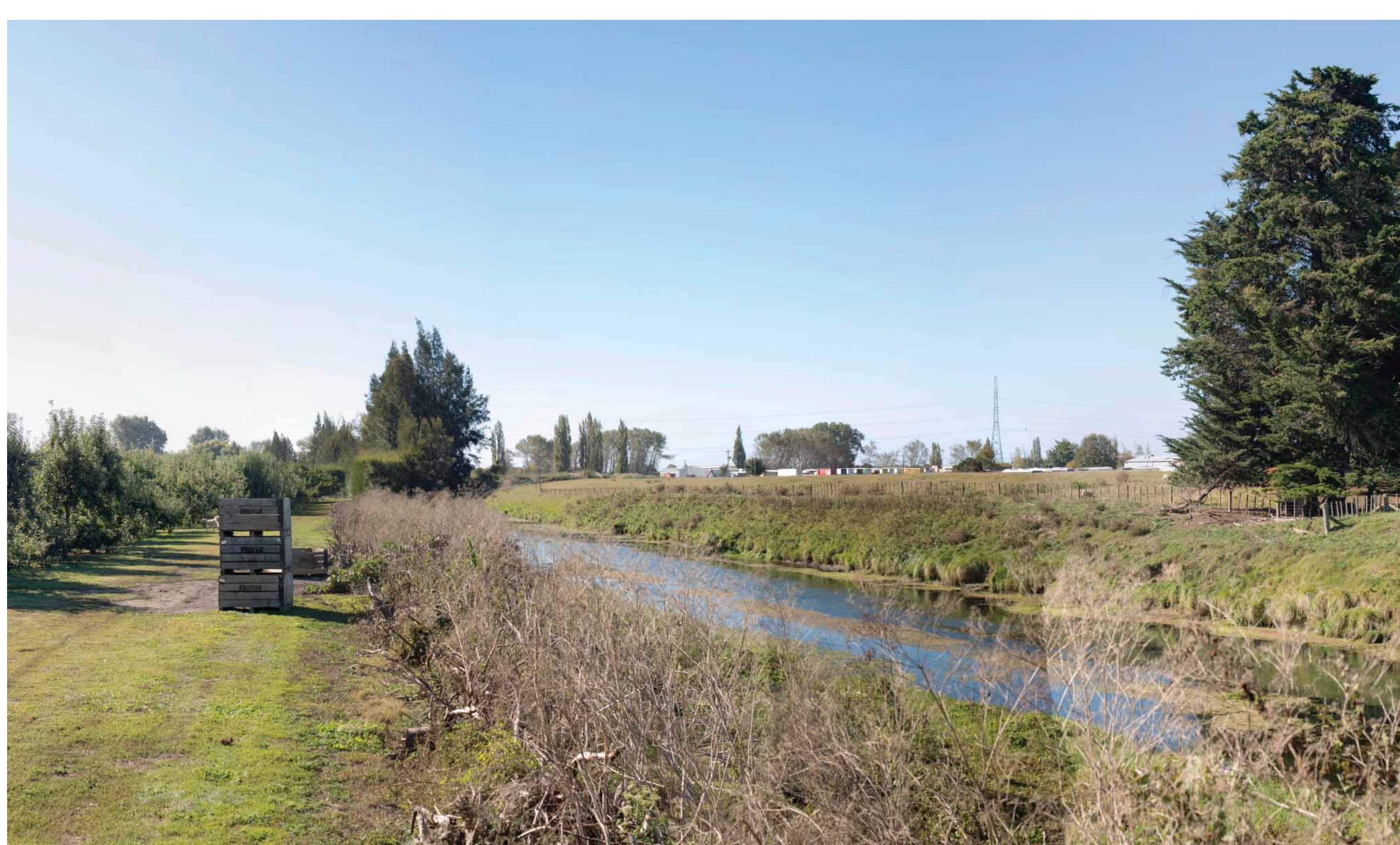
## WHAKATU ARTERIAL LINK, HASTINGS

FIGURE 22 - Viewpoint 14 from the Edwards Property









**WHAKATU ARTERIAL LINK, HASTINGS**

**FIGURE 23** - Viewpoint 15 from the Dillon Property









## WHAKATU ARTERIAL LINK, HASTINGS

FIGURE 24 - Viewpoint 16 from Pakowhai Regional Park



