

Chapter 16

Part G

VOLUME 2

# Landscape and Visual

## Overview

The Project is a large roading infrastructure project with a rail element, and will result in changes to the landscape. Potential effects include the physical effects of the Project on the landscape, including effects on landscape character and landscape values, visual effects, cumulative effects of the Project when considered with other infrastructure elements, and temporary landscape and visual effects during construction.

Landscape and visual experts have provided advice and input throughout the design process on measures to avoid or reduce adverse landscape and visual effects through good design. Numerous mitigation measures have been proposed and included in the design. These measures have been informed by the urban and landscape design principles developed for the Project and documented in the ULDF.

In terms of landscape effects, the overall magnitude of adverse effect is high for two short sections of the Project, being Ōtaki North to Rahui Road (approx. 1km in length) and Ōtaki River to Addington Road (approx. 800m in length). With the landscape mitigation proposed, as shown on the landscape plans in Volume 5 of this AEE report, the degree of actual adverse effect is reduced from high to moderate-high. Effects on the North Ōtaki to Rahui Road section are reduced to moderate with the specific mitigation proposed at Pare-o-Matangi reserve.

For the majority of the landscape 'sections', the overall magnitude of adverse effect is moderate. Landscape mitigation is proposed to ameliorate the generally moderate effects and any localised higher effects. The overall landscape effects for Waerenga Road to Ōtaki River and north of Te Hapua Road to Kowhai Road are ranked as moderate to low and low.

In terms of natural character, there will be a cumulative adverse effect of placing a closely spaced part of parallel bridges (that will appear as one bridge) across the Ōtaki River, parallel to and immediately upstream of the existing NIMT and SH1 bridges. This effect is considered to be low due to the highly modified nature of this section of the river.

There will be moderate to high adverse visual construction effects at the various bridge sites and along the length of the Project as it is built. Progressive mitigation is proposed to reduce the effects of the construction phase.

Overall the adverse landscape and visual effects are considered to be acceptable in light of the extensive mitigation measures proposed. Landscape mitigation will be delivered through the Project being built in general accordance with the Landscape Plans (see Volume 5 of this AEE report), and other measures implemented through conditions.

## 16 Landscape and Visual

### 16.1 Introduction

This chapter summarises the landscape and visual effects of the Project, including temporary effects during construction.

The assessment extends over a range of different landscapes along the approximately 13km route and describes the mitigation measures NZTA is proposing to undertake.

The NZTA requires the urban and landscape design considerations for its RoNS projects to be guided by a ULDF. A ULDF has been prepared for the Project (see Technical Report 23, Volume 3 of this AEE report). It is a technical document rather than an assessment of effects<sup>30</sup>.

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<sup>30</sup> The ULDF describes and sets out urban and landscape design principles, objectives and high level concepts of the Project. The ULDF is a 'live' document and continues to evolve during the scheme

The reports that detail the effects of the Project in terms of landscape and visual effects are:

- Peka Peka to Ōtaki Expressway: Landscape and Visual Assessment (Technical Report 8, Volume 3); and
- Peka Peka to Ōtaki Expressway: Urban and Landscape Design Framework (Technical Report 23, Volume 3).

## 16.2 Existing Landscape

The Expressway passes through two townships, being Ōtaki and Te Horo. The landform of the Project area is defined by a number of strong natural features including the coastal edge, the coastal plain, the western foothills and the local rivers and streams. The Expressway is located between the western foothills of the Tararua Ranges and the coast. The northern two thirds of the Project area is generally flat. To the south of Waitohu Stream there is a localised sand dune formation and further south is the northern terrace of the Ōtaki River floodplain.

The existing SH1 crosses Waitohu Stream, Mangapouri Stream, Ōtaki River and Mangaone Stream. Indigenous vegetation is largely confined to a few small remnants with scattered stands of native vegetation more common and distinctive in the Ōtaki Gorge Road/Old Hautere Road/Te Horo area. The Expressway passes through the edge of several of these stands and through a small number of wetland areas in discrete localities. Two areas of significant swamp forest have been identified and the Project has been designed to avoid these areas.

In terms of land use, the majority of the area is zoned rural. Urban activities are confined to Ōtaki and to a small extent at Te Horo. Within Ōtaki, there are two areas zoned retail/commercial being the Ōtaki Main Street and the Ōtaki Railway Retail area. At Te Horo the community facilities are located on the eastern side of the SH1 while the residential area is to the west.

Pare-o-Matangi reserve does not have legal reserve status but is a green space of importance to iwi and the broader community.

## 16.3 Actual and Potential Visual and Landscape Effects

### 16.3.1 Methodology

The methodology to assess visual and landscape effects is modelled on the draft NZTA Landscape and Visual Assessment (LVA) Guidelines<sup>31</sup> and framed in response to RMA Part 2 matters, being:

- Assessment of the effects on physical landscape, referred to subsequently as 'landscape effects' (s7(c) and s7(f) matters);
- Assessment of effects on landscape amenity, referred to subsequently as 'visual effects' (s7(c) and s7(f) matters), taking into account:
  - 'fit' with existing landscape character and patterns;
  - effects on land use;
  - appearance of structures such as bridges;
  - visual effects from dwellings and private property; and

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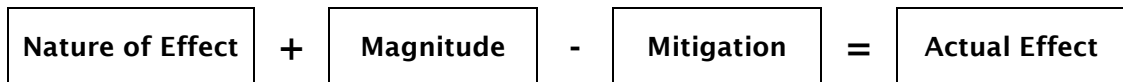
and NOR phases and will also inform the finalisation of the design for the Project through to the Outline Plan process.

<sup>31</sup> NZTA *Landscape and Visual Assessment Guidelines*; prepared for NZTA by Isthmus Group (Gavin Lister), undated (March 2012)

- photo simulations from representative viewpoints;
- Assessment of effects on natural character of rivers, streams and their margins (s6(a) matters); and
- An appraisal of potential Outstanding Natural Features (ONFs)/Outstanding Natural Landscapes (ONLs) in the corridor, and effects on the values of such landscapes (s6(b) matters).

The following section from the draft LVA provides direction on defining the actual landscape and visual effects of the Project:

### Analysing Actual Effects



*Based on the environmental and design information available, the precise nature of the potential effect is described. It is noted that change is not an effect per se. By way of example, it is not the quantity of the earthworks that is relevant, rather the effect of the earthworks on visual amenity values or natural character of a stream.*

*An evaluation of the magnitude of the effect is then provided. Magnitude is influenced by variables, for example, the dimensions of a cut batter, distance from a viewpoint and the extent of screening. A relative scale is used to rank magnitude and reasons provided to justify the ranking. The following 5-point scale suggested in the draft LVA is utilised. The scale is symmetrical around a 'moderate' middle score and uses neutral ('objective') descriptors.*

low	moderate-low	moderate	moderate-high	high
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## 16.3.2 Landscape and Visual Effects

### Landscape Effects

Landscape effects arise from changes to the landform, land cover and land use components of the local landscape. These physical changes to the landscape from the construction and operation of the Project typically occur due to:

- the removal of existing structures and vegetation;
- the excavation of cut batters;
- the placement of fill formations;
- the construction/placement of Project components such as the Expressway surface, bridges, lighting and other structures;
- the realignment of 1.2km of NIMT, in this case;
- implementation of stormwater, noise and visual mitigation measures; and
- traffic on the completed Expressway and realigned NIMT.

These physical changes then equate to varying degrees of change to the landscape character along the route of the Project.

### Visual Effects

The visual effects of the Project will result from changes to the local landscape and their degree of visibility. The extent of these effects and their acceptability (or otherwise) will depend on the degree of change to the local landscape character in relation to the amount of change that is currently happening in the area. For instance, in the North Ōtaki to

Rahui Road section, the context and extent of change is quite contained and is consistent with other changes happening in the local landscape, where there is the commercial and retail development to the south, residential development to the east and west and open space or pastoral land that runs parallel to the NIMT. Elsewhere, the landscape is more open and rural and there are no other large built elements other than the existing SH1 and the NIMT.

The actual change to the landscape due to the construction of the Project results in landscape effects that, in turn, will have effects on the visual amenity and character of the area. There are also broader amenity aspects considered within this part of the assessment such as changes to traffic volumes on SH1 resulting in improved residential amenity.

The following assessment of effects is based upon observation of the existing landscape and existing sections of the four lane expressway (SH1) within the NZTA highway network, and an understanding of the likely visual effects of constructing the Expressway and realigning NIMT.

### 16.3.3 Section-by-Section Analysis

The ULDF provides a broad overview of the urban and rural landscape context of the Project. The landscape character of the Project area can be considered in relation to the three landscape units. These units are:

- Ōtaki (including Taylors Road to Ōtaki South);
- Te Horo (including Ōtaki South to Mary Crest); and
- Mary Crest to Peka Peka.

Representative photographs of various aspects of the landscape units and their sections are contained in Appendix 1 to Technical Report 8 (in Volume 3 of the AEE) along with the 'before' photographs that form part of the visualisations in Appendix 4 to Technical Report 8.

The Ōtaki Landscape Unit consists of six different landscape sub-sections.

Each landscape unit is broken down into sections to aid in describing more detailed landscape character, the potential landscape, visual and amenity effects of the Project, and the mitigation measures proposed. All mitigation proposed is shown in the plan set (Volume 5 of the AEE).

#### **Taylors Road to Waitohu Valley Road Section**

##### *Description*

From Taylors Road at the northern end of the Project through to Waitohu Valley Road, the landscape contains areas of orchard but is predominantly pastoral, with dairy production being the main land use. Views from the existing SH1 open to the west towards the north side of Waitohu Stream and towards the NIMT. Immediately south of the Waitohu Stream and west of the existing SH1 there is rolling farmland that has the appearance of a dunal landscape. These dunes create a rolling platform towards the northern aspect of Ōtaki and form a backdrop to housing on the west as the existing SH1 enters Ōtaki.

##### *Landscape Effects*

There will be a moderate to high degree of change to the landform, a moderate to low change to the land cover and moderate change to the land use through this section of the local landscape. The existing character of the area south of Waitohu Stream as a quiet rural open pastoral landscape will change to one containing a further section of transport corridor. There will also be a distinct effect on the dune ridge south of the stream with the Expressway cutting through and along the half of the ridge closest to the NIMT.

### *Visual Effects*

The Project will result in the roading becoming more visible within this area with the Expressway bridging the Waitohu Stream and entering a large cut through a sand dune ridge. The first section of the Expressway through to the bridge will be at-grade and have a low visual effect. From the bridge to the cutting the visual effect will be very obvious from the Expressway due to the scale and extent of the cutting and its contrast with the surrounding landform.

The Expressway can be accommodated visually within the landscape with moderate adverse effects on adjacent landowners and for road users due to the open nature of the surrounding land. The open nature of the surrounding land prevents the route dominating the local setting and, due to the moderate scale of the setting, is also sufficiently expansive to accommodate the Project without being dominated by it. The sand dune ridge south of the Waitohu Stream provides screening and will only allow a portion of this length of Expressway to be seen from houses adjoining the existing SH1.

### *Mitigation of Effects*

In order to mitigate landscape effects bold formal planting will be used to signal the Project's Northern Gateway Zone, just south of Taylors Road. The cuts through the sand dune ridge south of the Waitohu Stream will be formed to reflect the natural contour, to mitigate the effect on this feature. Cut faces on the western side of the Expressway will be planted and the eastern batters will be grassed.

The visual effect of bridging the Waitohu Stream will be mitigated through the implementation of a clean and simple bridge design, which allows open views of the area of the stream and surrounding land. Rock armouring and riparian planting will be undertaken to protect the bridge abutments and stream banks.

## **Waitohu Valley Road to Ōtaki North Section**

### *Description*

South from Waitohu Valley Road to the existing SH1 railway over-bridge, which currently forms the northern 'entrance' or 'gateway' to the Ōtaki Railway Retail area, is the most intensively developed area of housing along the entire route of the proposed Expressway. There is also a variation in topography, with the housing on the east of the existing SH1 being on the higher flat ground of an old river terrace, locally known as Waitohu Plateau. The land on the west of SH1 undulates and includes the varied landform created by a number of old sand dunes. The NIMT passes through a local valley between the dunes and at a lower level than the flat terrace to the east. The houses to the east provide an urban character, while the open space around the NIMT and the land to the west provides a rural character.

### *Landscape Effects*

Within this section there will be a moderate to high degree of adverse effect on the rural open space character of the northern end of this section with the introduction of the Expressway and associated landform changes. The landform change entails a continuation of a cutting by a further 400m approximately for the Expressway, paralleled in part by approximately 300m of open cut for the realignment of the NIMT, with a combined width of approximately 120m across the two designations between the top of the opposing cut batters. The Project works in this area will affect a sand dune 'ridge' and partially infill a small valley that contains a spring-fed wetland (known as the "Railway Wetland") and the existing section of the NIMT. The land cover change involves replacing pasture, sections of shelterbelt and unkempt, woody weed vegetation with road surface and grassed and planted cut batters and Expressway margins. The land use change involves the conversion of various 'rear sections' of smallholdings, a section of NIMT and a wetland area to Expressway and realigned NIMT. A local road on-ramp will also be created on the dividing 'ridge' between the pair of cuttings.

The change of character will have an adverse effect on the landscape amenity values for houses on the west side of the existing SH1, causing them to be located between roading to the east and west. These effects will be localised due to the enclosing topography and small scale of the area. The houses to the immediate east at the south end of this section will be those most affected due to the close proximity of the Expressway and the significant changes in character that will occur. The character of the localised setting will therefore change markedly through the introduction of the Expressway, northbound on-ramp and realigned NIMT.

#### *Visual Effects*

The change in visual aspect from that of rural open space to that of parallel road and rail will be distinct. The change in visual character will have an adverse effect on the landscape amenity values for houses on the west side of the existing SH1, given that they will be located between roading to both the east and west.

There will also be a high degree of effect on visual amenity values of the immediate area. These will be localised due to the topography and small scale of the area. The houses to the east of the Project will be most affected due to the close proximity of the proposed Expressway and the significant change in character that will occur. The removal of two houses and their mature trees and other planting on the western edge of the designation corridor due to the realigned NIMT will also result in visual changes.

#### *Mitigation of Effects*

Landscape effects of Expressway and NIMT cut batters will be mitigated through planting, as will the northbound feeder road fill batters. Amenity improvements will also occur from landscape and ecological mitigation planting around the Railway Wetland. This wetland will become more visible to southbound vehicles on the Expressway.

Screen planting of native trees and shrubs will also be placed along the top of the eastern Expressway cut batter. This will provide a visual buffer to the adjoining properties facing onto the new arterial road and back onto the Expressway.

### **Ōtaki North to Rahui Road Section**

#### *Description*

The existing 'Ōtaki North' SH1 railway over-bridge – County Road intersection area through to Rahui Road traverses the change in topography between the higher river terrace of the Waitohu Plateau and the lower Ōtaki River flood plain. The terrace edge is highlighted by vegetation growing along the escarpment, which borders the eastern edge of County Road for a short distance.

The NIMT parallels the western edge of County Road as it descends from under the existing SH1 to the at-grade crossing at Rahui Road. Immediately west of this section of the railway are a number of open paddocks and then the local community passive recreational space of the Pare-o-Matangi reserve, which has significance to the tangata whenua as well as the community as a whole.

The Pare-o-Matangi reserve is an open space that covers approximately the northwest third of the triangular shaped area that is bounded by SH1 and the Ōtaki North railway over-bridge to the west and north, the NIMT and County Road to the east and Rahui Road to the south. The north-eastern 'third' of the area is open space that is subdivided into horse paddocks. The southern third to half of the area includes the Ōtaki Motel and associated vacant land, a real estate office and 9-10 residences, associated outbuildings and gardens.

The Mangapouri Stream flows east to west bisecting the triangular area between the highway and railway and is contained within an incised channel. The stream drains from the Ōtaki Racecourse area, which is approximately 1.5km upstream; it runs through a culvert under the railway into the area and out through another culvert under SH1.

### *Landscape Effects*

Within this section there will be fundamental changes to all three of the landscape components – landform, land cover and land use. The overall magnitude of landscape effects is high. There will be three new bridges (an existing bridge will be replaced, giving a net gain of two new bridges) and associated approach embankments created in this localised section of the landscape, although two of the bridges will be incorporated within the one earthworks structure.

The footprint of the Project will also occupy a considerable portion of the triangular area of the Pare-o-Matangi reserve, open space and residential housing, altering approximately half of the total area. In placing the new formations and their associated drainage and stormwater features, almost all of the existing vegetation east of the midpoint of the area and the adjoining vacant motel land will be removed. Creating the Rahui Road underpass approach embankments will require the removal of vegetation on the Rahui Road margins on both sides of the existing railway crossing. Established vegetation on the downstream extent of the stream bank within the area and on the adjacent SH1 embankment will be able to be retained.

A distinct landscape effect will be that of land use change with localised areas of housing, pasture and open space being developed as transportation corridor; that is Expressway, NIMT and local road.

### *Visual Effects*

The visual effects on the Ōtaki North – Rahui Road section have been considered from four public viewpoints. The four viewpoints are:

#### ■ **View South to Rahui Road**

After construction of the Project, all of the central portion of the view from this viewpoint will be altered. This would result from the removal of the entire upper portion of the Pare-o-Matangi reserve and much of its adjoining open paddock, much of the horse paddocks and part of the Pare-o-Matangi reserve below the terrace and all of the houses and their section plantings that front onto Rahui Road. The Expressway, NIMT, and the strip of land between the two will become the foreground of this view. These will be crossed by the Rahui Road underpass and the support spans of this bridge will become the central focus of the view.

#### ■ **View North from County Road**

Much of the existing view from this viewpoint on County Road will be altered with the removal of the existing SH1 railway over-bridge, its southern approach embankment and the associated vegetation on the Pare-o-Matangi reserve and the private property beyond, including the residence on that property. The NIMT will pass through the underpass; there will be an embankment between the NIMT and the Expressway that will have the on-ramp for north-bound local traffic accessing the Expressway on its northern aspect. The two spans of the Expressway section of the underpass will occupy the central part of the view. The existing vegetated, eastern bank above County Road will be untouched.

#### ■ **View East from the Pare-o-Matangi Reserve**

Much of the existing view from within the Pare-o-Matangi reserve will be altered with the removal of all the terrace face and eastern boundary planting. The railway embankment will become the immediate eastern edge of the Pare-o-Matangi reserve. This will have the effect of significantly 'shrinking' the area of usable reserve land and foreshortening the vista that reserve users previously had to the east.

The existing SH1 railway over-bridge will be removed and the part of the upper superstructure and eastern abutment of the Ōtaki North underpass, along with larger vehicles crossing the bridge structure, will be visible, though setback more from the



Pare-o-Matangi reserve than the existing highway rail over-bridge. From this viewpoint, the actual Expressway formation will be obscured by the railway embankment, as will the majority of the traffic on the Expressway.

While not directly visible from this viewpoint, all of the open space land between the Pare-o-Matangi reserve and County Road, along with the upper terrace of the Pare-o-Matangi reserve, will be 'converted' to railway and Expressway formation and their associated margins and stormwater treatment areas. The actual area of the Pare-o-Matangi reserve that will be 'under' the footprint of the two formations and their margins will be in the order of 9,900 m<sup>2</sup>, leaving a residual of 6,300 m<sup>2</sup>; that is approximately 60% of the current area will be built over.

#### ■ **View East to Rahui Road**

Relatively little of the existing view from this viewpoint on the north side of the roundabout will be altered. The main change will be the placement of the western approach embankment for the proposed Rahui Road underpass; being 'slotted' into the existing local road reserve. The western extent of the bridge itself will also be visible. In turn, the bridge will obscure the former Rahui Milk Treatment Station building.

#### *Mitigation of Effects*

There will be a substantial reduction in the usable area of the Pare-o-Matangi reserve, which will have a significant landscape effect.

A 'like-with-like' mitigation for the Pare-o-Matangi reserve land 'lost' to the Project is to incorporate the L-shaped block of unoccupied Ōtaki Motel land into the area. This creates an area of Pare-o-Matangi reserve that is approximately 17,700m<sup>2</sup>. While this will do little to compensate for the loss of the 'horse paddock' open space, or the established house sections that front onto Rahui Road, it will create a connected passive space that focuses on Mangapouri Stream and also 'connects' more directly to Ōtaki Railway Retail area than is the current situation. In turn, it will create a buffer between the Ōtaki Motel and the NIMT, along with the opportunity to improve access to the Pare-o-Matangi reserve direct from Main North Road.

Given the significance of the area to iwi and the local community as a whole, it will be very important for those interests to be brought to bear on the final design of the planting and other landscape mitigation measures carried out in the Pare-o-Matangi reserve.

Adverse visual effects, particularly from the four public viewpoints, will be mitigated through the implementation of extensive planting on the various Expressway and NIMT batters, along with the remnant railway embankment. The species choice will include a mix of trees and shrubs that will grow to completely obscure the Expressway from particular viewpoints. The planting layout will be such that tree species are placed back from County Road so as to not overshadow or excessively shade the road.

### **Rahui Road to Waerenga Road Section**

#### *Description*

This section includes the Ōtaki Railway Station and the Rahui Milk Treatment Station. The width of Rahui Road, which is wider than many urban streets, plus the lack of buildings and the views to the open space, contribute to the character of the street as being a quiet, semi-developed area. The area immediate south of Rahui Road west of the NIMT is vegetated, with an area of orchard and an area of larger trees forming a grove adjacent to the NIMT. An old home is located on the western side of the orchard, in a quiet small-scale setting with rural characteristics which belies its location between the retail area and the NIMT. A cycle/walkway parallels the NIMT and connects through to the Ōtaki Railway Station.

### *Landscape Effects*

The Project creates a moderate change to landform, land cover and land use. The landform change relates to the continuation of the Expressway and the realigned NIMT formations 'descending' down to close to grade from under the Rahui Road Underpass to just before the Ōtaki Railway Station. The land cover change involves replacing an area of mature trees with the NIMT on the west side of the Project to the south of Rahui Road and the replacement of screen and shelter planting and some pasture with road surface on the east side of the Expressway. A structural change will be the shift along its axis of the Ōtaki Railway Station and platform relative to the southern 'tying-in' of the realigned section of the NIMT. Two houses and two outbuildings on the Expressway route at the very south end of this landscape section will be removed.

Construction of the Expressway will require relocation of the NIMT to the west and will also require removal of much of the grove of vegetation in this area. This will change the existing character from one of vegetated and undeveloped urban to one of constructed Expressway. This will have a high adverse effect on the landscape character and amenity values within the immediate area.

The setting for the former Rahui Milk Treatment Station building and the former Rahui Factory Social Hall will be altered with the construction of the Project. This will have an enclosing effect on these two heritage buildings, though access and physical separation from the Expressway will be maintained and provided for.

The character of its setting will change from small-scale quiet rural or undeveloped urban, to a busy and constructed transport corridor. The effects on landscape character and amenity values are considered to be moderate to high.

The effect on the rural land on the eastern side of the existing NIMT, where the current character is market garden and open rural pasture, will change the local area to one dominated by a busy transport corridor. Beyond here the landscape effects of the Project are readily mitigated by the scale and open character of the rural setting. The adverse effect on the underlying rural character of the area is assessed as moderate.

### *Visual Effects*

The northern part of this section will have a moderate to high degree of visual effect where the Expressway and the realigned NIMT are constrained by heritage buildings. Beyond this the visual effects of the Project are mitigated by the scale and open character of the rural setting. The adverse effect on the underlying rural character of the area is assessed as moderate.

### *Mitigation of Effects*

Screen planting and a screen fence will mitigate the visual effect of the Project on the former Rahui Milk Treatment Station building and the adjoining former social hall. Block planting along the eastern Expressway margin will integrate the Project with its surroundings and allow views towards the Ōtaki Racecourse. Dense, mass planting will also provide a buffer between the Expressway and NIMT and screen the Expressway from the Ōtaki Railway Station and Ōtaki Railway Retail area.

Tree planting will enhance the setting and amenity of the reinstated cycle/walkway from Rahui Road to Ōtaki Railway Station.

## **Waerenga Road to Ōtaki River Section**

### *Description*

Open pasture extends from opposite Waerenga Road to the Ōtaki River on the eastern side of the NIMT. The area is low lying and flat, and forms part of the Ōtaki River flood plain. The open views to the east and the Tararua Ranges and the flat topography contribute to the large-scale open rural character of the area. The NIMT embankment forms a barrier

along the western edge of the paddocks and the Winstone Aggregate shingle plant and an associated flooded gravel pit separates the paddocks from the Ōtaki River.

#### *Landscape Effects*

The overall landscape effect for this section is moderate to low for landform, land cover and land use. The landform change relates to the continuation of the Expressway as an elevated four lane formation, rising up to 1.5 m above grade at the existing Chrystall's Stopbank and up to 5 m above grade between the stopbank and the proposed Ōtaki River Bridge (Bridge 5). This elevation also serves a flood management purpose as the formation links into the existing stopbank and then grades into the northern approach to the Expressway bridge. The land cover change involves replacing a strip of pasture and some market gardening with the road surface of the Expressway, which also equates to the land use change. There are no built structures of particular note proposed for this landscape section.

#### *Visual Effects*

The Expressway will fit within the scale of the rural setting, which will remain the dominant character of the area. By placing the Expressway on a raised level, it will have increased prominence and also a long 'wedge' of farmland will become isolated between the Expressway formation and the NIMT embankment. The landscape character of the surrounding area will be adversely affected to a moderate to low degree due to the prominence of the Expressway.

The road user will have a positive visual experience of the landscape when driving along the Expressway as extensive views eastward will be available from the raised embankment, allowing an appreciation of the surrounding farmland and hills beyond.

#### *Mitigation of Effects*

The Expressway is to be elevated through this section to prevent inundation during flooding and will have a clear view to its surroundings. The side batters will be grassed and lower slopes fenced so they can be grazed and reduce maintenance requirements and reducing the visual impact of this elevated structure.

### **Ōtaki River Section**

#### *Description*

The Ōtaki River forms the southern edge to Ōtaki township with the existing SH1 bridge across the river being the current southern 'entrance' or 'gateway' to the Ōtaki Railway Retail area. The NIMT bridge, located approximately 50m away from the SH1 bridge, crosses the river in parallel. Together, they contribute to the modified character of this section of the river and constitute a large-scale built element that dominates the local setting. The modified character is reinforced by the exotic vegetation planted in rows along the banks, and the gabions placed along the edges for river protection work. A haul road that is part of the shingle plant operation runs under the northern abutments of both bridges, along with a riverbank walkway.

#### *Landscape Effects*

The main feature within this section will be the new Ōtaki River Expressway bridges and their embankments<sup>32</sup>. The addition of these bridges approximately 100m upstream from

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<sup>32</sup> Ōtaki River Expressway bridge is proposed to consist of an immediately parallel pair of two lane bridges which will be approximately 320 m long. The bridges will have a common, pier and beam-type built form, there will be 11 spans and 10 sets of piers and end abutments will be vertical mechanically stabilised earth walls.

the existing rail bridge will increase the degree of modification in place for this portion of the river. The Expressway bridges will add to the overall degree of modification, but placing them in proximity to the existing bridges means modifying elements will be concentrated into one area. Although the extent of modification will be confined there will be a cumulative effect in this area. The additional bridges are unlikely to dominate the local landscape. The adverse effect on landform, land cover and land use is likely to be moderate.

### *Visual Effects*

The proposed Ōtaki River Expressway bridges, due to their length of approximately 130m, will be a large combined built feature relative to the Ōtaki River viewpoint and an additional modifying element in the local landscape. There will also be a cumulative effect given that two bridges are being added to a short section of the Ōtaki River where there are two existing bridges. Given the distance across the river and the southern river bank to the Ōtaki South Underpass, the underpass structure will have a minimal effect on Ōtaki River view.

### *Mitigation of Effects*

The proposed Ōtaki River Expressway bridges have an indicative form and design that will act to limit the overall visual effect of both parallel structures; that is, integration of the structure with its surroundings and therefore mitigation of its visual effects is part of the design of the bridges. The use of modern, efficient design means that a greater span length than the two existing bridges can be utilised to limit the physical and visual extent of the bridge. This is coupled with a relatively slim superstructure which has a simple form with few shadow lines and a shallow deck, so the combined structure has a visually 'light' form relative to its long length. This simple form also hides the fact there are two parallel bridges, which is reinforced by having both bridges located as a close, parallel, pair of bridges which means that they 'read' as one bridge.

Both of the proposed Ōtaki South Interchange bridges (Bridge 6 and Bridge 7) have a design that will act to integrate these smaller bridges with the larger Ōtaki River Expressway bridges and make them a unified element within the local landscape. Their slim superstructure also limits their visibility when seen from a distance.

Existing vegetation on the southern river bank will be re-vegetated with native species and integrate the proposed Ōtaki River Expressway Bridge site with its surroundings, which will also assist to mitigate the visual effect.

## **Te Horo Landscape Unit**

The Te Horo landscape unit consists of the following three landscape sub-sections.

### ***Ōtaki River to Addington Road Section***

#### *Description*

The land on the southern side of the Ōtaki River rises sharply from the river bed to become level at Ōtaki Gorge Road, which heads inland to provide access to Ōtaki Gorge. The Ōtaki River forms the northern boundary to the Hautere Plains, which are an extensive flat delta that runs south past Te Horo.

The current landscape in this area is characterised by intensive rural land uses, lifestyle blocks and an accommodation facility. There are limited views due to shelter belts, intensive activities such as orchards and market gardens, and a frequency of houses and buildings associated with a number of the small lots close to Addington Road and Ōtaki Gorge Road.

### *Landscape Effects*

The overall landscape effect for this section is high for changes to landform, land cover and land use. The landform change entails the excavation of a cutting that extends 600m to Addington Road and beyond. The landform change also includes the approximately 400m long pair of elevated, south-facing feeder road embankments for the Expressway underpass that connect to Ōtaki Gorge Road, along with the curving, local road, eastern approach embankment to the underpass. The small scale rural residential character of the surrounding area will be significantly affected with the removal of the entire Bridge Lodge facility and four adjoining lifestyle blocks. The orchards to the south of Ōtaki Gorge Road will also be adversely affected by the new roading which will consist of a combination of Expressway and local access road connecting through to Old Hautere Road.

### *Visual Effects*

The likely visual effects have been considered from the viewpoint looking north from Ōtaki Gorge Road. From this viewpoint the proposed Ōtaki River Expressway bridges, will be a large combined built feature and an additional modifying element in the local landscape. There will also be a cumulative effect with the two existing bridges.

### *Mitigation of Effects*

The proposed Ōtaki River Expressway bridges and their southern approaches 'sit low' in the landscape as the latter emerge from under the Ōtaki South Underpass and the broad cutting that the underpass crosses. The road surface of the pair of Expressway bridges will appear as an extension of the Expressway sweeping across the river and on towards the Ōtaki Railway Retail area. Given that the bridges are large built elements within this local landscape, their indicative form and design will act to limit the overall visual effect of both parallel structures. This, in turn, will act to limit the cumulative effect with the two existing river bridges.

Both of the proposed Ōtaki South Underpass bridges (Bridge 6 and Bridge 7) have a design that will act to integrate these smaller bridges with the larger Ōtaki River Expressway bridges and make them a unified element within the local landscape.

Landscape planting will occur on the approach batters to the Ōtaki South Interchange and the adjoining Expressway feeder road batters, mitigating the visual effect of the interchange. The Southern Gateway zone will be planted with bold formal planting to signal the Southern Gateway between Ōtaki River and the northern end of Hautere Plains.

## ***Addington Road to Te Waka Road Section***

### *Description*

Progressing south from Addington Road to Te Waka Road the Project crosses the Hautere Plains, following a straight path parallel to and immediately east of the NIMT. Along the 'Te Horo straight' the land use is generally pastoral. Stands of second growth native trees are scattered across the plains, with totara appearing to be the dominant species, along with some titoki and matai.

The flat open pastoral land and the scattered stands of native trees are a strong characteristic of this area, and extend well beyond the existing SH1 and across the Hautere Plain. The open land, in places, allows extended views from SH1 but shelterbelts, which line SH1 in places, limit these views and confine the SH1 views to much more of a linear experience. Those open views that are available to the inland ranges and towards the coast, along with the areas of remnant forest, add to the amenity and landscape character of this area, particularly as seen by passing motorists and railway passengers.

### *Landscape Effects*

Within the northern half of the Te Horo Straight section of the Te Horo landscape unit, the Project creates a moderate change to landform, land cover and land use relative to the

2.5km section of the local landscape that is traversed. The landform change relates to the continuation of the Expressway in a cutting that rises to grade, and running south on the eastern margin will be a 2m high and 2km long landscape bund.

The land cover change involves replacing pasture, orchard and market garden crops, lengths of shelterbelt and hedge and parts of two stands and one scattered stand of remnant native vegetation with road surface and landscape bund planting. In the wider context, the landscape effect of removing these areas of trees is assessed as moderate, as the underlying character remains unchanged.

#### *Visual Effects*

The proposed Expressway will pass through the northern section of the Te Horo straight which will be most obvious in the doubling in width of the overall transport corridor. This will have a major visual effect and also a cumulative effect. To a degree this will be moderated by the visual lines of roading being depressed into a flat landscape that currently contains two obvious sets of transport 'lines'.

The removal of shelterbelts along the eastern side of the NIMT will remove the eastern enclosing visual edge to the Te Horo straight. Removing these shelterbelts will cause the land and houses to be more exposed, and may affect productivity and the landscape amenity values for houses.

#### *Mitigation of Effects*

Planting of replacement shelterbelts will provide a degree of mitigation. The 2m high landscape bund will be planted to increase its buffering effect over time and to integrate it with its surroundings. Landscape planting will be undertaken to reinstate the exposed western edges of the various stands of native vegetation.

### ***Te Waka Road to South of Gear Road Section***

#### *Description*

Te Horo Township is located a short distance to the south of Te Waka Road through to Gear Road. The township is divided into two, with part being located east of the NIMT and part west of the existing SH1. The western side has a mix of houses plus facilities including commercial activities. Away from SH1 along Te Horo Beach Road, this dominance decreases and the smaller scale character of the localised retail area becomes apparent and the amenity values increase accordingly.

By contrast, the township on the eastern side of the NIMT is primarily residential. It has a small-scale character, and relative quietness in comparison to the SH1 portion of the township. There is a school and a hall, and features such as the grassed berms along School Road and the low fences on many properties all contribute to the high amenity values of area.

The land surrounding both aspects of the Te Horo Township is generally flat and pastoral and used for grazing or more intensive horticultural purposes. There is, however, more varied topography to the west, which has developed as a result of dune processes over time.

#### *Landscape Effects*

Within the southern half of the Te Horo straight section of the Te Horo landscape unit there will be a moderate to high degree of change to landform and a moderate change to land cover and land use.

The land cover change involves replacing pasture and the gardens and amenity and shelter plantings of 6-7 rural-residential properties and sections of farm shelterbelt with road surface and landscape planting on the west face of the structural bund. In the wider context, the landscape effect of removing these areas of trees is assessed as moderate, as the underlying character remains unchanged.

The land use change involves the further conversion of the west 'ends' of numerous grazed paddocks and also all, or a large portion of up to 7 rural-residential properties, along with a section of local road, to Expressway and its margin. A new structure, the Te Horo underpass (Bridge 8) across the Expressway and the new local arterial road, will also be created.

#### *Visual Effects*

The likely visual effects have been considered from two viewpoints, the view north from the proposed Te Horo underpass and the view north from Te Horo village. From the view north from the proposed Te Horo underpass, the visual extent of the Expressway formation and the underpass structure will be reduced due to a redesign of local flood protection measures that means both the Expressway formation and the Te Horo underpass bridge can be lower. The proposed new local road alignment will have minimal visual effects.

When viewed looking north from the western part of Te Horo village, the proposed Expressway and underpass will be obvious features. The addition of the Expressway will have no more than a moderate effect when seen from the Te Horo straight. The Te Horo underpass, due to its elevated and singular nature will have a moderate to high visual effect, but this will be localised. The degree of setback and/or distance will limit the effect on the viewer.

#### *Mitigation of Effects*

For the view north from the proposed Te Horo underpass, the flood protection bund and the swale at its base will be grassed. Appropriate landscape treatment for the private accessway between extended School Road and Old Hautere Road is proposed.

For the view north from Te Horo village the proposed Expressway formation has a grassed batter slope facing the adjoining NIMT. The use of occasionally mown grass on the Expressway batters will be consistent with the landscape treatment of the margins of the NIMT and the new local arterial road.

The form and design of the proposed Te Horo underpass bridge will limit the overall visual effect of the structure and will integrate the structure with its surroundings. The batters on both sets of the underpass approach embankments will be planted. There will also be planting south of the eastern approach embankment that will form a buffer between School Road and the extended Gear Road south to the 'railway corner' on Gear Road. Riparian planting is also proposed associated with the stream diversion near the 'railway corner'.

### **Mary Crest to Peka Peka Landscape Unit**

The Mary Crest to Peka Peka landscape unit consists of the following two landscape sub-sections.

#### **South of Gear Road to North of Te Hapua Road Section**

##### *Description*

At the south end of the Te Horo straight, the landform becomes more distinctly rolling due to the prevalence of dune formations, limiting extensive views from the inter-dunal areas and giving the area a smaller scale setting and more complex landscape than Hautere Plain to the north. Pasture is the predominant land cover and dairy production is the main land use in the surrounding area.

The buildings of the defunct convent and school at Mary Crest are a distinctive built feature to the immediate west of the existing SH1 at the very southern end of the Te Horo straight. Two stands of native vegetation lie just to the east and south of the buildings and contain a mix of species, with large trees forming the canopy.

### *Landscape Effects*

This section of the Mary Crest to Peka Peka landscape unit contains Project-related changes to landform that are moderate to high and changes to land cover and land use that are moderate to low. From just south of Gear Road, the Expressway formation will start to rise up for a length of approximately 800 m on fill to an over-bridge that crosses the NIMT. It will remain on fill for a further 600 m and then continue at grade (similar level to existing SH1) to Te Hapua Road and beyond. From just north of Mary Crest, a new local arterial road alignment will be created that parallels the western margin of the Expressway. This new section of local road will be placed on alternate sections of cut and fill. On the east to south side of the Expressway approximately 1.5km of the existing SH1 alignment will be retained as local road serving properties to the east and above the NIMT.

The land cover change involves replacing pasture, lengths of shelterbelt and hedge and stands of mature exotic trees with Expressway and local road surface.

The land use change involves the further conversion of parts of numerous farms and smallholdings from grazed paddock to Expressway and Expressway margin. A new structure - Mary Crest Rail Bridge (Bridge 9) - across the NIMT and a section of new local road, will also be created.

### *Visual Effects*

The likely visual effects on the south of Gear Road to north of Te Hapua Road section, has been considered from a viewpoint looking south to Mary Crest. The rail bridge will be a new and obvious built feature in this local landscape, as will the Expressway approach embankments to the north and south.

The Mary Crest rail bridge and the associated elevated sections of the Expressway will have a moderate to high visual effect but this will be localised.

### *Mitigation of Effects*

The open aspect of the Mary Crest rail bridge will be a mitigating factor in limiting the visual bulk of the bridge as seen from the adjoining local roads and to a lesser degree from the Expressway.

The proposed Expressway formation has grassed batter slopes. The use of occasionally mown grass on the Expressway batters will be consistent with the landscape treatment of the margins of the NIMT and the new local arterial road. This will reinforce the clean, simple, linear lines of the Expressway formation, allow for clear outward views from the Expressway and allow for ease of maintenance.

Sections of shelterbelt will be reinstated between the eastern edge of the Expressway formation and adjoining farmland from south of Gear Road through to the Mary Crest rail bridge. Shelterbelts and amenity tree planting will be reinstated along the tops of the new local arterial road cut batters on the west side of the southern Mary Crest curve.

## **North of Te Hapua Road to Te Kowhai Road Section**

### *Description*

South of the Mary Crest curves, the Peka Peka straight is bound by the NIMT and the rising ancient sea cliff escarpment to the east, and the rolling dunes of the undulating pastoral land to the west. The existing SH1 follows the low-lying land between the two, which comprises peat lands that have developed as a result of poor drainage in inter-dunal depressions.

The broader area is now pastoral and farmed, with groups of trees breaking the view along the length of the low lying area on the western margin of the existing SH1. A band of native and exotic trees cover the escarpment, giving a heavily vegetated appearance to the eastern margin of the NIMT. The straight alignment of the underlying escarpment



landform contributes to the simple linear landscape character of the eastern aspect of this section of the Project.

From Te Hapua Road through to Te Kowhai Road, there are a number of houses set back from the existing SH1 on the crest of the various dunes that have westerly outward views and are also sheltered and screened by established tree plantings.

#### *Landscape Effects*

Within the 'Peka Peka Straight' section of the Mary Crest to Peka Peka landscape unit, Project-related changes to landform, land cover and land use are moderate to low. From Te Hapua Road south, the Expressway formation will be at grade with and utilise the existing SH1 formation as the southbound lanes for the Expressway. The new local arterial road alignment created to parallel the western margin of the Expressway will be on fill past and south of Te Hapua Road and then in a shallow, sidling cut as it approaches Te Kowhai Road.

The land cover change involves replacing pasture, lengths of highway edge plantings with Expressway and local road surface. In the wider context, the landscape effect of removing these various trees and plantings is assessed as minor, as the underlying character remains unchanged.

The land use change involves the further conversion of the east 'ends' of numerous grazed paddocks to Expressway and Expressway margin. There are no other built structures of particular note proposed for this landscape section.

#### *Visual Effects*

From Te Hapua Road south, the visual effects of the proposed Expressway formation will be limited as the southbound lanes for the Expressway will utilise the existing SH1 formation. The creation of the northbound lanes and the parallel new local arterial road alignment along the western margin of the Expressway on fill will have a visual effect that results from vegetation removal and earthworks, along with the removal of a farm building.

#### *Mitigation of Effects*

Minimal landscape mitigation is required for this section, given that the few dwellings in the area are enclosed by existing, established plantings. However, native shrub planting will be established on the western fill batters of the new local aerial road realignment. This planting will provide a long term cover to the batters and a degree of screening between the Expressway and the land to the west.

## **16.4 Natural Character**

The nature and degree of effects relative to natural character as a section 6(a) matter has been outlined in respect of vegetation, wetlands and watercourses, and is summarised in this section.

### **16.4.1 Vegetation**

The construction of the Expressway alignment will remove the western edge of a number of stands of native mature trees within the Ōtaki Gorge Road/Old Hautere Road/Te Horo area. In several cases the majority of the remnant stands will remain and the visual aspect of the natural character associated with the trees will remain. Proposed landscape and ecological mitigation will provide edge shelter to those stands of trees directly affected.

There are two stands of swamp forest within the dune hollows on the southern aspect of Mary Crest. These stands will not be affected by the proposed Expressway.

#### 16.4.2 Wetlands

There are several small wet areas in the Ōtaki North/Pare-o-Matangi reserve area that will be directly affected by the Project. These wetlands contain little naturally occurring native vegetation. Stormwater attenuation measures (Railway Wetland, Taylor Basin and Kennedy Wetland) and landscape and ecological mitigation planting will result in a noticeable degree of natural character enhancement. An opportunity also exists for natural character enhancement for stormwater features associated with existing 'grass' wetlands south of Mary Crest, adjacent to the two areas of swamp forest.

#### 16.4.3 Watercourses

The Waitohu Stream has limited natural character within the Project area. Riparian planting associated with the Waitohu Stream Bridge will provide some natural character enhancement to the immediate area of the Waitohu Stream.

The Mangapouri Stream also has minimal natural character within the Project area. Whilst more of the stream will be culverted, the landscape and ecological mitigation planting associated with stormwater attenuation measures will improve the natural character for some short sections of the stream.

The Ōtaki River is the largest waterway in the Project area and contains various flood protection mechanisms. Whilst these measures may have a semi-natural appearance they provide little in the way of natural character. Two long bridges are proposed although they will have the appearance of one. This will result in further decreasing the already reduced natural character of the immediate Ōtaki township section of the river. The new bridges will have little effect on the natural flow of the river.

The Project will not affect the Mangaone Stream's natural character, and landscape mitigation planting is likely to enhance the stream.

### 16.5 Outstanding Natural Features and Landscapes

The Project's Statutory Assessment notes, with respect to KCDP and outstanding landscapes, that:

The Landscape objective is:

*Objective C.10.1 - That the District's outstanding landscapes are identified and protected from adverse environmental effects of subdivision, use and development.*

The four related policies include:

*Policy 1: Ensure new buildings, structures, services and earthworks within outstanding landscapes are located so that they will not be visually dominant (e.g. below the dominant ridgeline where practicable).*

*Policy 2: Encourage landowners to design and clad their buildings to blend in with the rural landscape.*

*Policy 3: Ensure no dune or landform modification takes place within outstanding landscapes of the open space, rural and residential zones, except to the minimum necessary for roading, access, provision of services, building site and farming purposes.*

*Policy 4: Ensure the following outstanding landscapes are protected from inappropriate subdivision, use and development through controls on subdivision and land uses.*

- The foredune and consolidated sand dunes.*
- The foothills of the Tararua Ranges including Pukehou hill.*
- The wavecut escarpments behind Paraparaumu and Paekakariki.*

- *Kāpiti Island and associated Islands.*
- *The river landscapes of the Ōtaki and Waikanae Rivers.*

The one 'outstanding landscape' potentially affected by the Project is the landscape of the Ōtaki River (Policy 4). However, the identification applies to the upper reaches of the river (refer Planning Map 22) and not the section that the Expressway bridge crosses. However, notwithstanding that the section of the Ōtaki River at the point of the bridge crossing is not an outstanding landscape area, the design approach has been to locate and design the structure so that it sits as low as practicable in the landscape thus reducing its visual impact.

No identified 'outstanding natural feature' is affected by the Project.

As part of KCDC's current Plan Review process, the district was recently re-assessed by Isthmus Group<sup>33</sup>, and no ONF/ONLs were identified in the Expressway's designation corridor. The current district-wide landscape study has defined that part of the Ōtaki River within the Project area is a 'significant amenity landscape'<sup>34</sup>. The 'Te Hapua sea cliff' north of Peka Peka Road is a geological feature that has been identified as a 'significant amenity feature', but this feature is to the east of the NIMT at the south end of the Project area and well beyond any landscape influence the Project may have.

As it stands, the operative KCDP remains a relevant reference point. As noted in previous sections there will be effects on the landscape, visual and natural character aspects of the Ōtaki River in the area of the Expressway bridges. It is acknowledged that there will be a cumulative effect of having a further pair of long bridges within the current 'river crossing' section of the river. However, given the degree of modification that is already in place in this section of the river, the magnitude of the effect is expected to be no more than moderate. The expected change through the Plan Review from the status of a poorly defined outstanding landscape area to that of a clearly documented 'significant amenity landscape' is more in keeping with the quality and the use of the landscape at the 'river crossing' section of the Ōtaki River.

## 16.6 Construction Effects

It will take approximately 3.5 – 4 years to construct the Expressway. During this time there will be visual effects associated with vegetation clearance, earthworks and construction activity. There will be moderate to high visual construction effects at the various sites of the Expressway bridge structures and along the length of the Project. Mitigation of exposed cut and fill batters and installation of landscape mitigation plantings (as discussed in this chapter) will reduce the relatively short-term effect of the construction phase.

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<sup>33</sup> *Kāpiti Coast Landscape Assessment*, prepared for KCDC by Isthmus Group, Wellington, October 2012

<sup>34</sup> Significant amenity landscapes are:

(a) important but not clearly exceptional landscape value under one or more of the criteria in an area where natural components dominate; or

(b) important (including exceptional) landscape value under one or more of the criteria in an area where the influence of human activity on landscape character dominates natural components. GWRC RPS definition.