

Chapter 11
Part G
VOLUME 2

Summary of Environmental Effects

Overview

The Project will have a number of positive and adverse effects. These will vary in significance, scale (local, regional and national), intensity and duration. These effects are summarised in this Chapter, and are described in more detail in Chapters 13 to 29. The potential adverse effects of the Project are proposed to be mitigated, as described in Chapter 30.

11 Summary of Environmental Effects

11.1 Introduction

The purpose of this Chapter is to provide a summary of the actual and potential effects of both the construction and the operation of the Project. This is a summary of the effects discussed in the rest of the chapters making up Part G of this AEE report. This chapter does not cover proposed mitigation or offsetting, which are addressed in each of the subsequent chapters for the various assessment topics and in Part H of this AEE report.

Section 3 of the RMA 1991 defines 'effect' as including:

- (a) any positive or adverse effect; and*
- (b) any temporary or permanent effect; and*
- (c) any past, present or future effect; and*
- (d) any cumulative effect which arises over time or in combination with other effects- regardless of the scale, intensity, duration or frequency of the effect and also includes -*
- (e) any potential effect of high probability; and*
- (f) any potential effect of low probability which has a high potential impact.*

11.2 Summary of Potential Effects

The actual and potential effects of the Project, both positive and adverse, are summarised below. Additional detail is provided in the following chapters in Part G and in the associated technical reports contained in Volume 3. Many potential adverse effects have been avoided or reduced through the integrated design process. Table 30-2 (Chapter 30 Part H) sets out the proposed mitigation to address the adverse effects that were not able to be avoided at the preliminary design stage.

11.2.1 Positive Effects of the Project

The Project will have a number of positive effects, especially in relation to traffic and transport benefits, once the Expressway is operational. In summary, the potential positive effects of the Project are:

- The Project will achieve significant safety improvements for users of transport networks, through:
 - the separation of local traffic from State highway traffic travelling through the Kāpiti district;
 - improved road standards, due to the geometric design of the Expressway (including continuous median separation of north- and south-bound traffic);

- an enhanced traffic environment on the local road network (which will include the current SH1), with benefits for motorists, cyclists, and rail users due to:
 - fewer vehicles (including HCVs) using the current SH1; traffic flows on rural sections of the existing SH1 will be reduced by 80%, and through the Ōtaki Railway Retail area will reduce by 50%, which will significantly increase safety at the existing SH1 intersections with local roads and elsewhere on the network;
 - the provision of grade-separated local road connections (i.e. bridges) across the Expressway and NIMT; and
 - the removal of five of the eight level crossings of the NIMT in the Project area.
- The Project will promote economic development, including through:
 - improvements in efficiency for freight movements and reduced travel times;
 - the reduction of traffic through the Ōtaki Railway Retail area, improving the amenity of that area as a social, employment, retail, and transport centre; and
 - increased economic activity and employment opportunities during the Project's four-year construction period.
- The Project will enhance connections between communities in the Kāpiti district, through:
 - the provision of the Expressway as an alternative route; and
 - the continued availability of existing SH1 as part of the local road network, with a safer, improved transport environment.
- The Project will result in reduced and more reliable travel times along key routes, and reduced traffic congestion, especially that associated with travel on weekends or at peak times.
- As part of the Wellington Northern Corridor RoNS, the Project will improve access to Wellington's key facilities such as the port, international airport, hospital, and central business district.
- The Project is "lead infrastructure", in that it will meet the future needs of a growing population, as well as foster economic growth in the ways summarised above.
- The Project will improve route security and resilience of the road network in the event of a significant earthquake, road accidents, or other disruption, by providing a high-quality alternative route between Peka Peka and Ōtaki (including two bridges providing alternative crossings of the Ōtaki River).
- The Project has a high degree of alignment with key strategic planning instruments for the Kāpiti district, including the GOV.
- The provision of swales along the Expressway will provide significantly greater removal of contaminants from stormwater than exists along the present SH1.

11.2.2 Temporary Adverse Effects

Temporary adverse effects will be experienced during construction of the Project. Through careful management and implementation of appropriate controls identified in the conditions and draft management plans, these temporary effects will be minimised or eliminated (see Part H, Chapter 30 of the AEE). Potential temporary adverse effects include:

- Increased construction traffic movements of both light vehicles and HCVs, affecting amenity and safety on local roads.
- Sand dune erosion due to proposed cuttings during construction.

- Ground settlement resulting from preloading at inter-dunal areas (south of Mary Crest and north of Rahui Road) and groundwater drawdown within the Project footprint.
- Reduction in bore water pressure from groundwater drawdown.
- Areas disturbed by construction activities can lead to movement of sediment in waterways adversely affecting downstream receiving environments and fish and invertebrate habitats by reducing water quality in streams.
- Effects on a population of peripatus (velvet worm) at the Steven's property.
- Impeding migratory fish movements during construction.
- Generation of dust nuisance during construction.
- Disturbance of contaminated land during construction.
- Effects of piling works during bridge foundation works, including ground settlement, contaminants entering watercourses and changes to the existing aquifer system.
- Noise and vibration disturbance during construction.
- Visual effects during construction particularly at the various bridges.
- Construction effects on people living or working within close proximity to the route.

11.2.3 Other Adverse Effects

Many potential adverse effects have been avoided or reduced through the integrated design process. However, some adverse effects are not able to be avoided and these have been mitigated as set out in Table 30-2 (Chapter 30, Part H). These potential adverse effects are summarised below:

- Loss of areas of the Ōtaki Railway Wetland (approximately 0.5ha).
- Loss of the edges of several remnants of native bush (approximately 0.5ha) and resulting edge effects due to exposure to wind.
- Loss of a significant part of the existing Pare-o-Matangi reserve.
- Habitat loss and alteration caused by the installation of culverts, concrete aprons and rip-rap and by channel diversion.
- Realignment of the NIMT will require the reorientation of the Ōtaki Railway Station building, which has statutory heritage identification.
- Relocation of the 1870's cottage 'Clifden', at Bridge Lodge.
- The Project will occupy part of the site of the former Mirek Smišek pottery property (two beehive kilns and brick flue, preparation shed and house) requiring the relocation of some buildings (including the kilns), a reduction in the size of the site and changes to the setting of the group of structures associated with the pottery.
- Potential adverse effects on unknown archaeological sites, areas and features of significance to tangata whenua, particularly in the dune area between Taylors Road and Rahui Road and on Māori-owned land at Te Horo.
- Noise and visual effects on the amenity of the former Rahui Milk Treatment Station and the former Rahui Factory social hall.
- Effects on natural character, visual, and other amenity values due to proposed new Ōtaki River bridges.
- Removal of a portion of the northern dunescape in northern Ōtaki resulting in loss of existing landform.
- Negative business redistribution effects for businesses located on or near existing SH1 at Te Horo and between Te Horo and South Ōtaki, and for some businesses in the Ōtaki Railway Retail area.

- Loss of existing rural landform between Waerenga Road to Ōtaki River and north of Te Hapua Road to Kowhai Road.
- As an elevated transport structure, the Project has the potential to interfere with the natural drainage function of waterways and catchments, which has the potential to increase flooding effects. Careful design of the Project has sought to avoid or mitigate potential effects by providing for 'hydraulic neutrality', i.e. no worsening of existing flooding risk. Hydraulic neutrality has not been fully achieved in the following cases:
 - A farm storage building upstream of the Gear Road and Settlement Road culverts, which is already susceptible to flooding in severe flood events, will experience increased flooding effects. There are various possible mitigation options, which will be discussed with the relevant landowner.
 - In the Ōtaki River floodplain, there will be a minor increase in flooding risk for areas of pasture to the east of the Expressway.
 - In relation to the Mangapouri Stream in Ōtaki, the Project will reduce flooding risk associated with relatively common flood events, but will lead to minor increases in flooding in extremely rare events.
- Visual severance effects resulting from the elevation of the Expressway at Te Horo.
- Increased volume of rainwater run-off from new impervious surfaces, increasing stream flow.
- Road traffic noise.
- Rail traffic noise, which is predicted to exceed the nominated criteria at two Protected Premises and Facilities.
- Effects on access to some properties, easements and other property rights.