

## **APPENDIX 4 - BECA – RURAL INTERFACE REVIEW**

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## Memorandum

**To:** Hayley Thomas and Peter Skilton  
**From:** Ben Frost  
**Copy:** :  
**Subject:** PC14 Landscape Interface Review  
**Date:** 14 November 2024  
**Our Ref:** 4671856-563438831-259

### 1 Introduction

Waipā District Council seek landscape advice on the whether the existing and proposed rule set of the Industrial Zone and Plan Change 14 sufficiently address and mitigate adverse effects on nearby residents which may arise from industrial development. The review focuses on the interface treatments as recommended in the Harrison Grierson Urban Design Statement – specifically:

- Section 4.4 Swayne and Zig Zag Road integration
- Section 4.10 Landscape Buffer Interface Treatments
- Section 4.11 Planning Provisions

In addition, a review of lodged submissions as relevant to the interface of the plan change land with rural and rural-residential neighbours including:

- Henmar Trust
- Ken Dredge
- Reon Taylor
- H Wood & O’Sheas Trustees No 8 Ltd

This review is not a full landscape and visual effects assessment, rather it focusses on the issues raised by submitters in relation to the proposed Plan Change 14 Structure Plan and the adequacy of outcomes recommended in the Urban Design Statement. Commentary is provided on whether the proposed Plan Change 14 rule set sufficiently addresses and mitigates adverse effects on affected parties likely to arise from industrial development at the zone interface.

### 2 Plan Change 14

The purpose of the Proposed Plan Change 14 to the Waipā District Plan (“District Plan”) (referred to as “Plan Change 14” or “PC14”) is to rezone approximately 79.2 hectares of land at Hautapu from Rural Zone to Industrial Zone. The Mangaone Precinct is within the C10 Industrial Growth Cell (bounded by Swayne Road and Zig Zag Road) earmarking it for future industrial development as shown in Figure 1 below. Current zoning is shown in Figure 2.

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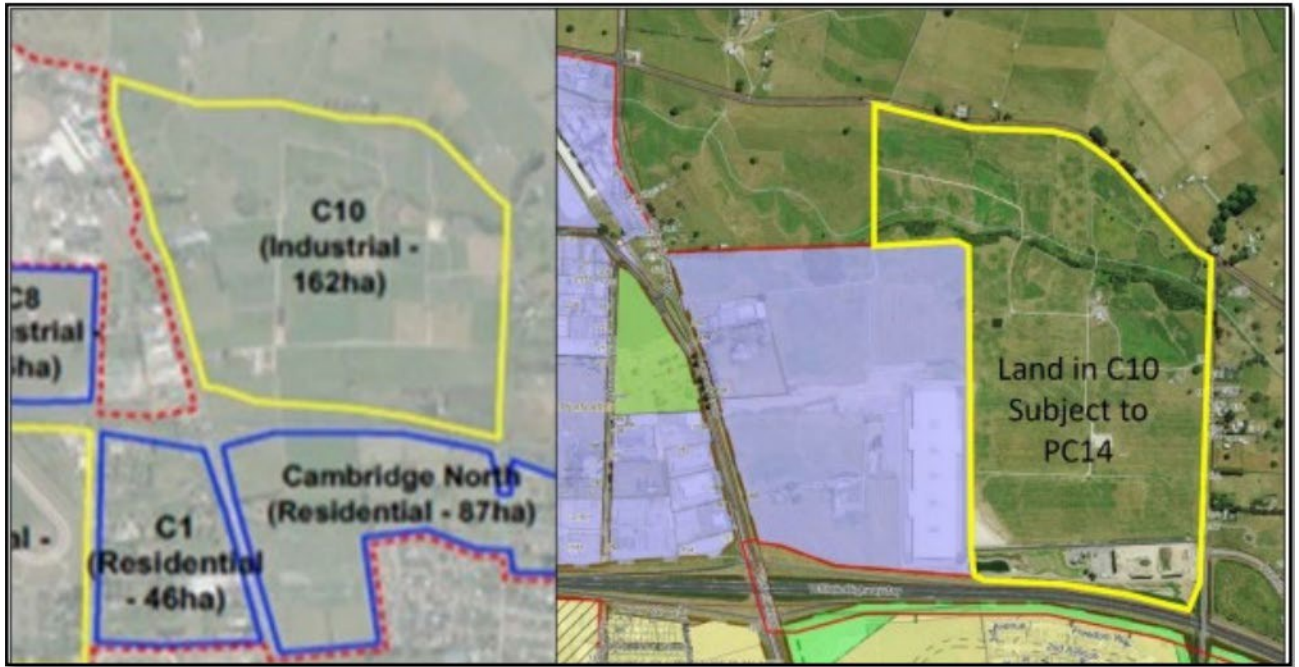


Figure 1: Land Subject to PC14 - Mangaone Precinct (PC14: AEE, 2024)

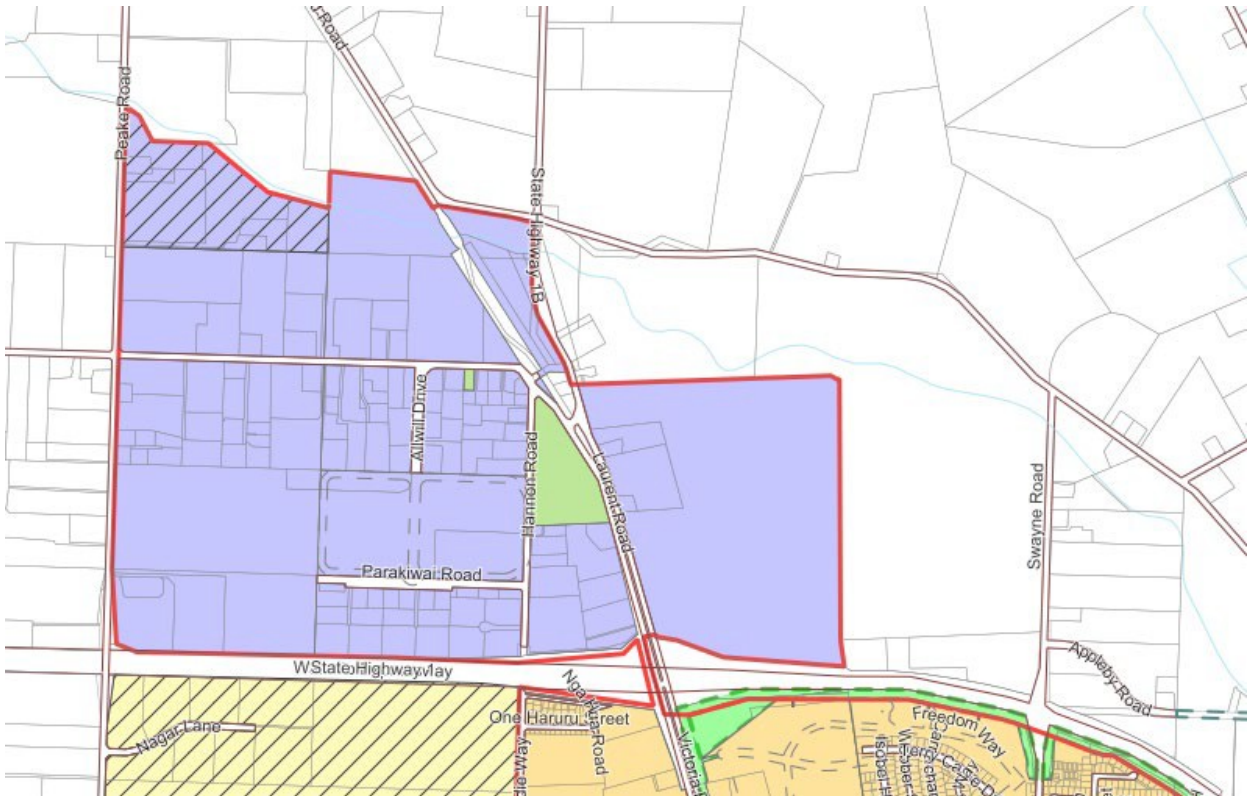


Figure 2: Current zoning of land subject to PC14 (Rural Zone in white, Industrial Zone in purple, Residential Zone in orange).

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In addition to a change in zoning, the proposed plan change seeks to introduce the Mangaone Precinct Structure Plan (the Structure Plan) and Urban Design Guidelines to the District Plan. The proposed Mangaone Precinct Structure Plan is shown in Figure 3.

Of particular relevance to this review is the provision of a 5m landscape buffer and Vehicle Access Restriction (VAR) along the Swayne Road and Zigzag Road frontages. Of note is that the Kiwifruit Block to the south of the Mangaone Precinct is not included in the Structure Plan. The Assessment of Environmental Effects (AEE) describes this area as *“has now been largely developed and/or consented for industrial purposes (i.e. for stormwater management purposes and a maintenance facility) in conjunction with existing and proposed activities within the Bardowie Industrial Precinct”*. Consequently, the proposed landscape and VAR is not shown over this portion of land.

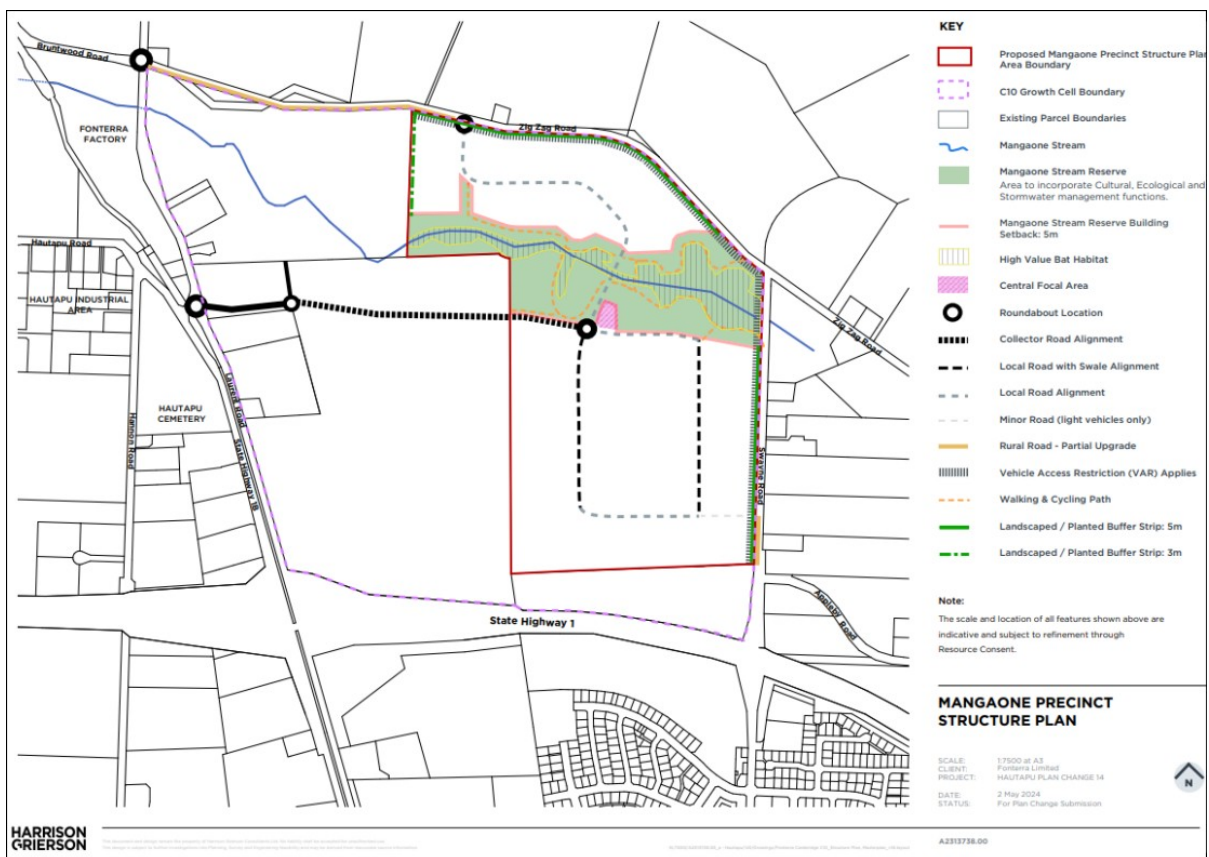


Figure 3: Proposed Mangaone Precinct Structure Plan

The Structure Plan identifies six Design Principles for the structure plan area:

<sup>1</sup> Plan Change 14: AEE Pg 1.

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- 1. To establish an attractive place for industrial activities to thrive with buildings and with landscaping that provides high amenity for those who work in the Precinct.*
- 2. To establish an industrial area that is accessible, visually attractive and complements the established character and landscape qualities of the Cambridge area.*
- 3. To protect and enhance the Mangaone Stream, natural wetlands and their margins.*
- 4. To manage the interface between industrial subdivision and development within the Mangaone Precinct Structure Plan area with the Mangaone Stream Reserve and the Rural zone.*
- 5. To integrate stormwater management and treatment with road design and with the cultural, ecological and amenity values of the Mangaone Stream Reserve.*
- 6. To establish a safe, functional and convenient roading network that integrates with its strategic roading context, and that supports efficient freight vehicle movements as well as active modes of travel.*

The Structure Plan identifies the need for industrial subdivision and development to respond to the rural interface and identifies the need to include rules to achieve appropriate built form and landscaping outcomes, and is directly related to the issues raised in submissions. These include:

- 1. A 5m wide planted landscape buffer strip along Swayne Road and Zig Zag Road;*
- 2. A 3m wide landscaped buffer strip along the boundary of the industrial site bordering Rural Zone land within the C10 Growth Cell.*
- 3. A 10m setback for buildings along Swayne Road and Zig Zag Road;*
- 4. A rule to control the height of buildings in relation to Swayne Road and Zig Zag Road so that any part of a building should not penetrate a recession plane taken at 30-degrees at a point 3m above ground level at the road boundary;*
- 5. A rule requiring that there be no signage on the façade of buildings facing Swayne Road or Zig Zag Road;*
- 6. A rule requiring that, apart from one point of roading access onto each of Swayne Road and Zig Zag Road in accordance with the Mangaone Precinct Structure Plan, there shall be no direct access to industrial lots within the Mangaone Precinct Structure Plan Area directly from Swayne Road or Zig Zag Road; and*
- 7. A limitation on only light vehicles using Swayne Road to access the Mangaone Precinct Structure Plan Area.*

The plan change proposes a number of amendments to relevant objectives, policies and rules in Chapter 7: Industrial Zone.

### 3 Matters Raised in Submissions

Several submitters have raised issues relating to visual amenity and the management of the interface between rural and industrial land use. The relief sought by each submitter is summarised as follows:

#### 3.1 H Wood & O'Sheas Trustees No 8 Ltd (2)

- Increase building setback requirements on Swayne Road to 30m.
- Increase landscape buffer to 10m including a 2m high berm, landscaped with shrubs/hedges at least 2m high.
- Boundary trees planted at 10m intervals with species up to 12m in height.
- Include post and rail and security fencing.

#### 3.2 Henmar Trust (9)

- Increase building setback to 15m where it adjoins a Rural Zone.
- Increase building setback from Swayne Road and Zig Zag Road to 15m.
- Reduce the maximum height of buildings where they adjoin the Rural Zone to 12m.
- Apply the proposed height in relation to boundary requirements on front, side and rear boundary of sites adjoining Swayne Road and Zig Zag Road.
- Increase the landscape buffer depth to 5m
- Require rural zone interface to be landscaped at the time of first subdivision.

#### 3.3 Dredge, Kenneth (11)

- Increase the landscape buffer requirement to 8m.
- Increase minimum building setback from Swayne Road to 15m.
- Require the inclusion of a 2m high planted bund.
- Increase the minimum height of trees at maturity to 15m.

#### 3.4 Taylor, Reon (15)

- Include the provision of landscaping and fencing is provided on perimeter sites adjacent to Swayne Road.
- Increase the minimum building setback from Swayne Road and Zig Zag Road to 15m.
- Include a 2m high planted bund along any boundary with Swayne Road and Zig Zag Road.
- Increase the minimum height of trees at maturity to 15m.

The relief sought in these submissions can generally be broken into the following components relating to the management of the rural / industrial interface:

- Landscape buffer requirements.
- Building setback requirements.
- Building height requirements.

Table 1 below summarises the relief sought by the four submitters in relation to PC14.

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Table 1: Summary of relief sought in relation to landscape and visual components

Landscape Component	PC14: Proposed provisions	Submitter outcomes sought			
		H Wood & O'Sheas Trustees No 8 Ltd (2)	Henmar Trust (9)	Dredge, Kenneth (11)	Taylor, Reon (15)
Landscape buffer requirements adjacent to Swayne Road and Zig Zag Road.	<ul style="list-style-type: none"> <li>- 5m depth</li> <li>- 2m hedging</li> <li>- Post and rail fence</li> <li>- Security fence internal to planting</li> <li>- 10m Tree spacing and 12m high at maturity</li> </ul>	<ul style="list-style-type: none"> <li>- 10m depth</li> <li>- 2m high hedging</li> <li>- 2m high berm</li> <li>- Post and rail fence</li> <li>- Security fence internal to planting.</li> <li>- 10m tree spacing and 12m high at maturity</li> </ul>	-	<ul style="list-style-type: none"> <li>- 8m depth</li> <li>- 2m high planted bund</li> <li>- Post and rail fence</li> <li>- Security fence internal to planting.</li> <li>- 10m tree spacing and 15m high at maturity</li> </ul>	<ul style="list-style-type: none"> <li>- 5m depth</li> <li>- 2m high planted bund</li> <li>- Post and rail fence</li> <li>- Security fence internal to planting.</li> <li>- 10m tree spacing and 15m high at maturity</li> </ul>
Landscape buffer requirements adjacent to Rural Zone section of C10 Growth Cell.	<ul style="list-style-type: none"> <li>- 3m depth</li> <li>- 2m high hedge</li> <li>- Any Security fencing located inside the buffer.</li> </ul>	-	<ul style="list-style-type: none"> <li>- 5m depth</li> <li>- 2m high hedge</li> <li>- Any Security fencing located inside the buffer.</li> <li>- Clarify requirements on timing of rural interface planting</li> </ul>	-	-
Building setback requirements from Swayne and Zig Zag Road.	10m	30m	15m (and adjacent to Rural Zone)	15m	15m
Building height requirements.	Max. 20m	-	12m where they adjoin the rural zone.	-	-
Height in relation to boundary requirements.	3m + 30°	-	Apply to all boundaries adjoining Swayne Road.	-	-

### 4 Review

The following commentary steps through the five key issues associated with the interface between the future industrial zone and the rural residential and rural zoned land it adjoins.

#### 4.1 Landscape Buffer

PC14 proposes to establish the following requirements for landscaping:

- A Landscaped Buffer Strip of 5m (minimum depth) along any boundary with Swayne Road and Zig Zag Road except for points of roading connectivity and associated sight lines and the Mangaone Stream Reserve comprising of:
  - A timber post and rail fence positioned along the road boundary;
  - A hedge with a minimum height of 2m at maturity; and
  - A row of trees, spaced at 10m apart (or less) that will grow to a height of at least 12m at maturity.
- A Landscaped Buffer Strip of 3m (minimum depth) along boundary of the Mangaone Precinct Structure Plan Area with any Rural Zone section of the C10 Growth Cell which must include a hedge with a minimum height of 2m at maturity.

#### Commentary

The **elements proposed** within the PC14 landscape buffer provides an appropriate response to the character of Swayne and Zigzag Road. The reasons for this assessment are:

- The elements proposed are consistent with the existing character of Swayne and Zigzag Road which include lineal hedgerows and shelterbelts, tall mature trees, open grass berms, and a combination of wire and post/rail fencing. In particular the consistent and lineal sequence of proposed hedging and 10m spacing between large trees creates an interface that is typically associated with the local area and is distinctive from residential and industrial land use.
- The proposed elements do not detract from views of users on these corridors – currently views are funnelled by a sequence of hedgerows and other vegetation along property boundaries, although there are breaks in this sequence that open up views across the local landscape. The proposed hedging and regular spacing of large trees will reinforce this patterning once established. It is anticipated that the hedge will form an initial screen from the road within the first 3 – 4 years while the large tree species filter views of large buildings setback from the boundary, albeit, over a longer time period.
- The proposed elements do not detract from views from adjacent properties – the majority of dwellings are hemmed in by existing vegetation along the boundary and within the property themselves. Partial views are gained toward the PC14 boundary through between gaps in this vegetation. Again, the combination of 2m high hedging and 10m spaced trees will provide adequate screening/filtering of views once the planting has matured.
- In relation to the rural interface at the north-west boundary, the 3m landscape buffer with a 2m high hedge will aid in screening industrial activities occurring at ground level from users of Zig



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Zag Road and residents in the cluster of dwellings closer to Victoria Road some 450m from the PC14 boundary.

However, in my opinion the **composition and width** of landscape elements requires further consideration for the following reasons:

- the 5m minimum depth is insufficient to accommodate the 2m high hedge, 12m high tree (at maturity) located between the security fence and post/rail fence along the boundary. The hedging will likely be offset from the security fencing by a minimum of 1m and take up at least 1m of space depending on the species selected and how often it is trimmed. This leaves a relatively narrow strip of space to accommodate a large 12m high tree (at maturity). It is unclear whether the residual space will be planted or maintained as grass. The later will present difficulty for maintenance due to the narrow space between the proposed trees and hedge.
- While the post and rail fence is consistent with the 'aesthetic' of the area it physically narrows the space available within the landscape buffer. Removal of this post/rail fence will enable the larger trees to be planted closer to the boundary which will aid to screening built form over a shorter time frame. This also will create 'breathing' space to establish the large trees and ensure the hedging is not overshadowed in future.

In relation to the **bunding sought by submitters**, it is considered that the proposed planting is adequate to screen and filter views in the mid to long term. Provided the recommendations related to timing and scale of planting can be satisfied, it is not anticipated that a bund will be required to 'prop' up the proposed vegetation. Precluding the use of bunding places significant reliance on the successful integration and maintenance of the proposed hedge.

### 4.2 Landscape Buffer – Timing

PC14 proposes to establish the following requirements for the implementation of landscaping:

- b. *The Landscaped Buffer Strips required by subclauses a. i. and ii. above shall be implemented as follows:*
  - i. *The Zig Zag Road interface and Rural Zone interface within the C10 Industrial Growth Cell are to be landscaped at the time of the first subdivision and/or development of the land within the Mangaone Precinct Structure Plan Area to the north of the Mangaone Stream; and*
  - ii. *The Swayne Road interface is to be landscaped at the time of the first subdivision and/or development of the land within the Mangaone Precinct Structure Plan Area to the south of the Mangaone Stream.*
- c. *Any security fencing up to a maximum of 3m high shall be located behind (i.e. on the internal edge of) any Landscaped Buffer Strip specified in clause (a) above.*

### Commentary

In order to understand the duration of effects as the hedging and trees establish, further clarity is required around when the planting will be established – noting that the planting season can occur sometime following land use/subdivision consent. Establishing the planting as soon as practically

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possible will help to reduce the duration of effects – to provide more clarity on this the alternative wording for the rule could use ‘within three months of subdivision creating developable lots’.

In addition, it is recommended that size of plants, height at time of planting and anticipated growth rates of species is provided to understand the extent and duration of exposure to industrial activities and built form as the planting establishes.

### 4.3 Building Setback and Height requirements

PC14 proposes to establish the following provisions for managing building setbacks and height along the boundary of Swayne Road and Zigzag Road:

*7.4.2.e. Mangaone Precinct Structure Plan Area - The minimum setback from the boundary of Swayne Road and Zig Zag Road or from any segregation strips along those roads shall be 10m.*

*7.4.2.7A “Within the Mangaone Precinct Structure Plan Area, where a site adjoins Swayne Road or Zig Zag Road, no building or stored materials shall penetrate through a recession plane at right angles to the road boundary inclined inwards and upwards at an angle of 30 degrees from 3m above ground level at the road boundary.”*

No changes are proposed to the industrial height requirements of the Industrial Zone, which sets a maximum building height of 20m.

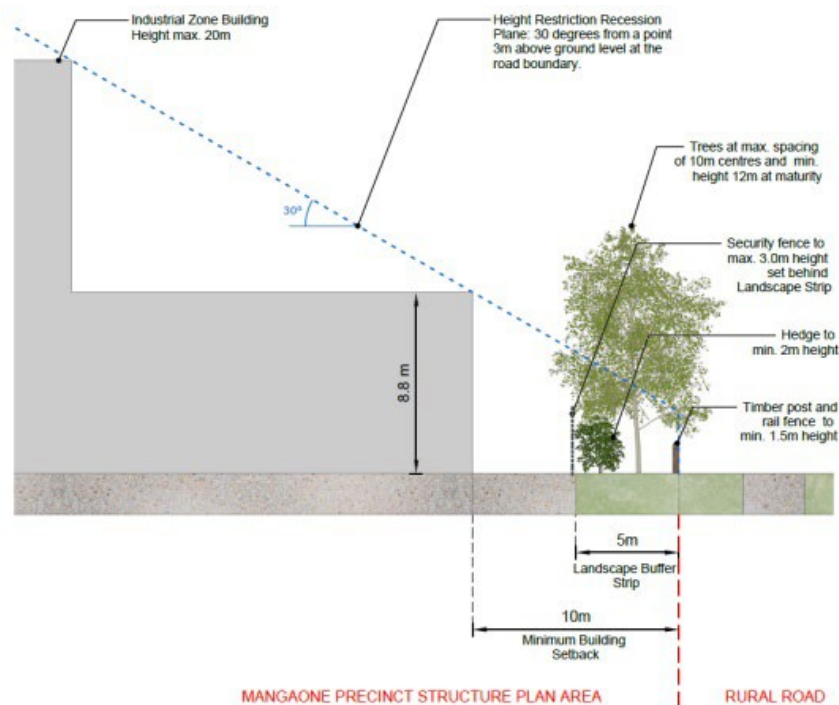


Figure 4: Building setback adjoining Swayne or Zig Zag Road

### **Commentary**

While the rules relating to building height, setback, and recession plane are separate it is helpful to consider them together for the purpose of this review. Using the scenario in Figure 4 above, a 10m

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setback and recession plane of 30 degrees 3m above ground at the boundary yields an 8.8m high building 10m from the boundary. Using the same recession plane the 20m (max) building would be setback by 29.5m.

Provided the landscape buffer recommendations can be satisfied, it is considered a 10m minimum setback for building is a suitable outcome for this context. While a 15m setback appears to be consistent with other industrial / rural residential interfaces in the Waipā District, this often occurs adjacent to State highways or building frontage or where the scale of landscape planting is substantially smaller than that proposed as part of PC14. Ultimately the scale of building at a 10m or 15m setback is proportional to the recession plan rules. A 15m setback or more maybe more appropriate where planting cannot be adequately accommodated to mitigate effects.

## Conclusions and Recommendations

Overall, the Harrison Grierson Urban Design Statement for Mangaone Precinct provides comprehensive analysis and design response to the development of the C10 Growth Cell.

The long term scenario enabled by the proposed rules will help to provide an appropriate transitional interface between the future industrial zone and existing rural and rural residential land. However, there are a number of matters that require further resolution to provide clarity on duration of effects – specifically for Swayne and Zig Zag Road.

This conclusion was determined by the following:

- i. The elements within the landscape buffer are appropriate and reflect the character of the local rural and rural residential environs.
- ii. the composition and width of the landscape buffer is not sufficient to accommodate the proposed elements.
- iii. The timing of planting requires further clarity/detail to address the duration of effects.
- iv. The building setback and height can be adequately mitigated – provided the recommendations for the landscape buffer can be accommodated.

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