



# Wastewater Treatment Facility, Hautapu

Landscape and Visual Assessment Report

This Landscape and Visual Assessment Report has been prepared as part of the application to construct a wastewater treatment facility at Hautapu Road, Hautapu. All work has been undertaken and/or reviewed by a Registered NZILA Landscape Architect.

Report prepared by:

Lisa Burge  
BLA (Hons)

and

Dave Mansergh  
Dip. P&R (Dist), BLA (Hons), MLA  
Registered NZILA Landscape Architect  
Director



Registered Member  
of the  
New Zealand Institute of Landscape Architects.

Report Version: R3

Date: May 2021



## CONTENTS

INTRODUCTION .....	3
METHODOLOGY.....	3
SITE LOCATION & PROJECT DESCRIPTION .....	4
Conceptual Configuration.....	5
3D Model .....	6
EXISTING LANDSCAPE.....	7
The Existing Wider Landscape Context.....	7
Site Context .....	7
EFFECTS ON LANDSCAPE AND RURAL CHARACTER.....	11
ASSESSMENT OF VISUAL EFFECTS .....	13
Visual Catchment.....	13
ZTV Map.....	15
View Locations and Viewing Audience .....	18
Visual Absorption Capability.....	18
Investigated View Locations .....	19
View Locations and Photomontage.....	19
Analysis of Visual Effects from Identified View Locations .....	19
View Location One: Hautapu Road (Factory Entrance).....	19
View Location Two: Hautapu Road (Farmlands).....	20
View Location Three: Hautapu Road (Existing Site Entrance).....	20
View Location Four: Bruntwood Road (North).....	21
View Location Five: Bruntwood Road (Closest to the Site).....	22
View Location Six: Bruntwood Road (Private View Location) .....	23
DESIGN AND MITIGATION MEASURES .....	24
Recommended Mitigation .....	24
Additional Integration (Optional).....	24
RELEVANT STATUTORY AND NON-STATUTORY PROVISIONS.....	25
Resource Management Act 1991 .....	25
Regional Policy Statement .....	25
Operative Waipa District Plan.....	25
FINDINGS .....	28
APPENDIX ONE: METHODOLOGICAL FLOW CHART.....	30
APPENDIX TWO: LANDSCAPE AND VISUAL AMENITY EFFECT - RATING SYSTEM .....	31
APPENDIX THREE: VISUAL ABSORPTION CAPABILITY RATINGS.....	32
APPENDIX FOUR: WWTF CONCEPT AND CROSS SECTIONS .....	33
APPENDIX FIVE: VIEW LOCATION MAP .....	36
APPENDIX SIX: VIEW LOCATIONS AND VISUAL EFFECT RATINGS.....	38
APPENDIX SEVEN: VIEW LOCATION PHOTOGRAPHS AND PHOTOMONTAGES.....	42
APPENDIX EIGHT: MITIGATION LOCATION MAP .....	52

## INTRODUCTION

Fonterra is seeking to construct a new wastewater treatment facility (WWTF) at 82 Hautapu Road, Cambridge. The purpose of the WWTF is to treat processing wastewater and other associated wastewater streams from its adjacent Hautapu dairy manufacturing site.

Mansergh Graham Landscape Architects Ltd (MGLA) has been engaged by Fonterra to assess the landscape and visual effects of the proposed WWTF.

The following assessment examines the potential effects of the plant (using an envelope approach) on the existing landscape and visual amenity values of the surrounding industrial and rural environment, within the context of relevant planning provisions.

Three main aspects are evaluated within this report. They are:

- a. The existing landscape character of the site and its place in the local and regional context.
- b. The potential landscape and visual effects of the proposed expansion from typical viewer locations.
- c. An overview of the effects of the proposed expansion on landscape and natural character values.

## METHODOLOGY

A standard assessment approach has been used to identify the existing landscape character of the site and its surroundings and to assess the potential effect of the proposed development on landscape and visual amenity.

In broad terms, the assessment consists of the:

- a. Identification of the key elements or attributes of the proposed expansion;
- b. Identification of the landscape values, natural character, key attributes, and social preferences within the context of biophysical, associative, and visual landscape interpretation; and
- c. Identification of relevant assessment criteria within the context of the relevant statutory framework.

A combination of mapping analysis and field assessment has been undertaken to identify the potential effect of the proposed WWTF on the existing character and amenity values from surrounding areas. By considering the above, the likely effects of the proposal can be identified and rated.

The approach undertaken is consistent with the NZILA *Best Practice Note: Landscape Assessment and Sustainable Management 10.1* (NZILA BPN 10.1). Definition of the rating systems used, and a methodological flow chart are contained in the appendices.

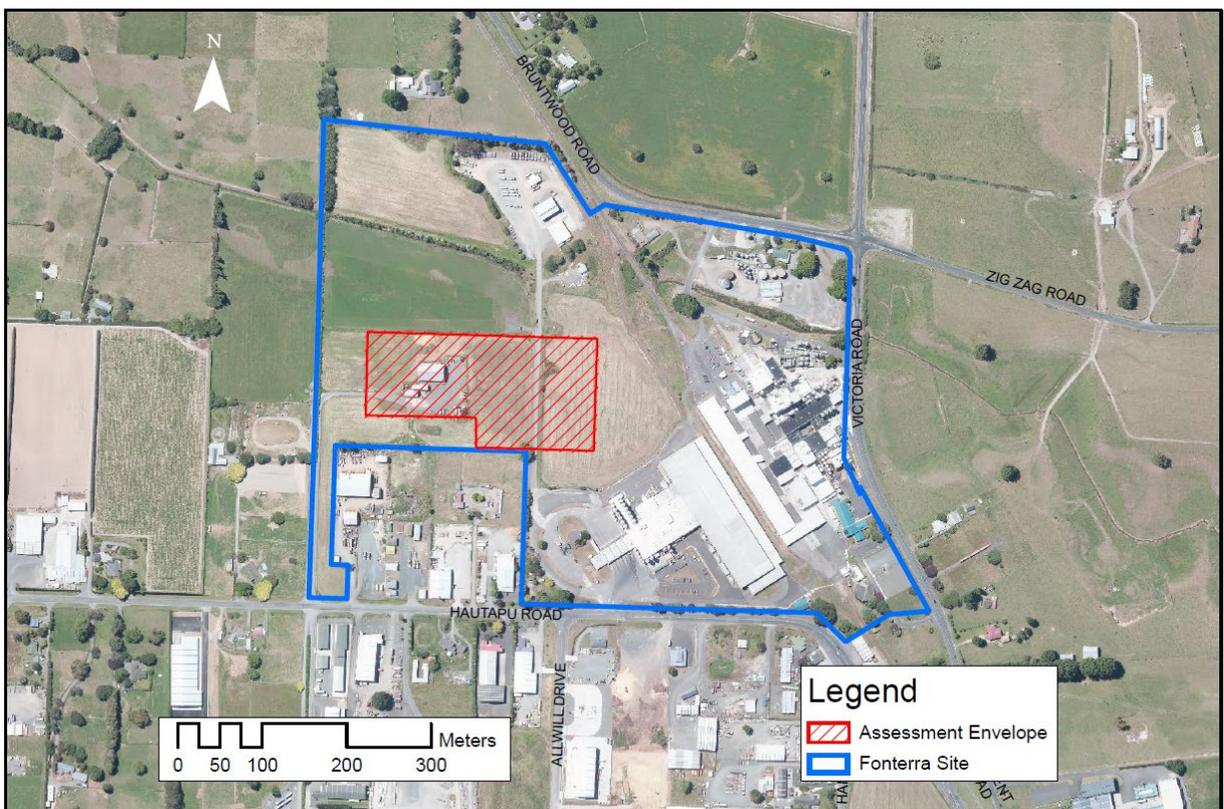
## SITE LOCATION & PROJECT DESCRIPTION

Fonterra is proposing the construction an Enhanced Biological Phosphorus Removal (WWTF) facility at Hautapu Road. The purpose of the WWTF is to treat processing wastewater and other associated wastewater streams from the Hautapu dairy manufacturing site.

The purpose of the plant is to treat the wastewater from the adjacent dairy factory to a standard that meets the wastewater quality objectives for a range of contaminants including nitrogen and phosphorus. This will result in significantly improved wastewater quality necessary to align with the Vision and Strategy for the Waikato River, and tangata whenua and other stakeholder's expectations.

The proposed development site (Site 8) is in the north west corner of the existing dairy manufacturing site, away from adjacent buildings and existing accessways. The site is currently accessed from Hautapu Road and contains three existing storage buildings, located in the middle of a large area of grass. These will be removed prior to the construction of the WWTF.

Fonterra also owns the property immediately to the east of the site (the Hautapu Dairy Manufacturing site) and to the north and northeast (Specialised Dairy zone).



**Figure 1: Site Location Map.**

A preliminary concept plan and cross sections showing the likely configuration of the WWTF is included in appendix four.

The assessment of effects has been based on the preliminary design concepts contained in appendix four and the following design parameters:

## Tank Based WWTF

- a. Excavation and filling of existing ground level within the site down to create a construction platform at 61m RL and 61.8m RL along the edge of the clarifier building;
- b. Construction of a BIOT (bioreactor) building to 67.5m RL (6.5m tall);
- c. Construction of a WAS tank to 69m RL (8m tall);
- d. Construction of two odour treatment buildings;
- e. Construction of a dewatering building to 66m RL (5m tall);
- f. Construction of a calamity tank and two balance tanks to 69m RL (8m tall);
- g. Construction of a clarifier building to 66.4m RL (5.4m tall);
- h. Construction of a UV & filtration area;
- i. Construction of a River tank to 66m RL (5m tall) and Irrigation tank to 69m RL (8m tall);
- j. Construction of a blower building to 64m RL (3m tall); and
- k. Construction of an MCC and Control building to 64m RL (3m tall).

The configuration of these individual components is subject to potential change (rearrangement/relocation) within the development envelope. The heights of the individual components of the proposed design are also subject to potential change. For this reason, the assessment has been undertaken using an envelope approach. While the proposed concept design has been used for illustration purposes in this report, the assessment takes into consideration several different possible configurations within the potential development envelope.

Many of the components of the proposed WWTF are commonly found within the surrounding Hautapu Specialised Dairy Industrial area (SDIA), particularly within the neighbouring Fonterra Dairy Manufacturing site (immediately to the east of the application site).

## Conceptual Configuration

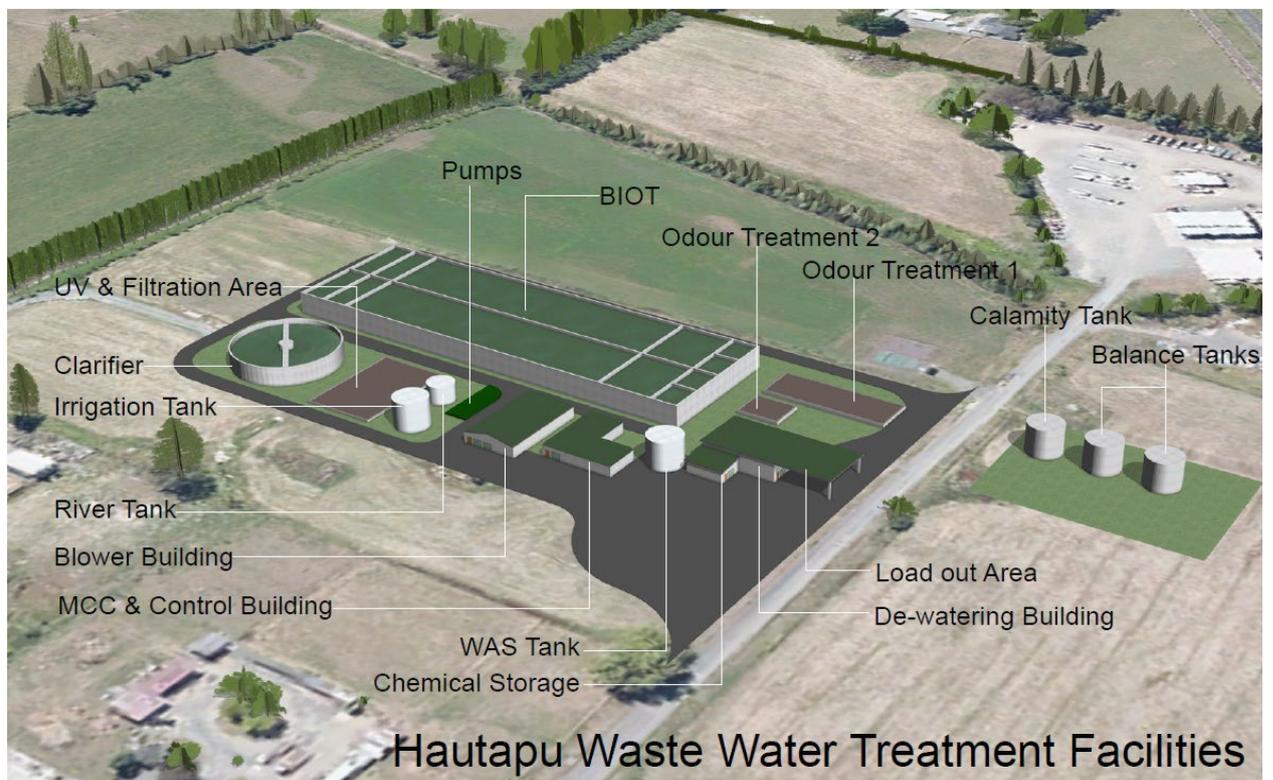


Figure 1: Conceptual Layout for the WWTF.

### 3D Model

A 3D interactive computer model of the WWTF has been developed to illustrate the changes likely to occur at a broad level. The model illustrates the spatial relationship between the application site and the surrounding rural environment.

The 3D model can be found at the following links:

<https://www.mgla.co.nz/webviewer/ceviewer.html?3dWebScene=webscenes/Site8.3ws>

Surrounding buildings have been generated automatically from footprints derived from the aerial photography, meaning that these features may differ from reality. Critical features display a higher degree of accuracy within the context of the model<sup>1</sup>.

---

<sup>1</sup> The web browser compatible model can only be viewed in Google Chrome 20 or higher, Firefox 16 or higher or Safari 5 or higher (with WebGL enabled).

## EXISTING LANDSCAPE

Landscape character is a function of the landscape's physical, associative, and perceptual values. This includes factors and elements that contribute to its appearance and the cultural modifications which have occurred upon it.

The landscape and visual quality of the site is a function of a series of factors including intactness of visual and physical elements such as topography and vegetation cover, the degree of modification that has occurred, surrounding landscape elements and attributes. Further contributing factors include juxtaposition and coherence between landscape elements within the subject site and those of the surrounding area, as well as human attributes or values assigned to an area.

Natural character is the expression of natural elements, patterns, and processes, and how it is experienced, in a landscape.

### The Existing Wider Landscape Context

The key features that influence the wider characteristics of the landscape surrounding the site include:

- a. The Te Miro/Maungakawa hill country to the east, and the Pukekura hills and Maungatautari to the southeast;
- b. The wide-open alluvial plains of the Waikato Basin;
- c. Pastoral land use, including paddocks containing an extensive number of scattered mature trees / shelter belts and hedgerows;
- d. Horticultural blocks;
- e. Horse studs with associated stables and racetracks;
- f. Scattered clusters of rural and rural residential houses;
- g. Bruntwood Village;
- h. Hautapu Township;
- i. Hautapu Industrial area;
- j. Hautapu Dairy manufacturing site; and
- k. Hautapu Road and surrounding local roads.

These features provide the context within which the application site and its immediate surroundings are interpreted and assessed.

### Site Context

The site is located on the flat alluvial deposition plains associated with the Waikato Basin. The rolling slopes associated with the Te Miro/Maungakawa hill country, to the east of the site and the Pukekura hills and Maungatautari to the southeast of the site form the backdrop of views.

The site and its immediate surrounds are heavily influenced by the predominance of industrial activities to the south and east, including dairy manufacturing and other smaller scale industrial operations, and a mixture of different rural and rural fringe development to the north and west, including grazed areas, horticultural development (e.g. Boyds Asparagus Industries), farm buildings, utility sheds, horse studs, stables and arenas, lifestyle blocks and the occasional cropping farm. Rural industrial development consisting of two large manufacturing/warehouse buildings (CAMEX Civil Contractors and Hautapu Welders) is currently being constructed immediately to the west of the site, within the Rural Zone.

The landscape to the west and further north is characterised by open pastoral land, dissected by shelterbelts, post and wire fences and hedge rows, with mature specimen trees scattered across the landscape. Avenue planting is also common along lifestyle property entranceways and along the surrounding roads. The industrial area to the south is characterised by large warehouse buildings, sheds, stock yards, carparking, vehicle depots and signage associated with the underlying specialised industrial zone. The area to the east and northeast of the application site is characterised by the large dairy factory buildings, tanks and tanker depot of the Hautapu Dairy Manufacturing Site.

Existing buildings within the property include a large storage building (approximately 31m long x 20m wide x 10m high) and several smaller storage sheds, located centrally within the application site. A tall lattice telecommunication tower is located along the southern site boundary.

The site is visually contained by an existing 5m high evergreen shelter-row (*Cryptomeria* sp.) which extends along most of the western site boundary (refer to mitigation location map in appendix eight), scattered plantings to the north (including a hedgerow and screen planting around the tanker depot), low density industrial development to the south and the dairy factory to the east. Views into the application site are also restricted by shelter row and specimen tree planting in the surrounding rural properties to the north and west. The existing mix of open pastoral land cover and industrial buildings within the site is consistent with the existing industrial/ industrial dairy land use to the east and south of the site.

The Hautapu Industrial Structure Plan area is located to the south of Hautapu Road. The proposed WWTF site is visible from a short distance along Hautapu Road (adjacent to the SDIA). The next closest roads, from where the subject site can be seen are Peake Road, Bruntwood Road and State Highway 1B. The following photographs depict the general characteristics of the site and its surroundings.



**Figure 2: The Hautapu Dairy Manufacturing site immediately to the east of the proposed application site.**



**Figure 3: Flat pastoral land, with existing vegetation and rural-residential dwellings seen within the rural zone, further to the north of the application site.**



**Figure 4: The existing large warehouse storage building, sheds, tanks and telecommunications tower in the centre of the application site, with the existing shelter-row along the western site boundary seen within the backdrop of the view.**



Figure 5: View from within the application site of the existing storage buildings within the site, industrial land use to the northeast and rural backdrop (Te Miro Hill country).



Figure 6: Specialised Industrial Zone buildings, storage yards, the Hautapu Dairy Factory in the fore – midground and the Te Miro Hill country in the background.

## EFFECTS ON LANDSCAPE AND RURAL CHARACTER

Analysis of the study area has identified the key attributes of the various landscape features, which contribute to the landscape character and amenity of the site and its immediate surroundings.

The effect of the proposed WWTF on the following features has been assessed against the key landscape elements identified during site investigations, analysis of aerial photography, and other relevant background information.

	Feature	Scale	Key Attributes	Potential Effect
1	Surrounding Rural Landscape (to the north and west of the site)	Very Large	<p><u>Biophysical</u></p> <ul style="list-style-type: none"> <li>• Open pastoral grassland</li> <li>• Pockets of remnant indigenous vegetation.</li> <li>• Gullies and drains intersecting paddocks.</li> <li>• The subdivision of the rural pastoral landscape into a mosaic of pastoral and crop lands.</li> <li>• Established hedge rows and specimen trees throughout the landscape.</li> </ul> <p><u>Sensory/Perception</u></p> <ul style="list-style-type: none"> <li>• Rural-residential lifestyle blocks, dry-stock farms, and horticultural land use.</li> <li>• A mix of individual and clustered rural-residential and farm/horticultural utility buildings.</li> <li>• Stud farm facilities including stables and racetracks.</li> <li>• Small settlements of Hautapu and Bruntwood.</li> </ul> <p><u>Associative</u></p> <ul style="list-style-type: none"> <li>• Countryside / urban fringe</li> <li>• Perceived naturalness (cultured).</li> <li>• Recreational values (stud farms/horse arenas).</li> </ul>	<p><b>Very Low - Low</b> effect due to the relative scale of the development within the context of the wider rural landscape. This is aided by the development being located along the central western side of the specialized dairy industrial area (to the north of Hautapu Road), away from public roads and most surrounding dwellings.</p> <p>The proposed WWTF will consolidate the existing characteristics associated with the industrial zone.</p>
2	Industrial Landscape (the application site and to the south, northeast, and east of the site)	Small	<p><u>Biophysical</u></p> <ul style="list-style-type: none"> <li>• Flat to gently undulating topography of the alluvial plains, common to the Waikato Basin.</li> <li>• Minimal vegetation cover. Some remnant mature specimen trees along site boundaries as well as some amenity/screen planting established.</li> </ul> <p><u>Sensory/Perception</u></p> <ul style="list-style-type: none"> <li>• Majority of underlying landform modified to create building platforms, access, carparking and yards associated with industrial activity.</li> </ul>	<p><b>Very Low</b> effect due to compatible development type. The proposed WWTF is an expected development type within the application site and is consistent with the existing industrial development within the surrounding landscape (to the south, northeast, and east of the site). Although modification to the underlying landform will be required across most of the site to create the building platform, this is commonplace within the surrounding industrial zone.</p>

			<ul style="list-style-type: none"> <li>Majority of past vegetation removed for establishment of industrial activity.</li> <li>Hautapu Industrial Areas containing large warehouse buildings, sheds, commercial buildings, industrial yards, industrial fencing, and signage.</li> </ul> <p><u>Associative</u></p> <ul style="list-style-type: none"> <li>Built environment.</li> <li>Perceived as highly modified.</li> <li>Workplace/economic values.</li> </ul>	The proposed WWTF will consolidate the existing characteristics associated with the industrial zone.
--	--	--	---	--

When effects on wider landscape character are considered collectively, the proposal will have a very low - low adverse effect on the key features and the overall characteristics of the landscape immediately surrounding the application site. While effects on the wider landscape have also been considered, these are not included in the above table because the level of effect is *negligible*.

This is primarily because the application site and its surrounds (to the east and south) are zoned specialised industrial and contains existing industrial scale buildings and associated land use activities. Although the proposal will reduce the open spatial characteristics of the site (the introduction of large buildings and a more extensive building coverage within the site), this will not alter the existing rural and lifestyle characteristics of the landscape immediately surrounding the site. In other words, the proposed WWTF will be consistent with the industrial development immediately to the south, northeast, and east of the site and the development type already present within the site. While recontouring of the application site will be required to create a level building platform for the WWTF, modification of the underlying landform within the site has already occurred for the construction of the existing buildings within the site and is typical of the wider surrounding industrial environment.

While the proposed WWTF covers a greater footprint to that of the existing buildings within the site, the proposal does not introduce a new type of development within the site and is not of sufficient scale to affect surrounding rural character (to the west and north) to any great extent.

The overall effect on the existing character of the rural landscape will be very low - low. Because these ratings fall below the minor threshold of the RMA, mitigation (landscape character) is not required.

## ASSESSMENT OF VISUAL EFFECTS

The following factors were evaluated during the visual assessment.

The visual effect of the WWTF has been assessed from view locations surrounding the site and rated using a standardised rating system (appended to this report as appendix two).

For this assessment, a development envelope approach has been adopted. This is because the WWTF design is yet to be confirmed and the location and height of the construction pad, buildings and tanks are indicative only and the configuration of buildings and their heights could change within the development envelope. Consequently, the rearrangement or reconfiguration of the component buildings within the WWTF site envelope has been taken into consideration and is reflected in the visual effect ratings.

While the development envelope will be visible from all identified view locations, the effects vary depending on the context in which they are seen, and the screening that is provided by several factors including, vegetation, topography, and distance.

A detailed analysis and rating table is appended to this report as appendix six. A summary of findings is presented below. The recommended mitigation restoration approach has been taken into consideration when determining effects ratings.

### Visual Catchment

As part of the initial investigation into the potential visibility of the proposed WWTF, a zone of theoretical visibility (ZTV) analysis was carried out to identify areas from where the development envelope would be potentially visible. The ZTV analysis used a digital elevation model (DEM) derived from a combination of available elevation data from the national database and site-specific survey data attained in 2020. The ZTV takes into consideration above ground features such as shelterbelts and large areas of vegetation that will screen the proposed WWTF from view.

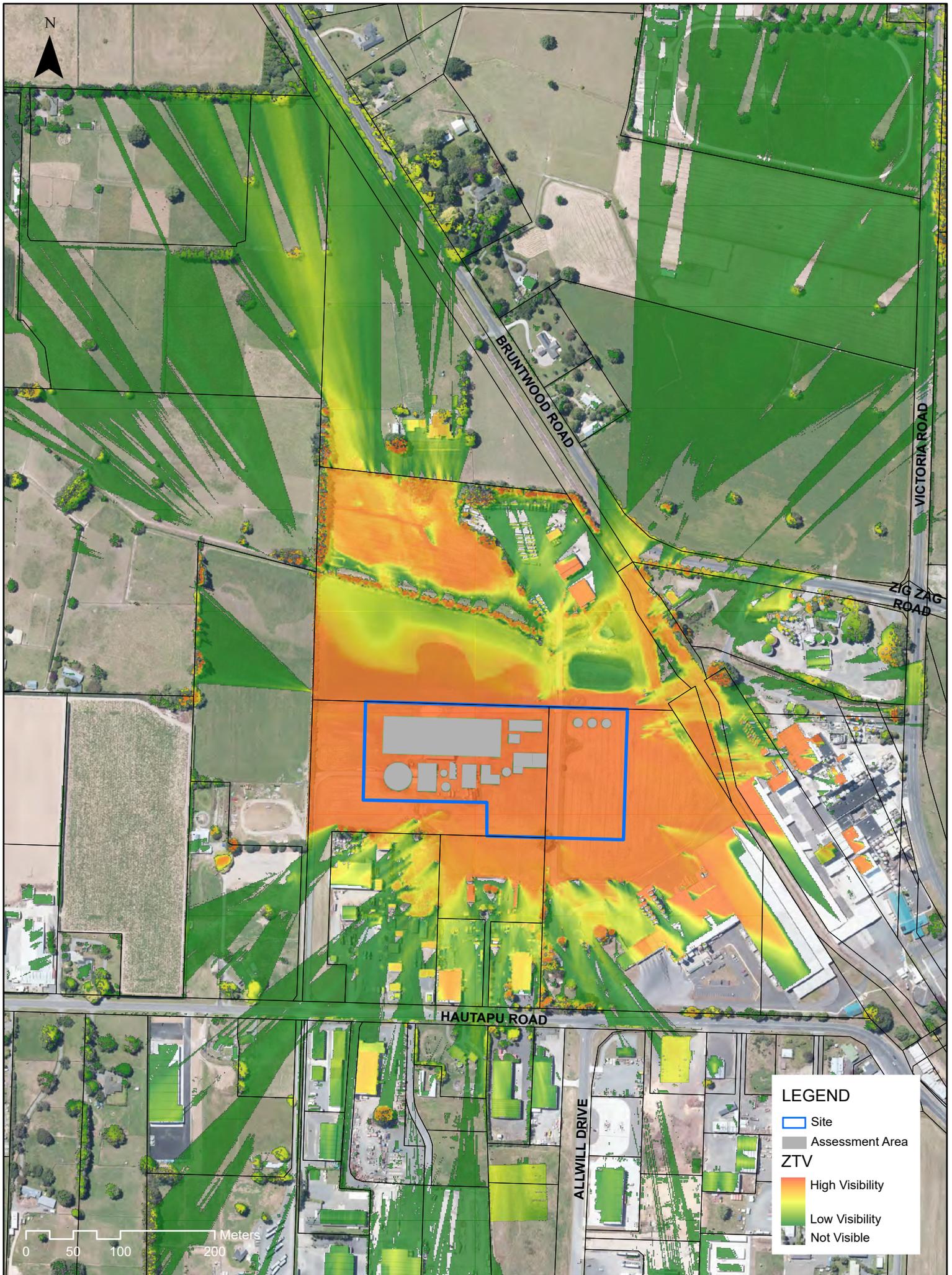
Three ZTV maps have been produced, to identify the visual catchment within which the proposal would be potentially visible. The first map identifies the potential visibility of the proposed development is based on the configuration of buildings shown in the concept plans. The second ZTV map shows the potential visibility of any development to the maximum size and height allowable under the district plan (20m max height within the *Industrial Zone Specialised Dairy Industrial Area* and 55m max height within the *Tall Buildings Area*), within the development envelope shown on the conceptual configuration layout plan. The last map demonstrates the effectiveness of the proposed mitigating planting along the northern zone boundary (refer visual effects and mitigation section of this report).

Key findings from the ZTV analysis and site investigation are:

- a. The proposed site is potentially visible from areas to the north, east and south (with views from the west largely screened from view by the existing shelter-row along the western site boundary and intervening vegetation, farm buildings and dwellings further out).
- b. A change in the configuration of the WWTF (within the development envelope) will not have a notable effect on visibility.
- c. The ZTV analysis shows that the visibility of the proposed WWTF to the maximum permissible heights (20m and 55m) will be much greater than that of the proposed WWTF heights. Any

- increase in the height of the proposed development (up to the allowable height limits under the Waipa District Plan) will increase its potential visibility from within the surrounding landscape.
- d. Field verification found that existing vegetation (shelter belts, hedges, and trees) as well as existing buildings (industrial warehouses, industrial buildings/sheds, the Hautapu Dairy Factory and associated tanks, farm buildings and rural-residential dwellings) significantly restrict views into the subject site from surrounding public (and private) locations.
  - e. The nearest publicly accessible view location (i.e. the closest to the road) located within 160m of the site (Bruntwood Road), where there is a lack of existing vegetation.
  - f. The nearest dwelling is located 275m from the site (located off Bruntwood Road). There is a lack of intervening vegetation between the southern building façade and the site from this location.
  - g. Site inspection identified the clearest views of the site would be from nearby locations along Hautapu Road to the south and Bruntwood Road to the north, at approximately 200m from the site.

The following ZTV analysis maps shows the general visibility of the proposed WWTF.



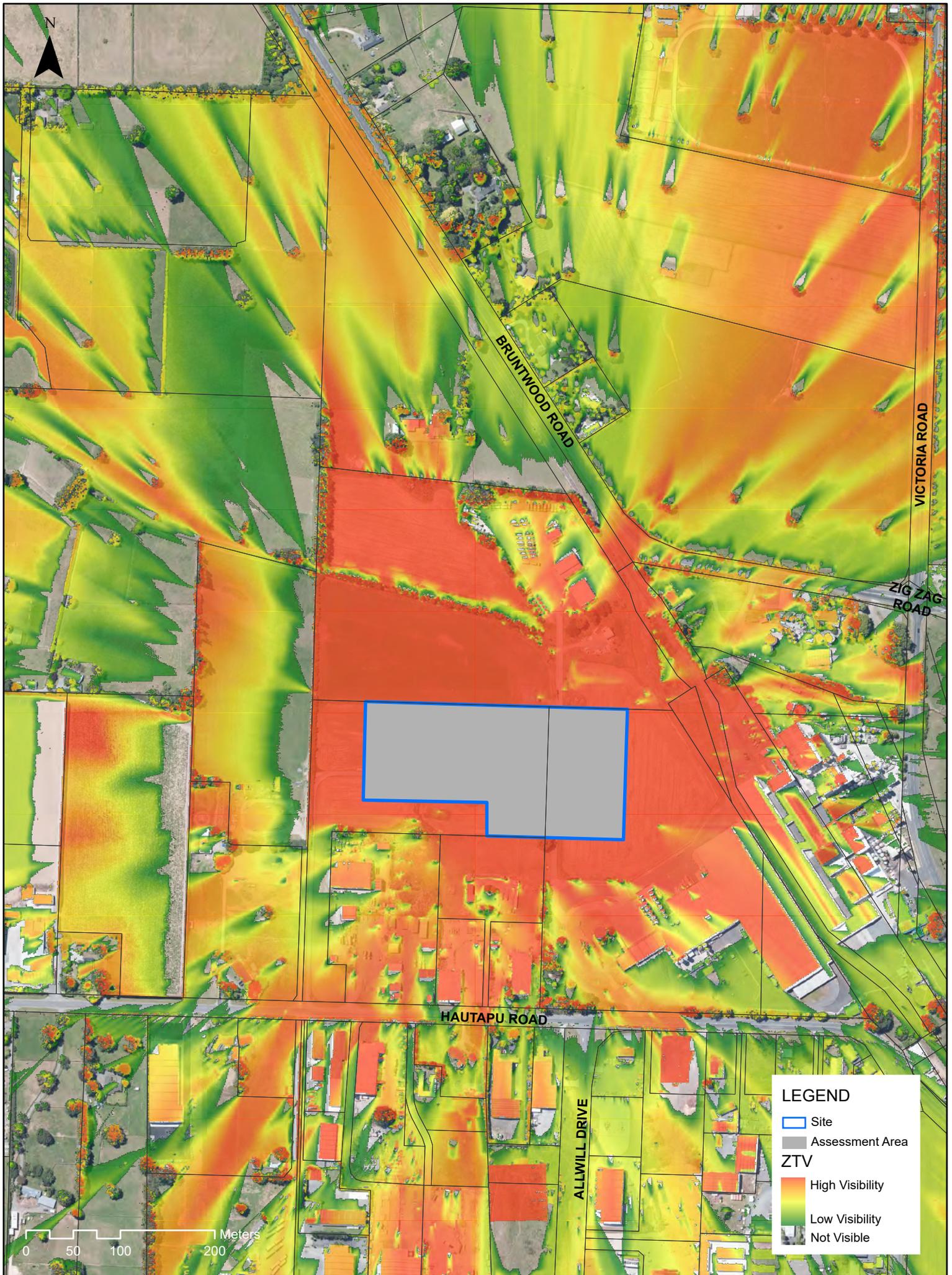
**LEGEND**

- Site
- Assessment Area

**ZTV**

- High Visibility
- Low Visibility
- Not Visible

**ZONE OF THEORETICAL VISIBILITY ANALYSIS (ZTV)**



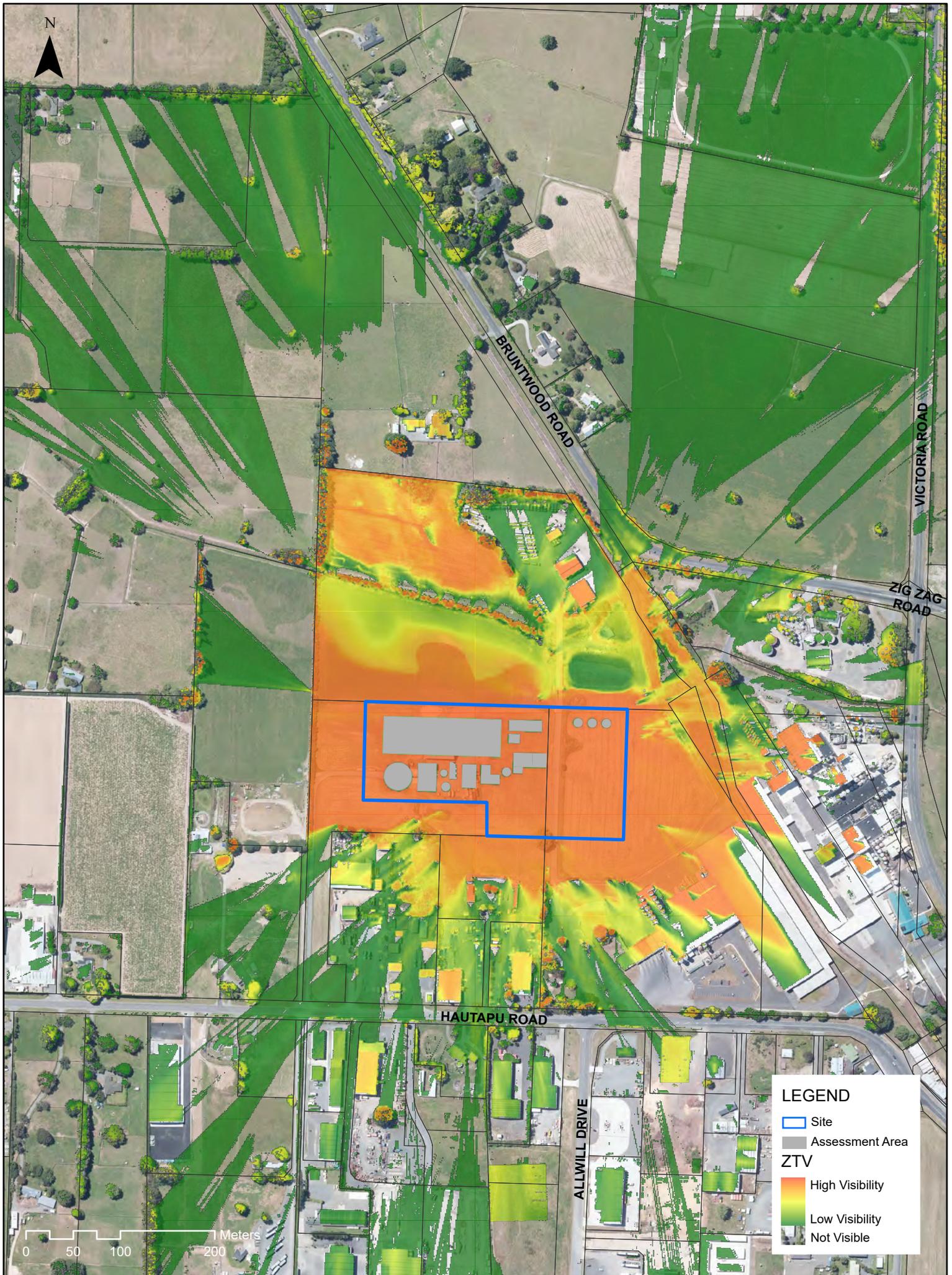
**LEGEND**

- Site
- Assessment Area

**ZTV**

- High Visibility
- Low Visibility
- Not Visible





**LEGEND**

- Site
- Assessment Area

**ZTV**

- High Visibility
- Low Visibility
- Not Visible

**ZONE OF THEORETICAL VISIBILITY ANALYSIS (ZTV) - MITIGATED**

## View Locations and Viewing Audience

Several potential view locations were investigated as part of the assessment, from which six were selected as being representative of the range and types of views available. View locations were selected based on the availability of existing view from public or private property, viewing frequency, viewer types, viewer distance and the viewing time and framework available at the time of study. View locations, where potential existed for higher levels of adverse effect, were also investigated.

The potential viewing audience was identified to likely comprise:

- a. Residents of Bruntwood Road;
- b. Motorists using Bruntwood, Victoria, and Hautapu Roads; and
- c. People working within the adjacent industrial zone (to the south and east) or people working within the adjacent rural environment (to the west and further north of the site).

All selected view locations are identified on the view location map (refer appendix five). Potential visual, landscape and amenity effects, arising from the development, are described in the following sections of this report, as well as in the View Location Table in Appendix six.

## Visual Absorption Capability

One of the main factors that will influence a development's visual effect is the visual absorption capability of the surrounding landscape. This is the ability of the landscape to integrate a development or feature into its existing visual character without significant change.

Each view location has been rated in terms of its visual absorption capability (VAC). Factors considered in determining the sites VAC rating include:

- a. The degree to which the development is visible;
- b. Visual and physical links with other similar elements or activities in the landscape;
- c. The level of modification to the surrounding landscape (short and long term);
- d. Appropriateness of scale;
- e. Distance;
- f. Backdrop; and (in some instances)
- g. Atmospheric conditions.

Notable views of the site are generally restricted to within 700m of the site. Views of the proposed WWTF from locations more than this distance diminish to the point at which they become negligible or are less frequent due to intervening vegetation or buildings. The site's ability to absorb the proposed development ranges from *Neutral - Poor* to *Very Good*. The definitions for the ratings and the visual absorption ratings for all view locations are attached in appendix three of this report.

The *Very Good* ratings occur from locations which are generally some distance from the site, where the development is screened and/or back dropped by tall vegetation or existing buildings and seen within the context of other industrial buildings and tanks of a similar size, type, and configuration.

The *Neutral - Poor* ratings occur from locations, where direct views are available, with very little screening provided by intervening topography, vegetation, or existing buildings.

## Investigated View Locations

Several other potential view locations were investigated but have not been included in this assessment for the following reasons:

- a. The proposed WWTF would not be visible (no effect).
- b. While visible, the effect of the proposed WWTF on landscape character, natural character and/or visual amenity would be *negligible*;
- c. The potential view location was like another view location.

Views from along Peake Road were investigated, however it was found that the distance out and extensive intervening vegetation, as well as some rural residential dwellings and farm buildings will screen the majority of the proposed WWTF from view. Similarly, the proposed WWTF was found to be largely screened from view by the existing Dairy factory and intervening vegetation from along Victoria Road, with only limited, narrow viewshafts available, where the proposal would also be seen within the context of extensive industrial buildings and tanks. Views from along Bruntwood Road alongside the driveway to the nearest dwelling (59 Bruntwood Road) were also investigated. However, from this publicly available viewer location extensive intervening vegetation and the dwelling itself screen views toward the site.

Investigated view locations are identified on the view location map in appendix five.

## View Locations and Photomontage

Photographs from each VL identified and assessed are included in appendix seven. A photomontage has been prepared from VL5 and VL6. The proposed mitigation planting has been shown (VL6).

Potential reconfiguration of the buildings and tanks and height increase (up to 2m) within the assessment envelope has been considered. Such changes within the site would not affect the ratings.

## Analysis of Visual Effects from Identified View Locations

### View Location One: Hautapu Road (Factory Entrance)

VL1 is representative of views from along Hautapu Road, near the entrance to the Dairy factory (VL1) for motorists driving along Hautapu Road and for industrial businesses located along the southern side of Hautapu Road. The existing view is characterised by the Hautapu Dairy manufacturing site carparking and sign in area, goods drop off and pickup area and large dairy manufacturing buildings and tanks. Vegetation between the dairy manufacturing site and adjacent industrial area is seen within the fore-midground of the view and vegetation associated with the rural zone further north of the application site is visible within the backdrop of the view. The telecommunications tower and warehouse storage building within the site are partially visible in amongst this vegetation.

A portion of the proposed WWTF buildings and tanks (refer conceptual configuration diagrams) will be visible in between and above the existing vegetation and buildings/structures located within the dairy factory site. From this location the WWTF will be seen within the context of the existing dairy factory, which has very similar built form (large buildings with several metal tanks) and will be consistent in terms of size, visual massing, and clustering of existing buildings within the site.

The visual complexity of the view, with mesh perimeter fencing, dairy factory carpark, site sign in station, delivery pallets/ delivery related structures and vegetation within the foreground, midground and background of the view will mean that the proposed WWTF will be more readily absorbed into

the existing view and more difficult to discern. Although some elements of the proposal will be seen protruding above the skyline of the view and may attract attention towards the proposed WWTF, the larger and much closer dairy factory will continue to dominate the view from this location. In addition, the proposed WWTF will be located within the industrial zone and is an expected development type and form within this zone.

Overall, adverse effects on landscape character and visual amenity values from this location would be very low.

#### [View Location Two: Hautapu Road \(Farmlands\)](#)

VL2 is representative of views from along Hautapu Road, adjacent to the existing Farmlands warehouse building, for motorists driving along Hautapu Road and for industrial businesses located along Hautapu Road. The existing view is characterised by the large Farmlands industrial warehouse building with supply yard, associated sheds, signs and carparking as well as landscape supply and turf supply yards, within the fore – midground of the view. The large storage warehouse and telecommunications tower within the application site can be seen in the background of the view, along with vegetation associated with the rural zone further north of the site.

The upper portion of the existing large warehouse/shed located within the application site is clearly visible from this view location, which, along with the existing industrial warehouses and associated activities along the northern side of Hautapu Road provide context for the proposed WWTF. The largest building of the proposed WWTF (the BIOT) will be a similar height to the existing warehouse building within the site, however it will be approximately three times its length, making it appear more prominent within the site.

Most of the upper portion of the BIOT building, as well as the upper portions of the proposed tanks and smaller buildings located to the south and east of the large BIOT building (as shown on the proposed WWTF conceptual layout) will be visible from this location, with the bottom portion of these buildings and tanks screened from view by fencing, sheds, buildings signs and products within the Farmlands and Parklands Turf properties. Some of the proposed WWTF will be seen against the skyline, which will draw attention to the site, particularly the tanks, which are of a slightly different form (cylindrical) and potentially different materiality (reflective metal) to the surrounding industrial warehouse buildings, sheds, vehicles, and products. The existing industrial zone buildings and activity along this section of Hautapu Road provide context for the proposal and the visual complexity of the view (carparking, signs, product, pallets, fencing, signs industrial/commercial vehicles will make changes to the backdrop of the view (application site) more difficult to discern from this location.

Adverse effects on landscape character and visual amenity values from this location will be very low.

#### [View Location Three: Hautapu Road \(Existing Site Entrance\)](#)

VL3 is representative of views from along Hautapu Road, adjacent to the existing site entrance, for motorists driving along Hautapu Road and for industrial businesses located along Hautapu Road. The existing view is characterised by industrial warehouse buildings, associated sheds, yards, residential dwellings (for relocation), carparking and industrial vehicles within the fore – midground of the view. Rural industrial activities (Camex Civil Contractors and Hautapu Welders buildings), currently under construction, are located within the rural zone, immediately to the west of the subject site. Vegetation and open pastoral land associated with the rural zone further north of the site and to the

east of the industrial land use, is visible in the fore-midground; and forms the backdrop of the view (including the Te Miro Hill country).

Only the easternmost portion of the proposed WWTF, including a small portion of the BIOT building, odour treatment buildings 1 and 2 and dewatering building, calamity tank and balance tanks will be visible from this location, due to the Cambridge Welding Services Ltd industrial warehouse buildings screening most of the proposal from view.

Only the upper portions of the calamity tank and balance tanks will be visible above the houses within the Andrews House Movers property. Some of the proposal will protrude above the skyline of the Te Miro Hills seen within the backdrop of the view and draw attention to the proposal. However, many of the buildings within the industrial zone already protrude above the skyline from this view, including the Hautapu dairy factory.

The existing industrial zone buildings and activity along this section of Hautapu Road provide context for the proposal and the visual complexity of the view (carparking, signs, product, pallets, fencing, signs industrial/commercial vehicles will make changes to the backdrop of the view (application site) more difficult to discern from this location.

Therefore, adverse effects on landscape character and visual amenity values from this location will be very low.

#### [View Location Four: Bruntwood Road \(North\)](#)

VL4 is representative of views for motorists from along Bruntwood Road, adjacent to a cluster of rural-residential houses. The existing view is characterised by typical rural land use including open pastoral paddocks with post and rail and post and wire fencing, hedgerows, shelterbelts, and mature specimen trees. The industrial zone with large warehouses, sheds and the telecommunications tower within the application site can be seen in the mid to background of the view.

A small portion of the proposed WWTF buildings and tanks (refer conceptual configuration diagrams) will be visible amongst the existing industrial land use structures within the mid to background of the view. In the background of the view between and above the existing vegetation and buildings/structures located within the dairy factory site. The majority of the proposed WWTF will be screened from view by intervening vegetation, fencing, power poles and the residential dwelling and associated ancillary buildings at 59 Bruntwood Road. Due to the visual complexity of the view (across Bruntwood Road and associated power poles, powerlines, and traffic, to pastoral farmland, dissected by rural fencing, with clusters of mature trees, towards warehouses and sheds within the industrial land use in the midground and background of the view), the proposed WWTF will be more readily absorbed into the existing view and more difficult to discern.

Most of the proposal will be backdropped by existing vegetation, buildings, and the hill country/Maungatautari in the backdrop of the view. Views of the distant backdrop of the Pukekura hills/Maungatautari will be obstructed by the proposed WWTF, however views of these features are largely obstructed by existing vegetation and buildings.

The existing industrial development to the south and east of the application site is largely screened from view by vegetation within the rural zone from this location and is more difficult to discern due to distance out. There is therefore reduced existing industrial development context to aid in integrating the proposed WWTF from this location.

Although a large development, in comparison to the rural-residential scale buildings seen within the fore to midground of the view, the proposed WWTF will be viewed within the context of a much larger and visually complex landscape, reducing its visual dominance. In addition, the proposed WWTF will be located within the industrial zone and is an expected development type and form within this zone.

Overall, adverse effects on landscape character and visual amenity values from this location would be very low.

#### View Location Five: Bruntwood Road (Closest to the Site)

VL5 is representative of views from along Bruntwood Road, from the closest public view location of the site. The existing view is characterised by a mix of industrial land use and undeveloped open pastoral land, including post and wire fencing and clusters of shrubs and specimen trees. Train tracks and tanker parking/storage warehouse and associated sheds can be seen within the foreground of the view. Industrial zone structures including large warehouse buildings, sheds and the telecommunications tower within the application site can be seen in the mid to background of the view.

The majority of the proposed WWTF buildings and tanks (refer conceptual configuration diagrams) will be visible from this view location, with minimal screening provided by vegetation or buildings within the fore-midground of the view.

It should be noted that this viewer location is representative of a relatively narrow viewshaft in a gap between existing vegetation along Bruntwood Road. While the proposed WWTF will be most visible and closest from this location, it is only likely to be noticeable to motorists travelling south along Bruntwood Road (due to the viewing angle), for a limited stretch of the road before the existing storage warehouse within the industrial zone (foreground of the view) and existing vegetation along Bruntwood Road screen the proposal from view. In addition, speed while travelling along the road will make it more difficult to clearly discern the proposed WWTF development.

The proposal will require the removal of the existing industrial storage warehouse within the application site and will screen views of the existing industrial buildings and activity located within the industrial zone immediately to the south of the site.

The proposed WWTF will therefore not introduce a new development type within the view, it will essentially be replacing like with like, at a larger size and visual mass, closer to the viewer location than the industrial buildings to the south of the application site. Due to the extensive length and monolithic form of the BIOT building, it will have a large visual mass within the view and be more prominent and will have a small effect on the perception of open space within and beyond the site. The industrial buildings, mature specimen trees and the telecommunications tower seen within the backdrop of the view will help to visually break up the length of the BIOT building.

The proposed WWTF will be located within the industrial zone and is an expected development type and form within this zone.

Overall, adverse effects on landscape character and visual amenity values from VL5 will be low (reducing to negligible – very low if screen planting is implemented adjacent to the railway line next to the tanker depot).

A photomontage from VL5 can be found in appendix seven, along with photographs from each view location.

#### View Location Six: 59 Bruntwood Road (Private View Location)

Analysis of potential adverse effects on visual amenity values associated with the proposed WWTF from the dwelling located at 59 Bruntwood Road (to the north of the proposed WWTF site) was undertaken on the 15<sup>th</sup> of April 2021. This dwelling was identified during the site visit as likely to be affected as it was clearly visible from all locations within the application site.

The likely adverse effects of the proposed WWTF from the southern outlook of the house and property were discussed onsite with the owner of 59 Bruntwood Road, who expressed concern about the potential adverse effects on visual amenity values, as the house and property will be used for weddings/events and the southern paddocks adjacent to the driveway entrance will be utilised for guest parking.

The owner described the southern outlook as the first impression for guests. It is also a frequent outlook for the owners, who park their cars and enter/exit the house at this location. Permanent residents with direct views of the proposed development are expected to be more sensitive to the changes associated with the WWTF because adverse visual effects are stationary (non-transitory) and likely to be experienced daily.

From this viewer location (southern outlook), the proposed WWTF will be highly visible due to the open nature of the existing planting along the common boundary between the site and this view location. While only the BIOT building will be visible from this location (the other components of the WWTF will be screened from view by the BIOT building or existing vegetation), it will be viewed front on from approximately 275m, and, due to its form, will be prominent within the view.

The proposed WWTF will require the removal of the existing industrial storage warehouse building within the application site and it will screen views of the existing industrial buildings and activity located within the industrial zone immediately to the south of the site.

The proposed WWTF will introduce a new type of building within the view, and while it will be seen within the context of other large buildings within the wider site, its monolithic form will differentiate it from other buildings within the site which either have a more conventional appearance or a more irregular appearance. The size and appearance of the BIOT building, and its corresponding visual mass, will affect perceptions of open space as it will prevent views into and beyond the site.

It is noted that a building of up to 20m high could be constructed within the site as a permitted activity, resulting in a greater level of effect (but similar in type).

Overall, adverse effects on landscape character and visual amenity values from VL6 will be low – moderate (above the minor threshold of the RMA) and require evergreen mitigation screen planting to reduce adverse visual effects on the outlook from this private dwelling to an acceptable level.

With the mitigation screen planting in place (established to 3m high) along the southern site boundary (Fonterra land), the proposed WWTF will be screened from view and visual amenity values will be enhanced from this location.

A photomontage from VL6 can be found in appendix seven, along with photographs from each view location.

## DESIGN AND MITIGATION MEASURES

Because the adverse effects of the proposed WWTF on existing visual amenity values were found to be *low-moderate* from VL6 (59 Bruntwood Road) which is above the *minor* threshold of the RMA, mitigation planting is recommended along the northern boundary of the Industrial Zone that directly adjoins this property (refer to the mitigation location plan in appendix eight).

### Recommended Mitigation

The following strategy is recommended to reduce the effects of the proposed development to acceptable levels and to assist it in integrating into the surrounding rural and industrial landscape.

- a. Establishment of screen planting (to be maintained at a minimum height of 3m) along the northern boundary of the site that directly adjoins the property at 59 Bruntwood Road, to screen views of the proposed WWTF development to help maintain existing rural amenity values associated with the adjacent zone.
- b. The existing shelterbelt along the western site boundary should be maintained to ensure the views from the neighbouring rural landscape to the west of the site remain screened from view.

Mitigation will need to be developed in response to the final WWTF design, layout, and position within the site envelope. It is recommended that following final design of the WWTF, a landscape and visual mitigation plan is prepared based on the above mitigation recommendations.

### Additional Integration (Optional)

The following (optional) strategy would further reduce the effects of the proposed development on visual amenity by assisting the WWTF to better integrate into the surrounding rural and industrial landscape.

- c. Use of dark toned, non-reflective roofing materials with a Total Solar Reflectance (TSR) less than 45% and a Light Reflectance Value (LRV) less than 30% shall be used for all building roofs. Building walls shall be either natural concrete, concrete block or painted a complementary colour (to the roof) from the Resene BS 5252 range, groups A and B (or similar).
- d. Minimise extent to which unscreened stainless-steel tanks are used. Where possible tanks should be painted a dark toned, non-reflective colour, to match building colours (Refer above).

## RELEVANT STATUTORY AND NON-STATUTORY PROVISIONS

Planning documents that have been taken into consideration include the Resource Management Act and subsequent amendments (RMA), and the Operative Waipa District Plan (WDP).

Only the key issues contained within the relevant planning framework, relating to landscape, visual and amenity matters have been considered.

### Resource Management Act 1991

The subdivision must meet the requirements of the Resource Management Act (RMA), and it is therefore important that the assessment of visual, landscape and amenity effects address the requirements of Part 2, of the Act. The key section relevant to this application is S7(c).

Regarding Section 7(c), the adverse effects of the proposed WWTF development on the existing visual amenity values will range from *very low* to *low-moderate* (as detailed in this report).

The implementation of the recommended mitigation strategy is required to achieve these ratings.

### Regional Policy Statement

The Regional Policy Statement does not identify any relevant landscape, visual or amenity issues relevant to the application site or its surroundings that would be affected by the proposal.

### Operative Waipa District Plan

Under the Waipa District Plan (WDP), the entire application site is located within a Specialised Dairy Industrial Area overlay covering the underlying Industrial Zone, with a small portion (the three eastern tanks) within a 55m “Tall Building Area” overlay and the Hautapu Dairy Manufacturing Site.

The Waipa District Plan has a suite of objectives and policies pertaining to landscape amenity (both directly and indirectly). These are included in the zone provision (Part D) of Section 7 (Industrial). Section 21 lists the criteria that are to be used to assess against controlled and discretionary activities.

Relevant provisions and assessment criteria relating the landscape and visual amenity effects include:

- 21.1.1.3 – Visual
- 21.1.1.4 – Amenity values

Relevant objectives, policies and rules under Section 7 (Industrial Zone) relate to reverse sensitivity issues around incompatible land use, the protection of amenity values in surrounding areas and the maintenance and provision of amenity for the zone.

Objective 7.3.1 (b) and (c) require that industrial activities be protected from incompatible land uses that could result in reverse sensitivity effects and protect the ability for the Hautapu Dairy Manufacturing Site to continue to operate and expand within its site. The proposed WWTF is permitted within the Specialised Dairy Industrial Zone (7.4.1.1 (t)) and is therefore compatible with the Hautapu Dairy Manufacturing site and will not result in reverse sensitivity effects within this zone.

Objective 7.3.3 aims to manage adverse effects beyond the industrial zone by protecting the amenity of surrounding areas (Policy 7.3.3.2), ensuring that sites are sufficiently landscaped and screened so that an appropriate buffer is provided between zones. The proposed mitigation strategy (see mitigation strategy section of this report and mitigation location plan in appendix eight) meets these

objectives and policies by ensuring adequate screen planting between the industrial and rural zone boundaries.

Rule 7.4.2.2 requires that the minimum building setback from internal site boundaries that adjoin any other zone other than the industrial zone shall be 5m. The proposed WWTF meets this requirement and therefore reduces adverse effects associated with visual amenity values.

Rule 7.4.2.6 allows buildings within the site to be a maximum of 20m high. The tallest structures within the proposed WWTF are the tanks at 8m (see conceptual design drawings in appendix four). The ZTV analysis of the maximum permissible height (20m) shows that the visibility of the proposed WWTF will be similar. The key difference being that lower building heights can be screened from view from surrounding public roads and private property (within the adjacent rural zone) more effectively and more quickly.

Rule 7.4.2.7 – Daylight Control requires that where a site adjoins any other zone other than the Industrial Zone that no building or stored material shall penetrate through a specified recession plane, to avoid adverse effects of shading on adjacent sites. The proposed WWTF will not protrude through the recession plane (this will be the case given small adjustments to the building heights and with any configuration of the proposed buildings within the site envelope). The site envelope is far enough away from the adjacent rural zone (immediately to the west of the site) to avoid effects associated with daylight and shading.

The WWTF site envelope is located along the western boundary of the Specialised Dairy Industrial Area. While the zone immediately to the west of the application site is Rural, consent has been given by Council for the establishment of a number of light industrial and commercial activities to occur within the rural zone, immediately adjacent to the zone boundary. These activities now form part of the existing environment, against which the effects of the proposal are assessed. The zone immediately to the north, east and south is Industrial, with a Specialised Dairy Industrial Area overlay. Although the proposed BIOT building is relatively large in terms of length (when compared to other similar existing industrial buildings within the adjacent Industrial Zone sites to the south), a combination of the existing Industrial Zone development providing context for the proposed WWTF and the existing vegetation that partially screens the site and breaks up the bulk of the development, will allow the proposal to integrate with the surrounding rural and industrial landscapes.

With the retention of the existing vegetation along the Bruntwood Road frontage, the proposed WWTF will be able to visually integrate into the surrounding rural and industrial environment in an appropriate manner. This is consistent with the discretionary activity assessment criteria set out by 21.1.1.3(e), (f) and 21.1.1.4(i) around retaining existing vegetation to screen/soften views and landscape planting proposed to mitigate the effects of the activity.

The extent to which the proposal visually effects the surrounding environment forms part of the assessment criteria for discretionary activities (21.1.1.13 Visual and 21.1.1.14 Amenity). While the prominence, scale, visual bulk, massing, and cross-sectional area of the proposal (particularly the BIOT building) will be smaller than some of the buildings associated with the Hautapu Dairy factory, but larger than existing industrial buildings to the south. As previously identified, the proposed WWTF will be lower than the allowable 20m height limit.

With the proposed mitigation in place (including the retention of the shelter-row along the western site boundary), the proposed WWTF development will be sufficiently screened, backdropped, from the surrounding zones and viewer locations; and adverse effects on amenity values will be mitigated.

The application site is not located within a protected site or Outstanding Natural Feature or Landscape (ONFL) under Section 25 of the WDP. The site is located within 7km of the Te Miro Hill country (visually sensitive hill country under section 25.2.5 of the WDP) and 13km from Pukekura Hill country (visually sensitive hill country under section 25.2.5 the WDP) and 20km from Maungatautari (ONL). This ONL will not be affected by the proposed expansion. While the proposed WWTF will partially obstruct views of this visually sensitive hill country/ONL from some surrounding viewer locations (as discussed in the visual effects section of this report), the industrial buildings within the industrial zone to the south and east of the site already partially obstruct views towards this hill country/ONL. The existing industrial development obstruction and context, in combination with the distance out from these hills/landscape will reduce adverse effects of the proposed WWTF on these surrounding landscapes.

## FINDINGS

The existing land use in and around the site influences the extent to which the proposed WWTF will affect existing landscape character and visual amenity.

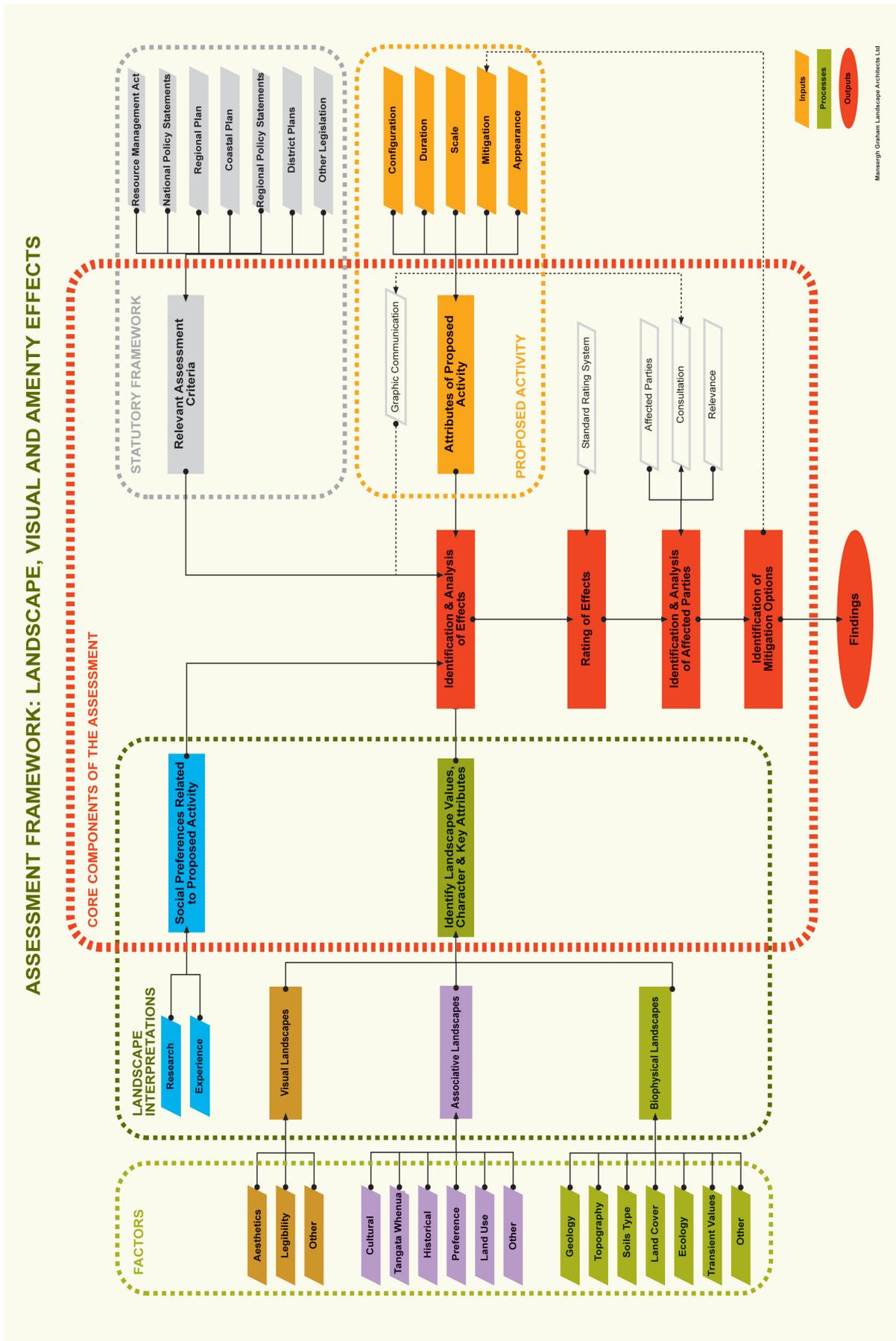
Analysis of the proposal found that:

- a. The landscape surrounding the application site to the north, west and southwest can be characterised as a rural landscape comprised of open expanses of pasture, delineated into paddocks by post and wire fencing and punctuated by scattered shelterbelts, horticultural lots, hedges, access tracks, farm buildings and rural dwellings. Topography within the landscape is generally flat. Key features of the wider landscape, which influence its character and visual amenity include the rural land use to the west and north of the site, industrial land use immediately to the south, northeast, and east of the site, surrounding hill country to the east and southeast of the site (Te Miro Hills, Pukekura Hills and Maungatautari).
- b. The site is not located on any identified protected landscape features or prominent landforms. The site is located within 7km of the Te Miro Hill (visually sensitive hill country under the WDP) and 13km from Pukekura Hill country (visually sensitive hill country under the WDP) and 20km from Maungatautari (ONL). This ONL will not be affected by the proposed expansion.
- c. That the visual catchment surrounding the application site is relatively small and is constrained by the surrounding vegetation and large buildings within the industrial area surrounding the site to the east and south, with most views restricted to nearby locations to the north, northeast and south. Further out, from the west and east (along Peake and Victoria Roads) most of the proposed WWTF site is screened by intervening vegetation and buildings.
- d. While views of the proposed WWTF will be available from several nearby locations surrounding the site, the full extent of the proposal will not be visible from outside the application site/land within the Dairy Manufacturing site and adjacent special industrial area land owned by Fonterra.
- e. Because the proposed expansion will be viewed within the context of the existing industrial zone and there is extensive vegetation surrounding the site, the VAC ratings were found to range from ***neutral - poor*** to ***very good***.
- f. While the proposed WWTF will affect the characteristics of the site and visual amenity by increasing the ratio of built development visible within the immediate visual catchment, it will not affect wider landscape and amenity values to the same level. This is because the proposal does not introduce a new type of industrial development into the landscape, thus the effects on existing visual amenity values influenced by the proposed WWTF is moderated.
- g. Proposed mitigation will reduce adverse effects on visual amenity values below the *minor* threshold of the RMA.
- h. The proposed WWTF is able to meet the various landscape and visual amenity provisions of the Operative Waipa District Plan. The site is not an identified outstanding natural feature of landscape (ONL). The site is located within a *Specialised Industrial Zone*, with a small portion (the three eastern tanks) within the Hautapu Dairy Manufacturing Site.
- i. The effects of the proposed expansion on landscape character, natural character and visual amenity will be similar from all view locations to the west, southwest and northwest with the most significant differences on the magnitude of the effect being the influence of distance and visual complexity (allowing the site to be viewed within the context of the wider landscape), slight variation in elevation and intervening topography and vegetation.
- j. Adverse effects on landscape character values were found to be ***very low - low***. Adverse effects on visual amenity values from publicly accessible viewer locations were found to range from ***very low*** to ***low***. In terms of the RMA these effects are ***less than minor***, without mitigation. However, adverse effects of the proposed WWTF on visual amenity values from

private viewer location 6 (the dwelling located at 59 Bruntwood Road) were found to be **low-moderate** (*minor* in terms of the RMA), without mitigation. Mitigation planting is therefore required to reduce the adverse effects of the proposal on view from 59 Bruntwood road to **very low** (*less than minor*).

Overall, adverse effects of the proposed WWTF on the existing visual amenity values associated with the existing landscape character were found to be below the *minor* threshold of the RMA (except for from the private dwelling at 59 Bruntwood Road). It is therefore considered that with the mitigation measures proposed, the proposed development is compliant with the overall intent of the relevant landscape and amenity objectives, policies, and rules of the WDP and section 7(c) of the RMA.

# APPENDIX ONE: METHODOLOGICAL FLOW CHART



## APPENDIX TWO: LANDSCAPE AND VISUAL AMENITY EFFECT - RATING SYSTEM

The following standardised rating system has been developed by Mansergh Graham Landscape Architects Ltd and is consistent with the recommended ratings system identified in the NZILA Best Practice Note: Landscape Assessment and Sustainable Management 10.1.

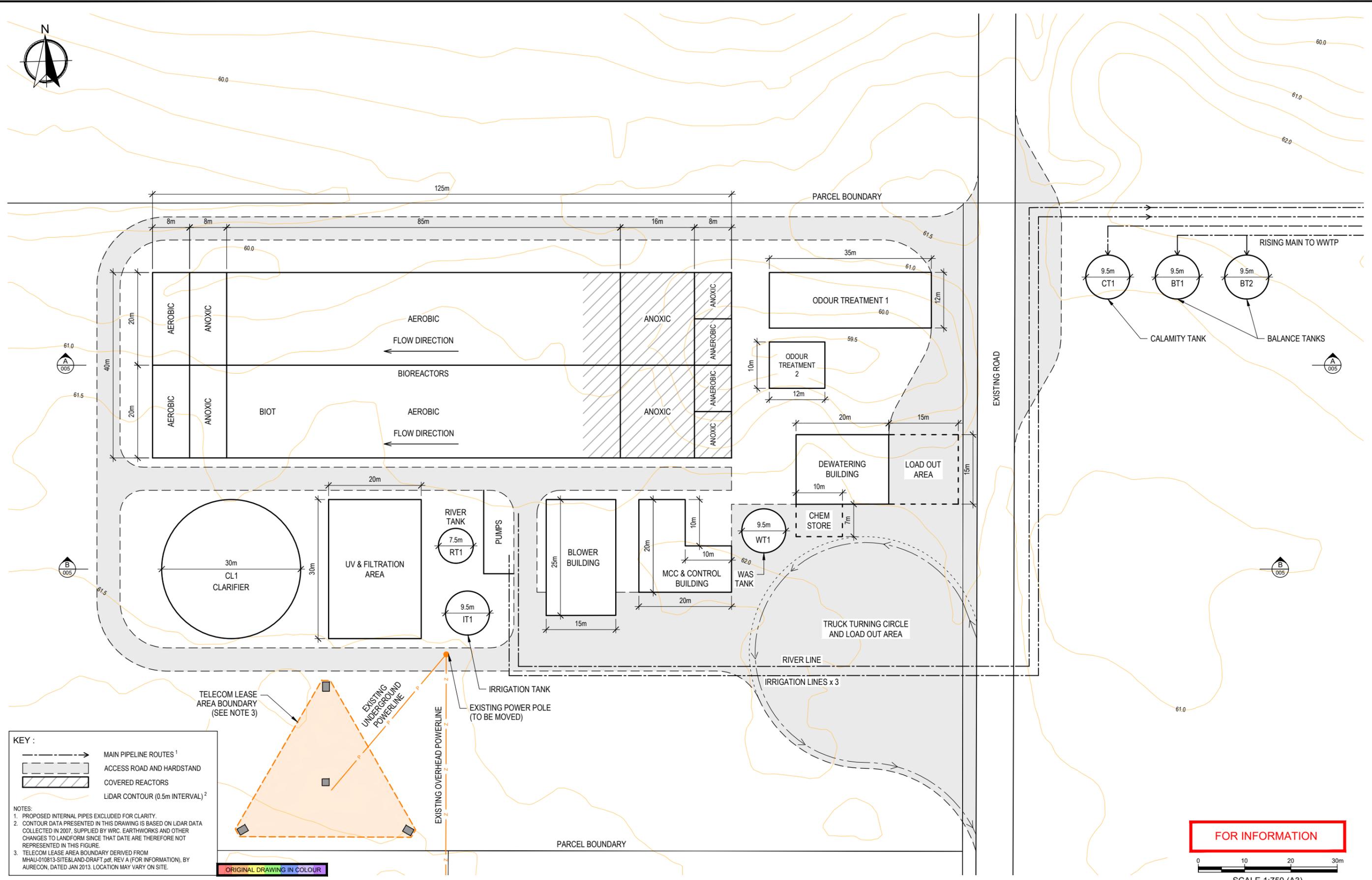
LANDSCAPE AND VISUAL AMENITY EFFECT - RATING SYSTEM	
Effects Rating	Use and Definition
Extreme	<p><u>Use</u> The development/activity would:</p> <ul style="list-style-type: none"> <li>a. Result in an extreme change on the characteristics or key attributes of the receiving environment and/or the vista within which it is seen; and/or</li> <li>b. Have an extreme effect on the perceived amenity derived from it.</li> </ul> <p><u>Oxford English Dictionary Definition</u> Extreme: adjective 1 utmost. 2 reaching a high or the highest degree.</p>
Very High	<p><u>Use</u> The development/activity would:</p> <ul style="list-style-type: none"> <li>c. Have a very high level of effect on the character or key attributes of the receiving environment and/or the vista within which it is seen; and/or</li> <li>d. Have a very high-level effect on the perceived amenity derived from it.</li> </ul> <p><u>Oxford English Dictionary Definition</u> Very: adverb 1 in a high degree. 2 with superlative or own without qualification: the very best quality. High: adjective 1 extending above the normal level. 2 great in amount, value, size, or intensity. 3 great in rank or status. 4 morally or culturally superior.</p>
High	<p><u>Use</u> The development/activity would:</p> <ul style="list-style-type: none"> <li>e. Have a high level of effect on the character or key attributes of the receiving environment and/or the vista within which it is seen; and/or</li> <li>f. Have a high level of effect on the perceived amenity derived from it.</li> </ul> <p><u>Oxford English Dictionary Definition</u> High: adjective 1 extending above the normal level. 2 great in amount, value, size, or intensity. 3 great in rank or status. 4 morally or culturally superior.</p>
Moderate	<p><u>Use</u> The development/activity would:</p> <ul style="list-style-type: none"> <li>g. Have a moderate level of effect on the character or key attributes of the receiving environment and/or the vista within which it is seen; and/or</li> <li>h. Have a moderate level of effect on the perceived amenity derived from it.</li> </ul> <p><u>Oxford English Dictionary Definition</u> Moderate: adjective 1 average in amount, intensity, or degree.</p>
<p>"Minor" Threshold Under the RMA. Ratings above this threshold are "More than Minor". Ratings below this threshold are "Less than Minor". Low-Moderate ratings are "Minor".</p>	
Low	<p><u>Use</u> The development/activity would:</p> <ul style="list-style-type: none"> <li>i. Have a low level of effect on the character or key attributes of the receiving environment and/or the vista within which it is seen; and/or</li> <li>j. Have a low level of effect on the perceived amenity derived from it.</li> </ul> <p><u>Oxford English Dictionary Definition</u> Low: adjective 1 below average in amount, extent, or intensity. 2 lacking importance, prestige, or quality; inferior.</p>
Very Low	<p><u>Use</u> The development/activity would:</p> <ul style="list-style-type: none"> <li>k. Have a very low level of effect on the character or key attributes of the receiving environment and/or the vista within which it is seen; and/or</li> <li>l. Have a very low level of effect on the perceived amenity derived from it.</li> </ul> <p><u>Oxford English Dictionary Definition</u> Very: adverb 1 in a high degree. 2 with superlative or own without qualification: the very best quality. Low: adjective 1 below average in amount, extent, or intensity. 2 lacking importance, prestige, or quality; inferior.</p>
Negligible	<p><u>Use</u> The development/activity would:</p> <ul style="list-style-type: none"> <li>m. Have a negligible effect on the character or key attributes of the receiving environment and/or the vista within which it is seen; and/or</li> <li>n. Have a negligible effect on the perceived amenity derived from it.</li> </ul> <p><u>Oxford English Dictionary Definition</u> Negligible: adjective that need not be considered.</p>
<p>Detectable Effect Threshold</p>	
No Effect	<p>The development/activity would have no effect on the receiving environment.</p>
<p>Note: Ratings may be positive (e.g. high level of enhancement) or negative (e.g. high adverse effect).</p>	

## APPENDIX THREE: VISUAL ABSORPTION CAPABILITY RATINGS

The following standardised rating system has been developed by Mansergh Graham Landscape Architects Ltd and is consistent with the recommendations of NZILA Best Practice Note: Landscape Assessment and Sustainable Management 10.1.

Visual Absorption Capability Definition Ratings	
VAC Rating	Use
Very Good	<p>The proposed development/activity would be completely screened, almost completely screened, or completely absorbed by existing landscape features. Any views of the development would be either unidentifiable or at a great distance, and/or;</p> <p>The development/activity would not affect the existing character of the surrounding landscape or view in which it is seen, and/or;</p> <p>The development/activity would introduce a visual element into the landscape or view which may be viewed very frequently or continuously in that or similar landscape types.</p>
Good	<p>The proposed development/activity would be mostly screened or visually absorbed by existing landscape features, but still be identifiable. The development/activity may act as a tertiary focal attraction within the landscape or view in which it is seen, and/or;</p> <p>The development/activity would not affect the existing character of the surrounding landscape or view in which it is seen, and/or;</p> <p>The development/activity may introduce a visual element into the landscape or view which may be viewed frequently in that or similar landscape types.</p>
Neutral	<p>The proposed development/activity would neither be screened nor become a visual intrusion or focal attraction within the landscape or view in which it is seen. The proposed development/activity may act as a minor focal attraction from some locations, and/or;</p> <p>The development/activity would alter the existing character of the surrounding landscape or view in which it is seen, and/or;</p> <p>The development/activity would introduce a visual element into the landscape or view which may be viewed occasionally in that or similar landscape types.</p>
Poor	<p>The proposed development/activity would be clearly visible but would not act as a primary focal attraction, and/or;</p> <p>It would be expected that the proposed development/activity would alter the existing character of the surrounding landscape or view in which it is seen, and/or;</p> <p>The development/activity may introduce a new visual element into the landscape or view. The development/activity may be viewed infrequently in that or similar landscape types.</p>
Very Poor	<p>The proposed development/activity will be highly visible and may act as a primary focal attraction or feature. It would also be expected that the proposed development/activity will significantly alter the existing character of the surrounding landscape or view in which it is seen, and/or;</p> <p>The development/activity will introduce a new visual element into the landscape or view, which will be significantly different in appearance, or scale from the landscape elements surrounding it, and/or;</p> <p>The development/activity would be found very rarely in that or similar landscape types.</p>

**APPENDIX FOUR: WWTF CONCEPT AND CROSS SECTIONS**



**KEY :**

- MAIN PIPELINE ROUTES<sup>1</sup>
- ACCESS ROAD AND HARDSTAND
- COVERED REACTORS
- LIDAR CONTOUR (0.5m INTERVAL)<sup>2</sup>

**NOTES:**

- PROPOSED INTERNAL PIPES EXCLUDED FOR CLARITY.
- CONTOUR DATA PRESENTED IN THIS DRAWING IS BASED ON LIDAR DATA COLLECTED IN 2007, SUPPLIED BY WRC. EARTHWORKS AND OTHER CHANGES TO LANDFORM SINCE THAT DATE ARE THEREFORE NOT REPRESENTED IN THIS FIGURE.
- TELECOM LEASE AREA BOUNDARY DERIVED FROM MHAU-010813-SITE&LAND-DRAFT.pdf, REV A (FOR INFORMATION), BY AURECON, DATED JAN 2013. LOCATION MAY VARY ON SITE.

ORIGINAL DRAWING IN COLOUR

**FOR INFORMATION**

0 10 20 30m

SCALE 1:750 (A3)

NO.	REVISION	DATE	APP.
E	ISSUED FOR INFORMATION	FEB 21	
D	ISSUED FOR INFORMATION	JAN 21	
C	ISSUED FOR INFORMATION	JAN 21	
B	ISSUED FOR INFORMATION	DEC 20	
A	ISSUED FOR INFORMATION	DEC 20	

**Fonterra**

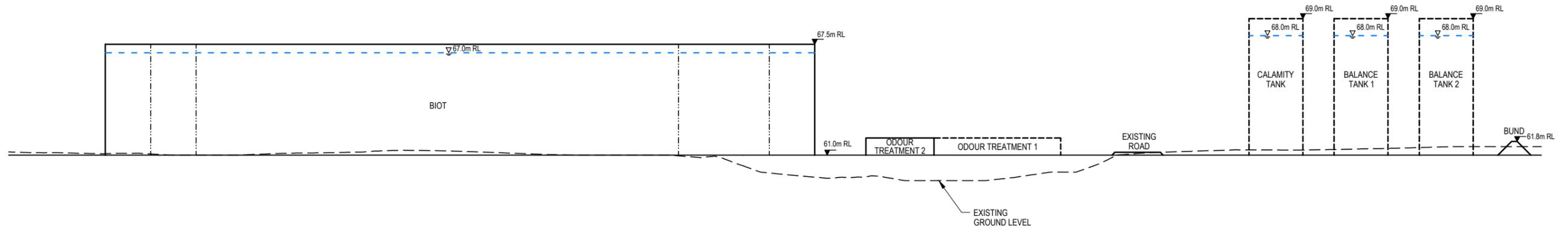
**pdp**  
PATTLE DELAMORE PARTNERS

**ace**  
MEMBER

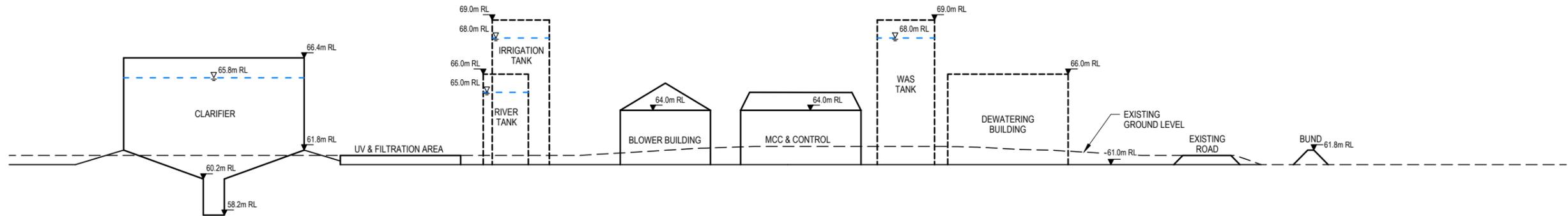
THIS DRAWING REMAINS THE PROPERTY OF PATTLE DELAMORE PARTNERS LTD AND MAY NOT BE REPRODUCED OR ALTERED WITHOUT WRITTEN PERMISSION. NO LIABILITY SHALL BE ACCEPTED FOR UNAUTHORIZED USE OF THE DRAWINGS

CLIENT: FONTERRA LIMITED			
PROJECT: HAUTAPU WWTP SITE 8 CLASS 3 COSTING			
DESIGNED D.I.	DESIGN REVIEW	DATE DEC 20	APPROVED
DRAWN	DRAWING CHECK	DATE	DATE
THIS DRAWING IS NOT FOR CONSTRUCTION UNLESS SIGNED AS APPROVED			

SITE 8 TANK SYSTEM WWTP CONCEPTUAL LAYOUT		
SCALE: 1:750	DRAWING NO.: (A3) A02545207-SK-004	REV: E



SECTION A  
HORIZONTAL SCALE 1:750  
VERTICAL SCALE 1:250



SECTION B  
HORIZONTAL SCALE 1:750  
VERTICAL SCALE 1:250

FOR INFORMATION

ORIGINAL DRAWING IN COLOUR

NO.	REVISION	DATE	APP.
E	ISSUED FOR INFORMATION	FEB 21	
D	ISSUED FOR INFORMATION	JAN 21	
C	ISSUED FOR INFORMATION	JAN 21	
B	ISSUED FOR INFORMATION	DEC 20	
A	ISSUED FOR INFORMATION	DEC 20	



THIS DRAWING REMAINS THE PROPERTY OF PATTLE DELAMORE PARTNERS LTD AND MAY NOT BE REPRODUCED OR ALTERED WITHOUT WRITTEN PERMISSION. NO LIABILITY SHALL BE ACCEPTED FOR UNAUTHORIZED USE OF THE DRAWINGS

CLIENT: FONTERRA LIMITED			
PROJECT: HAUTAPU WWTP SITE 8 CLASS 3 COSTING			
DESIGNED D.I.	DESIGN REVIEW	DATE DEC 20	APPROVED
DRAWN	DRAWING CHECK	DATE	DATE
THIS DRAWING IS NOT FOR CONSTRUCTION UNLESS SIGNED AS APPROVED			

SITE 8 TANK SYSTEM WWTP CONCEPTUAL CROSS SECTIONS		
SCALE : AS SHOWN (A3)	DRAWING NO. : A02545207-SK-005	REV : E

**APPENDIX FIVE: VIEW LOCATION MAP**



**LEGEND**

-  Investigated
-  View Locations
-  Site

**View Locations**



## APPENDIX SIX: VIEW LOCATIONS AND VISUAL EFFECT RATINGS

No.	Name	Type	Key Attributes of the View	VAC Rating and Notes	Potential Effects/Mitigation	Effect Rating
VL1	Hautapu Road	Public	<p>Industrial development within the foreground of the view, including the Hautapu Dairy manufacturing site carparking and sign in area, goods drop off and pickup area and large dairy manufacturing buildings and tanks.</p> <p>Vegetation between the dairy manufacturing site and adjacent industrial area is seen within the fore-midground of the view and vegetation associated with the rural zone further north of the application site is visible within the backdrop of the view.</p> <p>The large telecommunication tower and warehouse storage building within the site are partially visible in amongst this vegetation.</p>	<p><i>Good</i></p> <p>The site is viewed at a distance, partially screened by the existing vegetation, vehicles within the carpark, visitor sign in office building and loading dock. While visible in the mid-background, the majority of the WWTF buildings will be screened from view and backdropped by existing vegetation within the rural zone, to the north of the application site.</p> <p>While partially visible, development would not be the primary focus as it will be seen within the context of the much closer and larger Hautapu Dairy Factory buildings and tanks and the telecommunication tower within the site.</p>	<ul style="list-style-type: none"> <li>Majority of proposal will be screened from view and seen in the backdrop, making it less prominent from this view location.</li> <li>Existing industrial buildings within the site and surrounding industrial zone provide context for the proposal, it will be consistent with the existing surrounding landscape character.</li> <li>Proposed WWTF will be difficult to discern due to the visual complexity of the view.</li> </ul>	Rating: <i>Very low</i>
VL2	Hautapu Road	Public	<p>Representative of the views from along Hautapu Road, adjacent to the Farmlands industrial warehouse building with supply yard, associated sheds, signs and carparking as well as landscape supply and turf supply yards, within the fore – midground of the view.</p> <p>The large storage warehouse and telecommunication tower within the application site can be seen in the background of the view, along with</p>	<p><i>Neutral - Good</i></p> <p>The upper portions of the proposed WWTF buildings within the development site will be visible above existing industrial buildings and storage yards in the foreground. Partial backdropping by vegetation will aid in integrating the proposal with the surrounding landscape. The existing industrial development provides context for the WWTF.</p>	<ul style="list-style-type: none"> <li>Proposal will be partially screened from view by foreground industrial buildings and seen in the backdrop, making it less prominent from this view location.</li> <li>Some of the proposal will protrude above the skyline, however the existing large building within the site and the industrial buildings along Hautapu Road already protrude above the skyline, reducing adverse visual effects associated with sky-lining.</li> <li>Existing industrial buildings within the site and surrounding industrial zone provide context for the proposal, it will be consistent</li> </ul>	Rating: <i>Very low</i>

			vegetation associated with the rural zone further north of the site.		with the existing surrounding landscape character. <ul style="list-style-type: none"> <li>Proposed WWTF will be difficult to discern due to the visual complexity of the view.</li> </ul>	
<b>VL3</b>	Hautapu Road	Public	<p>Industrial warehouse buildings, associated sheds, yards, residential dwellings (for relocation), carparking and industrial vehicles within the fore – midground of the view.</p> <p>Vegetation and open pastoral land associated with the rural zone to the west and further north of the site is visible to the west of the industrial land use, in the fore-midground and forms the backdrop of the view (including the Te Miro Hill country).</p>	<p><b>Neutral</b> Proposed WWTF will be partially visible above existing industrial land use within fore to midground of the view. A large portion of the proposed BIOT building will be screened from view by the large industrial warehouse building immediately to the south of the application site.</p> <p>Some of the proposal will protrude above the skyline, drawing attention to it. Existing industrial development will provide context for the proposal.</p> <p>The distance away from the site will aid in integrating the proposal from this location.</p>	<ul style="list-style-type: none"> <li>Proposal will be partially screened from view by foreground/midground industrial buildings and seen in the backdrop, making it less prominent from this view location.</li> <li>Some of the proposal will protrude above the Te Miro Hills skyline (sensitive hill country under the WDP), however the existing large building within the site and the industrial buildings along Hautapu Road already protrude above the skyline Hill country, reducing adverse visual effects associated with sky-lining.</li> <li>Existing industrial buildings within the site and surrounding industrial zone provide context for the proposal, it will be consistent with the existing surrounding landscape character.</li> <li>Proposed WWTF will be difficult to discern due to the visual complexity of the view.</li> </ul>	Rating: <u>Very low</u>
<b>VL4</b>	Bruntwood Road	Public	<p>Flat open pastoral land dissected with post and wire fences and low hedgerows, shelterbelts and mature specimen trees are located within the fore to midground of this VL.</p> <p>The industrial zone with large warehouses, sheds and the telecommunication tower within the application site can be seen in the mid to background of the view.</p> <p>The Pukekura Hill country and Maungatautari can be seen in the distance.</p>	<p><b>Neutral</b> Proposed WWTF will be partially screened from view by intervening vegetation and buildings from this location. It will be backdropped by hill country, vegetation, and buildings, which will aid in integrating it into the wider surrounding landscape.</p> <p>The existing industrial development is more difficult to discern from this location and industrial development context is therefore reduced.</p> <p>Distance away from the site will make the</p>	<ul style="list-style-type: none"> <li>Majority of proposed WWTF will be screened from view due to intervening vegetation and rural residential buildings and sheds.</li> <li>The Pukekura Hill country and Maungatautari, as well as existing vegetation and buildings will backdrop the proposal from this location, allowing it to appear less prominent from this location.</li> <li>Slight incongruity with rural landscape character in the foreground and midground of the view due to the length of the BIOT building (larger than the industrial buildings within the backdrop of the view).</li> <li>The industrial development within the backdrop is mostly screened from view, therefore industrial development context is reduced from this location.</li> </ul>	<p>Rating: <u>Very low</u></p> <p>With Mitigation: <u>Negligible</u></p>

				proposal more difficult to discern and aid in integrating it with its surroundings from this location.	<ul style="list-style-type: none"> <li>Proposed WWTF will be more difficult to discern due to the visual complexity of the view.</li> </ul>	
<b>VL5</b>	Bruntwood Road	Public	<p>Representative of the closest public views into the site.</p> <p>A mix of industrial land use and undeveloped open pastoral land, including post and wire fencing and clusters of shrubs and specimen trees. The NIMTL and tanker parking/storage warehouse and associated sheds can be seen within the foreground of the view.</p> <p>Industrial zone structures including large warehouse buildings, sheds and the telecommunication tower within the application site can be seen in the mid to background of the view.</p>	<p><b><u>Neutral - Poor</u></b></p> <p>The majority of the proposed WWTF will be visible from this location and will be seen relatively close (within 200m). It will protrude above the skyline, attracting attention.</p> <p>The WWTF will be seen within the context of the industrial zone buildings, tanks and storage facilities which will help to integrate the proposal with the surrounding landscape. It will replace the existing large storage building and smaller sheds and tanks within the site.</p>	<ul style="list-style-type: none"> <li>Small loss of visual amenity (Intrusive effect).</li> <li>Small loss of open space within the application site (increased development footprint in comparison with the existing buildings within the site).</li> <li>The development type will appear consistent with the existing industrial buildings and Hautapu Dairy factory to the south and east of the site.</li> <li>While the length/visual bulk of the BIOT building is greater than that of the industrial buildings to the south of the site, it is less than the that of the Dairy manufacturing buildings to the east of the site, and the proposed height will be similar to buildings within the adjacent industrial zone (to the south). This will allow this building to integrate into the surrounding landscape more readily and appear less prominent as it will be backdropped by several clusters of mature specimen trees.</li> </ul> <p>Mitigation Required:</p> <ul style="list-style-type: none"> <li>No mitigation required from a visual effect perspective; however, mitigation is required under the WDP along Bruntwood Road (see mitigation and planning matters sections of this report). This will further reduce adverse effects associated with the proposal from this view location.</li> </ul>	<p>Rating: <u>Low</u></p> <p>With Mitigation: <u>Negligible – Very Low</u></p>
<b>VL6</b>	59 Bruntwood Road	Private	<p>Representative views into the site from a private residential property.</p> <p>Flat open pastoral land dissected with post and wire and post and rail fences and low vegetation, shelterbelts and</p>	<p><b><u>Poor - Neutral</u></b></p> <p>Proposed WWTF will highly visible, with little intervening vegetation screening views. It will be backdropped by a few mature specimen trees.</p>	<ul style="list-style-type: none"> <li>Small loss of visual amenity (Intrusive effect).</li> <li>Small loss of open space within the application site (increased development footprint in comparison with the existing buildings within the site).</li> <li>The development type will screen views of the existing industrial buildings to the</li> </ul>	<p>Rating: <u>Low - moderate</u></p> <p>With Mitigation: <u>Very Low</u></p>

		<p>mature specimen trees are located within the fore to midground of this VL.</p> <p>The industrial zone with large warehouses, sheds and the telecommunication tower within the application site can be seen in the mid to background of the view.</p> <p>The Pukekura Hill country and Maungatautari can be seen in the distance.</p>	<p>The existing industrial development will be screened from view by the proposal, replacing like for like.</p> <p>The close distance away from the site will make the proposal prominent within the view and more difficult integrating with its surroundings from this location.</p>	<p>south and east of the site. But will appear similar (replacing like for like).</p> <ul style="list-style-type: none"> <li>• The length/visual bulk of the BIOT building is greater than that of the existing buildings within the site and the industrial buildings to the south of the site, but the proposed height will be similar to buildings within the adjacent industrial zone (to the south).</li> <li>• The BIOT building will appear prominent within the view due to the close distance between this VL and the site.</li> </ul> <p>Mitigation Required:</p> <ul style="list-style-type: none"> <li>• Mitigation is required to reduce adverse effects associated with the proposal from this view location. An evergreen hedge, capable or reaching a minimum height of 3m) should be established along the mutual boundary between 59 Bruntwood Road and the Fonterra site (refer to mitigation section of this report and mitigation location plan in appendix 8)</li> </ul>	
--	--	---	--	--	--

## APPENDIX SEVEN: VIEW LOCATION PHOTOGRAPHS AND PHOTOMONTAGES



**View Location Data**

NZTM Easting: 181 5541.05  
NZTM Northing: 5806964.04  
Focal length: 50mm  
Photographer: D. Mansergh  
Camera: Canon EOS D5 MK.4 Full Frame Digital  
with EF 50mm F/1.4 USM (Prime)  
Date: 4th February 2021

**VL 1 - PHOTOGRAPH FROM HAUTAPU ROAD (LOOKING NORTH-WEST TOWARDS THE APPLICATION SITE)**

HUATAPU WWTF VLA, APRIL 2021, R 1





**View Location Data**

NZTM Easting: 1815389.38  
NZTM Northing: 5806866.45  
Focal length: 50mm  
Photographer: D. Mansergh  
Camera: Canon EOS D5 MK.4 Full Frame Digital  
with EF 50mm F/1.4 USM (Prime)  
Date: 4th February 2021

**VL 2 - PHOTOGRAPH FROM HAUTAPU ROAD (LOOKING NORTH TOWARDS THE APPLICATION SITE)**

HUATAPU WWTF VLA, APRIL 2021, R1





**View Location Data**

NZTM Easting: 1815191.88  
NZTM Northing: 5806872.67  
Focal length: 50mm  
Photographer: D. Mansergh  
Camera: Canon EOS D5 MK.4 Full Frame Digital  
with EF 50mm F/1.4 USM (Prime)  
Date: 4th February 2021

**VL 3 - PHOTOGRAPH FROM HAUTAPU ROAD (LOOKING NORTH-EAST TOWARDS THE APPLICATION SITE)**

HUATAPU WWTF VLA. APRIL 2021. R1





**View Location Data**

NZTM Easting: 1815240.69  
NZTM Northing: 5807871.14  
Focal length: 50mm  
Photographer: D. Mansergh  
Camera: Canon EOS D5 MK.4 Full Frame Digital  
with EF 50mm F/1.4 USM (Prime)  
Date: 4th February 2021

**VL 4 - PHOTOGRAPH FROM BRUNTWOOD ROAD (LOOKING SOUTH TOWARDS THE APPLICATION SITE)**

HUATAPU WWTF VLA, APRIL 2021, R 1





**View Location Data**

NZTM Easting: 1815551.35  
NZTM Northing: 5807373.34  
Focal length: 50mm  
Photographer: D. Mansergh  
Camera: Canon EOS D5 MK.4 Full Frame Digital  
with EF 50mm F/1.4 USM (Prime)  
Date: 4th February 2021

**VL 5 - PHOTOGRAPH FROM BRUNTWOOD ROAD (LOOKING SOUTH-WEST TOWARDS THE APPLICATION SITE)**

HUATAPU WWTF VLA, APRIL 2021, R 1





**View Location Data**

NZTM Easting: 1815551.35  
NZTM Northing: 5807373.34  
Focal length: 50mm  
Photographer: MGLA  
Camera: Canon EOS D5 MK.4 Full Frame Digital  
with EF 50mm F/1.4 USM (Prime)  
Date: 4th February 2021

A 3D digital model of the proposed development was produced and accurately superimposed into each image using a combination of Adobe Photoshop CC 2020, ArcGIS Pro and Vectorworks 2020, in accordance with NZILA best practice guidelines. Photo mounting by MGLA.

Image should be viewed at a distance of 500mm to approximate actual scale.

**VL 5- PHOTOMONTAGE FROM BRUNTWOOD ROAD SHOWING PROPOSED WWTF (UNMITIGATED)**

HUATAPU WWTF VLA, APRIL 2021, R1





**View Location Data**

NZTM Easting: 1815336.91  
NZTM Northing: 5807483.10  
Focal length: 50mm  
Photographer: D. Mansergh  
Camera: Canon EOS D5 MK.4 Full Frame Digital Image should be viewed at a distance of 350mm to approximate actual scale.  
Date: 4th February 2021



SINGLE IMAGE FRAME SIZE

**VL 6- PHOTOGRAPH FROM 59 BRUNTWOOD ROAD (LOOKING SOUTH TOWARDS THE APPLICATION SITE)**

HUATAPU WWTF VLA, APRIL 2021, RD





**View Location Data**

NZTM Easting: 1815336.91  
 NZTM Northing: 5807483.10  
 Focal length: 50mm  
 Photographer: MGLA  
 Camera: Canon EOS D5 MK.4 Full Frame Digital  
 with EF 50mm F/1.4 USM (Prime)  
 Date: 4th February 2021

A 3D digital model of the proposed development was produced and accurately superimposed into each image using a combination of Adobe Photoshop CC 2020, ArcGIS Pro and Vectorworks 2020, in accordance with NZILA best practice guidelines. Photo mounting by MGLA.

Image should be viewed at a distance of 350mm to approximate actual scale.



SINGLE IMAGE FRAME SIZE

**VL 6- PHOTOMONTAGE FROM 59 BRUNTWOOD ROAD SHOWING PROPOSED WWTF (UNMITIGATED)**

HUATAPU WWTF VLA, APRIL 2021, RD





NOTE: 2.8m high screen planting required to completely screen the proposed WWTF from this location. Planting shown at 3m high.

**View Location Data**

NZTM Easting: 1815336.91  
 NZTM Northing: 5807483.10  
 Focal length: 50mm  
 Photographer: MGLA  
 Camera: Canon EOS D5 MK.4 Full Frame Digital with EF 50mm F/1.4 USM (Prime)  
 Date: 4th February 2021

A 3D digital model of the proposed development was produced and accurately superimposed into each image using a combination of Adobe Photoshop CC 2020, ArcGIS Pro and Vectorworks 2020, in accordance with NZILA best practice guidelines. Photo montaging by MGLA.

Image should be viewed at a distance of 350mm to approximate actual scale.



SINGLE IMAGE FRAME SIZE

**VL 6- PHOTOMONTAGE FROM 59 BRUNTWOOD ROAD SHOWING RECOMMENDED SCREEN PLANTING**

HUATAPU WWTF VLA, APRIL 2021, RD



## APPENDIX EIGHT: MITIGATION LOCATION MAP



59 Bruntwood Road

BRUNTWOD ROAD



**LEGEND**

-  Site
-  Existing Mitigation to be Retained
-  Recommended Mitigation Planting

0 50 100 Meters