Ashburton Second Urban Bridge and Associated New Road

Assessment of Landscape and Visual Effects

Ashburton District Council

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Introduction

Opus International Consultants Ltd (Opus) has been engaged by Ashburton District Council (ADC), to prepare a Notice of Requirement (NOR) under the Ashburton District Plan ("District Plan") for Designation of the Ashburton Second Urban Bridge and associated link road ("the ASUB project"). This follows site investigation for a new bridge, identification of options for locations and public consultation on those options between 2010 and 2012. A single preferred option was defined by this process, which this assessment of landscape and visual effects addresses as part of the NOR.

Ashburton is located approximately 100km south of Christchurch along State Highway One (SH1). The proposed new bridge supplements existing (separate) SH1 road and South Island Main Trunk (SIMT) rail bridges spanning the Ashburton River. The bridge would provide a second 'local' connection across the river between Ashburton and Tinwald and would be approximately 700 m downstream of the existing road bridge.

Landscape and visual effects have been identified as among the key actual and potential environmental effects of the proposal. The scope of work undertaken in this assessment is summarised as follows:

- An investigation of the proposed site and surrounds was undertaken by Opus Landscape Architects Blair Brixton and David McKenzie on the 5th August 2013
- The investigation included locating, studying and photographing the proposed route by car and visiting local residential streets, light industrial areas and estates. The location of the bridge on the river was investigated and assessed at river level and from the upstream road bridge
- During the site investigation, local landscape character was assessed and views towards the proposed road and bridge were noted and photographed from a number of public viewpoints
- A review of the roading and stormwater proposals has been undertaken, along with a review of potential ecological effects and social impacts
- Discussions were had with the project planner as to the planning context of the proposal and what type of landuse changes may take place over the next 10-20 years
- Discussions have been had with the project transportation engineers on the likely scale, nature and visual character of the road and bridge and their associated fixtures.

This Assessment of Landscape and Visual Effects generally covers the following matters:

- Assessment of the effects on physical landscape, i.e. 'landscape effects'
- Assessment of the effects on landscape amenity, i.e. 'visual effects' , taking into account:
    - 'fit' with existing landscape character and patterns
    - effects on land use

- appearance of structures such as bridges
- visual effects from dwellings and private property
- assessment of effects on natural character of the local section of the Ashburton River and its margins.

1 Project Overview

The Ashburton District Council (ADC) proposes to construct, use and maintain a new 2-lane bridge across the Ashburton River ('the river') and an associated road that directly links Grahams Road via a 'green fields' east of Tinwald to a connection with Chalmers Avenue, Ashburton. The proposed new bridge and associated new road is referred to as the 'Ashburton Second Urban Bridge Project' (ASUB) (see Figure 1). The ASUB will provide an alternative urban route between east Tinwald and central Ashburton. The distance of the ASUB is approximately 2 km.

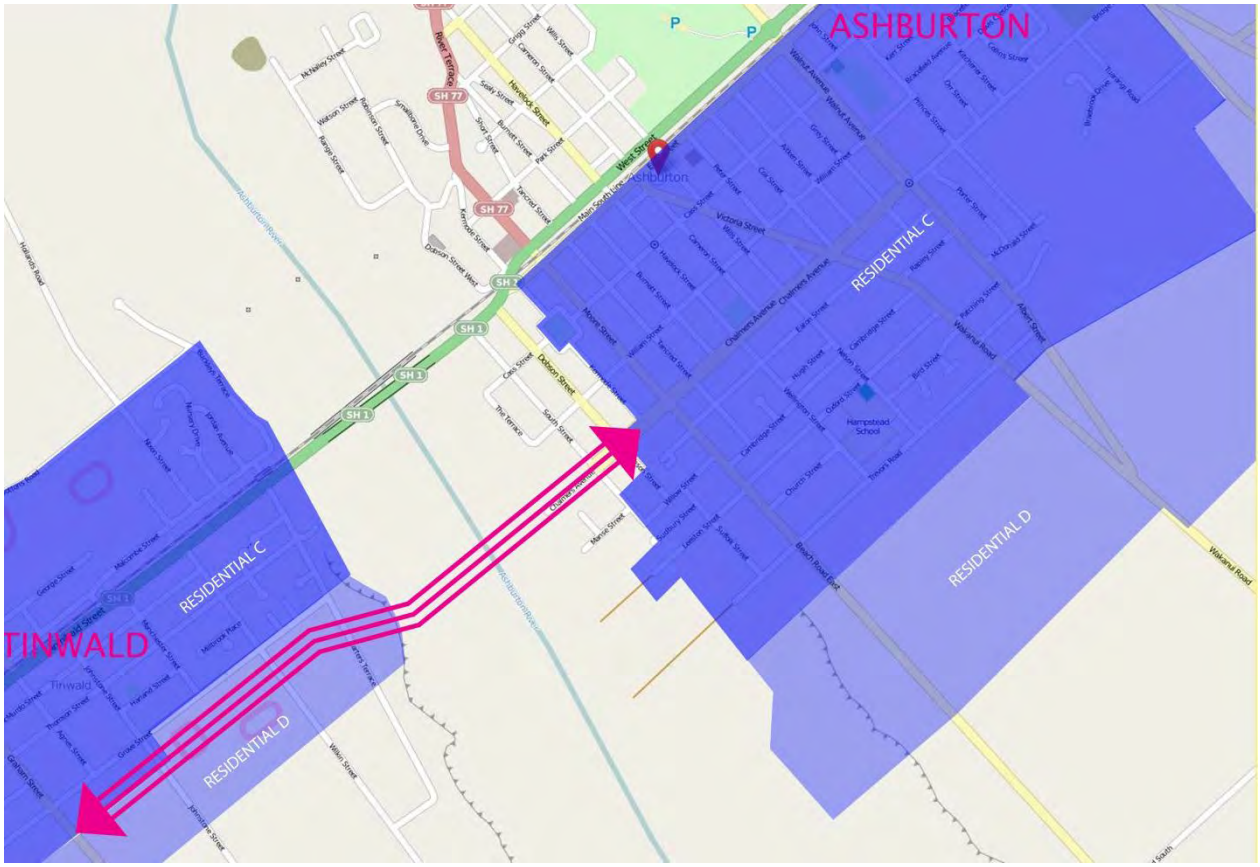

Figure 1: Overview Plan (approximate location of ASUB shown by pink line)

The proposed ASUB project is only one of a number of related transport projects for the Ashburton urban area that was identified in the Ashburton Transportation Study (ATS) completed in 2006. The purpose of the ATS was to identify present and future transportation demands within the Ashburton study area for the 20 year period through to 2026, and to recommend measures to optimise the performance of the land transport system within Ashburton. The proposed ASUB project is not being undertaken in isolation but rather fits within an overall strategy for transport network improvements within Ashburton.

The Ashburton District Council is seeking a new designation to include the entire infrastructure associated with the ASUB including a 2-lane bridge, traffic lanes (including cycle lanes and parking), footpaths / pedestrian connections, intersections, stormwater infrastructure, landscape planting, ancillary road infrastructure (e.g.; services within the road corridor), and road construction.

The southern area through which the proposed designation runs is currently 'green fields', and comprises rural-residential allotments ranging in size from 4,820 m^2 (0.4820 ha) to 50,507 m^2 (5.5070 ha). The 2010 Ashburton District Plan review rezoned approximately 71.6 ha of land located to the east of the current Tinwald urban boundary. An area of 15.7 ha has been rezoned to Residential C, which allows for subdivision down to 360 m^2 except where public sewage reticulation is not available, in which case 1,000 m^2 is the minimum allotment size. The current Tinwald urban area is zoned Residential C. An area of 55.9 ha has been rezoned to Residential D, which allows for subdivision down to 4,000 m^2 except where public sewage reticulation is not available, in which case the minimum allotment size is 10,000 m^2 (1 ha).

Traffic modelling indicates that traffic volumes on key routes throughout Ashburton are likely to increase significantly by 2026 regardless of a second bridge. This is expected to result in significant congestion and delays at a number of locations, including the existing bridge and the intersection of SH1 with Moore Street (SH77).

Vehicle number plate surveys undertaken in 2006, and repeated again in 2012, indicate the bulk of the traffic on the existing bridge during peak times is local traffic between Tinwald and Ashburton. It has been found that less than 30% of the traffic is "through traffic" on SH1. The existing SH1 bridge is nearing capacity at present, but is still functioning adequately most of the time. The ADC and the NZ Transport Agency (NZTA) have agreed the traffic issue on the current bridge is a local traffic issue and that the ASUB project will primarily be to serve the local traffic needs of the Tinwald and Ashburton communities. Once constructed, the ASUB will become an extension of the existing urban road network within east Tinwald and Ashburton and will be maintained and controlled by ADC. It will not become part of the state highway network.

It is expected that physical construction of the ASUB is not required until approximately 2026, at which time traffic congestion on the existing bridge is expected to reach a point which justifies the need for a second bridge. Traffic modelling indicates that up to 14,000 vehicles per day (vpd) are likely to use a second bridge by 2026, with between 5-10% expected to be heavy goods vehicles (HGV's). This traffic is likely to distribute amongst side roads to the north and south of the bridge and is expected to result in an overall reduction in total average travel time for all vehicles in the Ashburton urban area.

It is expected that by the time the ASUB project is required to be constructed, the environment within which the proposed designation is located will have undergone a degree of change from the current low density rural-residential land use to a land use that is in accordance with the new residential zonings within the district plan. The ADC wishes to protect the route for a future bridge and associated new road before too much further development occurs. The designation for the ASUB is being sought now in order to secure the required land to ensure the project can proceed at the time that it is needed.

2 Description of proposal

2.1 General

Following on from the aspects of the ASUB that have already been described, the proposed two lane road contains south and north bound vehicle lanes, designated cycle lanes and roadside footpaths. Traffic lanes would be separated with a wide painted median and road sections drained via roadside grassed drainage swales. Stormwater drainage provision in the southern section of the proposal will also include two grassed stormwater basins which adjoin the new drainage swales.

Figure 2: Route Map (showing link road between Grahams Rd and Chalmers Ave)

The ASUB project has been divided into 4 sections for the purposes of this description and later assessment of effects (see Figure 3):

- Southern link between Grahams Road and Carters Terrace
- Bridge approach between Carters Terrace and the proposed bridge
- Proposed bridge crossing of the Ashburton River linking the approach road and Chalmers Ave
- Chalmers Avenue West

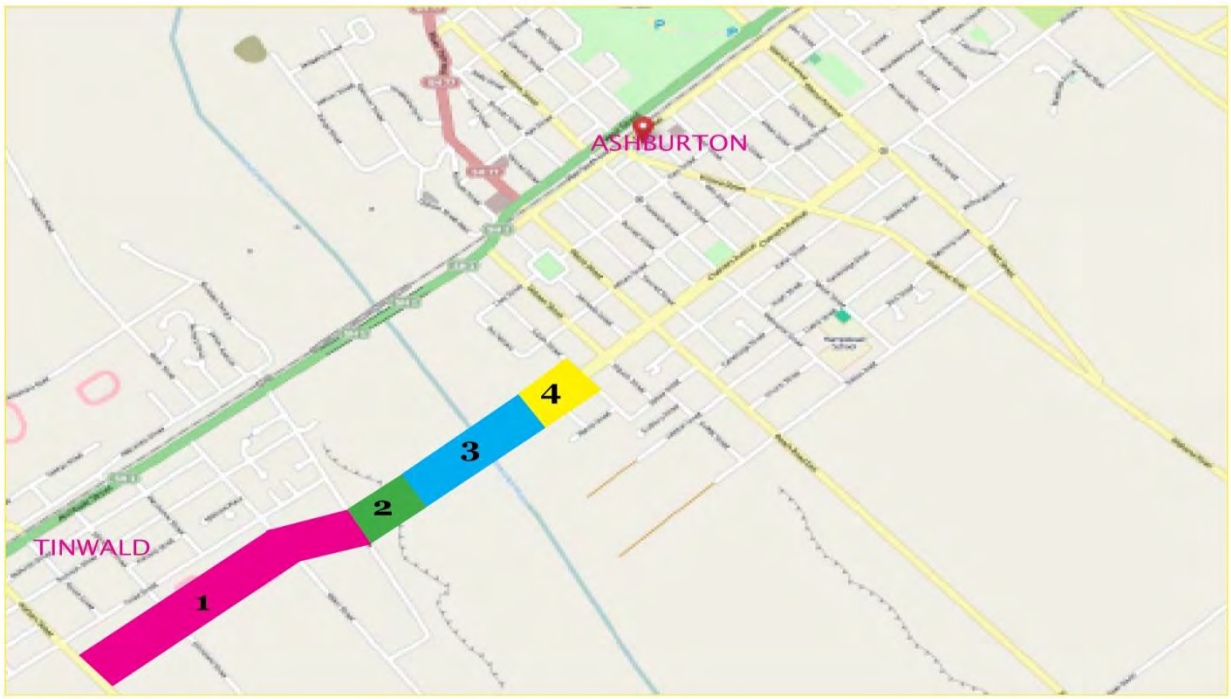

Figure 3: Project Areas (showing 1 - southern link road, 2 – bridge approach, 3-bridge/river crossing, and 4-Chalmers Ave west)

2.2 Southern Link Road

The alignment of the southern link road corridor from Grahams Road to Wilkins Road runs through private land, generally perpendicular to the four intersecting roads running east of Tinwald from SH1. The road passes along the boundary of existing semi-rural land classified as Residential C to the west, and Residential D to the east. At Wilkins Road the corridor changes alignment slightly to the east to intersect Carters Terrace.

Within this section the road corridor is between 30 m and 32 m wide and includes two 1.6 m wide footpaths, and a 17.4 m wide carriageway with parking, cycle and traffic lanes and a wide, flush median. The remainder of the corridor consists of 4.7-5.7 m wide drainage swales on both sides of the road.

The road will be at grade with Grahams Road in the south and continues at grade with adjacent ground levels until it reaches the bridge approach. Both sides of the road would contain open grassed drainage swales linking to a series of shallow stormwater basins. Between Wilkins Road and Johnstone Street, two open grassed stormwater retention basins totalling 73 m x 55 m would be constructed for stormwater overflow near Carters Creek, which is a small, channelized, local watercourse. In addition a single 134 m x 11 m retention basin will be constructed alongside the new road at the junction with Grahams Road. The proposed road crosses several artificial drainage ditches and Carters Creek. Culverts would be constructed under the proposed road to continue these watercourses which would otherwise remain intact.

2.3 Bridge Approach

After crossing Carters Terrace the proposed link road enters private land adjoining a riverside plantation of poplar and willow and forms the southern bridge approach embankment. These plantations and low river terrace are part of land designated as river channel. A corridor would be cleared through the plantation and associated woody, weed vegetation.

The road would be gradually raised on an embankment as it approaches the river to meet the finished bridge height. It is anticipated that the finished bridge height would be of a similar height to the existing road bridge and this would mean equivalent low embankments to bridge approaches.

Within this section, the proposed road corridor will be between 33 m and 60 m wide including footpaths and carriageway, and the remainder forming sloped embankments, swales and walking tracks approaching the bridge. The footpaths and carriageway are designed to tie in to the dimensions of the bridge so as not to create a pinch point at the bridge.

2.4 Bridge/River Crossing

While bridge design proposals have not been developed in detail, preliminary design options indicate the bridge will be wider than the existing SH1 bridge (around 16 m wide), providing better vehicular movement with wider cycle and pedestrian lanes (around 1.8 m and 1.6 m wide respectively). Vehicular and cycle lanes would be separated from pedestrians by rigid barrier protection. It is likely that the visual height of the bridge would be similar to the existing road bridge and the proposed bridge would designed with a sympathetic form and would appear generally thinner and 'lighter' than the existing road bridge. The proposed bridge would require less supports than the existing bridge (approximately 13 columns at a span of approximately 30m) and would have contained services and a visually transparent hand railing on each edge of the bridge.

There is currently limited access across the river for pedestrians and cyclists and also to the riverside trails that exist there. These trails are used by walkers and cyclists and connect to the south to Lake Hood. Paths along the river would be retained and access provided under the bridge on both sides of the river. During construction, it is unlikely due to safety that any access to these trails surrounding the bridge would be provided.

2.5 Chalmers Avenue West

The section of proposed road between the bridge and South Street, which is currently a dead end will effectively become an extension of Chalmers Avenue, leading from the proposed bridge and to central Ashburton.

Within this section the road corridor is 40 m wide, matching the adjacent planted boulevard section of Chalmers Ave to the north. This corridor includes a grassed berm, footpath and a 8.5 m carriageway with parking, a cycle lanes, traffic lane and a central 10 m wide planted swale between the proposed bridge and the existing section of Chalmers Avenue.

3 Landscape and visual context

3.1 Landscape Context

Ashburton is located approximately 90 kilometres south of Christchurch along SH1 and the SIMT railway line. The town developed along these main road and rail routes during early European settlement on the flat Canterbury Plains and has functioned as an agricultural service town for mid-Canterbury since.

The settlement was laid out in the traditional grid pattern with the Ashburton River separating the southern part of the town from Tinwald. Ashburton, now supporting a population of around 18,300 people, remains a service town, but also has new and existing areas of rural–residential and light industrial development around its outskirts. The latter includes a recently completed industrial estate to the north of the town.

Ashburton is the major town of the district and SH1 runs through the centre of the town. West Street (part of SH1) directs traffic parallel to the main retail street of Ashburton (East Street). The SIMT railway line separates East Street and West Street (SH1). Tinwald is a suburb of Ashburton though, being completely to the south of the Ashburton River, feels separate.

The broad landscape context surrounding the Ashburton and Tinwald residential area is that of the flat, open Canterbury Plains. Pastoral farming and cropping are major types of landuse with their grid pattern of open, flat paddocks contained in many cases, by conifer hedges and shelterbelts. The plains landscape has been formed by the large braided river systems which characterise much of the Canterbury region. Many smaller tributaries have generally been diverted and the water table lowered by artificial drainage ditches meaning that the landscape is largely a modified agricultural landscape. No original or intact indigenous plant communities are apparent and any indigenous plants are isolated. The Ashburton River Bed represents the most intact and important habitat area.

The Ashburton River and transport corridors of SH1 and the SIMT railway line are the obvious local features; the river is paralleled by almost continuous plantings of shelter and amenity trees. Noticeable built features are the Fairton Meat Works to the north and relatively intense areas of rural-residential development to the south. To the south adjacent to SH1and west of the railway line is the Ashburton Golf Course.

3.2 Site Context & Description

Generally the pattern of land use surrounding the main residential areas of Ashburton and Tinwald to the south is characterised by Residential C, Residential D, Rural A and then Rural radiating out from the SH1 and Ashburton Town Centre and suburban centres with pockets of Business and Open space. At present the river forms a strong division between Ashburton and Tinwald Residential Areas and land use adjacent to the river is distinctive.

As previously mentioned the existing SH1 Road Bridge spans the river (see Figure 6) and the separate rail bridge sits adjacent and parallel to it. The landscape character of the areas on either side of the river is different.

South of the river, land adjoins Tinwald and is semi-rural in character, containing lifestyle blocks associated with rural-residential housing. The landscape is strongly divided with paddocks surrounded by exotic shelter belt trees and hedges and views range from short to distant depending on shelter belt locations (see Figure 8). Larger blocks adjoin the rear of smaller more urban residential properties and streetscapes associated with Tinwald.

Immediately north of the river is the edge of Ashburton and contains light industrial units, storage yards and several recreation grounds (see Figure 4). Beyond this further towards the centre of Ashburton streets become strongly residential in character and use before adjoining East Street, Ashburton's main street which is largely commercial/retail.

The river itself flows in braided channels of greywacke gravels, typical of the larger Canterbury rivers and is subject to flooding and with limited direct access at present (see Figure 5). The margins of the river subject to flooding (defined as river channel in the district plan) are wooded with a mixture of poplar and willow bank protection planting. Beyond the bank-protection planting are low river terraces and in some places, flood banks and to the south, pine plantations. The use of these margins is mainly recreational, though they adjoin industrial land to the north and form a strong backdrop and shelter for housing immediately to the south. There are no views through to the river or its banks along this section of the river. Overall, views of the river are restricted to riverside walking/cycling trails and from road and rail bridges (see Figure 7).

Roads immediately beyond the built-up residential areas are typically rural in character with roadside open drains, but no defined edge or kerb (see Figure 9). Drainage ditches characteristic of many Canterbury Plains rural areas have been excavated at road frontage boundaries to lower the water table and to carry water away. It is understood that all of the watercourses, aside from the river, are man-made and generally lack natural characteristics.

The corridor of land occupied by the proposal overlays several landuse zones under the Ashburton District Plan. From Grahams Road through to the Ashburton River the proposed designation crosses Residential C (between Grahams Road and Johnstone Street), Residential D (from Johnstone Street to the river terrace beyond Carters Terrace) and Rural A across the Ashburton River. On the west side of Chalmers Avenue between the north bank of the Ashburton River and South Street, the land zones are Open Space A, Open Space B and Business D respectively. On the opposite side of the Chalmers Avenue up to South Street, the land zones are Open Space B and Residential C respectively.

Figure 4 – Existing Light Industrial landuse, north of the river adjoining Ashburton

Figure 5 – Existing river bed character, Ashburton River

Figure 6 – Existing SH1 Road Bridge across the Ashburton River

Figure 7 – Existing river margins planted for flood protection

Figure 8 – Existing rural character, south or the river

Figure 9 – Existing rural streetscape character, Grahams Road, east of Tinwald

4 Future Urban Development

As discussed earlier in this report, the existing landscape context is likely to change as a result of zoning changes established through the Ashburton District Plan Review 2010 and implemented in the partially operative district plan. The zoning generally provides for more residential development, and denser rural development south of Tinwald, within areas of semi-rural character. (see Figure 10).

The area east of Tinwald through which the proposed new road is to go, was previously zoned Rural A with a minimum net allotment area of 8ha under the subdivision rules. However, the Site Standards for the Rural Zone allowed the minimum net area for any site to be 2ha for each residential unit contained within the site. The Site Standards also required that there shall be only one residential unit on any land comprised in a separate site of less than 8ha in area. Between Grahams Road and Carters Terrace, there are no allotments within the Residential C and Residential D Zones that are 8ha in area. The largest allotment within the general area is less than 6ha, whilst the smallest allotment is less than 5,000m^2. The majority of the allotments are just over 2ha.

This changing context is not addressed here in detail but has to be considered in light of potential effects the road and bridge may have on any future landscape it is placed within.

The construction of the link road (described as southern link road and bridge approach) is generally complementary and consistent with the zoning changes and would provide for additional access to these areas - designated for higher density Residential C and Residential D.

Figure 10 –Existing semi-rural character - Johnstone St, east of Tinwald

4.1 Residential C

There are areas of Residential C adjoining the road corridor to the west, between Grahams Road and Johnstone St. The provisions within the district plan allow subdivision down to 360m^2 within Residential C if there is reticulated sewage. If no reticulated sewage exists, then the minimum allotment size is 1,000m^2. Within this area, there is currently no reticulated sewage so the larger allotment size would be expected until such services are made available e.g. installed by a developer or where included as part of the new road corridor. Photographs of existing Residential C development (within Tinwald) were taken during the site visit and generally represent the character that this type of development may have in the future (see Figure 11 and 12).

4.2 Residential D

There are areas of Residential D adjoining several sections of the proposed roading corridor, both to the west and to the east, from Grahams Road to Carters Terrace. Photographs of this type of development on the outskirts of Ashburton were taken during the site visit and generally represent the character of Residential D currently surrounding Ashburton (see Figure 13 and 14).

Figure 11 – Grove Road, Tinwald. Existing Residential C development

Figure 12 – Elmwood Grove, Tinwald. Existing, more recent Residential C development

Figure 13 – Company Road, Ashburton. Existing Residential D development

There is limited noticeable difference at this stage between rural and Residential D development surrounding Ashburton (see Figure 13). As District Plan changes were adopted in 2010 it may be that these changes will only be seen gradually. This is also due to no reticulated sewage being available. In locations where reticulated sewage is available more intense development can occur (minimum allotment size reduces from 10,000m^2 to 4000m^2).

It is envisaged however that there is unlikely to be wholesale change to the appearance of roads and landscapes (as people are buying for the semi-rural location) as a result of rural land changing to Residential D. It would be expected that shelterbelts will remain, but that where and when reticulated sewage is available the land and its open areas of pasture will be gradually 'in-filled'. In locations where there are no shelterbelts or these are removed, this change will be more apparent (see Figure 14).

Figure 14 – Company Road, Ashburton. Existing Residential D development

5 Landscape and Visual Effects

5.1 General

The immediate landscape and visual effect of the proposal will result from change to the local landscape – through the addition of a road and a further bridge across the Ashburton River. Change associated with the proposal and therefore any landscape and visual effects would not occur until the road and bridge are constructed, potentially not until 2026. However, there may be change as a result of district plan zoning changes which control the form and character of adjacent development.

There would be temporary effects associated with the construction of the new road and bridge, and permanent effects associated with the bridge once completed and established. Potential physical changes associated with the construction of the road and bridge include the removal of vegetation, the filling and construction of road embankments, the construction of swales and placement of the roading surface. Further visual changes will result from the implementation of stormwater retention and visual mitigation measures and the effects the bridge supports have on the fluvial dynamics of the river bed.

Levels of effect would peak during construction of the road and bridge and reduce gradually over time as any mitigation planting establishes or structures become weathered and used.

Currently the viewing audience affected will predominantly be those with lifestyle residences adjacent to the new road, residents of Tinwald, recreational users of the river and its banks and the travelling public heading north and south on SH1, in particular while crossing the existing SH1 bridge. The numbers of people affected is limited to several households.

As the district plan zones are in place already it is likely that the existing landscape character will change progressively and that there may be phases in urban development, directly affected by the proposed road corridor. It is important to consider the differing effects associated with the *current landscape character* and potential *future landscape character* dictated by zoning set out under the district plan.

The following discussion focusses on the effects of the proposed corridor on existing landscape character - section by section. A separate discussion then follows relating to the character of future urban development and the potential effects associated with the proposed corridor on this character.

5.2 Southern Link Road (Grahams Road - Carters Terrace)

Within the current landscape context the proposed road corridor follows the grid pattern of roads, paddocks, shelterbelts and drainage ditches in the area, which it sits well within and is consistent with the local grain of settlement. This alignment also means that only a limited amount of shelterbelt planting would need to be removed and that there is potential to reinforce this shelterbelt pattern with further planting, screening and shelterbelts.

The proposed road bisects land occupied by small holdings or lifestyle blocks and generally runs through fields, some isolated areas of tree planting and shelterbelt planting. One residential dwelling would require purchase and demolition and eight other residences would be immediately

adjacent to the proposed road. This would have some immediate and long-term effects for these residences with or without mitigation.

As the road will not be elevated to any noticeable degree above grade, earthworks for the road formation are likely to be relatively minor. Initially nearly the full width of the corridor would be disturbed and there would be shallow depressions excavated roadside at two locations for drainage swales/stormwater attenuation. Once completed and established with grass and/or planting these earthworks will be less obvious. Visually, in the long term, the road would have the potential to 'fit' within the broader and immediate landscape running either parallel or perpendicular to property boundaries, existing road alignments, shelterbelt patterns or water course patterns. The road would require the modification and culverting of a section of open channel at each crossing, including Carters Creek, which may have some existing indigenous ecological value.

Associated with intersections at Grahams Road, Johnstone Street, Wilkins Road and Carters Terrace would be an increase in light spill from street lighting. While the effects of this are likely to be minor and only properties immediately adjacent would be affected, some planting mitigation between lighting and the adjacent properties may be included to reduce any effects.

5.2.1 Residential C and Residential D

At present there is little noticeable difference between landscape character in Residential C and Residential D in areas traversed by the proposed road, therefore the effects on each (based on present character) have not been differentiated. As these zones are developed in the future, the character is expected to change and this is discussed in the Future Urban Development section below.

5.3 Bridge Approach (Carters Terrace to River)

The proposed road in this section bisects land occupied by two residences then crosses through paddocks before entering pine plantation and poplar flood protection planting. Some shelter, plantation gum and a large number of plantation pine and poplar trees would require removal. Two residences would be immediately adjacent to the road. As mentioned above there may be some increase in localised light to these properties from the road corridor, but the levels are expected to be less than minor.

While there would be a broad cut through the plantation required (55m wide), views towards to the felled corridor through the trees are localised and restricted by adjacent shelterbelts. There are some immediate and some distant locations that will have a view towards this area of removed trees, but these are limited. There is also a small area of relatively recent native planting within the poplar plantation; a portion of which would need to be removed.

The road formation itself may become more visible as the road rises from the river terrace level to bridge level. The most visible feature of the road formation will be its embankments. As the finished height of the new bridge is anticipated to be equivalent to the existing road bridge height, only low embankments are required (less than 5 m height). In addition the section where the road is highest will be partially obscured by the remaining plantation forest and this will reduce its effect. Likely views of the road and its associated embankment from Carters Terrace and adjoining properties will also be infrequent and will be partially obscured by existing shelterbelts.

5.4 Bridge/River Crossing

The proposed bridge will be the third crossing of the river within a 700-800 m long section of the open, river bed. Views from the river bed, adjacent walking and cycling trails north and south of the proposed bridge and from the existing SH1 road bridge will be affected and the visual quality of the river at this location will be altered. The effect of this on the natural character of the river bed will be limited due to the presence of the two existing bridges, coupled with the proposed bridge being visually less obtrusive than the existing bridges.

The bulk of the proposed bridge is to be considered in its design. Visual 'lightness' when viewed from adjacent bridges and the river banks and trails at ground level will be important considerations in limiting the potential visual effect of the proposed bridge . Part of the bulk of the bridge will be its approach embankments, which if positioned, designed and mitigated sensitively will help to lessen the visual effects of the bridge.

The new bridge has the potential to add amenity value to the area by providing better local connections to the river banks and its walking and cycling trails, along with offering a more pleasant experience when crossing the river than that experienced from the SH1 Bridge.

It is possible that the bridge structure may alter the way the river flows within the river bed, particularly during the construction period. Visually, however, this is likely to be consistent with the character of a braided river which regularly changes its course.

5.5 Chalmers Avenue South

Existing recreation facilities such as Collegiate South Sports Club and the Scout Facility within Robilliard Park may lose land on their frontage with the development of the proposed road. This may mean that these reserve areas are more exposed to traffic and/or traffic noise. Roadside parking to the playing fields may also be reduced or lost.

Access to businesses, facilities and residential dwellings may become restricted as they approach the bridge by the swales which do not allow traffic to turn right across opposite lanes. The continuity of Chalmers Avenue will create higher use and thoroughfare through this section of the street. This higher use may give better access to the recreation areas adjacent to the river including sports fields, scout facilities and walking and cycling trails. Cycling trails may also become better connected as a result.

5.6 Future Urban Development

5.6.1 General

It is the intent of the District Plan to encourage the development of areas east of Tinwald, adjacent to the southern link road by re-designating the areas of land as Residential C and Residential D.

The existing residential development in the area has been undertaken in accordance with the District Plan that existed prior to the 2010 District Plan review and what exists is therefore generally less dense than what is presently allowable.

All current or future landowners within Residential C and Residential D areas will be able to pursue intensification as a result of District Plan changes. These areas are therefore where the most

physical intensification and the greatest change in landscape character are likely to occur as a result of urban development.

The section of proposed corridor associated with the bridge approach, bridge and river crossing and Chalmers Avenue are not the focus of urban development under the district plan and so are only expected to change indirectly as a result. In these areas the existing landscape character is likely to remain as it is at present.

The areas likely to develop first and most noticeably are those zoned Residential C, which is closest to existing residential development on the eastern fringe of Tinwald. The development of Residential D areas may be slower and may represent a more subtle change in landscape character over time. As the District Plan zone changes are relatively new, the effects of the changes on local landscape character are limited or not yet visible.

The proximity of future dwellings or buildings to the corridor is also a consideration and varies between Residential C (no setback) and Residential D (no setback where the designation runs through properties, 6m internal boundary setback where the designation runs along property boundaries). The combination of less density and greater potential distance to dwellings means that the likely effect of the ASUB on Residential D is different and less than that on Residential C.

It is uncertain when or at what speed development might occur. What is known is that only a lower level of development intensity is possible without reticulated sewage under the District Plan. This may result in two density ceilings for residential development;

- No sewage reticulation throughout the area would result in limited residential development to the larger allotment sizes of 1,000m^2 (Residential C) or 10,000m^2 (Residential D)
- Sewage reticulation throughout the area, would allow full development to that allowed by the District Plan with smaller allotment sizes of 360m^2 (Residential C) or 4,000m^2 (Residential D).

The following is a discussion of the *possible future landscape character* of Residential C and Residential D areas into which the road and bridge may be constructed and the likely level of landscape and visual effects on each.

5.6.2 Patterns of Development

It is difficult to predict what the future form of development may be – as this is driven at present by private landowners and economic factors. The pattern of this development is however likely to take forms driven by access and services available to future developers. At present access to land associated with Residential C is limited to Grahams Road and Johnstone Street. This access may lead to cul-de sac type development leading from either road from Tinwald to the west. This type of development (if developed prior to the proposed link road being installed) is likely to lead to the associated land parcels backing onto the proposed road designation. If the ASUB link road was constructed within this context there would be limited or no relationship between the road as the adjacent properties would not be serviced or orientated towards it. This would not be consistent with the historic pattern of development of Tinwald or good urban design practice.

The preferred scenario is where development is laid out to become accessed by or at least to have frontage to all adjacent roads, including the proposed new link road. This scenario is generally

better from an urban design perspective as it allows all roadside frontages to become 'active' and is consistent with the historic fabric of residential development in adjacent Tinwald.

The two scenarios discussed are related to the timing and existence of the ASUB project. The best possible pattern of development is important to ensure a fit for not only Residential C but also Residential D zones within the Tinwald context and to ensure ad-hoc development does not occur.

5.6.3 Residential C

Without reticulated sewage, development density in Residential C can only reach the lower levels of density stipulated by the partially operative district plan, from an existing density of approximately 2ha minimum to 1,000m^2.

With reticulated sewage, development density could achieve the higher levels set out within the partially operative district plan of 360m^2.

5.6.3.1 Limited Intensity (without reticulated sewage)

This change in density is likely in the future to be characterised by a more 'suburban character' than at present however. It is likely it would not achieve a true suburban character as already evident in Tinwald and Ashburton (see Figures 11 & 12). The change associated with limited intensity may be characterised by the disappearance of paddock areas, removal of larger shelterbelt planting or a change to more residential-scale hedges, greater regularity and visibility of medium sized residential housing from the street, residential fence styles and mown (rather than grazed) lawns and planted gardens. Streetscapes may become more tailored and include kerb and channel, street tree planting and footpaths.

5.6.3.2 Full Intensity (with reticulated sewage)

This change in density will result in a fully residential character, perhaps best represented by more recent residential developments already existing in Tinwald and Ashburton (see Figure 12). Areas of Residential C will be strongly associated with Tinwald rather than the adjacent semi-rural landscape. The change may be characterised by a typical residential streetscape, with regular boundaries and single story residential dwellings directly accessed off the street and perhaps leading to a garage, fencing and or hedges and properties with a smaller front and slightly larger rear garden.

5.6.3.3 Effects

The anticipated future effect of the ASUB project on the landscape and visual character areas with limited intensity would be less than the effect on the current landscape character. The proposed road would be more consistent with areas of Residential C and the more residential feel of these areas if it functions as an access road to the properties adjoining it and these properties front onto it. The effects of the road on these areas if they do not front or access the road directly would be greater and would require mitigation. These effects could be prevented rather than mitigated and this is discussed under potential mitigation.

The anticipated future effect of the ASUB project on the landscape and visual character areas with full intensity would be considerably less than the effect on the current landscape character. The proposed road would better fit with the likely character of the area and would serve as an expected, built link to support the increased urban growth.

5.6.4 Residential D

Without reticulated sewage, development density in Residential D areas can only reach the lower levels of density stipulated by the partially operative District Plan from the current approximate 2ha sized blocks to 10,000m^2. With reticulated sewage, development density could achieve the higher levels set out within the partially operative district plan of 4,000m^2.

5.6.4.1 Limited Intensity (without reticulated sewage)

This change in density would likely be characterised by minor infilling of pasture and paddocks with scattered residential housing. The change might also be characterised by the appearance of occasional larger houses, with associated driveways. It is considered unlikely that shelterbelts would be removed, but these may be gradually replaced by hedges and more formalised residential entrances may be evident. In locations where there are no shelterbelts or these are removed, this change will be more apparent.

5.6.4.2 Full Intensity (with reticulated sewage)

This change in density would likely be characterised by the appearance of more and larger houses, more driveways to access the increased density of houses and more gates and walls to be constructed to formalise residential entranceways. In locations where there are no shelterbelts or these are removed, this change will be more apparent.

5.6.4.3 Effects

The anticipated future effect of the ASUB Project on the landscape and visual character areas with limited intensity would be less than the effect on the current landscape character. The ASUB Project would also be more consistent with Residential D as these areas evolve from lifestyle blocks to large residential blocks. As with Residential C, the effects on adjacent Residential D will depend on the form which the future development takes. It is more likely that areas of Residential D development may be slower to progress, or have limited intensity until the ASUB is completed.

The anticipated future effect of the ASUB project on the landscape and visual character areas with full intensity would be considerably less than the effect on the current landscape character. The proposed road would fit with the likely character of the area and would serve as a natural link to support this increased urban growth. Areas within Residential D zones would also be accessed using the proposed road and the route would likely provide a necessary local link to support development and movement between Tinwald and Ashburton.

6 Potential Mitigation

6.1 General

The primary visual mitigation measure will be to design and implement the proposal with the least possible landscape and visual effect, by limiting vegetation and (in particular) shelterbelt removal and the extent of physical earthworks.

Bridge approaches and the bridge itself should be carefully designed to sit comfortably within this existing landscape, improve amenity and make provision for future growth and development.

A landscape plan should be prepared during detailed design to ensure that mitigation measures and landscape treatments are properly addressed, having regard to the future state of the environment anticipated at the time of construction. The landscape plan would include landscape treatments such as tree and shelterbelt planting, general roadside swale and embankment planting to improve the amenity of the area, and address landform and planting surrounding the playing fields and the scout facility. It would also address the continuation of street tree planting on Chalmers Avenue.

6.2 Southern link road

6.2.1 General Mitigation

Design measures for the Southern Link Road should include maintaining, where possible, the designed road height at surrounding ground levels and limiting visual disturbance caused by earthworks.

During construction, where swales are to be built, they should be re-grassed as quickly as possible to lessen temporary scarring. Roadside tree planting should be installed within the roadside swales to give consistency and character to the ASUB route.

Whilst not necessary to mitigate any adverse effects of the link road, the naturalisation of Carters Creek could be undertaken.

6.2.2 Residential C Mitigation

If the Residential C properties between Grahams Rd to Johnstone St are developed prior to the construction of the ASUB corridor and which back onto the ASUB route, the margins of the proposed stormwater basin and the whole of the stormwater swales adjoining the Residential C land should be planted to provide a screen to these properties.

If Residential C properties are accessed by, or front on to the adjoining ASUB corridor then only the general mitigation under 6.1 above would be required.

Whilst not necessary to mitigate any adverse effects of the link road, to prevent the ad-hoc development of land associated with Residential C and Residential D land an Outline Development Plan could be prepared for the areas either side of the ASUB designation from Grahams Road to Carters Terrace and the bridge approach.

Although it is not known how this land may be developed, a potential means of stimulating development of Residential C areas and encouraging access and frontage onto the proposed route is to fast-track the construction of the section of road between Grahams Road and Johnstone Street The existence of the road may change the access options for developers, and this matter could be discussed between the Council and landowners.

6.2.3 Residential D Mitigation

The reinstatement of specimen tree planting alongside the link road should be undertaken where the removal of shelterbelts is required in areas adjoining the Residential D zone. This would serve to complement and reinforce existing semi-rural shelterbelt planting (which is expected to largely remain) and restrict views towards the road, and/or the southern bridge approach.

Hedge and specimen tree planting could be used to screen residents from the new road and to protect from properties adjacent to any roundabouts from light-spill, if roundabouts are implemented as part the ASUB project. However it is noted the Assessment of Lighting Effects states this specific mitigation is not required as the concept lighting design will meet the relevant lighting standards for light spill and glare.

6.3 Bridge Approach

6.3.1 General Mitigation

Measures to lessen the effects of the fill embankments include shaping the form of earthworks and integrating them with the surrounding landform. Gentle grades and well-rounded profiles to the top edge of batters should be provided, so that all of the final earthworks can be easily topsoiled and planted.

Appropriate planting should then be carried out to these embankment slopes. The nature of such planting would need to be decided when the bridge construction is confirmed as adjacent plantations may have changed or may have a limited life expectancy e.g. if they are to be felled. The same applies to the river margin planting. Planting will need to complement and 'fit' comfortably within the adjacent landscape character.

As a minimum, paths and access to riverside paths need to be reinstated after construction to continue access along the river for pedestrians and cyclists.

Whilst not necessary to mitigate any potential landscape adverse effects, the following additional measures could be implemented:

- Bridge approaches could allow for and provide paths for improved access to river side trails for both cyclists and pedestrians, therefore improving amenity of the areas. Consideration could also be given to the future infill of land and provision made for pedestrian and cycle access across intersections to the bridge approach, across the bridge and/or to the river banks. The paths could link and supplement cycle lanes within the road carriageway.

- Any group involved with (authorised) planting of the river banks which requires removal may wish to have their existing planting replaced or substituted.

6.4 Bridge/River Crossing

6.4.1 General Mitigation

To reduce the size of the bridge approach embankments, the finished height and the bulk of the bridge are of importance and careful consideration should be given to the detail of this structure.

A generally thinner profile and a thinner edge to bridge structures should be designed to help to create more shadow and less visual bulk. Improvements in structural design should allow greater spans to bridges meaning less supports may be required. This would be desirable to reduce the visual bulk of the bridge.

Embankments should be designed with shallow gradients and could be 'set-back' from the river bank so that river edge planting and plantations obscure the embankments when viewed from the river bank, adjacent bridges and riverside trails. Embankments should then be planted with planting sympathetic to their immediate surrounds. This would need to be assessed at the time.

Whilst not necessary to mitigate any potential adverse landscape effects arising from the proposed bridge, riverside trails and cycleways could be incorporated into the design of the underside of the bridge, providing quality permanent thoroughfare under the bridge from adjacent trails and from the bridge approach pathways.

6.5 Chalmers Avenue West

To ensure access to recreational, commercial and private properties adjoining the proposed road, suitable crossings allowing access across swales in the centre of the road should be provided. Planted earth bunds should be included between the playing fields and clubrooms and the proposed road, and also to screen the scout camp from the road. This should limit visual exposure from the road and provide a physical barrier to prevent balls entering the road.

As a minimum, paths and access to riverside paths need to be reinstated after construction to continue access along the river for pedestrians and cyclists.

Whilst not necessary to mitigate any potential adverse effects arising from the proposed ASUB project on Chalmers Avenue west, the following additional measures could be implemented:

- Entrance planting and planting of bunds could be included between playing fields and clubrooms and the proposed road and also to provide further screening.
- Tree planting in the central swale could be installed to give a consistency with the northern section of Chalmers Avenue.
- To improve local amenity and access, the bridge could link riverside reserves on either side. Direct and permanent access paths could be provided between them, roadside and also riverside - below the bridge.
- Bridge approaches could provide paths for improved access to river side trails for both cyclists and pedestrians, therefore improving amenity of the area. Consideration could also be given to access to the playing fields and provision made for pedestrian and cycle access across intersections across the bridge and/or to the river banks. The paths should link-up and supplement cycle lanes within the road carriageway.

7 Actual or potential effects

7.1 General

Actual or potential effects of the proposed ASUB have to be viewed in light of current landscape character, future landscape character (as a result of district plan zoning) and the effects of the ASUB project following its completion. These effects are balanced against mitigation measures possible.

The scale used is a 5 point scale:

- Low
- Moderate-low
- Moderate
- Moderate-high
- High

Each of the sections have been described and discussed separately as each has a distinct existing and potential future character along with different levels of effects associated with this project.

7.2 Southern Link Road

This section of the project has the most potential to change as a result of future urban development not associated with the ASUB project. Landscape character is likely to change as a result from its present semi-rural landscape to a potentially (within Residential C) more suburban environment and a potentially (in Residential D) more semi-residential environment.

7.2.1 Residential C

Existing landscape character: Based on the existing landscape character, the potential effect of the ASUB on this section would be moderate to low. With the mitigation measures as proposed in Section 8 of this report, the potential effect would be low.

Future Limited Intensity: Based on the future potential limited densities without reticulated sewage, the potential effect of the ASUB on this section would be low. With the mitigation measures as proposed in Section 8 of this report, the potential effect would also be low.

Future Full Intensity: Based on the future potential full densities with reticulated sewage, the potential effect of the ASUB on this section would be low. With the mitigation measures as proposed in Section 8 of this report the potential effect would also be low.

7.3 Bridge Approach

The bridge approach would be a continuation of the road through small holding paddocks with potential increasing density and plantation (envisaged to stay in some form). Assuming

shelterbelts are largely retained the effects would have limited and localised impact as views towards the approach are short. The main effect would be during construction.

Existing landscape character: Based on existing landscape character the effects would be considered low. With the mitigation measures as proposed in Section 8 of this report, the potential effect would also be low.

Future Limited Intensity: Based on the future potential limited densities without reticulated sewage the effects would be considered low. With the mitigation measures as proposed in Section 8 of this report, the potential effect would also be low.

Future Full Intensity: Based on the future potential full densities with reticulated sewage the effects would be considered low. With the mitigation measures as proposed in Section 8 of this report, the potential effects would also be low.

7.4 Bridge/River Crossing

The proposed bridge is situated within 700m of two existing bridges. Views towards the bridge are restricted and there is little apparent use of the river bed itself from where visual effects would be most evident. The biggest effect would be on recreational users using the riverside trails. The bridge would improve amenity in the area and improve access across and to the river banks and therefore the amenity of the area. The bridge could be designed in such a way that it has less effect than existing bridges.

Existing/future landscape character: The effects of the proposed bridge would be moderate and with bridge design mitigation, moderate-low.

7.5 Chalmers Avenue West

There is currently no existing road at the southern end of Chalmers Ave. Its continuation would provide improved access and amenity to local residents, light industry and recreational users. It is considered that for this location effects would be on the balance positive.

Existing/future landscape character: The effects would be considered low and with mitigation measures low or positive.

8 Recommended Conditions

In order to mitigate the identified adverse effects, the following conditions are recommended for the proposed designation:

1. Detailed landscape plans shall be prepared by a suitably qualified landscape architect.
2. The detailed landscape plans shall demonstrate how the proposal fits within the environment and shall include the following matters:
    a. The extent of vegetation removal and earthworks.
    b. The proposed finished road heights, road embankments, bridge and adjoining land levels.
    c. Access to adjacent recreational, commercial and private properties and residences along the route of the proposed link road and Chalmers Avenue west.
    d. Landscape mitigation treatments, including the following:
        i. Detailed planting plans with plant and tree species, sizes and spacings
        ii. Landscape specifications
        iii. The re-grassing of construction zones
        iv. Swale and stormwater basin planting and treatment throughout the length of the proposed link road, including specimen tree planting in areas where shelterbelts have been removed and to give consistency and character to the proposed route
        v. The screening of the Residential C zone from the proposed road, if residential development has occurred ahead of the road construction and residential properties are backing onto the road
        vi. The proposed planting and treatment of bridge embankments that is sympathetic to its surroundings, as assessed at the time of detailed design
        vii. Bridge and abutments form / aesthetic treatments
        viii. The reinstatement of riverside paths, and access to riverside paths, following construction
        ix. The provision of planted earth bunds adjacent to recreational and private properties adjacent to Chalmers Avenue west
        x. The continuation of street tree planting on Chalmers Avenue west.

9 Conclusion

The proposed Ashburton Second Urban Bridge project is designed to provide improved amenity and access for local residents between Ashburton and Tinwald. The project is in several parts, each having a differing current and potential future landscape character.

As the district plan provisions have been designed to encourage residential development to the East of Tinwald, the ASUB proposal appears to be in line with and support these district plan provisions for expanded residential development south of Tinwald. The effects of these provisions is likely to mean changes to the landscape character south of the River, adjacent to Tinwald and this landscape character change will be on-going regardless of the ASUB project.

Based on the existing landscape character, and with effective mitigation as described in the recommended conditions, the ASUB project would have minor landscape and visual effects.

In the future, the landscape and visual effects of the ASUB appear to be likely to reduce further over time and with effective mitigation be less than minor.

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