

Parkes Bypass

Landscape character and visual impact assessment, landscape concept and urban design report

Roads and Maritime Services | October 2018



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Landscape Character and Visual Impact Assessment, Landscape Concept and Urban Design Report

Prepared by

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Figure 1 Clarinda Street, Parkes

A wide, gravel-paved road stretches from the foreground into the distance, curving slightly to the right. The road is flanked by dry, yellowish-brown grasses and scattered green trees and shrubs. In the background, rolling hills rise under a clear, light blue sky. The overall scene is a rural, open landscape.

1.0 INTRODUCTION

1.0 INTRODUCTION

On 8th December 2016, the Minister for Roads and Freight Duncan Gay announced the preferred route of the Parkes Bypass, as part of the NSW Government's \$500 million investment to upgrade the key freight corridor.

The proposal would see a new 10.5 kilometre section of the highway built west of Parkes, near Maguire Road reconnecting south of the town near Barkers Road. Two new bridges would also be built, one across Hartigan Avenue and the other one over the railway line, allowing freight trains travelling the line to haul double-stacked containers.

Upgrade of the Parkes Bypass aims to improve:

- Freight efficiency and productivity.
- Access for high productivity vehicles (heavy vehicles) through Parkes as well as providing a link to existing road train routes to the west.
- Safety of the railway level crossings.
- Travel times at Forbes Road level crossing (near Hartigan Avenue) and the welcome level crossing.
- Pedestrian access in Parkes particularly across Bogan street.
- Access to Parkes National Logistics Hub.
- The attractiveness of Parkes as a place to live and work.
- East-west traffic flow in Parkes, particularly Henry Parkes Way to Orange and Condobolin.

1.1 Purpose of report

CLOUSTON Associates was commissioned by WSP on behalf of Roads and Maritime Services to prepare a Visual Impact Assessment (VIA) for the proposed Parkes Bypass upgrades to the Newell Highway (hereafter, referred to as 'the proposal'). This has subsequently extended to include a landscape concept plan and urban design report.

Approval for the proposal is being sought under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act) for which a Review of Environmental Factors (REF) is being prepared. The purpose of the VIA is to support the REF for the proposal and is one of a number of technical reports for the proposal.

1.2 The VIA study context

The VIA aims to ensure effects of change and development in the landscape, views and visual amenity are taken into account. It reviews HOW individuals or groups of people surrounding the site may be specifically affected by change in the landscape, both quantitatively and qualitatively.

Visual Impact Assessment is not an exact science and consequently is subject to varied methodologies both in Australia and overseas. To provide a measurable framework, this assessment has been undertaken in accordance with the structure outlined in the Roads and Maritime Services (RMS) Environmental Impact Assessment Guidance Note EIA-N04 - Guidelines for Landscape Character and Visual Impact Assessment. This methodology is considered the most relevant to the proposal and is consistent with international best practice.

This assessment is an independent report and is based on a professional analysis of the landscape and the proposal at the time of writing. The current and potential future viewers (visual receptors) have not been consulted about their perceptions. The analysis and conclusions are therefore based solely on a professional assessment of the anticipated impacts, based on a best practice methodology.

Further details on the methodology can be found within the relevant chapters.

1.3 Legislative Policy and Context

The key legislative and planning instruments that have a bearing on the visual and amenity assessment and implications for the proposed development include;

- Environmental Planning and Assessment Act, 1979 (NSW)
- Parkes Local Environmental Plan 2012
- NSW State Heritage Register and Heritage Act 1977
- Parkes Shire Land Use Strategy 2011/12
- Newell Highway Corridor Strategy
- The Land and Environment Court's Planning Principles (for assessing views)

A. Environmental Planning and Assessment Act, 1979 (NSW)

The EP&A Act provides the statutory basis for planning and environmental assessment in NSW. Assessment and approvals may be carried out under various parts of the Act, depending on the requirements of environmental planning instruments, and the scale and nature of impacts of the upgrade work. The Parkes Bypass proposal is to be assessed under Part 5 which provides for control of 'activities' that need to be determined under the infrastructure SEPP by Roads and Maritime Services.

B. State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) aims to facilitate the effective delivery of infrastructure across the State. Clause 94 of ISEPP permits development on any land for the purpose of a road or road infrastructure facilities to be carried out by or on behalf of a public authority without consent.

Part 2 of the ISEPP contains provisions for public authorities to consult with local councils and other public authorities before the commencement of certain types of development.

C. Parkes Local Environmental Plan 2012

The search area is located within the Parkes Shire Council LGA and is subject to land use zones of the Parkes Local Environmental Plan 2012 (Parkes Local Environmental Plan 2012).

The search area includes the following zones under the Parkes Local Environmental Plan 2012 - refer Figure 01:

- Public recreation - RE1
- Primary production - RU1
- Infrastructure – Road facilities - SP2
- Infrastructure – Rail infrastructure - SP2
- General residential - R1
- Local centre - B2
- Mixed use - B4
- Large lot residential - R5
- Private recreation - RE2
- Special activities – Freight transport facility - SP1.

The provisions of the ISEPP override any development consent requirements under the Parkes Local Environmental Plan 2012 and therefore the upgrade would not require development consent.

D. Parkes Shire Land Use Strategy 2011/12

The Parkes Shire Land Use Strategy 2011/12 (Parkes Shire Council 2012) provides a framework for the long term and sustainable planning for the Parkes local government area, including the protection of productive land resources for agricultural purposes, the town centre for key retail and commercial activities.

E. Draft Newell Highway Corridor Strategy

Transport for NSW (TfNSW, 2014), in collaboration with Roads and Maritime Services, has prepared a draft Newell Highway Corridor Strategy to address the transport needs of the corridor, including support for greater use of longer heavy vehicles.

This draft strategy sets out the objectives, current performance and issues in managing the Newell Highway corridor over the long term. It details a series of safety, asset and traffic solutions to meet the current and future challenges along the highway.

The strategy identifies a number of key challenges for the Newell Highway corridor, including diminished urban amenity in towns resulting from through movements of significant numbers of heavy vehicles. To respond to this challenge, an assessment was undertaken to identify priority locations for town bypasses along the Newell Highway corridor over the next 20 years.

The assessment identified the need for a bypass of Parkes. Another challenge identified by the strategy is that access to some sections of the Newell Highway corridor by longer heavy vehicles is limited by current intersection configurations and also by narrow pavements. In particular, there are intersections that need to be improved to facilitate longer heavy vehicles access through Parkes.

The strategy recommends a medium term action to identify and develop solutions for providing access for longer heavy vehicles / High productivity vehicles through Parkes, such as a bypass to address deficient intersections. The draft strategy identifies the following deficient intersections:

- Clarinda Street and Mitchell Street
- Bogan Avenue and Hartigan Avenue
- Hartigan Avenue and Forbes Street and nearby railway level crossing.

F. The Land and Environment Court Planning Principles

The Land and Environment Court of New South Wales was established in 1980 by the Land and Environment Court Act 1979. Relevant principles have been developed in visual assessment case judgments to guide future decision-making in development appeals. These include separate but related principles for private and public domain views.

The principles set out a process for assessing the acceptability of impact. The two relevant cases are:

- Private views - Tenacity Consulting v Warringah Council (2004)
- Public domain views - Rose Bay Marina Pty Limited v Woollahra Municipal Council (2013)

Considerations from these two court cases have been included in the visual assessment.

Zoning

- RU1 Primary Production
- RU3 Forestry
- RU5 Village
- R1 General Residential
- R5 Large Lot Residential
- B2 Local Centre
- B4 Mixed Use
- IN1 General Industrial
- SP1 Special Activities
- SP2 Infrastructure
- RE1 Public Recreation
- RE2 Private Recreation
- E1 National Parks and Nature Reserves

Cadastral

Cadastral 03/07/11 © Land & Property Information (LPI)

Approximate proposed road alignment

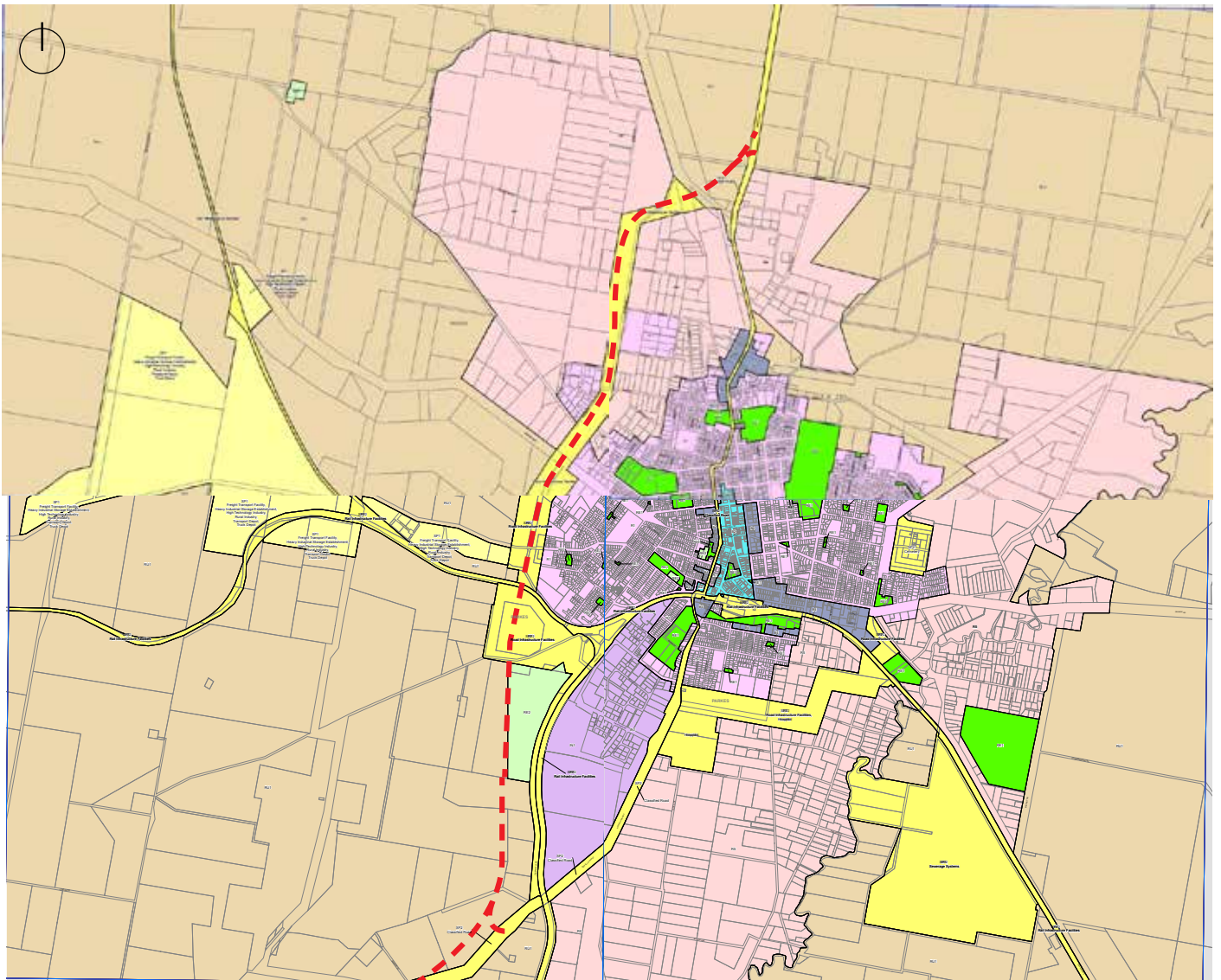


Figure 2 Parkes Local Environmental Plan 2012 zoning map (New South Wales Government)

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2.0

THE PROPOSAL

2.0 THE PROPOSAL

2.1 Location

Parkes is located around 300 kilometres north-west of Sydney, within the Central West NSW region - refer to Figure 3. The LGA comprises of Parkes and smaller communities including Peak Hill, Tullamore, Bogan Gate and Trundle.

The major industries operating within the Parkes LGA are agriculture, transport, mining and tourism.

The Newell Highway (A39) is the longest highway in NSW, extending 1060 kilometres south to north through the State and providing an essential road connection for central western NSW. The Newell Highway provides:

- A major interstate transport connection between Victoria, New South Wales and Queensland for freight and passengers, including tourists.
- A significant regional traffic route serving and linking a range of towns and major centres.
- A key link to domestic and export markets for agricultural products.

2.2 Description

The existing Newell Highway bisects Parkes impacting upon residential amenity and creating a barrier to east-west movements in town. The highway in Parkes includes four 90 degree bends, three of which cannot accommodate the turning movement of long heavy vehicles.

The Freight and Ports strategy (2013) identifies the requirement to remove freight transport constraints. The Hartigan Avenue railway level crossing has an average of 28 train movements per day with the average delay being 2.5 minutes per movement.

There is also another level crossing 4.5 kilometres south of Parkes with fewer train movements.

Parkes Shire Council has funded development of a concept for an 8.5 kilometres long western ring road at Parkes including design plans and route specific review of environmental factors, and has built an 800 metre section of the route (Westlime Road).

Roads and Maritime Services (Roads and Maritime) proposes to build a new 10.5 kilometre bypass about 1.5km to 2.0km west of the existing Newell Highway in Parks, NSW (the proposal).

The proposal's key features include:

- A new two-lane bypass (one lane each direction) with four key intersections comprising:
 - T-intersections where the new bypass connects to the existing highway near Barkers Road (south) and Maguire Road (north).
 - A staggered T-intersection at London Road.
 - A four-way roundabout at Condobolin Road.
- A bridge over the Broken Hill and Parkes to Narromine rail lines and Hartigan Avenue and a shared pedestrian/cycle way bridge over the Parkes Bypass connecting Victoria Street and Back Trundle Road.
- An extension of Hartigan Avenue that would connect to Brolgan Road (west of the bypass) and Condobolin Road.
- Changes to local roads to tie in with new bypass.

The proposal's key objectives are to:

- Enable safe access for PBS3a freight vehicles through Parkes to improve freight efficiency and productivity.
- Improve safety of the railway level crossings and reduce or eliminate the travel delays caused by railway operations.
- Facilitate future connectivity improvements to Parkes Logistics Hub as and when the traffic demand warrants.
- Improve the amenity and pedestrian access in Parkes in the vicinity of the existing Newell Highway alignment (secondary objective).

2.3 Search area

The search area specific to this assessment comprises the area of land surrounding the proposal corridor that could be potentially affected by the proposal works.



○ Proposal location

Figure 3 Proposal location - region

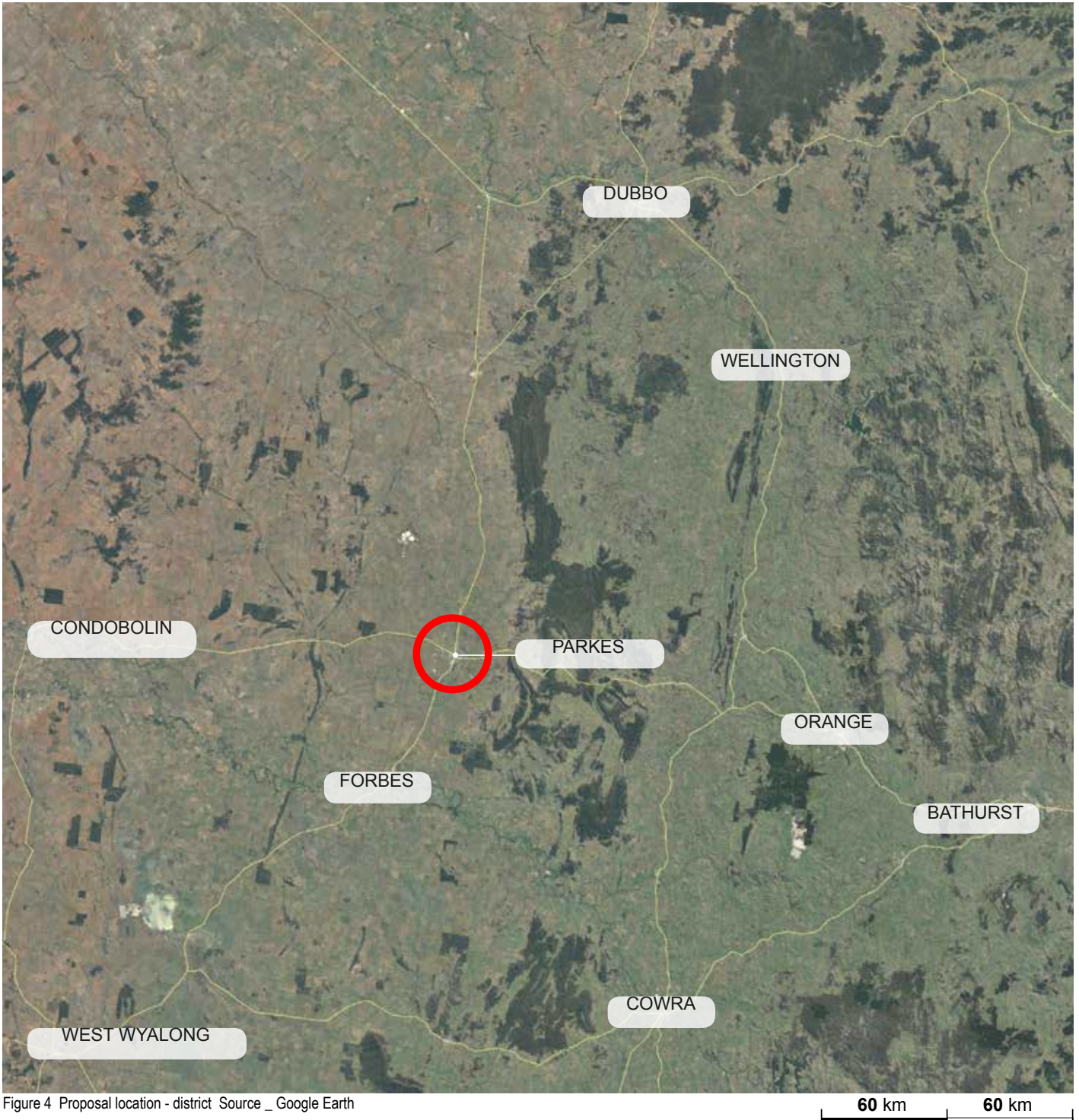


Figure 4 Proposal location - district Source _ Google Earth



Figure 8 - Parkes Golf Course



Figure 7 - Location of bridge crossing (Hartigan Avenue)



Figure 6 - Travelling Stock Route

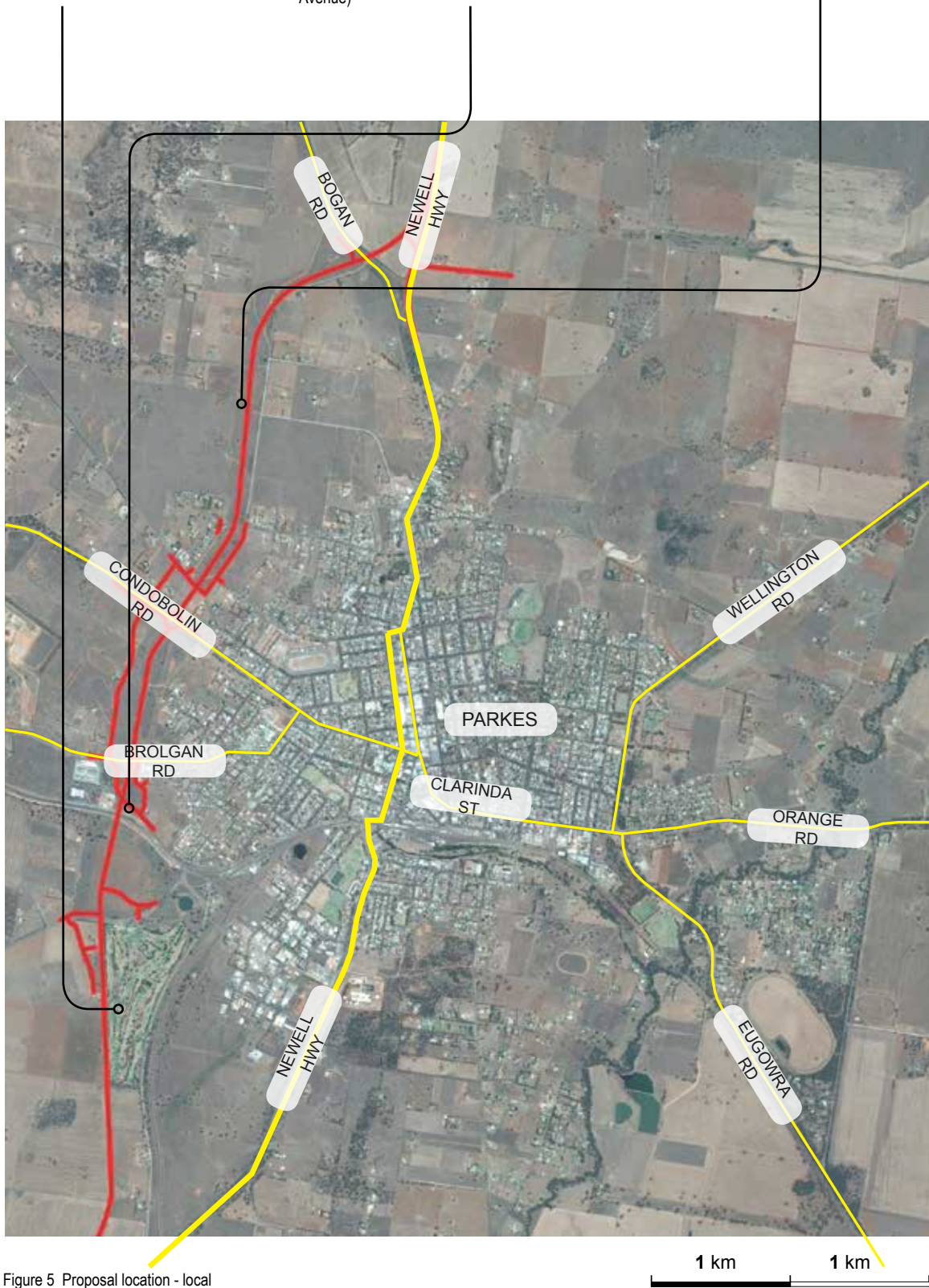


Figure 5 Proposal location - local

A landscape photograph showing a wide, flat field of dry, brownish grass in the foreground. A metal fence runs across the middle ground on the right side. In the distance, there is a line of green trees under a clear, bright blue sky. The overall scene is a rural, open landscape.

3.0 LANDSCAPE CHARACTER ASSESSMENT

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3.1 Site Context

The area surrounding the proposal is typical of the region, comprised of patches of native vegetation with areas cleared for agriculture, recreational, rural residential, industrial and commercial use.

Rural properties are scattered throughout the area with an increase in density in proximity to Parkes town centre. A large industrial area is located south of the town centre, surrounding McGlynn Park.

The northern extent of the proposal corridor is primarily a Travelling Stock Route surrounded by rural land.

Parkes Shire Council, with approval from the State Government, has rezoned 516 hectares of agricultural and industrial land on the western edge of the town centre in the vicinity of Brolgan Road for the development of the Parkes National Logistics Hub.

The site will be specifically designed for the 24 hour, 7 days per week operation of a multi-modal transport facility. An 800 metre portion of road (Westlime Road) has been built between Brolgan and Condobolin Roads as part of the Hub Access Road proposal in this area.

Public recreational facilities in the area include Parkes Golf Course, located adjacent to the southern section of the proposal corridor. No national parks are located in the search area. The Goobang National Park is located around 50 kilometres east of Parkes.

3.1.1 Access

Parkes is accessed by roads from the west including Condobolin Road and Brolgan Road and Bogan Road in the northern extent.

Other roads in the search area include Barkers Road in the southern extent, Westlime Road, Hartigan Avenue, London Road and Ballerdee Lane in the centre extent, and Goldrush Road, Chanter, Thomas and Moulden Streets, and Reedsdale Road in the northern extent.

A freight and passenger railway runs perpendicular to the Newell Highway, with high visibility from the road.

3.1.2 Vegetation and fauna

Most of the site is clear rural/ grazing land. However, there are few isolated groups of threatened ecological planting communities, which include:

- Western Grey Box- White Cypress Pine Tall woodland on loam soil on alluvial plains of NSW South Western Slopes Bioregion and Riverina Bioregion
- White box – White Cypress Pine – Western Grey Box shrub/grass/forb woodland in the NSW South Western Slopes Bioregion
- White Cypress Pine woodland on sandy loams in central NSW wheat belt
- Green Mallee – White Cypress Pine very tall mallee woodland on gravel rises mainly in the Cobar Peneplain Bioregion

One threatened animal species has been recorded on site:

- Grey-crowned Babbler

While there's no offset required, there is an opportunity to potentially re-establish threatened communities in certain areas where within road corridor. Any existing trees immediately outside the construction footprint would be fenced off/ protected during construction where possible.

Another 18 threatened species (17 threatened animal species and 1 threatened plant species) has been considered to have moderate/high likelihood of occurrence in terms of habitat characters, however, these threatened species, populations and planting communities are unlikely to be affected by the proposal.

3.1.3 Topography

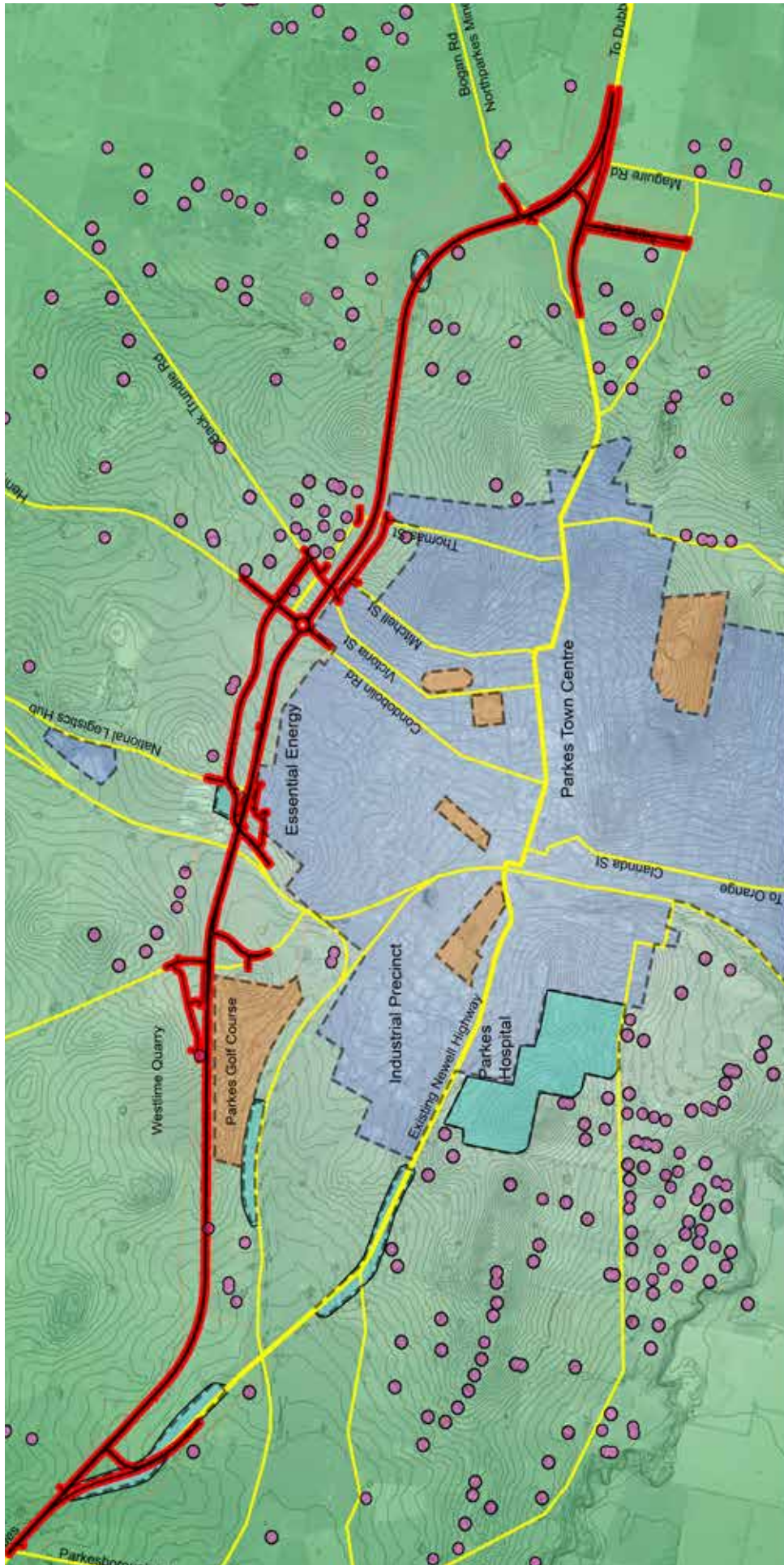
The elevation across the search area varies between 300 and 380 metres AHD. The elevation generally increases from south to north with minor undulations (less than 20 metres) west of the town centre - refer Figure 12.

3.1.4 Heritage

A study was undertaken to review Aboriginal and Non Aboriginal Heritage in the survey area. The fieldwork component of this assessment was undertaken by OzArk on Tuesday 21 and Wednesday 22 February 2017. Anthony Wilson, Tonia Robinson and Lyn Bell attended the survey on behalf of the Peak Hill Local Aboriginal Land Council (PHLALC).

Two Aboriginal sites, both scarred trees (Westlime Road-ST1 and Barkers Road-ST1), were recorded within the survey area as a result of the survey. Two previously recorded AHIMS sites (#43-3-0059 and #43-3-0061) were found to be located outside the survey area.

Six non-aboriginal heritage sites and/or objects were recorded during the assessment. One item listed on the State Heritage Register, the Parkes Railway Group, was found to be located outside the impact footprint. This is located at a significant distance from the proposal corridor and is unlikely to be impacted. [2017, OzArk. Aboriginal and Non-Aboriginal Heritage Assessment Report. Newell Highway (A39) Upgrade Proposal]



Legend

- zone 1 Remnant bushland
- zone 2 Farmland
- zone 3 Rural residential
- zone 4 Low density urban development
- zone 5 Transport corridor
- zone 6 Recreational facilities
- Proposal corridor

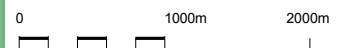


Figure 9 Landscape Character Zones

3.2 Landscape Character Zones

To enable the assessment of impacts on landscape character, landscape character zones have been determined for the proposal area. This report has adopted the Guidelines for Landscape Character and Visual Impact Assessment as published by Roads and Maritime Services.

Landscape character zones are defined as areas having a distinct, recognisable and consistent pattern of elements, be they natural (soil, vegetation, landform) and/or built form, making one landscape different from another. The proposal area and surrounds have been assessed and the following landscape character zones have been established (refer Figure 9).

3.2.1 Sensitivity

The degree to which a particular landscape type can accommodate change arising from a development, without detrimental effects on its character. This includes factors such as:

- existing land use
- the pattern and scale of the landscape
- visual enclosure, openness of views and distribution of visual receptors
- the value placed on the landscape.

Areas with a high sensitivity to change include zones with substantial natural landscape features, natural landscape types with inherent natural values and landscapes with heritage or cultural values.

3.2.2 Magnitude

The magnitude of the effects of the development within the landscape. Consideration is given to:

- existing built form in the landscape and how closely the development matches this in bulk, scale and form
- the scale or degree of change to the landscape resource
- the nature of the effect and its duration including whether it is permanent or temporary.

3.2.3 Overall Visual Impact Rating

The overall visual impact rating of the proposal on any given landscape character zone is based on the combination of magnitude and sensitivity ratings. The severity of these impacts are calculated using Table 1 - based on a combination of magnitude and sensitivity to find a final impact rating - Table 2.

| | High Magnitude | Moderate Magnitude | Low Magnitude | Negligible Magnitude |
|------------------------|-----------------|--------------------|---------------|----------------------|
| High Sensitivity | HIGH | HIGH - MODERATE | MODERATE | NEGLIGIBLE |
| Moderate Sensitivity | HIGH - MODERATE | MODERATE | MODERATE/LOW | NEGLIGIBLE |
| Low Sensitivity | MODERATE | MODERATE/LOW | LOW | NEGLIGIBLE |
| Negligible Sensitivity | NEGLIGIBLE | NEGLIGIBLE | NEGLIGIBLE | NEGLIGIBLE |

Table 1 - Landscape Character Impact Rating as a combination of Sensitivity and Magnitude. Source: Roads and Maritime Services Guidelines for Landscape Character and Visual Impact Assessment

| | |
|---------------|--|
| NEGLIGIBLE | Only a very small part of the proposal is discernible and/or is at such a distance that it is scarcely appreciated. Consequently, it would have very little effect on the landscape zone. |
| LOW | The proposal constitutes only a minor component within the landscape zone, which might be missed by the casual observer or receptor. Awareness of the proposal would not have a marked effect on the overall character of the zone |
| MODERATE/LOW | The proposal is a recognisable element within the character zone although would not have a marked effect on the overall quality of the landscape. |
| MODERATE | The proposal may form a visible and recognisable new element within the overall landscape that affects and changes its overall character. |
| MODERATE/HIGH | The proposal forms a large and apparent part of the scene that affects and changes its overall character. |
| HIGH | The proposal becomes the dominant feature of the scene to which other elements become subordinate, extensively affecting and changing the character of the landscape zone. |

Table 2 - Overall Landscape Character Impact ratings



Zone 1 - Remnant Bushland



Zone 2 - Farmland



Zone 3 - Rural residential



Zone 4 - Low density urban development



Zone 5 - Transport corridors



Zone 6 - Recreational facilities

LANDSCAPE ZONE 1 - REMNANT BUSHLAND



Figure 10 Remnant bushland along the Newell Highway to the south of Parkes

| Element | Description |
|--------------------|--|
| Topography | Gently undulating |
| Hydrology | Rainfall drains to creeks |
| Ecology/vegetation | The vegetation is dispersed consisting of native trees and grasses with little understory. |
| Land use | Agriculture |
| Built form | No built form |
| Spatial | Enclosed to open with views filtered by vegetation |

Description of Landscape Zone 1 - Remnant Bushland

This landscape character zone occurs in fragmented sections within the northern and southern extents of the proposal area. Vegetation is native and occurs in small stands and groups with limited understory.

Assessment

| Sensitivity |
|---|
| <p>A native woodland patch is located in the southern section of the proposal corridor and is dominated by Grey Box (<i>Eucalyptus microcarpa</i>) and meets the classification criteria (OEH, 2011) for the TSC Act endangered listed ecological community Inland Grey Box Woodland. The Grey Box trees are interspersed with White Box (<i>Eucalyptus albens</i>) and White Cypress Pine (<i>Callitris glaucophylla</i>), species which are characteristic of the ecological community.</p> <p>A small patch of White Box trees exists in the northern section of the proposal corridor in the area known as the 'Travelling Stock Route Stockman Camp'. This patch of trees meets the classification criteria for the ecological community White Box Yellow Box Blakely's Red Gum Woodland (Box-Gum Woodland), listed as endangered under the TSC Act.</p> <p>This zone has a low ability to accommodate change, removal of vegetation could alter its character substantially, leading to a high sensitivity rating.</p> |

| Magnitude |
|---|
| <p>The preferred road alignment has the potential to impact a highly limited section of remnant vegetation at both the northern and southern extents of the proposal corridor. A low magnitude rating has been recorded.</p> |

| Summary |
|--|
| <p>Overall, a moderate impact rating has been recorded on this character zone. The proposal would require the clearance of only a very small portion of remnant vegetation. Reduction in batter widths, tree protective fencing and a limitation of the construction footprint would assist in limiting the impacts on this zone further.</p> |

| | |
|---|----------|
| Sensitivity | HIGH |
| Magnitude | LOW |
| Overall Landscape Character Impact Rating | MODERATE |

From Table 01, using a combination of sensitivity and magnitude ratings.

LANDSCAPE ZONE 2 - FARMLAND



Figure 11 Typical farmland character on the outskirts of Parkes

| Element | Description |
|--------------------|---|
| Topography | Gently undulating topography with ridge lines and valleys |
| Hydrology | Rainfall drains to creeks and rural dams |
| Ecology/vegetation | Mostly exotic grasses with occasional shrubs and trees |
| Land use | Open fields/pasture/agriculture |
| Built form | Rural dwellings and farm buildings |
| Spatial | Mostly open with far reaching views to surrounding hills |

Description of Landscape Zone 2 - Farmland

This landscape character zone is of a large scale and mostly open in nature with a gently rolling landform. The size of lots tends to increase with distance from Parkes. The overall landscape pattern created by fields of grass pasture is smooth, regular and uniform. Trees are present in groups or as isolated individuals.

Assessment

| Sensitivity |
|--|
| <p>There is a general absence of major development throughout this landscape zone. Extensive views to ridge lines and distant hills are available from open areas. The structure of the landform is simple and contains few distinct features.</p> <p>Any new development has the potential to stand out within the character zone, although the large scale of the landscape allows it to absorb some change. This landscape zone is rated as having a moderate sensitivity.</p> |
| Magnitude |
| <p>The proposal would be slightly larger in scale and bulk to the existing sections of the Parkes Bypass that run through this character zone. The proposed road batters, traffic, bridge structure and road furniture may be discernible, having a moderate magnitude of change within the zone.</p> |
| Summary |
| <p>The new road corridor may slightly alter the rural character of the farmland through which it passes, increasing the scale and bulk of built elements present within the character zone and spatially dividing the area. Overall a moderate impact rating has been recorded.</p> |

| | |
|---|----------|
| Sensitivity | MODERATE |
| Magnitude | MODERATE |
| Overall Landscape Character Impact Rating | MODERATE |

From Table 01, using a combination of sensitivity and magnitude ratings.

LANDSCAPE ZONE 3 - RURAL RESIDENTIAL



Figure 12 Typical rural residential dwelling off Ballerdee Lane

| Element | Description |
|--------------------|---|
| Topography | Varied topography |
| Hydrology | Rainfall drains to creeks and rural dams or subsurface urban drainage |
| Ecology/vegetation | Native and exotic planting within property boundaries, often planted as tall windbreaks |
| Land use | Residential and agricultural |
| Built form | Dwellings and farm buildings |
| Spatial | Varies between enclosed and open depending on topography and vegetation |

Description of Landscape Zone 3 - Rural Residential

This character zone is dispersed across the search area and consists of residential dwellings and farm buildings. Many properties are relatively isolated and located on large lots. Some dwellings are positioned on raised slopes with far reaching views over the surrounding landscape. Vegetation planted as windbreaks often surrounds properties and where present, limits long distance views.

Assessment

Sensitivity

Rural residential development is widely dispersed and mostly of a very low density. The isolation, large plot sizes and lack of surrounding development are important features of this character zone are often reasons for residents locating here. Any new development may alter the character of the zone and it is described as having a **high** sensitivity to change.

Magnitude

The road corridor may be clearly visible from some parts of this zone, increasing the density of transport infrastructure within the area and diminishing the rural aspect of some of these properties. The proposal is described as having a **moderate** magnitude within this landscape zone, which decreases as the distance from the proposal increases.

Summary

Overall, a **moderate/high** impact would be expected on this character zone, with the greatest impacts experienced by the dwellings in closest proximity to the road corridor. The proposal may alter the rural outlook from these dwellings, increasing the quantum of infrastructure development within the landscape.

| | |
|---|-------------------|
| Sensitivity | HIGH |
| Magnitude | MODERATE |
| Overall Landscape Character Impact Rating | MODERATE/ HIGH |

From Table 01, using a combination of sensitivity and magnitude ratings.

LANDSCAPE ZONE 4 - Low density urban development



Figure 13 Low density urban development viewed from Harris Creek Reserve.

| Element | Description |
|--------------------|---|
| Topography | Flat to undulating |
| Hydrology | Rainfall drains to the urban drainage system |
| Ecology/vegetation | Native and exotic planting within property boundaries |
| Land use | Residential, commercial and industrial development |
| Built form | Dwellings, warehouses, shops etc. |
| Spatial | Mostly enclosed with built form and vegetation limiting long distance views |

Description of Landscape Zone 4 - Low density urban development

This zone is concentrated within Parkes town centre. The zone consists of low density residential dwellings (concentrated to the north, east and west of Parkes), commercial premises and light industrial development to the south of Parkes. Residential dwellings are generally one storey and often surrounded by tree and shrub garden planting.

Assessment

Sensitivity

This zone is set within a generally urban context including the presence of transport infrastructure such as the existing Newell Highway and rail line. The zone can accommodate some change without impacting its character and is described as having a **moderate** sensitivity.

Magnitude

The bypass is about 2000m from the centre of Parkes and is unlikely to adversely impact the character of the majority of the town. Once operational, the bypass is likely to reduce the number of vehicles travelling through the town centre (especially heavy vehicles) which may well improve the character of the central area for pedestrians and road users. Overall the proposal is described as having a **low** magnitude within this character zone, limited to the western fringes of the town.

Summary

The expected impact on this zone has been rated **moderate / low**. The bypass would slightly impact the character of the outer western fringe of the Parkes urban area, with the new bridge over the rail line likely to be the most noticeable element. The vast majority of the town centre would be unaffected and would be positively affected by reduced traffic.

| | |
|---|------------------|
| Sensitivity | MODERATE |
| Magnitude | LOW |
| Overall Landscape Character Impact Rating | MODERATE/ LOW |

From Table 01, using a combination of sensitivity and magnitude ratings.

LANDSCAPE ZONE 5 - Transport corridors



Figure 14 The existing Newell Highway North of Parkes

| Element | Description |
|--------------------|--|
| Topography | The transport corridors traverses through a modified landscape of undulating landform |
| Hydrology | Rainfall drainage varies, however in most situations drains from a central pitch in the road toward the road edge |
| Ecology/vegetation | Swathes of native grasses and modified pasture land as well as some disturbed native bushland along the perimeter of the road corridor. |
| Land use | Transport |
| Built form | Road and rail infrastructure |
| Spatial | The transport corridors generally traverse through open space outside of Parkes with far reaching views to surrounding hills except where they are blocked by roadside vegetation. There is less open space and a sense of enclosure surrounding the transport corridors through Parkes town centre. |

Description of Zone 5 - Transport corridors

The main road corridor within the search area is the Newell Highway which is an arterial road extending from north to south. The Stockinbingal to Parkes and Orange to Broken Hill Railways also cross the search area. These currently divide the town, separating the eastern and western sides of Parkes.

Assessment

Sensitivity

The development associated with the proposal would be of similar nature to the existing extensive road and rail infrastructure within this zone. This reduces the zone's sensitivity to the development. This zone is recorded as having a **low** sensitivity to change.

Magnitude

The proposal would be larger in scale compared to existing transport infrastructure located within this zone but is unlikely to adversely impact the existing character. The existing Newell Highway through Parkes town centre is likely to experience a reduction in traffic as a result of the proposal. Overall, the proposal is considered to have a **negligible** magnitude within this zone.

Summary

Overall, a **negligible** impact rating has been recorded on this character zone. Whilst the proposal would connect to parts of the existing Newell Highway and adjacent to parts of the local rail network, a change to their character is not expected.

| | |
|---|------------|
| Sensitivity | LOW |
| Magnitude | NEGLIGIBLE |
| Overall Landscape Character Impact Rating | NEGLIGIBLE |

From Table 01, using a combination of sensitivity and magnitude ratings.

LANDSCAPE ZONE 6 - Recreational facilities



Figure 15 Mature tree planting within Parkes Golf Course

| Element | Description |
|--------------------|--|
| Topography | Mostly flat |
| Hydrology | Rainfall drains to subsurface drainage |
| Ecology/vegetation | Large turfed areas with native and exotic planting around edges, as well as remnant bushland |
| Land use | Golf course |
| Built form | Associated sports amenities buildings |
| Spatial | Large flat expanses of land with planted edges |

Description of Zone 6 - Recreational facilities

The Parkes Golf Course is the only public recreational facility in close proximity to the proposal corridor.

Assessment

Sensitivity

Private recreational facilities, such as the golf course, have a moderate sensitivity to change as they provide valuable amenity for Parkes.

Magnitude

The bypass would run parallel to the western boundary of the golf course, slightly impacting the character of this section of the course. The golf course is currently in a rural setting which would be changed by the proposal through the introduction of new infrastructure including increased traffic, road furniture and fill batters. A low magnitude rating has been recorded for this zone.

Summary

Overall, a moderate/low impact would be expected on this character zone, limited to the western course boundary. Bolstering the row of pine trees along the edge of the course would likely assist in reducing this impact.

| | |
|---|------------------|
| Sensitivity | MODERATE |
| Magnitude | LOW |
| Overall Landscape Character Impact Rating | MODERATE/ LOW |

From Table 01, using a combination of sensitivity and magnitude ratings.

3.3 Landscape Character Summary

The landscape character surrounding the proposal is typical of a transition area between urban and rural landscape types, including patches of remnant bushland, pasture, varied densities of residential dwellings and transport corridors.

The undulating pasture surrounding Parkes contributes strongly to the spatial quality of the area. The change from farmland to an urban centre can be observed at the northern and southern entrances to Parkes as lot sizes reduce and density of the built form increases.

The overall impact of the proposal on landscape character has been rated as:

- Negligible across one character zone - transport corridors
- Moderate/low across two zones - low density urban development and recreational facilities
- Moderate across two zones - farmland and remnant bushland
- Moderate/high across one zone - rural residential.

The proposal is likely to have the greatest impact on the existing character and views of several rural residential dwellings in close proximity to the road corridor. This would be less evident when the road is in cut as it is through parts of the Travelling Stock Route. Other mitigation measures would include tree planting to screen the bypass.

Areas of farmland within the search area have a greater ability to absorb change due to the zone's large scale and the presence of existing transport infrastructure, reducing the magnitude of change associated with the proposal. Although the new road alignment may spatially divide some fields, the overall integrity of this landscape zone is not expected to be significantly affected.

Beneficial impacts may be experienced within the transport corridors and low density urban development of Parkes town centre. The reduction in traffic, particularly heavy vehicles from these areas has the potential to improve the character of the town and provide a more pleasant environment for pedestrians and motorists.

The small quantum of remnant vegetation removal required ensures a limited impact on this character of the remnant bushland zone.

Whist the golf course is in close proximity to the proposal, an impact is only expected to the western boundary of the course. Bolstering the screen planting in this location would likely reduce these impacts.

3.4 Summary Table of Landscape Character Impacts

| | Remnant bushland | Farmland | Rural residential | Low density urban development | Transport corridors | Recreational facilities |
|----------------|------------------|----------|-------------------|-------------------------------|---------------------|-------------------------|
| Sensitivity | HIGH | MODERATE | HIGH | MODERATE | LOW | MODERATE |
| Magnitude | LOW | MODERATE | MODERATE | LOW | NEGLIGIBLE | LOW |
| Overall Rating | MODERATE | MODERATE | MODERATE/HIGH | MODERATE/LOW | NEGLIGIBLE | MODERATE/LOW |

Table 3 - Summary of Landscape Character Impacts

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4.0 VISUAL IMPACT ASSESSMENT

4.0 VISUAL IMPACT ASSESSMENT

4.1 Visual Environment

The existing visual environment surrounding the proposal area is varied and consists of both public and private receptor types. The bypass traverses fields that make up the transition area between outlying rural farmland and the residential/commercial core of Parkes.

4.1.1 Public Domain

Publicly accessible land with visual accessibility to the proposal is limited to Parkes Golf Course and the roads in close proximity to the proposal alignment including the existing Newell Highway, Hartigan Avenue and Westlime Road.

4.1.2 Private Domain

Residential receptors likely to have visual accessibility to the proposal are located to the west of Parkes town centre. Some of these properties are adjacent to fields in close proximity to the bypass. Views to the proposal from Parkes town centre and east of the existing Newell Highway are mostly blocked by built form, topography and vegetation.

Properties most likely to be impacted include those along Ballerdee Lane, Cedar Crescent, Rosewood Avenue, Mouldern Street, Reedsdale Road and elevated dwellings to the north of the proposal off Heraghty Road.

4.2 Representative Viewpoints

The following representative viewpoints have been chosen for further analysis - refer to Figure 51. The visual receptors chosen by these viewpoints have the potential to be impacted by some part of the proposal.

It should be noted that this is not an exhaustive list of all viewpoints expected to be impacted by the proposal but rather gives a representation of the key receptors and impacts across the proposal area.

The locations identified are:

4.2.1 Key Viewpoints

Public Viewpoints

1. Newell Highway south of Parkes, looking north
2. Parkes Golf Course
3. Hartigan Avenue, looking south
4. Westlime Road, looking north
5. Newell Highway north of Parkes, looking south

Private Viewpoints

6. Dwellings off Hideaway Lane
7. Dwelling off London Road
8. Dwellings off Ballerdee Lane
9. Dwellings off Rosewood Avenue
10. Dwellings off Moulden Street
11. Dwelling off Bogan Road
12. Dwelling off Heraghty Road
13. Dwelling off Henry Parkes Drive / Condobolin Road
14. Dwelling off Westlime Road

4.3 Visual Analysis

The following section assesses the visual impact of the proposal on each of the selected viewpoints. This includes a description of the current view from each viewpoint followed by a discussion of the potential visual impacts of the proposal on that view. Each viewpoint is accompanied by a location map and photograph of the current view.

For residential receptors, access was not always possible to the property itself and so a photograph was taken at the closest publicly accessible point. The description of visual impact is estimated from the property's main dwelling area.

4.4 Methodology

This report has adopted the Guidelines for Landscape Character and Visual Impact Assessment as published by Roads and Maritime Service. The overall impact rating of the proposal on any given receptor is based on the combined factors of magnitude and sensitivity.

4.4.1 Sensitivity

Each visual receptor type has an inherent and varied sensitivity to change in the visual scene based on their personal context in which the view is being experienced. This would have a direct bearing on the perception of visual impact experienced by the receptor and qualifies the quantitative impacts. Table 5 overleaf describes the levels of sensitivity for each receptor type.

4.4.2 Magnitude

This assesses the magnitude of the visual effects of the development within the landscape. A series of quantitative assessments are studied, including distance from development, quantum of view, duration of view and scale of change. Table 5 overleaf describes the ratings assigned to these quantitative assessments.

4.4.3 Overall Impact Rating

The severity of these impacts is calculated using matrix Table 4 - based on a combination of magnitude and sensitivity.

| | HIGH MAGNITUDE | MODERATE MAGNITUDE | LOW MAGNITUDE | NEGLIGIBLE MAGNITUDE |
|----------------------|-----------------|--------------------|---------------|----------------------|
| HIGH SENSITIVITY | HIGH | HIGH - MODERATE | MODERATE | NEGLIGIBLE |
| MODERATE SENSITIVITY | HIGH - MODERATE | MODERATE | MODERATE/LOW | NEGLIGIBLE |
| LOW SENSITIVITY | MODERATE | MODERATE/LOW | LOW | NEGLIGIBLE |
| NEGLIGIBLE | NEGLIGIBLE | NEGLIGIBLE | NEGLIGIBLE | NEGLIGIBLE |

Table 4 - Visual Impact Rating as a combination of Sensitivity and Magnitude. Source: Roads and Maritime Services Guidelines for Landscape Character and Visual Impact Assessment

VIEWPOINT 1 - PUBLIC



Figure 17 Viewpoint key plan

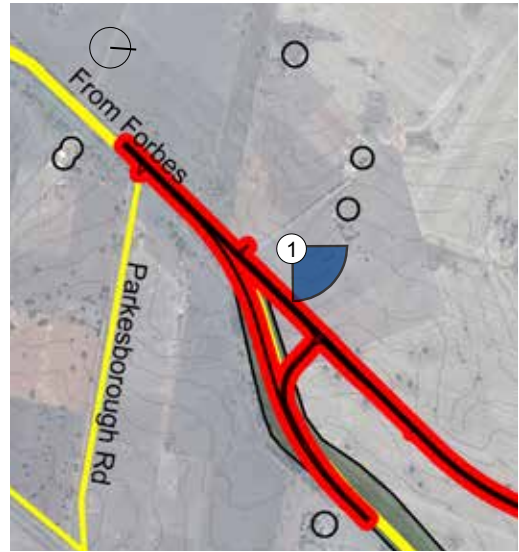


Figure 18 Viewpoint location plan

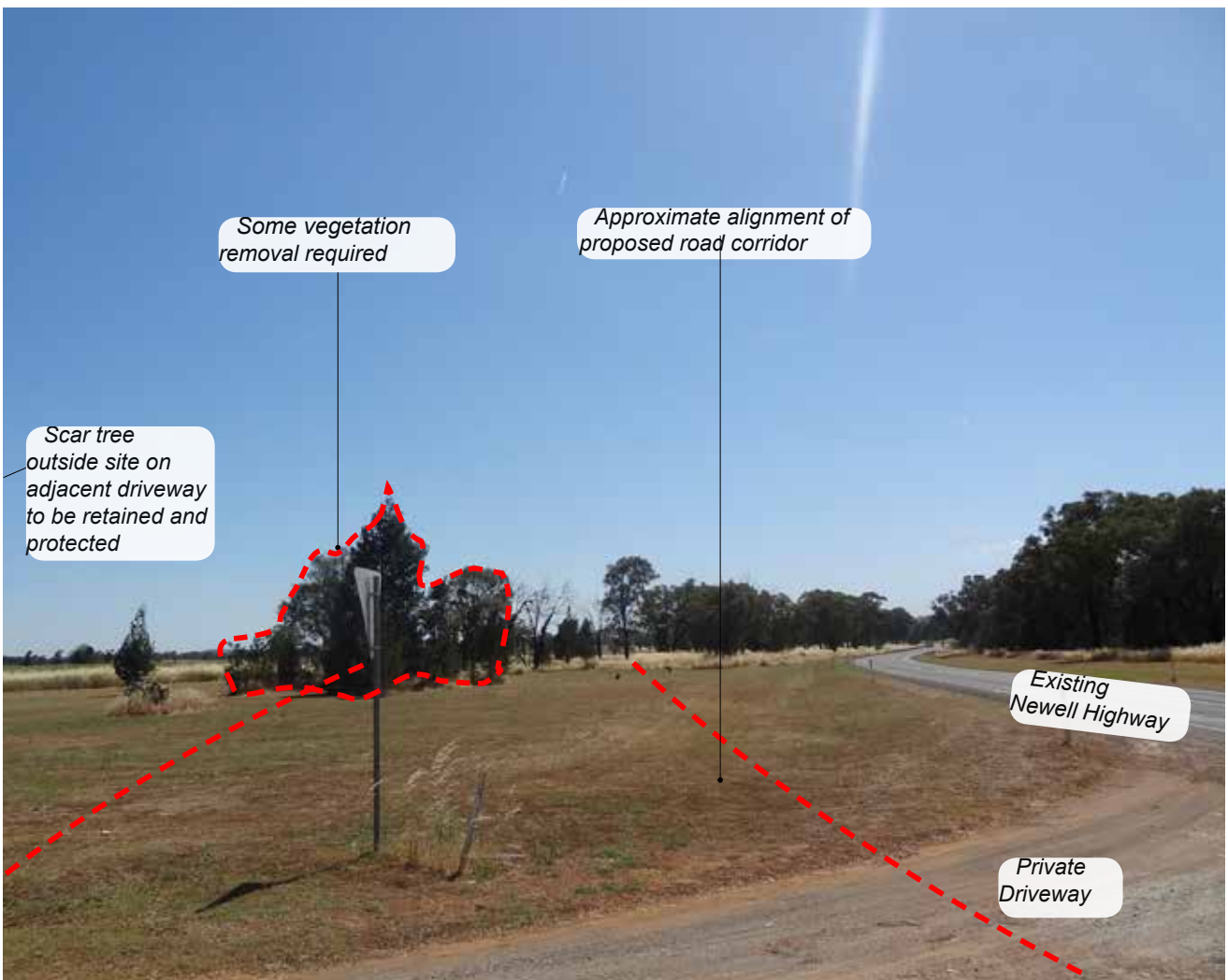


Figure 16 Viewpoint 1: Looking north towards Parkes along the Newell Highway

Location

Existing Newell Highway south of Parkes, looking north

Distance to nearest the proposal element

0 metres

Receptors

Users of Newell Highway

Number of viewers

Moderate

Current View

The existing outlook from this section of the Highway is rural in character with mostly far reaching views over gently undulating farmland. The existing road corridor dominates the centre of the viewframe with some patches of remnant vegetation visible either side. Little other built form is visible.

VISUAL IMPACT

The new road corridor would be highly visible from this location with associated road batters, vehicular traffic and signage. A small quantum of remnant vegetation would need removing to facilitate the road construction.

Although the proposed road would be highly visible, the low sensitivity of the receivers, short duration of view and presence of existing road infrastructure within the viewframe ensure that a major impact on visual amenity is not expected.

| | |
|---|-----------------|
| Receptor Type | Public |
| Receptor Number | 1 |
| Sensitivity rating of receptor | LOW |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate |
| Magnitude - Period of View | Low |
| Magnitude Scale of change | Low |
| Overall Magnitude rating | MODERATE |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO LOW |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

The visual impacts would be reduced by adopting mitigation measures to plant roadside trees along the Parkes Bypass. Replanting the disturbed areas would decrease the visual contrast between the proposal and the existing landscape environment.

Visual impact rating after mitigation

| | |
|---|-----------------|
| Receptor Type | Public |
| Receptor Number | 1 |
| Sensitivity rating of receptor | LOW |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate to low |
| Magnitude - Period of View | Low |
| Magnitude Scale of change | Low |
| Overall Magnitude rating | MODERATE TO LOW |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | LOW |

VIEWPOINT 2 - PUBLIC



Figure 22 Viewpoint location plan

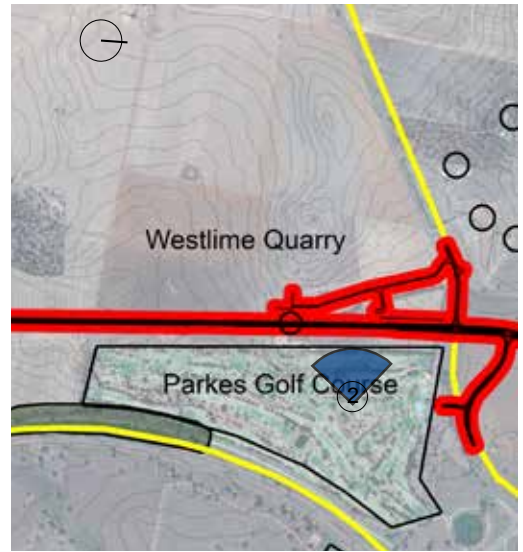


Figure 21 Viewpoint key plan



Figure 19 Viewpoint 2A: Looking east into Parkes Golf course from adjacent unpaved road



Figure 20 Viewpoint 2B: Looking south along Parkes Golf Course western boundary

Location

Existing Newell Highway south of Parkes, looking north

Distance to nearest the proposal element

0 metres

Receptors

Users of Newell Highway

Number of viewers

Moderate

Current View

The existing outlook from this section of the Highway is rural in character with mostly far reaching views over gently undulating farmland. The existing road corridor dominates the centre of the viewframe with some patches of remnant vegetation visible either side. Little other built form is visible.

VISUAL IMPACT

The new road corridor would be highly visible from this location with associated road batters, vehicular traffic and signage. A small quantum of remnant vegetation would need removing to facilitate the road construction.

Although the proposed road would be highly visible, the low sensitivity of the receivers, short duration of view and presence of existing road infrastructure within the viewframe ensure that a major impact on visual amenity is not expected.

| | |
|---|----------|
| Receptor Type | Public |
| Receptor Number | 2 |
| Sensitivity rating of receptor | MODERATE |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate |
| Magnitude - Period of View | Low |
| Magnitude Scale of change | Low |
| Overall Magnitude rating | MODERATE |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

The visual impacts would be reduced by adopting mitigation measures to plant roadside trees along the Parkes Bypass. Replanting the disturbed areas would decrease the visual contrast between the proposal and the existing landscape environment.

Visual impact rating after mitigation

| | |
|---|-----------------|
| Receptor Type | Public |
| Receptor Number | 2 |
| Sensitivity rating of receptor | MODERATE |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate to low |
| Magnitude - Period of View | Low |
| Magnitude Scale of change | Moderate to low |
| Overall Magnitude rating | MODERATE TO LOW |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO LOW |

VIEWPOINT 3 - PUBLIC



Figure 23 Viewpoint key plan



Figure 24 Viewpoint location plan

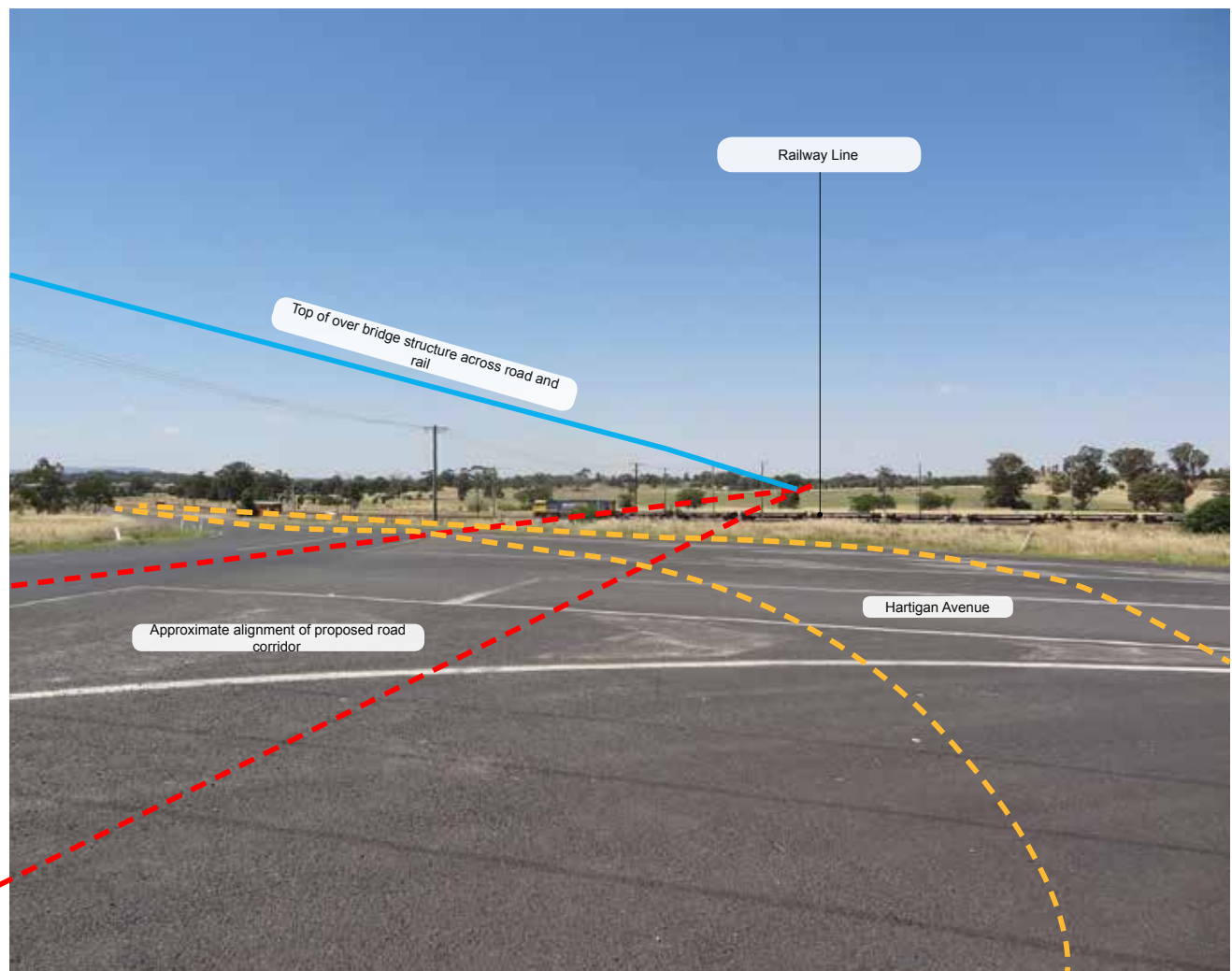


Figure 25 Viewpoint 3: Looking south from Hartigan Avenue across the rail line towards Parkes Golf Course

Location

Hartigan Avenue, looking south

Distance to nearest proposal element

0 metres

Receptors

Users of Hartigan Avenue and nearby side streets

Number of viewers

Moderate

Current View

The viewpoint is slightly elevated with the foreground of the current view dominated by the existing road and rail line. The view extends over open fields to stands of dense vegetation in the distance. Distant hills can be seen on the horizon.

VISUAL IMPACT

The new road corridor and bridge structure across the rail line would be highly visible from this location. The bridge would present a large elevated structure, potentially blocking views south and east. It should be noted that the local roads surrounding this location would be realigned to accommodate the proposed bridge alignment.

Although the proposed bypass overbridge would be highly visible, the duration of view is likely to be short as motorists pass by the new structure relatively quickly. The presence of existing road infrastructure within the viewframe assists in reducing the impact of the proposal. The bridge is likely to have a moderate visual impact, especially where it blocks long distance views.

In the mid to long term, this area is expected to be further developed as part of a transport logistics hub, leading to an increase in the concentration of transport infrastructure within the immediate surroundings and reducing the sensitivity of the view point further.

| | |
|---|----------|
| Receptor Type | Public |
| Receptor Number | 3 |
| Sensitivity rating of receptor | LOW |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | High |
| Magnitude - Period of View | Low |
| Magnitude Scale of change | High |
| Overall Magnitude rating | HIGH |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

Mitigation measures, include a neatly detailed bridge and abutments. While the batter directly under the bridge would be relatively steep to reduce the length of the bridge, mitigation measures include flattening out the side batters, to integrate it better in the landscape. The long term visual impacts would be reduced by planting trees on the side batters. It is also proposed to plant trees in the verges of the realigned road corridors to provide screening vegetation between residences, the logistics hub and the bridge and its elevated fill.

Visual impact rating after mitigation

| | |
|---|------------------|
| Receptor Type | Public |
| Receptor Number | 1 |
| Sensitivity rating of receptor | LOW |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate to High |
| Magnitude - Period of View | Low |
| Magnitude Scale of change | Moderate to High |
| Overall Magnitude rating | MODERATE TO HIGH |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO LOW |

VIEWPOINT 4 - PUBLIC



Figure 26 Viewpoint key plan



Figure 27 Viewpoint location plan



Figure 28 Viewpoint 4: Looking north along Westlime Road

Location

Westlime Road, looking north

Distance to nearest proposal element

0 metres

Receptors

Users of Newell Highway

Number of viewers

Moderate

Current View

The existing outlook from this section of Westlime Road is semi-rural in character with mostly far reaching views over gently undulating farmland and some built form associated with Parkes to the east.

The recently upgraded existing road corridor dominates the centre of the viewframe with some patches of remnant vegetation visible either side of the road.

VISUAL IMPACT

The new road corridor would be visible from this location with associated road batters, vehicular traffic and signage. A small quantum of remnant vegetation would need removing to facilitate the road construction.

Although the proposed road would be visible, the low sensitivity of the receivers, short duration of view and presence of existing road infrastructure within the viewframe ensures that a major impact on visual amenity is not expected.

| | |
|---|----------|
| Receptor Type | Public |
| Receptor Number | 4 |
| Sensitivity rating of receptor | LOW |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate |
| Magnitude - Period of View | Low |
| Magnitude Scale of change | Low |
| Overall Magnitude rating | LOW |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | LOW |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

While the bypass here occupies the existing Westlime Road corridor and would have little visual impact, groups of trees would be planted on both sides of Westlime Road to continue the character of scatter trees in this rural setting.

Visual impact rating after mitigation

| | |
|---|--------|
| Receptor Type | Public |
| Receptor Number | 4 |
| Sensitivity rating of receptor | LOW |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Low |
| Magnitude - Period of View | Low |
| Magnitude Scale of change | Low |
| Overall Magnitude rating | LOW |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | LOW |

VIEWPOINT 5 - PUBLIC



Figure 29 Viewpoint key plan

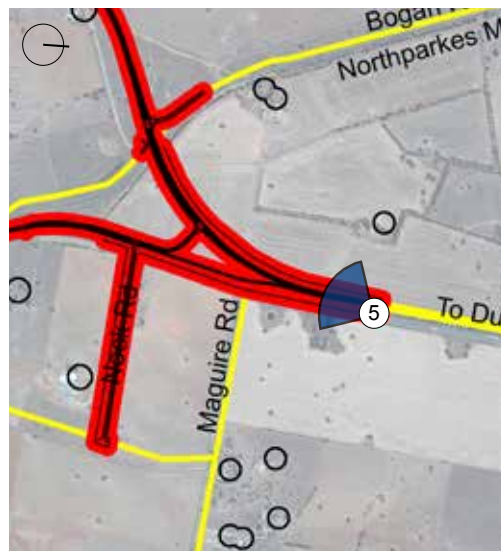


Figure 30 Viewpoint location plan

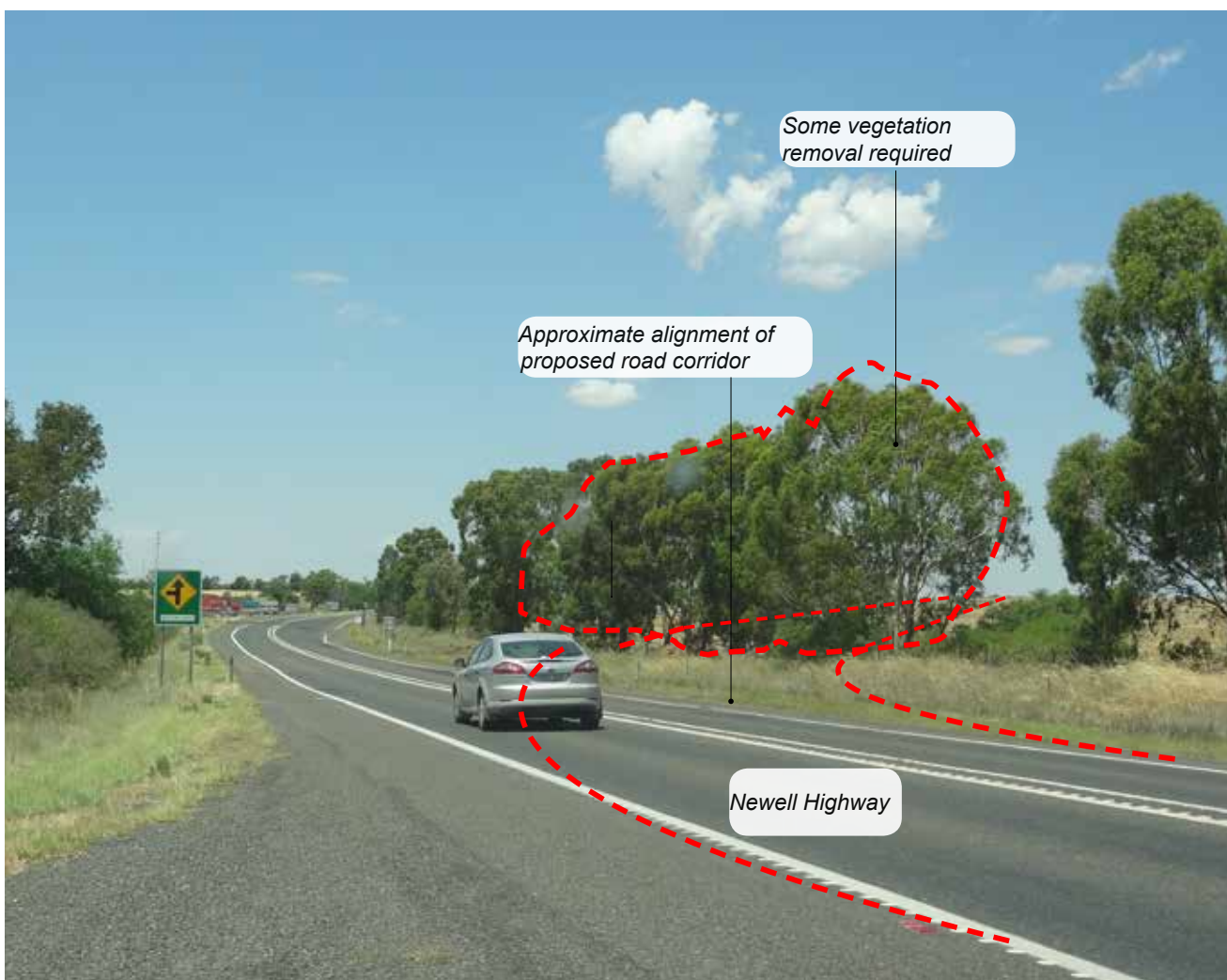


Figure 31 Viewpoint 5: Looking south towards Parkes along the Newell Highway near Maguire Road

Location

Existing Newell Highway north of Parkes, looking south

Distance to nearest proposal element

0 metres

Receptors

Users of Newell Highway

Number of viewers

Moderate

Current View

The existing outlook from this section of the Highway is semi-rural in character with views over gently undulating farmland where breaks in vegetation allow. Signage along the road indicates to the motorist that they are approaching Parkes.

The existing road corridor dominates the centre of the viewframe with patches of remnant vegetation visible either side.

VISUAL IMPACT

The new road corridor would be highly visible from this location including the associated road batters, vehicular traffic and signage as part of the tie in to the existing Newell Highway. A small quantum of remnant vegetation would need removing to facilitate the road construction.

Although the proposed road would be highly visible, the low sensitivity of the receivers, short duration of view and presence of existing road infrastructure within the viewframe ensures that a major impact on visual amenity is not expected.

| | |
|---|-----------------|
| Receptor Type | Public |
| Receptor Number | 5 |
| Sensitivity rating of receptor | LOW |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate |
| Magnitude - Period of View | Low |
| Magnitude Scale of change | Low |
| Overall Magnitude rating | MODERATE |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO LOW |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

Visual impacts would be reduced by planting new road corridor trees on the western side of Parkes Bypass. This would mitigate the visual change after the loss of existing trees.

Visual impact rating after mitigation

| | |
|---|-----------------|
| Receptor Type | Public |
| Receptor Number | 1 |
| Sensitivity rating of receptor | LOW |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate to low |
| Magnitude - Period of View | Low |
| Magnitude Scale of change | Moderate to low |
| Overall Magnitude rating | MODERATE TO LOW |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO LOW |

VIEWPOINT 6 - PRIVATE



Figure 32 Viewpoint key plan

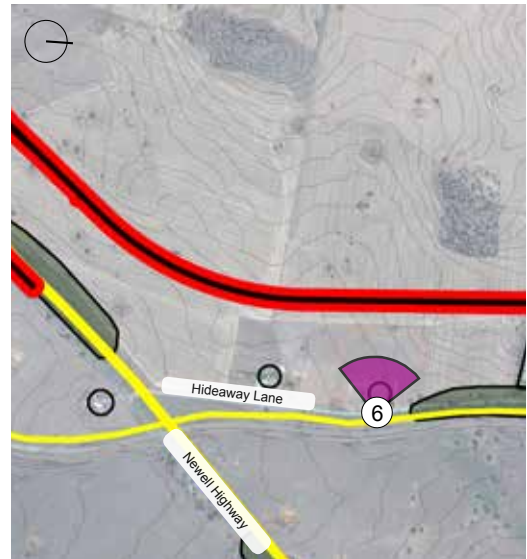


Figure 33 Viewpoint location plan



Figure 34 Viewpoint 6: Looking west towards a dwelling off Hideaway Lane

Location

Hideaway Lane

Distance to nearest proposal element

220 metres

Receptors

Two residential dwellings off Hideaway Lane

Number of viewers

Low

Current View

These two dwellings sit within a mostly agricultural landscape, surrounded by varied levels of garden planting that partially screen views to the west. The dwellings are orientated east/west with views over open fields to the existing Newell Highway.

VISUAL IMPACT

The new road corridor would be located to the rear of these properties, about 220 metres to the west. The new road may be partially visible through gaps in vegetation, including views of associated road batters and vehicular traffic.

Overall, in the worst case scenario, a moderate visual impact is expected. The presence of screening vegetation around the dwellings would assist in locally reducing impacts to discrete areas of the property.

| | |
|---|----------|
| Receptor Type | Private |
| Receptor Number | 6 |
| Sensitivity rating of receptor | MODERATE |
| Magnitude - Distance | Moderate |
| Magnitude - Quantum of view | Moderate |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate |
| Overall Magnitude rating | MODERATE |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

New groups of trees would be planted on the road corridor, reducing the visual impact of the bypass.

Visual impact rating after mitigation

| | |
|---|-----------------|
| Receptor Type | Private |
| Receptor Number | 6 |
| Sensitivity rating of receptor | MODERATE |
| Magnitude - Distance | Moderate |
| Magnitude - Quantum of view | Moderate to low |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate to low |
| Overall Magnitude rating | MODERATE TO LOW |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO LOW |

VIEWPOINT 7 - PRIVATE

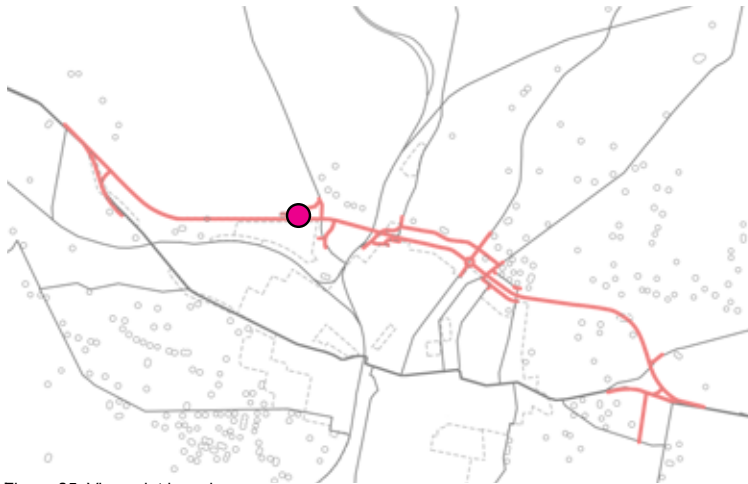


Figure 35 Viewpoint key plan



Figure 36 Viewpoint location plan

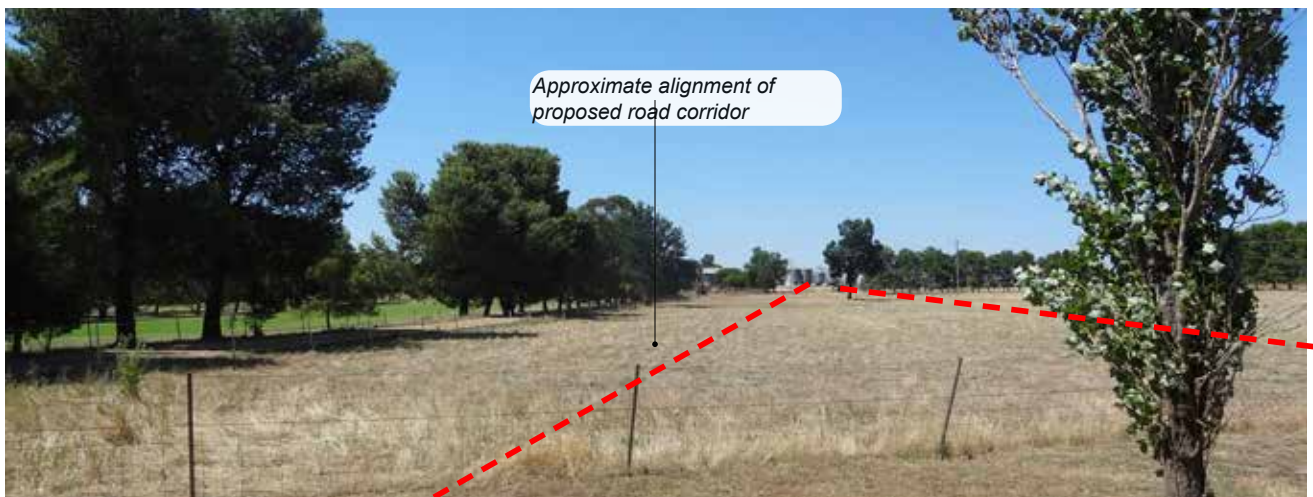


Figure 38 Viewpoint 7A: Looking south along the proposed road corridor alignment near Parkes Golf Course



Figure 37 Viewpoint 7B: Looking north along the proposed road corridor alignment near Parkes Golf Course

Location

Dwelling off London Road, adjacent to Parkes Golf Course

Distance to nearest proposal element

80 metres

Receptors

Residents of the dwelling off London Road

Number of viewers

Low

Current View

This dwelling is orientated east/west with views over open fields to the golf course, about 140m to the east. The view terminates in a line of mature pine trees along the golf course's western boundary. Views are partially filtered by garden vegetation planted around the property.

VISUAL IMPACT

The proposed road corridor would be located in close proximity to this dwelling, intersecting the current access driveway. There would likely be clear and mostly direct views of the new road, associated batters, vehicular traffic and signage from the dwelling.

Overall, a high impact on visual amenity is expected due to the proximity to the road corridor and the high magnitude of change in the visual scene.

| | |
|---|----------|
| Receptor Type | Private |
| Receptor Number | 7 |
| Sensitivity rating of receptor | HIGH |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | High |
| Overall Magnitude rating | HIGH |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | HIGH |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

Direct screening of the bypass road with dense vegetation along the western side of the road boundary would be provided to reduce the visual impact.

Visual impact rating after mitigation

| | |
|---|------------------|
| Receptor Type | Private |
| Receptor Number | 7 |
| Sensitivity rating of receptor | HIGH |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate |
| Overall Magnitude rating | MODERATE |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO HIGH |



Figure 39 Viewpoint 7 View of dwelling and location of new road

VIEWPOINT 8 - PRIVATE



Figure 40 Viewpoint key plan

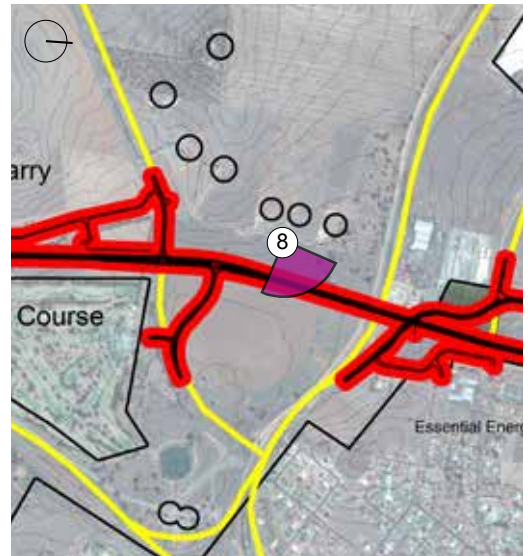


Figure 41 Viewpoint location plan



Figure 43 Viewpoint 8A: Panoramic view looking east from Ballerdee Lane

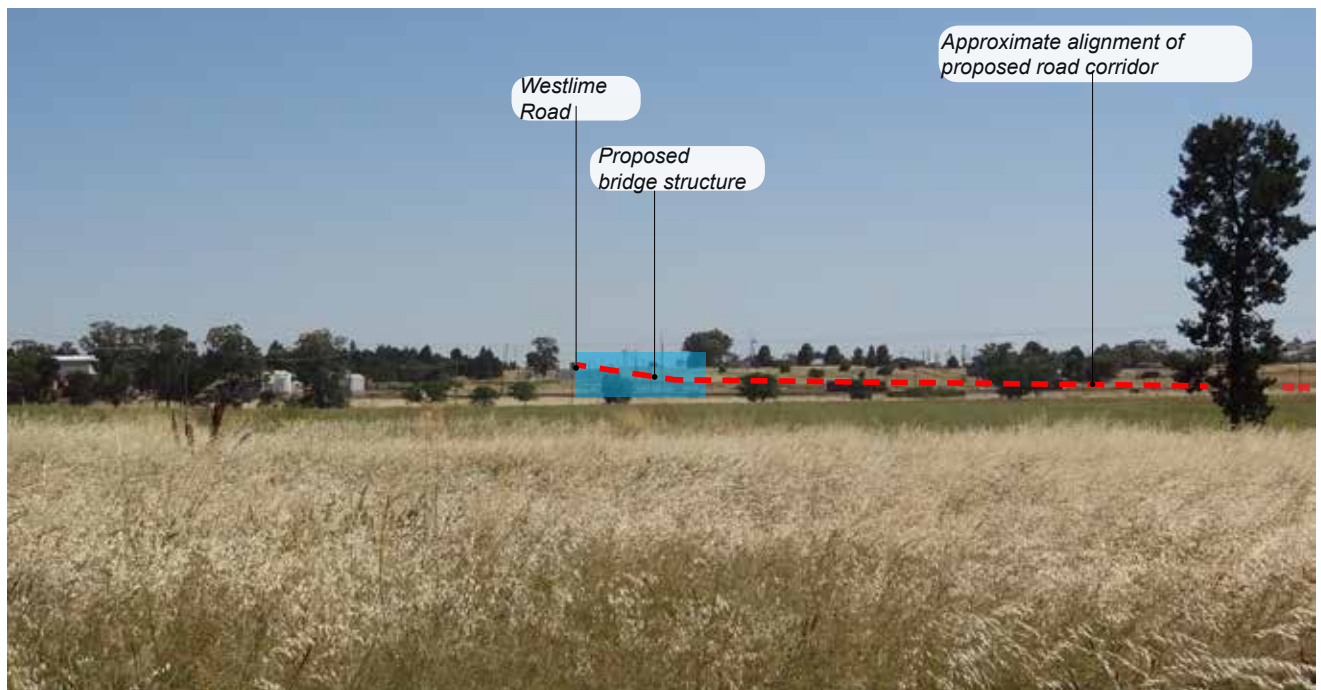


Figure 42 Viewpoint 8B: Zoomed view looking east from Ballerdee Lane towards proposed bridge

Location

Ballerdee Lane

Distance to nearest proposal element

145 metres

Receptors

Three residential dwellings off Ballerdee Lane

Number of viewers

Low

Current View

These three dwellings sit on relatively large plots within a mostly agricultural landscape. They are surrounded by fields and a small amount of garden vegetation. The dwellings sit on a slight elevation and have far reaching views east over the surrounding undulating landscape.

Fields with isolated trees are visible in the foreground with residential development associated with the Parkes town centre in the middle distance. The rail line can also be seen crossing the view frame. Hills are visible in the middle and far distance.

VISUAL IMPACT

The new road corridor would be highly visible from this location including its associated road batters, vehicular traffic and signage. The road would be elevated on large batters as it climbs over the rail line and the elevated bridge structure would also be clearly visible. The new road alignment may block some of lower section of the middle distance views from these properties. Overall, a moderate/high impact is expected on these dwellings.

The road batters would be planted with vegetation and once established, the visual impact is expected to decrease as the road becomes better integrated within the landscape.

| | |
|---|------------------|
| Receptor Type | Private |
| Receptor Number | 8 |
| Sensitivity rating of receptor | HIGH |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate |
| Overall Magnitude rating | MODERATE |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO HIGH |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

New groups of trees are proposed in front of the proposed road corridor and over bridges. These are intended to provide tree canopy to screen the elevated road alignment and bridge structures. The batters on the embankments would be made gentler to better transition the embankments into the landscape.

Visual impact rating after mitigation

| | |
|---|-----------------|
| Receptor Type | Private |
| Receptor Number | 8 |
| Sensitivity rating of receptor | HIGH |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate to low |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate to low |
| Overall Magnitude rating | MODERATE TO LOW |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE |

VIEWPOINT 9 - PRIVATE

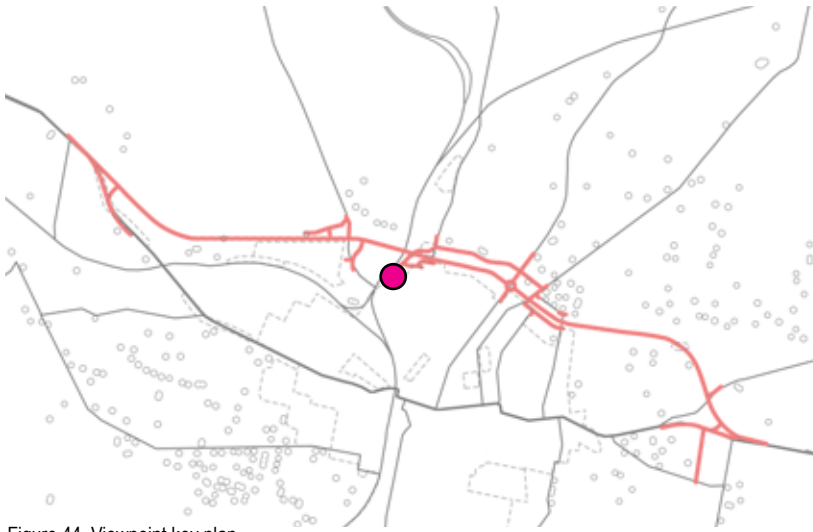


Figure 44 Viewpoint key plan

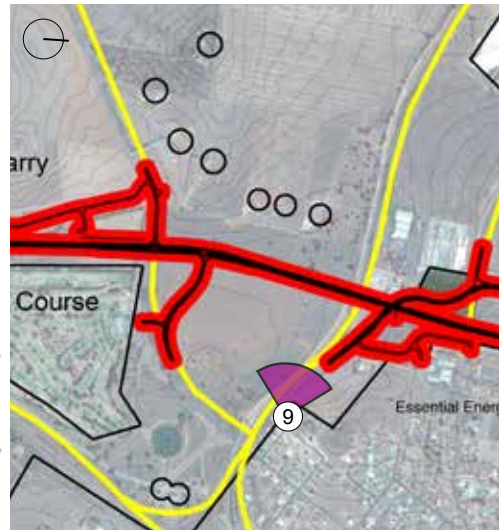


Figure 45 Viewpoint location plan

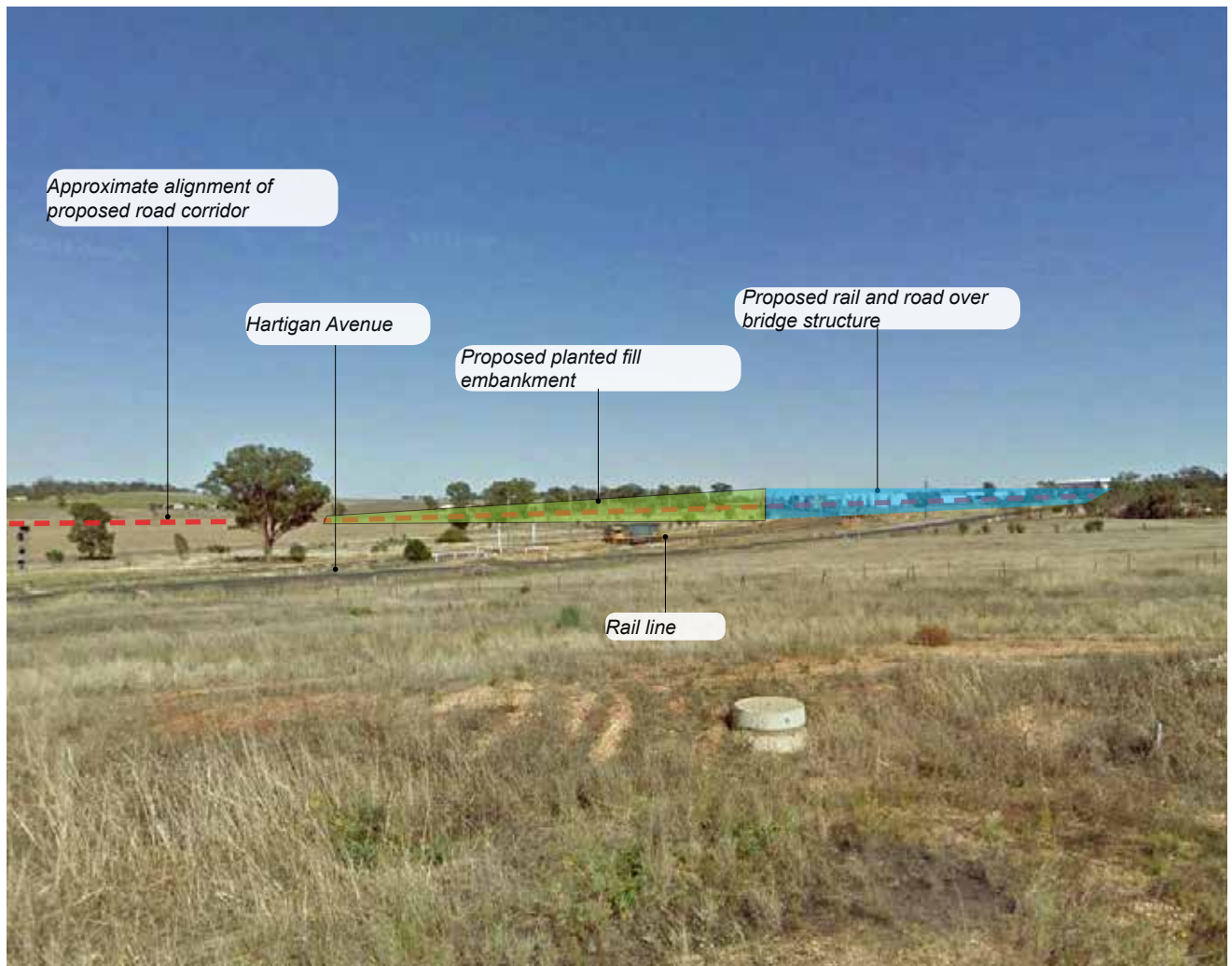


Figure 46 Viewpoint 9: View west from Rosewood Avenue towards the proposed rail crossing (source: Google streetview)

Location

Rosewood Avenue

Distance to nearest proposal element

400 metres

Receptors

Residential dwellings facing west off Rosewood Avenue, Cedar Crescent and Alder Avenue

Number of viewers

Moderate

Current View

These dwellings are part of an expanding subdivision area and sit on slightly elevated ground with views over a semi agricultural landscape or urban streetscape, depending on their orientation.

Dwellings that have a view west look out over fields of pasture grass, some remnant vegetation, the rail line and Hartigan Avenue running across the view frame.

VISUAL IMPACT

Where views west are available, the new road corridor would be clearly visible including its associated road batters, vehicular traffic and signage. The road would be elevated on large batters as it climbs over the rail line and the elevated bridge structure would also be visible.

Although the proposed road corridor would be a prominent element within the landscape, the presence of existing transport infrastructure within the view frame slightly reduces the magnitude of the impact.

Overall, a moderate/high impact to visual amenity is expected, although it should be noted that this is limited to dwellings that have unobstructed views west.

| | |
|---|------------------|
| Receptor Type | Private |
| Receptor Number | 9 |
| Sensitivity rating of receptor | HIGH |
| Magnitude - Distance | Moderate |
| Magnitude - Quantum of view | High |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate |
| Overall Magnitude rating | MODERATE TO HIGH |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO HIGH |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

New groups of trees are proposed in front of the proposed road corridor and over bridges. These are intended to provide tree canopy to screen the elevated road alignment and bridge structures. The batters on the embankments would be made gentler to better transition the embankments into the landscape.

Visual impact rating after mitigation

| | |
|---|-----------------|
| Receptor Type | Private |
| Receptor Number | 9 |
| Sensitivity rating of receptor | HIGH |
| Magnitude - Distance | Moderate |
| Magnitude - Quantum of view | Moderate to low |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate to low |
| Overall Magnitude rating | MODERATE TO LOW |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE |

VIEWPOINT 10 - PRIVATE



Figure 47 Viewpoint key plan

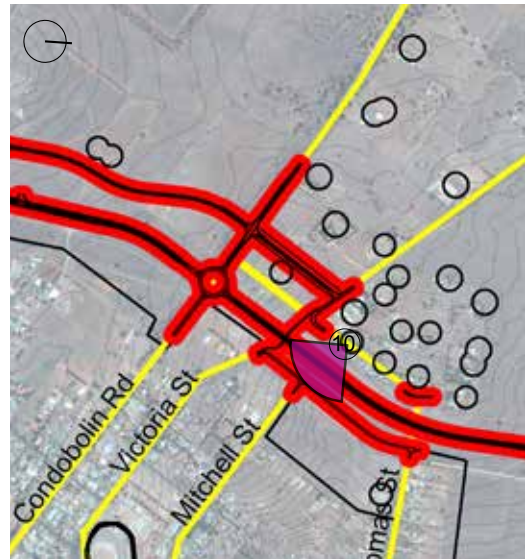


Figure 48 Viewpoint location plan

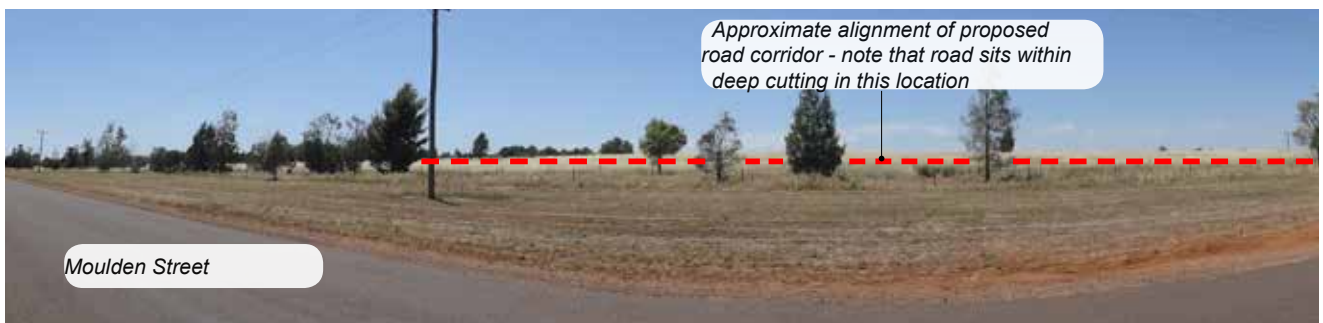


Figure 50 Viewpoint 10A: Looking east towards the proposed road corridor alignment from Moulden Street



Figure 49 Viewpoint 10B: Dwellings long Moulden Street, looking north

Location

Moulden Street

Distance to nearest proposal element

110 metres

Receptors

About 11 residential dwellings facing east along Moulden Street

Number of viewers

Moderate

Current View

These dwellings are mostly single storey and located within a quiet streetscape. Views extend to the east over fields of pasture grass. The ground rises to a low ridge that blocks more distant views. Some remnant vegetation is visible. Some of the dwellings are surrounded by garden plantings that partially screen views to the east.

VISUAL IMPACT

The proposed road alignment sits in close proximity to these dwellings, however it would be partly located within a cutting opposite Moulden Street.

The depth of the cutting is 6.5m at its deepest. It is likely that the road surface would be obscured as it would be located beneath the line of sight from adjoining dwellings. However, taller vehicles and the opposite edge of the cut batters may still be visible.

As the bypass heads north towards Thomas Street it rises up to meet the existing ground level. It then transitions into fill and would be elevated a few metres of existing grade. In these locations it is likely that the road surface would not be visible, but vehicles will.

Overall a moderate impact is expected to visual amenity, reducing to moderate/low where garden vegetation and local topography in the cutting obscure views of the new road.

| | |
|---|----------|
| Receptor Type | Private |
| Receptor Number | 10 |
| Sensitivity rating of receptor | MODERATE |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate |
| Overall Magnitude rating | MODERATE |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

Given the Travelling Stock Route would be retained between the proposal and the Moulden Street residences, there is limited opportunity for tree planting other than within the road reserve corridor. It is proposed that low shrub planting eg Woodland Trees / Tall shrubs and shrubs from the planting palette would be used. In addition to this gentle earth mounding where compatible with the Travelling Stock Route could be employed to assist in screening the road corridor.

Visual impact rating after mitigation

| | |
|---|-----------------|
| Receptor Type | Private |
| Receptor Number | 10 |
| Sensitivity rating of receptor | MODERATE |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate to low |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate to low |
| Overall Magnitude rating | MODERATE TO LOW |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO LOW |

VIEWPOINT 11 - PRIVATE



Figure 51 Viewpoint key plan

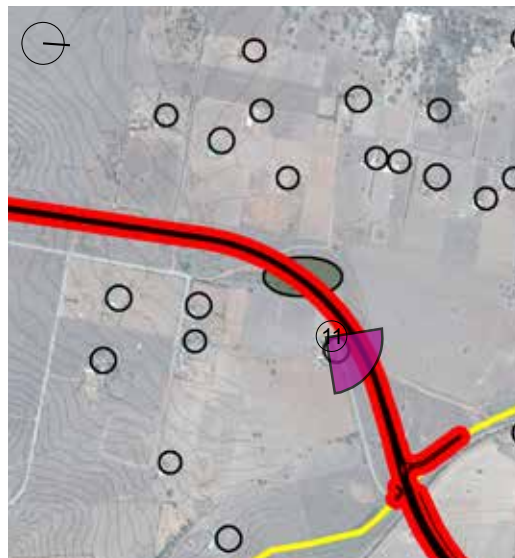


Figure 52 Viewpoint location plan



Figure 53 Viewpoint 11A: Looking east towards the dwelling

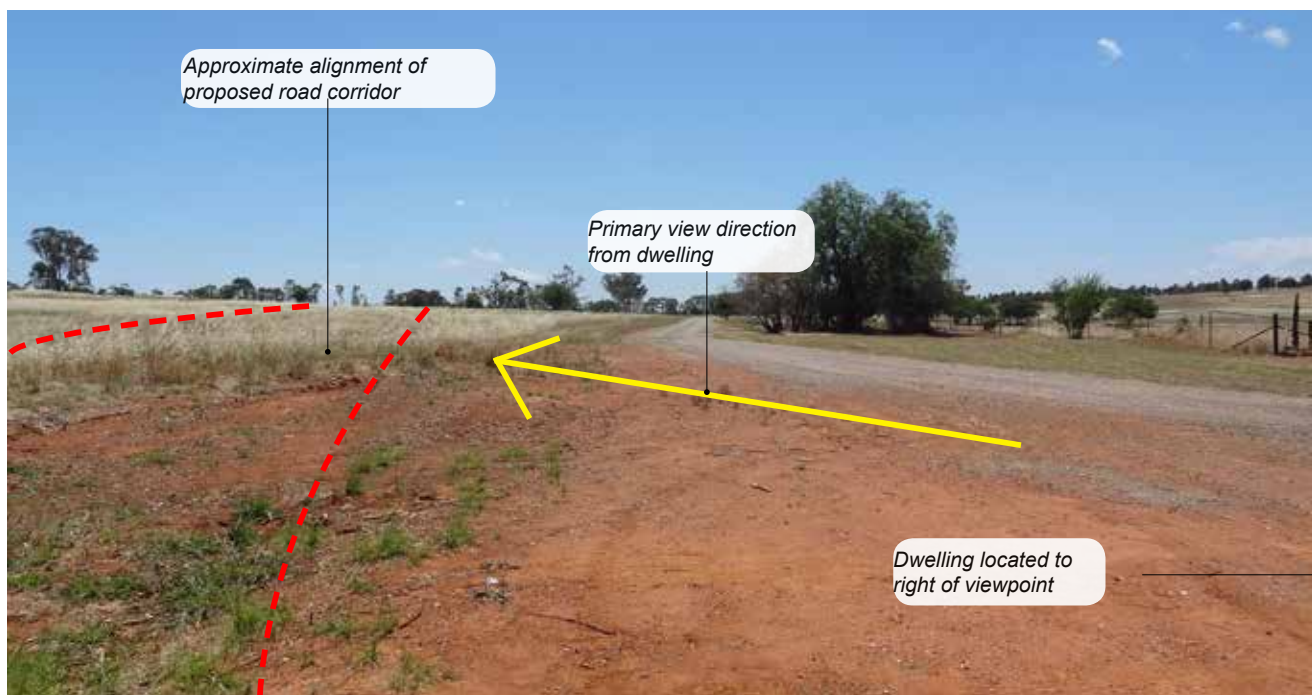


Figure 54 Viewpoint 11B: Looking north east along the alignment of the proposed road corridor

Location

Dwelling off Bogan Road

Distance to nearest proposal element

70 metres

Receptors

Residents of dwelling

Number of viewers

Low

Current View

This dwelling sits in a isolated location, accessed by a long driveway from Bogan Road. The dwelling is orientated north/south on an elevated position with views over undulating fields of pasture grass. The northern frontage of the house has views up towards the surrounding ridge line to the north.

The dwelling is surrounded by dense garden planting to the west, which would obscure views westwards. There are other garden plantings that which partially filter eastern views from sections of the dwelling.

VISUAL IMPACT

The proposed road corridor would be located in very close proximity to the north of this dwelling, where it crosses diagonally west to east. The road located higher than the dwelling and is in partial cut. This would help to reduce the visibility of the road surface, but passing vehicles would be visible.

Views to the west would mostly be screened by existing vegetation. Views to the south and east would be unaltered.

Although some views north to the road would be screened by garden planting, and the roadway carriageway partially obscured by cut, a high impact on visual amenity is expected due to the proximity to the road and the high magnitude of change in the visual scene.

| | |
|---|----------|
| Receptor Type | Private |
| Receptor Number | 11 |
| Sensitivity rating of receptor | HIGH |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | High |
| Overall Magnitude rating | HIGH |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | HIGH |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

Where feasible and reasonable, excess fill would be used to create a berm along the southern road edge to screen the carriageway and low-height vehicles. This would also screen headlight glare. Where this is not feasible or reasonable, alternative screening would be provided to mitigate the visual impacts in this location.

Screen planting may also be utilised in this location.

Visual impact rating after mitigation

| | |
|---|------------------|
| Receptor Type | Private |
| Receptor Number | 11 |
| Sensitivity rating of receptor | HIGH |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate to low |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate |
| Overall Magnitude rating | MODERATE |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO HIGH |

VIEWPOINT 12 - PRIVATE



Figure 56 Viewpoint location plan

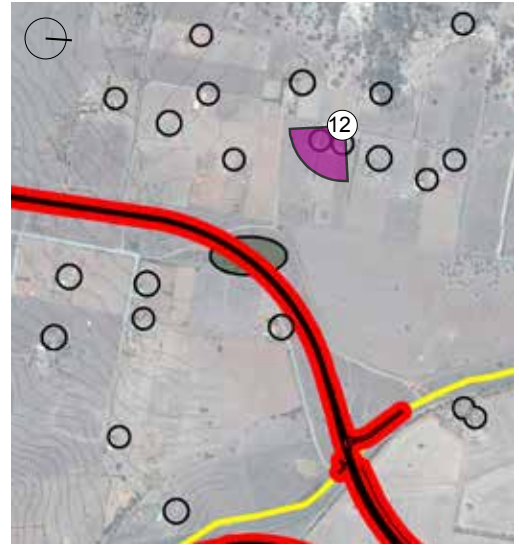


Figure 55 Viewpoint key plan



Figure 57 Viewpoint 12: Looking south west from Heraghtly Road towards the proposed road alignment

Location

Heraghty Road

Distance to nearest proposal element

500 metres

Receptors

About nine residential dwellings off Heraghty Road

Number of viewers

Moderate

Current View

These dwellings are situated on large blocks on an elevated slope within a mostly agricultural landscape. Many of the dwellings have far reaching panoramic views east over the surrounding undulating fields. Isolated trees are visible in the foreground and middle distance with denser residential development visible in the distance, associated with the eastern edge of the Parkes town centre. Minor access roads are apparent but there is a lack of major infrastructure or built form visible.

It should be noted that the viewpoint photo is taken from the base of the driveway and the actual view from the dwelling would be more open and far reaching.

VISUAL IMPACT

The new road corridor is likely to be clearly visible in the middle distance from the majority of these dwellings. Associated road batters, vehicular traffic and signage would be noticeable although due to the viewing distance, are unlikely to be prominent. Where local garden plantings screen or filter views, a reduced visual impact can be expected. The Travelling Stock Route would be located immediately to the west of the road. It would remain open for stock.

Overall, a moderate/high visual impact is expected on these dwellings, limited to the properties that have clear views of the road corridor.

| | |
|---|------------------|
| Receptor Type | Private |
| Receptor Number | 12 |
| Sensitivity rating of receptor | HIGH |
| Magnitude - Distance | Moderate |
| Magnitude - Quantum of view | Moderate |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate |
| Overall Magnitude rating | MODERATE |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO HIGH |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

The primary mitigation measure would be planting in the western road batters. These would be clustered tree groups and a mix of tall shrubs and shrubs.

Visual impact rating after mitigation

| | |
|---|-----------------|
| Receptor Type | Private |
| Receptor Number | 12 |
| Sensitivity rating of receptor | HIGH |
| Magnitude - Distance | Moderate |
| Magnitude - Quantum of view | Moderate to low |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate to low |
| Overall Magnitude rating | MODERATE TO LOW |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE |

VIEWPOINT 13 - PRIVATE

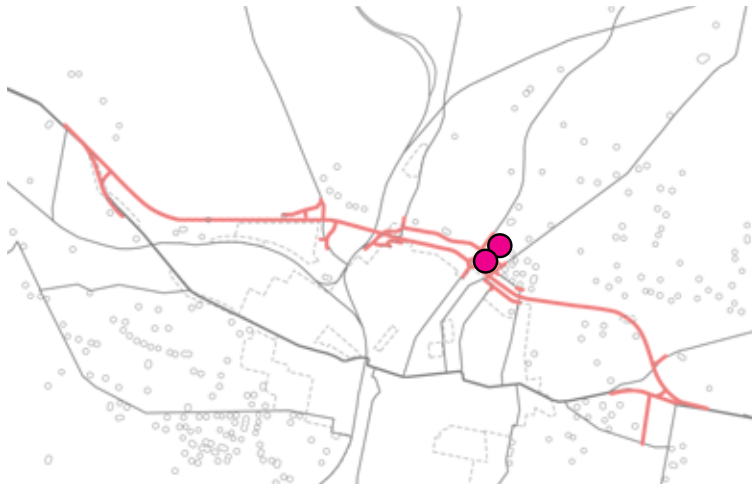


Figure 58 Viewpoint key plan

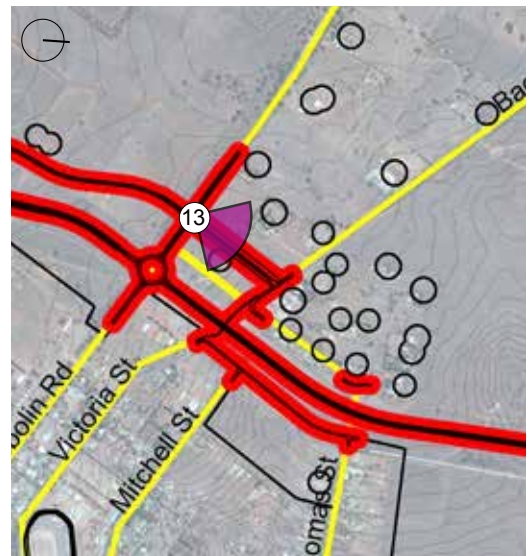


Figure 59 Viewpoint location plan



Figure 60 Viewpoint 13: Looking north west from Condobolin Road towards the proposed local link road alignment

Location

Henry Parks Way / Condobolin Road

Distance to nearest proposal element

30 metres for one residence,
100m for the second residence

Receptors

Two residential dwellings. One off Condobolin Road and one off Moulden Street

Number of viewers

Low

Current View

These two dwellings are situated on large blocks on gently rising ground on the edge of town. They overlook agricultural lands and the travelling stock route. There are some trees on both sites. An existing fence currently blocks views from one of the residences to the viewpoint location.

It should be noted that the viewpoint photo is taken from Henry Parks Way / Condobolin Road and does not represent the actual view of the new link road from the two dwellings.

VISUAL IMPACT

The proposed bypass will be located in a cutting in the travelling stock route and visual issues associated with the bypass are covered by view point 10.

A new roundabout on Condobolin Road connects the proposed new link road to Haritgan Avenue. This would also form the access route between the bypass and the National Logistics Hub.

This road has been extended as a local road to connect through to back Trundle Road. This local road passes between the two residential dwellings.

There are likely to be views to the new road from the northern most residence which faces South West / North East.

The residence to the south of the road addresses Moulden Street. It is located further from the proposed link road. It is assumed to have limited views of the new link road due to high back yard fences and local topography screening the road to the north.

| | |
|---|----------|
| Receptor Type | Private |
| Receptor Number | 13 |
| Sensitivity rating of receptor | HIGH |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Moderate |
| Magnitude - Period of View | High |
| Magnitude Scale of change | Moderate |
| Overall Magnitude rating | HIGH |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | HIGH |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

The primary mitigation measure would be placing a new screen fence along the road verges for a limited distance. These would then form the back fence of the two residential properties.

Visual impact rating after mitigation

| | |
|---|------------------|
| Receptor Type | Private |
| Receptor Number | 13 |
| Sensitivity rating of receptor | HIGH |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Low |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Moderate |
| Overall Magnitude rating | MODERATE |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO HIGH |

VIEWPOINT 14 - PRIVATE



Figure 62 Viewpoint key plan



Figure 63 Viewpoint location plan



Figure 61 Viewpoint 14: Looking North from Westtime Road towards the proposed road alignment

Location

Westlime Road opposite
Coronation Avenue

Distance to nearest proposal element

80 metres to the proposed link road and 220m to the bypass

Receptors

One residential dwelling.

Number of viewers

Low

Current View

This isolated dwelling sits within agricultural land on gently rising ground that looks south over Westlime Road. It consists of a residential dwelling with a number of outbuildings and sheds. It has a reasonable number trees along the front boundary.

It should be noted that the viewpoint photo is taken from Westlime Road and does not represent the actual view of the road from the dwelling.

VISUAL IMPACT

The proposed bypass will be located on a slightly elevated roadway some 200m from the dwelling, on the location of the existing Westlime Road.

The proposed new local link road between Haritgan Avenue and Condobolin Road would pass approximately 80m from the dwelling. This forms the access route between the bypass and the National Logistics Hub.

There will be views from the residence which faces south east to both the new link road and the bypass road. The proximity of the new link road means it will be relatively visible from rooms in the dwelling facing south west.

Westlime Road is partially screened from the dwelling by local street trees. The widening of Westlime road to form the bypass will have limited visual impact, due to the existing situation and distance from the residence, and screening vegetation on the property and along the bypass.

| | |
|--|----------|
| Receptor Type | Private |
| Receptor Number | 10 |
| Sensitivity rating of receptor | MODERATE |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Low |
| Magnitude - Period of View | Moderate |
| Magnitude Scale of change | Low |
| Overall Magnitude rating | MODERATE |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE |

From Table 04, using a combination of sensitivity and magnitude ratings.

Mitigation measure

The primary mitigation measure would be planting clustered tree groups and a mix of tall shrubs and shrubs. This is similar to the existing situation on Westlime Road.

Visual impact rating after mitigation

| | |
|--|-----------------|
| Receptor Type | Private |
| Receptor Number | 10 |
| Sensitivity rating of receptor | MODERATE |
| Magnitude - Distance | High |
| Magnitude - Quantum of view | Low |
| Magnitude - Period of View | Low |
| Magnitude Scale of change | Low |
| Overall Magnitude rating | LOW |
| Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings) | MODERATE TO LOW |

4.5 Summary of visual impacts

The visual impacts of the proposal on the studied viewpoints range from low to high (refer Table 7 and Figure 63).

- One viewpoint received a rating of low
- Two viewpoints received a rating of moderate/low
- Five viewpoints received a rating of moderate
- Three viewpoints received a rating of moderate/high
- Three viewpoints received a rating of high

4.5.1 Public Viewpoints

Public open space with visual accessibility to the proposal is limited to Parkes Golf Course and several roads in close proximity to the new road corridor alignment.

The proposal would be particularly noticeable at the two tie ins with the existing Newell Highway - viewpoints 1 and 5. Some vegetation removal would be required in these locations, although due to the presence of existing transport infrastructure within the current viewframe, the short duration of views and lower sensitivity of receptors, the visual impact is not expected to be major. Eventually over time, the planting at each gateway would provide a structured visual cue to the turn off to Parkes.

A moderate visual impact is expected on sections of Hartigan Avenue in proximity to the new bridge which passes overhead the existing rail line (viewpoint 3). The overpass is high and the bridge structure is bulky and would appear prominent within the view, potentially limiting some of the existing long distance views from this road.

The western boundary of Parkes Golf Course (viewpoint 2) would also be moderately impacted with filtered views through existing tree planting to the new road corridor.

Views are not available from the centre of Parkes to the new road corridor.

4.5.2 Private Viewpoints

There is a relatively low density of residential and commercial receptors in proximity to the proposal, ensuring that visual impacts are limited to a relatively small geographical area.

Impacts are greatest where the road alignment is closest to dwellings. This includes potentially high impacts for two dwellings adjacent to the road corridor - viewpoints 7 and 11. For viewpoint 13, the high visual rating is for the local link road not the bypass and is primarily generated by the close proximity to the dwellings.

Several residential dwellings off Ballerdee Lane (viewpoint 8) and west facing dwellings off Rosewood Avenue (and surrounding streets) are likely to have panoramic views over the road corridor and new bridge structure, leading to moderate/high visual impacts. Similarly, dwellings off Heraghty Road (viewpoint 12) have elevated panoramic views across the landscape, taking in a large section of the new road alignment. From these viewpoints there may be a degradation in the rural nature of the view with an associated increase in infrastructure development.

| View Number | Location Description | Public / Private View Point | SENSITIVITY | Magnitude - Distance | Magnitude - Quantum of View | Magnitude - Period of View | Magnitude -Scale of change | Summary of Magnitude Ratings | Visual Impact Assessment rating |
|-------------|---|-----------------------------|-------------|----------------------|-----------------------------|----------------------------|----------------------------|------------------------------|---------------------------------|
| 1 | Newell Highway south of Parkes, looking north | Public | L | H | M | L | L | M | MODERATE/LOW |
| 2 | Parkes Golf Course | Public | M | H | M | L | L | M | MODERATE |
| 3 | Hartigan Avenue, looking south | Public | L | H | H | L | H | H | MODERATE |
| 4 | Westlime Road, looking north | Public | L | H | M | L | L | L | LOW |
| 5 | Newell Highway north of Parkes, looking south | Public | L | H | M | L | L | M | MODERATE/LOW |
| 6 | Dwellings off Hideaway Lane | Private | M | M | M | M | M | M | MODERATE |
| 7 | Dwelling off London Road | Private | H | H | M | M | H | H | HIGH |
| 8 | Dwellings off Ballerdee Lane | Private | H | H | M | M | M | M | MODERATE/HIGH |
| 9 | Dwellings off Rosewood Avenue | Private | H | M | H | M | M | M | MODERATE/HIGH |
| 10 | Dwellings off Moulden Street | Private | M | H | M | M | M | M | MODERATE |
| 11 | Dwelling off Bogan Road | Private | H | H | M | M | H | H | HIGH |
| 12 | Dwelling off Heraghty Road | Private | H | M | M | M | M | M | MODERATE/HIGH |
| 13 | Dwelling off Condobolin Road / Henry Parkes Way | Private | H | H | M | H | M | H | HIGH |
| 14 | Dwelling off Westlime Road | Private | M | H | L | M | L | M | MODERATE |

Table 5 - Summary of visual impacts of the proposal across the search area

4.6 Summary Visual Impact Assessment - No mitigation measures

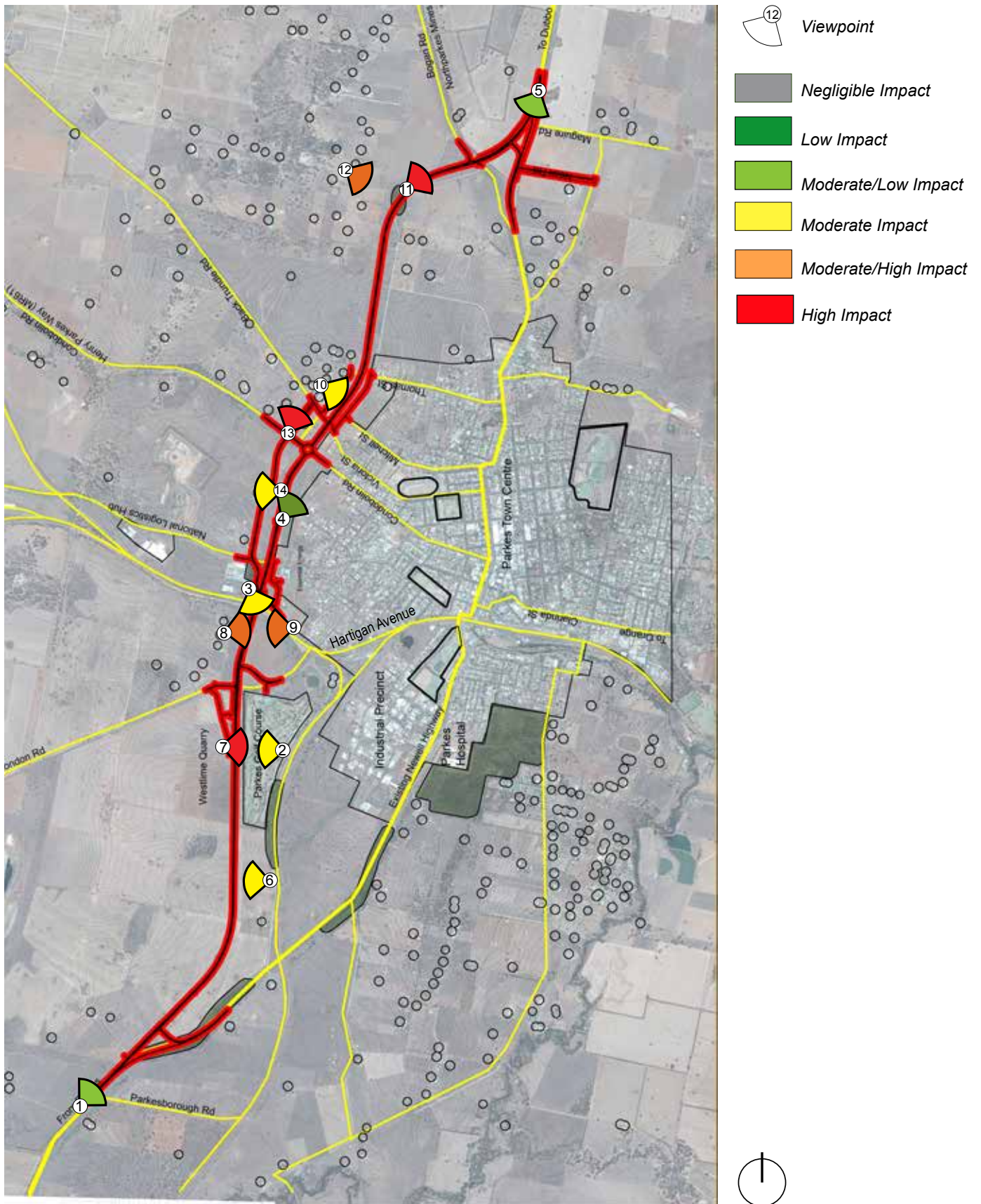


Figure 64 Summary of visual impacts across the search area

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5.0 MITIGATION MEASURES

5.0 MITIGATION MEASURES

5.1 Avoidance

The proposal alignment has been subject to significant analysis, including consideration of other options. The preferred alignment location, shown in the current proposal, is key to the functioning of the bypass. The final design and alignment selection would be refined during the concept design, however total avoidance has not been considered as a valid mitigation option.

5.2 Reduction And Alleviation

The principal forms of reduction are associated with refinements and modifications that address the siting and scale of built form. Options to alleviate impacts are associated with design features such as materials, finishes, reflectivity, planting character and the like.

5.2.1 Embankments

The bypass design features embankments/batters along much of its length. These would be potentially prominent elements passing through the mostly flat landscape of open farmland that fringes Parkes. The following is recommended to reduce the visual impact of the batters:

- Earthworks should sit lightly within their context, exhibiting a 'natural fit' within their landscape setting wherever possible, using curving profiles. Formations should be gently rounded out at both the top and bottom of slopes, and at each end of each formation, in order to achieve a 'natural' transition into adjacent landforms.
- Where practical, utilise shallow gradients where possible to provide a Better fit into the landscape. Shallow grades would aid plant establishment, reduce slope erosion and reduce future maintenance costs. If this is not practicable retaining walls should be considered to create benched landscape opportunities.
- Utilise gently sloping raised mounds in strategic places where possible with land constraints to screen the road carriageways from view

5.2.2 Bridge Structures

A new bridge structure would be required to lift the bypass over the rail line at Hartigan Avenue (refer to Figure 86). Refer also to urban design recommendations. The following is recommended to reduce the visual impacts of the bridge:

- The bridge structure should be simple, refined and elegant. The proportions of the bridge would reflect the spanning and supporting requirements and respond to their site context. Bridge parapets should project beyond the abutments to integrate the bridge to the landscape.
- Design the bridge as a cohesive structure with abutments, any noise barriers, lighting and traffic barriers working together as a seamless set of elements.
- Consider horizontal and vertical alignments, as well as their relationship to adjoining elements, materials and treatments.
- Consider a decorative treatment to any concrete panels to break up their scale and form.
- Refer also to Urban design section 7.
- Consider horizontal and vertical alignments, as well as their relationship to adjoining elements, materials and treatments.
- Consider a decorative treatment to any concrete panels to break up their scale and form.
- Refer also to Urban design section 7.

5.2.3 Construction

The scale of space needed for construction access, stockpile yards and movement corridors, can have short term impacts. There is limited vegetation on site and it should be possible to manage construction access in areas where there is no vegetation. Options include:

- Locate storage areas and associated works in cleared or otherwise disturbed areas away from existing retained vegetation.
- Do not stockpile materials in areas supporting vegetation.
- Restrict vegetation clearing to those areas where it is absolutely necessary. Opportunities to minimise clearing should be part of the detailed design, further to any being considered currently.
- Trimming rather than the removal of trees to be undertaken where possible and to be conducted by a qualified arborist.
- Rehabilitate and re-vegetate areas where ground is disturbed by construction plant.

5.2.4 Movement And Signage

- Maintain the spatial quality of Parkes town centre allowing for connectivity across the proposed road corridor for motorists, pedestrians and agricultural workers
- Provide clear wayfinding signage for visitors wishing to travel into Parkes.
- Consider entry or gateway treatments to the northern and southern entrances to Parkes.

5.2.5 Planting and Vegetation

- Choose vegetation on embankments either side of the bypass based on its ability to screen the built form and reduce the scale of the infrastructure. A selection of appropriate grasses, understory shrubs, tall shrubs, and trees should be identified in section 7.
- Maintain long vistas to distant hills where possible, ensuring that landscape planting does not block views.
- Plant trees either side of the bridge structure to screen built form and reduce the scale of the infrastructure.
- Reinforce the local semi-rural landscape character through the use of appropriate woodland vegetation.
- Ensure planting conforms to sight lines and clear zone requirements.
- Restore disturbed areas to match existing conditions.
- Use slope stabilisation matting such as a Jute mat to assist plant establishment and prevent erosion.

5.3 Off Site Mitigation

Tree planting outside the road corridor boundary may assist in visually screening the bypass and should be considered further during the detailed design. A small number of trees strategically placed close to receptors can screen a large area. This would need to be done with the approval of the individual landholder.

5.4 Summary Of Visual Impacts After Mitigation Measures

With proposed mitigation measures, it is considered that the overall visual impacts would reduce slightly with the introduction of urban design improvements, screening, earth mounds and vegetation.

- Three viewpoints received an impact rating score of low
- Five viewpoints received a rating of moderate/low
- Three viewpoints received a rating of moderate
- Three viewpoints received a rating of moderate/high
- No viewpoints received a rating of high

| View Number | Location Description | Public / Private View Point | SENSITIVITY | Magnitude - Distance | Magnitude - Quantum of View | Magnitude - Period of View | Magnitude - Scale of change | Summary of Magnitude Ratings | Visual Impact Assessment rating |
|-------------|---|-----------------------------|-------------|----------------------|-----------------------------|----------------------------|-----------------------------|------------------------------|---------------------------------|
| 1 | Newell Highway south of Parkes, looking north | Public | L | H | L/M | L | L | L/M | LOW |
| 2 | Parkes Golf Course | Public | L | H | L/M | L | L/M | L/M | MODERATE/LOW |
| 3 | Hartigan Avenue, looking south | Public | L | H | M/H | L | M/H | M/H | MODERATE/LOW |
| 4 | Westlime Road, looking north | Public | L | H | L | L | L | L | LOW |
| 5 | Newell Highway north of Parkes, looking south | Public | L | H | L/M | L | L/M | L/M | LOW |
| 6 | Dwellings off Hideaway Lane | Private | M | M | L/M | M | L/M | L/M | MODERATE/LOW |
| 7 | Dwelling off London Road | Private | H | H | M | M | M | M | MODERATE/HIGH |
| 8 | Dwellings off Ballerdee Lane | Private | H | H | L/M | M | L/M | L/M | MODERATE |
| 9 | Dwellings off Rosewood Avenue | Private | H | M | L/M | M | L/M | L/M | MODERATE |
| 10 | Dwellings off Moulden Street | Private | M | H | L/M | M | L/M | L/M | MODERATE/LOW |
| 11 | Dwelling off Bogan Road | Private | H | H | L/M | M | M | M | MODERATE/HIGH |
| 12 | Dwelling off Heraghty Road | Private | H | M | L/M | M | L/M | L/M | MODERATE |
| 13 | Dwelling off Condobolin Road / Henry Parkes Way | Private | H | H | L | M | M | M | MODERATE/HIGH |
| 14 | Dwelling off Westlime Road | Private | M | H | L | L | L | L | MODERATE/LOW |

Table 6 - Summary of visual impacts of the proposal across the search area

5.5 Summary Visual Impact Assessment - incorporating mitigation measures

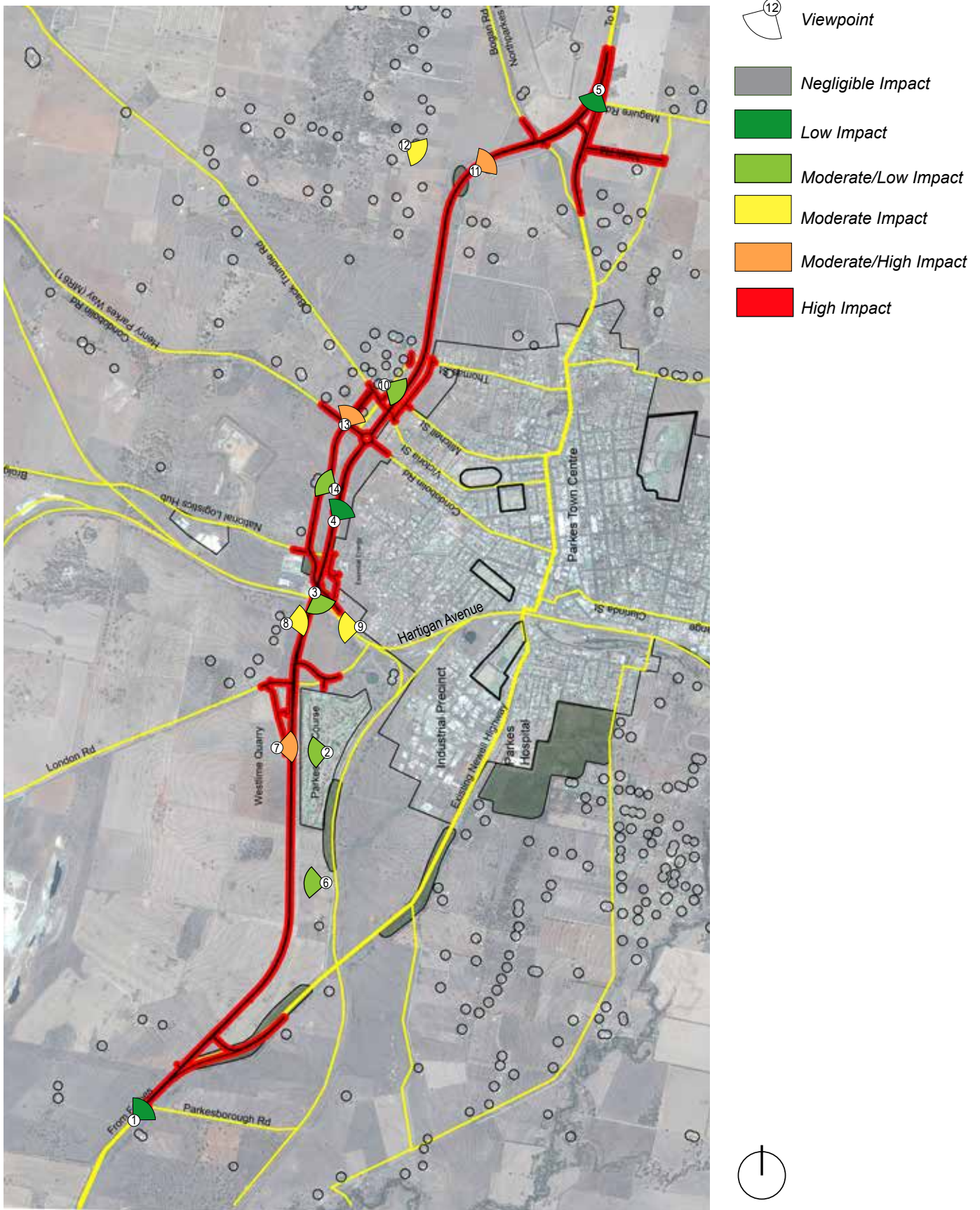


Figure 65 Summary of visual impacts across the search area (Post Mitigation)

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6.0
VIA CONCLUSIONS

6.0 VIA CONCLUSIONS

6.1 Key Findings

A comprehensive visual assessment of the proposal and the surrounding area has been conducted. The assessment has identified landscape character zones and has evaluated key viewpoints and viewer sensitivity in accordance with best practice methodology and the Land and Environment Court Planning Principles.

6.1.1 Landscape Character

The following conclusions have been drawn:

- The landscape character surrounding the proposal is typical of a transition area between urban and rural landscape types.
- The undulating pasture surrounding Parkes contributes strongly to the spatial quality of the area.
- The proposal is likely to have the greatest impact on the landscape character of a limited number of rural residential dwellings in close proximity to the road corridor. The insertion of a new infrastructure element within the landscape may negatively impact their rural aspect.
- Areas of farmland within the search area have a greater ability to absorb change. Although the proposal may spatially divide some fields, the overall integrity of this landscape zone is not expected to be significantly affected.
- The proposal would moderately impact the western boundary of the Parkes Golf Course, reducing the rural characteristic of this side of the course.
- Beneficial visual impacts may be experienced on the character of Parkes town centre with the reduction in traffic, particularly heavy vehicles on the existing Newell Highway.

6.1.2 Visual Impact

The following conclusions have been drawn:

- The visual impacts of the proposal on the studied viewpoints range from low to high.
- The relatively low density of residential and commercial receptors in proximity to the proposal, ensure visual impacts are limited to a relatively small geographical area.
- Visual impacts are greatest where the road alignment is closest to dwellings.
- The most discernible elements of the proposal would be the larger batters and bridge structure over the rail line and Hartigan Avenue.
- Visual amenity at Hartigan Avenue would likely be impacted by the proposed over bridge. The bridge structure would be elevated and would appear prominent. The earth fill batters may potentially limit some of the existing long distance views from this road.
- Screening through planting of trees and shrubs near the bridge structure at Hartigan Avenue is likely to assist in reducing expected visual impact.
- Considered urban design of the bridge structure at Hartigan Avenue is likely to assist in reducing expected visual impact.
- Public open space with visual accessibility to the proposal works is limited to Parkes Golf Course and several roads in close proximity to the new road corridor alignment.
- One dwelling adjacent the golf course off accessed off London Avenue, would have high visual impacts that may be reduced to moderate/high by dense screen planting.
- Several residential dwellings off Ballerdee Lane would have panoramic views over the road corridor and new bridge structure, leading to moderate/high visual impacts that can be reduced with planing screening.
- Several west facing dwellings off Rosewood Avenue and surrounding streets would have expansive views over the road corridor and new bridge structure, leading to moderate/high visual impacts.
- Several dwellings off Moulden Street have views over the new road alignment that can be reduced from moderate to moderate/low through earth embankments and planting.
- One dwelling off Bogan Road is in close proximity with a high visual impact. With earth mounding and screen planting this can be reduced to moderate.
- Several dwellings off Heraghty Road have elevated panoramic views across a large section of the new road alignment.
- Beyond a viewing distance of about 1km, visual impacts reduce to negligible due the screening effect of local topography, vegetation and the size of the proposal within the view frame.

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7.0

URBAN DESIGN

PRINCIPLES

AND CONCEPT

LANDSCAPE

DESIGN



7.0 INTRODUCTION TO URBAN DESIGN AND LANDSCAPE DESIGN

7.0.1 Urban Design Rationale

Good urban design aims to contribute towards the liveability of towns, cities and regions, and improve their productivity and attractiveness for investment.

The intention is to provide built outcomes that are cost effective, safe and sustainable. Three key urban design outcomes are to:

- Fit sensitively with the landform and the built, natural and community environments in which they are situated.
- Contribute to the accessibility and connectivity of communities and a general permeability of movement through areas.
- The design and management of road proposals must contribute to the overall quality of the public domain for the community, including transport users.

Beyond the Pavement is a key Roads and Maritime Services document that outlines nine design principles for roadways - refer to Figure 65. While not all are applicable to the regional Parkes location, the urban design framework has been structured around these nine principles.



Figure 66 Roads and Maritime Services Guidelines

7.1 URBAN DESIGN PRINCIPLES

| | |
|--|---|
| <p>PRINCIPLE ONE Contributing to urban structure and revitalisation</p> | <ul style="list-style-type: none"> › Consider the role of networks in the structuring of towns, cities and regions. › Consider the role of road and maritime transport infrastructure in revitalizing and transforming areas. › Consider both transport and community needs in planning and designing road networks and hierarchies. › Create streets and boulevards that provide a sense of place. › Consider the potential opportunities of a reduction in traffic volume. |
| <p>PRINCIPLE TWO Fitting into the built fabric</p> | <ul style="list-style-type: none"> › Keep the road footprint to the minimum possible to achieve a good design outcome. › Integrate noise control into road corridor and project design. › Avoid adverse visual impacts in the planning and design of roads and wharfs. › Consider the potential use of adjoining land. |
| <p>PRINCIPLE THREE Connecting modes and communities</p> | <ul style="list-style-type: none"> › Consider connectivity into and through surrounding environments. › Consider connectivity between modes. › Consider where people want to cross and the quality of crossing points along a busy road. |
| <p>PRINCIPLE FOUR Fitting with the landform</p> | <ul style="list-style-type: none"> › Form a road in response to topography and landform. › Consider slope stabilisation design as part of the project. |
| <p>PRINCIPLE FIVE Responding to natural pattern</p> | <ul style="list-style-type: none"> › Integrate natural patterns and systems into road design. › Ensure physical continuity of natural systems. › Use natural characteristics in the road's landscape design. |
| <p>PRINCIPLE SIX Incorporating heritage and cultural contexts</p> | <ul style="list-style-type: none"> › Integrate historic buildings and precincts into design of transport infrastructure. › Adapt and reuse heritage infrastructure in projects. › Protect and incorporate Aboriginal heritage in road design. › Recognise European cultural plantings. › Protect bridges of heritage significance within their setting. › Preserve roads that provide a sense of history. |
| <p>PRINCIPLE SEVEN Designing an experience in movement</p> | <ul style="list-style-type: none"> › Enhance the view from the road. › Provide visual stimuli within the road corridor. › Create a progressive sequence of visual events. |
| <p>PRINCIPLE EIGHT Creating self explaining road environments</p> | <ul style="list-style-type: none"> › Distinguish between the different functions and speeds of roads by differentiating their appearance. › Improve the legibility of roads. |
| <p>PRINCIPLE NINE Achieving integrated and minimal maintenance design</p> | <ul style="list-style-type: none"> › Use robust durable materials fit for purpose and place. › Provide a self-reliant and minimal maintenance natural landscape. › Avoid opportunities for vandalism. › Create a simple, coordinated and neat composition of road elements along a corridor. › Consider the design quality of major road and maritime components and individual built elements. |

Figure 67 Beyond the Pavement - design principles

7.1 URBAN DESIGN PRINCIPLES

7.1.1 Principle one - contribution to urban structure and revitalisation

This principle looks at the opportunities for restructuring the urban environment at a town / regional level. It provides the opportunity to reduce traffic volumes and creates streets and boulevards that provide sense of place.

Currently the Newell Highway passes through the Parkes town centre. There are four 90 degree turns that need to be negotiated as well as a level crossing for the freight railway line. Three of the intersections cannot accommodate the turning movement of longer heavy vehicles.

The Parkes Bypass provides a more direct highway route by re-directing the highway to the west of town. This re-routing of the heavy vehicle route will:

- Lead to a reduction in traffic volume through the town centre.
- Remove heavy vehicle movements through town.
- Provide direct access to freight from the Parkes National Logistics Hub, without the need to drive through town.
- Provide opportunities for improve the pedestrian amenity in the town centre.
- Move focus onto local users, street frontage uses and pedestrians.
- Provide opportunity for street tree improvements, increased canopy coverage.

Urban and landscape design response:

The highway bypass allows Parkes Shire Council to investigate opportunities for:

- First impression route improvements on the Newell Highway and Condobolin road through town.
- Urban street improvements for Parkes town centre

7.1.2 Principle two - fitting into the built fabric

This design principle looks into minimizing the impact of the road on the existing built environment. Minimising road footprints, integrating noise controls avoiding adverse visual impacts and considering potential uses of adjoining land.

As the road bypasses the town, its footprint has little direct impact on the existing townscape streets and urban areas. The introduction of the elevated grade separated intersections over the freight rail line and Hartigan Avenue, are noticeable changes in this otherwise flat rural landscape.

There are potential noise considerations for the new highway alignment and they will be reviewed in other reports in the REF.

The intention of this study is to reduce the visual impact of the road on the existing environment.

The land acquisition for the road provides for limited opportunities for other uses.

Urban and landscape design response:

- Minimise the acquisition footprint of the new highway.
- Mitigate adverse noise impacts.
- Reduce the visual impact of the elevated sections on the road through tree planting.

7.1.3 Principle Three - Connecting Modes and Communities

This principle deals with connectivity for the community. Considerations include connections through the surrounding environment, opportunities for connection with different modes of transport and quality of crossing points over busy roads.

Intermodal Freight connections

The new highway alignments provides greater connectivity to The Parkes National Logistics Hub and the future inland rail line. This is a significant intermodal connection. The road has also been specifically designed to accommodate the appropriate freight clearance with the road bridge over the rail line.

North south town connections

A grade separated vehicle and pedestrian and cycle cross connections will be provided at Victoria Street pedestrian overpass and the Hartigan Avenue underpass. An at grade crossing is provided at Condobolin Road and Brolgan Road.

Inland stock route

The location of the highway is partially on the inland stock route corridor. The alignment has been designed to retain the linear connectivity along the stock route.

Urban and landscape design response:

- Clearly signal road entry to National Logistics Hub
- Provide opportunities for cycleway linkages along Victoria Street into the CBD
- Opportunities for Parkes Shire Council to improve pedestrian connectivity in the Parkes town centre.

7.1.4 Principle Four - Fitting With The Landform

This principle addresses the need to design the road and its earthworks to respond sensitively to landform.

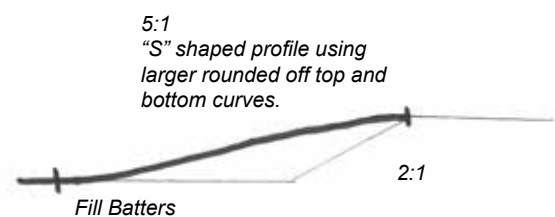
Integrating cut and fill in a gently undulating landscape

The road is required to enable enough height for double stacked freight trains over the railway line. This requires the road levels to be increase in height using fill material at slopes of up to 2H:1V. This creates steeper unnatural slopes within this gently undulating landscape.

Along the Travelling Stock Route, there is long cutting that also provides the opportunity for a grade separated crossings at Victoria Street.

Urban and landscape design response:

- Grade cut and fill batters as gently as possible.
- Investigate opportunities for shallower slopes eg 5:1-6:1 for the railway cutting fill batter rather than 2:1. Or alternatively provide flatter eg 5:1 batters top and bottom to better integrate the road into the landscape.
- Round off / feather in tops of cuts and the bottom of fill batters.
- Provide a constant width cut batter to vary cut batters rather than generating a constant 3:1 side slope.



7.1.5 Principle Five - Responding to Natural Pattern

This principle addresses the need to respond sensitively to natural patterns and processes that underpin ecological systems and biodiversity. This includes connections of natural systems and habitats, creeks, rivers and waterways and the use of local materials.

In this largely modified rural landscape there are limited extensive natural ecosystems that cross the site. There are no creeks or extensive tracts of woodland. Beyond the site the highway itself forms a linear corridor for planting and habitat, including some EEC woodlands. The road corridor network here provides an important protected landscape for retained habitat and linear habitat corridors.

There is one threatened fauna species recorded in the site

- Grey-Crowned Babbler (Eastern subspecies)

There are three potential threatened species likely to occur within the survey area, including, Regents Honeyeater, Swifts parrot, and Superb Parrot

There are two threatened ecological communities present on the site, in very small areas:

- Western Grey Box - White Cypress Pine tall woodland
- White Box Yellow Box Blakely's Red Gum woodland

Urban and landscape design response:

- Integrate the road into its rural context – using indigenous species adapted to the region, to replicate the scattered woodland vegetation character.
- Utilise the highway road corridor for potential habitat linkages to existing highway road corridor landscapes.
- Investigate opportunities for habitat restoration of EEC woodlands.
- Where feasible, protect remnant vegetation in the corridor.
- Protect where possible hollow bearing trees and provide opportunities for nesting hollows in new woodland areas.

7.1.6 Principle Six - Incorporating Heritage and Cultural Contexts

This principle addresses the need to understand the heritage and cultural context of a road and outlines ways to incorporate this understanding in its design. This includes indigenous cultural heritage integration of heritage building, bridges, structures, and cultural plantings.

There are five cultural heritage site within the proposed road corridor. These include two Aboriginal sites, both scarred trees are located in proximity to the roadway alignment. Measures should be taken to retain and protect these trees throughout construction. Non-Aboriginal heritage includes Reedsdale Road, which has been identified as having local significance.

The Travelling Stock Route has cultural value and its function should be maintained.

Urban and landscape design response:

- Retain and protect the two scarred trees.
- Integrate and protect where possible the Reedsdale Road local heritage site.
- Maintain the function and use of the Travelling Stock Route.
- Consider heritage stories for artworks.



7.1.7 Principle Seven - Designing an Experience in Movement

This principle underlines the need to design road infrastructure that provides a physically and visually stimulating travel experience, avoids boredom, assists in wayfinding and best allows an appreciation of the values of the landscape through which the road passes.

Regional landscape character

The Parkes Bypass sits within a gently undulating rural landscape with scattered remnant woodland. It forms part of a longer inland journey. The relatively wide road reserve from Forbes to Parkes, has retained an open woodland experience. North of Parkes, heading to Dubbo, the road experience varies between relatively wide landscape views to heavier woodland in the road reserves. The landscape design seeks to continue this rural - open woodland landscape experience.

Gateway opportunities with planting and bridges

The two town entry points provide key opportunities for signal entrances to the town for passing travellers.

Bridge over railway line

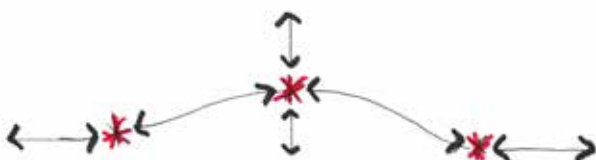
The elevated rail crossing provides an opportunity of a different vantage point in this otherwise relatively flat landscape. There is a need here to balance view out from the road, with the potential need for screening.

Victoria Street cutting and over-bridge

The Victoria Street pedestrian over-bridge provides the opportunity for an integrated artwork element that can provide a gateway feature.

Urban and landscape design response:

- Utilise typically scattered clusters of trees rather than continuous avenues. This allow for some failure without impacting the design intent.
- Optimise views from elevated landscapes
- Build gateway experiences using tree planting.
- Utilise the novelty of the Bridge overpass as a signature opportunity



7.1.8 Principle Eight - Creating Self-Explaining Road Environments

This principle describes how roads signifies their function through their design.

Highway environment

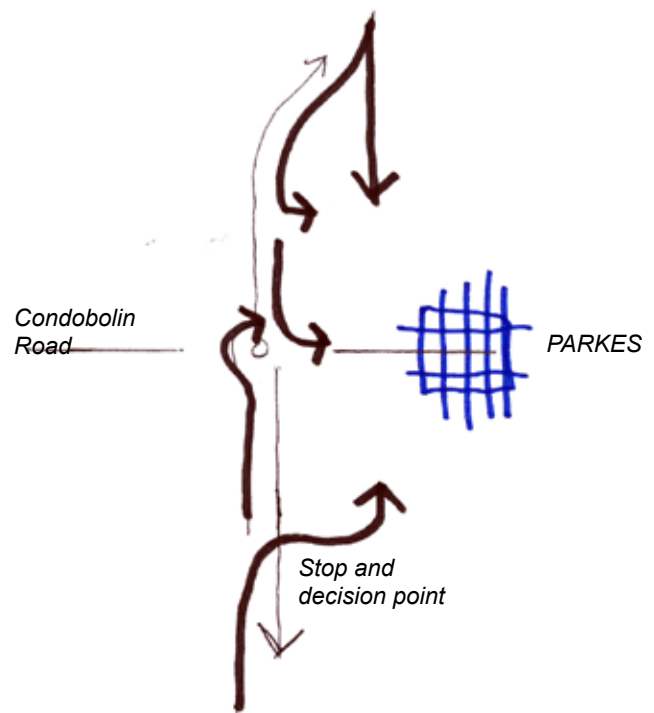
The width of the road and its gentle curves would signal a highway speed environment.

Gateway opportunities and town entry decision points

While the road would provide an essential reduction in heavy vehicles through town. There is also the potential for a reduction in trade from passing traffic bypassing the town. The design seeks to maximise opportunities for passing traffic to divert into town. Arrival from Dubbo is simpler with a slip lane arrival for all entrances. Arriving from Forbes, a clear decision and entails crossing the highway to turn into town.

Urban and landscape design response:

- Make the decision points clear and legible



7.1.9 Principle Nine -Achieving Integrated And Minimal Maintenance Design

This principle deals with the need to achieve well designed proposals that require minimal maintenance.

Managing adjacent stock pasture, potential weeds and road verge planting

As the road passes through pasture land for stock, there would be potential issues for management of the understory. A minimal maintenance indigenous understory is proposed.

Urban and landscape design response:

- Utilise appropriate species selection / Indigenous planting combined with appropriate weed management options.

7.2 Urban Design Framework - South

Victoria Street Pedestrian / cycleway overbridge
Gateway / marker opportunity

National Logistics Hub Intersection

Bridge over railway
Elevated views



Northern Gateway to Parkes
Turn off decision point

Western Gateway to Parkes
Intersection decision point

Brolgan Road Intersection

Southern Gateway to Parkes
Intersection/ decision point



Figure 68 Urban design and analysis plan Southern end

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7.3 Urban Design - bridge Piers

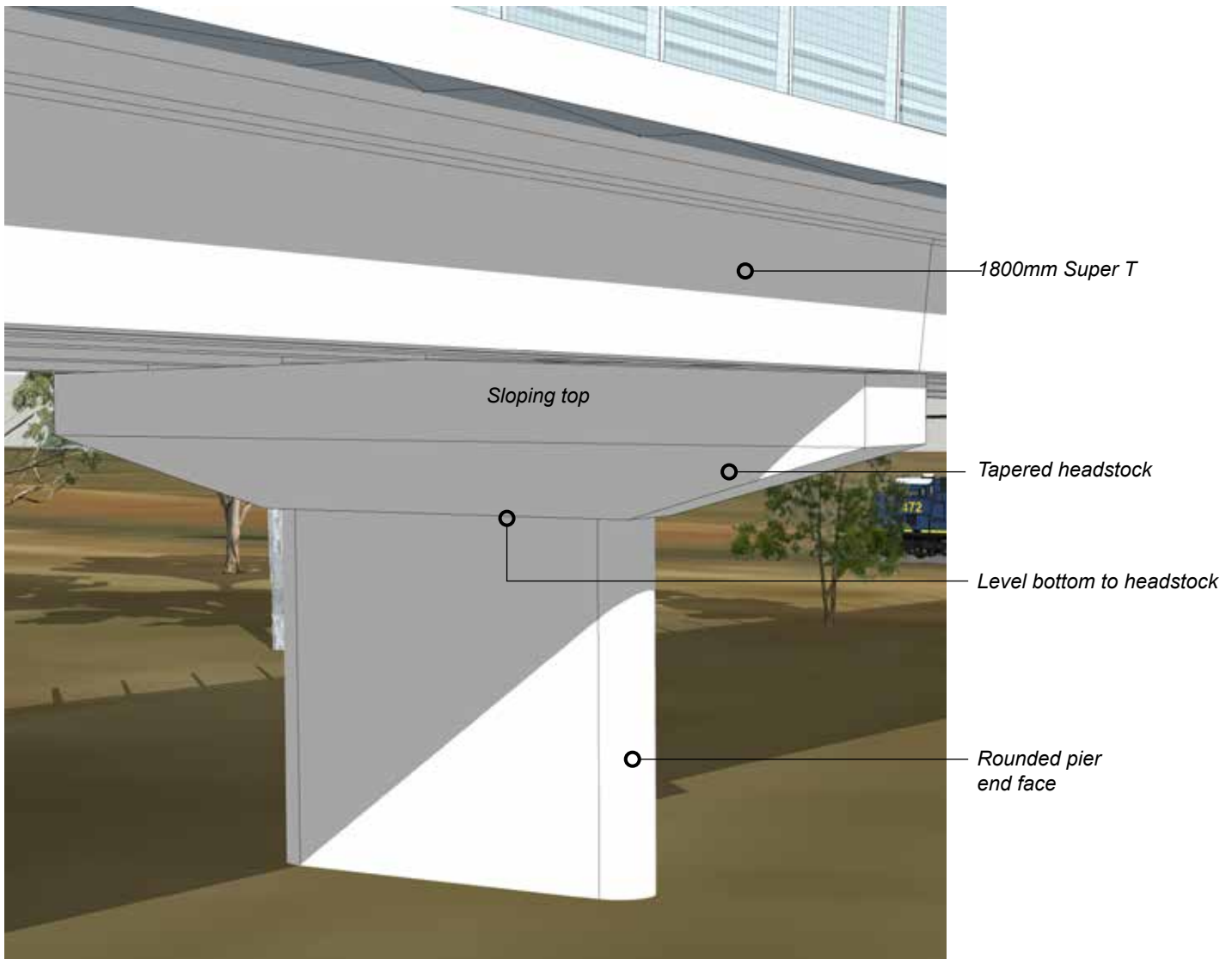


Figure 69 Hartigan Avenue road over bridge piers

7.3.1 Pier Design

The combined rail / road over bridge comprises a 196m bridge. It is made up of six spans utilising 1800mm super T-girders. These are made up of two short 24m spans at either end and four intermediate spans of 37m each. The 1800mm super T-girders are utilised for the shorter end spans to maintain a consistent elevation profile of the bridge. Either end comprises spill through abutments.

Due to collision requirements, the rail overbridge will comprise a blade pier with deflection walls either end. So there is a consistency of design language, the road overbridge piers being developed by Tract / Cardno utilise a blade column. To improve the piers appearance, the ends will be rounded. The top supports a tapered headstock. The bottom of the headstock would be level throughout and the top will slope to allow for the road cross fall. The headstock tapers down in section so that it matches the pier width.



Figure 70 Freight rail over bridge piers

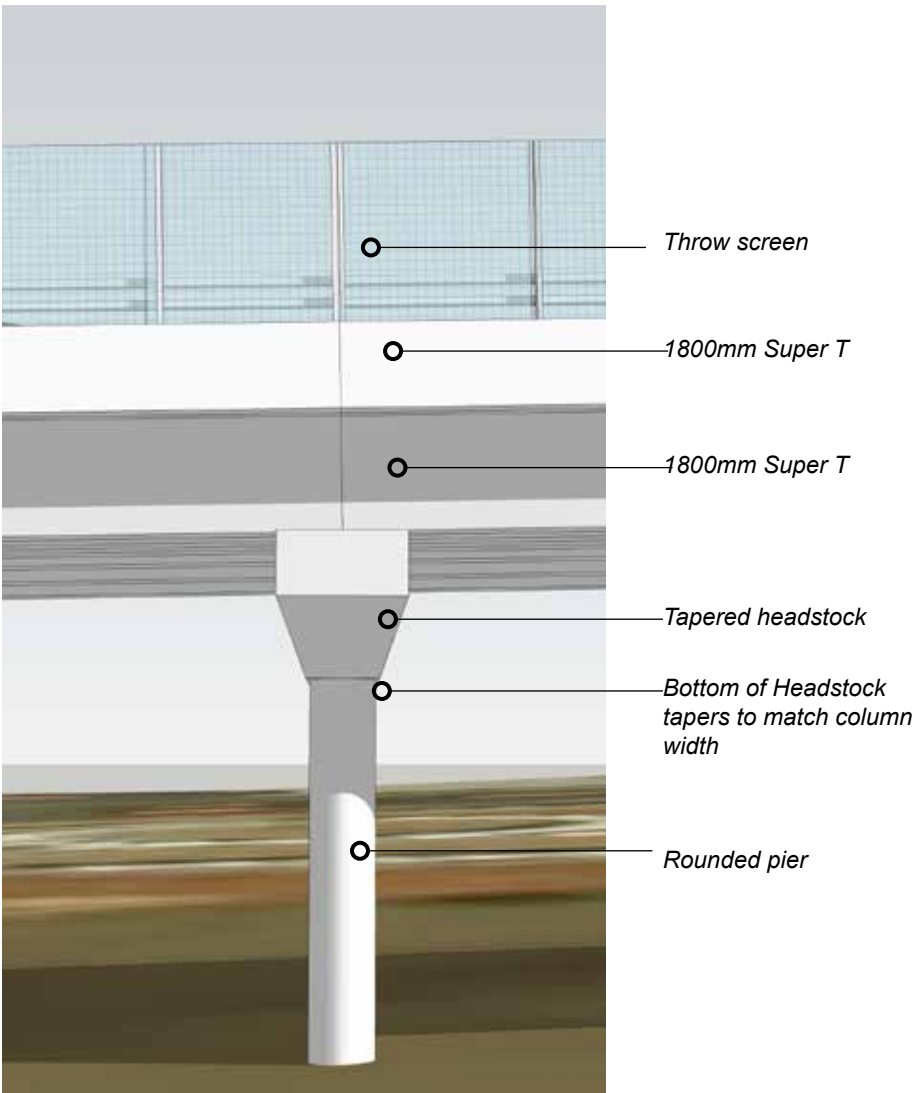


Figure 71 Road over bridge pier side elevation

7.4 Urban Design Considerations - Placemaking



Figure 72 - Brim Silo - Guido van Helten



Tiger Brennan Drive overpass Mudpil Bridge acts as a welcoming to Larrakia land

Figure 73 - Aluminium Cast Birds & Speargrass Sculpture Artists: James Gaston & Kenny Reid



Figure 74 - Tiger Brennan Drive - Darwin, Local Larrakia artists

7.4.1 Placemaking Considerations

There are opportunities with the Hartigan Avenue overbridge and the Victoria Street footbridge to incorporate some place making elements into the bridge. The main opportunities are with the parapet parapet and the throw screen.

Examples here of art in the landscape include:

- The Silos Art Trail - Victoria - various renowned street artists • Illustrated here is the Brim Silo by artist Guido van Helten
- Lizard Tree - Hume Highway Wagga Wagga
- Tiger Brennan Drive abutments and parapet - Larrikia artists



Figure 75 - Lizard Tree - Tumbarumba Bridge Pier, Hume Highway - Jackson Teece



Figure 76 - Tiger Brennan Drive - Darwin, Local Larrikia artists

7.5 Bridge Abutments

Bridge abutments are important visual elements of bridges. As the point where the roadway construction transitions to a bridge construction technique, this junction can sometimes appear visually awkward and disjointed.

In creating a simple bridge form, proposed urban design elements here include:

- Bridge parapet to visually continue across the abutment for at least 5-10m.
- Continue alignment of Super T shape in abutment concrete.
- Throw screens to extend past abutments and taper at either end.
- Provide neat junctions and transitions from jersey kerbs to W barriers.

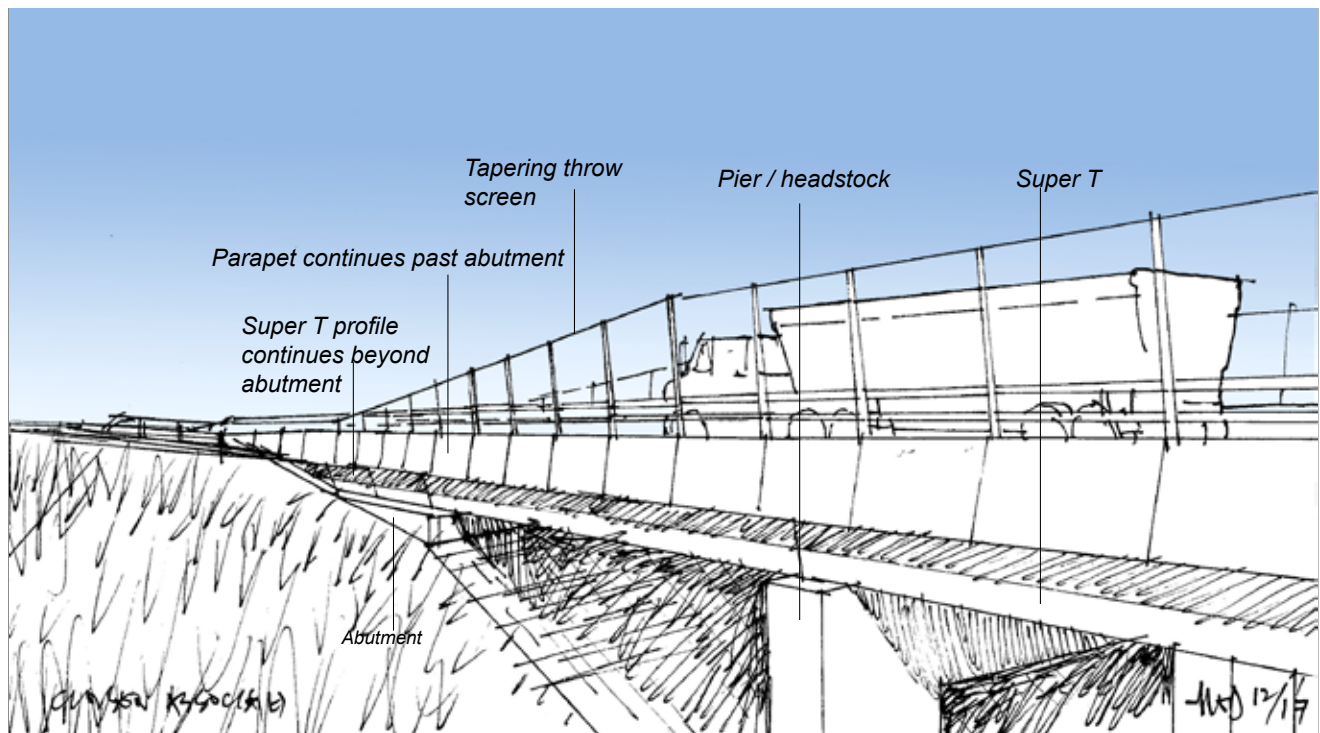


Figure 77 Integrated abutment sketch

7.6 Throw Screens

The throw screens are proposed to be a simple tapered support angled at the same ratio as the Super T sides. The supports should be spaced to match the parapet panel module. Throw screens should continue past the abutment and be tapered down at either end.

There are opportunities for integrated artworks to be incorporated into the mesh for the throw screens. These could be considered in conjunction with opportunities for the parapet.



Figure 78 Throw screens matched to the spacing of the parapet panels.

7.7 Noise Walls and Mounds

Review in the detailed design stage options for noise mitigation in accordance with Roads and Maritime guidelines. Options may include:

- Increasing the crest height in cut locations where feasible and reasonable to create a false cutting.
- Noise mounds where practical and sufficient space and fill is available.
- Noise walls only where essential.
- At property mitigation, such as boundary fencing.

7.8 Lighting

Lighting for Intersections, bridges and signage to be considered during the detailed design with the aim to reducing adjacent light spill into residential properties, minimise glare that could impact on driver visibility, and prevent upwards light pollution.



Figure 79 Artwork integrated into the mesh panels on the Bulahdelah access bridge fence design. Source: Achievements in Roads and Maritime Services Infrastructure Projects. (Roads Services)

7.9 Landscape Concept Design - Planting Palette

7.9.1 Landscape Concept

The Parkes Bypass, is part of a continuation of a longer journey. The landscape design aims to ensure the journey is a continuation of existing the road experience with key visual points at intersections.

The intent is for an open woodland tree lined corridor as a continuation of the road character north and south of the town. The road would be punctuated by identifiable gateways / landmarks that serve as gateway entry points into Parkes.

7.9.2 Planting

The proposed planting palette has been chosen to cover a variety of different purposes. The two main design principles here from section 7.1 are:

- Principle five - Responding to natural pattern.
- Integrate the road into its rural context – using indigenous species adapted to the region, to replicate the scattered woodland vegetation character.
- Principle seven - Designing in an experience in movement.
- Create gateway experiences using tree planting.

Working with principle five, the bulk of the highway is proposed to be indigenous species adapted to climate soil and the low rainfall characteristics. This primarily consists of a mix of woodland trees, tall shrubs, grasses and groundcovers.

As part of principle seven, the town gateways have been intentionally designed to take advantage a change in planting character, to use bold geometric groups of trees at a scale that suits the speed environment of the road. For the town gateways, the primary planting palette uses species from the gateway / ornamental trees group.

GATEWAY TREES / ORNAMENTAL TREES



Washingtonia robusta
MEXICAN FAN PALM



Pinus radiata
MONTEREY PINE



Jacaranda mimosifolia
JACARANDA



Callitris Glaucophylla
WHITE CYPRESS PINE



Melia azedarach
white cedar



Lagerstroemia indica
CREPE MYRTLE

WOODLAND TREES / TALL SHRUBS



Acacia deanei
DEANE'S WATTLE



Acacia spectabilis
MUDGEE WATTLE



Acacia decora Western
SILVER WATTLE / THE SHOWY
WATTLE



Acacia hakeoides Hakea leaf wattle
Hakea Leaf Wattle



Acacia pendula
WEEPING MYALL

SHRUBS



Eremophila longifolia
red bell



Myoporum montanum
WATER BUSH



Geijera parviflora
WILGA



Dodonaea viscosa
STICKY HOP BUSH



Hakea leucoptera
NEEDLEWOOD

GRASSES & GROUNDCOVERS



Themeda triandra
Kangaroo Grass



Bothriochloa macra
RED GRASS



Rytidosperma spp
WALLABY GRASS



Austrodanthonia caespitosa
WHITE TOP GRASS



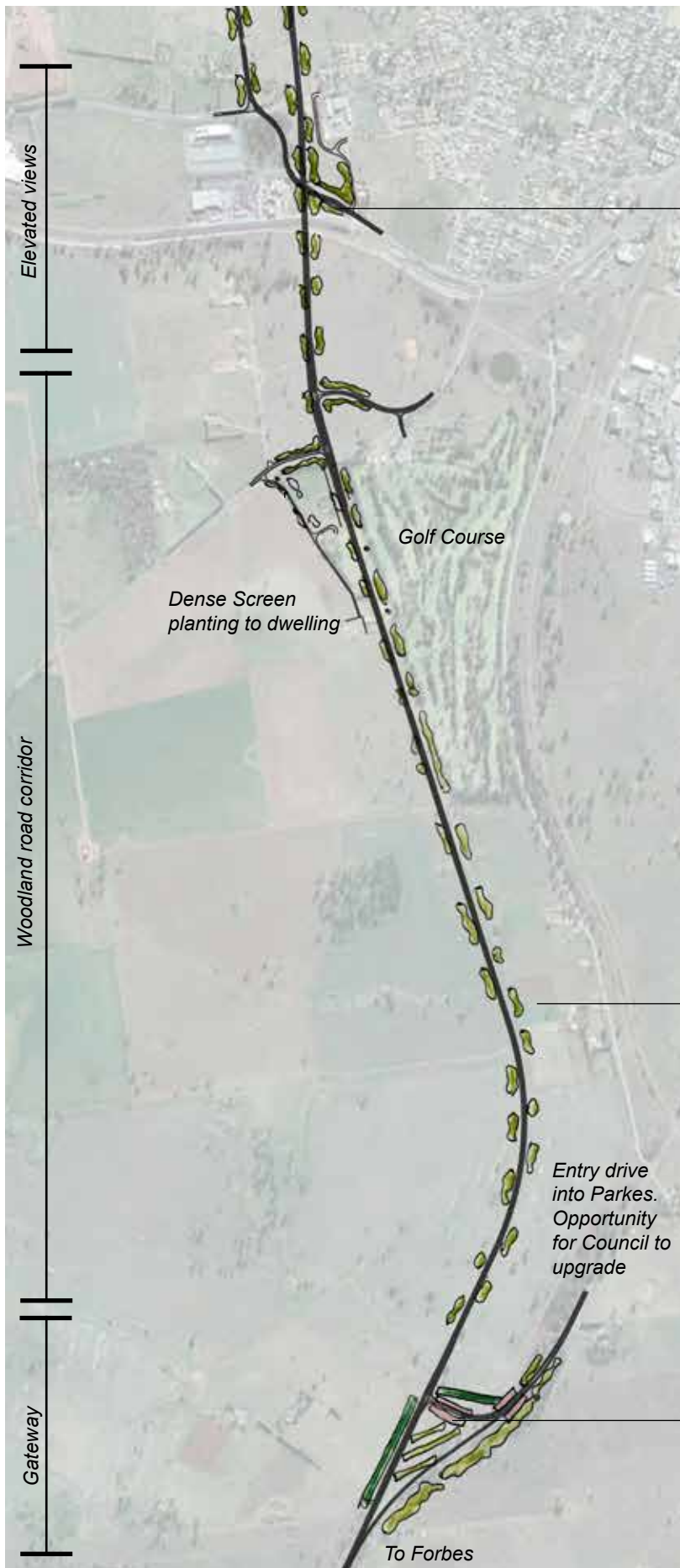
Lolium multiflorum
ANNUAL RYE GRASS

An indicative grassland species mix is:

Kangaroo Grass 30% *Themeda triandra*
Red grass 30% *Bothriochloa ra*
Wallaby Grass 10% *Rytidosperma spp*
White top grass 10% *Austrodanthonia caespitose*
Cover crop 30% Annual rye grass

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7.10 Landscape Concept Plan - South



Elevated Rail Crossing

Provides grade separated crossing for railway line

Elevated crossing provides vantage point in otherwise flat landscape

Vista opened up to west, crossing screened from the east

Woodland Road Corridor

Continues woodland feel to highway

Clustered woodland trees along side road

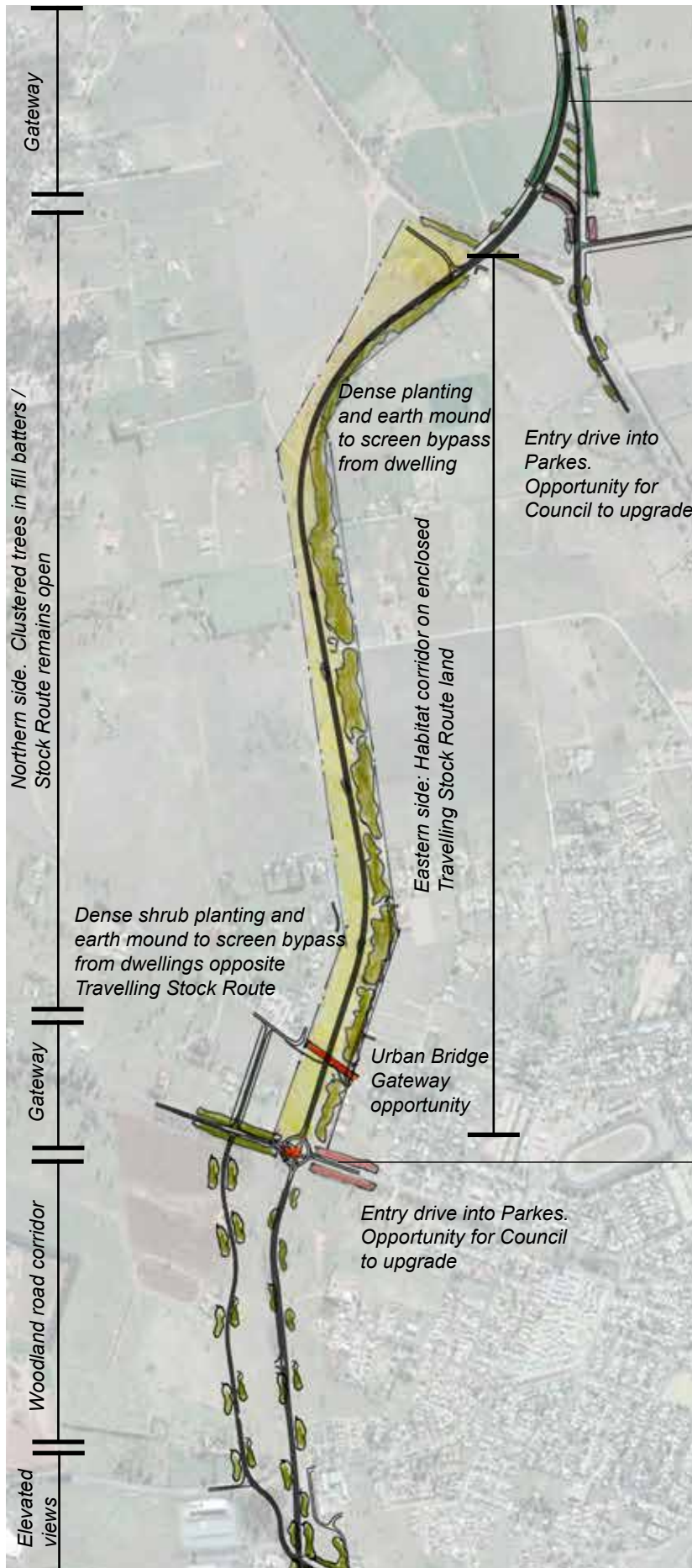
Southern Gateway

Announces arrival into Parkes

Planted gateway

Figure 80 Landscape concept plan - South

7.10 Landscape Concept Plan - North



Northern Gateway

Announces arrival into Parkes from Dubbo

Planted gateway

Travelling Stock Route

Open pasture for Travelling Stock Route. Affords elevated view to landscape to the west.

Scattered trees in fill batters, fenced from stock.

Enclosed Eastern side converted to habitat corridor link as recovered
White Box / Yellow Box / Red Box community

Western Gateway

Announces arrival into Parkes from Condobolin

Landmark trees in roundabout, Gateway avenue trees

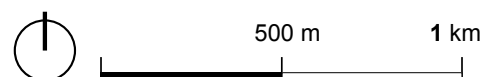


Figure 81 Landscape concept plan - Northern end part 1

7.11 Southern Gateway Concept Plan



Figure 82 - Southern gateway Photomontage

Southern Gateway

Location / setting:

Arriving from Forbes, the Southern Gateway would automatically take the driver on a bypass of Parkes. The intention is assist tourists in making a decision to drive into Parkes. It presents a decision point for travellers who want to visit town as they will need to turn right.

Design intent:

The intention of the southern gateway is to create a distinctly different landscape to signal the entry into Parkes.

Description:

A distinct change of tree species, seasonal colour and bold geometric plantings on residual land is intended to create a distinctive marker on the highway experience. Combined with Roads and Maritime Services advance warning signage a potential town gateway "Welcome to Parkes" signage provides reassurance that this is the main turn off into town.

Indicative Tree species:

Pinus radiata provides the backdrop to the road and a distinctly different colour palette to the remnant open woodland in the road corridor leading up to Parkes.

Eucalyptus microcarpa planted in rows 50m apart, creates a deliberate rhythmic pattern to the motorist. These are set in 5m wide red gravel bands.

Gateway trees provide an exotic seasonal colour against the dark green pine backdrop.



Figure 83 - Southern gateway landscape Concept plan

7.13 Road / Rail Over Bridge



Figure 84 Rail overbridge photomontage view looking west

Rail / Hartigan Avenue Overbridge

Location / setting:

Affording access to the inland rail line, the bridge over the railway provides an elevated view in this otherwise relatively flat landscape.

Design intent:

Utilise elevation to provide distant views of the landscape from the road, while screening bridge infrastructure from key view points.

Description:

The combined rail road over bridge comprises a 196m bridge. It is made up of six spans utilising 1800mm super T-girders. These are made up of two short 24m spans at either end and four intermediate spans of 37m each. Either end comprises spill through abutments.

Refer to Urban design section 3.3 - 3.8 for more detail.

Indicative Tree species:

Eucalyptus microcarpa, Acacia deanei, Acacia pendula, Eucalyptus albens, Eucalyptus blakelyi

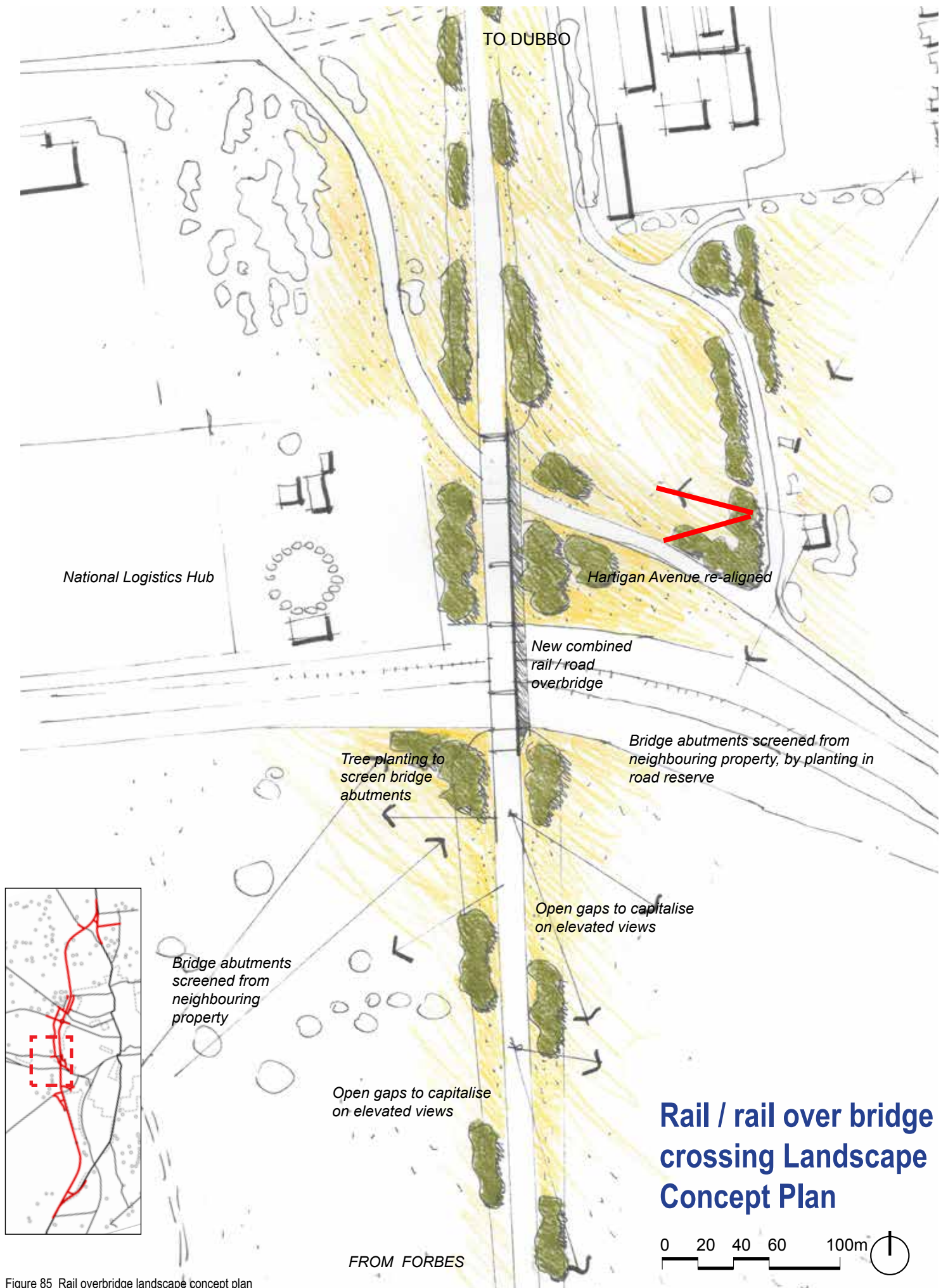


Figure 85 Rail overbridge landscape concept plan

7.14 Western Gateway and Victoria Street Pedestrian / Cycleway Over Bridge

Western Gateway

Location / setting:

Arriving from Condobolin along Henry Parkes Way, the Western Gateway roundabout provides an entry point onto the Parkes Bypass or straight into town.

Travelling on the Parkes Bypass, the roundabout provides a second option to enter town.

The Victoria Street pedestrian bridge provides a local grade separated pedestrian and cycleway link to the northern side of Parkes

Design intent:

Roundabout: Create a distinctly identifiable landmark on the journey.

Victoria Street pedestrian bridge: Utilise the difference to the road experience of the highway passing under the bridge to create a memorable place marker on the road.

Description:

Roundabout:

The Western gateway roundabout would be planted with high trunked palms to provide memorable landmark. On the Parkes side would be the same "Welcome to Parkes" sign as the other two gateways.

Victoria Street pedestrian overbridge:

The pedestrian overbridge sits at natural grade with the highway excavated in cut. It would be visually enclosing with steep 2:1 batters either sides. The bridge could be an elegant simple light weight appearing structure. There is the opportunity to include a splash of bold colour / or local artwork references on the structure.

Indicative Tree species:

Landmark tree: *Washingtonia robusta*

Gateway trees provides an exotic seasonal colour as a marker tree
such as Jacaranda, White Cedar, Manchurian Pear.

Habitat / Corridor planting: *Eucalyptus microcarpa*,
Eucalyptus albens, *Eucalyptus blakelyi*. Native
grasses / understorey

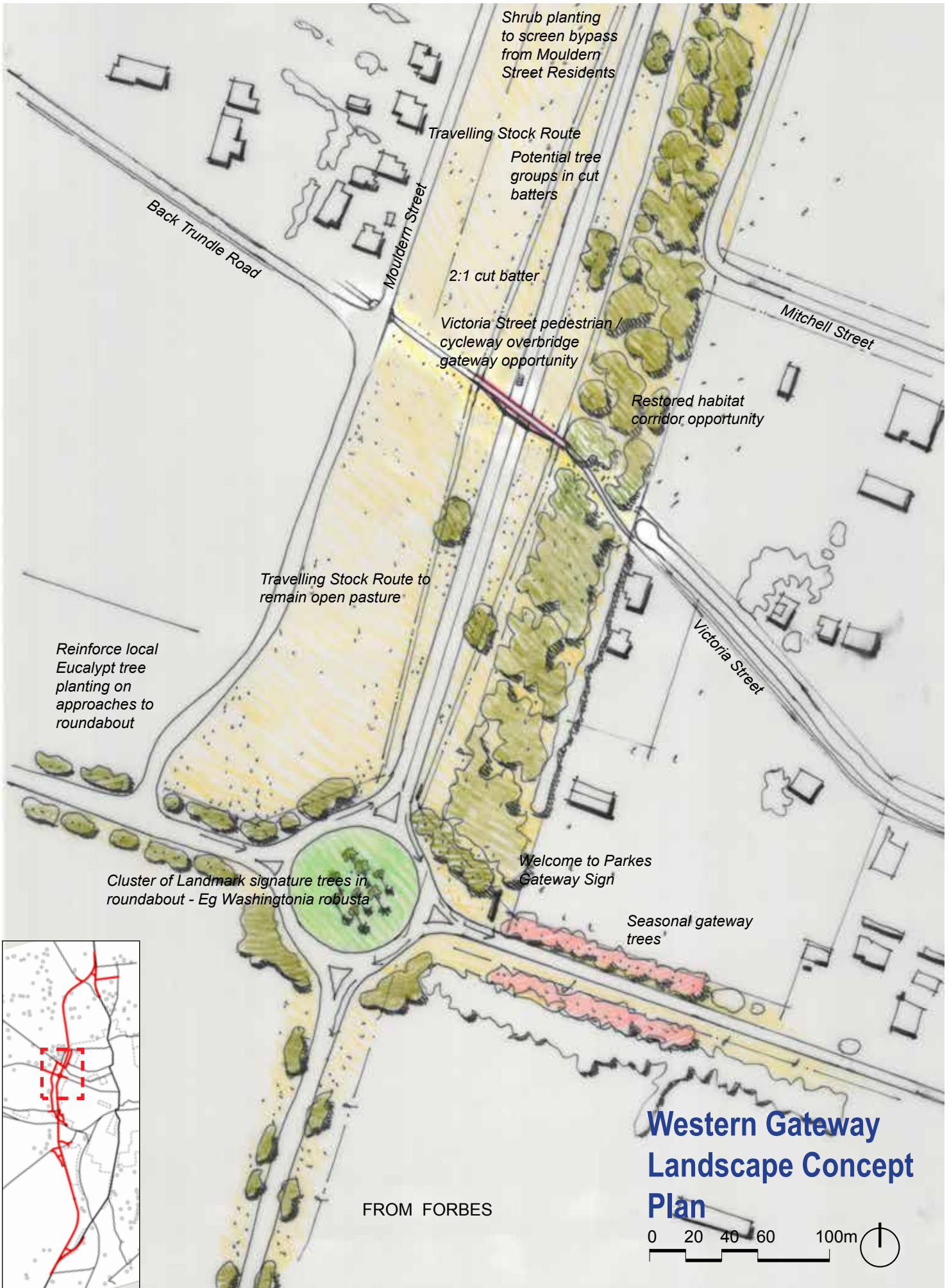


Figure 86 Western Gateway landscape concept plan

7.15 Travelling Stock Route



Figure 87 Travelling Stock Route section - in fill batter

Travelling Stock Route

Location / setting:

The new Parkes bypass utilises the existing Travelling Stock Route corridor. The highway is partially in cut, but mostly in fill in this open landscape. The land on the eastern side would be isolated from the Travelling Stock Route by the new bypass.

Design intent:

Provide an interesting linear driving experience and an opportunity for rehabilitation.

Description:

Travelling Stock Route - Western side. Open pasture lands for stock route. Provide a level section at the bottom of the batter to safely be able to herd any stock that manage to get over the fence along this section of the Travelling Stock Route.

Travelling Stock Route - Eastern side. Opportunity for either: endangered community habitat corridor restoration, or grazing lands.

Indicative Tree species:

Refer to Principle five. Potential habitat / Corridor planting:

Western Grey Box - White Cypress Pine tall woodland community species mix or White Box Yellow Box Blakely's Red Gum Woodland species mix including understory.

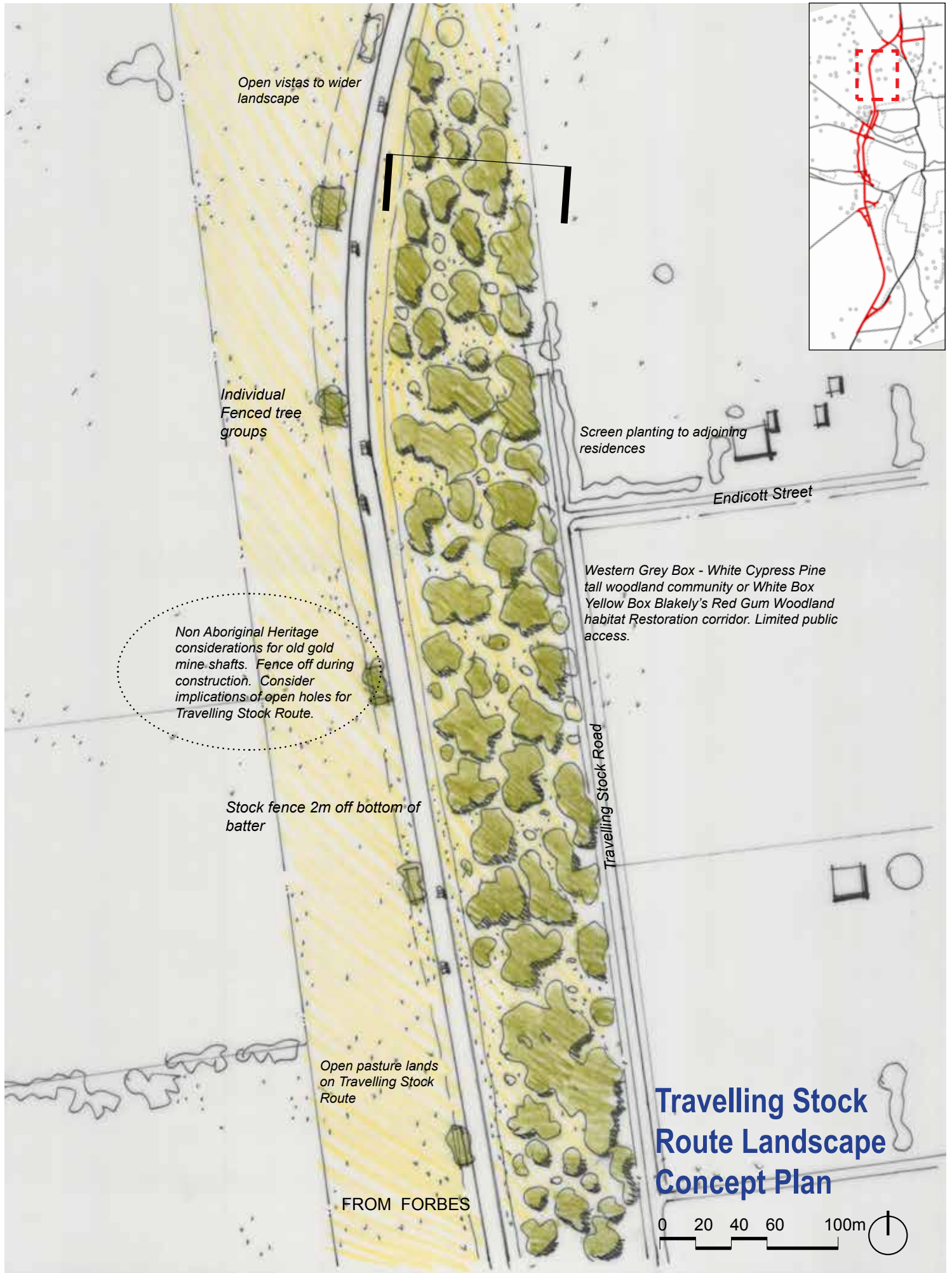


Figure 88 • Travelling Stock Route section - in fill batter

7.16 Northern Gateway



Figure 89 Northern gateway Photomontage view southbound

Northern Gateway

Location / setting:

Arriving from Dubbo, the Northern Gateway presents a decision point for travellers. Unlike the Southern gateway, the arrival into Parkes is a simple move into the left lane. If this is missed, then there is a second opportunity 200m further along the road. The intention is assist tourists in making a decision to drive into Parkes.

Design intent:

Like the Southern gateway, the intention of the Northern gateway is to create a distinctly different landscape to signal the entry into Parkes.

Description:

A distinct change of tree species, seasonal colour and bold geometric plantings on residual land would create a distinctive marker on the highway experience. Combined with Roads and Maritime advance warning signage a large simple, "Welcome to Parkes" sign provides reassurance that this is the main turn off into town.

Indicative Tree species:

Pinus radiata provides the backdrop to the road and a distinctly different colour palette to the remnant open woodland in the road corridor leading up to Parkes.

Eucalyptus microcarpa planted in rows 50m apart, creates a deliberate rhythmic pattern to the vehicle driver. These are set in 5m wide red gravel bands.

Gateway trees provides an exotic seasonal colour as a marker tree.

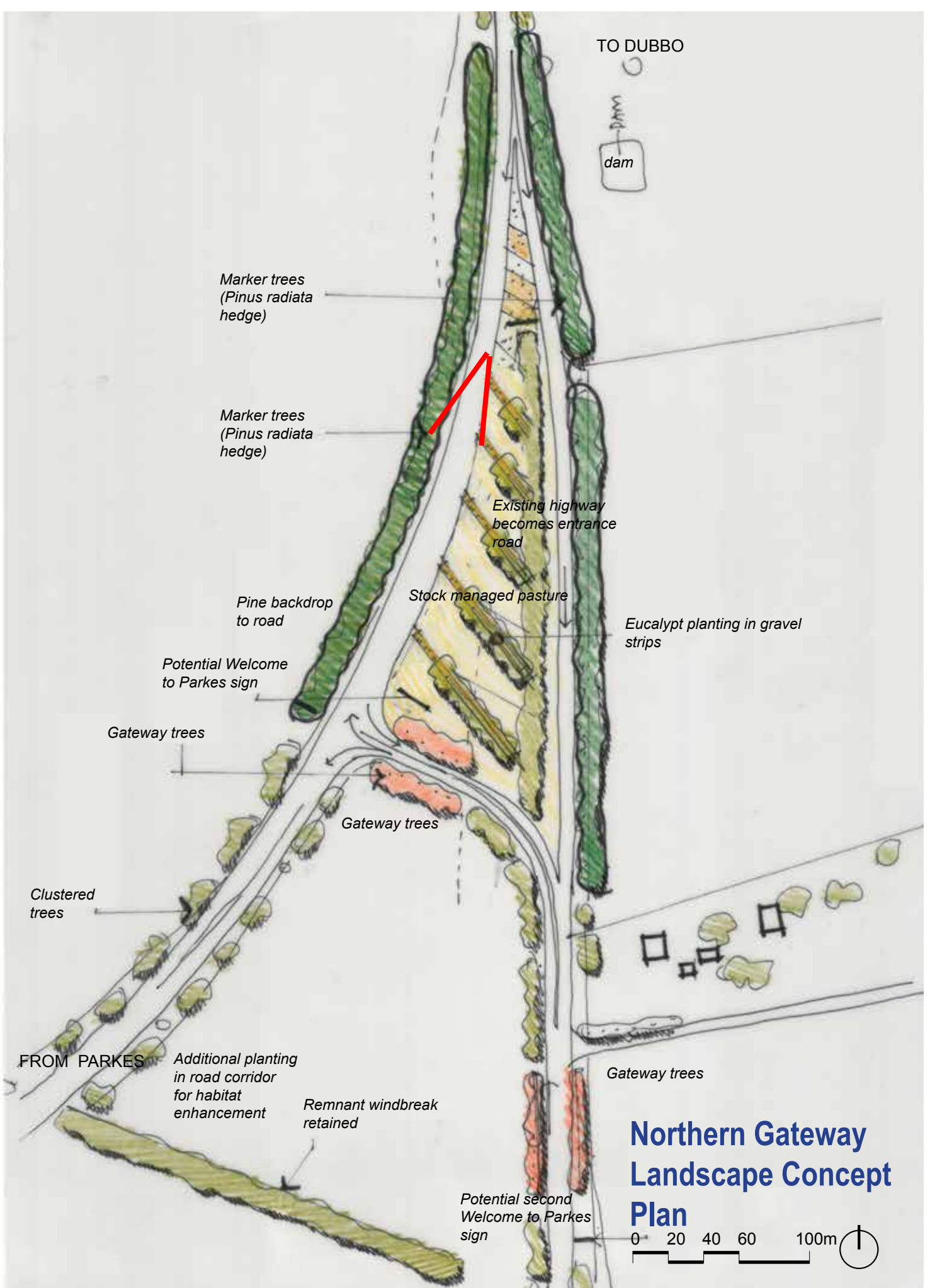


Figure 90 Northern gateway landscape concept plan



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