

coomes consulting



final draft

Shepparton Southern Gateway Landscape Strategy

July 2006

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Executive Summary

The Goulburn Valley Highway, (GVH) is extremely important to the City of Greater Shepparton.

In July 2003 extensive areas generally from Raftery Road to Seven Creeks were rezoned as Residential land, implying future changes to the GVH in this area, 'the Southern Gateway' to Shepparton.

This Landscape Strategy confirms the desired landscape character and layout of the Southern Gateway in order that further planning, design and landscape implementation works may proceed alongside urban development.

A process of regular officer collaboration, two community forums, mailouts and website bulletins underpins the Strategy as does a thorough review of planning, technical and visual aspects of the GVH in the study area.

Opportunities to incorporate existing landmarks, such as the Trotting Stadium and certain intersections, are recognised. Areas that could benefit from improvement are identified and constraints acknowledged. Key constraints include specific highway safety 'clear zones' requiring trees to be set back from trafficked areas and an important planning scheme requirement that trees do not exceed 7.5 metres height in much of the study area due to airport height restrictions.

To the south of the study area is the culturally significant 19km Calder Woodburn Memorial Avenue (CWMA) which provides an insight into the long term appearance of certain tree species and planting spacings. To the north of the study area, commencing at Raftery Road, is the relatively recently planted section of the GVH.

Height restrictions, the cultural significance of the CWMA and planting management issues north of Raftery Road make it inappropriate to extend the style of these existing adjacent road corridor landscapes into the study area. However, the study concludes that an appropriate, interesting and varied design based on elements of the adjacent landscapes is feasible.

The Strategy solves the airport height restriction constraint by recommending the selection of trees from the expanding range of natives grown for their compact size and ability to thrive in the tight spaces encountered in urban streets.

A framework for the use of other species is recommended, with an accent on indigenous trees where feasible and including the incorporation of existing trees. Measured GVH cross sections provide assurance that recommended trees can be planted relatively immediately without being affected by future, but as yet undesignated, road widening.

A strategy for the incorporation of artworks into the GVH and adjacent local open space is also illustrated.

Further work required in order to refine and realise this strategy includes detailed feature, flora and fauna surveys, species confirmation, development of budgets and progressive design / consultation work.

1 Introduction

The Goulburn Valley Highway (GVH) is extremely important to the City of Greater Shepparton. As a key regional communications artery, the GVH connects the City with its agricultural hinterland and markets to the north and south, providing access to the Murray Valley and to the Hume Highway.

The importance of the GVH to the City of Greater Shepparton is confirmed by the influence it has had on the form, function and appearance of urban Shepparton.

As a key access route, the GVH is the setting for considerable commercial activity, it provides access to developing urban areas and it continues to be the subject of careful highway, urban and landscape planning and design. In addition the appearance of the GVH has a significant influence on both resident and visitor perceptions of the City.

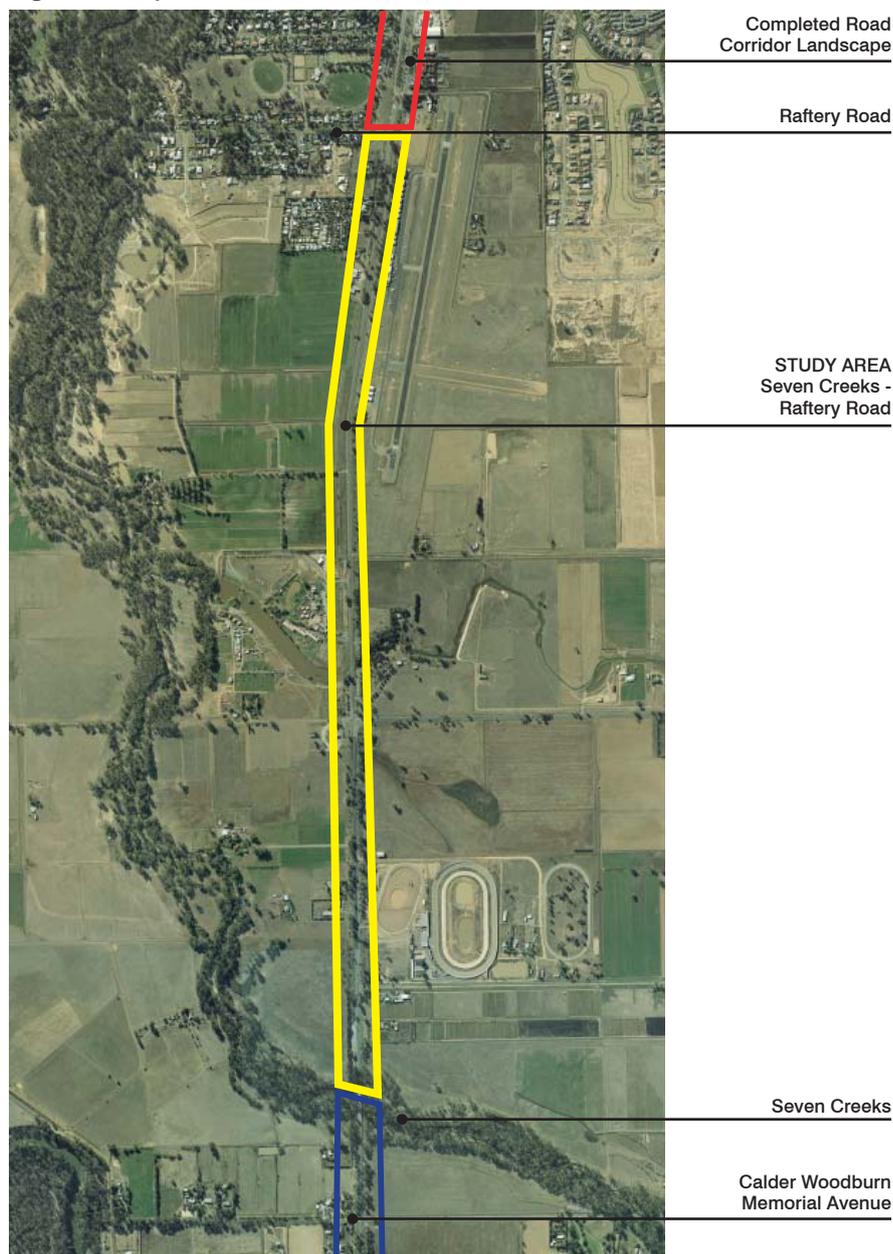
In July 2003 extensive areas west of the GVH and generally south of Raftery Road to Seven Creeks were rezoned as Residential land, thereby confirming the City's future southern urban growth limits and heralding change in the local landscape and, by inference, in the appearance of the GVH.

Mindful of the importance of the GVH and the magnitude of the approaching changes to this area, Greater Shepparton City Council (GSCC) commissioned Coomes Consulting Group to "confirm the desired landscape character and layout of the GVH from Seven Creeks to the Airport, the 'southern gateway' (refer to Figure 1 for study area). GSCC required this work to include:

- an analysis
- consultation with VicRoads and the general community
- an appreciation of controls concerning adjoining land use
- the formulation of a large scale plan and typical sections
- recommendations of a strategic nature sufficient to guide future concept design, the preparation of construction plans and implementation
- typical indications of probable cost.

The following report provides a detailed response to these requirements.

Figure 1 Study Area



2 The Process



Collaboration between Coomes and officers of GSCC, with VicRoads and with the general Shepparton community facilitated analysis and the formulation of ideas. This process included:

- regular officer meetings and reviews
- consultation with engineering and environmental officers from the VicRoads Benalla office
- two ‘Urban Design Forums’, open to the Shepparton community, in March and April 2006, the results of which were publicised in the local press and via the GSCC web site
- a Councillor briefing in June 2006
- an exhibition is scheduled to take place in August 2006
- preparation of a final report incorporating comments will be undertaken in September 2006.

3.1 Strategic and Statutory Planning

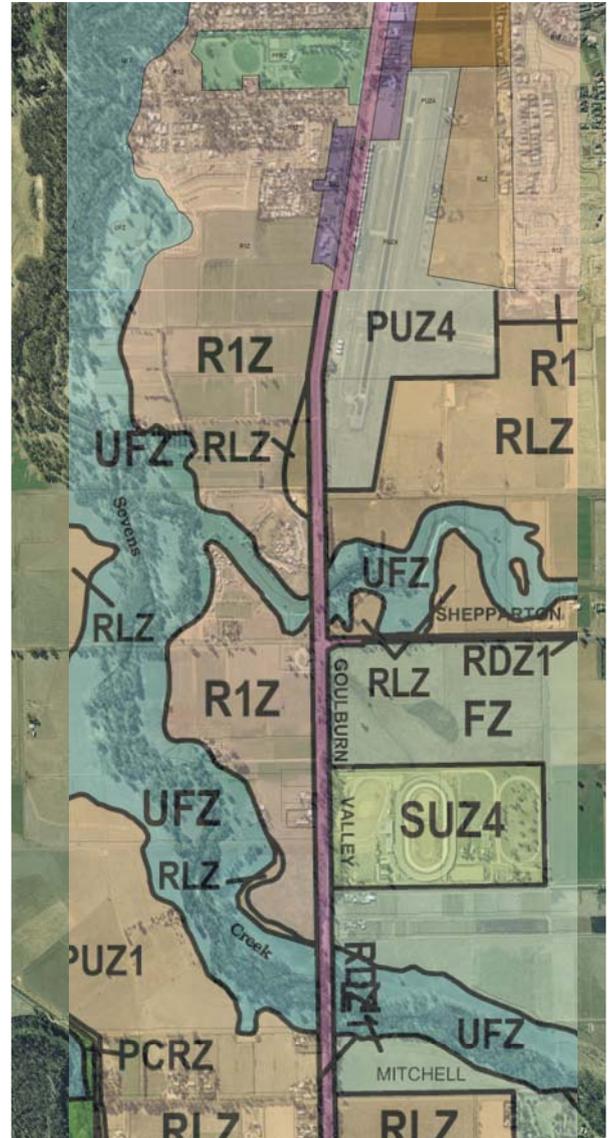
3.1.1 Zoning

A comparison of the current Greater Shepparton Planning Scheme zoning for the study area with a recent aerial view (refer to Figure 2 below) indicates the nature of the impending changes to the landscape of this area.

The following points should be noted:

- flooding and inundation potential and existing environmental values limit and define the extent of the future residential areas
- Public Use and Farming Zone land to the east of the GVH includes the Shepparton Airport and the Trotting Stadium
- the existing road house and Emerald Banks tourism area are within a residential rather than commercial zone.

Figure 2 Zoning Plan



3.1.2 Overlay Controls

These impose further controls highly relevant to the GVH Landscape Strategy (the Strategy) and are as follows:

- Schedule 3 to the Development Plan Overlay (DPO3) covering 'Shepparton South Growth Corridor', confirms that the approved Development Plan for this area is the Shepparton South Growth Corridor Outline Development Plan (ODP) a plan that presents a vision for 'vibrant, attractive and sustainable new residential communities'. The ODP is shown in Figure 3.

Figure 3 Shepparton South Corridor Outline Development Plan

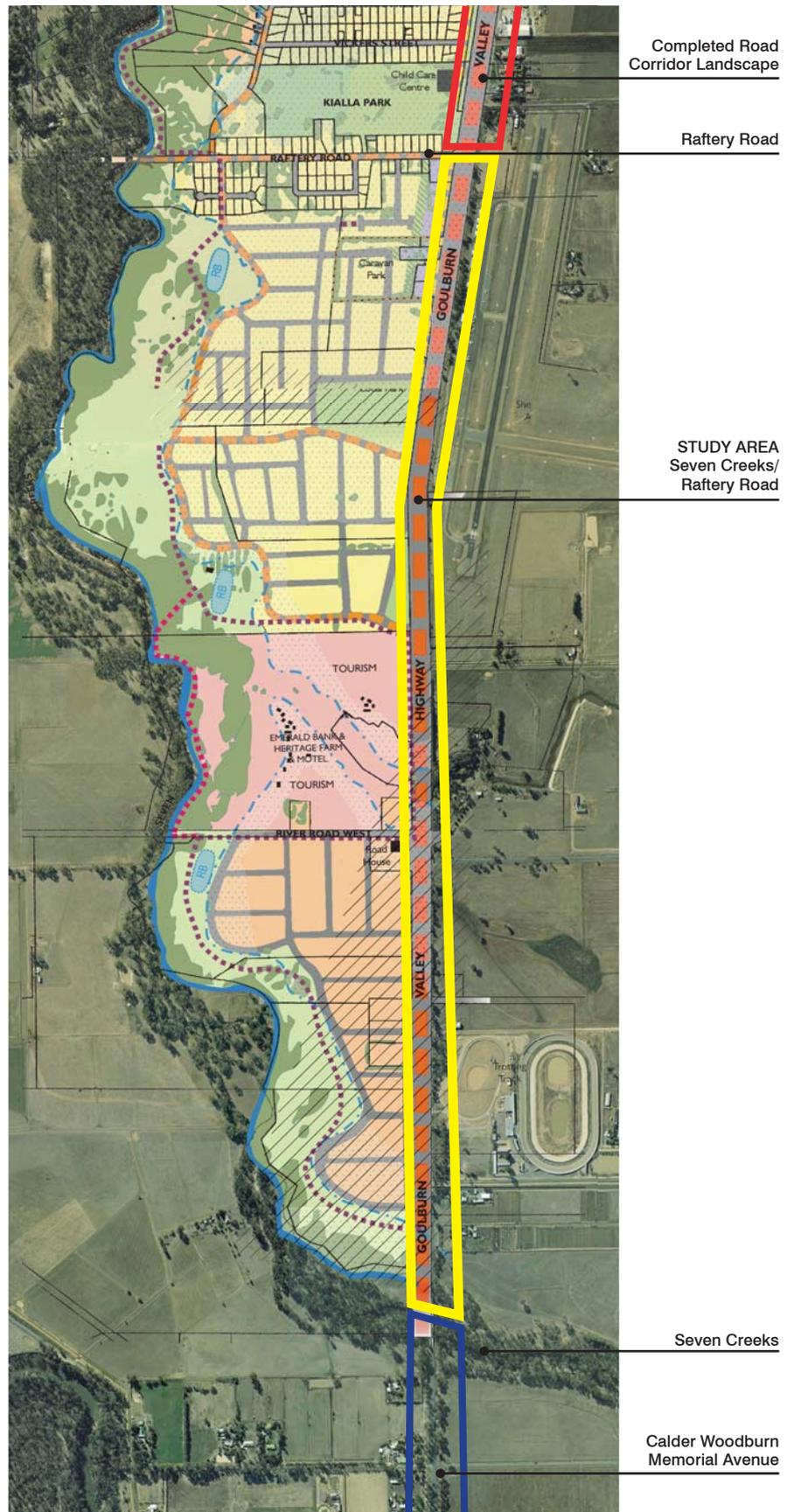
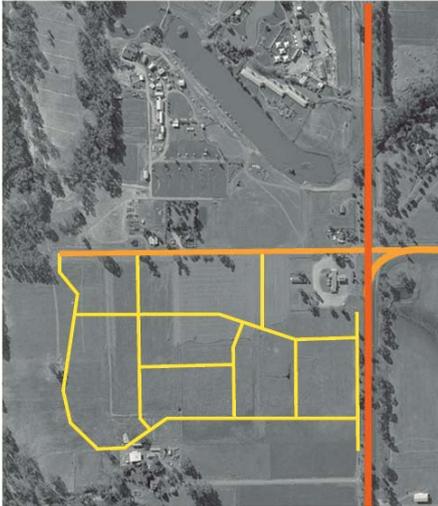
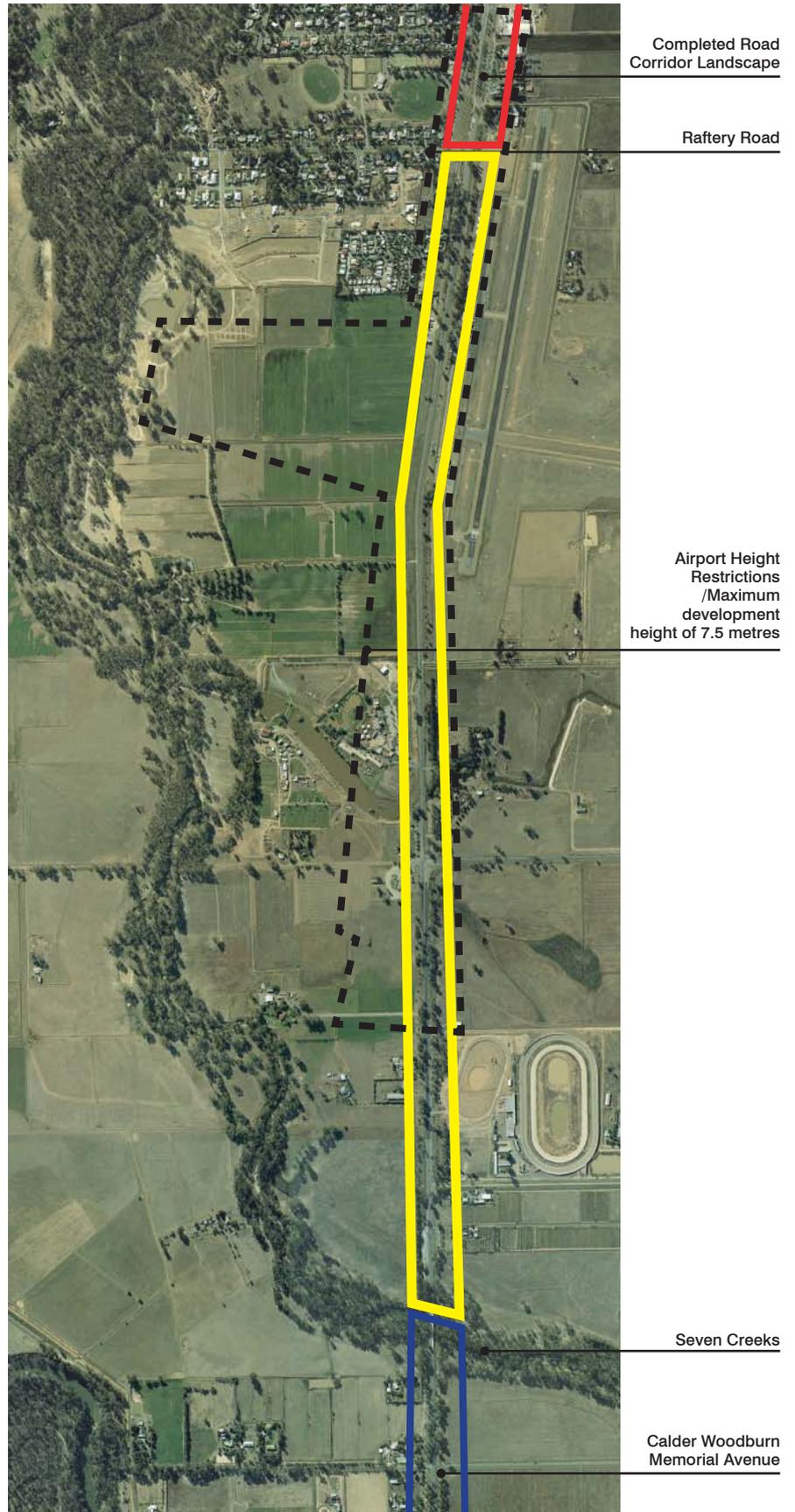


Figure 4 New Subdivision Pattern



- Among the key features for the south growth corridor listed in DPO3 are:
 - orientation of lots to front to the GVH to improve the entrances to Shepparton (Figure 4 shows how the new subdivision south of the road house 'fronts' the GVH with limited direct access)
 - diversity of lot sizes, including larger residential lots with a minimum of 2,000m² (the ODP provides for these larger lots to be in the south of the area)
 - aesthetic and accessible linear recreation parks, especially for cyclists and pedestrians
 - a shared pathway along the Seven Creeks environs
 - enhanced protection of the continued operation of the Shepparton Airport through the allocation of land near the east west runway as open space (see Figure 3)
- the ODP recommends relocation of Shepparton Airport
- Schedule 2 to the Design and Development Overlay (DDO2), 'Airport Environs', covers significant parts of the GVH in the study area and requires 'all vegetation to have a mature height so as not to interfere with or cause a safety hazard to aircraft operations'. This height is defined as 7.5 metres above ground level (the height of a small tree). Figure 5 shows the area affected by DDO2.

Figure 5 Airport Height Restrictions



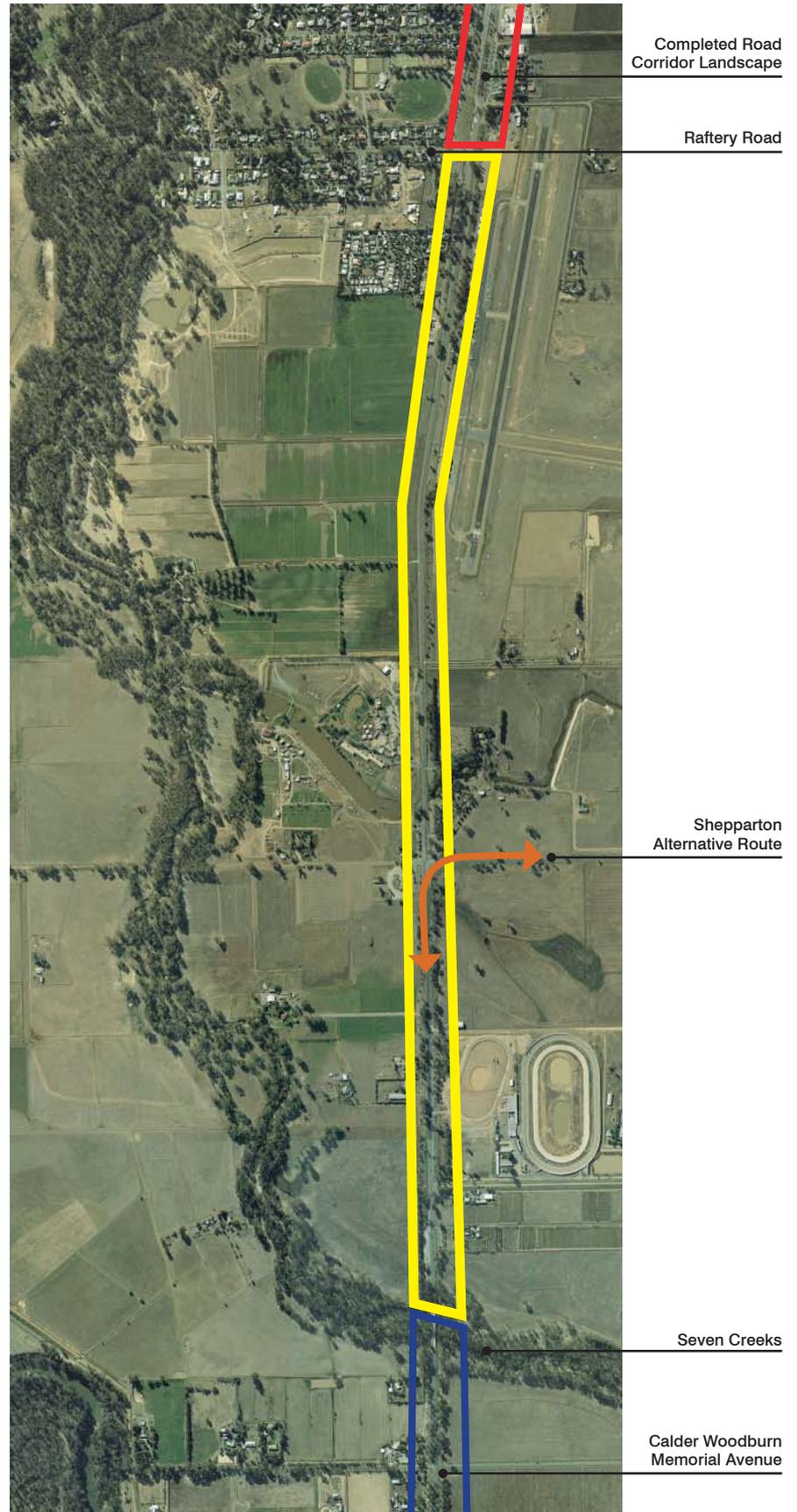
3.2 Highway and Traffic Engineering

3.2.1 The Shepparton Alternative Route

This provides for traffic to leave/join the GVH at River Road and is shown in Figure 6. The resultant signage, lane layout and concrete islands mark an important point that is unlikely to decrease in significance with the future provision of a western bypass route.



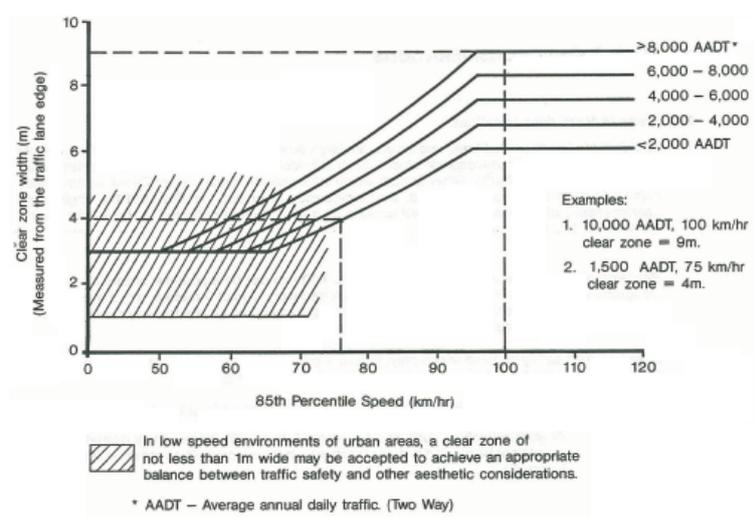
Figure 6 Shepparton Alternative Route



3.2.2 Design Constraints

The VicRoads 'Guide to Tree Planting Within Road Reserves' (VicRoads 1987) requires 'Clear Zones' between trees and the edge of highway running lanes for varying speed and traffic volume conditions. Sightline issues are also dealt with and trees that are unacceptable because of pavement damage are nominated. Given increasing emphasis on road safety, this is a key document (refer to Figure 7).

Figure 7 VicRoads Desirable Clear Zone Widths



3.2.3 Seven Creeks

Bridge and Layby

The bridge marks the northern end of the Calder Woodburn Memorial Avenue (see below) and is framed by indigenous trees along Seven Creeks. However, the western side of the GVH reserve here is covered by a 100 metres length of unsightly crushed rock used for VicRoads maintenance operations. There is informal pedestrian access from this area to the creek (refer to Figures 8 & 9).

Figure 8 Seven Creeks Bridge Area



3.2.4 Future Road Layout

The future configuration of the GVH and the length of time over which it will assume this layout are unknown.

3.2.5 Roadside Maintenance

VicRoads normally manages and maintains rural road reserve planting and ground cover up to the 80 km/hr zone. Areas within this and lower speed zones are maintained by GSCC.

Figure 9 Seven Creeks Layby



3.3 Landscape Planning, Design and Management

3.3.1 Previous Work

The GVH south of the Shepparton Central Activity District (CAD) to Seven Creeks has been the subject of previous studies and works as summarised below.

- Shepparton Highway Entrances (Paul Laycock 1992). This study looked at routes into Shepparton with references to the GVH in the study area and:
 - introduced the notion of an ‘entrance’ as an extensive ‘transition’ space rather than a single point
 - recommended the GVH landscape should be distinguishable from the background landscape and incorporate existing vegetation and ‘accent’ planting
 - recommended large, decorative native trees (Lemon-Scented, Salmon and Apple Gums) spaced at 10 metres in 140 metre long ‘waves’ with crab-apple, plum and Cootamundra wattle highlights.
- Shepparton Entrances Landscape Concept – Broken River to Sobraon Street (VicRoads 1997). This Concept:
 - acknowledged the restrictions of overhead power and provision of medians, outer separators and intersections
 - recommended the planting of Grey Box trees, in some locations mixed with existing Lophostemon trees
 - recommended adding more Lophostemon to those existing
 - advocated the planting of indigenous ground covers.

Figure 10 Current ‘Gateway’



Figure 11 ‘Orchard Gateway’



3.3.2 GVH Broken River to Raftery Road Planting and 'Gateway' Works

This project by GSCC and Urban Initiatives Pty Ltd is the most relevant to the present study as it has created the current 'entry' into Shepparton, commencing with a designated 'orchard' and flag poles at Raftery Road, a point that is also the beginning of extensive roadside commercial areas (refer to Figures 10 and 11).

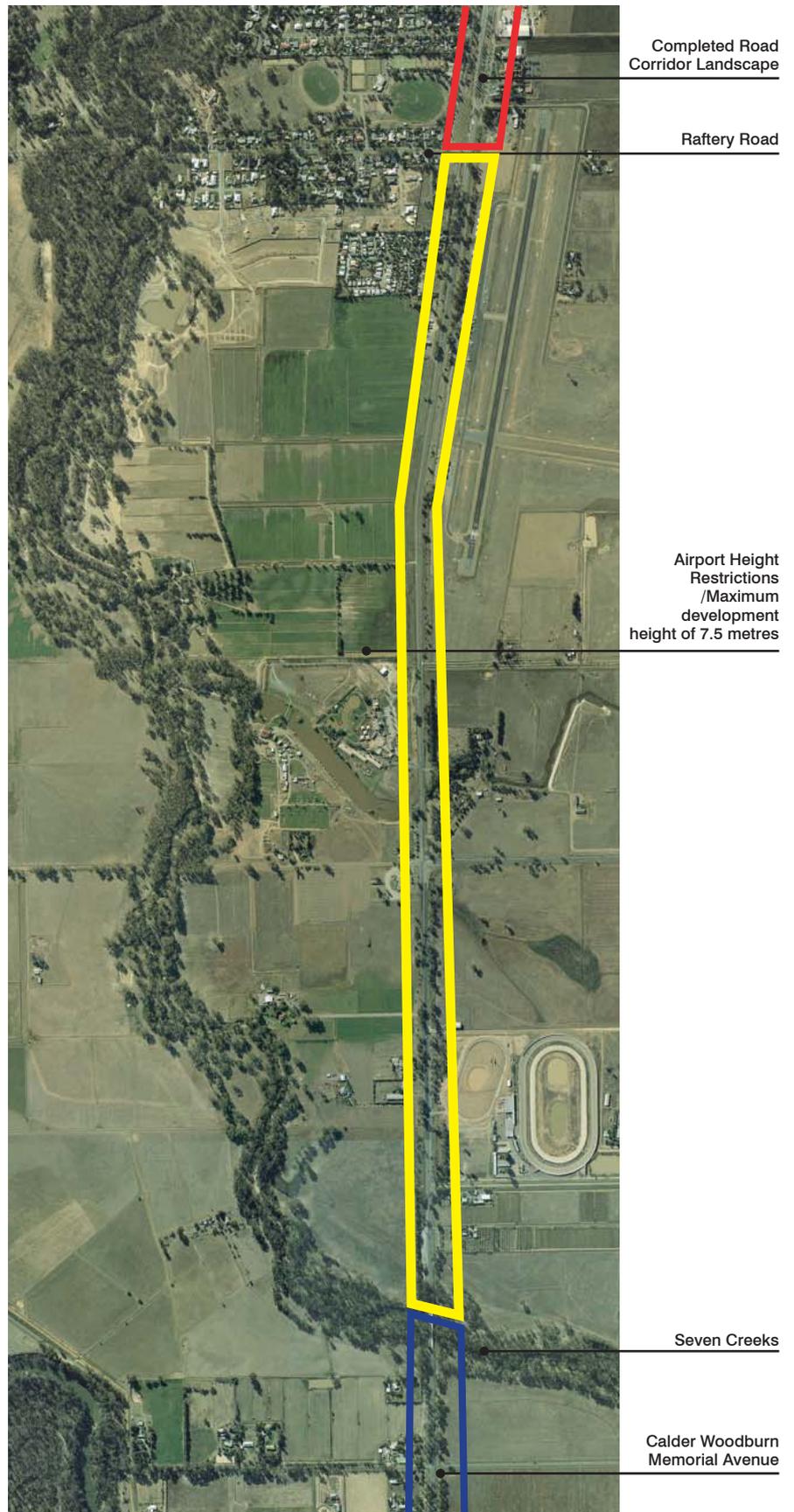
The works:

- include the use of non-indigenous native trees as a central theme (Lemon Scented Gums, *Corymbia citriodora*)
- provide accent areas of exotic trees which include golden foliaged Robinia (*Robinia pseudoacacia* 'Frisia') and Gleditsia (*Gleditsia tricanthos* 'Sunburst')
- incorporate remnant trees
- provide for 'revegetation' planting at the Broken River corridor
- have raised maintenance issues in connection with upkeep of garden beds
- include garden bed planting of both exotic and indigenous species.

3.3.3 The Calder Woodburn Memorial Avenue

The Calder Woodburn Memorial Avenue (CWMA) is a culturally significant landscape feature that provides important context to the current study area. Registered by the National Trust in 1988 the CWMA extends for over 19km from Moorilim to Seven Creeks at the southern edge of the study area. It is the most extensive Australian avenue dedicated to servicemen of World War Two, relatively intact, prominent in the landscape, has strong community links, a unique altering double row layout and was planted by one person, Fen Woodburn, over 50 years ago.

Figure 12 Study Area and Adjacent Highway Landscapes



The CWMA is subject to a Conservation Management Plan prepared for VicRoads (Patrick, 2001) as part of investigations into the Arcadia freeway. The CWMA is unique in concept and execution but also provides general points of advice on:

- relative success over time of the various indigenous and non-indigenous tree species used
- tree spacing (trees are at 20 metres centres, with the two rows 10 metres apart, a spacing that has proven appropriate)
- incorporation of remnant local trees
- the species used in the CWMA section immediately next to the current study area (Spotted Gum, *Corymbia maculata*; Ironbark, *Eucalyptus sideroxylon*; Red Gum, *Eucalyptus camaldulensis*)
- long term management issues due to road widening and safety
- weed management and the implementation of new planting within the avenue.

Figure 12 shows diagrammatically the CWMA and the existing Raftery Road to Broken River planting works in the context of the study area.

3.3.4 Street Tree Master Plan

The Greater Shepparton Street Tree Master Plan and Urban Character Study includes the northern end of the study area (Precincts 29, 'Southern City Entry,' and 31, 'Kialla Park'). The Master Plan does not specify treatments for the study area but implies an extension of the Broken River – Raftery Road treatment a short distance south of where it presently ends.

3.3.5 Remnant and Naturally Occurring Vegetation

The study area includes scattered remnant and regenerated trees within a highly managed and modified ground cover of grasses. The local relevant Ecological Vegetation Classes (EVCs) relate to River Red Gum Riparian Woodland along waterways and Grey Box Grassy Woodland in intervening areas. There is no detailed survey or analysis information for the vegetation in the study area section of the GVH reserve.

In relation to airport height restrictions, VicRoads has recognised that existing Grey Box in the study area will require some 'radical maintenance' (height reduction) if they are to remain.

3.3.6 Visual Considerations

The character of the study area and adjoining highway areas is shown in Figure 13.

The GVH in the study area is a well defined corridor. This definition will increase as residential areas are built out and could be emphasised if the Airport site were to be redeveloped. Views of the trees along Seven Creeks to the west will gradually become obscured by structures and gardens, focusing more attention on the immediate roadside landscape.

Key visual aspects of the GVH study area are: (refer to Figure 14)

- the Seven Creeks bridge with adjacent crushed rock layby (discussed above) marking the northern end of the CWMA
- the large scale structures and parking areas of the Trotting Stadium to the east of the GVH
- the Alternative Route, nearby road house and Emerald Banks tourism area
- the change in the GVH alignment near the southern end of the Airport which, although unremarkable on plan, has the effect of focusing road user views for a significant time on an apparent 'corner' (refer to Figures 15 & 16)
- road verge parking at the Airport
- the Raftery Road 'gateway' landscape and flags
- a pronounced night theme of 'lighting' beyond the GVH (Trotting Stadium and Airport), although this may not remain so pronounced as residential development spreads further into the area.

Figure 13 Highway Character



Raftery Road - City Centre



STUDY AREA
Seven Creeks - Raftery Road



Calder Woodburn Memorial Avenue

Figure 14 Key Visual Aspects

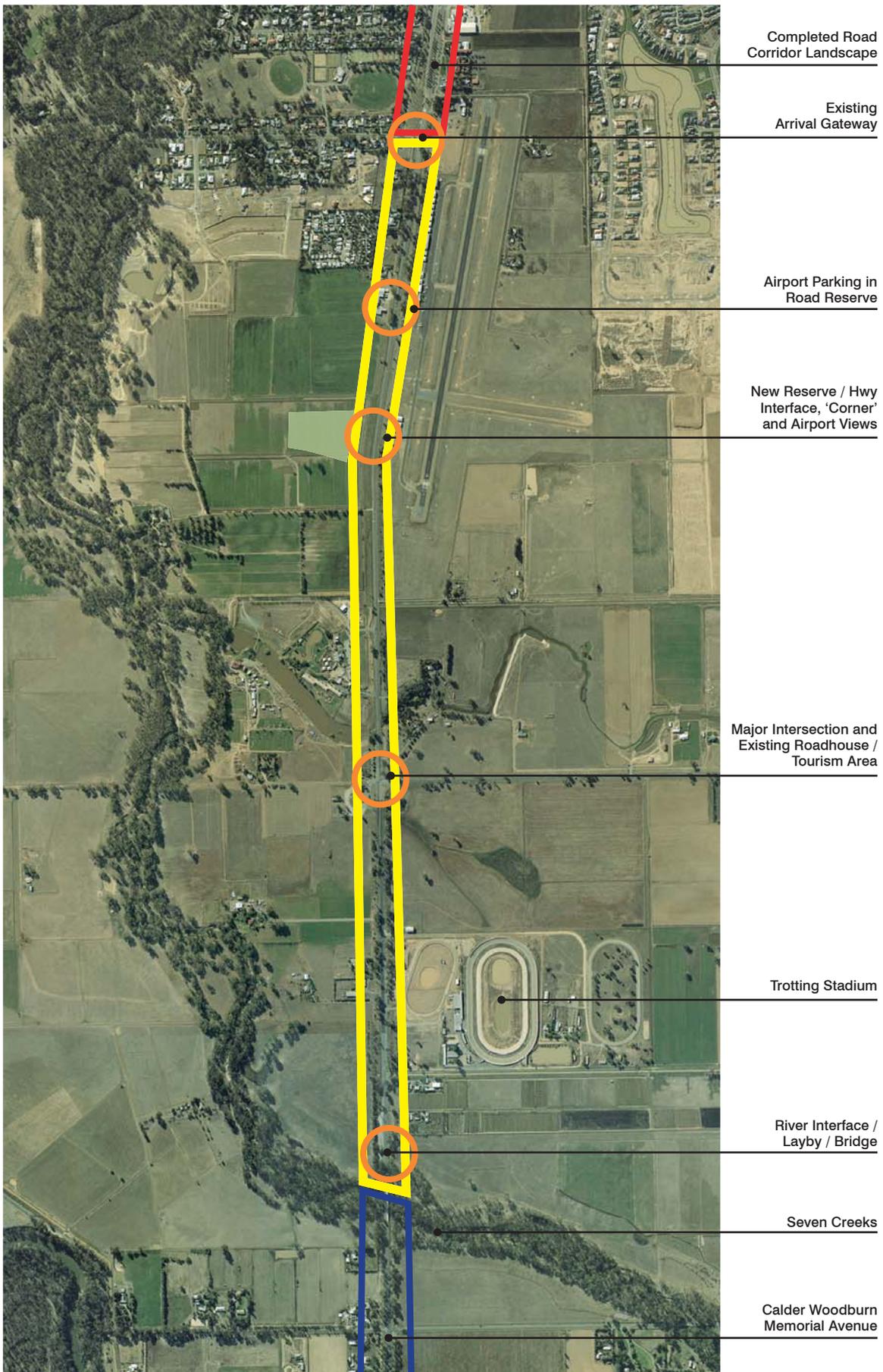


Figure 15 Alignment Change (Looking North)



Figure 16 Alignment Change (Looking South)



The following, as summarised in Figure 17, are key points in the consideration of an appropriate landscape design strategy.

4.1 Key Points – Planning

Key points relevant to the strategy are:

- there are growing residential areas, lower densities in the south would be expected to include greatest tree cover
- airport height restriction will severely reduce the choice of tree planting
- current commercial uses are within residential zones
- there is an emphasis on the presentation of areas of natural environment and the provision of linear access to them.
- new subdivisions will 'front' the GVH and result in relatively few new highway access points.

4.2 Key Points – Engineering

Key points relevant to the Strategy are:

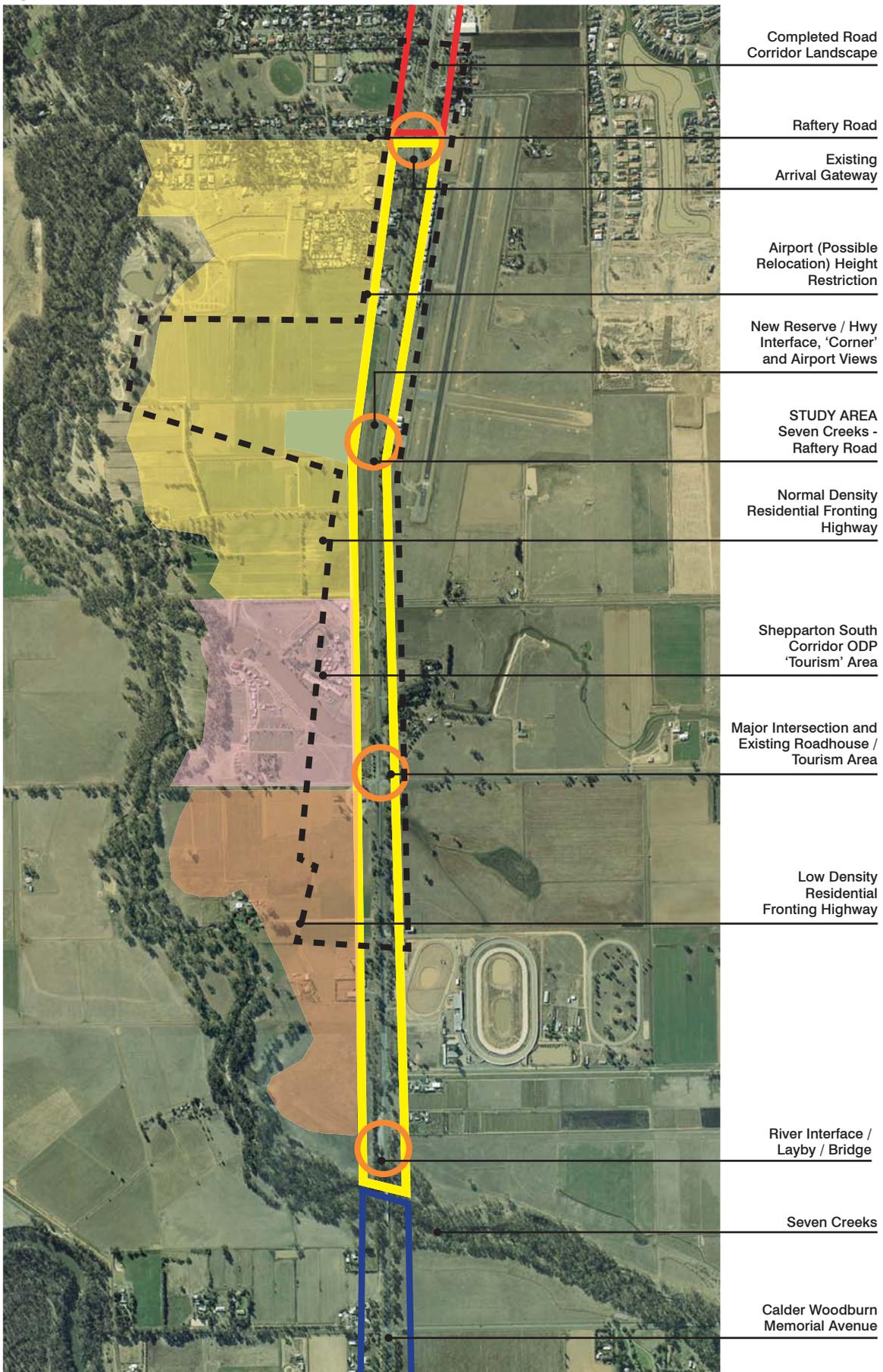
- the Alternative Route junction is an important GVH feature
- published tree planting guidelines apply
- the Seven Creeks bridge area has a negative effect on the GVH landscape
- a landscape design must retain flexibility to cope with an unknown future GVH configuration.

4.3 Key Points – Landscape Planning, Design and Management

Key points relevant to the Strategy are:

- there is an accepted design philosophy that views the GVH entrance to Shepparton in terms of extensive transition spaces
- north of the study area there is an established design approach that incorporates remnant trees, uses non-local natives extensively, with highlights of exotic trees and both indigenous and exotic ground covers
- south of the study area is a unique and complete roadside landscape and it would be inappropriate to replicate it
- within the study area are specific visual strengths and weaknesses.

Figure 17 Key Points



5 Design Theme Options

The foregoing discussion identifies design opportunities and constraints for the study area, but does not identify a 'design' or a theme underpinning a design. A number of options were considered in order to identify a recommended design theme.

Option 4, the preferred option is interpreted in further detail below.

Option	Comment
1. Continue the CWMA 'avenue' northwards.	Unacceptable due to the cultural significance and completeness of the CWMA.
2. Continue the existing Broken River to Raftery Road theme southwards.	Not appropriate. Airport height restrictions require lower planting. The current scheme generally extends through commercial areas only and emphatically 'stops' at an 'orchard' design and a relatively extensive area of existing trees. There are existing maintenance issues.
3. Continue the Broken River to Raftery Road theme southwards, modified to delay taller tree planting as long as Airport height restrictions continue.	Not appropriate without modification. Low growing trees in this theme are golden foliated highlights or ornamental pear, plum or apple, all of which are deciduous and relatively low impact in winter. Comments above apply.
4. Extend a new theme north and south from River Road to Seven Creeks and to Raftery Road, incorporating existing remnants and evergreen lower growing tree species that can be planted while airport height restrictions continue.	This would: <ul style="list-style-type: none"> – add further the accepted design idea of multiple themed areas in the approach to Shepparton – provide a theme unique to this largely non-commercial section of the GVH – preserve appropriate visual emphasis of the Raftery Road 'gateway' – better integrate with existing remnant vegetation – provide for "highlights" – emphasise the 'natural' vegetation communities that have shaped Shepparton South by planting and planning for the planting of (when airport restrictions allow) indigenous trees.

6 The Preferred Strategy

6.1 Components

The preferred strategy is illustrated in Figure 18 and described below in terms of:

- Zones and features along the GVH
- Typical cross sections
- Potential trees.

6.2 Zones along the GVH

Figure 18 summarises how the 'bookends' of remnant trees, near Seven Creeks and near Raftery Road, can be successfully connected by an initial 'under planting' of low growing evergreen natives, with 'highlight' trees, followed by a later planting of indigenous trees should airport height restrictions be removed at any point in the future.

'Under planting' here refers to tree planting that provides a background or secondary theme through its continuousness and regularity but which will be spaced well away from existing trees to ensure growing conditions are not compromised.

Further points to note are (from north to south and referring to Figure 18):

- It is assumed that the GVH at the Raftery Road intersection will in future have a similar cross section north and south of the intersection and that planting will complement and emphasise the existing 'gateway'
- The existing remnant trees extending along the GVH from Raftery Road will be incorporated into phased under planting in a way that will not compromise the health and visual impact of these trees

- The landscape of the 'future reserve' at the change in alignment of the GVH and the landscape of the GVH itself will be mutually supportive, integrated with focal and screening planting and a setting for a major art work
- The phased planting of the poorly treed section of the GVH from the change in alignment to the Trotting Stadium will incorporate appropriate indigenous vegetation to mark the floodway crossing the GVH at the Emerald Banks tourism area (complying with prevailing airport height restrictions) and will include an extension of the overall planting theme along River Road as far as practicable
- The existing remnant trees south of River Road will be carefully incorporated into phased supplementary planting in a way that will not detract from their visual qualities or compromise health
- There are opportunities also to highlight entries into the airport, the Emerald Bank precinct and the Trotting Stadium.

Figure 18 Preferred Strategy

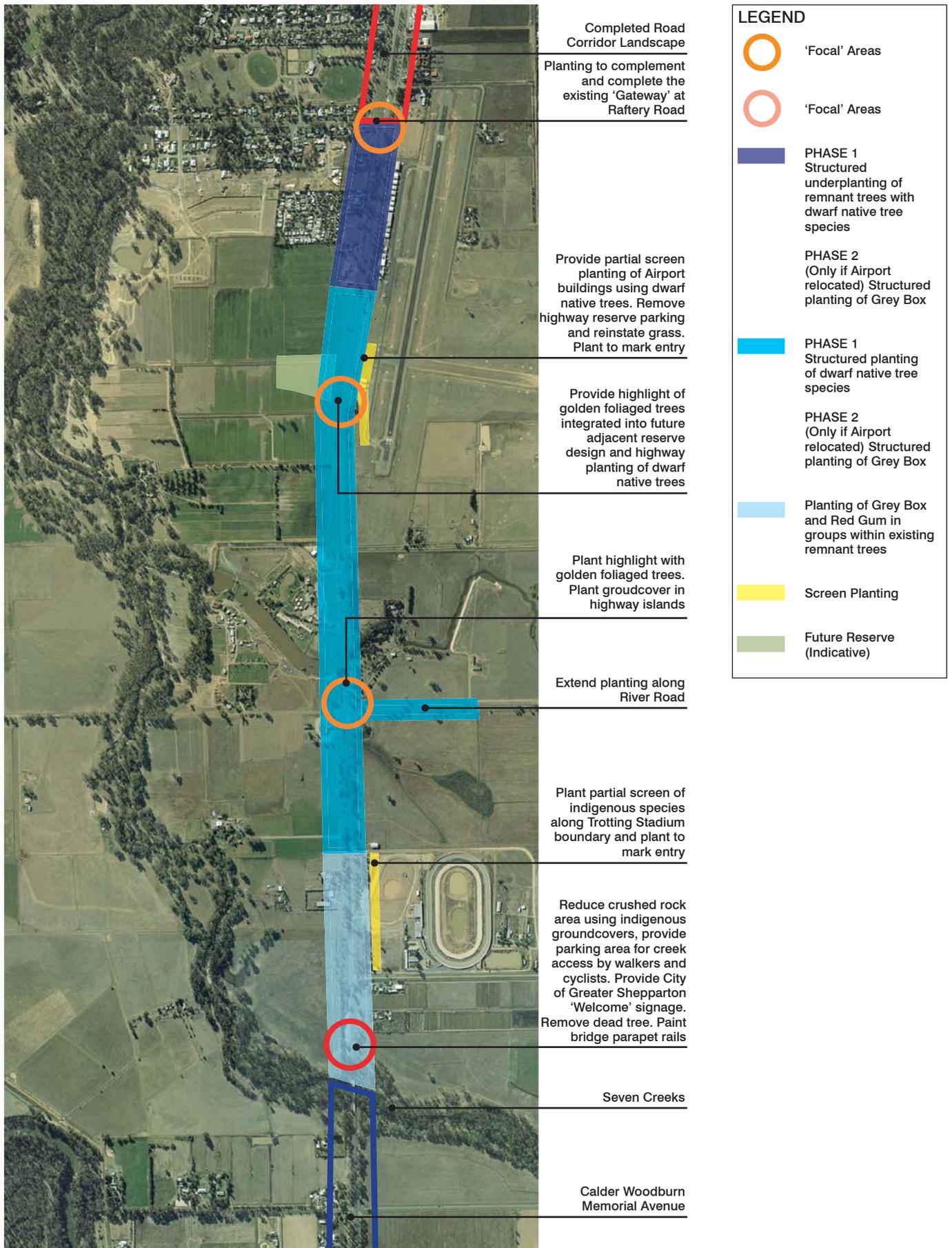
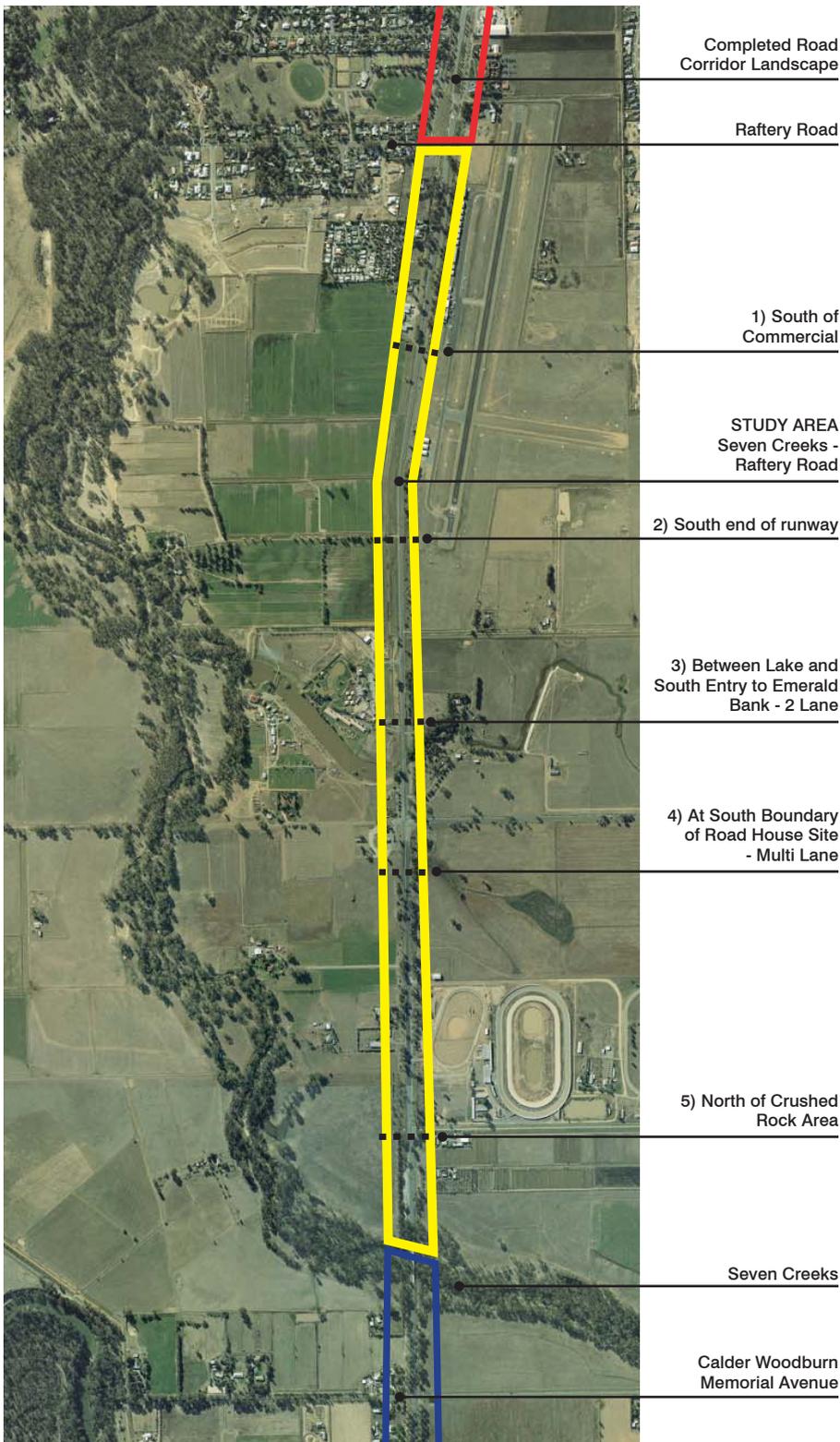


Figure 19 Indicative GVH Sections



6.3 Indicative GVH Sections

Figure 19 shows the locations of indicative cross-sections measured across the GVH using a GPS.

These cross sections assist in confirming the feasibility of the preferred strategy and show that:

- The GVH road reserve is typically 60 metres wide
- Apart from locations where turning lanes are added, the existing road pavement is approximately central and in the order of 7.0 metres wide across two marked lanes and in the order of 12.3 metres overall, including sealed shoulders
- Verges beyond swale drains are in the order of 15 to 20 metres wide.

6.4 Future Cross Sections – Assumptions

Figure 20 depicts illustrative sections at each of the measured points described above.

Existing dimensions are annotated below each section.

At this conceptual stage it is assumed that the future GVH could have two lanes in each direction and at any given point or maximum of two turning lanes or equivalent median, acceleration / deceleration lanes given an indicative paved trafficked area in the order of 20 metres wide.

It is also assumed that the future speed limit over the whole study area will be 80 km/hr, requiring a 'clear-zone' (tree-free zone) of 6.0 metres.

The assumed 20 metres trafficked area and 60 metre clear zones are shown diagrammatically in the sections in Figure 20.

6.5 Typical Planting Cross Sections

Figure 20 also shows illustrative planting cross sections based on the preferred strategy and includes:

- The scale of the airport height restrictions, where relevant
- Indicative tree types that refer to the preferred strategy in Figure 18.

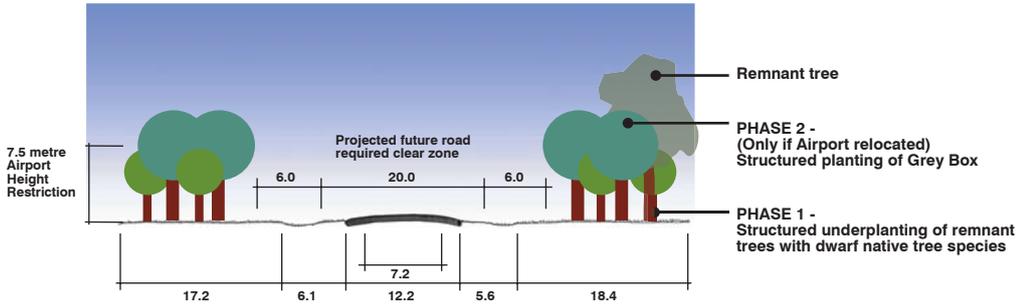
6.6 Future Reserve Treatment

Figure 21 shows the location of the future reserve adjacent to the GVH at the change in alignment referred to above. The current approved subdivision is also shown but the future extent of the reserve is unclear.

Figure 21 summarises an indicative approach to design that integrates the GVH with the open space using the recommended GVH planting theme and an overall 'sight-line' theme for major artworks.

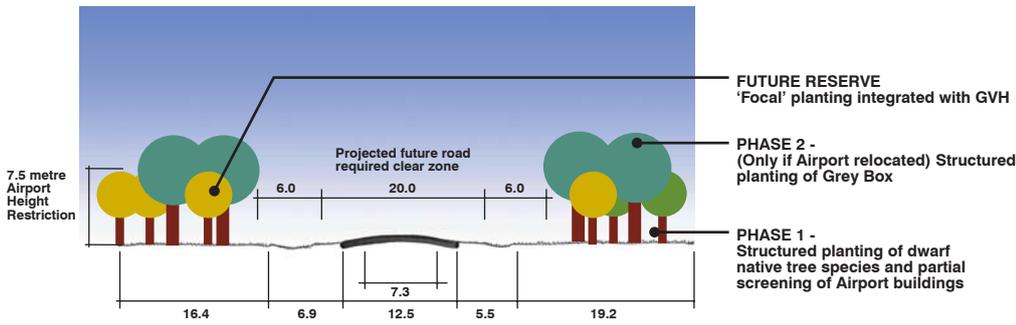
Figure 20 Typical Cross Sections (Note - Sections viewed looking north)

1) South of Commercial

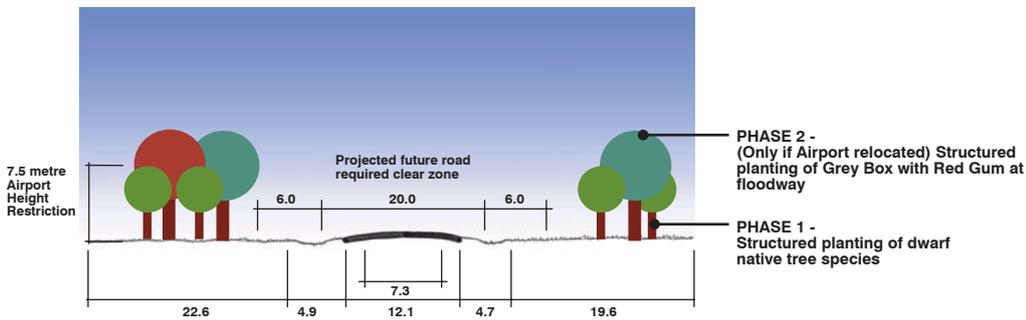


Note: based on assumed future four lane road (3.5 metres per lane) with median strip or turning lanes (6 metres) and 80km/hr speed limit (6 metre clear zone required between traffic lane edge and planting)

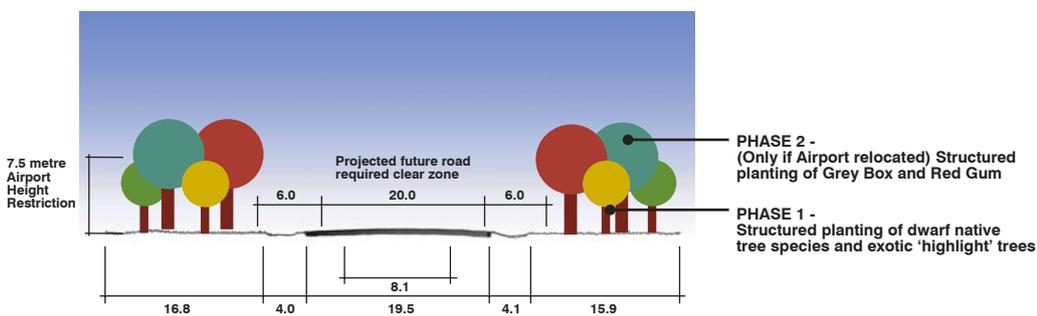
2) At South End Runway



3) Between Lake and South Entry to Emerald Bank - 2 Lane



4) At South Boundary of Road House Site - Multi Lane



5) North of Crushed Rock Area

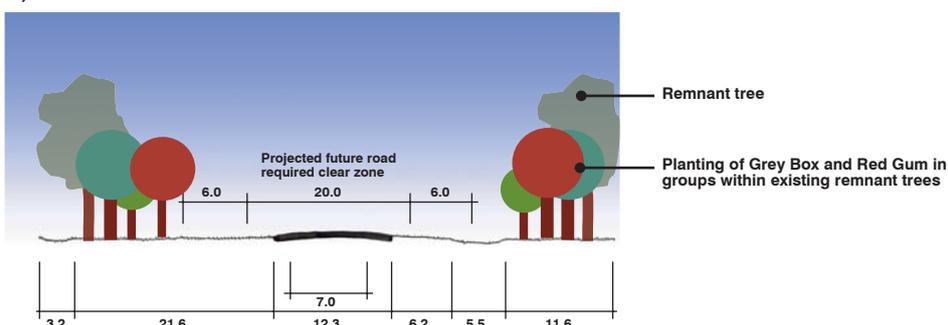
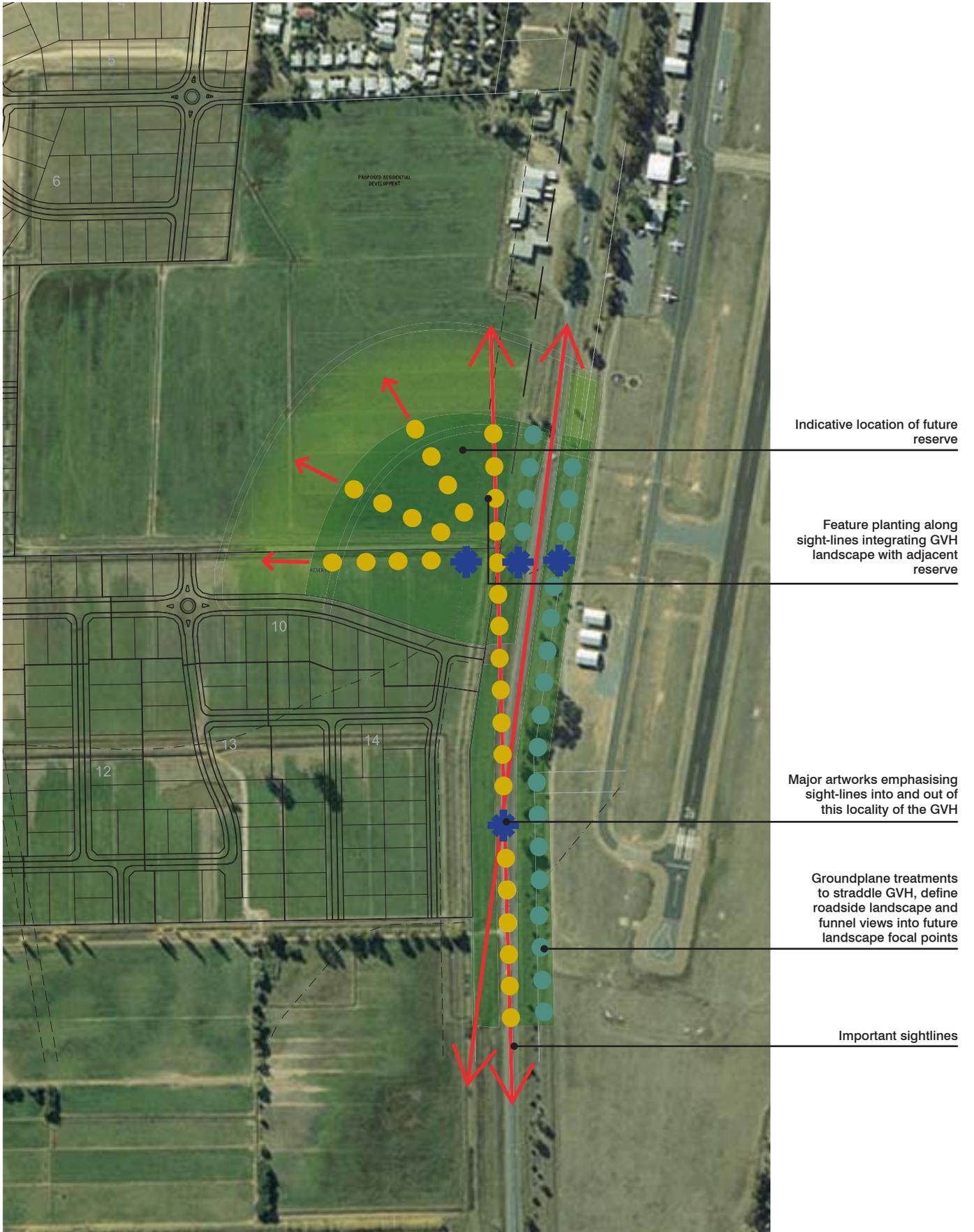


Figure 21 Future Reserve Treatment



6.7 Potential 'Dwarf' Tree Species

Figures 22 to 26 illustrate 'dwarf' varieties of native trees that, subject to further investigation, could be used within airport height restriction areas.

Indicative 'dwarf' nature tree species



Figure 22

Eucalyptus leucoxylos 'Eukie Dwarf'

Mature Height – 6m

Characteristics – 'Eukie Dwarf' Chalky coloured trunk with a light open canopy of fine foliage bears masses of deep pink, red or occasionally cream blossom from late autumn to early summer.



Figure 23

Eucalyptus ficifolia 'Summer Red'

Mature Height – 8m

Characteristics – *Eucalyptus ficifolia* 'Summer Red' is ideal as a feature street tree and has an attractive bronze foliage which bears masses of deep red flowers.



Figure 24

Angophora hispida

Mature Height – 8m

Characteristics – *Angophora hispida* is an excellent choice for use under powerlines or where space is limited. The white-to-cream flowers are borne in dense terminal clusters in summer.



Figure 25

Eucalyptus pauciflora 'Little Snowman'

Mature Height – 7m

Characteristics – *Eucalyptus pauciflora* 'Little Snowman' is ideally suited for nature strips as it slow-growing and has a relatively small mature height. It has grey, white and reddish-pink alternating stripes or patches on its smooth trunk. Its foliage is dark green to greenish blue, contrasting well with the trunks.



Figure 26

Eucalyptus mannifera 'Little Spotty'

Mature Height – 8m

Characteristics – *Eucalyptus mannifera* 'Little Spotty' is ideally suited to streetscapes due to its relatively small mature height. Its bark is strongly spotted and ornamental with a fine ball of foliage.

7 Summary and Further Work



The preferred strategy illustrated above is clearly derived from an appreciation of the study area's current and likely future landscape. It respects previous highway landscape design work and the culturally significant Calder Woodburn Memorial Avenue and exploits the potential that the GVH has to interact effectively with adjacent land users and physical features.

The following further work is recommended in order to advance the implementation of the strategy.

- Adopt the strategy after incorporating community, council and authority comment
- Confirm funding, design, implementation and management responsibilities for the GVH and future open space
- Further confirm site features and qualities by undertaking:
 - A feature survey of existing conditions
 - An arboricultural survey of existing trees in the GVH
 - A flora and fauna study of the GVH
- Confirm the likely extent of the proposed open space near the airport
- Prepare a scale concept design that provides a conceptual layout of tree types, typical arrangements, numbers, a list of associated construction actions and an indication of probable cost.
- Prepare a concept design for the open space and major artworks incorporated into it
- Confirm tree species, sizes, supply sources and availability
- Prepare detailed, dimensioned planting plans for the GVH, including required straging
- Prepare detailed designs for the future open space, including setting and design for a major artworks
- Provide for management of completed works on a staged basis.

8 Bibliography

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