

## 03 Visual impact assessment

### 3.3 Key viewpoints

103

A total of 75 viewpoints have been identified on the basis of the criteria outlined previously.

Each viewpoint is comprised of the following summary information:

- \_Existing site description.
- \_Proposed project description.
- \_Vantage point selection rationale.
- \_Visual impact based on assessment of magnitude of change and sensitivity.
- \_Preliminary recommendations for landscape and engineering designs.

The list of viewpoints are listed below from south to north in relation to the 11 indicative project sections for future staging of delivery (refer Figure 03):

#### Section 1\_ Woolgoolga to Halfway Creek

- 01\_ Kangaroo Trail Road, Corindi Beach
- 02A\_ 3509 Pacific Highway, Corindi Beach (driveway)
- 02B\_ Flinty Road, Dirty Creek Range

#### Section 2\_ Halfway Creek to Glenugie upgrade

- 03\_ Georges Road (West) near Wells Crossing
- 04\_ Pacific Highway (near cnr Bald Knob Tick Gate Road)

#### Section 3\_ Glenugie upgrade to Tyndale

- 05\_ Eight Mile Lane – Picanniny Creek crossing (joins Pheasant Creek)
- 06\_ Six Mile Lane , Grafton Airport
- 07\_ Aerodrome Road, Grafton Airport
- 08\_ Aerodrome Road, Grafton Airport
- 09\_ Old Six Mile Road , near cnr Wants Lane (near houses)
- 10\_ Avenue Road – crossing at Wants Lane
- 11\_ Woolli Road, Pillar Valley (view from house)
- 12\_ Mitchell Road, Pillar Valley
- 13\_ Firth Heinz Road, Tucabia
- 14\_ Firth Heinz Road, Tucabia
- 15\_ Bostock Road, Tucabia
- 16\_ Somerville Road, Tucabia
- 17\_ Pine Brush Forest
- 18\_ Pacific Highway, Tyndale
- 19\_ Pacific Highway, Tyndale

#### Section 4\_ Tyndale to Maclean

- 20A\_ Pacific Highway, Tyndale (North)
- 20B\_ Cane Fields, Tyndale (North)
- 20C\_ Byrons Lane, Tyndale (North)
- 21\_ Pacific Highway, South Arm
- 22\_ McIntyre's Lane, Green Hill
- 23\_ Cameron Estate , Gulmarrad
- 24A\_ Ferry Park, Maclean
- 24B\_ Schwonberg Street, Townsend
- 25\_ Maclean Lookout, Wharf Street, Maclean

#### Section 5\_ Maclean to Iluka Road, Mororo

- 26A\_ Yamba Road, South Harwood
- 26B\_ Yamba Road, South Harwood
- 27A\_ Palmers Channel Bridge, Yamba Road, Harwood
- 27B\_ South bank Road, Palmers Channel
- 28\_ Public Jetty, Clarence River, Harwood
- 29\_ End Harwood Road, Harwood
- 30\_ Cnr Cannons Lane & River Street, Harwood
- 31\_ Murrayville Road, Ashby Heights
- 32A\_ Watts Lane (East), Harwood
- 32B\_ Watts Lane (West), Harwood

- 33\_ North Arm Drive, Chatsworth
- 34\_ Fischers Lane, Iluka
- 35\_ Gargetts lane, Iluka
- 36A\_ Old Pacific Highway Iluka
- 36B\_ Pacific highway, Iluka

#### Section 6\_ Iluka Road to Devils Pulpit

- 36C\_ Tabbimoble

#### Section 7\_ Devils Pulpit upgrade to Trustums Hill

- 37\_ Cnr Minyami Rd & Pacific Highway
- 38\_ Swan Bay - New Italy Road, New Italy

#### Section 8\_ Trustums Hill to Broadwater National Park

- 39\_ Pacific highway, South Woodburn
- 40\_ Pacific Highway, Woodburn
- 41\_ Cnr Wagner Street & Evans Head Road, Woodburn
- 42\_ Evans Head Road, Woodburn

#### Section 9\_ Broadwater National Park to Richmond River

- 43A\_ Evans Head Road, Broadwater
- 43B\_ Evans Head Road, Broadwater
- 44\_ Pacific Highway, Broadwater

#### Section 10\_ Richmond River to Coolgardie Road

- 45\_ Eversons Lane, Broadwater
- 46\_ Pacific Highway, North Broadwater
- 47\_ Pacific Highway, opposite Goat Island
- 48A\_ Pacific Highway, Broadwater
- 48B\_ Backchannel Road
- 49\_ Legges Lane
- 50\_ Old Bagotville Road
- 51\_ Thurgates lane
- 52\_ Wardell Road
- 53\_ Lumleys Road, Wardell
- 54\_ Lumleys Road, Wardell
- 55\_ Lumleys Road, Wardell
- 56\_ Coolgardie Road, Coolgardie
- 57\_ Pimlico Road, Pimlico
- 58\_ Pimlico Road, Pimlico

#### Section 11\_ Coolgardie Road to Ballina bypass

- 59\_ Whytes lane (East), Pimlico
- 60\_ Whytes Lane, Pimlico
- 61\_ Pimlico Road, Pimlico
- 62A\_ Whytes Lane (West) Pimlico
- 62B\_ 110 Sartories Lane, Pimlico
- 63\_ Pimlico Road, Emigrants Creek, West Ballina

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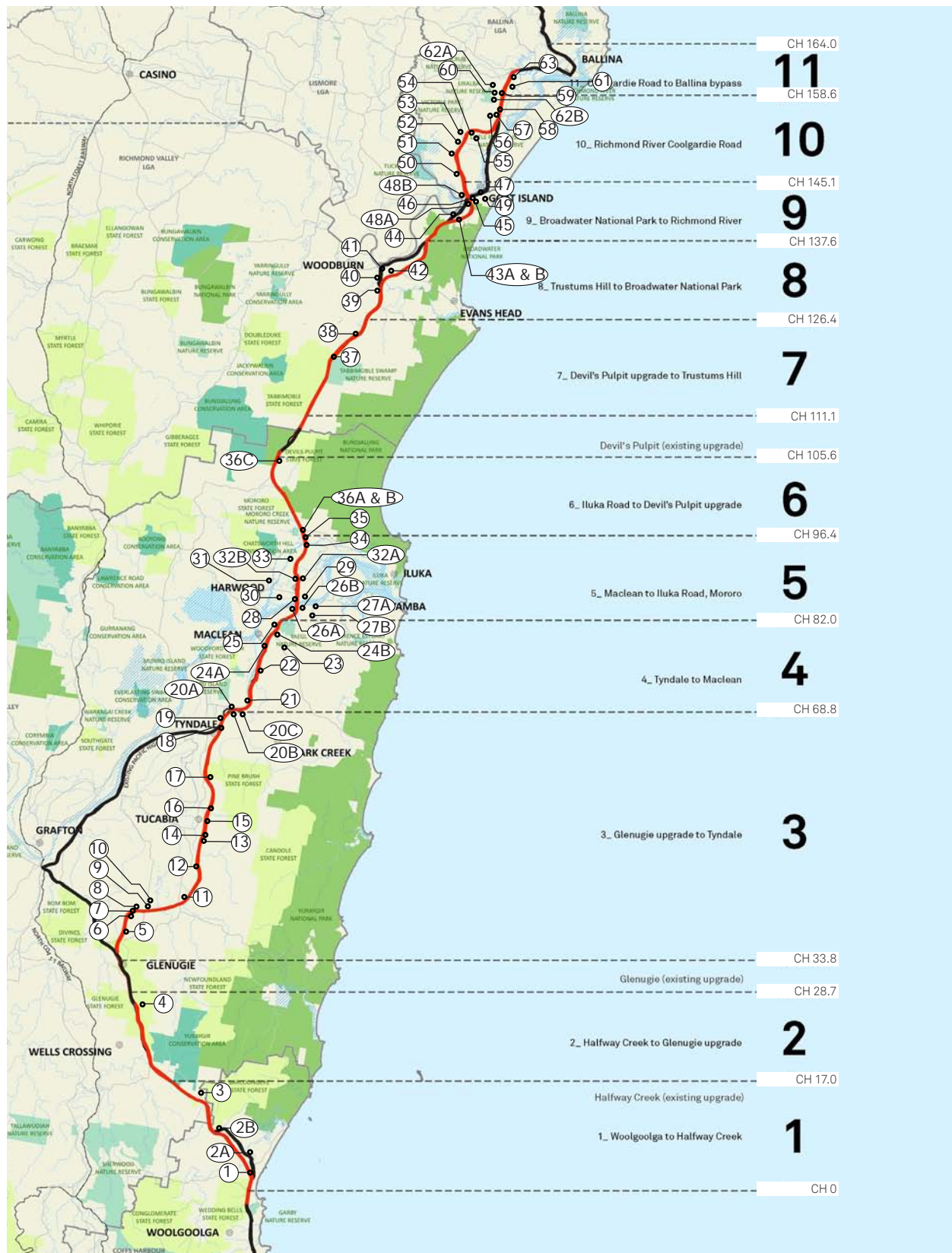


Figure 03\_ Viewpoint location plan

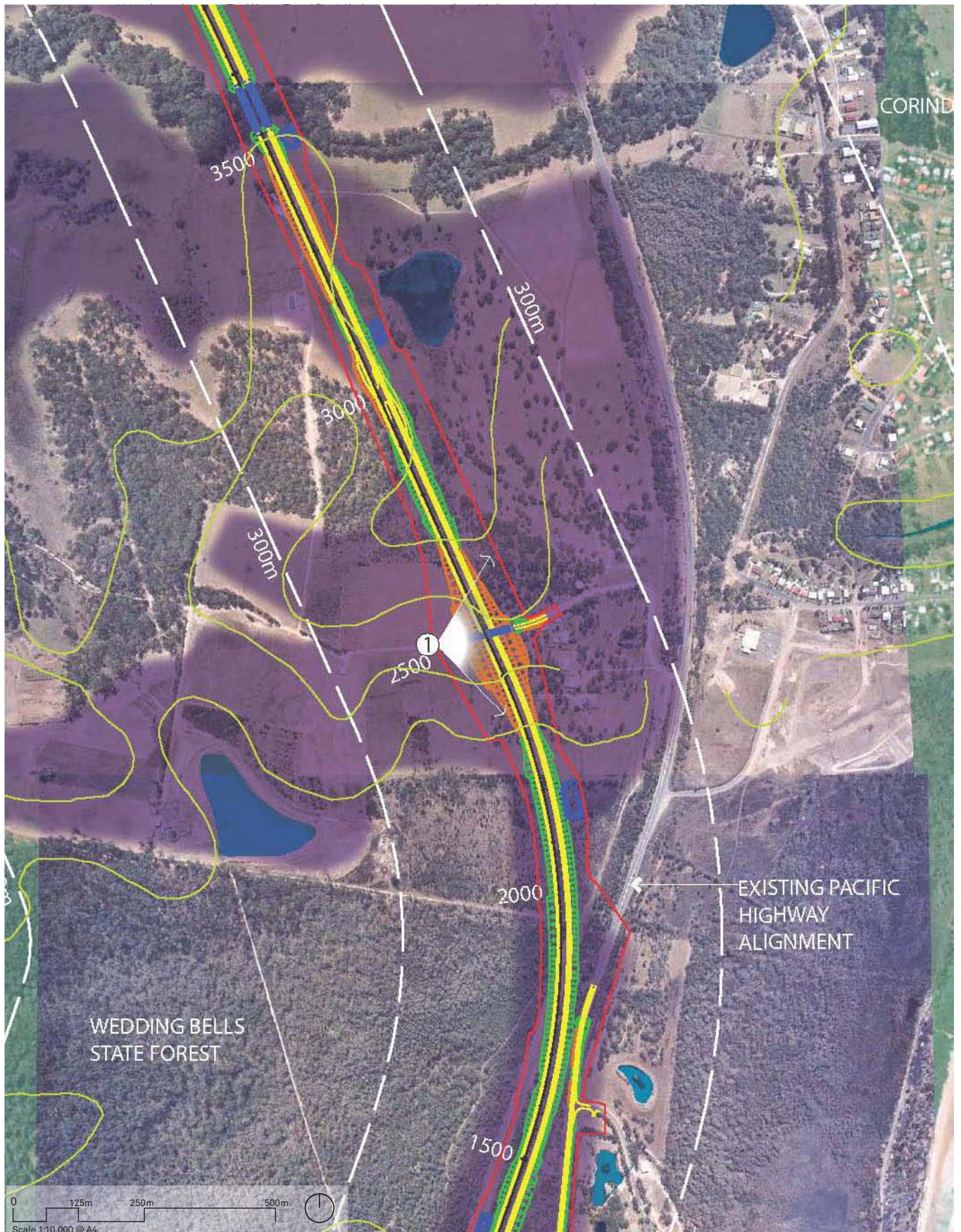
### 03\_\_\_\_\_ Visual impact assessment

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#### 3.4\_ Section 1\_ Woolgoolga to Halfway Creek

- 01\_ Kangaroo Trail Road, Corindi Beach
- 02A\_ 3509 Pacific Highway, Corindi Beach (driveway)
- 02B\_ Flinty Road, Dirty Creek Range

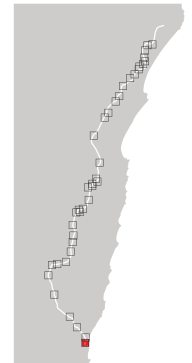
The landscape character assessment assessed the impact of the project on Section 1 to be *moderate*.



Legend

- |  |  |  |  |
|--|--|--|--|
|  | Alignment and boundary with chainages      |  | Distance from road centreline (300m / 1000m) |
|  | Areas of cut                               |  | Visual Envelope                              |
|  | Areas of fill                              |  | Photo Location                               |
|  | Bridge                                     |  | Contours at 10m interval                     |
|  | Existing Pacific Highway Upgrade alignment |  |  |
|  | Waterways                                  |  |  |

Viewpoint 1



### 03 Visual impact assessment

#### 3.4.1 Viewpoint 1

Kangaroo Trail Road, Corindi Beach

#### Section 01\_ Woolgoolga to Halfway Creek viewpoint 1

Character precinct 3: Moderate ability to visually absorb change.

#### Site description

The project deviates west of the existing highway alignment to travel through existing cleared farm lands in a gently undulating landscape. The proposed alignment skirts scattered patches of existing native woodland vegetation and a small cluster of farm houses and out buildings. The existing vegetation cover and undulating topography restrict the extent of the visual catchment in this area.

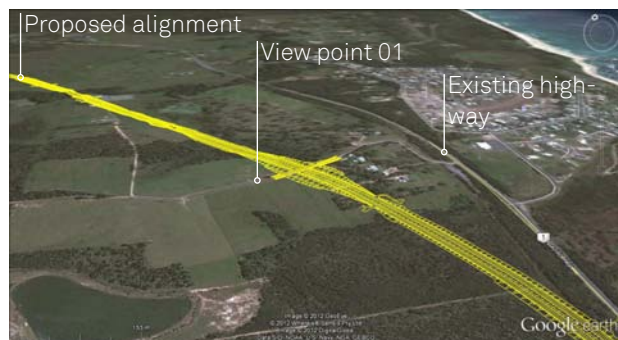
#### Project description

An overpass is proposed at Kangaroo Trail Road. At this location the proposed dual carriageway highway crosses a local elevated ridge line. A new local overpass is proposed over the highway which is located in a major cutting up to nine metres deep. The proposed highway approach to the cutting on both sides is located on minor fill batters in cleared and vegetated landscapes.

#### Vantage point selection

This ridge line vantage point was selected because the changed view across the valley affects a number of existing farm houses and because it is considered to reasonably represent the view of the proposed highway passing through this area of undulating rural landscape.

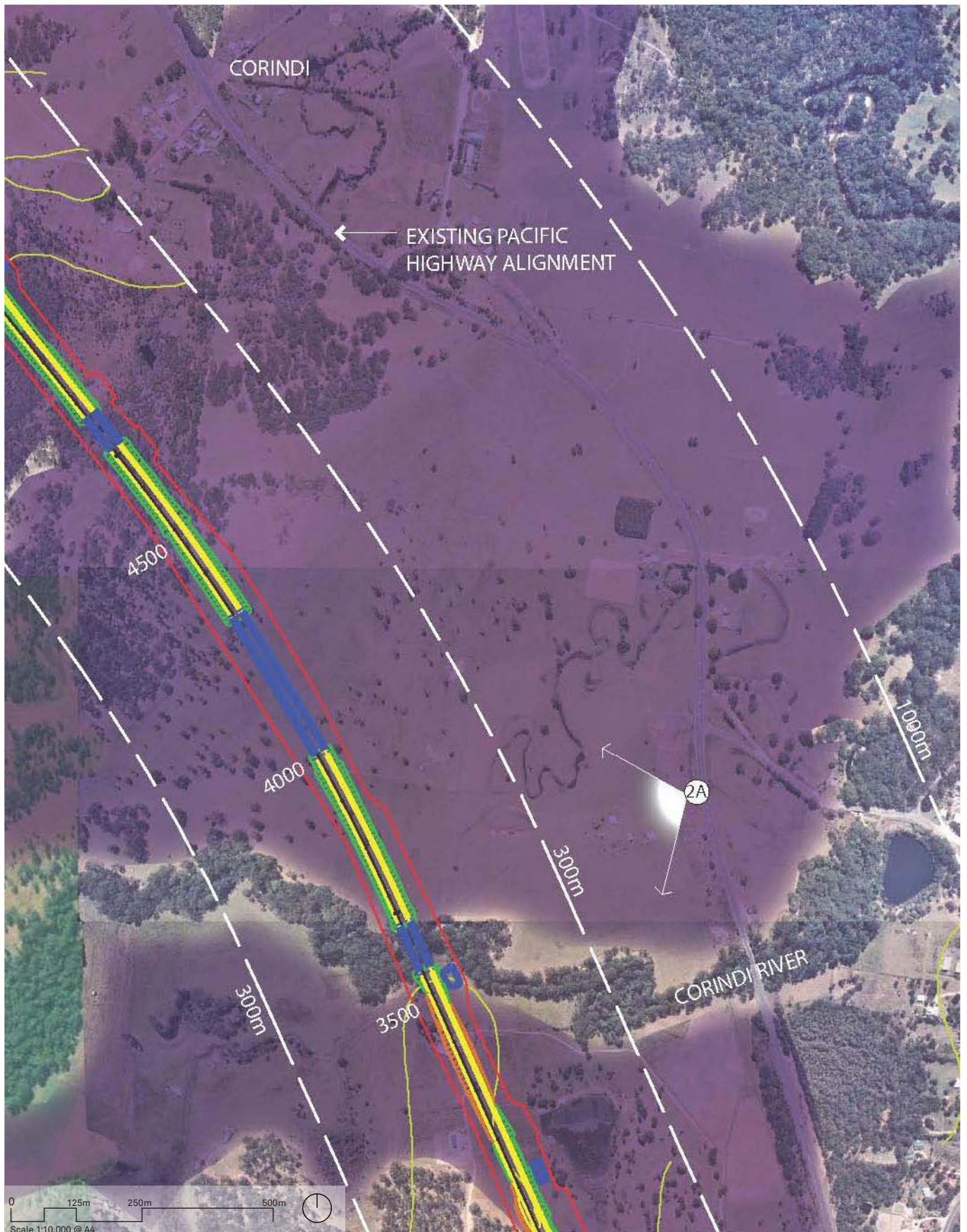
Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
1 Foreground view	<b>Moderate</b> Major cutting and infrastructure work in existing pasture land. Much of the proposed highway is located below the main field of vision. Removal of vegetation to accommodate fill batters on the approaches would be visible in the landscape	<b>Moderate</b> This changed view would be visible from a low number of local residences.	<b>Moderate</b>	<ul style="list-style-type: none"> <li>_Plant dense low grasses/ground covers on cut/fill batters</li> <li>_Reinstate forest edges where applicable</li> </ul>



Oblique view looking north east



Annotated diagrammatic approximation of the project as photographed from viewpoint 1\_ View south from Kangaroo Trail Road, Corindi Beach. Location: 30°01'59"S 153°11'11"E.

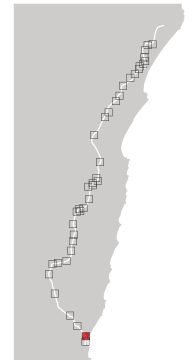


Legend

- Alignment and boundary with chainages
- Areas of cut
- Areas of fill
- Bridge
- Existing Pacific Highway Upgrade alignment
- Waterways

- Distance from road centreline (300m / 1000m)
- Visual Envelope
- Photo Location
- Contours at 10m interval

Viewpoint 2A



### 03 Visual impact assessment

#### 3.4.2 Viewpoint 2A

3509 Pacific Highway, Corindi Beach

#### Section 01\_ Woolgoolga to Halfway Creek

Character precinct 3: Moderate ability to visually absorb change.

#### Site description

The project deviates west of the existing highway alignment to travel through existing cleared farm lands across an open floodplain landscape. The proposed alignment skirts scattered patches of existing native riparian vegetation associated with the creek lines.

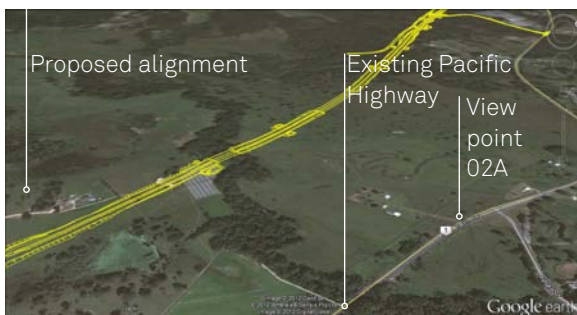
#### Project description

The proposed highway comprises a dual carriageway traversing open floodplain area on fill embankments typically three to four metres and up to five metres in height. Low level crossings over Corindi Creek and the Corindi floodplain area are proposed. Viewpoint 2 is from the driveway of an existing home on the existing highway.

#### Vantage point selection

This viewpoint is from the driveway of an existing rural property located on the existing highway. It typically portrays the view of the proposed highway passing across low lying floodplain farmland associated with the Corindi River on fill embankments.

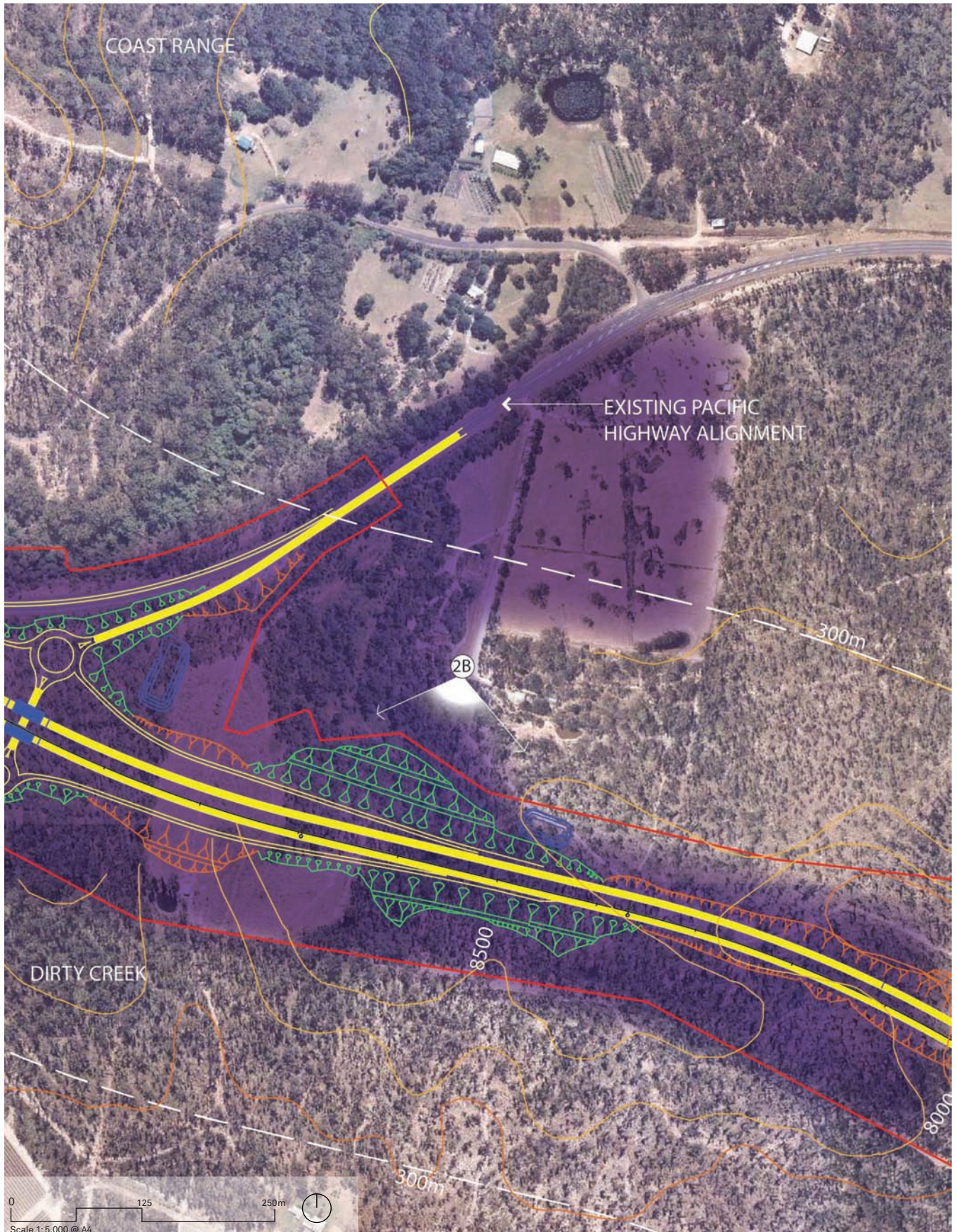
Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>2A</b> Middle ground view	<b>Moderate-Low</b> Project located on an embankment traverses the floodplain from a middle ground vantage point. Views of the proposed bridge structure would generally be screened by riparian vegetation.	<b>Moderate-low</b> This changed view would be visible from a low number of local residences, and a high number of motorists would have fleeting glimpses of the project.	<b>Moderate-low</b>	<ul style="list-style-type: none"> <li>_ Plant dense low grasses/ground covers on low fill batters</li> <li>_ Reinstate riparian vegetation where possible</li> </ul>



Oblique view looking north-west



Annotated diagrammatic approximation of the project as photographed from viewpoint 2A\_ View south-west at 3509, Pacific Highway, Corindi Beach. Location: 30°01'16"S 153°11'18"E.

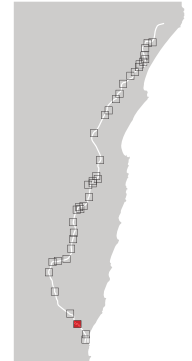


Legend

- Alignment and boundary with chainages
- Areas of cut
- Areas of fill
- Bridge
- Existing Pacific Highway Upgrade alignment
- Waterways

- Distance from road centreline (300m / 1000m)
- Visual Envelope
- Photo Location
- Contours at 10m interval

Viewpoint 2B





### 03 Visual impact assessment

#### 3.4.3 Viewpoint 2B

Dirty Creek Road

#### Section 1: Woolgoolga to Halfway Creek

Character precinct 4: Moderate ability to visually absorb change.

#### Site description

The proposed highway upgrade follows a new alignment to the west of the existing highway travelling through woodland area around Dirty Creek. Scattered rural properties are located in small clearings along the existing highway and other minor roads in the area. A few existing homes are affected by proposed changes at this viewpoint.

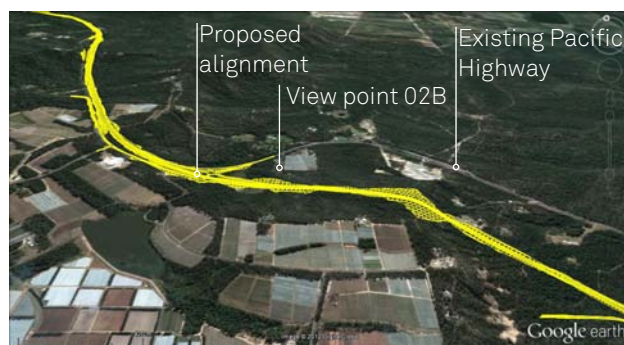
#### Project description

The proposed highway comprises a new dual carriageway through considerably undulating land resulting in some deep cut and fill areas. At the view below new batters up to 20 m are proposed requiring the removal of a large area of existing forest vegetation. Much of the work is typically accommodated within, and screened by, open woodland vegetation.

#### Vantage point selection

This vantage point at the end of Flinty Road represents the changed view of a small cluster of existing homes.

Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>2B</b> Foreground view	<b>High</b> New infrastructure in the existing woodland involving major earthworks and disturbance to existing trees.	<b>Moderate</b> Considerable sensitivity for the residents of the adjacent homes who will experience repeated and long duration views.	<b>Moderate–high</b>	<ul style="list-style-type: none"> <li>_Minimise the area of trees to be removed.</li> <li>_Plant local woodland trees on fill batters</li> </ul>



Oblique view looking north



Annotated diagrammatic approximation of the project as photographed from viewpoint 2B\_ View south-west at 12 Flinty Road, Dirty Creek. Location: 29°59'19"S 153°09'02"E.



### **03\_\_\_\_\_ Visual impact assessment**

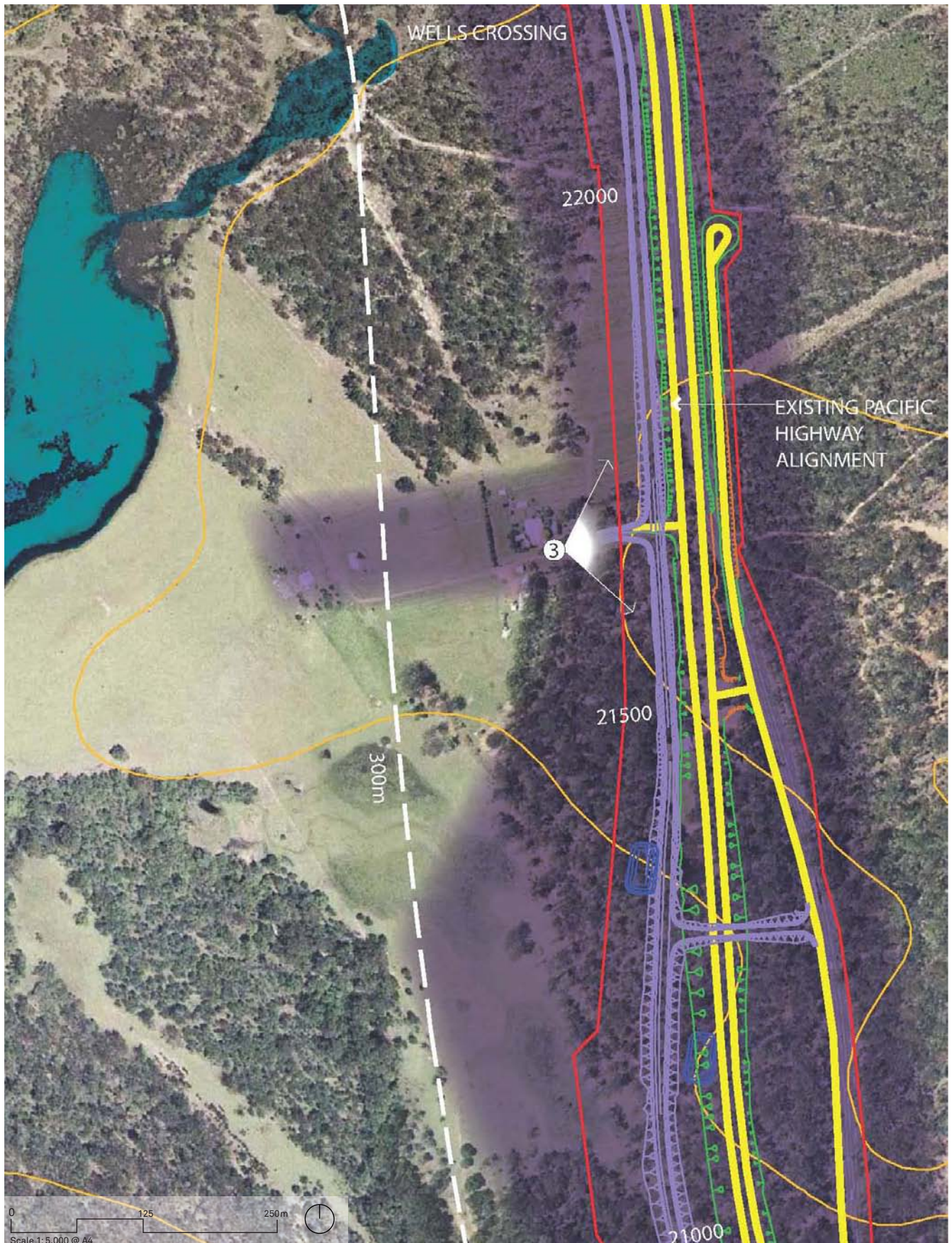
#### **3.5\_ Section 2\_ Halfway Creek to Glenugie upgrade**

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03\_ Georges Road (West) near Wells Crossing

04\_ Pacific highway (near intersection with Bald Knob Tick Gate Road)

The landscape character assessment assessed the impact of the project on Section 2 to be *low*.



Legend

- Alignment and boundary with chainages
- Areas of cut
- Areas of fill
- Bridge
- Existing Pacific Highway Upgrade alignment
- Waterways

- Distance from road centreline (300m / 1000m)
- Visual Envelope
- Photo Location
- Contours at 10m interval

Viewpoint 3



### 03 Visual impact assessment

#### 3.5.1\_ Viewpoint 3

George Road, Wells Crossing

#### Section 02\_ Halfway Creek to Glenugie upgrade

Character precinct 7: High ability to visually absorb change.

#### Site description

The project comprises new dual carriageway on an alignment just to the east of the existing highway through the open woodland landscape of the Newfoundland State Forest. Scattered rural properties are located in small clearings along the existing highway and other local roads.

#### Project description

##### Interim option

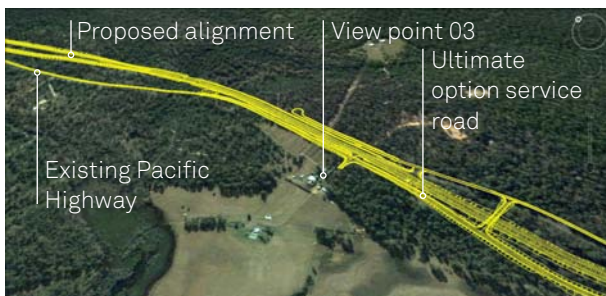
The project comprises a new dual carriageway located to the east which then joins the existing highway alignment to the north. On the eastern side the existing highway would be reused as the access road. The new carriageways are all located on fill embankments typically one to two metres but up to five metres and would require major existing tree removal. All new work is typically accommodated within, and screened by, open woodland vegetation.

##### Ultimate option

The ultimate upgrade includes major work to provide a new western service road through the woodland and a new overpass (slightly south of the viewpoint) to access properties to the east of the highway.

#### Vantage point selection

This vantage point is located near a cluster of existing farm houses located in a small clearing in the woodland near the project. The vantage point is considered to typically address the perceived visual impact of the elevated upgrade on isolated farm houses in the woodland where the highway approximately follows the alignment of the existing highway.



Oblique view looking north-east



Annotated diagrammatic approximation of the project as photographed from viewpoint 3\_ View east at Georges Road West, near Wells Crossing Halfway Creek. Location: 29°54'27"S 153°03'55"E.

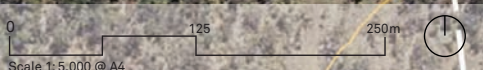
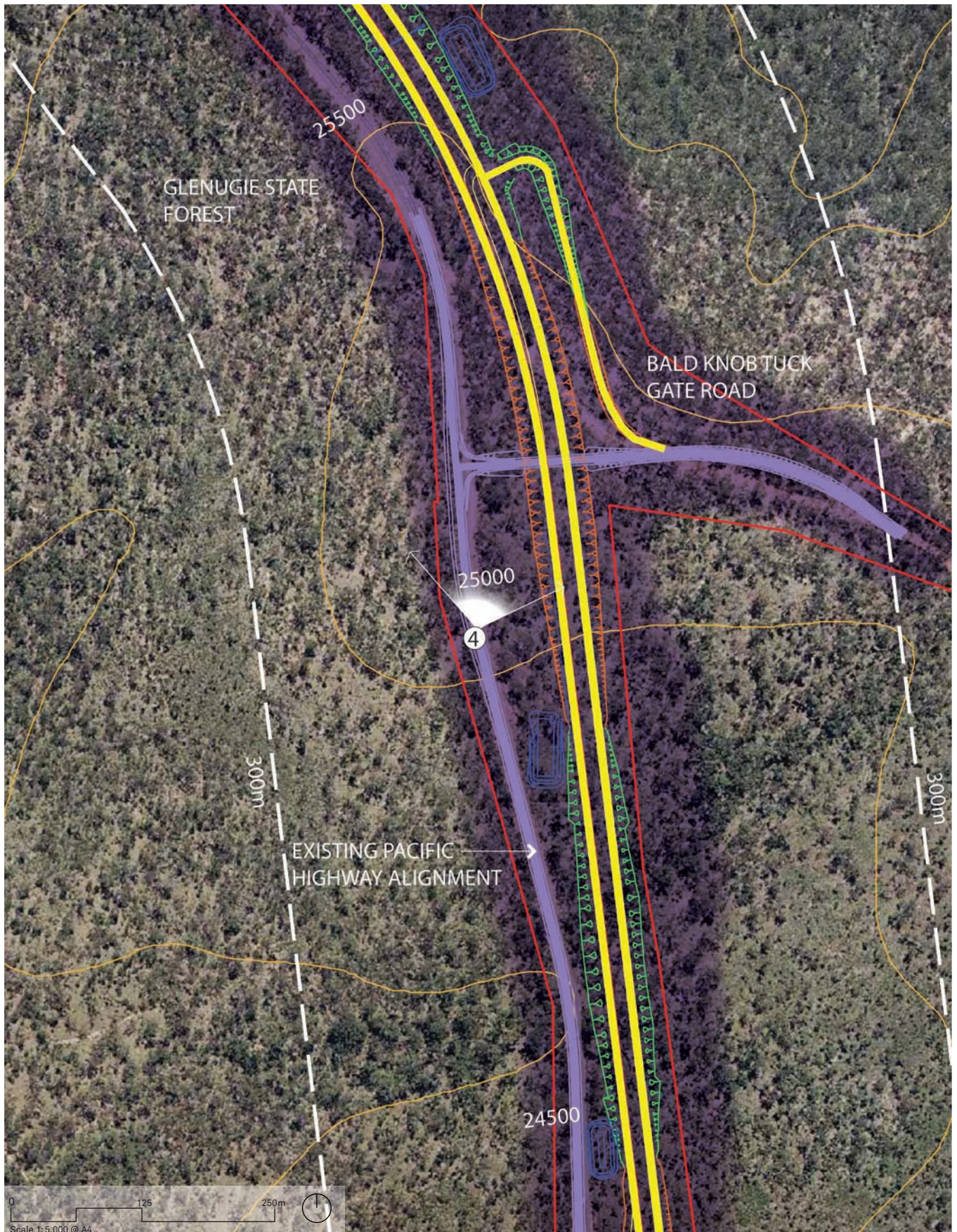
### 03 Visual impact assessment

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Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>3 Interim stage Foreground view</b>	<b>Moderate</b> Major disturbance to the existing native woodland, however the new infrastructure is typical of infrastructure already in place at this location.	<b>Moderate–low</b> Considerable sensitivity for residents in a low number of homes with a changed foreground view at this location, however, the project is generally well screened by existing woodland landscape and mostly visible only to motorists using the highway.	<b>Moderate</b>	_Plant local woodland trees and grasses on cut/fill batters _Reinstate woodland trees where possible

Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>3 Ultimate stage Foreground view</b>	<b>High–moderate</b> Major disturbance to the existing native woodland, however the new infrastructure is typical of infrastructure already in place at this location.	<b>Moderate–low</b> Considerable sensitivity for residents in a low number of homes with a changed foreground view at this location, however, the project is generally well screened by existing woodland landscape and mostly visible only to motorists using the highway.	<b>Moderate</b>	_Plant local woodland trees and grasses on cut/fill batters _Reinstate woodland trees where possible

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Legend

- |  |  |  |  |
|--|--|--|--|
|  | Alignment and boundary with chainages      |  | Distance from road centreline (300m / 1000m) |
|  | Areas of cut                               |  | Visual Envelope                              |
|  | Areas of fill                              |  | Photo Location                               |
|  | Bridge                                     |  | Contours at 10m interval                     |
|  | Existing Pacific Highway Upgrade alignment |  |  |
|  | Waterways                                  |  |  |

Viewpoint 4





### 03 Visual impact assessment

#### 3.5.2 Viewpoint 4

Pacific Highway (at Bald Knob Tick Gate Road)

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#### Section 2: Halfway Creek to Glenugie upgrade

Character precinct 8: Moderate ability to visually absorb change

##### Site description

The project duplicates the existing highway alignment to the east travelling through the Glenugie State Forest which comprises High Conservation Value Old Growth Forest and is listed on the State Heritage Register. Scattered rural properties are located in small clearings along the existing highway and other main roads but there are no existing residences in this location.

##### Project description

###### Interim option

The proposed dual carriageway passes to the east of the existing highway requiring major removal of existing woodland vegetation. Low cut and fill batters are required. All new work is typically accommodated within, and screened by, open woodland vegetation.

###### Ultimate option

The ultimate upgrade proposes a minor change comprising a new underpass connection between Bald Knob Tick Gate Road and the existing Pacific Highway.

##### Vantage point selection

This is a typical view of the highway duplication where it follows the existing highway alignment through open forest vegetation. The view addresses the impact of the work as it would affect motorists.



Oblique view looking north-east



Annotated diagrammatic approximation of the project as photographed from viewpoint 4\_ View north east, Pacific highway, south of Bald Knob Tick Gate Road. Location: 29°52'39"S 153°03'27"E.

### 03 Visual impact assessment

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Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
4 Interim stage Foreground view	<b>Moderate</b> Considerable disturbance to the existing native woodland, in a new location located to the east of the existing highway alignment.	<b>High-moderate</b> This is a sensitive area of High Conservation Value Old Growth Forest listed on the State Heritage Register. The development is generally well screened by existing woodland landscape and mostly visible only to motorists using the highway.	<b>Moderate-high</b>	_Plant local forest trees on cut/fill batters _Reinstate the forest edge where applicable

Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
4 Ultimate stage Foreground view	<b>Moderate</b> Considerable disturbance to the existing native woodland, in a new location located to the east of the existing highway alignment.	<b>High-moderate</b> This is a sensitive area of High Conservation Value Old Growth Forest listed on the State Heritage Register. The project is generally well screened by existing woodland landscape and mostly visible only to motorists using the highway.	<b>Moderate-high</b>	_Plant local forest trees on cut/fill batters _Reinstate the forest edge where applicable

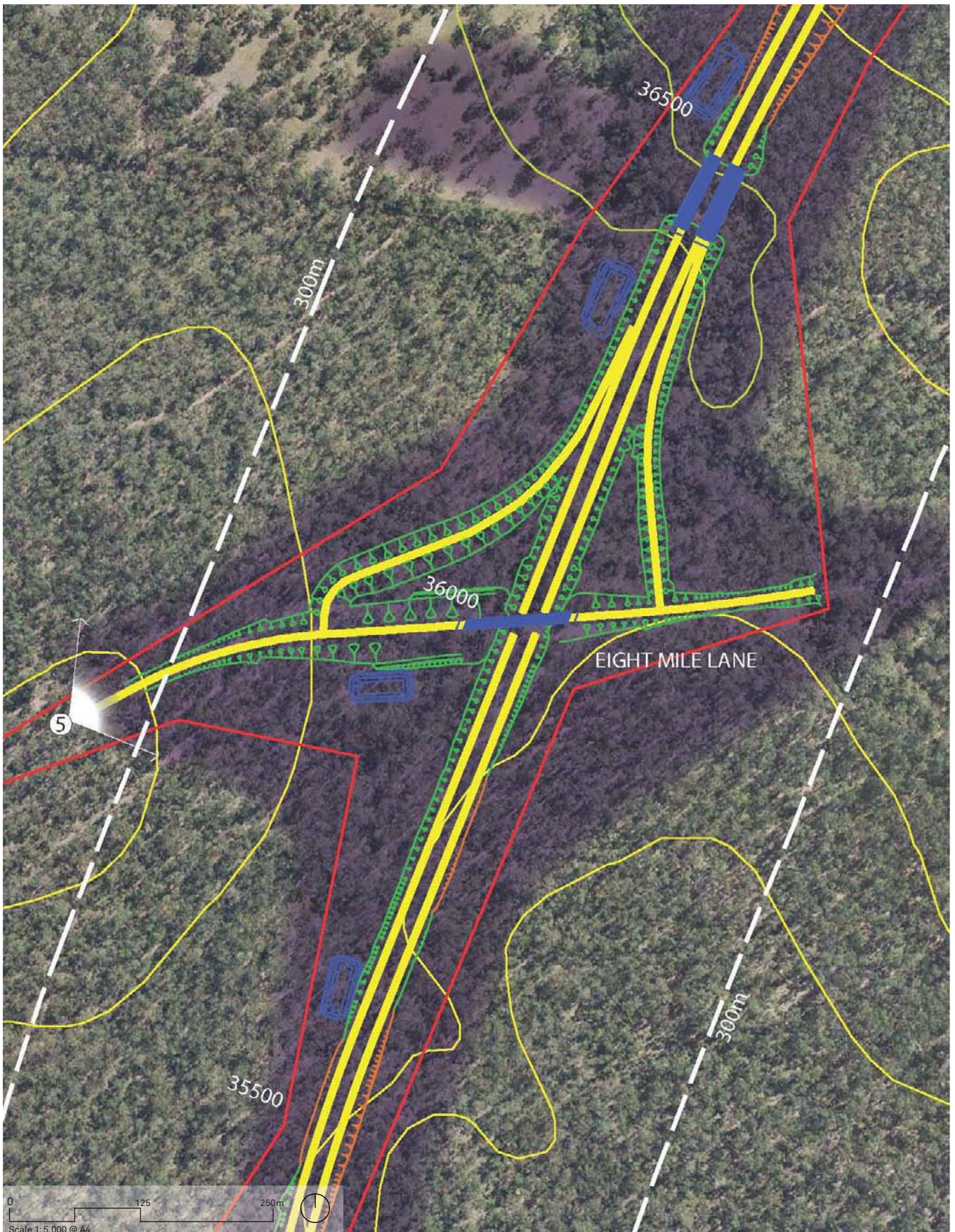
### 03 \_\_\_\_\_ Visual impact assessment

#### 3.6\_ Section 3\_ Glenugie upgrade to Tyndale

121

- 05\_ Eight Mile Lane – Picaninny Creek crossing (joins Pheasant Creek)
- 06\_ Aerodrome Road , Grafton Airport
- 07\_ Aerodrome Road, Grafton Airport
- 08\_ Aerodrome Road, Grafton Airport
- 09\_ Old Six Mile Lane , near cnr Wants Lane (near houses)
- 10\_ Avenue Road – crossing at Wants Lane
- 11\_ Wooli Road, Pillar Valley (view from house)
- 12\_ Mitchell Road, Pillar Valley
- 13\_ Firth Heinz Road, Tucabia
- 14\_ Firth Heinz Road, Tucabia
- 15\_ Bostock Road, Tucabia
- 16\_ Somerville Road, Tucabia
- 17\_ Pine Brush Rest Stop
- 18\_ Pacific Highway, Tyndale
- 19\_ Pacific Highway, Tyndale

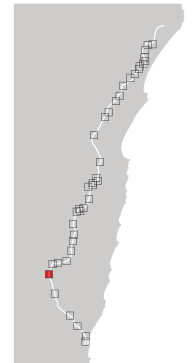
The landscape character assessment assessed the impact of the project on Section 3 to be *moderate-high*.



Legend

- |  |  |  |  |
|--|--|--|--|
|  | Alignment and boundary with chainages      |  | Distance from road centreline (300m / 1000m) |
|  | Areas of cut                               |  | Visual Envelope                              |
|  | Areas of fill                              |  | Photo Location                               |
|  | Bridge                                     |  | Contours at 10m interval                     |
|  | Existing Pacific Highway Upgrade alignment |  |  |
|  | Waterways                                  |  |  |

Viewpoint 5



### 03 Visual impact assessment

#### 3.6.1 Viewpoint 5

Eight Mile Lane Interchange, Glenugie

#### Section 3: Glenugie upgrade to Tyndale

Character precinct 8: Moderate ability to visually absorb change.

#### Site description

The project deviates from the existing highway to travel through the partially cleared pasture and agricultural land to the east adjacent to the Glenugie State Forest. The landscape is gently undulating with large patches of open forest vegetation. There are no existing residences in this location.

#### Project description

A major interchange is proposed at Glenugie connecting to Eight Mile Lane over the proposed highway via on/off ramps both sides. All new carriageways are located on fill embankments requiring major existing vegetation removal. Diversion of Picaninny Creek at this location will also result in major existing vegetation removal.

#### Vantage point selection

This vantage point takes in the proposed interchange and Eight Mile Lane where there is currently little urban development and few viewers. A few houses are dotted through this landscape connected by low key local roads.

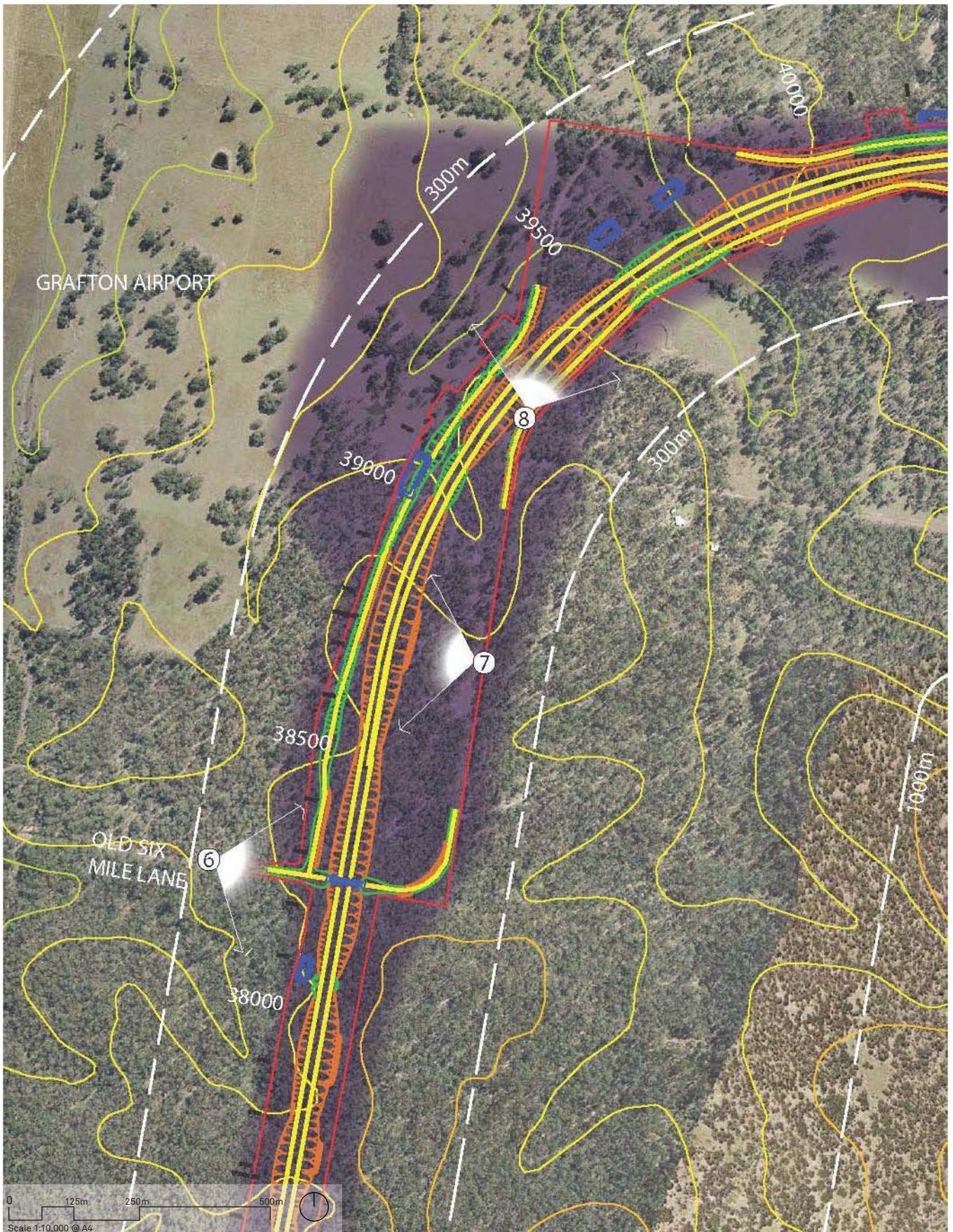
Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>5</b> Middle ground view	<b>High</b> New bridge and road infrastructure represents a major change in an existing woodland setting. Major disturbance to the existing native woodland is anticipated.	<b>Low</b> The project is generally well screened by existing woodland landscape and mostly visible only to motorists using the highway. There are few current local users.	<b>Moderate</b>	<ul style="list-style-type: none"> <li>_Minimise loss of existing trees</li> <li>_Plant local woodland trees and grasses on cut/fill batters</li> <li>_Reinstate woodland trees where applicable</li> </ul>












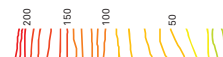
Oblique view looking north-east



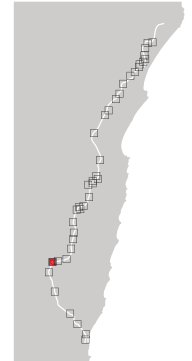
Annotated diagrammatic approximation of the project as photographed from viewpoint 5\_ View north east, at Picaninny Creek crossing (joins Pheasant Creek), Eight Mile Road. Location: 29°47'09"S 153°01'51"E.



Legend

-  Alignment and boundary with chainages
-  Areas of cut
-  Areas of fill
-  Bridge
-  Existing Pacific Highway Upgrade alignment
-  Waterways
-  Distance from road centreline (300m / 1000m)
-  Visual Envelope
-  Photo Location
-  Contours at 10m interval

Viewpoint 6,7,8



### 03 Visual impact assessment

#### 3.6.2 Viewpoints 6, 7 and 8

Grafton Airport area

#### Section 3: Glenugie upgrade to Tyndale

Character precinct 10: Moderate ability to visually absorb change.

#### Site description

The project deviates from the existing highway to travel through partially cleared pasture and agricultural land around to the north of the Glenugie State Forest. The landscape is gently undulating with large patches of open woodland vegetation and extensive pasture land. There are few residences scattered in this area.

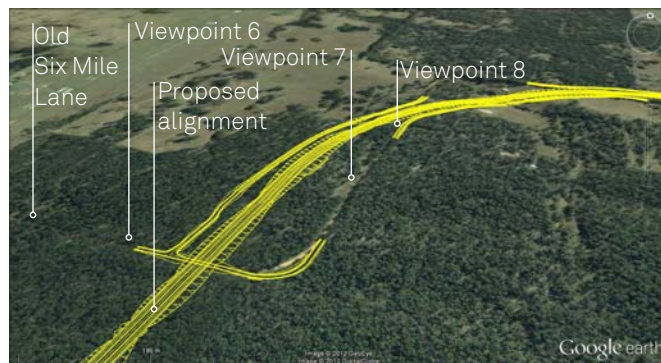
#### Project description

The project is generally located in deep cuttings through undulating forested and agricultural countryside. Cuttings are up to nine metres deep requiring major earthworks and vegetation removal but minimising visibility of the new infrastructure from original ground level.

#### Vantage point selection

Vantage Point 6 shows the location of the proposed overpass at Old Six Mile Lane where the proposed highway passes in an underpass in the forest. Vantage points 7 and 8 both typically depict the new road passing above and below the existing wooded and pastoral landscapes at locations where some local motorists would be affected by the change. There are few existing houses in this area.

Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>6</b> Foreground view	<b>High-moderate</b> New infrastructure in a natural setting. Major tree removal and earthworks is proposed. Location of the proposed highway in a cutting reduces its visibility from this vantage point.	<b>Low</b> This changed view would be visible to a low number of people from the local road network.	<b>Moderate</b>	<ul style="list-style-type: none"> <li>_ Minimise loss of existing trees</li> <li>_ Plant local woodland trees and grasses on cut batters</li> <li>_ Reinstate woodland trees where applicable</li> </ul>



Oblique view looking north-west



Annotated diagrammatic approximation of the project as photographed from viewpoint 6\_ View east, Old Six Mile Lane. Location: 29°46'00"S 153°02'14"E.

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Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>7</b> Foreground view	<b>High–moderate</b> New infrastructure in a natural setting. Considerable tree removal and earthworks is proposed. Location of the proposed highway in a cutting reduces its visibility from this vantage point.	<b>Low</b> This changed view would be repeatedly visible to a low number of drivers from the local road network.	<b>Moderate</b>	<ul style="list-style-type: none"> <li>_ Minimise loss of existing trees</li> <li>_ Plant local woodland trees and grasses on cut batters</li> <li>_ Reinstate woodland trees where applicable</li> </ul>



Annotated diagrammatic approximation of the project as photographed from viewpoint 7\_ View west from Aerodrome Road. Location: 29°45'45"S 153°02'29"E

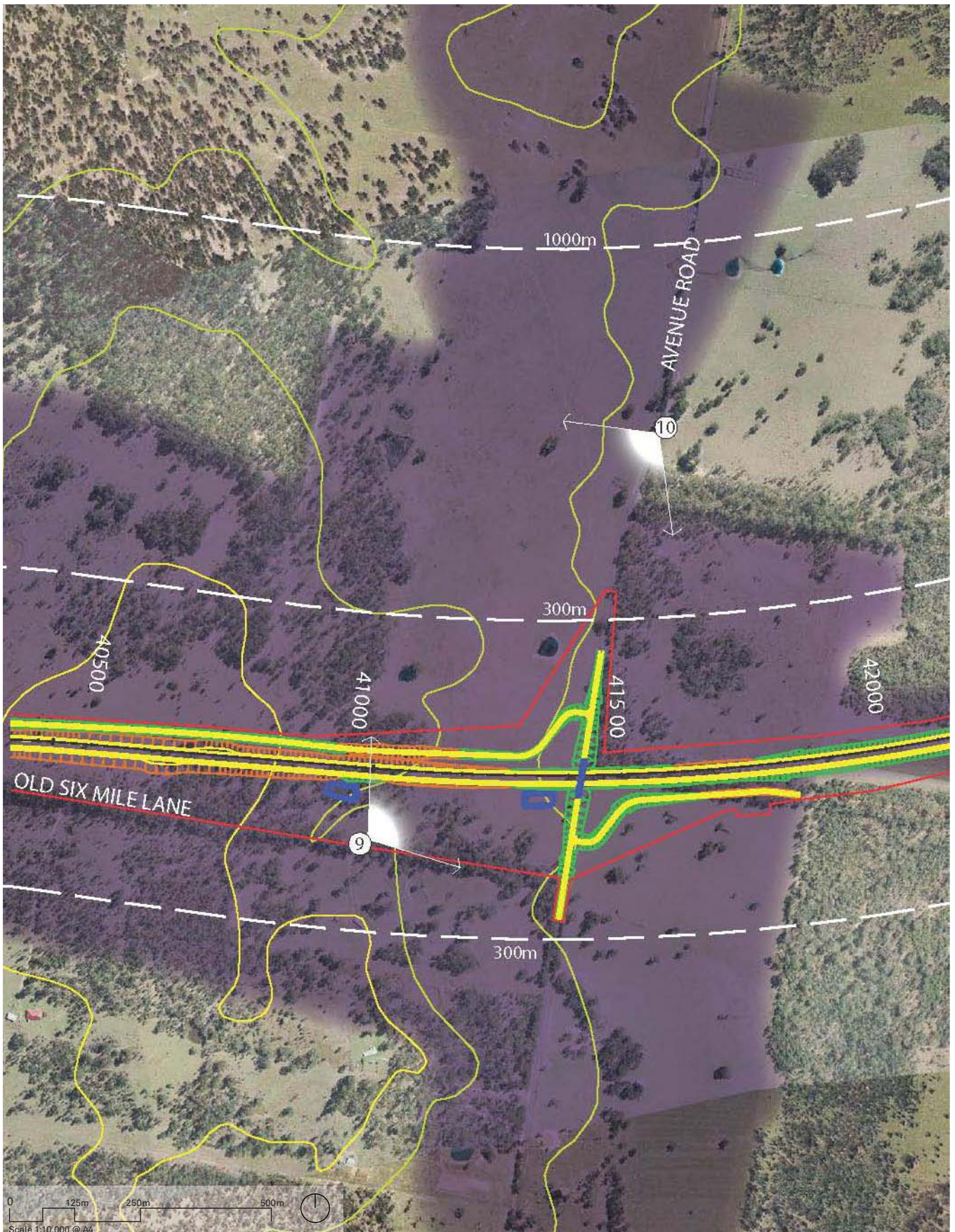
Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>8</b> Foreground view	<b>High–moderate</b> New infrastructure in a natural setting. Major tree removal and earthworks is proposed. Location of the proposed highway in a cutting reduces its visibility from this vantage point.	<b>Low</b> This changed view would be repeatedly visible to a low number of drivers from the local road network.	<b>Moderate</b>	<ul style="list-style-type: none"> <li>_ Minimise loss of existing trees</li> <li>_ Plant local woodland trees and grasses on cut batters</li> <li>_ Reinstate woodland trees where applicable</li> </ul>



Annotated diagrammatic approximation of the project as photographed from viewpoint 8\_ View north-east Aerodrome Road. Location: 29°45'28"S 153°02'32"E.



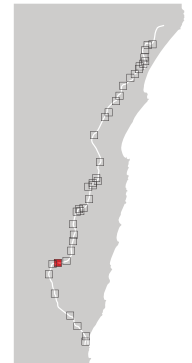
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Legend

- |  |  |  |  |
|--|--|--|--|
|  | Alignment and boundary with chainages      |  | Distance from road centreline (300m / 1000m) |
|  | Areas of cut                               |  | Visual Envelope                              |
|  | Areas of fill                              |  | Photo Location                               |
|  | Bridge                                     |  | Contours at 10m interval                     |
|  | Existing Pacific Highway Upgrade alignment |  |  |
|  | Waterways                                  |  |  |

Viewpoint 9,10



### 03 Visual impact assessment

#### 3.6.3 Viewpoints 9 and 10

Old Six Mile Lane (cnr Avenue Road), Lavadia  
Avenue Road, Lavadia.

#### Section 3: Glenugie upgrade to Tyndale

Character precinct 11: Moderate–low ability to visually absorb change.

#### Site description

The project deviates from the existing highway to travel through partially cleared pasture and agricultural land around to the north of the Glenugie State Forest and towards the Pillar Ridge. The landscape is gently undulating with large patches of open woodland vegetation and extensive pasture land.

#### Project description

The proposed highway dual carriageway passes over a depression in the landscape on low fill embankments (up to three metres). A new overpass at Avenue Road crosses over the proposed highway. New service and roads provide access to the existing road network.

#### Vantage point selection

Vantage point 9 addresses the changed view of existing houses located on Old Six Mile Lane and typically depicts to view of the proposed highway passing over the landscape on elevated batters. Vantage point 10 specifically addresses the proposed overpass at Avenue Road.

Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>9</b> Foreground view	<b>High</b> New road infrastructure across this landscape on a fill embankment represents a major change in an existing agricultural setting. Disturbance to the existing woodland vegetation is anticipated.	<b>Moderate–low</b> Considerable sensitivity for a low number of residents in local homes with direct views to the proposed highway, and local residents who would have repeated views to a changed foreground view.	<b>Moderate–high</b>	<ul style="list-style-type: none"> <li>_ Minimise loss of existing trees</li> <li>_ Plant dense low grasses/ground covers on low fill batters</li> <li>_ Reinstate woodland trees between Six Mile Lane and the project</li> </ul>



Oblique view looking north-east



Annotated diagrammatic approximation of the project as photographed from viewpoint 9\_ View east, Old Six Mile Road. Location: 29°45'21"S 153°03'28"E.

### 03 Visual impact assessment

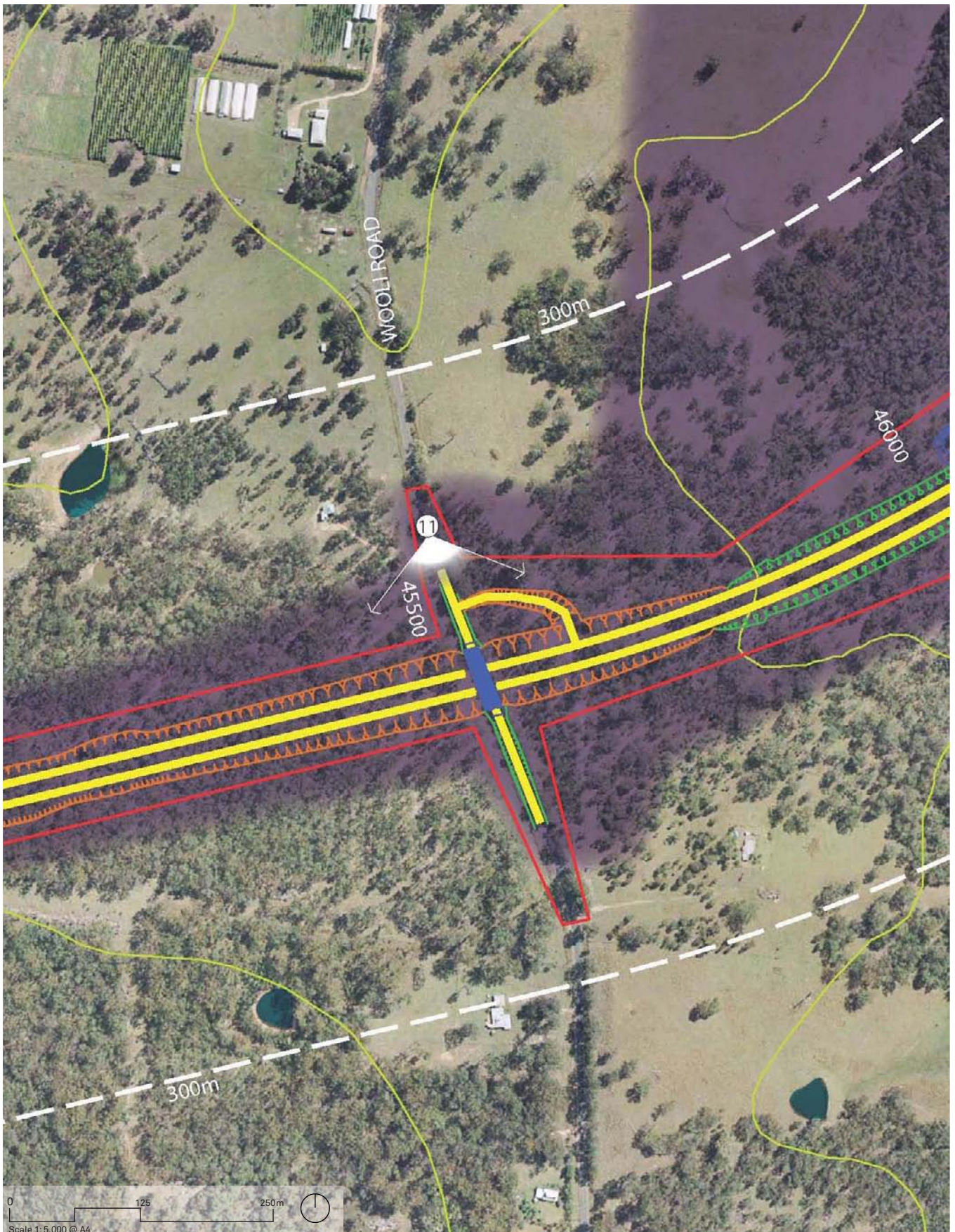
130

Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>10</b> Middle ground view	<b>High–moderate</b> New road infrastructure across this landscape on a fill embankment represents a major change in an existing agricultural setting. Disturbance to the existing woodland vegetation is anticipated.	<b>Moderate</b> Considerable sensitivity for a low number of residents in local homes and local people who would have long duration and/or repeated views to a changed foreground view.	<b>Moderate–high</b>	<ul style="list-style-type: none"> <li>_Plant dense low grasses/ground covers on low fill batters</li> <li>_Highlight new interchange with landscape treatment including local woodland trees in accordance with detailed landscape design</li> </ul>



Annotated diagrammatic approximation of the project as photographed from viewpoint 10\_ View south, Avenue Road. Location: 29°44'58"S 153°03'52"E.

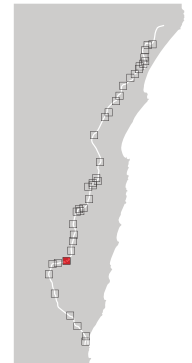
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Legend

- |  |  |  |  |
|--|--|--|--|
|  | Alignment and boundary with chainages      |  | Distance from road centreline (300m / 1000m) |
|  | Areas of cut                               |  | Visual Envelope                              |
|  | Areas of fill                              |  | Photo Location                               |
|  | Bridge                                     |  | Contours at 10m interval                     |
|  | Existing Pacific Highway Upgrade alignment |  |  |
|  | Waterways                                  |  |  |

Viewpoint 11



### 03 Visual impact assessment

#### 3.6.4 Viewpoint 11

Wooli Road, Pillar Valley

#### Section 3: Glenugie upgrade to Tyndale

Character precinct 12: Moderate ability to visually absorb change.

#### Site description

The project deviates from the existing highway to travel through cleared agricultural land interspersed with large patches of open forest vegetation. The highway follows a path between the swamplands of the Coldstream River to the west and the Pillar Ridge to the east.

#### Project description

The proposed highway dual carriageway is located in cuttings through undulating forested and agricultural countryside. Cuttings vary up to seven metres at the Wooli Road underpass.

#### Vantage point selection

This vantage point takes in a proposed new underpass at Wooli Road in a local pocket of forest vegetation. A few houses are dotted through this landscape, particularly a small settlement on Wooli Road just to the north of the overpass. This vantage point was selected in order to typically address proposed changes that would affect local residents accessing the area.

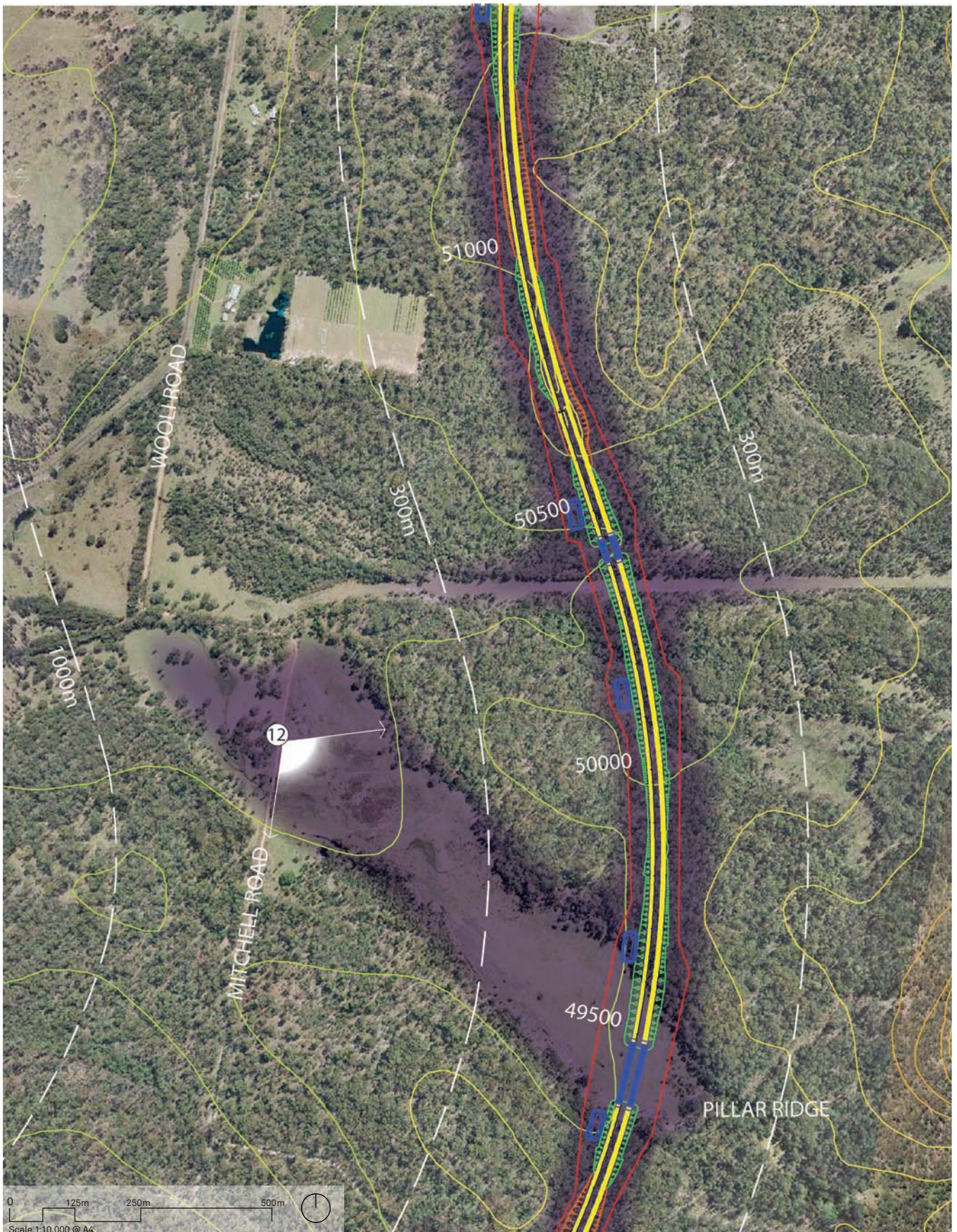
Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
11 Foreground view	<b>High-moderate</b> New infrastructure in a natural setting. Considerable tree removal and earthworks is proposed. Location of the proposed highway in a cutting reduces its visibility from this vantage point.	<b>Low</b> This changed view would be visible to a low number of drivers from the local road network.	<b>Moderate</b>	<ul style="list-style-type: none"> <li>_ Minimise loss of existing trees</li> <li>_ Plant local woodland trees and grasses/ground covers on cut/fill batters</li> <li>_ Reinstate woodland forest edges where applicable</li> </ul>



Oblique view looking north



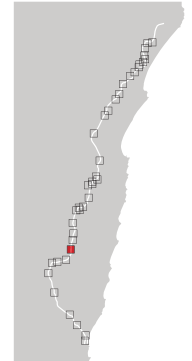
Annotated diagrammatic approximation of the project as photographed from viewpoint 11\_ View south-east, Wooli Road. Location: 29°44'48"S 153°06'14"E.



Legend

- |  |  |  |  |
|--|--|--|--|
|  | Alignment and boundary with chainages      |  | Distance from road centreline (300m / 1000m) |
|  | Areas of cut                               |  | Visual Envelope                              |
|  | Areas of fill                              |  | Photo Location                               |
|  | Bridge                                     |  | Contours at 10m interval                     |
|  | Existing Pacific Highway Upgrade alignment |  |  |
|  | Waterways                                  |  |  |

Viewpoint 12





### 03 Visual impact assessment

#### 3.6.5 Viewpoint 12

Mitchell Road, Pillar Valley

#### Section 3: Glenugie upgrade to Tyndale

Character precinct 12: Moderate ability to visually absorb change.

#### Site description

The project follows a new alignment through an open forest landscape located in the western foothills of the Pillar Ridge boundary to the Coldstream River floodplain. The visual catchment area is limited by topographical relief and open forest vegetation.

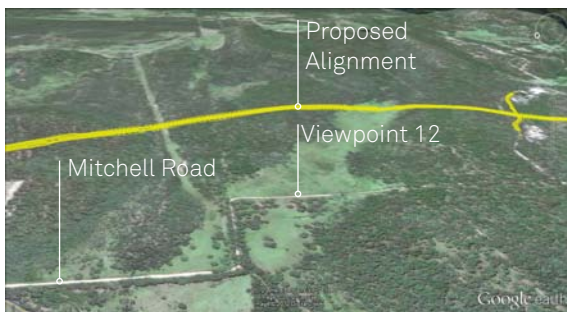
#### Project description

The proposed highway is located alternately in cuttings and on fill embankments as it passes through the foothills of the Pillar Range. A low bridge is proposed over a local creek line at this location.

#### Vantage point selection

The selected vantage point is located on a low key local road in a clearing that opens up a scenic view towards Mitchell Hill in the Pillar Ridge line. The proposed highway intersects this view crossing the landscape on a low fill embankment. There are few houses in the vicinity and a low number of local road users.

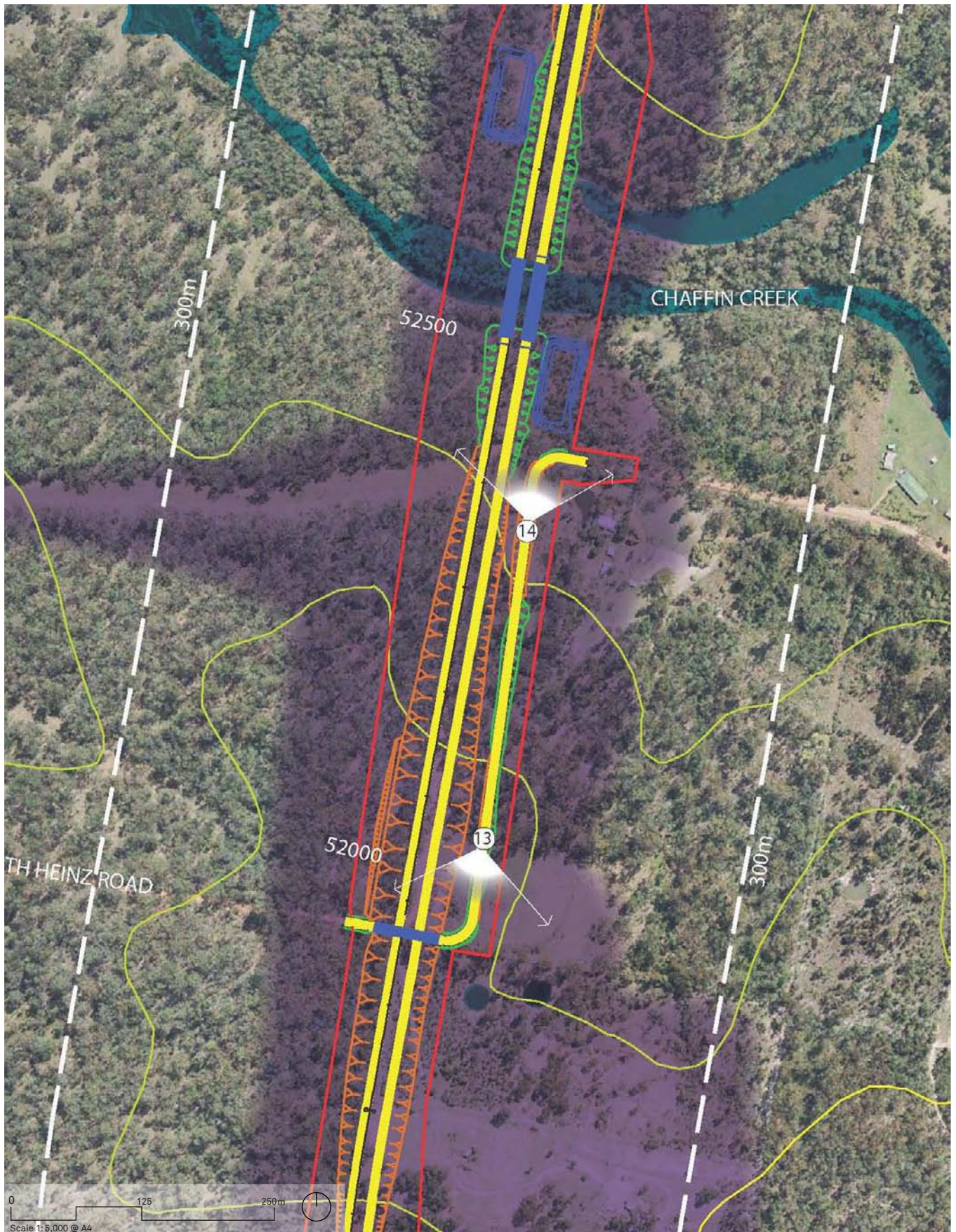
Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>12</b> Middle ground view	<b>Moderate</b> New road infrastructure across on a low fill embankment represents a major change in an existing natural setting. Disturbance to the existing forest vegetation is anticipated. However the view is in the middle to distant ground.	<b>Moderate</b> This is a highly scenic landscape with distant views to the Mitchell Hill. This changed view would be visible to a low number of drivers from the local road network. Scenic views become available to motorists.	<b>Moderate</b>	<ul style="list-style-type: none"> <li>_ Minimise loss of existing trees and shrubs</li> <li>_ Reinststate open forest edges where applicable</li> <li>_ Do not obstruct long distance view to Mitchell Hill</li> </ul>










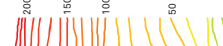


Oblique view looking east



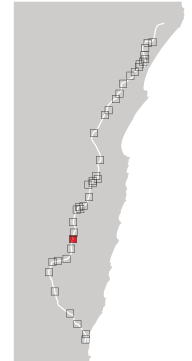
Annotated diagrammatic approximation of the project as photographed from viewpoint 12\_ View south-east, Mitchell Road, Pillar Valley. Location: 29°42'50"S 153°07'11"E.



Legend

- |   |  |   |  |
|---|--|---|--|
|  | Alignment and boundary with chainages      |  | Distance from road centreline (300m / 1000m) |
|  | Areas of cut                               |  | Visual Envelope                              |
|  | Areas of fill                              |  | Photo Location                               |
|  | Bridge                                     |  | Contours at 10m interval                     |
|  | Existing Pacific Highway Upgrade alignment |   |  |
|  | Waterways                                  |   |  |

Viewpoint 13,14



### 03 Visual impact assessment

#### 3.6.6 Viewpoint 13 and 14

Firth Heinz Road, Tucabia

#### Section 3: Glenugie upgrade to Tyndale

Character precinct 12: Moderate ability to visually absorb change.

#### Site description

The project continues to follow a new alignment through open forest at the western foothills of the Pillar Ridge boundary to the Coldstream River floodplain. The visual catchment area is limited by the topographical relief and forest vegetation. An existing home located on the bend of Firth Heinz Road is in close proximity to the project.

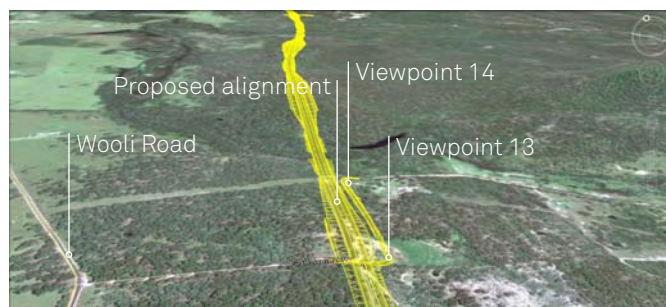
#### Project description

The project is located in a deep cutting (up to 10 m) as it passes directly to the west of Firth Heinz Road at the foothills of the Pillar Range. A new overpass in the south and a creek crossing to the north are proposed. This new section of highway passes through existing open forest vegetation.

#### Vantage point selection

The two vantage points address a proposed new minor overpass (14) and creek crossing (13) and is one of the few public places that afford a view of the project in this area. There are a number of existing houses dotted along the local street and a number of residents who would have repeated views of the proposed changes.

Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>13</b> Foreground view	<b>High–moderate</b> New infrastructure in a natural setting. Major tree removal and earthworks is proposed. Location of the proposed highway in a cutting reduces its visibility generally from vantage points in the landscape.	<b>Moderate</b> Considerable sensitivity for a low number of residents in local homes, and local people who would have long duration and/or repeated views to a changed foreground view.	<b>Moderate</b>	<ul style="list-style-type: none"> <li>_ Minimise loss of existing trees</li> <li>_ Plant local forest trees on cut/fill batters</li> <li>_ Reinstate local forest vegetation where applicable</li> </ul>



Oblique view looking north



Annotated diagrammatic approximation of the project as photographed from viewpoint 13\_ View south, Firth Heinz Road. Location: 29°41'50"S 153°07'29"E.

### 03 Visual impact assessment

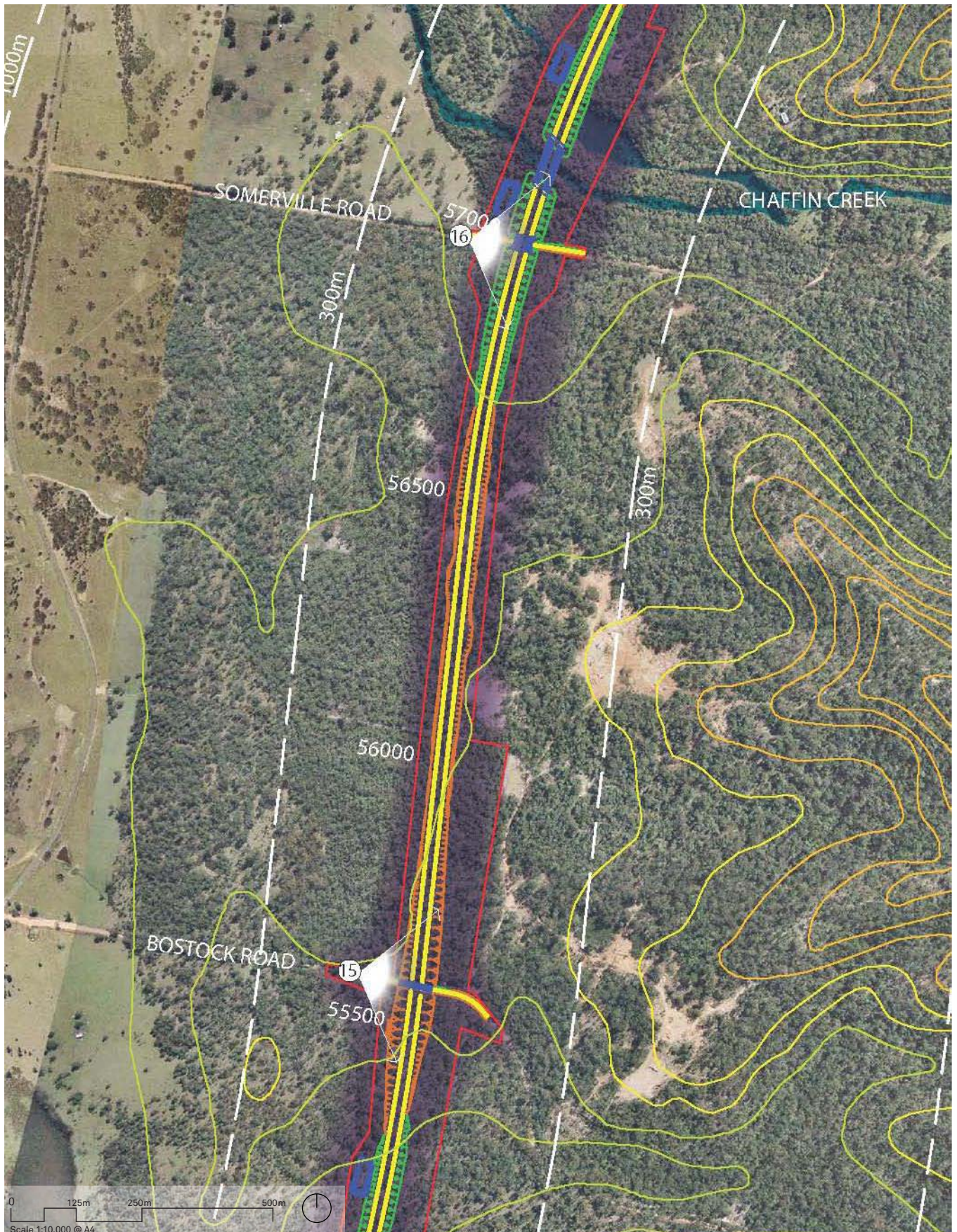
138

Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>14</b> Foreground view	<b>High–moderate</b> New infrastructure in a natural setting. Major tree removal and earthworks is proposed. Location of the proposed highway in a cutting reduces its visibility generally from vantage points in the landscape.	<b>Low</b> A low number of local people would have repeated views to this changed view from the local road network.	<b>Moderate</b>	<ul style="list-style-type: none"> <li>_ Minimise loss of existing trees</li> <li>_ Plant local forest trees on cut/fill batters and between highway upgrade and the local road where clear zone requirements permit</li> <li>_ Reinstate local forest vegetation where applicable</li> </ul>



Annotated diagrammatic approximation of the project as photographed from viewpoint 14\_ View north, Firth Heinz Road. Location: 29°41'38"S 153°07'32"E.

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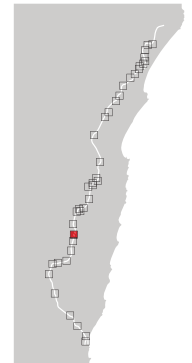


Legend

- Alignment and boundary with chainages
- Areas of cut
- Areas of fill
- Bridge
- Existing Pacific Highway Upgrade alignment
- Waterways

- Distance from road centreline (300m / 1000m)
- Visual Envelope
- Photo Location
- Contours at 10m interval

Viewpoint 15,16



### 03 Visual impact assessment

#### 3.6.7 Viewpoint 15 and 16

Bostock Road, Tucabia  
Somerville Road, Tucabia

#### Section 3: Glenugie upgrade to Tyndale

Character precinct 12: Moderate ability to visually absorb change.

#### Site description

In the vicinity of the town of Tucabia the project continues to follow a new alignment to the east of the town at the edge of the Coldstream River floodplain and Pine Brush State Forest. The landscape is primarily open forest in an undulating landscape at the foothills of the ridge line between the prominent Chaffin Hill and McCraes Knob. The visual catchment area is limited by the topographical relief and forest vegetation. There are no existing residences in close proximity to this area.

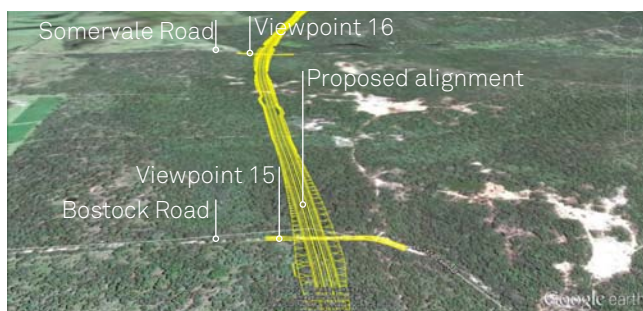
#### Project description

The project passes through this area mostly in a cutting, at the base of a prominent hill to the east, on a fill embankment across Somerville Road and bridging over Champions Creek. It comprises dual carriageway, an overpass at Bostock Road, and an underpass at Somerville Road. There are no additional service or access roads proposed. Major removal of existing forest vegetation would be required but most of the work would be enclosed in the existing forest landscape.

#### Vantage point selection

These two vantage points address proposed minor connections with the existing local road network. There are no existing residences in the vicinity of either vantage point.

Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>15</b> Foreground view	<b>High–moderate</b> New road infrastructure in a natural setting. Major tree removal and earthworks is proposed. Location of the proposed highway in a cutting reduces its visibility generally from vantage points in the landscape.	<b>Low</b> A low number of local people would have repeated views to this changed view from the local road network.	<b>Moderate</b>	<ul style="list-style-type: none"> <li>_ Minimise loss of existing trees</li> <li>_ Plant local forest trees on cut/fill batters</li> <li>_ Reinstate local forest vegetation where applicable</li> </ul>



Oblique view looking north

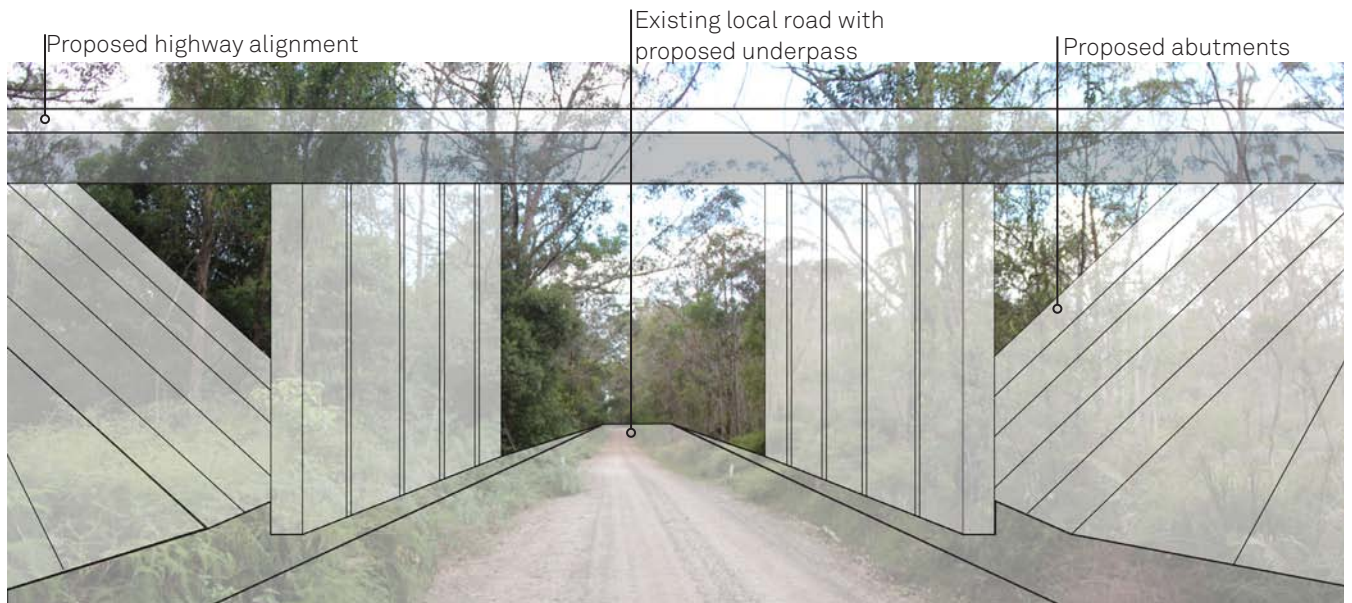


Annotated diagrammatic approximation of the project as photographed from viewpoint 15\_ View east, Bostock Road. Location: 29°39'57"S 153°08'02"E.

### 03 Visual impact assessment

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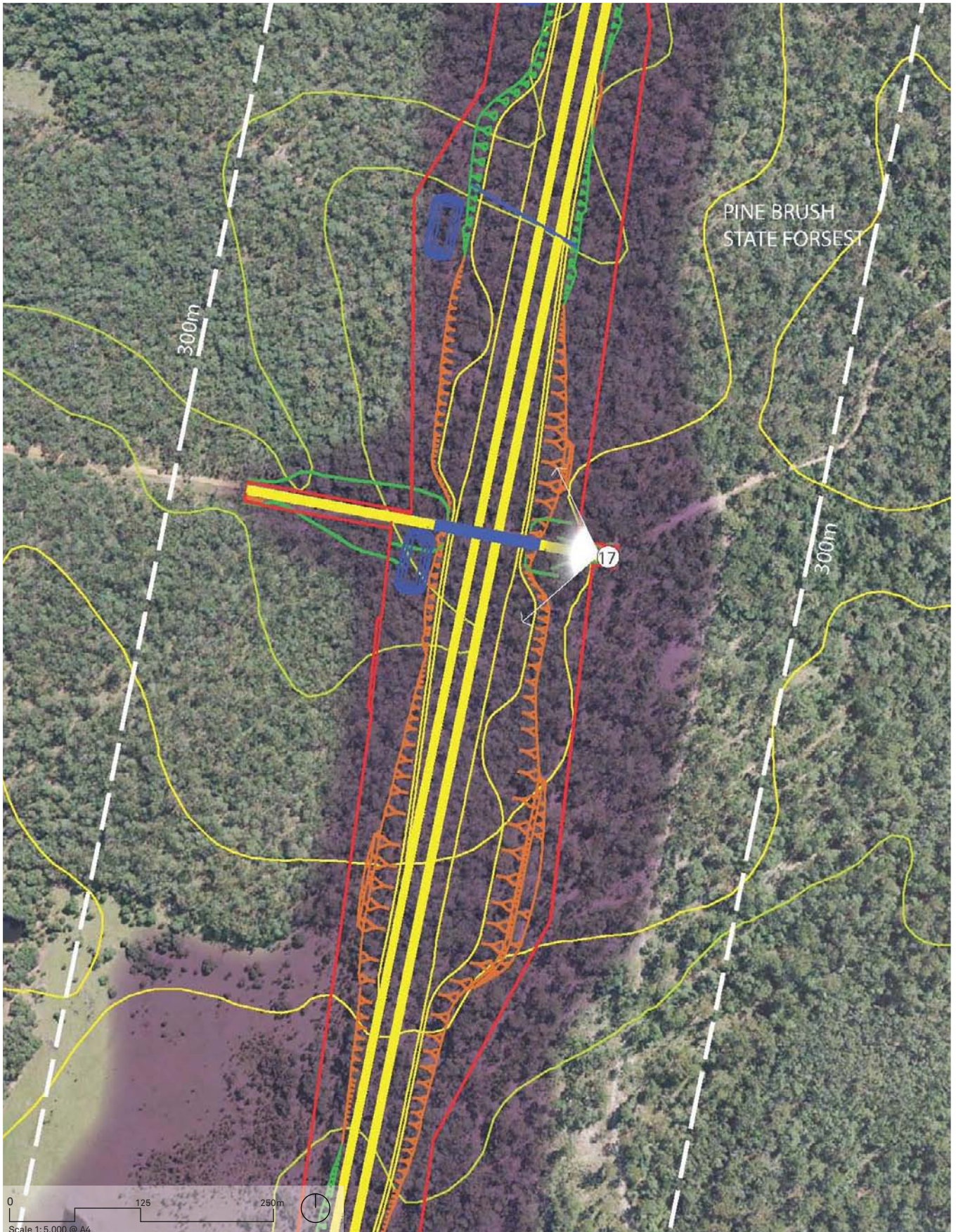
Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>16</b> Foreground view	<b>High</b> New road infrastructure in a natural setting. Considerable disturbance to the existing woodland vegetation is anticipated.	<b>Low</b> A low number of local people would have repeated views to this changed view from the local road network.	<b>Moderate</b>	<ul style="list-style-type: none"> <li>_ Minimise loss of existing trees</li> <li>_ Plant local forest trees on cut/fill batters</li> <li>_ Reinstate local forest vegetation where applicable</li> <li>_ Adhere to bridge design recommendations (Section 4.6.2)</li> </ul>



Annotated diagrammatic representation of the project as photographed from viewpoint 16\_ View east, Somervale Road. Location: 29°39'11"S 153°08'05"E.



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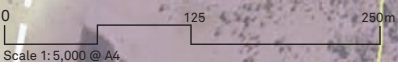


PINE BRUSH STATE FOREST

300m

300m

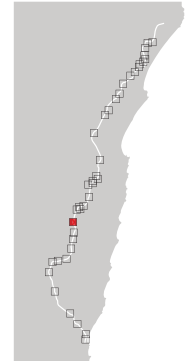
17



Legend

- |  |  |  |  |
|--|--|--|--|
|  | Alignment and boundary with chainages      |  | Distance from road centreline (300m / 1000m) |
|  | Areas of cut                               |  | Visual Envelope                              |
|  | Areas of fill                              |  | Photo Location                               |
|  | Bridge                                     |  | Contours at 10m interval                     |
|  | Existing Pacific Highway Upgrade alignment |  |  |
|  | Waterways                                  |  |  |

Viewpoint 17



### 03 Visual impact assessment

#### 3.6.8 Viewpoint 17

Pine Brush State Forest rest stop

#### Section 3: Glenugie upgrade to Tyndale

Character precinct 16: Moderate ability to visually absorb change

#### Site description

The proposed highway alignment skirts the edge of the Pine Brush State Forest to the north of Tucabia. The forest comprises High Conservation Value Old Growth Forest listed on the State Heritage Register. The landscape is primarily open forest in an undulating landscape at the foothills of the ridge line to the east. The visual catchment area is limited by the topographical relief and forest vegetation. There are no existing residences in close proximity to this area.

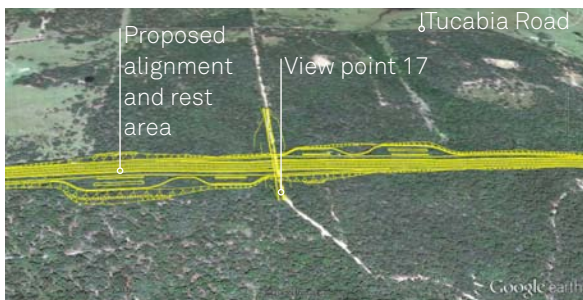
#### Project description

A rest stop is proposed at this location adjacent to the new dual carriageway highway. This comprises additional pavement extent on both side of the highway to accommodate parking and rest stop facilities. On the eastern side major additional cut is required to accommodate the rest stop area. The proposed extent of project area impacts the boundary of the existing state forest. A minor private property overpass is also proposed. All of the project is enclosed by existing forest vegetation.

#### Vantage point selection

This vantage point was selected to address the impact of the proposed rest stop.

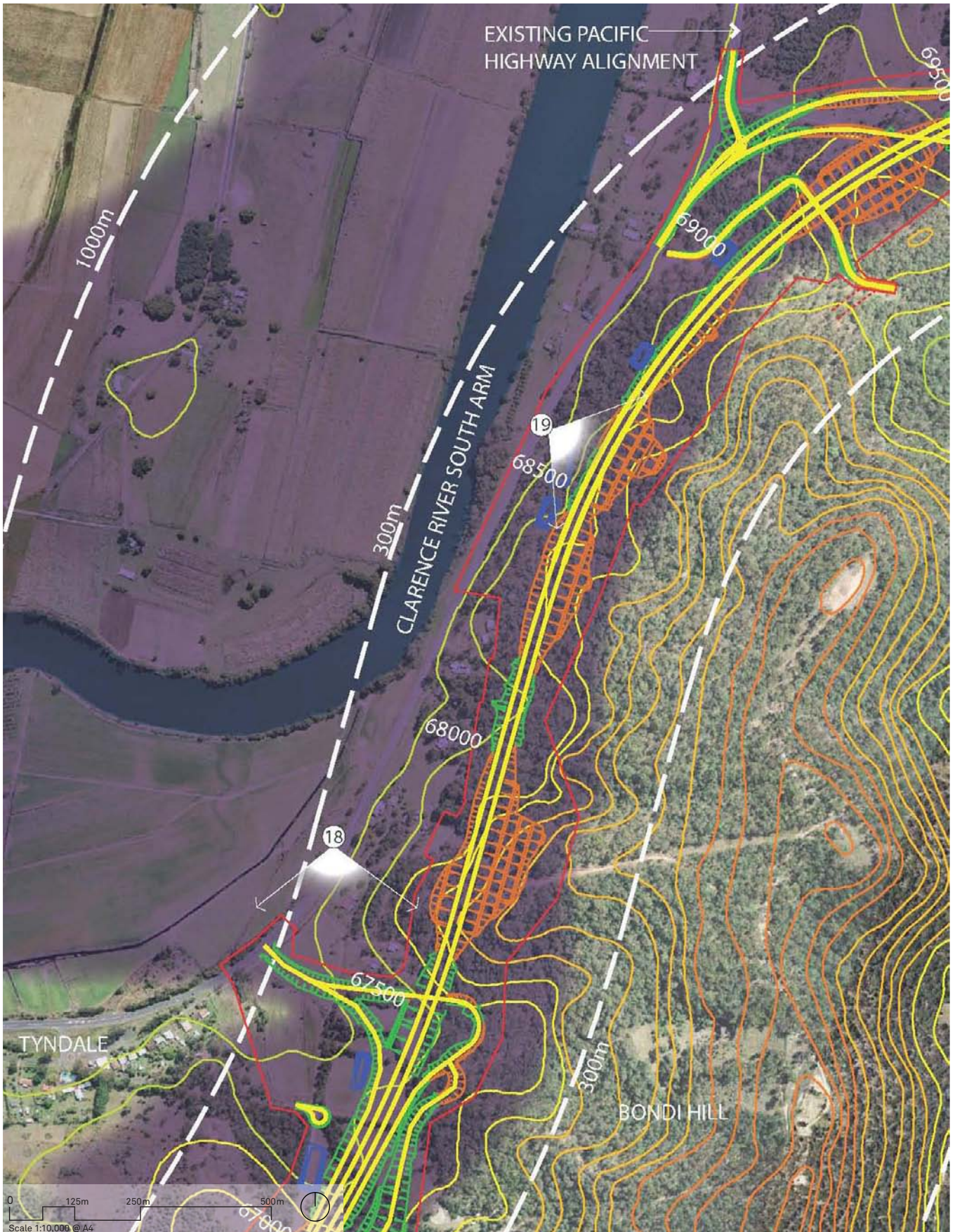
Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
17 Foreground view	<b>High-moderate</b> New road infrastructure in a natural setting. Major tree removal and earthworks is proposed. Location of the proposed highway in a cutting reduces its visibility generally from vantage points in the landscape.	<b>High</b> This is a sensitive area of High Conservation Value Old Growth Forest listed on the State Heritage Register. Private property access is provided over the highway to a property located in the hills to the east, however, there are very few people likely to access this area and be affected by the proposed change.	<b>High</b>	<ul style="list-style-type: none"> <li>_Minimise loss of existing trees</li> <li>_Plant local forest trees on cut/fill batters</li> <li>_Reinstate local forest vegetation where applicable</li> </ul>











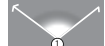
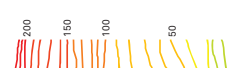
Oblique view looking east



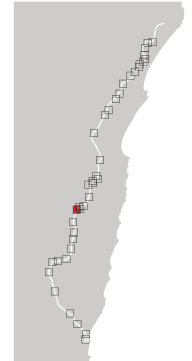
Annotated diagrammatic approximation of the project as photographed from viewpoint 17\_ View west, near proposed Pine Brush rest Stop. Location: 29°35'46"S 153°08'13"E.



Legend

-  Alignment and boundary with chainages
-  Areas of cut
-  Areas of fill
-  Bridge
-  Existing Pacific Highway Upgrade alignment
-  Waterways
-  Distance from road centreline (300m / 1000m)
-  Visual Envelope
-  Photo Location
-  Contours at 10m interval

Viewpoint 18,19



### 03 Visual impact assessment

#### 3.6.9 Viewpoints 18 and 19

Pacific Highway, Tyndale

#### Section 3: Glenugie upgrade to Tyndale

Character precinct 19: Moderate–low ability to visually absorb change.

#### Site description

The new alignment of the highway travels just the east of the existing highway behind a row of existing commercial properties fronting the existing highway before rejoining the existing highway alignment just to the north of the town of Tyndale. The new alignment follows an elevated path at the base of the prominent Bondi Hill on undulating land in open forest. The form and elevation of Bondi Hill make it a natural landmark in the area. There is a large number of properties in the Tyndale settlement addressing the existing highway and local streets. Some of these are located on elevated land overlooking the South Arm River and the extensive Clarence River floodplain.

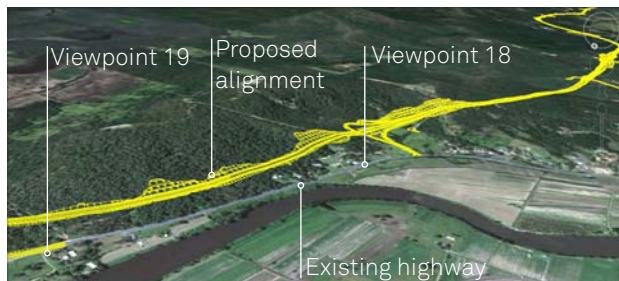
#### Project description

A major interchange is proposed at Tyndale connecting to the existing highway and to the local street network. The steep topography associated with Bondi Hill necessitates major cutting to accommodate the proposed highway in a number of locations. Extensive fill embankments are also required to accommodate access roads and interchange on/ off ramps. There are a number of residences to the east of the interchange that would be impacted by the view of the new interchange. Major removal of existing forest vegetation would be required but most of the work would be enclosed in the existing forest landscape.

#### Vantage point selection

Vantage point 18 was selected as a busy location on the highway with direct views back towards to the extensive cutting proposed on the side of Bondi Hill. This view would be available to many motorists on the new and existing highway and repeatedly available to local residents. At vantage point 19 it is anticipated that the new work would typically be screened by existing major road side vegetation that would not be impacted by construction works. It is important to ensure retention of vegetation in this area to minimise impact of the upgrade more widely in the Tyndale area.

Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>18</b> Foreground view	<b>High</b> New road infrastructure in a natural setting. Major tree removal and earthworks is proposed. Extensive cutting into the side of Bondi Hill highlights the visibility of the upgrade.	<b>High</b> Considerable sensitivity for a high number of residences and local people who would have long duration and/or repeated views to a changed foreground view. A high number of motorists on the existing highway would also be affected by the changed view.	<b>High</b>	<ul style="list-style-type: none"> <li>_ Minimise loss of existing forest trees</li> <li>_ Lay back and feather top cut batters (1:3) to blend with natural landform</li> <li>_ Plant local forest trees on cut/fill batters</li> <li>_ Provide new landscape treatment in accordance with the concept design</li> <li>_ Use steep batters (0.25H:1V) wherever there is competent rock to minimise the loss of forest vegetation</li> </ul>



Oblique view looking south-east



Annotated diagrammatic approximation of the project as photographed from viewpoint 18\_ View south, looking at Bondi Hill, Tyndale Road, Tyndale. Location: 29°33'43"S 153°08'54"E

### 03 Visual impact assessment

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Viewpoint	Magnitude	Sensitivity	Impact	Management Measures
<b>19</b> Foreground view	<b>High</b> Major new road infrastructure in a natural setting. Major tree removal and earthworks is proposed. The existing vegetation shown in the view below is located within the construction zone boundary of the project. Retention of this vegetation would change the magnitude rating for this viewpoint to negligible.	<b>Low</b> There is a low number of residents that would have long duration views of this change and local people who would have repeated access to this view.	<b>Moderate</b>	_Priorities the retention of existing forest between the new upgrade and the existing highway so that this view is not impacted _Lay back and feather top cut batters to blend with natural landform _Plant local forest trees on cut/fill batters _Provide new landscape treatment in accordance with the concept design



Annotated diagrammatic approximation of the project as photographed from viewpoint 19\_ View east, Pacific Highway, Tyndale. Location: 29°33'12"S 153°09'11"E