4.0 Visual Analysis

4.1 Visual Analysis Methodology, Terminology and Process

This chapter includes a detailed visual assessment of the existing site and comments on potential impacts of proposed development.

Visual Assessment Methodology, Terminology and Process

The method used to assess the visual impacts of Comberton Grange site is a qualitative approach that measures sensitivity, effect and impact. Details of the methodology are included below.

Viewpoint Identification

Identifying the important vantage points within Comberton Grange site, the type of views (e.g. panoramic, extended, framed or glimpses) and viewing locations that may potentially be affected, is the initial assessment step. Comberton Grange site viewpoints are further discussed in Section 4.3.

Assess the Visual Sensitivity and Visual Effect

The **Second** step in this process includes an assessment of the level of visual sensitivity and visual effect from the important viewpoints identified, based on potential receivers and the nature of the future development. Assessments of the existing conditions are key component of the visual assessment to maintain the rural setting of the area and also conserve the heritage value of the Site. The visual sensitivity and visual effect combined establish the potential visual impacts on the area.

Visual sensitivity refers to the character of a viewpoint, and is a measure of a viewpoint's sensitivity to change. In each of the visual assessment tables that follow there is a column titled "visual sensitivity". This column provides tabulated assessment of the level of visual sensitivity and the reasons for the assessment.

Factors that influence visual sensitivity include:

- Existing context.
- Number of viewers affected.
- Viewer perceptions.
- Visibility from other locations.
- Potential future change.

The visual catchment area may extend beyond the precinct boundary, as the effects of other surrounding development and future planning scenarios may influence the overall character of Comberton Grange site.

Once visual sensitivity is established, the visual effect of the potential future development upon each of the same viewpoints is then assessed.

Visual effect is an expression of the visual interrelationship between the specific location and the proximity to the existing visual environment or context. Visual sensitivity can be expressed as a scale of magnitude of visual contrast of the current setting taking proximity of the viewer. Factors that influence visual effect include:

- Proximity.
- Angle of view.
- Extent of view time.
- Effects of the development.
- Magnitude of development.

In each of the visual assessment tables that follow there is a column tilted "Visual Effect". This column includes the assessment of the level of visual effect and the reasons for the assessment.

The study includes careful consideration of the assessed levels of visual sensitivity and effect to ensure that the assessment is balanced.

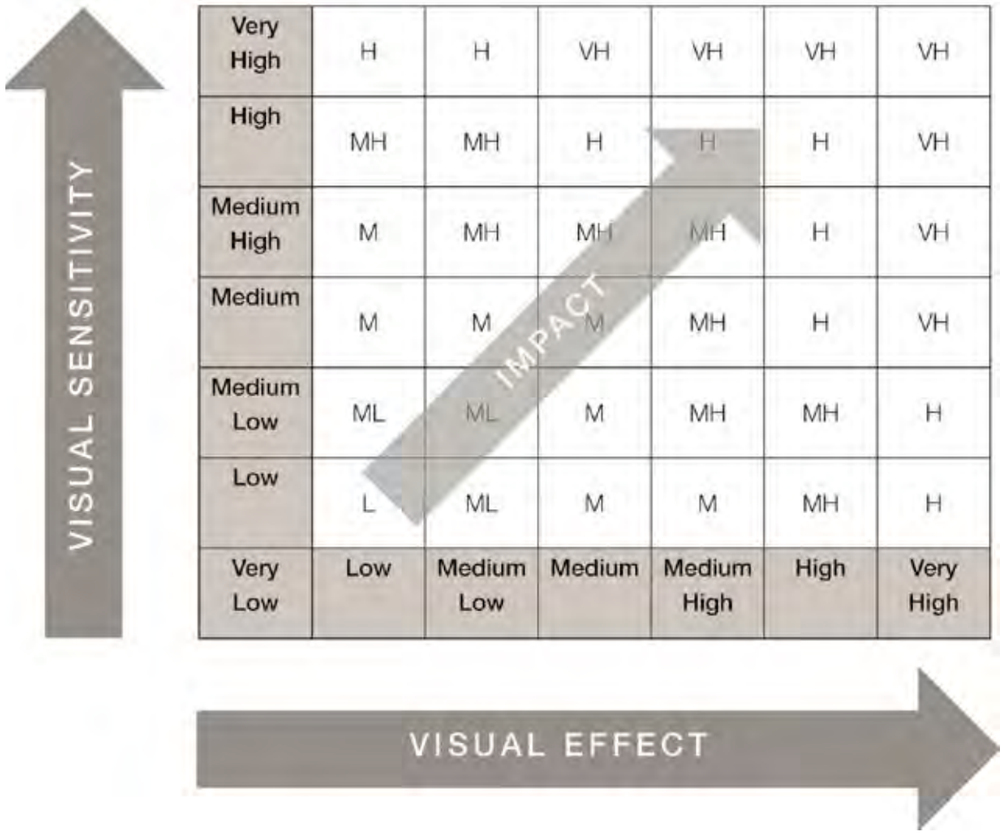
A precautionary approach is applied, meaning that if an assessment level is considered borderline between one level and another, or if the effect of mitigative cannot exactly be determined or known, then a conservative and precautionary approach and a higher level of impact (rather than lower) is assigned. This is both a qualitative and quantitative assessment method.

4.2 Visual Impact Assessment

Potential Visual impact is the last step in the assessment and involves an assessment of both visual sensitivity and visual effect. Seven assessment ranges have been identified, which includes levels for Nil to Very High.

This assessment process is graphically illustrated below:

Each table concludes with comments on the potential visual development of the area, possible mitigation of visual effects and recommendation.



Very High	H	H	VH	VH	VH	VH
High	MH	MH	H	H	H	VH
Medium High	M	MH	MH	MH	H	VH
Medium	M	M	M	MH	H	VH
Medium Low	ML	ML	M	MH	MH	H
Low	L	ML	M	M	MH	H
	Very Low	Low	Medium Low	Medium	Medium High	High	Very High

Figure 9: Visual Impact Analysis Graph.

March 2010

Forest Road

Georges Creek

Comberton Grange Road

Currambene Cottages

Falls Road

Currambene Creek

Woollamia Road

LEGEND

- Site Boundary
- Quarry
- Framed Views
- Distant Views
- Middle Views
- Immediate Views
- Major Ridgeline
- Minor Ridgeline

Figure 10

Visual Analysis

0 200 400 600 800 1000m

1: 20,000@A3 October 2012

4.3 Visual Impact Assessment

In order to ascertain the sensitivity of the area, a detailed visual assessment is undertaken which include the following process (Refer to Drawing):

Vantage points or viewpoints are specific locations from which the landscape character is assessed. An important part of the visual assessment process is to establish important vantage points and view corridors and to select those that are most relevant.

The process leading to the identification of important viewing areas is derived from researches into the visual sensitivity of Comberton Grange site.

4.3.1 Comberton Grange Viewpoints

Following site visits, site analysis and research into previous studies, this study has identified significant vantage points or viewpoints. This study predominantly covered the area identified as development area by the Independent Review Panel and looked from surrounding areas. The study located 9 important views, which are representative of all character precincts with distant, middle and local views. The qualities of these views are related to landform, topography, vegetation and the cultural landscape.

The viewpoints identified have distant, middle or immediate views, which are defined as follows:

Distant Views:
Distant views are regional views beyond the radius of 3km from a viewpoint.

Middle Views:
Middle views are within a radius of 1km from the viewpoint. All middle views are with the site.

Immediate Views:
Immediate views are local views, views in close proximity to the viewpoint.

4.3.2 Comberton Grange Important View Locations

Refer to Figure 10.

These viewpoints are listed below and are further analysed in detail in the following section of this report.

1. Farm House West of site
2. Hayshed - Comberton Grange Road
3. Comberton Grange Road (unsealed road)
4. Comberton Grange former Farm Complex.
5. Woollamia Road
6. Falls Road South
7. Falls Road North
8. Coondoo Road South
9. Coondoo Road South

View 1 - Farm House West of Site

P16. Panoramic view from View 1 looking East (Source: CM+ 2010).

View 2 - Hayshed: Comberton Grange Road

P17 Panoramic view from View 2 (Source: CM+ 2010).

View 1 - Farm House West of Site	
Adjacent Western Site Boundary (Refer to P16).	
Descriptions of views	**Visual sensitivity**
View 1 is located adjacent the western boundary of the site within the farmhouse property and offers some of the most apparent views of the site to the East. The southeast views include middle views of open pastures of the Farmland sub-precinct. Glimpses of the remnant exotic garden associated with the former Comberton Grange farm Complex are visible on the ridgeline in the distance with a backdrop of dense forest, which provides a rural character. In the foreground is the outbuilding (Hayshed) associated with the former Comberton Grange Farm complex set within a high ground cover of native and exotic grasses. A dense canopy of eucalypt along Currambene Creek defines the edge of the open pastures. The wetlands in the foreground along with the riparian woodland, stand out visually as a significant landscape feature. Middle views to the East of the dense eucalypt canopy on the numerous uniquely zigzagging minor ridges separated by valleys in the eastern corner of the site stand out visually as a significant visual buffer and screens the valleys. The woodland on the minor ridgeline and beyond screen areas to the East and North beyond the minor ridgeline.	From Viewpoint 1, visual sensitivity of any future development within the Farmland sub-precinct is assessed as **Very High** due to the topographic setting, the exposed nature of the Farming sub-precinct, heritage significance of the former Comberton Grange Farm complex and the Creek views. Visual sensitivity of the Pine Forest and Forest sub-precinct is assessed as **Very Low/Nil** due to the topographic setting and existing Habitat corridor proposed to be retained. **Visual effect** From Viewpoint 1, any future development in the Farmland sub-precinct will be highly visible due to the sparse nature of the vegetation in this precinct. A **Very High** visual effect is assessed due to the heritage significance of Comberton Grange Homestead.
Development potential of area: • View 1 is beyond the site boundaries. Visual mitigation: Following mitigation measures should be incorporated in the design of any future development within the Farmland sub-precinct to minimise potential visual impacts on the views from the property adjoining the western boundary. • Adequate landscape buffers and controls on building height, colour, materials and finishes would be required to enhance the rural character. • Potential impacts on views towards the site can be minimised by preserving and enhancing the riparian vegetation and preserving the rural character of the Farmland sub-precinct. • The landform, especially the minor ridgelines and spurs in the southwest corner of the site and the existing vegetation on the ridgelines should be maintained as it screens the land to the East.	**Potential visual impact** Any development in the Farmland sub-precinct would be assessed as having **Very High** visual impact.

View 2 - Hayshed: Comberton Grange Road	
Farming Sub-precinct (Refer to P17).	
Descriptions of views	**Visual sensitivity**
View 2 is located in the vicinity of the Hayshed in close proximity to the western boundary of site. View 2 is located on pastoral land and is one of the most exposed locations within the site. Immediate views to the West include descending views of the tree canopy of Currambene Creek with the pastoral land in the foreground. Middle views South include a ground cover of exotic and native grass and sparse woodlands in the flood prone area. Glimpses of scattered rural residential dwellings are possible through the trees. Land to the North and East beyond the Farmland sub-precinct is at a high elevation. Middle views include the dense vegetation on the ridgeline with clumps of shrubs and the cleared land in the foreground.	Although the nearest farmhouses predominantly are South of Currambene Creek, given the undulating topography of the site, glimpses of Farming sub-precinct are possible through the riparian corridor. Visual sensitivity of any future development within the Farmland sub-precinct is assessed as **Very High** due to the topographic setting, sparse vegetation, heritage significance of the former Comberton Grange Farm complex and the very exposed nature of the location. This location is visible from the rural residential dwellings to the West and South of Currambene Creek.
Development potential of area: • Portions of this location may be suitable for development, with Very High visual sensitivity. This area is likely to be developed to create a hotel precinct and the village centre. All development should be low scale and low density and should be sensitive to the topography and the rural setting of this location. Visual mitigation: • Controls on building height, colour, material and finishes would be required to enhance the rural character of the area and minimise potential visual impacts when viewed from the land West and South of Currambene Creek. • Adequate landscape buffers would be required to enhance the rural character and screen the future development when viewed from the surrounding properties. • Building height of maximum 9m should be considered for the upper most portion of roofscapes in the visually sensitive area. • Potential impacts on views towards the site can be minimised by preserving the rural character of the Farmland sub-precinct. • The riparian vegetation should be preserved and enhanced as it screens this location from the land South and West of Currambene Creek.	**Visual effect** The visual effect of this area is assessed as **Very High**. The retention of Currambene Creek riparian vegetation and new landscape buffers is necessary for this visual assessment. Retention of the riparian vegetation is necessary as it provides an important visual barrier when viewed from the land West and South of Currambene Creek. This location is within the visual curtilage of the former Comberton Grange Farm complex, increasing its visual effect. **Potential visual impact** Any development in the Farmland sub-precinct would be assessed as having **Very High** visual impact. Landscape screening is recommended around all development.

View 3 - Comberton Grange Road (unsealed Road)

P18. Panoramic view from Comberton Grange Road (Source: CM+ 2010).

P19. Panoramic view from Comberton Grange Road (Source: CM+ 2010).

<table>
<tr><th colspan="2">View 3 - Comberton Grange Road (Unsealed Road)</th></tr>
<tr><td colspan="2">Habitat Corridor Sub-precinct (Refer to P18 & P19).</td></tr>
<tr><th>Descriptions of views</th><th>Visual sensitivity</th></tr>
<tr><td rowspan="2">View 3 is located on the crest of the watershed ridgeline at RL 40 on the edge of the Farmland sub-precinct.

The West and northwest vistas include distant views of the vegetated mountainous terrain of the Cambewarra Range and Morton National Park. Middle views to the South include descending views to Currambene Creek with the Hayshed and wetland within the pasture land in the foreground.

Middle views South include a ground cover of exotic and native grass and sparse woodlands in the flood prone area. Glimpses of scattered rural residential dwellings are possible through the trees.

Land to the East is at a high elevation. Immediate views include the dense vegetation on the ridgeline with clumps of shrubs and dense ground cover.

This area is of Very High visibility mainly due its location on the crest. However, the riparian vegetation screens it to some extent when viewed from the surrounding development to the South.</td><td>Visual sensitivity of any future development in the vicinity of Viewpoint 3 is assessed as Very High.

Land in the vicinity of Viewpoint 3 is at a higher elevated ground and any future development on this location will be visible in spite of the riparian corridor vegetation buffer.

The vegetation on the spurs in the northwestern portion of the site provides a visual barrier to the properties to the West. Existing Habitat corridor is proposed to be retained.</td></tr>
<tr><th>Visual effect</th></tr>
<tr><td>The visual effect of this area is assessed as High. The retention of Currambene Creek riparian vegetation and new landscape buffers is necessary for this visual assessment.

This location is close to the former Comberton Grange Homestead, increasing its visual effect.</td></tr>
<tr><td rowspan="2">Development potential of area:
• Portions of land in the vicinity of this location may be suitable for development, with Very High visual sensitivity. This area is likely to be developed for accommodation associated with the hotel precinct and dwellings on large lots. All development should be low scale, low density and should be sensitive to the topography and the rural setting of this location.

Visual mitigation:
• Adequate landscape buffers and controls on building height, colour, materials and finishes would be required to enhance the rural character.
• Potential impacts on views towards the site can be minimised by preserving the rural character of the Farmland sub-precinct.
• The landform, especially the minor ridgelines and spurs in the southwest corner of the site should be maintained as it screens the land to the West.
• The riparian vegetation should be preserved and enhanced as it provides a significant visual barrier and screen any future development from the farmhouses to the South.
• Building height of maximum 9m should be considered for the roof ridges in any development.</td><td>Potential visual impact</td></tr>
<tr><td>Any development in the Farmland sub-precinct would be assessed as having High visual impact.</td></tr>
</table>

View 4 – Comberton Grange Former Homestead

South.

Currambene Woodland.

Rural residential dwellings South of Currambene Creek.

Comberton Grange Homestead outbuilding looking North.

Former dairy roof looking southeast.

P20. Panoramic view from Comberton Grange Homestead (Source: CM+ 2010).

<table>
<tr><th colspan="2">View 4 - Former Comberton Grange Homestead</th></tr>
<tr><td colspan="2">Habitat Corridor Sub-precinct (Refer to P20).</td></tr>
<tr><th>Descriptions of views</th><th>Visual sensitivity</th></tr>
<tr><td rowspan="2">View 4 is located on the minor ridgeline at RL 20 within the former Comberton Grange Farm Complex.

The West and northwest vistas include distant views of the vegetated mountainous terrain of the Cambewarra Range and Morton National Park.

Views immediate West are dominated by the Currambene Creek corridor woodland. In the foreground is the farm building with the remnant cultural landscape of exotic tree species associated with the Homestead. The dense riparian vegetation stands out visually as a significant visual buffer. Glimpses of scattered rural residential dwellings are possible through the trees.

Middle views South include the wetland set within a ground cover of exotic and native grass and sparse woodlands in the flood prone area. Glimpses of scattered rural residential dwellings are possible through the trees.

Land to the North and East is at a high elevation. Immediate views include the dense vegetation on the crest of the watershed ridgeline and the Habitat Corridor forest which provides a visual barrier to the area to the North and East.</td><td>Very High due to the topographic setting, cultural landscape and heritage significance of former Comberton Grange Farm complex.

This location is on a higher ground and visually prominent. However the Currambene Creek woodland provides some visual buffering.

This location is visible from the rural residential dwellings to the South of Currambene Creek.</td></tr>
<tr><th>Visual effect</th></tr>
<tr><td>A Very High visual effect is assessed due to the heritage significance of Comberton Grange Homestead. Currambene Creek woodlands provide a good visual barrier to this potential development area.

Portions of this location are visible from the rural residential dwellings to the South of Currambene Creek. Any loss of Currambene Creek vegetation will have adverse effects on the views towards this location from the South.</td></tr>
<tr><td rowspan="2">Development potential of area:
• Portions of this location may be suitable for development, with Very High visual sensitivity. This area is likely to be developed for residential purposes on large lots. All development should be low scale and low density and should be sensitive to the topography and heritage value of this location.

Visual mitigation:
• Potential impacts on views towards the site can be minimised by preserving and enhancing the riparian vegetation as it provides a significant visual barrier and screen any future development from the South.
• The riparian vegetation should be preserved and enhanced as it provides a significant visual barrier and screen for future development when viewed from the farmhouses to the South.
• Controls on building height, colour, material and finishes would be required to enhance the rural character of the area and minimise potential visual impacts when viewed from the land South of Currambene Creek.
• Adequate landscape buffers would be required to enhance the rural character and screen future development when viewed from the properties to the West and South.
• Building height of maximum 9m should be considered for the upper most portion of roofscapes in any development.</td><td>Potential visual impact</td></tr>
<tr><td>The overall potential impact of this viewpoint is assessed as Very High.

Landscape screening is recommended around all development.</td></tr>
</table>

View 5 - Woollamia Road & View 6 – Falls Road South

P21. Panoramic view from Falls Road South looking North towards the site (Source: CM+ 2010).

View 7 – Falls Road North

P22. Panoramic view from Falls Road North looking North looking East (Source: CM+ 2010).

View 5 - Woollamia Road & View 6 – Falls Road South	
South of Currambene Creek (Refer to P21).	
Descriptions of views	**Visual sensitivity**
From the location of Views 5 and 6, similar views are available to the North and East. View 5 is located on Woollamia Road and View 6 is located on Falls Road South, South of Currambene Creek. Woollamia and Falls Roads provide access to the rural farming development lots which are in proximity to the site. The North views include middle views of open pastures of the Farmland sub-precinct. Glimpsed of the outbuildings associated with the former Comberton Grange Farm complex set within the exotic and native grasses on the ridgeline are possible through the riparian corridor vegetation providing it a rural character. The dense canopy of eucalypt on the major ridgeline and elevated land beyond stand out visually as a significant visual barrier to the Pine Forest sub-precinct. Views immediate West are dominated by the dense Currambene Creek woodlands. The dense forest of the Habitat Corridor in the distance forms a woodland backdrop to the remnant buildings of the former Comberton Grange Farm complex.	From Viewpoint 5 and 6, visual sensitivity of any future development within the Farmland sub-precinct is assessed as **Very High** due to the sparse vegetation, heritage significance of Comberton Grange Homestead. Visual sensitivity of the Pine Forest and Forest sub-precinct is assessed as **Very Low/Nil** due to the topographic setting and existing Habitat corridor proposed to be retained, which provides a visual barrier **Visual effect** From Viewpoint 1, any future development in the Farmland sub-precinct will be highly visible due to the sparse nature of the vegetation of the grazing paddocks. The visual effect of the Farmland sub-precinct is assessed as **High**. The retention of Currambene Creek riparian vegetation and new landscape buffers is necessary for this visual assessment. Existing remnant outbuildings of the former Comberton Grange Farm complex, increasing its visual effect.
Development potential of area: • View 6 is beyond the site boundary. Visual mitigation: Following mitigation measures should be incorporated in the design of any future development within the Framland sub-precinct to minimise potential visual impacts on the views from the rural residential dwellings to the South of Currambene Creek. • Adequate landscape buffers and controls on building height, colour, materials and finishes would be required to enhance the rural character. • Potential impacts on views towards the site can be minimised by preserving and enhancing the riparian vegetation.	**Potential visual impact** Any development in the Farmland sub-precinct would be assessed as having **Very High** visual impact.

View 7 – Falls Road North	
East of Currambene Creek (Refer to P22).	
Descriptions of views	**Visual sensitivity**
View 7 is located on Falls Road North, West of Currambene Creek. Falls Road provides access to the rural development immediate West of Currambene Creek and is in proximity to the site. This location offers prominent views of the site especially of the open pastures between the Currambene Creek and the Habitat Corridor. The East views include middle views of open pastures of the Farmland sub-precinct. The ridgeline is dotted with former Comberton Grange Farm complex outbuildings on the pastoral land with a backdrop of dense mature vegetation provide it a rural character. The dense canopy of eucalypt on the major ridgeline and elevated land beyond stand out visually as a significant visual barrier to the Pine Forest sub-precinct. Views immediate West are dominated by the dense riparian vegetation within the flood plain. The dense forest of the Habitat Corridor in the distance form a woodland backdrop to the homestead.	From Viewpoint 7, visual sensitivity of any future development within the Farmland sub-precinct is assessed as **Very High** due to the proximity to Viewpoint 7 and very exposed nature of the Farming sub-precinct. Visual sensitivity of the Pine Forest and Forest sub-precinct is assessed as **Very Low/Nil** due to the topographic setting and existing Habitat corridor proposed to be retained, which provides a visual barrier. **Visual effect** From Viewpoint 7, any future development in the Farmland sub-precinct will be highly visible due to the sparse nature of the vegetation of the grazing paddocks. The visual effect of the Farmland sub-precinct is assessed as **High**. The retention of Currambene Creek riparian vegetation and new landscape buffers is necessary for this visual assessment.
Development potential of area: • View 7 is beyond the site boundary. Visual mitigation: Following mitigation measures should be incorporated in the design of any future development on site to minimise potential visual impacts on the views from the rural residential dwellings to the South and West of Currambene Creek. • Adequate landscape buffers and controls on building height, colour, materials and finishes would be required to enhance the rural character. • Potential impacts on views towards the site can be minimised by preserving and enhancing the riparian vegetation.	**Potential visual impact** Any development in the Farmland sub-precinct would be assessed as having **Very High** visual impact.

View 8 & 9 – Coondoo Road

Northeast.

Pine forest sub-precinct looking northeast.

Unsealed trail off Coondoo Road looking East.

P23. Panoramic view from Coondon Road (Source: CM+ 2010).

View 8 & 9 – Coondon Road

Pine Forest Sub-precinct (Refer to P23).

Descriptions of views

Views 8 and 9 are located on Coondon Road at an elevation of around RL 40. It is the southwest tip of the Pine Forest sub-precinct.

Immediate views West are to dense wooded vegetation of Nowra State Forest. The vegetation is visually dominant and screens areas West and North beyond the site boundary.

To the North, immediate views include the Coondon Road corridor framed by the dense woodland of Nowra State Forest to the West and Pine Forest sub-precinct to the East. The mature tree canopy extends along Coondon Road which fades into the Nowra State Forest in the distance.

Views to the East include the unsealed trail corridor cutting through the high ground cover of native and exotic shrubs and sparse woodlands. The trail winds into the dense canopy of eucalypt.

To the South, views of the road corridor are possible cutting through the mature dense canopy extending along the road and merging into the dense woodland of the Habitat Corridor.

Development potential of area:

- Land in the vicinity of this location is suitable for controlled development, with Low visual sensitivity. This area is likely to be developed as a mixed use precinct to accommodate residential uses in the northern portion, temple precinct in the southeastern portion and kungfu academy and Chinese Willness Centre in the southeastern portion of the Pine Forest sub-precinct. All development except the temple should be low scale and low density and should be sensitive to the topography and woodland character of the area.

Visual mitigation:

- For the kungfu academy and Chinese Willness Centre, controls on building height, colour, materials and finishes would be required to enhance the rural character of the area.
- Height of maximum 9m should be considered for the upper most portion of roofscapes in the Pine Forest Sub-precinct excluding the temple precinct.
- The vegetation of the Habitat Corridor sub-precinct especially on the watershed ridgeline should be preserved as it screens this location when viewed from the South.

Visual sensitivity

Visual sensitivity of any future development within the Pine Forest sub-precinct is assessed as **Low** due to the location and the dense vegetation to the North, South, East and West which provides a significant visual barrier.

Visual effect

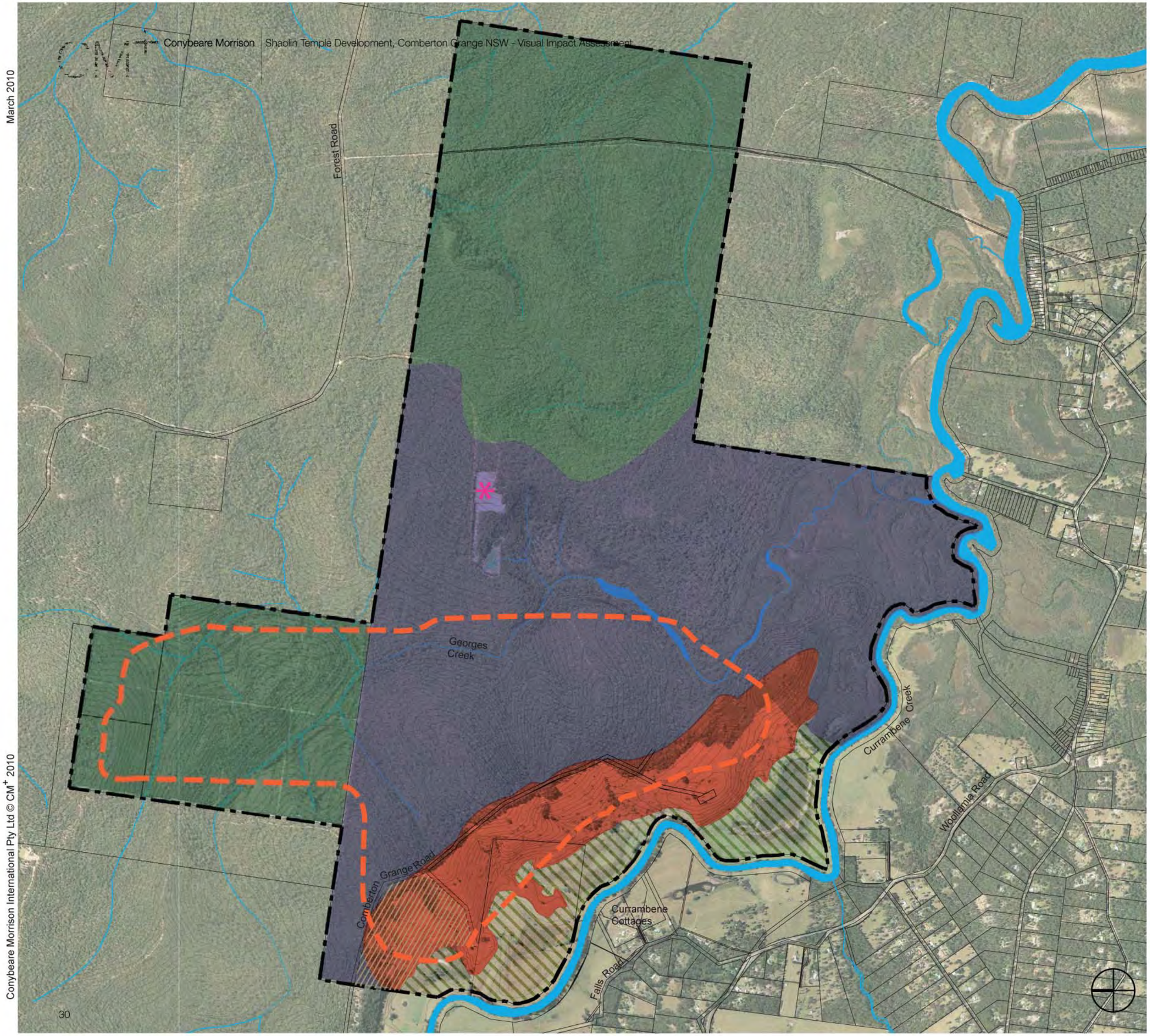
The potential visual effect is assessed as **Low**.

Retention of vegetation of the Habitat Corridor is necessary to maintain the visual effect of this location.

Potential visual impact

Any development in the Pine Forest sub-precinct would be assessed as having **Low** visual impact.

March 2010



LEGEND

- Site Boundary
- Quarry
- Very High Potential Visual Sensitivity
- Medium Low Potential Visual Sensitivity
- Low Potential Visual Sensitivity
- Creek Buffer along Currambene Creek
- Local Woodland Buffer
- Independent Panel's Recommendations for Development Area

Figure 11

Visual Sensitivity

0 200 400 600 800 1000m

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4.4 Summary of the Visual Analysis of Existing Conditions

Refer to Figure 11.

4.4.1 Summary Statement of Existing Conditions

The former Comberton Grange Farm Complex and its rural setting is the most visually sensitive area within the site. Development parameters should comprise:

- Any development within the heritage curtilage should be sensitively considered and assessed and controlled to mitigate the effects on the surrounding development;
- All development within the heritage curtilage area should be considered for potential impacts of the rural landscape of the area;
- The existing vegetation within the Habitat Corridor are important visual buffers to potential development within the Pine Forest sub-precinct and should be protected and maintained;
- Existing Native Vegetation and forest areas should be protected; and,
- Mitigation and related Recommendations are detailed in Chapter 5.

4.4.2 Table 2: Visual Analysis Summary Table.

The following table is a summary of the Visual Analysis. The summary provides a 'snapshot' of the detailed report. Figure 10 of the report provides references to view numbers.

	Character Precinct	Visual Sensitivity	Visual Effect	Potential Visual Impact	Recommendations
Views withn the site					
View 2	From Hayshed: Comberton Grange Road, Farming Sub-precinct.	Very High	Very High	Very High	
View 3	From Comberton Grange Road (Unsealed Road), Habitat Corridor Sub-precinct	High	High	High	
View 4	From Former Comberton Grange Homestead Farming, Habitat Corridor Sub-precinct	Very High	Very High	Very High	
View 8 & 9	From Coondon Road, Pine Forest Sub-precinct	Nil	Nil	Nil	
Views beyond site boundaries					
		Visual impact of development on Views 1, 5, 6 and 7			
View 1	From Farm House West of Site	Very High	Very High	Very High	
View 5	From Woollamia Road	Very High	Very High	Very High	
View 6	From Falls Road South	Very High	Very High	Very High	
View 7	From Falls Road North	Very High	Very High	Very High	

Assessment of the proposed development from areas of visual sensitivity

Northern portion

The northern portion of the site where the majority of development is proposed to be sited is of potential visual sensitivity.

Future development within this precinct is assessed to be low due to the location and the dense vegetation surrounding the development (to the north, south, east and west) which provides a significant visual barrier.

In terms of potential visual impact, any development in this portion of the site is assessed as having low visual impact.

From south-west of Currambene Creek, visual sensitivity of development within the northern portion of the site is assessed as Very Low/ Nil due to the topographic setting and existing habitat corridor, proposed to be retained, at the central portion of the site. This area of significant vegetation provides a visual barrier to development.

Central portion (western forest precinct)

Portion of the site assessed as being of Medium-Low potential visual sensitivity is the western forest precinct sited at the central portion of the site. As this area is within the Jervis Bay REP habitat corridor, minimal development will occur on the site. This highly vegetated area of existing woodland provides a visual buffer to future development within the northern portion of the site.

South-western portion

The cleared area to the south-west of the unsealed Comberton Grange Road extension within the site has been assessed to be of Very High potential visual sensitivity.

From south-west of Currambene Creek, visual sensitivity of any future development within the grazing land at the south-western portion of the site is assessed as Very High due to its topographic setting, sparse vegetation and the exposed nature of the location. This location is visible from the rural residential dwellings to the west and south of Currambene Creek.

Any development within this precinct is assessed as having Very High visual impact. Retention of riparian vegetation and new landscape buffers/ screening are recommended around the development.

Photomontages

The following photomontages depict the proposed development viewed from the most visually sensitive area, being across the cleared land fronting Currambene Creek. From the above photomontage (Photo 24A and 24B), the proposed hotel and associated cabins are sited below the tree line of the western forest, with the proposed height of the hotel (being maximum 3 storeys) able to integrate within the rural landscape of the site, with minimal visual impact.

P24A. Existing view from Currambene Creek to the northeast towards the western forest and former pine plantation site.

P24B. Same view from Currambene Creek northeast towards the western forest of proposed Hotel Precinct (3 storeys) with cabins below, site D within the cleared land.

Same View

From the photomontage (Photo 25A and 25B), the dwellings of proposed Residential Precinct C are sited below the tree line of the western forest, with the height of the residential precinct able to integrate within the rural landscape of the site, with minimal visual impact.

The proposed Shaolin Temple and its 6 storey pagoda are not able to be seen, as the height of the southern portion of the western forest is sited at a similar relative level as the Temple Precinct (at approximately RL 30). The height of the mature trees of the western forest obscures the tallest portion of the buildings of the Temple Precinct (the Pagoda) from view from the most visually sensitive area, being across the cleared land fronting Currambene Creek.

Figure 12: Location of camera views of the photomontagestowards the western forest of proposed Residential Precinct C (2 storeys).

P25A. Existing view from Currambene Creek to the northeast towards the western forest.

P25B. Same view from Currambene Creek northeast towards the western forest of proposed Residential Precinct C (2 storeys).

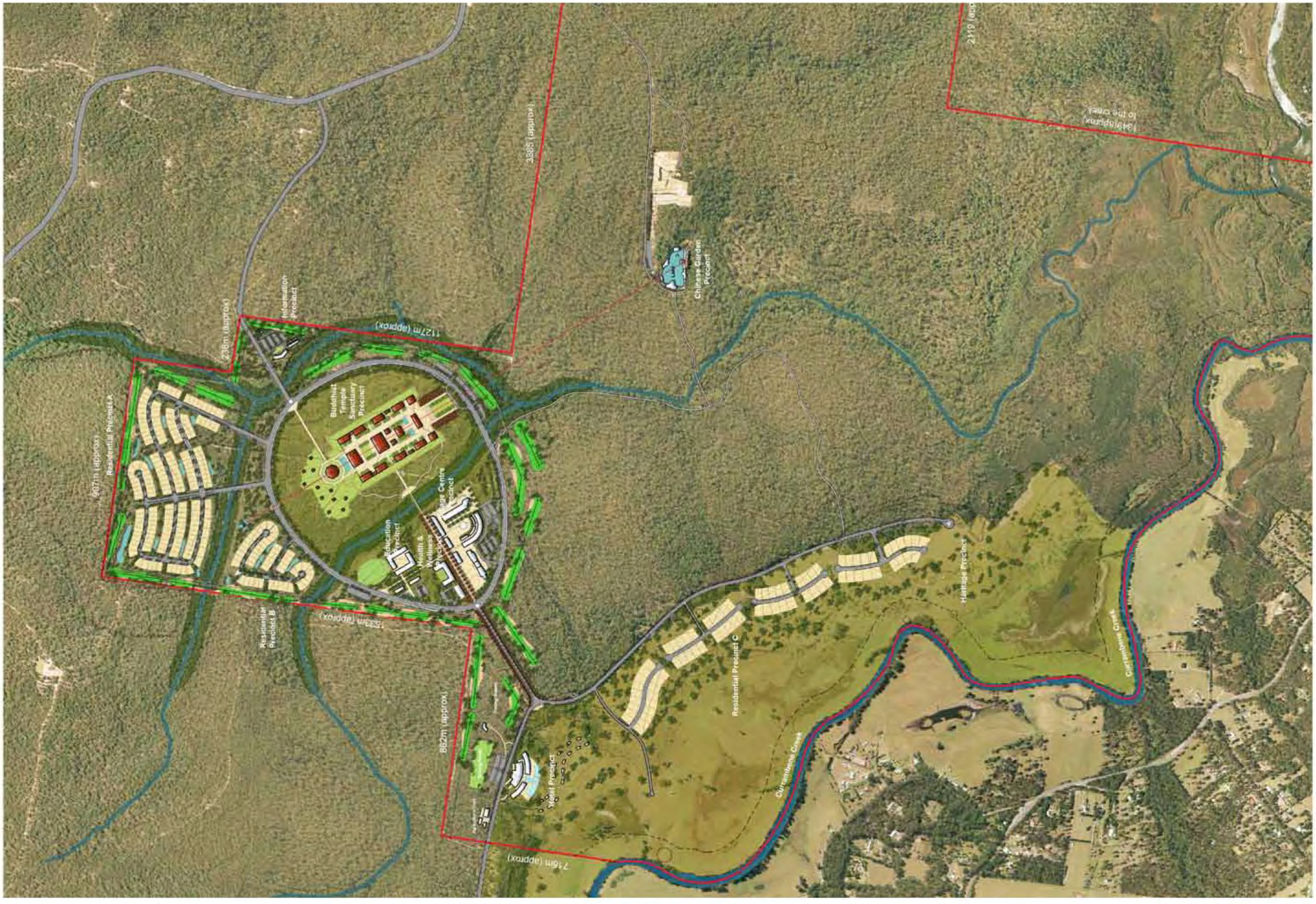


Figure 13: Masterplan Concept.

5.0 Visual Mitigation Objectives

5.1 Introduction

The Visual Mitigation Objectives assist with design strategies and planning controls for the development of Comberton Grange site.

Strategies are included to realise the objectives and provide general guidelines for the development. The strategies are also intended to assist with future design development of the masterplan and represent best-practice urban design incorporating high quality architectural responses suited to sensitive areas and to encourage ecologically and culturally sustainable design.

5.2 The Visual Mitigation Objectives

The Visual Mitigation Objectives (VMO) are:

- **Objective 1 -** Create contemporary, wooded residential precincts, temple precinct, employment areas and village centre etc that respect the rural setting of former Comberton Grange Farm Complex and surrounding areas.
- **Objective 2 -** Preserve the homestead atmosphere and mitigate development impacts on the visually sensitive Farmland sub-precinct.
- **Objective 3 -** Preserve existing trees, woodlands and endangered ecological communities; plant new trees to enhance the rural character of the site.
- **Objective 4 -** Create landscaped and linked open space corridors throughout the site that include wayfinding, interpretation, education, recreation and ecologically sensitive amenities to assist users in understanding the cultural and natural landscape.
- **Objective 5 -** Appropriately control development to improve the visual qualities of the site.
- **Objective 6 -** Employ Environmentally Sustainable Landscape practices.

Strategies supporting the VMO are detailed in following section of the report. This report provides recommendations for:

- Design development
- Development controls
- Plans of Management

5.3 Visual Mitigation Objective 1

Create contemporary, wooded residential precincts, temple precinct, employment areas and village centre that respect the rural setting of the former Comberton Grange Farm Complex and surrounding areas.

Background

All new development in the site should support the new development ethos of a contemporary rural architectural quality that interprets and respects the rural setting of the former Comberton Grange Farm Complex. The innovative, sustainable, eco-friendly and sensitive developments will enhance the lifestyle qualities of the village community and benefit future generations.

Strategies

The following strategies are recommended for the development of the masterplan and could be advanced to planning controls:

5.3.1 Strategy 1.1 – Contemporary, Sensitive Architectural Responses

Private property owners, developers and agencies associated with the site should be encouraged to develop urban design and architectural responses for the whole site which are consistent with the Vision.

Contemporary, sensitive architectural responses are highly desirable, marketable and easily encouraged through education and motivational policies without being restrictive.

5.3.2 Strategy 1.2 – Guidelines

Guidelines should be developed regarding appropriate architectural responses for the site that are consistent with the visual mitigation objectives of:

- Visually appropriate architectural, urban design and landscape responses.
- Contemporary, sensitive architectural and urban design responses.

5.3.4 Strategy 1.3 - Development Associated with the Housing Code NSW

- Housing developed in accordance with the Housing Code NSW is generally associated with complying developments on properties of 450m^2 or more. To ensure that housing of this nature develops appropriately, properties in visually sensitive areas should be larger than 450m^2.
- Perpetual controls are required to prevent undesirable or uncontrolled development in the visually sensitive area of the Farmland sub-precinct, including subdivisions beyond that are recommended in the masterplan.

5.3.5 Strategy 1.4 – Architectural Responses to Large Footplate Buildings

- The Masterplan has been developed to ensure that large footplate buildings in temple precinct, employment land zones (Kungfu Academy and Chinese Medicine and Wellness Centre) are located beyond the visually sensitive areas within the Pine Forest sub-precinct.
- Large footplate buildings (building footprints over 300m^2) within the hotel precinct, town centre and shop top residences located within the local buffer zone require specific architecture, urban and landscape design input from qualified professionals to minimise visual impacts. Further information regarding this matter is contained in Visual Mitigation VMO 5 – Development is to be appropriately controlled to improve the visual qualities of the site.

5.3.6 Strategy 1.5 – Aesthetic Recommendations

To ensure that development is consistent with the visual mitigation objectives, cultural heritage and visual qualities for the site the following principles should be incorporated:

- Site and design buildings with building forms that sensitively integrate witht he proposal features and rural character of the site.
- Site buildings, particularly in visually sensitive areas, to be within a landscaped setting with planting of trees and vegetation endemic to the site.

5.4 Visual Mitigation Objective 2

Preserve the farm atmosphere and mitigate development impacts on the sensitive Farmland sub-precinct.

Background

Areas of high sensitivity such as the Farmland sub-precinct have been established in Figure 11. The areas of very high and high sensitivity also include the local buffer zone in the western corner of the site (south of Comberton Grange Road) and Currambene Creek corridor.

Due to the sensitive visual qualities of the area it is important that the following strategies are incorporated as an accumulative approach to mitigating visual impacts of the future development. All development within these areas should be planned, approved and constructed in accordance with the following visual mitigation strategies. These strategies should be advanced to statutory controls for the area:

Detailed planning of the roads, subdivision and open space network is included in the Masterplan to assist with development in the visually sensitive area.

5.4.1 Strategy 2.1 - Retain Existing Trees and Plant New Trees

Existing trees, specially the endangered ecological communities within the Farmland sub-precinct, Currambene Creek corridor and local buffer zone, should be protected to retaining the landscape buffer they provide. Additional endemic tree planting should be encouraged in the public domain and in private properties to improve visual screening.

5.4.2 Strategy 2.2 - Road Locations

Road corridors of sufficient width allow tree planting provide an opportunity for screening of development, which is desirable.

5.4.3 Strategy 2.3 - Subdivision Patterns

Subdivisions should be more than 450m^2. Subdivisions should be cognisant of existing trees and avoid removal of trees. Subdivided properties should be of a size and stature that will encourage sympathetic development in the visually sensitive zone.

5.4.4 Strategy 2.4 - Land Uses

Land uses in the visually sensitive zone should preferably be of scale (mass and height) sympathetic to the context. Where employment/commercial buildings are developed in this area, controls on the size, height and scale of buildings is required to ensure the development is sensitive.

Figure 14: Farmland Sub-precinct.

5.4.5 Strategy 2.5 – Control Building Heights and Bulk

Refer to Figure 14.

- The apex of any roof shall be well below average tree canopy lines (9-15m), particularly in highly visually sensitive areas, particularly in highly visually sensitive areas.
- Roofs are to be designed to minimise building scale and mass, and to provide a rural aesthetic.
- To minimise building bulk, maximise views and address the topography of the site, buildings should step down the slope.

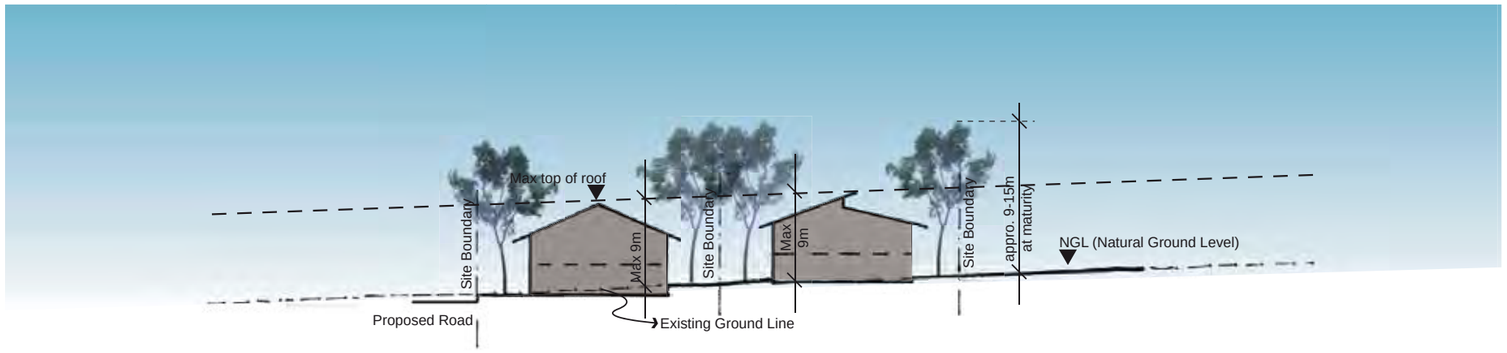


Figure 15: Residential Building Heights.

5.4.6 Strategy 2.6 - Protection of visual curtilages

The visual curtilage of the former Comberton Grange Farm Complex should be protected for the benefit of cultural landscape and future generations.

6.4.7 Recommendations

Recommendations should be made to the current and future property owners for the Farmland sub-precinct as open fields in perpetuity. This approach would be historically and culturally sensitive. Sensitive and detailed planning of the area is required to ensure that all development is appropriate.

5.4.8 Strategies for Buildings in Employment Lands

In addition to Strategy 5.2, additional urban and landscape design controls are required to assist with mitigating the impacts associated with large footplate buildings (and associated activities) in employment lands (Hotel Precinct, Town Centre, Kungfu Academy, Chinese Medicine and Wellness Centre). These buildings will have a visual impact on the rural character of the area and surrounding development, consequently visual mitigation measures are required as follows:

- Additional road reserve widths for utilities trees and landscaping is required for screening.
- Parking areas and roads require additional landscaping and tree planting to form screens around buildings, road and parking areas.
- Building heights within the employment area (hotel precinct and village centre) are to be limited to generally (but not exclusively be) not more than three storeys in height to ensure that the forested landscape alternates and that building forms are generally submissive to the site.

5.4.9 Strategy 2.7 - Design Review Panel and Controls on Development

- All development in the very high and high visual sensitivity area should be assessed to ensure the long term visual qualities of this area do not negatively impact on the farmland sub-precinct and surrounding development.
- Development that occurs anywhere within the visual curtilage of Former Comberton Grange Farm Complex should, at the discretion of the Council, be subject to controls on development.
- Development proposals that may be regarded by Council / stakeholders / the community as unsympathetic should be subjected to review by a specially appointed, representative and qualified Design Review Panel whose decisions or recommendations would be final and binding on the developer and agencies.

5.4.10 Strategies from other sections of the report

Reference to the following strategies from other sections of the report is required to mitigate the effects of development in this visually sensitive area:

- **Strategy 5.1 –** Urban and landscape design controls for employment lands
- **Strategy 5.2 –** Regulate building coverage on sites
- **Strategy 5.3 –** Control colours & materials
- **Strategy 5.4 –** Maintain/provide setbacks

5.5 Visual Mitigation Objective 3

Preserve existing trees and plant new trees to enhance the rural character of the site.

Background

The existing woodlands are remnant and mature, comprising healthy communities of trees. Existing vegetation within the Habitat sub-precinct, local buffer zone and Currumbene Creek corridor provides strong visual buffers to the potential development.

The woodlands include threatened species, therefore the protection of this habitat is important to maintain biodiversity and improve sustainability. The Woodlands add to the passive recreation experience, are peaceful and pleasant places for the benefit of the community.

Increased planting of new trees by Council, private property owners and agencies is required to enhance the environmental, landscape and visual qualities of the site.

Ecological and Landscape Corridors

Landscape corridors that are connected and traverse the Site will assist in improving ecological conditions, increase biodiversity and will define the visual and landscape qualities of the area. Utilising the ‘spine’ of the Currumbene Creek corridor, other woodland corridors should be integrated and connected across the site to improve the landscape qualities. Refer to Strategy 3.3 below.

Benefits of New Tree Planting

Suburbs with trees are generally highly desirable (anecdotally well treed suburbs have good property values) as a result of the landscape amenity, qualities, shade and comfort. New tree planting has the following benefits:

- Planting new trees is required to mitigate the visual effects through screening of development on the surrounds.
- New trees would replace those lost during construction.
- New tree planting will improve the sustainability indexing of the project.

Strategies

The following strategies are recommended for the development of the Masterplan and could be advanced to planning controls:

5.5.1 Strategy 3.1 – Protect the Woodlands in the Local Buffer Zone

- The existing woodlands in the local buffer zone will screen the hotel precinct, town centre and shop top residential development. It is therefore necessary to retain these woodlands (Refer to Figure 22).
- Woodlands in the local buffer zone are to be protected and integrated as part of the open space network.
- A landscape architect should be employed to assist with the design of the recreational activities within or alongside the woodlands.

5.5.2 Strategy 3.2 – Protect and Enhance Currambene Creek Riparian Corridor

- The Currambene Creek woodland / riparian corridor falls in a conservation and flood zone (Refer to Figure 22). The woodlands should be protected.
- Additional planting is required to assist with future landscape screening, to develop a legacy of tree canopy and to strengthen existing vegetation communities.

5.5.3 Strategy 3.3 – Plant Indigenous Trees

To assist with biodiversity and sustainability, plant large qualities of endemic or indigenous as follows:

Council

- Plant trees on the edges of all water quality ponds and detention basins.
- Plant trees along creeks to reinforce canopy where lost.
- Retain existing trees
- Plant trees along all streets, along its verges on both sides of the street.

Private Owners and Developers

- Private owners and/or developers to plant trees in all privately owned set-back areas at a minimum rate of two trees per property (Refer to Strategy 5.3).
- Private owners and/or developers to plant trees in all privately owned back yards and/or property boundary lines at a rate of two trees per property (Refer to Strategy 5.3).

5.6 Visual Mitigation Objective 4

Create landscaped and linked open space corridors throughout the site that include wayfinding, interpretation, education, recreation and ecologically sensitive amenities to assist users in understanding the cultural and natural landscape. The Currambene Creek corridor could be the spine of the open space network.

Background

The site is bounded by Currambene Creek to the South, Nowra State Forest to the West and North and Currambene State Forest to the East. This provides an opportunity to extend and connect these landscaped corridors together providing valuable ecological corridors as wells as interconnected recreational areas.

5.6.1 Strategy 4.1 – The Currambene Creek Corridor is to form the Open Space Network Spine

Utilise the Currambene Creek Corridor and its tributaries to form the landscape network tied into existing stands of trees and other public realm spaces to act as an integrated landscaped corridor along strong pedestrian desire lines, riparian zones and ridgelines.

5.6.2 Strategy 4.2 - Link Open Space Corridors to the Precinct

The Jervis Bay catchment and Marine Park are the largest open space areas in the region. These spaces perform vital cultural, educational and ecological functions for the local and greater community. The site's open space network should be linked physically with pedestrian and cycle ways. The following open space networks are required to be connected (Refer to Figure 26):

- Provide a heritage walk along Currambene Creek to Jervis Bay National Park and beyond.

5.6.3 Strategy 4.3 – Interpretation, Wayfinding and Education

- The site's open space network should include Plans of Management.
- Plans of Management should include heritage, artistic and cultural interpretation of the natural and cultural landscape.
- Wayfinding for the public realm should be included to assist users negotiate access within the site and to assist with Strategy 4.2.
- The former Comberton Grange Farm Complex and open space networks provides educational opportunities, which should be encouraged.

5.7 Visual Mitigation Objective 5

Development is to be appropriately controlled to improve the visual qualities of the site.

All development within the site should respect the natural and cultural context. So as to minimise visual impacts, all development should be appropriately visually controlled.

Visual Sensitivity

A visual sensitivity diagram (Refer to Figure 11) was developed to assist planners, to guide statutory controls and for the use of developers to assist with sensitive development within the site, especially in those areas of high and medium sensitivity. Refer to Strategy 2.

Strategies

The following strategies are recommended for the development of the Masterplan and could be advanced to planning controls

5.7.1 Strategy 5.1 – Urban and Landscape Design Controls for Employment Lands

Specific urban and landscape design controls are required to assist with mitigating the impacts associated with large footplate buildings (and associated activities) in employment lands. The nature of the activities which occur in employment lands large truck / vehicle movements, road and parking requirements, controls are required to mitigate the effects of these activities and to create pleasant environments in which people work. Planning is to include:

- Additional road reserve widths for utilities trees and landscaping.
- 3.5m lane widths with integrated parking and trees for screening and amenity.
- Tree planting in parking and vehicle turning areas for shading and screening amenity.
- Blister or tree bed allowances in parking zones for streetscape amenity, including screening, shade and visual amenity.
- Undergrounding of powerlines, gas lines, communication and other utilities which allows tree canopy development.
- Avenues or clumps of informal trees along roads which permit tree canopy coverage.
- Two-way roads to permit flexibility in vehicle movements which permits tree planting opportunities.
- Limits to verge crossings to increase tree planting opportunities along roads.

5.7.2 Strategy 5.2 – Regulate Building Coverage on Sites

Refer to Figure 15.

Amongst general amenity matters, this strategy aims at providing appropriate space for the retention and planting of new trees in subdivided properties.

Building coverage and deep soil for the planting of trees within landscaped areas should be as follows:

Typical Property Size	Site Coverage	Deep Soil Planting
Lot Type A - 600 -900m^2	40% of site area (2 storeys) 50% of site area (single storey)	20% of site area
Lot Type A - 1200-1500m^2	40% of site area	40% of site area 25 storeys

5.7.3 Strategy 5.3 – Control Colours & Materials

Refer to Figure 16.

- Colours and materials for all portions of the building in high visually sensitive areas shall be tones of grey and non-reflective to assist with creating a visually recessive roofscape. The following roof materials shall be used:
    a. Sheet metal roofs, gutters and rain water storage tanks only are permitted in the Precinct to create a unified appearance.
    b. Roofs shall be painted in mid grey to ensure a recessive appearance.
    c. Walls – (including garden walls), fascias and upper wall portions shall be of grey tones as illustrated in Figure xx to ensure material used is sympathetic to the heritage value of the area.
    d. Fences shall be painted and rendered masonry, timber or sheet metal only to limit materials and finishes.
- Village centre sites have appropriate indigenous trees (and landscaping) planted to screen the buildings from surrounding area.
- Hotel and town centre buildings should include adequate space for tree planting facing the roads to improve visual qualities.

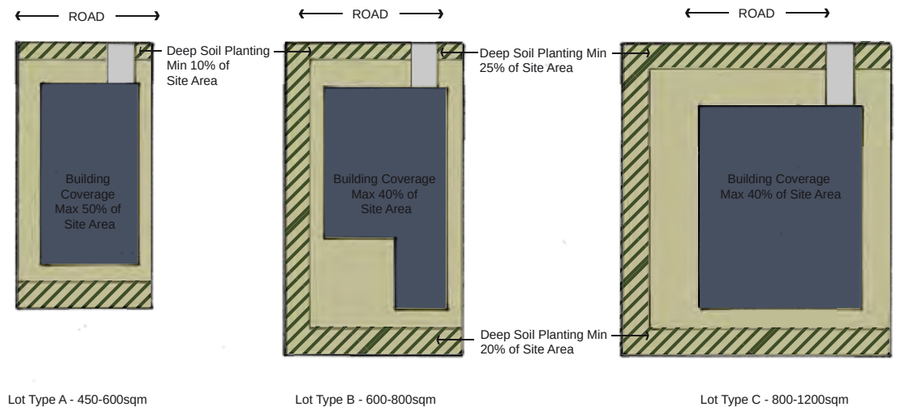
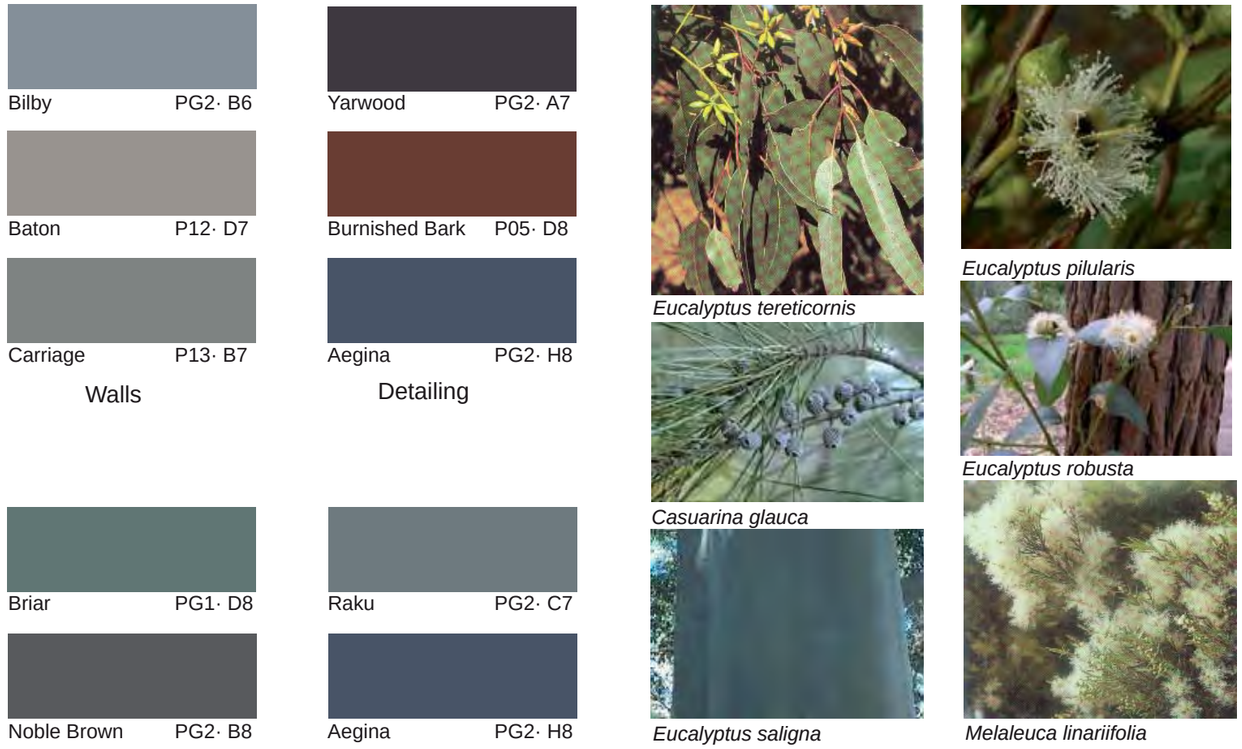


Figure 16: Building Coverage.



Source: Dulux Colour Palette

Figure 17: Materials Palette.

5.7.4 Strategy 5.4 – Maintain / Provide Setbacks

Refer to Figure 17.

Set-backs within private properties are required to improve the aesthetic and general amenity of the site. Setbacks provide opportunities for landscaping and tree planting in private properties The following typical setbacks should be considered:

Residential

- Street front setbacks shall be a minimum of 4.5m to allow for street planting in private properties.
- Rear boundary setbacks shall be no less than 5m to allow for tree planting.
- Side boundaries shall be no less than 1.5m on side boundaries (including roof overhangs) to allow for landscaping between properties.

Commercial (hotel + town centre) / Retail / Education Buildings

Commercial retail and education buildings are likely to have visual impacts in the overall development of the site. Developers are required to demonstrate in Approval Documents setback strategies to screen the development, to analyse and mitigate consequent visual impacts, and measures taken in the design of buildings and infrastructure to reduce the visual impacts of the development on the cultural landscape of the site.

Domain Allowances for Roads/Streets/Public domin areas

Landscaping including tree planting along roads has the following benefits:

- Assists with connecting the open space and shared path network.
- Improves the biodiversity.
- Screens traffic movement along roads, especially required in the visually sensitive Farmland sub-precinct and local buffer zone.
- Provides space for noise walls, noise mounds and footpaths / shared paths.
- Provides a legacy of shade along major arterials
- Improves visual amenity and desirability of the overall site.

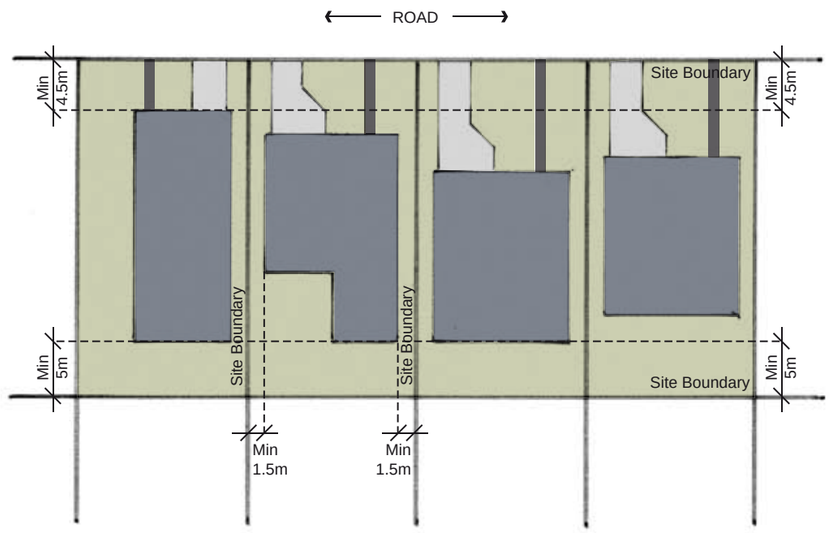


Figure 18: Site Setbacks.

5.8 Visual Mitigation Objective 6

Environmentally Sustainable Design – (Landscape) Develop the Precinct with ESD principles and strategies to achieve higher water retention, passive irrigation, passive water cleaning and reduction in landscape and streetscape maintenance.

Strategies

Implement and audit Environmentally Sustainable Design Practices including planning, construction, maintenance, waste and energy management systems for the precinct. In relation to specific landscape systems, water sensitive urban design (WSUD) methods should be utilised to assist with passive irrigation of trees to increase the biodiversity of the area.

The following landscape ESD strategies are directly related to the health and well being of the landscape and therefore visual qualities of the Precinct:

5.8.1 Strategy 6.1 - Fragment Water Quality Ponds

- Water quality control measures should be located along streets as ribbon ponds to assist with access and maintenance and to reduce the size of large detention areas.

5.8.2 Strategy 6.2 - Plant Around Detention Basins

- Detention basins should be surrounded by trees to enhance in visual qualities of these areas and to provide shade and possibly incorporated as part of recreational facility.

5.8.3 Strategy 6.3 – Recycling Water

- Employ water polishing techniques to clean street water prior to it entering natural systems.
- Utilise gravity irrigation methods to water trees and parkland for sustainable maintenance and health of the landscape.
- Develop WSUD methods for the treatment and re-use of stormwater, roof water (and other grey water systems).

5.8.4 Strategy 6.4 – Source Seeds from Local Area

- Seeds should be collected form the local area during various seasons to ensure endemic species survive.
- New planting should be established through local seed.