7. URBAN DESIGN OBJECTIVES

In any road upgrade project, the experience of the road user and viewer is significantly improved through careful consideration of all design disciplines and elements. In urban design, it is important that design objectives are identified, developed and implemented, in relation to the intervention of the road in the landscape and the suite of elements that require careful design. These elements include cut and fill batters, walling, drainage structures, bridges, fences and barriers, planting and landscaped surfaces.

The objectives reflect the most important goals to be achieved as a result of the proposed upgrade works, taking into account not only the corridor itself but also its relationship with surrounding areas. These would be implemented in accordance with the RMS document Beyond the Pavement (RMS 2009) performance themes of safety, cost effectiveness and sustainability.

7.1 URBAN DESIGN VISION FOR THE NORTHERN ROAD

The following vision statement articulates the desired outcome for The Northern Road. The future character and quality of the motorist’s and adjoining residents’ experience of the road will be determined not only by the planning and design of future upgrades of the road within its reservation, but substantially by the planning, design and development of the land adjoining the corridor. In that sense the vision relies on a commitment by State and Local Government agencies to address all of the issues raised in the previous chapters and implement the Objectives and Principles, and Strategies set out in the following sections of this document.

The Northern Road will continue to function as a major north-south link for existing residents, the future South West Growth Centre community and regional road users. While performing efficiently and safely for local and regional motorists, The Northern Road will retain its significant scenic and heritage values. The planning and design of the road will respond to the rural context, retaining a driving experience that facilitates the appreciation of the landscape within and beyond the road reservation. The future planning and development of the land adjoining the road corridor will be recognised as being central to the preservation of the highly valued character and quality of this historic road.

7.2 URBAN DESIGN OBJECTIVES AND PRINCIPLES

Based on the landscape character and visual impact assessment in Sections 4 and 5, and the context of the road design objectives outlined above, the following urban design objectives and corresponding principles for The Northern Road upgrade have been identified:

Objective: Protect and enhance existing views, character, heritage and cultural values of the corridor.

> Retain and reinforce the diverse character of the route, including the distinctive character of the urban areas and the distinction between urban and non-urban areas.

> Maintain and enhance key heritage and cultural landmarks along the route.

> Retain existing view corridors, particularly at elevated points, to establish a sense of place for the journey along The Northern Road.
URBAN DESIGN OBJECTIVES

> Control the placement of utilities in the corridor and locate underground where possible to
  enhance views and maximise planting opportunities.

Objective: Provide a flowing road alignment that is responsive to, and integrated with the natural and
  built landscape.

> Physically, and where possible, visually separate carriageways to reduce horizontal scale and
  perceived road corridor width: utilise medians and verges to maximise existing tree retention,
  revegetation potential and break up wide pavement surfaces.

> Devise a planting/ revegetation strategy that takes into account the long-term visual quality and
  functional changes within the road corridor.

> Protect creeks and creek banks by maximising tree retention and planting at creek crossings and
  aligning shared pedestrian/ cycle paths alongside the carriageway.

> Minimise the size of sedimentation basins and provide in locations where it is feasible for basins
  built during construction will remain post construction.

Objective: Facilitate the provision of good urban design outcomes to future growth areas adjoining
  the road.

> Work with appropriate authorities to develop a visual, urban design and landscape character of
  the road corridor by promoting planning/ design strategies that achieve a high quality environment
  and amenity at the interface between The Northern Road and future Growth Centres, for
  example, at Oran Park and Harrington Park.

> Ensure the provision of safe, convenient and enjoyable pedestrian and cycle connections in the
  most appropriate/ accessible location within the locality in the context of future growth and urban
  development patterns.

> Provide more formal structured planting to The Northern Road/ Bringelly Road intersection
  to reinforce its role as a Town Centre and to distinguish it from the rural, rural residential and
  woodland character of other sections.

> Avoid the need for noise walls by advocating the provision of adequate development setbacks
  from the road corridor.

> Avoid estate boundary fencing along the road corridor by promoting an active street address with
  a character consistent with the desired outcomes for the road corridor.
URBAN DESIGN OBJECTIVES

Objective: Develop a simple and unified palette of elements and details that are attractive and easily maintained.

Standard road elements may include road furniture (safety barriers, pedestrian and shared path fencing, bus stops, street lighting, signage) retaining walls, shared paths, bridges and noise walls.

In particular, some principles have been developed for the following:

**Shared Paths**

Provide a planting setback of at least 1.0 metre from the back of kerb for native grasses adjacent to the path to provide a visual and physical separation between the path and the road carriageway. If the width is to be narrower than this, incorporate the width into the shared path. Ensure adequate maintenance to planting is undertaken to provide clear access to the path.

Maximise the visibility of the shared path to adjoining areas for good surveillance and orientation sight lines. Concrete to be broom finished. Consider a mid grey colour to reduce glare. Consider exposed aggregate thresholds with adequate tonal variation to alert cyclists to upcoming intersections.

Provide adequate and visible connections to new suburban town centres and recreation areas.

Minimise conflict points where the path is constrained by walls or railings by providing linemarkings designating locations for cyclists and pedestrians.

**Fencing**

Maintain a consistent scale and rhythmic use of fencing elements, for example, fencing similar to that used in the Cowpasture Road example below.

Provide a cyclist rail, similar to Cowpasture Road on bridges and other areas as required.
URBAN DESIGN OBJECTIVES

Bus Stops
Ensure the bus stop areas are well lit for orientation and safety.
Provide textured ground surface finishes to differentiate the bus shelter zone, for example exposed aggregate concrete. Provide enough space to allow the shared path to continue behind the bus stop.
Provide glass sides on bus shelters for visibility and wind protection.

Lighting Fixtures
Generally limit lighting to major intersections and points of interest only to retain the rural nature of the road corridor.
Lights are to be of the standard adopted for other areas of the South West Growth Centre such as those located at the Cowpasture Road upgrade.

Retaining Walls
Minimise the use of retaining walls. Only use walls if there is insufficient land or where geological instability restricts the use of natural cuttings.

Bridges
Provide simple and elegant structures designed in accordance with the RMS Bridge Aesthetics Guidelines.
Consider the existing environment: minimise disturbance to the creek bed and riparian vegetation zone; maximise natural light levels beneath the bridge; and locate bridge superstructure away from the creek.
Separate the shared path from the vehicular bridge.
Ensure that a neat and simple transition is provided between the bridge rail and the road safety barrier.

Culverts
Provide in situ concrete headwalls and wing walls with horizontal banding.
Provide steel grating within the median to allow natural light to reach the watercourse. Allow for fish and fauna passage.
Place large boulders in a random formation around culverts to reduce embankment scour and improve visual character.
8. URBAN AND LANDSCAPE MASTERPLAN

The Northern Road Upgrade Masterplan (Figure 41.1 to 41.4) is an overall strategy diagram that broadly describes the urban and landscape design approach, followed by a series of more detailed plans and sections at a larger scale (Figures 42 to 65) that further demonstrate the application of the principles. The main design elements of the Masterplan are as follows:

> Retain as many remnant woodland trees as possible along the route, both within the median or to the edge, and enhance with additional tree planting to provide an enclosed woodland parkway experience where this character currently exists.

> Retain visually valuable exotic tree planting to Harrington Park boundary and provide more formal tree plantings to the median and Bunnings boundary to provide legibility to this existing urban locality.

> Provide a formal structured landscape character treatment along The Northern Road at Bringelly Village to distinguish its location, this journey decision point, and to provide legibility in the road experience.

> Provide screen planting to existing residential areas, such as the Cobbitty Park Christian Lifestyle Village to improve visual amenity.

> Retain open views across the rural landscape, where these are desirable, through the use of scattered tree planting, and low level groundcovers and native grasses.

> Maintain, restore and enhance the creek crossing experience and riparian areas at Narellan Creek, Lowes Creek and Thompson Creek to distinguish it along the road journey.

> Reduce the extent of cut and fill embankments, where road design constraints allow, by reducing median widths.

> Retain landmark regional views to the Blue Mountains and Razorback Mountains.

> Provide native screen planting to the proposed Oran Park Zone Substation to reduce its dominance along the roadway.

> Rehabilitate areas of existing disused roadway with native woodland plant species.

> Provide a 3.0m shared path on the eastern side of The Northern Road to respond to the existing needs of the residents of Harrington Park and the future residents of Oran Park. In the long term, as the South West Growth Centre develops to its full potential, it is proposed to proved a shared path to both sides of the road.

> Divert the location of the shared path to maximise the retention of existing trees and to provide a varied and interesting experience for pedestrian and cyclists.
URBAN AND LANDSCAPE MASTERPLAN

Figure 41.1: Landscape Masterplan (north)
URBAN AND LANDSCAPE MASTERPLAN

Figure 41.2: Landscape Masterplan (mid north)
URBAN AND LANDSCAPE MASTERPLAN

Figure 41.3: Landscape Masterplan (mid south)
Figure 4.1.4: Landscape Masterplan (south)
Concept Design Description

> Retain visually significant exotic trees (*Ulmus parvifolia*) to eastern side of the road.

> Supplement planting to the western edge adjoining Bunnings and to the median with *Ulmus parvifolia* to enable a Urban Parkway character to provide differentiation to this urban section of the road. Due to the lower speed limit of 60km/h, there is the possibility to provide a double row of trees to the western side to provide additional screening to Bunnings.

> Locate the shared path between the existing rows of trees to provide increased visual amenity and interest for pedestrians and cyclists.
Concept Design Description

> Retain and enhance riparian planting along Narellan Creek on both sides of The Northern Road.

> Separate the bridge carriageways and provide planted shrubs to the median approaches to the bridge to accentuate the creek crossing experience.
Concept Design Description

- Retain visually significant exotic trees (*Ulmus parvifolia*) to eastern side of the road.
- Do not plant to the shale cutting slope to the west. Provide eco-blanket treatment if necessary.
- Locate the shared path between the existing rows of trees to provide increased visual amenity and interest for pedestrians and cyclists.
URBAN AND LANDSCAPE MASTERPLAN

Figure 48: P04 - Landscape and Urban Design Plan

Figure 49: P04 - Section at Chainage 2500

Concept Design Description

> Retain remnant woodland to the road edge, as far as practicable and within safety limits.

> Provide additional road side planting to the road edge to continue the enclosed woodland character in this area.
Concept Design Description

> Provide screen planting to the western side of The Northern Road to the boundary with Cobbitty Park Christian Lifestyle Village.

> Reinforce existing woodland planting to the east.
Concept Design Description

> Works in P06 are to be undertaken by others (between chainage 3350 and 3800).
Concept Design Description

> Provide a widened median, maintaining existing levels, to retain woodland planting. Utilise a wire rope barrier to meet safety requirements.

> Maintain and enhance woodland planting to the road edge.
Concept Design Description

> Provide a widen median, maintaining existing levels, to retain woodland planting. Utilise a wire rope barrier to meet safety requirements.

> Maintain open views over rural landscape.
Concept Design Description

> Retain and enhance riparian planting along Narellan Creek on both sides of The Northern Road.

> Separate the bridge carriageways and provide planted shrubs to the median approaches to the bridge to accentuate the creek crossing experience.
Concept Design Description

> Provide a formal structured landscape character treatment along The Northern Road at Bringelly Village to distinguish its location, this journey decision point, and to provide legibility in the road experience.

> Provide a row of trees in the median, utilising a wire rope barrier to meet safety requirements.

> Maintain and enhance woodland planting to the east, south of Bringelly Road.

> Reinstate pedestrian footpath adjacent to Bringelly shops and ringelly Primary School.
**Concept Design Description**

- Reinforce woodland planting to both sides of the road to maintain woodland character of this section of the road.
- Provide planted shrubs to the median.

**Figure 62: P11 - Landscape and Urban Design Plan**

**Figure 63: P11 - Section at Chainage 13100**
Concept Design Description

> Maintain semi-rural character by providing native grasses and groundcovers to the road edge and median, allowing views through the existing scattered tree planting.
9. CONCLUSION

The study area adjoins a predominately rural residential landscape with highly modified urban areas to the south and areas of well vegetated woodland throughout. The character of the road itself is relatively constant as a generally slightly winding and undulating two lane carriageway with additional passing lanes in strategic locations.

The project aims to reduce the congestion on the road related to the proposed urban development associated with the South West Growth Centre and provide improved travel time reliability and, in doing this, would introduce a number of elements into the environment, as described in Section 3 of this Report, including:

- Widened pavement surface and depressed median, allowing for the provision of an additional two lanes in the future.
- New bridge decking adjacent to the existing bridges crossing over Narellan Creek and Thompson Creek.
- Construction of new sedimentation basins and drainage works.
- Construction of a new 3.0m wide shared path to the eastern side of the road.

These project elements affect the existing character but are consistent with other projects, either completed or under construction, in the South West Growth Centre including Cowpasture Road and Camden Valley Way. The urban design principles developed take into account urban design and visual character not only for the corridor itself, but also reflect its relationship with surrounding areas. The integration of project elements and urban design and landscaping treatments within the corridor helps achieve the desired future character. The urban design and landscaping treatments:

- Include targeted landscaping measures to maintain and enhance the vegetated character of the corridor.
- Provide diversity in landscape treatments at targeted points, including Bringelly Village and Harrington Park, that distinguishes these points for road users.
- Maintain a consistent and distinguishable The Northern Road within the South West Growth Centre network through consistent treatments for new road elements.
- Would incorporate materials and finishes for new road elements that align with those elements already within the South West Growth Centre.
- Would seek to limit the visual intensity of road elements relative to the wider vegetated corridor through a consistent and limited colour palette.