1 Introduction

1.1 Proposal identification

Roads and Maritime Services of NSW (Roads and Maritime) is undertaking an assessment under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act) for the upgrade of about 11.5 kilometres of the Princes Highway between Schofields Lane (south of Berry) and Cambewarra Road, Bomaderry (the proposal). The proposal would provide a four-lane divided highway (two lanes in each direction) with median separation.

The proposal is one of a series of upgrades to sections of the Princes Highway which aims to provide a four-lane divided highway between Waterfall and Jervis Bay Road, Falls Creek. This would improve road safety and traffic efficiency, including for freight, on the NSW South Coast.

An overview of the concept design for the proposal is provided in Figure 1-1. A detailed description of the proposal is provided in Chapter 3. The proposal comprises the following key features:

- Upgrade of the existing highway, including widening from two lanes to a four-lane divided highway (two lanes in each direction) with median separation (wire rope barriers generally, or concrete barriers where space is constrained, such as at bridge locations).
- Provision for widening of the highway (if required in the future) to six lanes within the road corridor between Schofields Lane and around Pestells Lane.
- Tie-in to the Berry bypass to the north of the proposal.
- Grade-separated facilities\(^1\) at:
  - Jaspers Brush Road and Strongs Road.
  - Morschels Lane and Devitts Lane.
- A grade-separated half-interchange at:
  - Pestells Lane and Meroo Road.
- Protected right turn bays at:
  - Mullers Lane (northbound).
  - Croziers Road (southbound).
  - At the u-turn facility between Strongs Road and Turners Lane at about chainage 23200 (northbound).
  - Between Strongs Road and Turners Lane at about chainage 24050, adjacent to Silos Winery (southbound).
  - Lamonds Lane (northbound).
  - Boxsells Lane (southbound).
  - South of Abernethys Lane at about chainage 28590 (northbound).

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\(^1\) Unlike a standard grade separated interchange which has full length on-ramps and off-ramps, a grade separated facility has deceleration lanes to a connecting road that links to an overpass or underpass. Grade separated facilities have been used along the Pacific Highway and are informally referred to as Type S interchanges.
• U-turn facilities at:
  - Mullers Lane (to travel southbound)\(^2\).
  - Croziers Road (to travel northbound).
  - Between Strongs Road and Turners Lane at about chainage 23200 (to travel southbound).
  - Between Strongs Road and Turners Lane at about chainage 24050, adjacent to Silos Winery (to travel northbound).
  - Lamonds Lane (to travel southbound).
  - South of Abernethys Lane at about chainage 28590 (to travel southbound).
• A large cutting at Strongs Road, Jaspers Brush of around 300 metres long and up to a maximum of ten metres deep in addition to various smaller cuttings along the proposal.
• Eight bridges over waterways\(^3\):
  - Creek crossing No. 1 – Unnamed drainage line at chainage 19350, a three span concrete structure around 44 metres long and three metres high.
  - Creek crossing No. 2 – Unnamed drainage line at chainage 19800, a single span concrete structure around 33 metres long and four metres high.
  - Creek crossing No. 3 – Flying Fox Creek, a single span concrete structure around 18 metres long and seven metres high.
  - Creek crossing No. 4 – Jaspers Brush Creek, a three span concrete structure around 44 metres long and six metres high.
  - Creek crossing No. 5 – Wileys Creek, a five span concrete structure around 76 metres long and five metres high.
  - Creek crossing No. 6 – Tandingulla Creek, a three span concrete structure around 44 metres long and three metres high.
  - Creek crossing No. 7 – Tullian Creek, a three span concrete structure around 44 metres long and five metres high.
  - Creek crossing No. 8 – Abernethys Creek, a three span concrete structure around 76 metres long and two metres high.
• Major drainage and flood mitigation structures:
  - O’Keefe’s Lane culvert – ten cell box culvert, with each cell around 2.5 metres wide, 1.5 metres high and about 70 metres long at chainage 21130.
  - Flood mitigation bridge – located just south of O’Keefe’s Lane at about chainage 21200, a three span concrete structure around 45 metres long and 3.5 metres high.
  - Pestells Lane culvert – eight cell box culvert, with each cell around 2.5 metres wide, 1.5 metres high and 130 metres long (between chainages 28020 and 28150).
  - Morschels Lane culvert – five cell box culvert, with each cell around 2.5 metres wide, 2.1 metres high and about 60 metres long at chainage 25070.
  - Overflow channel – 300 metre long channel located upstream of the alignment to allow flood waters to follow the existing drainage path (between chainage 22320 and 22650).
• A northbound heavy vehicle inspection bay at Jaspers Brush, staffed as needed and locked when not in use.

\(^2\) The u-turn facility within the proposal area at Mullers Lane (northbound) will be constructed under separate approval as part of the Foxground and Berry bypass project, however the right turn bay would be constructed as part of the Berry to Bomaderry upgrade.

\(^3\) Existing waterway crossings at Flying Fox, Jaspers Brush and Abernethys creeks are all currently spanned by bridges. These three bridges would be replaced as part of the proposal. The remainder of the new bridges would be constructed at the locations of existing culverts.
• Modifications to the connections between local roads and the highway, including Strongs Road, Jaspers Brush Road, Morschels Lane, Devitts Lane, Pestells Lane, Meroo Road and Abernethys Lane.

• Physical modifications to about 16 existing property accesses.

• Relocation and formalisation of existing southbound bus stops at Mullers Lane, Jaspers Brush Road, Morschels Lane and Lamonds Lane and existing northbound bus stops at Boxells Lane, Croziers Road and Strongs Road. Bus stops would be relocated to sites where there is provision for safe vehicular access, set down and pick up.

• Removal of the current southbound bus stop adjacent to Croziers Road.

• Ancillary operational facilities, including permanent detention basins and stormwater treatment facilities.

• Tie-in with the existing highway at the Cambewarra Road / Moss Vale Road roundabout.

Temporary construction ancillary facilities, including construction compounds, stockpile sites, haulage roads and sediment basins would be established and operated for construction and located as shown on Figure 1-1.

The proposal is located entirely within the Shoalhaven local government area (LGA) on the NSW South Coast. The regional context of the proposal is shown in Figure 1-2.

The construction footprint for the proposal extends from the junction of Schofields Lane and the Princes Highway, about 0.8 kilometres south of Berry (from the junction of Victoria Street and the Princes Highway), to the junction of Cambewarra Road and the Princes Highway, in Bomaderry. It includes the area that would be directly impacted by the proposal, including the upgraded highway, all junctions, grade-separated facilities and half-interchange, u-turn facilities, the heavy vehicle inspection bay, batters, cuttings, embankments, bridge access and construction pads, temporary construction ancillary facilities and construction and operational water quality basins.

To the north, the proposal would tie-in with the Foxground and Berry bypass project, which is the upgrade of the section of the Princes Highway between Toolijooa Road and Schofields Lane. To the east of the proposal lies the South Coast Railway line, which extends from Waterfall in southern Sydney to Bomaderry. From Kiama, there is a single rail line that is not electrified. The Bomaderry (Nowra) train station is located on Meroo Street in Bomaderry. This is the last station on the South Coast Railway line.

To the west of the proposal is the Cambewarra Range and to the north west is the Illawarra Range. These ranges contain a number of nature reserves and a National Park, including the Cambewarra Range Nature Reserve, Rodway Nature Reserve, Budderoo National Park and the Barren Grounds Nature Reserve.

Waterways that would be crossed by the proposal include Flying Fox Creek, Jaspers Brush Creek, Wileys Creek, Tandingulla Creek, Tullian Creek and Abernethys Creek. These creeks are tributaries of Broughton Creek or the Shoalhaven River.

Land uses around the proposal are generally rural with agricultural activities defining the settlement patterns and landscape character of the region. The large urban centres of Bomaderry and Nowra are at the southern end of the proposal. The southern extent of the proposal, Cambewarra Road, Bomaderry, is located north of the Nowra town centre, on the northern fringe of the urban area.
MUST READ INFO:
SAME FILE AS "BBU DETAILS OF THE PROPOSAL + BBU OVERVIEW OF PROPOSAL ZONING" (Difference: In "overview" file lane markings are switched off and layer "midian" switched on. In the "zoning" file the cuts and fills, waterways, railway and roads are also switched off. In the detailed file all lane markings are switched on but "midian" switched off) NOTE: ANCILLARY SITES LAYER ADDED TO FIGURE 1-1 + figure 3-1 to 3-3 ONLY!

Figure 1-1 Overview of the proposal
Figure 1-2 Regional context of the proposal
1.2 Purpose of the report

This review of environmental factors has been prepared by AECOM on behalf of Roads and Maritime. For the purposes of these works, Roads and Maritime is the proponent and the determining authority under Part 5 of the EP&A Act.

The purpose of the review of environmental factors is to describe the proposal (refer to Chapter 3), to document the likely impacts of the proposal on the environment (refer to Chapter 6), and to detail protective measures to be implemented (refer to Chapter 6 and Chapter 7).

The description of the proposed works and associated environmental impacts have been undertaken in the context of clause 228 of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation) (summarised in Appendix A), the Threatened Species Conservation Act 1995 (TSC Act), the Fisheries Management Act 1994 (FM Act), and the Australian Government’s Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) (summarised in Appendix A). In doing so, the review of environmental factors helps to fulfil the requirements of section 111 of the EP&A Act, that Roads and Maritime examine and take into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity.

The findings of the review of environmental factors would be considered when assessing:

- Whether the proposal is likely to have a significant impact on the environment and therefore the necessity for an environmental impact statement to be prepared and approval to be sought from the Minister for Planning and Infrastructure under Part 5.1 of the EP&A Act.
- The significance of any impact on threatened species as defined by the TSC Act and/or the FM Act, in section 5A of the EP&A Act and therefore the requirement for a species impact statement.
- The potential for the proposal to significantly impact a matter of national environmental significance or Commonwealth land and the need to make a referral to the Australian Government Department of the Environment for a decision by the Commonwealth Minister for the Environment on whether assessment and approval is required under the EPBC Act.