

4. Further Investigations

4.1 Environmental

4.1.1 Noise

Additional assessment of noise impacts has been undertaken for the Combined Blue / Orange option in Section E. To determine the potential noise impact of the combined Blue / Orange option, the weighted noise impact was calculated. This approach assesses the overall noise impacts of the options without applying mitigation measures.

The weighted noise impact results for the combined Blue / Orange option is presented in the assessment criteria tables in Appendix A.

4.2 Community

4.2.1 Indigenous heritage – further investigation of the Halfway Creek Bora/Ceremonial Site

Background

The presence of a bora/ceremonial site at Halfway Creek was identified during the route options development phase. Bora grounds are a type of ceremonial site associated with initiation ceremonies. Consultation had initially identified a broad area of sensitivity, which was refined by a subsequent site inspection with the Garby Elders and Grafton-Ngerrie Local Aboriginal Land Council. At an Aboriginal community briefing in February 2006 the attendees suggested that their previous advice regarding the bora site location may have been wrong based on further discussion with other Elders.

Further Investigations

Following the advice received in February 2006 a further site inspection was undertaken in March 2006 with the Garby Elders and Grafton-Ngerrie Local Aboriginal Land Council. This inspection did not result in conclusive identification of the bora site.

Aerial photographs of the locality dating to 1961, 1972 and 1996 were subsequently provided to the Garby Elders and Grafton-Ngerrie Local Aboriginal Land Council to assist them with identifying the location of the bora site. They subsequently advised the possible location of the bora site.

The refined location was subject to further site inspection in September 2006 with the Garby Elders and Grafton-Ngerrie Local Aboriginal Land Council. The inspection did not result in conclusive identification of the bora site however, the Elders narrowed the location down to an area of general cultural sensitivity (Figure 4.1), which was subsequently agreed by other Elders not in attendance at the site inspection.

The uncertainty relating to the location of the bora site resulted in the development of the combined Blue / Orange option because the refined Orange option may potentially impact on the bora site and surrounding culturally sensitive land.



/Z21205904/GIS/Maps/PreferredRoute_Luthers_Rd_Report/Figure 4.1 Bora Site 200207.mxd - 20 February 2007

<p>SCALE 1:8 000</p> <p>Meters</p> <p>Map Projection: Universal Transverse Mercator Horizontal Datum: Geodetic Datum of Australia 1994 Grid: Map Grid of Australia, Zone 56</p>	<p>GRID N</p>	<p>Legend</p> <ul style="list-style-type: none"> — Section Breaks ● Locality ▲ Hill/Mountain Combined Orange/Blue Corridor Refined Orange Route Corridor Highway Main Rd Culturally Sensitive Site Halfway Creek bora/ceremonial site Halfway Creek bora/ceremonial buffer
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Spatial layers courtesy of Coffs Harbour City Council, NSW Department of Lands, NSW Roads & Traffic Authority, Geoscience Australia.

Approximate location of Bora Site at Halfway Creek

Figure 4.1

4.3 Engineering

4.3.1 Heavy Vehicle Operating Costs

The RTA requested that heavy vehicle operating costs be calculated to compare the refined Orange and Orange option relevant performance in Section B/C. The primary purpose of this assessment was to compare performance of heavy vehicles through the Dirty Creek Range.

The assessment was conducted based on the RTA *Economic Analysis Manual* (RTA 2003). The heavy vehicle operating costs are presented in the functional selection criteria tables in Appendix A and are represented as the average heavy vehicle operating costs for one vehicle to travel from the start of Section B to the end of Section C.