

ADDENDUM TO

BRUCE HIGHWAY (COOROY – CURRA)

STRATEGIC PLANNING STUDY

JULY 2008 RECOMMENDED CORRIDOR REPORT

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EXECUTIVE SUMMARY

Following approval and public release in July 2008 of the Bruce Highway (Cooroy – Curra) Strategic Planning Study Recommended Corridor Report, there remained a question over which alignment to adopt should the proposed Traveston Crossing Dam not proceed. In accordance with undertakings to the community, a comparison of the Recommended Eastern (Option 1) and the Alternative Western (Option 2) alignments has been completed.

The outcome of this review reflects only a minor cost difference that is well within the estimating tolerance at this stage of the project. The comparative estimates are as follows:

<u>BUSINESS CASE</u> <i>(incl. new Arterial Service Rd)</i>	<u>OPTION 1</u> <i>Recommended Eastern Alignment (without service road)</i>	<u>OPTION 2</u> <i>Alternative Western Alignment (without service road)</i>
\$755.753 million	\$636.470 million	\$645.672 million

Comparative (2008 \$) estimates are attached in Appendices A & B.

This is supported by the assessment of the non price impacts which identified:

- Two and a half to three year delay in being able to commence construction activities, due to having to replicate the various investigative and design activities already completed on the Recommended Eastern Alignment (Option 1)
- Upheaval of another area of the community at Federal, when those impacted by the Recommended Eastern Alignment (Option 1) have already been purchased and issued tenancy termination notices by Queensland Water Infrastructure Pty Ltd. The tenancy termination notices take affect in late January 2009.

Having duly considered all of the above, it is recommended that state and federal Ministers jointly endorse this addendum to the Bruce Highway (Cooroy – Curra) Strategic Planning Study Recommended Corridor Report (July 2008) stating that,

“In accordance with governments’ commitment to the community, a review of the alignment alternatives between Sankeys Road and Traveston Road has been completed. With consideration to the financial and social impacts, it is recommended that the Recommended Eastern Alignment be adopted whether or not the proposed Traveston Crossing dam proceeds.”

INTRODUCTION

The Bruce Highway (Cooroy – Curra) Strategic Planning Study Recommended Corridor Report was endorsed by the State and Federal Minister's in July and September 2008 respectively. With these formal approvals, there was an undertaking to the community that the alignment around the proposed Traveston Crossing Dam would be reviewed should the dam not proceed.

This addendum to the Strategic Planning Study Recommended Corridor Report sets out the comparison of the recommended (Eastern) versus the alternative (Western) alignments.

METHODOLOGY

The methodology for this comparison consists of two key components - price and non-price.

For the price component, the Business Case for (Section B) Sankeys Road – Traveston Road is well advanced. A P₉₀ Total Cost Estimate has been prepared in partnership with specialist estimating firm Burman Griffith Pty Ltd. The P₉₀ Estimate forms the core basis for the following comparison estimates:

- Option 1. Recommended Eastern Alignment without a new arterial service road.
- Option 2. Alternative Western Alignment without a new arterial service road.

Both options utilise the existing Bruce Highway as the future service road.

Option 1 - Recommended Eastern Alignment without the new arterial service road

To determine a value Option 1, a few basic assumptions were established in consultation with Burman Griffith Pty Ltd. These assumptions were:

- Schedule A – Preliminary Works
 - Adopt as per P₉₀ Estimate.
- Schedule B – Drainage & Retaining Structures
 - Adopt general reduction of 30% across all culvert and related items due to removal of the service road.
- Schedule C – Earthworks
 - Extracted total earthwork quantities from the design model for comparison against the P₉₀ Estimate quantities. Excavation and embankment volumes were then adjusted proportionally. The adopted values used were 70% for excavation volumes and 75% for embankment volumes.
- Schedule D – Pavements & Surfacing
 - Individual items deducted where obviously separated for the service road (that is; asphalt items and individual intersection and side road treatments).
 - Adopt general reduction of 30% across remaining pavement and surfacing items.

- Schedule E – Road Furniture
 - General remain unchanged, but with a general reduction of 30% across a few relevant items.
- Schedule F – Lighting
 - Reduce quantities to account for deduction of intersection lighting associated with the proposed arterial service road.
- Schedule H – ITS
 - Adopt as per P₉₀ Estimate.
- Schedule I – Bridges
 - Calculate general square metre rate for each bridge.
 - Deduct any bridges related to the proposed arterial service road.
- Schedule J – Landscaping
 - Adopt as per P₉₀ Estimate.

Option 2 - Alternative Western Alignment without a new arterial service road

To determine a value for Option 2, a few basic assumptions were established Ltd for proportioning values from the Option 1 Estimate. These assumptions were

- Schedule A – Preliminary Works
 - Adopt as per Option 1 with 100% increases to traffic and environmental management due to greater complexity and associated impacts.
- Schedule B – Drainage & Retaining Structures
 - Adopt general increase of 50% across all culverts over 600mm diameter and other related items. This is based on relative increase in the number of drainage lines (that is; gullies, and so on) encountered on the alternative alignment.
- Schedule C – Earthworks
 - Extracted total earthwork quantities from the design model for the alternative alignment and compared against those extracted for Option 1.
 - Determined a appropriate proportional adjustments for excavation and embankment volumes.
 - The adopted values used were 85% for excavation volumes and 65% for embankment volumes.
- Schedule D – Pavements & Surfacing
 - Length of each alignment is similar, therefore, adopt values from Option 1.
- Schedule E – Road Furniture
 - Length of each alignment is similar, therefore, adopt values from Option 1.

MainRoads

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- Schedule F – Lighting
 - Length of each alignment is similar, therefore, adopt values from Option 1.
- Schedule H – ITS
 - Length of each alignment is similar, therefore, adopt values from Option 1.
- Schedule I – Bridges
 - Calculate general square metre rate for each bridge from P₉₀ Estimate.
 - Determine necessary bridge location including additional bridges at Middle Creek, Middle Creek Road, Christies Road, Unnamed Road, Skyring Creek & Anna-branches.
- Schedule J – Landscaping
 - Length of each alignment is similar, therefore, adopt values from Option 1.

The non-price components cover issues such as environment, survey, design, geotechnical investigations, land acquisition and social impacts.

ANALYSIS

PRICE COMPONENT

Firstly, the price component the various options are as follows:

<u>BUSINESS CASE</u>	<u>OPTION 1</u>	<u>OPTION 2</u>
<i>(incl. new Arterial Service Rd)</i>	<i>Recommended (Eastern) Alignment</i>	<i>Alternative (Western) Alignment</i>
\$755.753 million	\$636.470 million	\$645.672 million

Comparative (2008 \$) estimates are attached in Appendix A & B.

As can be seen from the above table, the comparative cost difference between the Recommended Eastern Alignment (Option 1) and the Alternative Western Alignment (Option 2) at around \$10 million is small in relation to the estimating accuracy. This is consistent with the less than 1% difference in the strategic planning estimates for these two alignments.

NON-PRICE COMPONENTS

With consideration to the non-price components, there is a significant increase in impacts resulting from the Alternative Western Alignment (Option 2), including:

- 2 ½ to 3 year delay in being able to commence construction activities, due to having to replicate the various investigative and design activities already completed on the Recommended Eastern Alignment (Option 1).
- Accidents, including fatalities, would continue to occur during any delay to commencing construction;



- Significant extents of soft soil treatments across the lower flood plains of Skyring Creek, Coles Creek and the Mary River. Previous projects along the existing highway in this area have required soft soil treatments up to several metres deep.
- Upheaval of another area of the community at Federal, when those impacted by the Recommended Eastern Alignment (Option 1) have already been purchased and issued tenancy termination notices by Queensland Water Infrastructure Pty Ltd. The tenancy termination notices take effect in late January 2009.

RECOMMENDATION

That State and Federal Ministers jointly endorse an amendment to the Bruce Highway (Cooroy – Curra) Strategic Planning Study Recommended Corridor Report (July 2008) stating that,

“In accordance with governments’ commitment to the community, a review of the alignment alternatives between Sankeys Road and Traveston Road has been completed. With consideration to the financial and social impacts, it is recommended that the Recommended Eastern Alignment be adopted whether or not the proposed Traveston Crossing dam proceeds.”

