



Meeting Notes

1 MARCH 2012

Berry Bypass southern route design update

Meeting held to provide updates on design development of the Berry bypass southern route suggestion.

Attendees

Glen Smith
David Kennewell
Stephanie Clark
Bruce Ramsey
Steve Zhivanovich
Annabel Killen

Meeting notes

Issue	Details
I. Route horizontal alignment	<p>The horizontal alignment has been further developed at its intersection with the existing Princes Highway near Mullers Lane. It was agreed at this location there would be less impact on properties in Jaspers Brush and a significant engineering improvement of the route's crossing angle over the South Coast Railway.</p> <p>It was noted that there are instances in which this route could be further modified should the southern option progress to the next stage of design development, for example:</p> <ul style="list-style-type: none">- Near Mananga homestead- Passing to the south of the sewerage treatment plant instead of the north (outside the blue haze area)- Adding a second exit to Berry for north-bound drivers at the northern interchange (currently they could use Tindalls Lane) <p>The merits, or otherwise of these and other possible changes would be investigated IF the southern route was to become a feasible option.</p>

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<p>2. Flood investigations</p>	<p>Results of flood investigations detailed.</p> <p>DK and BR received differing advice on the 100 year flood level at the rail from Shoalhaven City Council. DK advised that the figures he is using to model the flood levels are from the Cardno Flood Study Report 2011, available on the Shoalhaven City Council website. DK will seek clarification by contacting SCC and confirming that 100 year flood level is as detailed in Cardno 2011 flood study.</p> <p>DK to confirm flood immunity of sewerage treatment plant and the bunds around the sewerage treatment plant.</p> <p>BR raised island embankment concept around Broughton Mill Creek to reduce the length of the flood plain viaduct. DK advised there are a number reasons that such an island would be problematic and the most significant is the impact on the flow of water during flood events. BR suggested an additional flow structure in the island mid point to assist peak flows. DK agreed to further investigate this proposal.</p> <p>The Windsor Flood Evacuation Route and the Kempsey bypass were cited as examples where embankment islands in viaducts were removed on grounds of economics by contractors who changed initial plans.</p> <p>BR proposed to lengthen the embankment at the western approach to the viaduct and in so doing cover Town Creek. BR suggested Town Creek could be diverted as it had already been in previous years to accommodate the sewage treatment plant.</p> <p>DK advised that diverting Town Creek in this area is very unlikely to be acceptable to the Office of Environment and Heritage (OEH)</p> <p>Query raised about required flood immunity for underpass at southern interchange: requirements for 20 year or 100 year flood event. SZ to obtain advice.</p>
<p>3. Vertical alignment</p>	<p>General agreement on vertical alignment, pending resolution of outstanding issues to be clarified above.</p> <p>Noted that reducing alignment to absolute minimum at particular low points has relatively minor impacts on the total cost. However, optimisation of cut/fill earthworks balance is still to be progressed: Noted that area for analysis of cut/fill optimisation includes Toolijooa cut.</p>
<p>4. Road design parameters</p>	<p>BR raises minimum width requirements for bridges and states that Minnamurra Bridge is narrower than the planned bridges for this bypass.</p> <p>Noted that design standards have progressed since the construction of Minnamurra Bridge and that the Princes Highway</p>

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	<p>upgrade bridges are required to allow for 3 lanes each way, and that the curvature means increased width would be required to satisfy sight distance requirements. SZ to confirm parameters.</p>
5. RailCorp interface	<p>Discussion regarding the requirements from RailCorp to allow for track duplication and electrification. Noted that structures must comply with these requirements where they cross RailCorp property.</p>
6. Bridging structures	<p>BR suggested that super T bridges would be a better solution than precast concrete arches (BEBO) previously thought and that super T bridges would allow for daylight between 100 year flood level and the substructure.</p> <p>SZ said that it would be prudent to continue with examining the pre cast concrete arch solution at this stage. A bridge engineer is currently assessing the feasibility of both types of structures – a definitive answer will not be known until results from geotech investigations are known.</p>
7. Further design development of northern route	<p>Noted that the length of the viaduct on the northern preferred option has been confirmed at 600m (average of northbound length of 610m and southbound length of 590m).</p> <p>BR raised concern regarding backing up of floodwater by the western approach embankment. BR suggested 200m of this embankment be replaced by lengthening the viaduct. DK said the embankment did have a minor impact on water level to the paddock to the north during flood. DK would investigate the extent of the minor impact, but gave the example that such a minor impact would be in the order of 50mm increase water level for a few hours during a large flood event.</p>