PSP 75 Lancefield Road

Northern Jacksons Creek Crossing – Supplementary Information

September 2017

1.1 Northern Jacksons Creek Crossing – Strategic Justification

The northern crossing of Jacksons Creek proposed within the Lancefield Road PSP is a key part of the ultimate road network as defined within the Sunbury-Diggers Rest Growth Corridor Plan, and one of only three road crossings of Jacksons Creek proposed across the growth area.

The new neighbourhoods within the Sunbury South and Lancefield Road precincts (and indeed the future Sunbury West and Sunbury North precincts) represent a logical expansion of the existing Sunbury township. It will be important to ensure strong connectivity between these new neighbourhoods within an expanded Sunbury and the existing community.

The northern crossing will be critical connection to ensure that these new communities are appropriately integrated into the greater Sunbury township, in particular for those areas to the east and north-east of Sunbury, along Lancefield Road (and east of Jacksons Creek). The important network functions of the proposed northern creek crossing are set out below.

1.1.1 Sunbury Ring Road

In a broader Sunbury-wide context, the Jacksons Creek Crossing in the Lancefield Road PSP (northern crossing) is a key component of a Sunbury ring road which connects future communities with the existing township (the existing Elizabeth Drive). This ring road provides an opportunity for cross-Sunbury traffic to bypass the Sunbury town centre.

The southern and northern crossings of the Jacksons Creek are necessary to realise an ultimate ring road.

The single Sunbury Road crossing of Jacksons Creek currently forces cross-town traffic to pass the edge of the town centre, irrespective of its final destination, causing unnecessary congestion. This would be compounded as development in the centre intensifies to support a growing regional population.

Figure 2 shows the established arterial road network in Sunbury, and its relationship to the existing Sunbury ring road (Elizabeth Drive) and the ultimate ring road (as proposed to be delivered through the Sunbury South and Lancefield Road PSPs)

1.1.2 Access to the Sunbury Principle Town Centre

The Sunbury-Diggers Rest Growth Corridor Plan identifies the Sunbury town centre as a ‘Principal Town Centre’, and the primary concentration of regional retail, services, entertainment, commercial and civic uses within the growth area. It will overwhelmingly be the largest destination within the Sunbury-Diggers Rest Growth Corridor itself.

The road network as defined in the GCP, and in turn within the exhibited PSPs, supports strong, direct access for future neighbourhoods of Sunbury with this civic heart.

Providing strong access to the Sunbury Town Centre for future neighbourhoods will strengthen this regional role of the centre, allowing it to offer employment opportunities as well as higher-order attractions and benefits. This was identified as an opportunity by the community when the City of Hume prepared the Hume Integrated Growth Area Plan (HIGAP).

The northern Jacksons Creek crossing will be critical for providing access to the Sunbury Town Centre for new communities in the north-east of the Sunbury Growth Area, and in particular the northern area of the Lancefield Road precinct and the future Sunbury North precinct.

Figure 3 illustrates the travel distances for future communities in the north-east of Sunbury to the Sunbury Town Centre both with the northern Jacksons Creek crossing, and without (i.e. utilising the existing Lancefield Road-Sunbury Road connection). Whilst journey distances are comparable to and from locations in the south of the Lancefield Road precinct, the absence of a northern crossing would have a significant impact on travel distances from locations in the northern part of the precinct, as well as within the future Sunbury North precinct.

It is notable that the traffic modelling upon which the PSPs are planned would necessarily need to be adjusted in the absence of a northern crossing as the distribution of traffic would materially change.

1.1.3 Road Network Planning Principles

There are two main constraints to east-west connectivity between future communities in the north-east of Sunbury and the established township - the railway line and the Jacksons Creek valley. The Jacksons Creek valley is defined by a number of physical constraints - a waterway, biodiversity values and difficult terrain – as well as significant cultural heritage values.

The PSP Guidelines (Element 6, Standard 1) provide for road network connectivity to be provided by arterial roads at approximately 1.6km intervals, supported by connector roads at around 800m, with variations to respond to natural constraints, existing roads and key destinations. Whilst this network is not achievable in Sunbury due to the constraints to east-west connections outlined above, the two Jacksons Creek crossings proposed across the two PSPs would result in:

- One crossing approximately 2.5km south of the existing Sunbury Road crossing (within Sunbury South); and
- One crossing approximately 3.2km north of the existing Sunbury Road crossing (within Lancefield Road)

The general location of the northern crossing as defined in the Lancefield Road PSP is considered to be the only opportunity to cross Jacksons Creek north of Sunbury Road within the Sunbury-Diggers Rest Growth Area, given the alignment and capacity of other roads within this part of Sunbury, and the strategic objective of delivering a ‘Sunbury Ring Road’ via connection to Elizabeth Drive.

In the event that a crossing of Jacksons Creek were not provided in this location, and no further opportunity were identified north of Sunbury Road, all of the future development in the north-east of Sunbury would be dependent upon Lancefield Road/Sunbury Road for access to the Sunbury Town Centre. The northern boundary of the Sunbury North precinct is approximately 8.5km north of the intersection of these roads.

Figure 1 below illustrates the basic principles for a 1.6km arterial road grid, as set out in the *Growth Corridor Plans: Managing Melbourne’s Growth (2012.)*

Figure 1 – Arterial Road Network (*from page 19 of the Growth Corridor Plans)*

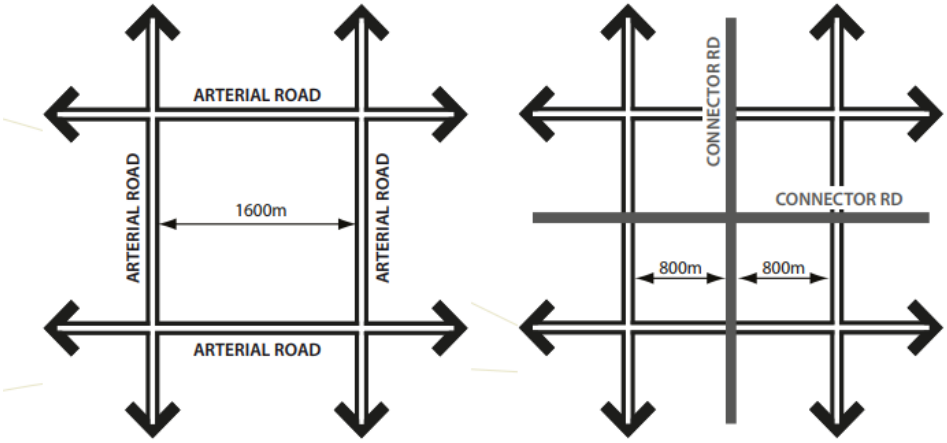


Figure 2 – Ultimate Sunbury Higher Order Road Network

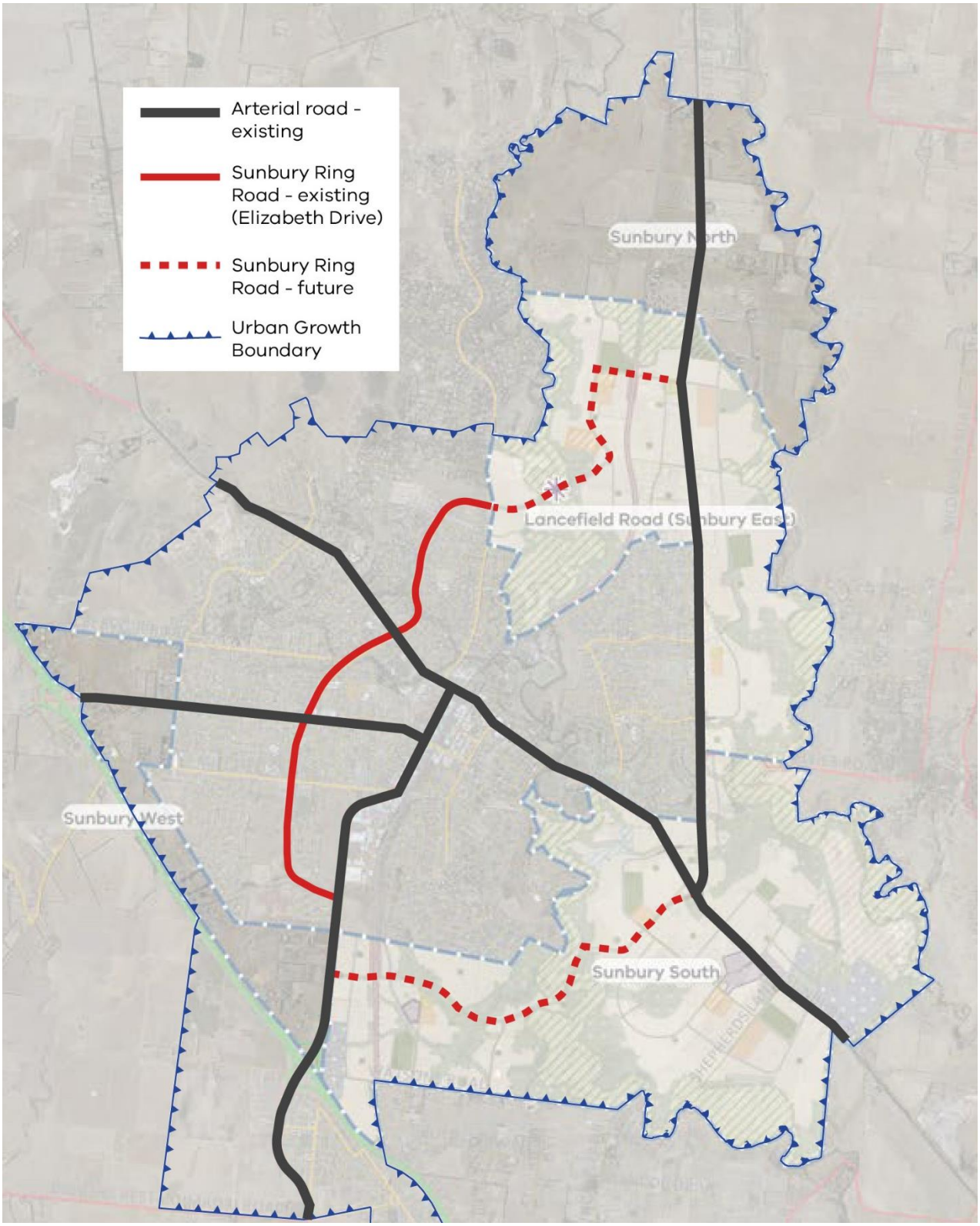
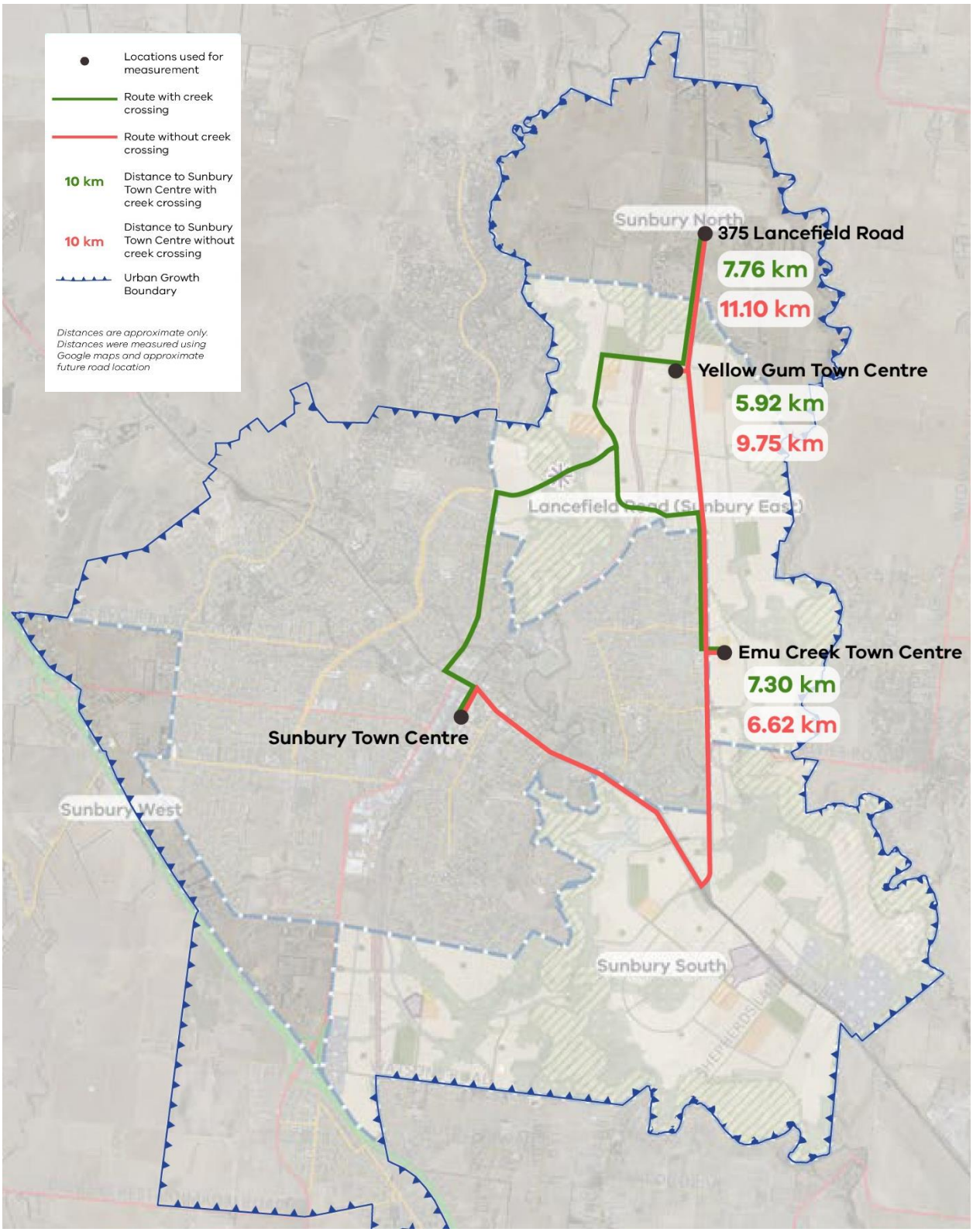


Figure 3 – Northern Crossing – Select Travel Distance Comparisons



1.2 Northern Jacksons Creek Crossing - Visual Impact Considerations

The VPA engaged GTA Consultants (in partnership with Ecology & Heritage Partners and Pitt & Sherry's bridge engineering team) to undertake an options assessment of the Northern Crossing in 2014. The scope of the study was to undertake a robust and transparent assessment of potential road alignments, cognisant of a wide range of inputs.

As part of this study, GTA facilitated a workshop with relevant authorities, landowners and their representatives on 17 July 2014, which discussed:

- confirmation of project methodology, project objectives and key identified issues, opportunities and risks
- identification and agreement on evaluation criteria
- prioritisation and weighting of evaluation criteria
- assessment framework application.

Specific weightings for each criterion were not proposed given the subjective / qualitative nature of some criteria. Rather a priority order as follows was agreed:

- engineering feasibility
- ecology
- amenity
- transport network
- development considerations.

The workshop resulted in 'visual amenity' criteria being added to all amenity considerations.

Two alignment options were assessed in the GTA study (**Figure 4**). Option A proposed an alignment which is located to the south of the current proposed alignment, whilst Option B represents an alignment which is closely aligned with the current proposal. Modifications have been made to Option B since this study was undertaken in order to avoid the Canon Gully heritage overlay.

In its assessment of visual amenity, the GTA study found that:

> *"Option B is shorter than Option A and also comprises a narrower and shorter section of cut and fill extent east of the creek. However, Option B is located within a unique and naturally formed gully. As such, the two options are considered to have similar levels of visual amenity impacts."*
>
> *"…visual amenity impacts for the two options are similar but access to Jacksons Creek for pedestrians and cyclists will be through Option B. As such, Option B is considered to perform better based on the amenity criterion*."

The assessment found overall the two connector road alignment options generally have a similar level of performance with the higher priority criterion of Engineering feasibility, Cultural Heritage and Ecology. However, over the lower priority criterion (including amenity), Option B performs better than Option A.

A visual impact assessment should be undertaken as part of detailed design, to ensure that the final form of the bridge responds sensitively to the landscape.

The Panel has sought advice on how the visual amenity aspects of the design of the bridge will be captured in the PSP. The northern crossing is contained within the Precinct Infrastructure Plan. That plan includes a range of infrastructure items including community facilities and intersections. Some infrastructure such as the intersections is best described as utilitarian or

functional in design. Other facilities will be subject to detailed design which will include urban design input.

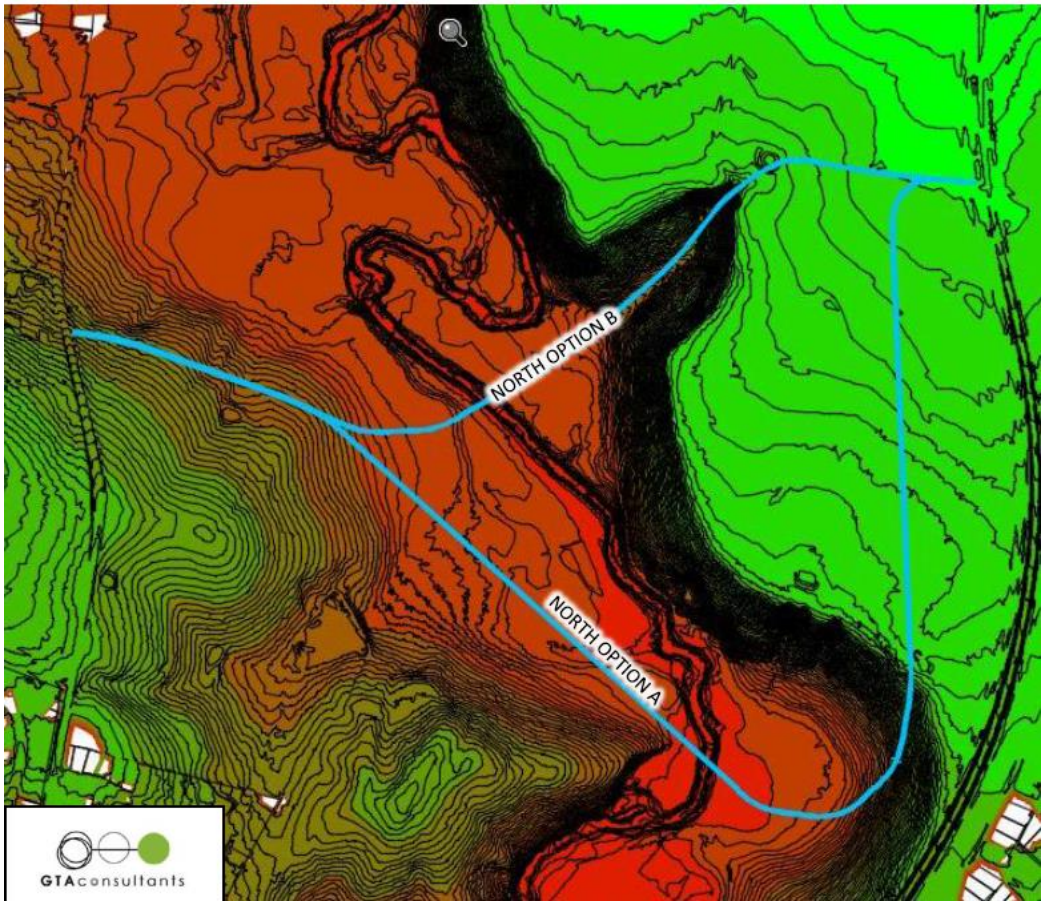
The VPA regards the bridge as being no different. The final design of the bridge is not completed and as Mr Czarny agreed at this time it is not possible to undertake a full visual impact assessment. Mr Czarny raised the obvious concern about potential visual impact of the bridge but had not undertaken a comparative assessment of the alternate locations and fairly conceded it was not his discipline to assess the need for the connection.

At the time the bridge is designed measures will need to be undertaken to manage the impacts of the bridge on the area in a manner that is acceptable. That this work is necessary is obvious and this will necessarily be active on the mind of the development agency. This Panel should take comfort that the selection of alignments took into account the visual impact of the bridge and that the future design will account for visual impact.

The Panel should note on the evidence that a visually sensitive design does not necessarily require a substantially more expensive construction. It may be that as a result of the design process it is determined that the bridge should not 'make a statement'. These are matters for future consideration when the crossing is delivered in the long term at a time when the Villawood subdivision will be complete.

It is not necessary that the PSP depart from the usual position and seek to comment on or control the design process of this ICP item.

Figure 4 – Northern Jacksons Creek Crossing Options – GTA Assessment



1.3 Northern Jacksons Creek Crossing – Design Refinement and impact on Racecourse Road site.

In the VPA's Part B submission to Panel, the VPA provided a preliminary design for the northern creek crossing. In response to concerns by submitters and the Panel, the VPA have commissioned a review of the design, to demonstrate the potential to minimise the impact of a future creek crossing on any future development on the Racecourse Road site. This revised design is included at **Figure 5**.

This revised design:

- Uses the same creek crossing location and horizontal alignment as the previously tabled design.
- Incorporates a 455m long bridge with a 23m maximum height (550m long, 33m high previously).
- Uses a grade of 5% for the bridge structure itself (2% previously)
- Has a western abutment approximately 520m west of Racecourse Road (95m east of previous design)
- Involves minimal changes to the level of earthworks at the western abutment, with minor additional cut at the eastern abutment to support a more eastern 'landing' of the bridge on the western side of the creek.
- Includes limited sections (approximately 100m) of 10% grade from the eastern and western abutments.

This design would involves some earthworks within the amended development area proposed by the VPA for the Racecourse Road site, however these are limited, and could be further reduced through the use of retaining walls or non-standard batters through detailed design. The VPA understands that Villawood support the revised concept design, and will demonstrate further the subdivision design response to the new creek crossing design in their submission to Panel.

Whilst the western abutment in this design is located closer to Jacksons Creek, it remains within the area approved for disturbance under the relevant approved CHMP. As a consequence, ground disturbance within the creek corridor will be limited to the location of supporting piers, as with the previous design.

Figure 5 – Revised Northern Crossing Preliminary Design