

Nick Ross

From: John McCarthy
Sent: Friday, 18 May 2018 2:45 PM
To: Peter Simcock
Subject: FW: B2B: D&C Tender - Certificate A submissions
Attachments: RE: Bay Link: Road Safety Audit

Peter

Refer to James comments below regarding the comparison between both tenders pre award

Post award it was decided through RMT / DMT to instruct CPB to design signalised RAB. Once we had price and concept CPB were provided the unsuccessful FH design as we purchased the IP.

We received criticism about removal of underpass and James has commented on Underpass being removed and signalised crossing for peds (refer RSA attached email)

John McCarthy / Projects Team Manager

Project Manager – BayLink

System Design and Delivery

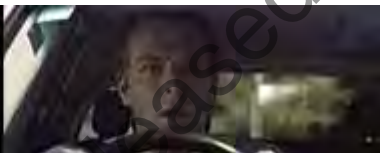
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Other people
make mistakes
Slow down



From: Greig Stephen

Sent: Wednesday, 19 October 2016 4:27 PM

To: John McCarthy <John.McCarthy@nzta.govt.nz>; [REDACTED]; Darren Cash <Darren.Cash@nzta.govt.nz>

Subject: FW: B2B: D&C Tender - Certificate A submissions

From: James Hughes

Sent: Wednesday, 19 October 2016 4:15 p.m.

To: Greig Stephen

Cc: John Reynolds; Sam Bourne; [REDACTED]

Subject: RE: B2B: D&C Tender - Certificate A submissions

Hello Greig

Looking at the submissions, the geotechnical element appears quite significant. Has our Geotechnical Specialist ([REDACTED]) been through these proposals?

My comments (in no particular order) as follows:

CPB

Report

1. SSD of 114m for 80km/h requires a reaction time of 2s – this really ought to be 2.5s and therefore 125m.
2. Report shows a 410mR with 3.5% super. Given its location and the likelihood of higher operating speeds, this ought to be 6% to accommodate, but not encourage, 100km/h.
3. I would prefer to see 150m from the nose (110km/h) to the back of the queue on the off-ramp from TEL
4. I couldn't find an explanation of the 'switch-back' approach to the ped/cycle facility from 29A to Truman Lane in the Urban Design proposal referenced.
5. I would be ok with ground-planted light columns everywhere.
6. Require more detailed information about the surface water depths on the through (SH2) route and assurance that these do not constitute an aquaplaning risk.

Drawings

7. Use of an HT barrier system rather than full height concrete TL5– this would also allow seamless transition to the monolithic TL4 separating the traffic streams.
8. Base of the retaining walls should be 'F-shaped' to soften impact. The retaining wall must provide a non-snagging surface.
9. Continuity of protection for cyclists off the structures – extension of the top rail?
10. P&L drawing shows 3.5% superelevation on 410mR curve – cross section shows 6%. I would prefer 6% to accommodate a higher operating speed environment (as noted above).
11. I am not sure what is in the PR's but a 6% max. grade on the ramps is preferable (7.2% and 7.4% on the north and southbound onramps respectively).
12. Are the signs for Rotorua (2) and (29A) the wrong way round?
13. Although probably not a great differentiator at this stage, I feel that it would be worth looking at the edge protection in detail as part of the preferred tenderer negotiations. As you well know, this will have a big effect on the look, feel and impact of the project and we ought to take some time to get it right. I would be particularly interested in exploring the potential to replace some TL4 concrete with WRB to 'open up' the travel environment.
14. There are an awful lot of catch-pits and manhole covers dotted all over the shoulders and, in some cases the carriageway. The designers should be encouraged to make every effort to minimise these and ensure they do not represent a hazard for road users.

15. The large retention ponds need protection from errant vehicles.
16. The safety barrier systems at the signalised intersections with SH29A should be set back so that they do not interfere with required sight-lines. These must operate safely when the signals are not working. This applies particularly to the northern side of the intersection as the shared path helps in this respect on the southern side.
17. HT rails must be extended to provide length of need to protect cyclists from the hazard
18. The design shows central lighting along SH2 which is not feasible with a wire-rope median barrier.

FH/HEB

– BIG TICK FROM ME FOR THE SIGNALISED ROUNDABOUT!

Design Statement

1. I would prefer the through route of SH2 to provide SSD based on a 2.5s reaction time, rather than the PR's 2s. It is a major arterial through route and while the environment is peri-urban, there is an awful lot to distract drivers from their tasks.
2. I note that we require two design vehicles to track simultaneously through the intersection. Normally the only requirement is design vehicle plus car, even at roundabouts. Is this specific requirement for a particular reason?
3. Section 4.4.2 mentions rails on top of barriers. These should be HT rails, not bespoke designs.
4. HT rails must be extended to provide length of need to protect cyclists from the hazard
5. Has the analysis been carried out for the surface water flow depths? I understand the issues with the road levels at the main intersection, however we should still analyse SH2 as usual.

Drawings

6. 410m Radius ought to have 4% superelevation
7. VA of SH2 (and the distributor roads) has way too many short elements. Allowing for construction tolerances, this pavement could end up any shape! This should be extensively rationalised to give greater control and assurance of the standard of carriageway.
8. Ditto above with the very short 3000m (Ch 900) radius leading into the spiral and the 407m R
9. Some form of physical barrier is required to prevent eastbound drivers on SH2 turning right into Exeter street.
10. Treatment of superelevation on SH29A between the intersections should be consistent between the two tenderers.
"The 90mR nearest the roundabout is on a fairly level grade and so I would not bother to superelevate this. Those travelling west towards it will experience positive anyway. Those leaving the roundabout at potentially lower speeds will experience negative and are in a position to manage their comfort accordingly. 90mR with 3% adverse can be driven quite safely at 55-60 km/h.

The 100mR closest to the signals is more problematic because of the steep downgrade. We generally try to avoid adverse super in this context, particularly on tighter curves, because of the negative effect it has on truck stability. Assuming that we are designing for between 40 and 50km/h, I would suggest that we apply 5% super westbound (grade corrected downhill) and only 3% eastbound (uphill) to help manage speeds into the signalised intersection. At least those heading towards the roundabout will have a good view of what's up ahead and therefore (hopefully) won't see much point in trying to go too fast."
11. The separate barrier in front of retaining walls should be incorporated into the base of the wall, providing that the wall does not represent a snagging hazard.
12. A single pair of columns would be preferable in the roundabout central island.
13. There are an awful lot of catch-pits and manhole covers dotted all over the shoulders and, in some cases the carriageway. The designers should be encouraged to make every effort to minimise these and ensure they do not represent a hazard for road users.
14. Details of the proposed kerb profiles would be helpful
15. The use of HT barriers rather than monolithic TL5 is shown on the structures cross-sections but not the layout plans – unless all TL5 are HT.
16. HT rails need to provide length of need protection for cyclists.

I think that's about it. Happy to discuss of course or comment on anything anyone thinks I may have missed.

James

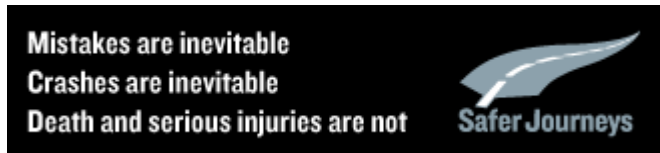
James R Hughes BSc CEng MICE/ National Design Engineer

Traffic & Safety Team

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Please consider the environment before printing this email

From: Greig Stephen

Sent: Friday, 14 October 2016 3:41 p.m.

To: James Hughes

Cc: John Reynolds; Sam Bourne

Subject: RE: B2B: D&C Tender - Certificate A submissions

Hi James

I've just spoken to our consultant and they will put a zip folder containing all Cert A files into each location for downloading – should be uploaded in about 15 mins.

Regards

Greig Stephen / Senior Project Manager

Highways and Network Operations

s 9(2)(a)

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Nick Ross

From: James Hughes
Sent: Monday, 30 October 2017 11:06 AM
To: Greig Stephen; s 9(2)(a)
Cc: John McCarthy
Subject: RE: Bay Link: Road Safety Audit

Hello Greig

This is frustrating, however the SAT do raise some valid concerns and so we need a coherent rationale as part of the Client decisions.

There is no doubt that the signalised roundabout layout has its challenges and users will need to have expectations set as to how it should be used. It may take a while to 'fine tune' the phasing. From a pure safety perspective, the removal of an underpass and replacing it with a series of signalised crossing points is not a desirable outcome. However, the underpass in question only addresses the needs of a specific movement, whereas the signalised roundabout creates the opportunity to better match desire lines with safer crossing points for the wider community network. It also allows the development of the roundabout central island as a 'place' rather than a thoroughfare with simple and superficial landscaping.

I appreciate their point about the delays, particularly relating to the number of crossings during inclement weather and so the phasing (dedicated pedestrian phases at peak shopping times) and associated weather protection (shelters at crossings) will be an important part of the facility. However, these are all perfectly practical solutions and, from a CPTED perspective are preferable to underpasses.

Happy to discuss of course.

James

James R Hughes Bsc CEng MICE/ National Design Engineer

Technical Services

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<http://www.saferjourneys.govt.nz/>

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From: Greig Stephen
Sent: Friday, 27 October 2017 12:41 p.m.
To: s 9(2)(a); James Hughes
Cc: John McCarthy
Subject: Bay Link: Road Safety Audit

Hi gents

Released under the Official Information Act 1982

FYI, we have received the independent Road Safety Audit report for 50-85% detailed design stage of the Bay Link (Baypark to Bayfair Link Upgrade) project which can be viewed on Infohub here [See document 10](#)

Rather frustratingly, this audit includes a recommendation to provide a grade-separated facility at the Maunganui-Girven Road Intersection for pedestrians and cyclists (refer to Item 5.1 – Significant Concern). The previous audit carried out on the Fulton Hogan-HEB tender design (on which the signalised roundabout design was based) did not raise any issues regarding grade separation, and the positive feedback from the RSA team played a role in our decision to incorporate the design into the winning tender, at significant cost.

I am comfortable that the concerns with the signalised roundabout will be sufficiently addressed by the designer once the signals design has been refined and peer reviewed by signals specialists as requested by the RSA team, but it may be valuable to bolster our response with supporting comments from our internal safety team in order to clarify the Transport Agency's position.

In the meantime, the document is with the contractor to prepare Designer Comments so we will see what comes back from them.

Regards

Greig Stephen / Senior Project Manager
System Design and Delivery

[s 9\(2\)\(a\)](#)

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