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13 December 2024

Ref: 1031

Mark Lile
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Dear Mark

Proposed Shared Path and Bridges – Maitai Valley, Nelson City Transportation Assessment

1. Introduction

Please find enclosed my assessment of the proposed shared pathway and new bridges that will connect Ralphine Way with Nile Street East and is required within X.9 of Schedule X (PPC28).

This Transportation Impact Assessment (“TIA”) will form part of the resource consent application for the works outlined above. The TIA sets out and describes:

- The existing transport environment in the vicinity of the site
- The development proposal
- Assessment of the development against the provisions of the Nelson Resource Management Plan (NRMP), and
- An assessment of the proposed works to address the associated transport constraints.

The assessment below provides an analysis of the matters as set out above.



Figure 2: Nile Street East

Nile Street East is a straight, flat road with two lanes, one lane in each direction with parking lanes along both sides of the road. There are footpaths/cycleways along both sides of the road which are separated by a wide grass berm. Nile Street East varies in width from around nine metres to 17 metres. There is kerb and channel along most of its length.

The intersections along Nile Street East have excellent sight distances and motorists are provided with a relatively safe environment. The sight lines at its intersection with Maitai Road are restricted.

Immediately east of the intersection of Nile Street East and Maitai Road is a one lane bridge providing access to residential properties to the east and up into the hills.

2.2 Maitai Road and Maitai Valley Road

Maitai Road and Maitai Valley Road have a posted speed limit of 50 km/h even though it is rural and recreational in nature with very little development along its edges. Typically, this road type would have an 80 or 100km/h speed limit, but it is assumed that it has the lower speed limit because it sits within the urban area of Nelson City and the frequently used recreational activities along its length. The road is listed as a Proposed Sub-Collector Road in the Nelson Resource Management Plan.

The road itself varies noticeably along its length with narrow sections with no shoulders to wide portions of road with a flush median.

Figure 3 shows the first section of Maitai Road



Figure 3: *First Section of Maitai Road*

As shown the first section of Maitai Road is narrow and is constrained by the Maitai River on one side and a steep bluff on the other.

There is a kerb and channel on the northern side of the road along with a footpath. The image also shows the rock barrier on the northern side of the road.

Council has recently completed remedial work to the road edge on the river side of the road.

Figure 4 shows the road layout along the middle section of Maitai Road.



Figure 4: Middle Section of Maitai Road

The middle section of Maitai Road is around 10 metres wide with a painted flush median along its length. There is no kerb and channel or footpaths along this section of road. Edge lines are also provided with heavy bollards along the edge of the road. A number of these treatments would appear to be an attempt to reduce the speed along this section of road. The police regularly enforce the speed along this section of road.

Maitai Road changes to Maitai Valley Road at Jickells Bridge.

Figure 5 shows the road environment for the eastern approach to Jickells Bridge.



Figure 5: Maitai Valley Road at Jickells Bridge

The road narrows as it comes to Jickells Bridge where the flush median is replaced with a dashed centreline and no edge lines. The width of the road is around seven metres between kerbs with 1.2 metre wide footpaths along both sides.

Figure 6 shows Maitai Valley Road as it approaches Gibbs Bridge.

Maitai Valley Road at Gibbs Road (one lane bridge) narrows further and has a width of around 7.5 metres. The width of the bridge is around 3.7 metres with an area that can be used as a footpath on the southern side and is less than one metre wide.



Figure 6: Maitai Valley Road at Gibbs Bridge

Vehicles approaching Gibbs Bridge are provided with good forward sight distances that allow opposing traffic to react and stop should the need arise. The bridge does reduce the operating speed at this location due to the need to give way to opposing traffic.

Moving further along Maitai Valley Road, past Ralphine Way, the route becomes slightly narrower in some places with more horizontal curves.

2.3 Ralphine Way

The formed section of Ralphine Way is a short cul de sac which is around 170 metres long that provides access to the development site and seven residential homes.

Figure 7 shows the road layout of Ralphine Way.



Figure 7: Ralphine Way

The road carriageway is around nine metres wide and has kerb and channel along both sides of the road. There are no footpaths along the road which is sealed. Currently no vehicles park on Ralphine Way with existing homes having ample off-street parking. The legal road width is around 20 metres wide.

The intersection of Ralphine Way and Maitai Valley Road is uncontrolled with Maitai Valley Road having the vehicle priority due to the nature of the intersection layout. Motorists exiting Ralphine Way have excellent sight lines in both directions.

The formation width of Ralphine Way is much wider than would be required to serve the number of homes it currently provides for. The road cross section would easily meet the requirements of a sub collector road for the movement of vehicles.

3. Walk/Cycle Connections

The Maitai Valley is located close to the central area of Nelson with Nile Street East having excellent walking and cycling connections.

As noted above the development site is located very close to central Nelson which is around a 30-minute walk and a five-minute bike ride.

Figure 8 shows the existing walking and cycling paths near the development site.

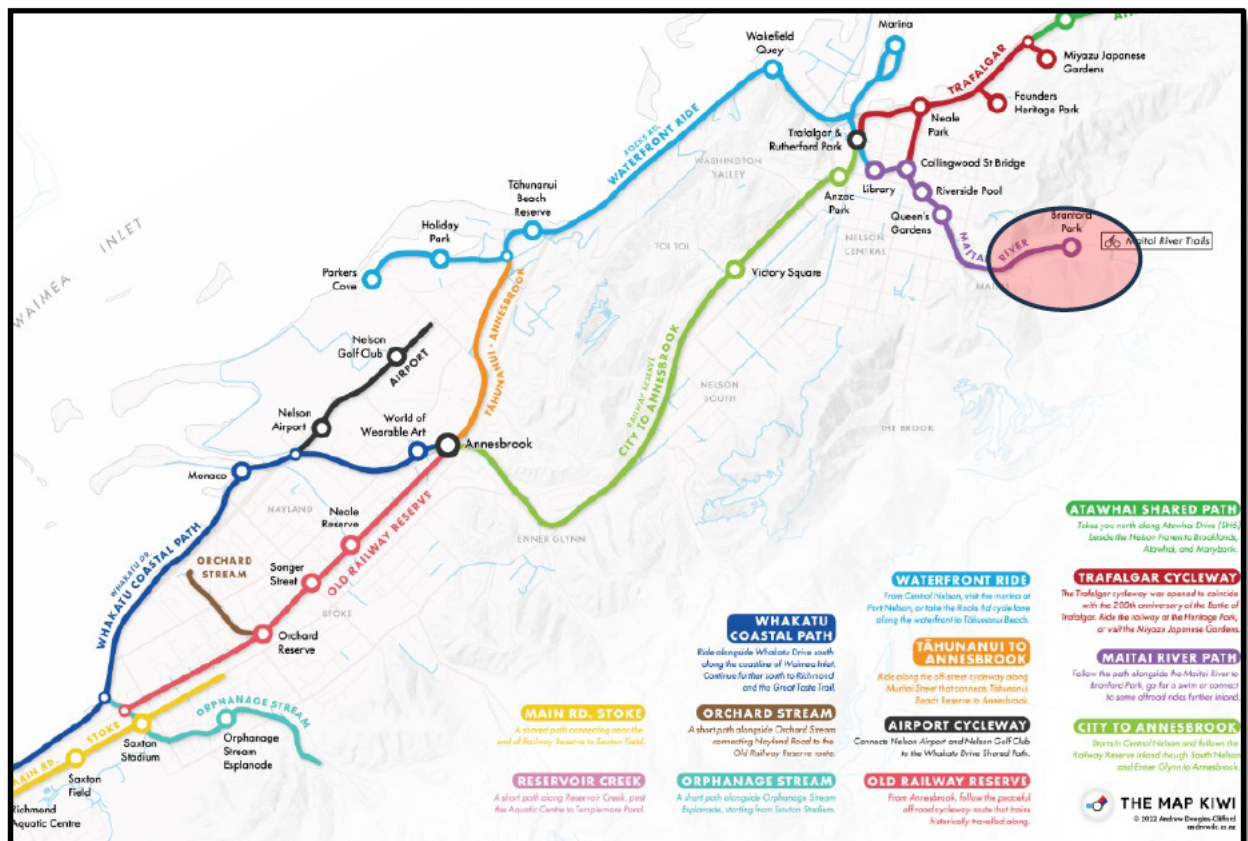


Figure 8: Existing cycle and walking paths.

As shown, there are a number of facilities provided near the site and the development will be connected to these existing facilities with a new shared path. The Maitai River path (in purple) is on the southern side of the Maitai River. It cannot be easily accessed from the Valley until you reach Jickells Bridge. The proposed shared path will provide a significant improvement to pedestrian and cycle infrastructure and will be separate from the road and the existing Maitai River Path.

Nile Street East has shared paths along both sides of the carriageway that are separated from the traffic lanes. From Nile Street there are a number of different routes that pedestrians and cyclists can use to access the central area.

4. Traffic Flows

4.1 General

This section provides traffic count data for the key roads that may service the development site. The traffic count information has been obtained from Mobile Road software.

4.1 Nile Road East

Traffic count data has been provided by Nelson City Council for traffic movements and speeds along Nile Street East and Maitai Valley Road.

The traffic flows were recorded on Nile Street East, east of its intersection with Tory Street in April 2024. The count data showed daily flows of around 2,400 vehicles per day and around 230 vehicles in the peak hour.

Speed data was also collected which showed the 85th percentile speed to be around 54 km/h. Vehicles were travelling slightly faster in the westbound direction compared with the eastbound traffic.

4.2 Maitai Road and Maitai Valley Road

The traffic flows were recorded on Maitai Valley Road, just east of Jickells Bridge in April 2016. The count data showed daily flows of around 1700 vehicles (April 2024) and peak hourly flows of around 150 vehicles. It should be noted that Maitai Valley Road has high seasonal variations and high weekend flows due to a number of recreational activities in this area. Therefore, the traffic flows are expected to be higher than the volumes recorded in April 2016.

Speed data was also collected which showed that the 85th percentile speed was around 64 km/h which is 14 km/h above the posted speed limit of 50 km/h. Westbound traffic was travelling slightly slower than eastbound traffic.

4.3 Ralphine Way

The traffic flows on Ralphine Way at its intersection with Maitai Valley Road are estimated to be 80 vehicles per day. The posted speed limit is 50 km/h with the operating speed estimated to be around 40 km/h.

5. Crash History

This section provides details of the crash history for the key roads related to the proposed subdivision. The search has included the roads that can be used by pedestrians and cyclists. A detailed search of the New Zealand Transport Agency crash database was carried out for the five-year period from 2019 to 2023. The part year of 2024 was also reviewed and considered as part of the crash analysis. The roads that were included: Ralphine Way, part of Maitai Valley Road (for shared path), Maitai Road and Nile Street East.

The crash history for these roads is provided below.

Table 1 provides the details of the reported crashes.

Road	Location	TCR Reference	Collision Date	Accident Description	Severity
Maitai Road	Carpark 250 metres from Nile Street East.	2022215375	08/03/2022	A driver has passed out in the car park and hit a tree.	Minor
	450 metres east of Nile Street East.	201988596	30/12/2019	Car westbound lost control and veered off the road and hit bollard.	Non-injury
	550 metres east of Nile Street East.	2024277241	05/01/2024	Car westbound lost control and veered off the road into bollards. Medical event.	Minor

	620 metres east of Nile Street East.	202222968	20/05/2022	Driver has fallen asleep heading east on Maitai Road and collided with bollards.	Non-injury
Maitai Valley Road	230 metres west of Ralphine Way.	2021178649	12/02/2021	Driver has lost control of their vehicle heading west on Maitai Valley Road and hit a bank.	Minor
	At Gibbs Bridge.	2021196384	01/08/2021	A vehicle was driving at high speed and the driver has lost control when crossing Gibbs Bridge. Driver heavily intoxicated.	Non-injury
	110 metres west of Ralphine Way.	2021200143	13/09/2021	A cyclist riding west on the road has been clipped by a passing vehicle. Driver did not stop.	Minor
Nile Street East	10 metre east of Maitai Road.	2023263821	03/08/2023	Car heading east on Nile Street East has lost control and collided into the one lane bridge. Driver was intoxicated.	Non-injury
	40 metres west of Maitai Road.	2023267870	11/09/2023	A motorcyclist heading west on Nile Street East has collided with a parked car and then a tree. Driver was intoxicated.	Minor
	Outside 193 Nile Street East.	2020185145	30/09/2020	A vehicle has collided with a parked car.	Non-injury

Table 1: Reported Crashes 2019 to 2024 (Source: NZ Transport Agency)

There are eleven reported crashes on the roads within the search criteria. Three of the reported crashes involved intoxicated drivers and three crashes were medical events.

The reported crashes show no inherent deficiencies in the road network.

6. Proposed Shared Pathway and Bridges

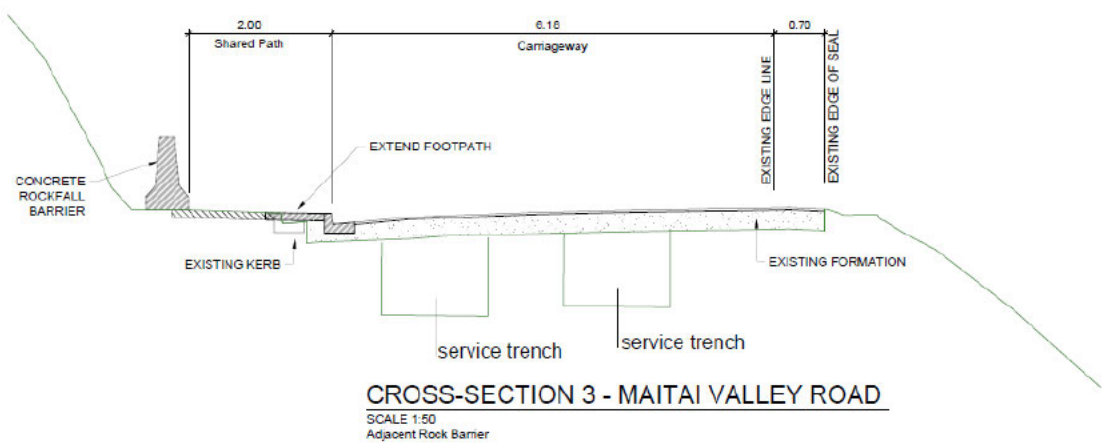
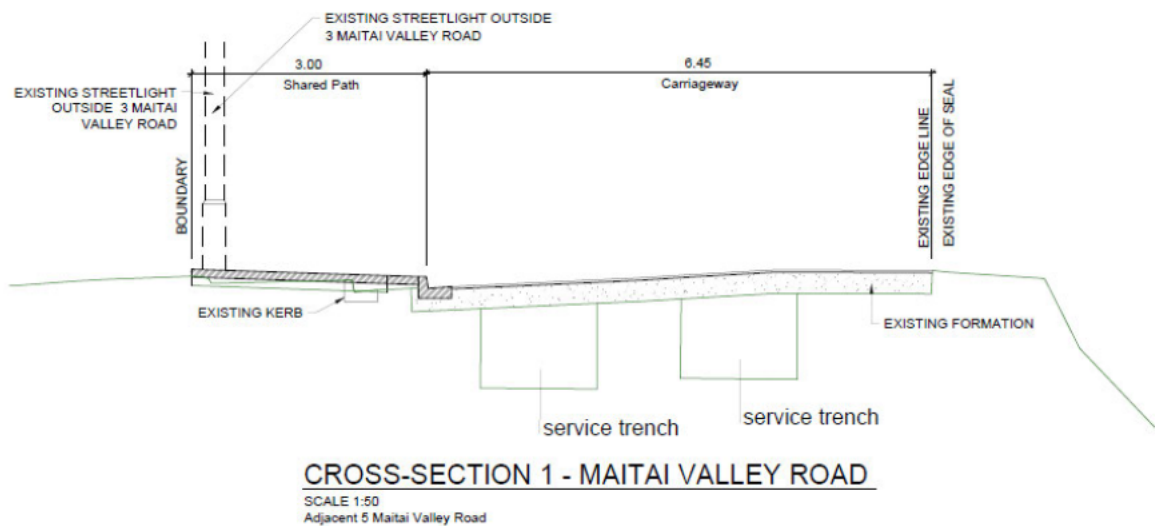
As part of Plan Change 28 a number of off-site measures were required to enable the development of the land known as Maitahi. The works/measures included the three waters infrastructure and transport improvements to the adjacent road network.

The transport requirements coming out of the Plan Change 28 process included the provision of a three metre wide shared path from Ralphine Way to Nile Street East intersection with Maitai Road. This requirement included two new separated shared path bridges next to Jickells Bridge and Gibbs Bridge.

The route has a new three metre path from the end of Ralphine Way along the eastern side of the road. The path crosses Maitai Valley Road on the east side of the intersection and travels along Maitai Valley Road and Maitai Road. As the path heads towards Nile Street

East where the road narrows the shared path crosses over Maitai Road. There is a short section of shared path that reduces down to a two-metre-wide traverse through a constrained section of the road.

Figure 9 shows the typical cross sections of the path along the proposed route. The full set of plans are provided with the consent application.



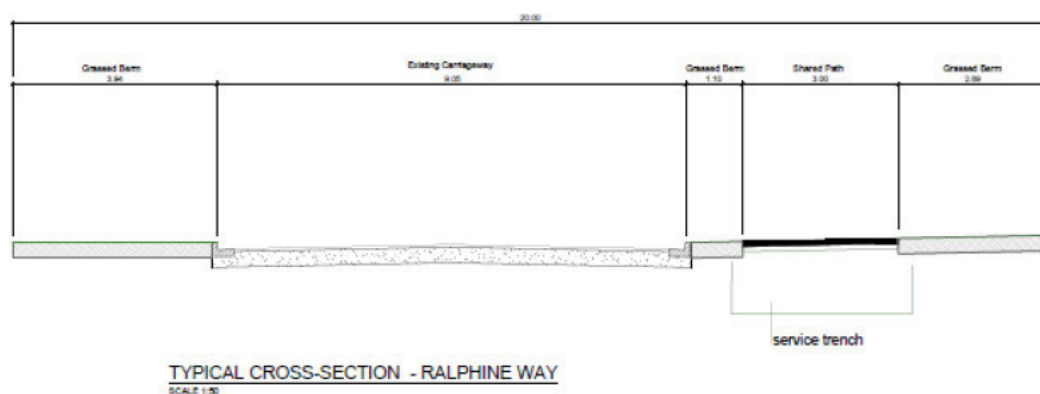
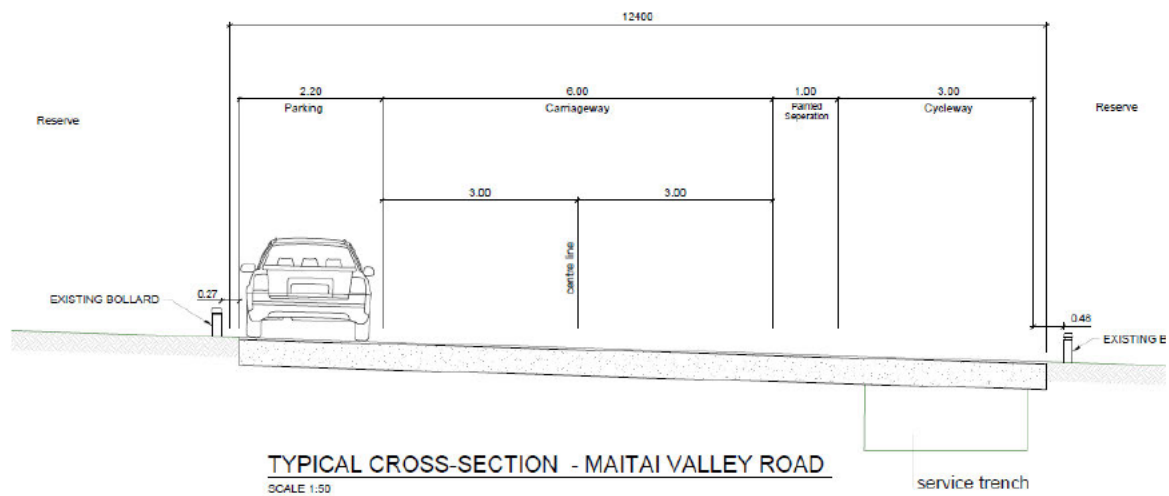


Figure 9: Typical Road Cross Sections. (Source: Davis Oligvie)

As shown the shared path is three metres wide for most of its length with the one exception as noted above with Cross Section 3.

The path is either away from the moving traffic lanes or separated from the traffic lane by a combination of a one-metre-wide painted strip separating vehicles for the cycle lane and landscaping treatments within that painted strip.

At the western end of the shared path towards Nile Street East, the path moves onto the existing footpath which will be widened

Figure 10 shows the typical cross section for the new bridges.

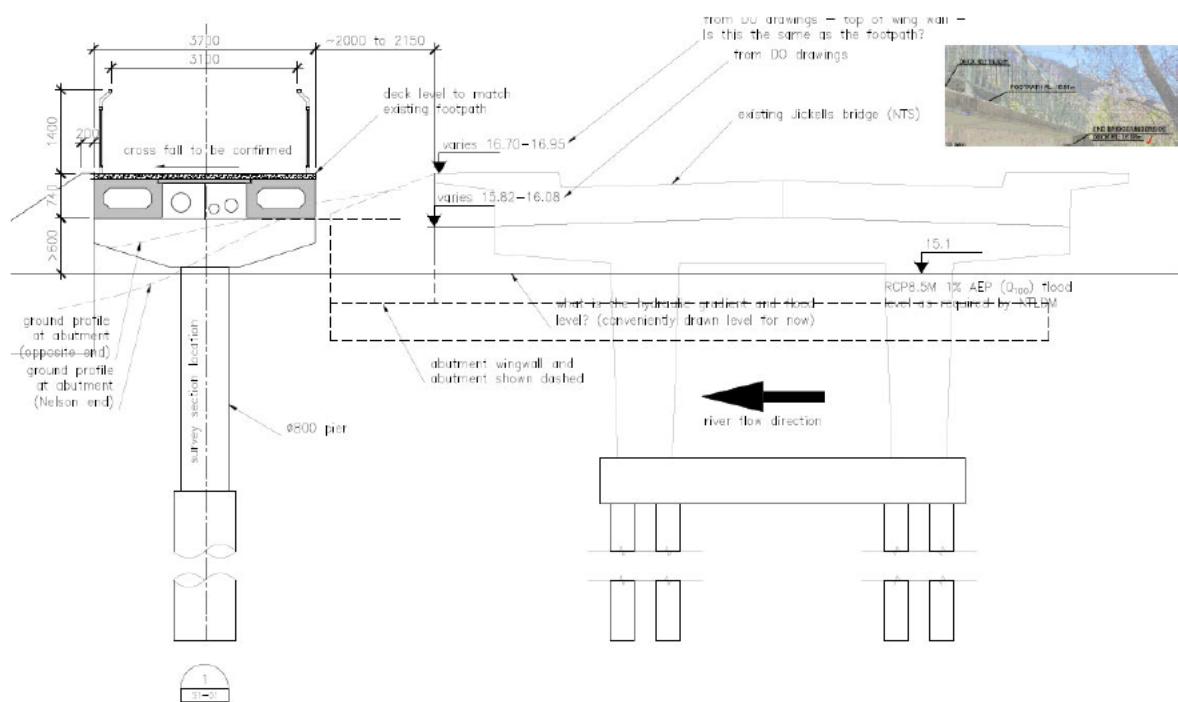


Figure 10: Typical Bridge Cross Sections. (Source: Davis CDT Consultants)

The path across the new bridges will have a clear width between the rails of 3.1 metres. The bridge section that is shown is for Jickells Bridge. The cross section for the new Gibbs Bridge is the same except the new structure is on the upstream side of the existing road bridge.

7. Planning Framework

Generally, the proposed works are permitted as they are within the road reserve and relate to road or servicing activities. There are three parts of the proposed works that will require consent. The new shared pathway bridges, the short section of pathway that is less than 3.0m wide, and a part of the works near the Lombardy Poplar tree.

As part of Plan Change 28 it required a number of transport upgrades which are set out in Schedule X.2.b, X.3.b. and X.9 Services Overlay of the NRMP. Schedule X.9 has a table outlining the works required on the existing road network.

Table 2 sets out the development compliance with the transport requirements of Schedule X.9.

X.9 Services Overlay – Transport Constraints and Required Upgrades			
Transport Upgrade	Construction or Improvements	Proposed Works	Compliance
The active mode connections from the PPC28 Plan Change area to the city centre (Collingwood Street). There may be separate	Construct a separated shared path from PPC 28 to Nile Street East (sic) and/or Hardy Street. The shared path must be at least 3000mm wide.	There is a three metre shared path provided from the PC 28 land to Nile Street East. There is one short section where	Does not comply Design included in

routes to provide for recreational users and commuters (includes work and education);	There are a number of design options that will be considered as part of Stage 1 of the subdivision.	the path narrows down to 2.0 metres due to road corridor constraints.	Application drawings.
Gibbs Bridge walk / cycle provision;	Construct a shared cycle/walk bridge across the Maitahi/Mahitahi River. Note that this upgrade may be replaced with alternative shared path access from PPC 28 that removes the need for this project.	Two new cycle/service bridges will be constructed across the Maitai River. The shared path will be 3.1 metres wide.	Complies Design included in application drawings
The intersection of Ralphine Way and Maitai Valley Road;	Improve sight lines, install intersection control and provide right turn bay for Ralphine Way	The proposed design will install give way signs, remove some vegetation and install a raised cycle/pedestrian crossing facility across Maitai Valley Road.	Complies Design included in application drawings

Table 2: Schedule X.9 Compliance Table.

As shown the proposed works are planned as a part of removing these specific transport network constraints from Schedule X (X.9). There is only a short section near the intersection of Maitai Road and Nile Street East that is narrowed down to 2.0 metres due to the road corridor constraints.

The narrowed section is around 30 metres in length and runs along the existing rock protection barrier that is north of number 5 Maitai Road. The combination of the rock barrier, the steep bluff and the river edge has made it impractical to provide the full 3.0 metre wide path on this short section of Maitai Road.

The effects of this narrowed section can be mitigated by permanent warning signs with a narrowed cycle lane and “Downhill Cyclists Give Way” signs.

The approach sight lines to the narrowed section of shared pathway are excellent and cyclists are able to see and slow down and/or give way as required. Any effects can be managed by the signage.

As part of preparing the design, consultation has been undertaken with Council representatives to explain the constraints and get approval in principle to reduce the width of the shared path. Positive feedback was given due to the particular constraint at this location.

8. Conclusion

The proposed works that trigger the need for a resource consent include the new shared pathway bridges, works near a heritage tree and reduced width of the shared path for 30 metres.

The reduced width of the shared path near the southern end has been discussed with the Council, along with an explanation and agreement as to why the path needs to be narrowed. The existing constraints for a short 30 metres of Maitai Road include the river edge moving close to the road and the rock protection barrier to control rockfall from the adjacent bluff. The short section of the shared path can be managed with signage, so the effects are less than minor.

The non-compliances relating to the river works and the heritage tree are covered by other experts.

We are happy to provide any further clarification if required.

Regards



Gary Clark

Director

NZCE (Civil), REA, CMEngNZ.