COUNCIL SUBMISSION – Parramatta Light Rail Stage 2 alignment, public consultation

EXECUTIVE SUMMARY

City of Parramatta Council (Council) thanks Transport for NSW (TfNSW) for the opportunity to provide a submission to the public consultation for the alignment and related matters for Parramatta Light Rail Stage 2 (the Project). Council looks forward to continuing to work closely and proactively with TfNSW on this critical Project for the City of Parramatta.

Council strongly supports the delivery of Parramatta Light Rail Stage 2, an important part of the city-connecting infrastructure required to support existing and current anticipated population within the Carter Street precinct, Wentworth Point, Melrose Park, Camellia and the eastern LGA corridor.

Within Council's review of the alignment and other matters within the virtual consultation room (and survey) there are many matters where quality public domain, social and environmental outcomes will require a strong design-led solution and innovation in impact mitigation of the rail line. Particular matters are as follows.

- Council supports the TfNSW A9 alignment, but only if it runs south of Antoine Street and not through the foreshore park. An A9 alignment that runs within the foreshore park must result in compensatory land to Council and/or open space embellishment.
- Council supports the alternate light rail alignment to the south of the Sekisui site, but only if the light rail stop adjacent the ferry wharf is retained, per the base case.
- Council notes the PLR alignment at Camellia should be consistent with the Draft Camellia-Rosehill Place Strategy – with the light rail stop centred within the potential development site and more convenient to the future school in that Strategy.
- Council has no objection to the remaining stop locations, noting that TfNSW may receive community feedback from consultation.
- In order to partly offset the impact of the Project on Ken Newman Park, Council request TfNSW to develop and fund, in consultation with Council, a specific design plan and works to Ken Newman Park, with the aim of minimising the light rail isolating the upper and lower portions of the park, and embellishing the upper portion to make it more useable for the community.
- In accordance with the Secretary's Environmental Assessment Requirements for PLR Stage 2 the bridge structures in the Project should be design-led, and not form part of the main infrastructure design and construct process. This should be reflected in the Stage 2 EIS. Preferred bridge designs should be determined, in consultation with stakeholders via agreed design principles and cost estimates, in a process separate to and before the main infrastructure design and construct contract, and included as a requirement for eventual main construction tenderers.
- Council requests TfNSW to provide green track, permeable paving and wire-free running in green space and business areas as detailed in this submission.
- The Project should place significant design-led emphasis on mitigating the impacts of site cut and fill, to ensure that the community retains convenient crossing points over and across the light rail line, and that prominent views and property privacy are maintained.
- The EIS and Project should carry out a detailed cut and fill balance and scenario testing against best practice public domain outcomes, to provide a realistic assessment of likely spoil retention, and any spoil retention targets within the EIS being subordinate to or at the very least equal to strict peer reviewed requirements for best practice public domain outcomes.

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- TfNSW should create a community reference group which includes equal representation from residents and businesses in suburbs along the alignment, the purpose of that reference group being in part to advise TfNSW and contractors of construction impacts, and to respond to TfNSW with recommendations to any contractor request for night work and/or noise intensive work.
- Council recommends that the protection of residential amenity during light rail operation be a strong focus of the EIS, employing world class practices to minimise ground-borne vibration, ground-borne noise and airborne noise from rail operation.
- TfNSW develop within PLR Stage 2 a suitable track insert to assist the Project to provide seamless, coherent, visible, and safe pedestrian and cycle access throughout and adjacent to the PLR corridor.
- The Project not worsen existing flood impacts along the alignment, and stormwater upgrade works, including at Hill Road, be the subject of close engagement between TfNSW and Council, to avoid duplication of work and unnecessary cost.
- TfNSW develop within PLR Stage 2 a comprehensive public art and interpretation strategy for the whole alignment, using a consistent consultant scope, engaging closely with Council, and requiring coordination between TfNSW, contractors and stakeholders to provide an integrated approach.
- The Project Urban Design Requirements (Blue Book) provide for the creation of accessible paths with clear 'paths of travel 'and shorelines that are unencumbered by incidental electrical and traffic signal cabinets.
- The Blue Book require cabinet positions in the footpath that are neatly aligned, out of the way and plumb, cabinet positioning meets AS1428 standard requirements, and particularly that designs are carefully considered so as to minimise any potential claim on Council under the Disability Discrimination Act (Comm).

Council requests that the TfNSW PLR Stage 2 Project team consider the above issues within the Environmental Impact Statement (EIS), the design stages and eventual Contract documents, to ensure the best possible rail user experience, balanced with the construction and operational impacts for local residents and business. Council welcomes further opportunities to meet with TfNSW to discuss this submission.

KEY ISSUES

1.0 Alignment options

1.1 Camellia to Rydalmere alignment and bridge option

Figure 1 Base case alignment along Grand Avenue (bold line) with foreshore bridge crossing (dashed line)

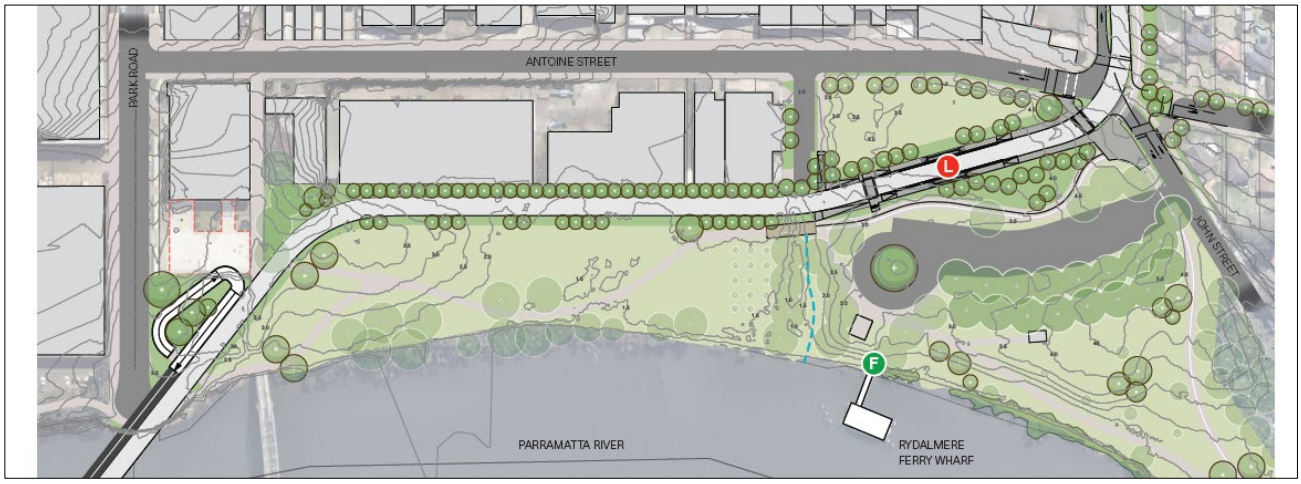

Figure 2 TfNSW preferred A9 Camellia/Rydalmere alignment within foreshore park

The TfNSW base case alignment for Camellia to Rydalmere follows Grand Avenue to the east and across the River to connect with John Street and South Street (Figure 1). The alignment travels perpendicular through a foreshore park and commuter parking. This alignment is not favoured by TfNSW due to utility and other costs associated with Grand Avenue. It is acknowledged that any light rail line will impact the foreshore park.

The preferred TfNSW alternate alignment leads from Grand Avenue along a spur of the former Sandown rail line along the southern foreshore, to cross the River on a diagonal and run along the back of Reid Park, abutting light industrial business (Figure 2). There is some business and land acquisition cost associated with

this alignment, and the track must be elevated on an embankment to meet flood heights. TfNSW avoids more significant acquisition costs.

However the key cost for Council and the local community is the loss of a large tract of parkland and the narrowing of the park to form a transit corridor. Figure 2 does indicate the final design, the impact of earthworks and the necessary embankment. This alignment is also likely to disturb historic contamination within the park.

The TfNSW A9 alignment could be supported if it ran immediately south of Antoine Street and not through the foreshore park. Foreshore open space is a precious community asset and TfNSW should take a long term view of the light rail asset and alignment.

Council supports the TfNSW A9 alignment, but only if it runs south of Antoine Street and not through the foreshore park. An A9 alignment that runs within the foreshore park must result in compensatory land to Council and/or open space embellishment.

1.2 Wentworth Point Sekisui site option

The base case for the Wentworth Point alignment runs through an existing transit corridor in the Sekisui House development site – the corridor and the surrounding building envelopes specifically negotiated via planning proposal and planning agreement with the land owner and the support of TfNSW to meet required transit needs (solid line in Figure 3).

TfNSW has noted they are reassessing the base case due to technical difficulties with the alignment, namely the tight left turn running downhill from the bridge. TfNSW has noted that the base case is not impossible to achieve, but the alternate route to the south of the Sekisui site, within the existing parkland will alleviate some of the technical difficulties.

Figure 3 Base case alignment (solid line)along nominated Sekisui site transit corridor, and alternate dashed line route to south

The alternate alignment (dashed line in Figure 3) is located primarily within the 'Millennium Parklands', though the parklands are extensive and the parklands useability impact perhaps not readily comparable with the impact of the TfNSW Camellia/Rydalmere foreshore parkland 'A9 alternate route' impact.

The primary consideration for the base case and well recognised transport planning principle is the seamless connection of public transport modes - ferry to light rail, with the light rail stop adjacent to the Ferry Wharf.

It is unlikely that two stops will be provided, one at the ferry wharf and one on Hill Road at the junction with

the alternate alignment.

A good compromise would be to keep the light rail stop at the ferry wharf and retain the alternate alignment, alleviating the noted technical difficulties and promoting that seamless connection. The light rail vehicle could run north along Hill Road to a stop near the ferry wharf, and then head south around the Sekisui site, with a minimal 250m or so of additional track time.

It is noted that under the Sekisui site planning agreement, the transit corridor reverts to open space if the corridor is not used.

Council supports the alternate light rail alignment to the south of the Sekisui site, but only if the light rail stop adjacent the ferry wharf is retained, per the base case.

2.0 Stop locations

The base case alignment (Figure 4) shows a single stop at the western end of Camellia, at the connection with PLR Stage 1. The Draft Camellia-Rosehill Place Strategy (Figure 5) indicates the location of a Primary School within the town centre, in the centre of the development area. The light rail stop at Camellia should be centred within the potential development site and more convenient to the future school.

Figure 4 Base casde alignment showing single Stop in Camellia, at the conmnection with PLR Stage 1

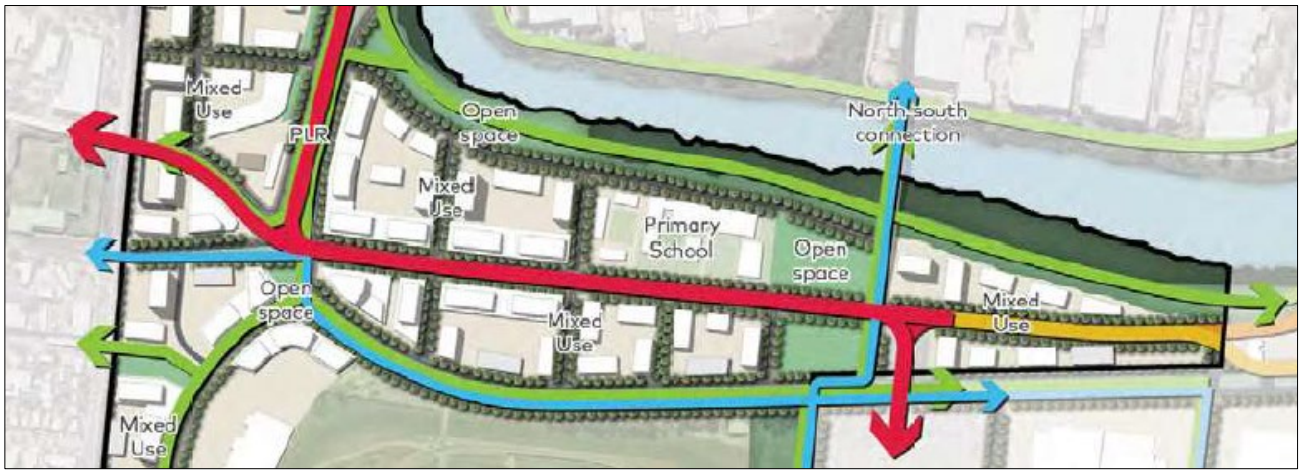

Figure 5 Draft Camellia-Rosehill Place Strategy, indicating Camellia Primary School

The alignment at Camellia should be consistent with the Draft Camellia-Rosehill Place Strategy – with the

light rail stop centred within the potential development site and more convenient to the future school in that Strategy.

3.0 Ken Newman Park

Figure 6 indicates the light rail alignment running through Ken Newman Park and connecting with Boronia Street. The track infrastructure will form a barrier and split the park. TfNSW has advised that a design solution is required to link the north and south portions of the park, and that embellishment work on the northern portion of the park can be carried out as part of the Project to make the northern portion more useable for the community. This is in keeping with the design led theme of Stage 2 of the light rail.

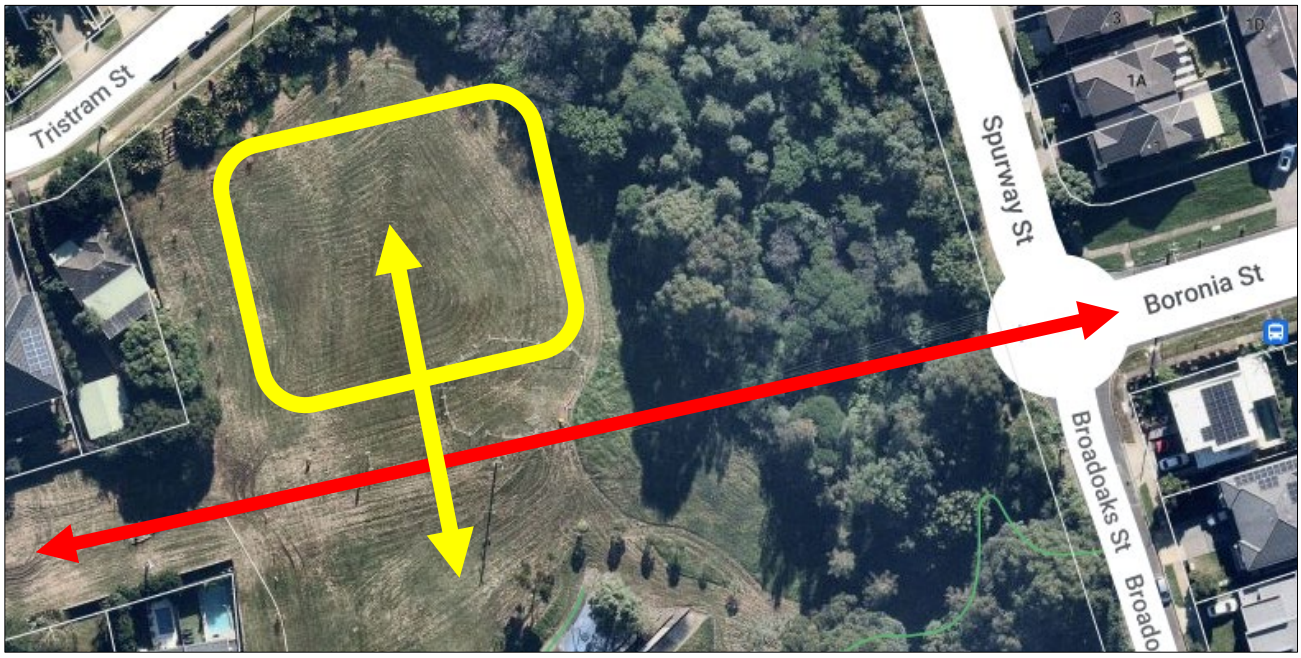

Figure 6 Light rail alignment across Ken Newman Park (red) and connections needed (yellow)

In order to partly offset the impact of the Project on Ken Newman Park, Council request TfNSW to develop and fund, in consultation with Council, a specific design plan and works to Ken Newman Park, with the aim of minimising the light rail isolating the upper and lower portions of the park, and embellishing the upper portion to make it more useable for the community.

4.0 River Bridge Structures

The design of proposed bridges in PLR Stage 2 will a key visual legacy of the Project.

The Bidgee Bidgee (James Ruse Drive) bridge in Stage 1 – a miniature arch bridge, is the result of the Project's design and construct process. The arch structure is the cheapest option. Whilst the bridge design had to accommodate future road widening and maximum grades for the light rail vehicles, the end result has been considered in some quarters to be functional but sub-optimal in appearance.

With respect to current design options being discussed for Stage 2 bridges, there is a 'more expensive' (A) and a 'less expensive' (B) option for the two bridges over the Parramatta River – at Camellia and Wentworth Point. TfNSW has advised that it is 'preparing' for a design and construct process to determine bridge design outcomes. This ensures that the bridge designs will be subject to a competitive tendering environment and will be 'price-led'.

However TfNSW has also noted that, according to the Department Secretary's Environmental Assessment Requirements (SEAR's) for Stage 2, it is required to deliver a design-led process for the Project. This is notably different to the SEAR's for PLR1 which had no such requirement. This is a really important difference.

This suggests that Council recommend to TfNSW, in accordance with the SEAR's design-led principle, that preferred bridge designs, including Silverwater Road, are determined (in consultation with stakeholders) via key design principles and cost estimates, in a process separate to and before the main infrastructure design and construct contract, and the bridge designs included as a requirement for eventual main construction tenderers. The lowest construction cost should not be a key determinant of bridge design aesthetics.

This is particularly relevant as the NSW Government has announced $600M of funding for the PLR Stage 2 Project, including a new bridge connecting Wentworth Point with Melrose Park, which will proceed before the light rail project.

Council reinforce to TfNSW that in accordance with the Secretary's Environmental Assessment Requirements for PLR Stage 2 the bridge structures in the Project should be design led, and not form part of the main infrastructure design and construct process. This should be reflected in the Stage 2 EIS. Preferred bridge designs should be determined, in consultation with stakeholders via agreed design principles and cost estimates, in a process separate to and before the main infrastructure design and construct contract, and included as a requirement for eventual main construction tenderers.

5.0 Green Track locations

The TfNSW PLR Stage 1 leadership are justifiably proud of the 1.3km of green track along the alignment. However for Stage 2 there are no designated green track areas. Green tracks should be provided where the alignment runs through existing green space or where there are substantial hard surface areas.

Figure 7 indicates where green track areas could be provided along the alignment, namely the green space between South Street and Boronia Street and the long Hill End Road hardstand strip. Figure 7 also indicates where permeable track form paving could be provided, for a softer public domain finish.

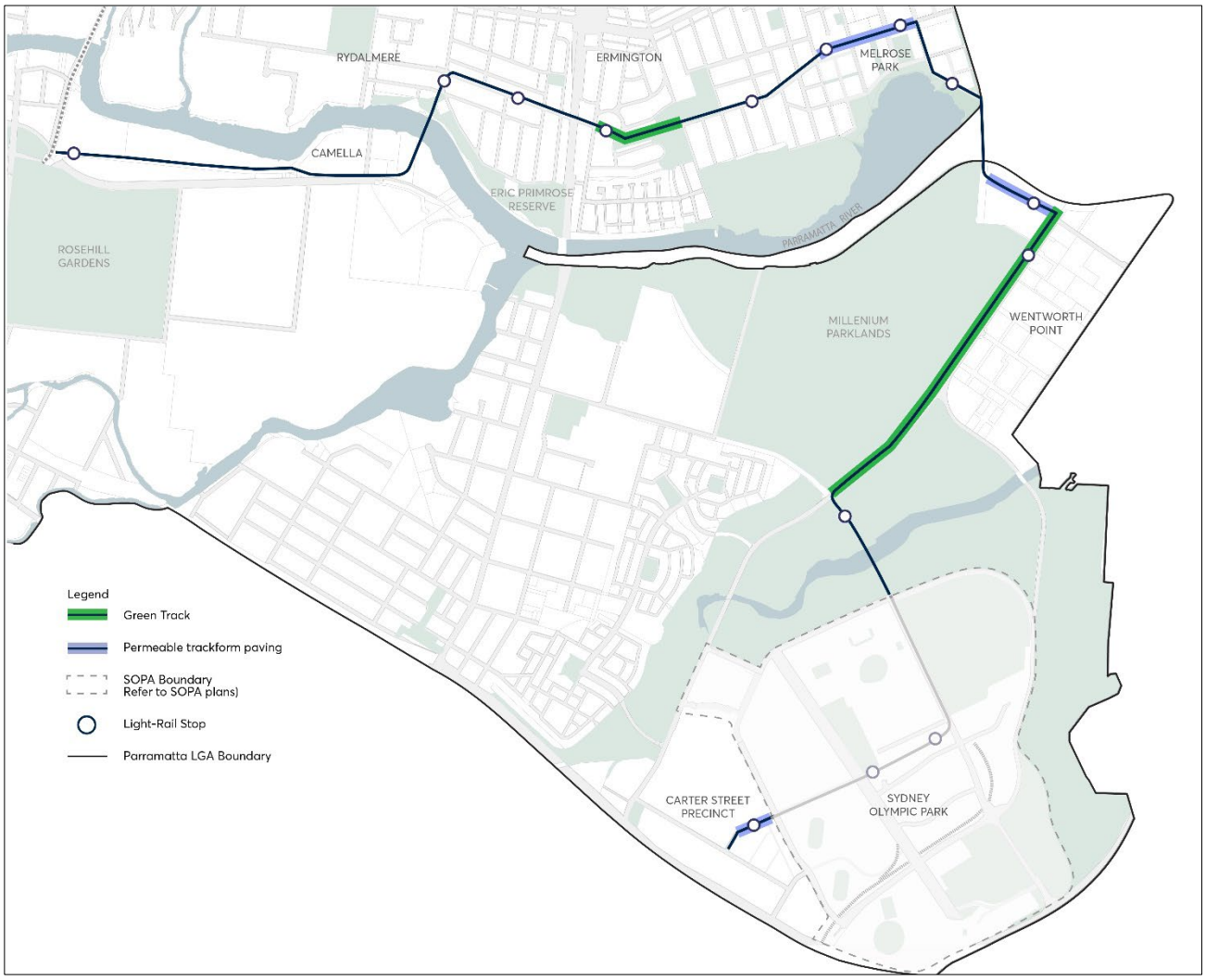

Figure 7 Proposed green track areas

Council requests TfNSW to provide green track and permeable paving per Figure 7.

6.0 Wire-free running locations

PLR Stage 1 provided wire free running through significant commercial and sensitive areas, including the Parramatta CBD and the Cumberland precinct. TfNSW will not provide an entire alignment of wire free running, due to battery life costs and other factors.

Wire free (catenary free) areas can considerably improve the visual impact of the Project by limiting most infrastructure to track level only. Figure 8 indicates that wire free running should be provided in the future Camellia town centre, the residential green space east of South Street, through Melrose Park, and through to the River, along with the Carter Street precinct in Sydney Olympic Park.

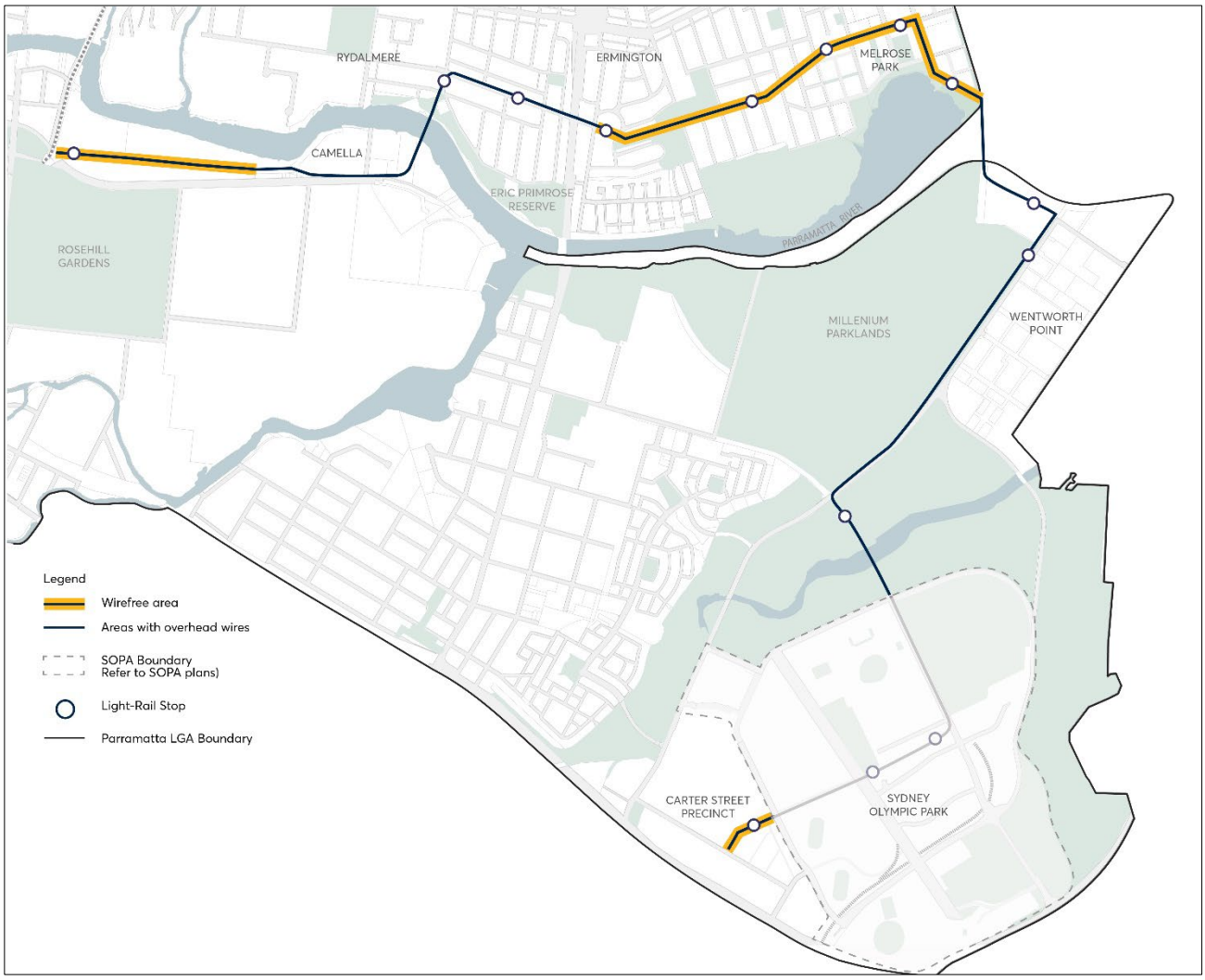

Figure 8 Proposed wire free running areas

Council request TfNSW to provide wire-free areas per Figure 8.

7.0 Cut and fill within the corridor and design implications

The Stage 2 alignment is heavily undulating and quite complex in terms of existing gas and water pipelines. Considerable cut and fill will be required to ensure maximum alignment gradients are not exceeded. Figures 9-11 below provide examples of this complexity, where site cut will be required.

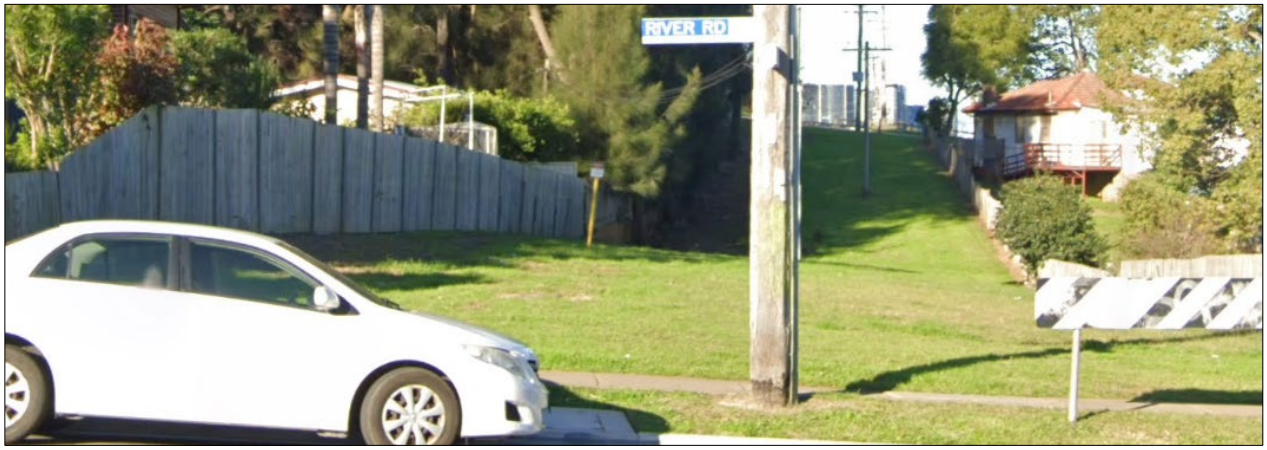

Figure 9 Linear utility & green corridor east of South Street – light rail alignment

Figure 10 Corner of Hope and Waratah Streets – light rail alignment

Figure 11 Boronia Street looking east – light rail alignment

A potential TfNSW solution to the Boronia Street cut scenario provides a light rail 'slot' cut into the street, below the road carriageway level. This has implications for north/south vehicle and pedestrian movement and other impacts. An alternative is to provide a higher bridge over the drainage line within Ken Newman Park, however this also has impacts on adjoining properties. Solutions must be design led to equally consider technical requirements, public domain and local property impacts. Cut and fill requirements should not compromise the public domain - the new light rail alignment must be a good neighbour to adjoining residential and business properties and the alignment should not isolate the community it serves.

This Boronia Street cut scenario will be repeated at numerous locations along the alignment, due to the undulating topography. Road and other areas of the alignment with significant cut should aim to maximise safe and convenient cross- connections for pedestrians, cyclists and persons with a disability (maximum distance of 200m between cross-connections).

The Project should place significant design-led emphasis on mitigating the impacts of site cut and fill, to ensure that the community retains convenient crossing points over and across the light rail line.

8.0 Spoil retention within the corridor and design implications

The PLR Stage 1 EIS (section 6.6.2 – Earthworks) provided a diversion rate for construction waste from landfill of at least 90 per cent of waste by volume, with a target of 95 per cent of waste by volume. This diversion rate (actual or intent) was embodied in the main infrastructure contract, creating an incentive for the contractor to maximise retention of spoil within the alignment.

Whilst this was a 'sustainability' initiative, it had very adverse consequences for the alignment, specifically the former T6 corridor, where numerous steep, difficult to maintain, embankments were created. See Figures 12A and 12B.

Figures 12A & 12B Examples of adverse effects of spoil retention – unsafe, difficult to maintain steep embankments and overlooking

This was a terrible result. Any EIS objectives or targets for the re-use of spoil within the project boundaries must be balanced against key public domain objectives, including creating safe, cost-effective maintenance landscaped areas, minimising overlooking and promoting connectivity within local areas.

Within the EIS, fixed percentages for spoil retention must not be employed without an overriding comprehensive analysis of cut and fill balance and a Planning Approval condition test against a best practice public domain outcome. The Stage 2 Project will not have the benefit of a former heavy rail corridor to retain spoil in. Sufficient up-front work and analysis should be carried out to ensure that sustainability initiatives speak to all aspects of the physical and public domain environment.

- The EIS should carry out a detailed cut and fill balance and scenario testing against best practice public domain outcomes, to provide a realistic assessment of likely spoil retention, and
- Any spoil retention targets within the EIS be subordinate to or at the very least equal to targets for best practice public domain outcomes.

9.0 Construction impacts, residential and business amenity

The Stage 1 PLR Project utilised primarily existing roads, many within commercial areas, and an existing heavy rail corridor. A Business Reference Group was created, with the ability to recommend to TfNSW that out of hours (night work) and noise intensive work proceed, tied to the Project EPA licence. There was not an equivalent resident's reference group.

The Stage 2 alignment runs through low density and high density residential environments, described in more detail in section 10 below. Construction impacts, noise and vibration particularly, will be very significant. Construction fatigue will occur. Every effort must be made, including EIS based principles, to fully consider resident amenity during construction. Night works should not be used as a fall-back to stay on schedule, or built into the Project completion dates by a contractor, or unevenly balanced against disruption to business hours traffic. TfNSW should create a community reference group which includes equal representation from residents and businesses in suburbs along the alignment, so that residents have a voice in construction impacts of the Project.

It is recommended that TfNSW create a community reference group which includes equal representation from residents and businesses in suburbs along the alignment, the purpose of that reference group being in part to advise TfNSW and contractors of construction impacts, and to respond to TfNSW with recommendations to any contractor request for night work and/or noise intensive work.

10.0 Operational impacts and residential amenity – ground-borne vibration, ground-borne noise and airborne noise

PLR Stage 2 runs through approximately 2km of low density residential streets, including some 400m of linear green space behind houses and through Ken Newman Park (see Figures 9 and 13*)* and approximately 2km of existing high density residential - not including any future high density residential at Camellia. The built environment context is quite different to Stage 1, which is primarily commercial development and an existing heavy rail corridor.

Figure 13 Narrow, linear utility corridor and green space between South Street & Boronia Street

Creating a new light rail line through existing residential roads and green space will require design led solutions and the best possible noise and vibration mitigation and visual amenity measures. This includes:

- Engineering out as much noise and vibration as possible through physical measures.
- Best practice modelling/simulations to predict airborne noise, ground borne vibration and ground-born noise.
- Considering noise and vibration trigger levels and mitigation measures required to meet those absolute trigger levels.
- Reducing light rail vehicle speed to a minimum in highly impacted areas.
- Employing world class, efficient and readily constructible rail fastening systems and dampers for high vibration isolation (to minimise ground-borne vibration and noise), employ mini sound protection walls close to the track for air-borne noise attenuation, employ noise attention panels as backyard fences, and the like.
- Avoiding high, visually intrusive noise barriers to streets and back fences.

The Project may also need to consider treating the façade of residential buildings where night-time noise levels are the major concern to reduce internal noise levels in sleeping areas.

The importance of the above innovations and measures to protect residential amenity cannot be overstressed. It is critical for the Stage 2 light rail line to generate confidence in the measures employed to protect residential amenity, and cement the credibility and practicality of light rail as a public transport mode.

It is recommended that the protection of residential amenity during light rail operation be a strong focus of the EIS, employing world class practices to minimise ground-borne vibration, ground-borne noise and airborne noise from rail operation.

11.0 Cycling and pedestrian connections

Within Stage 1 of the PLR, a considerable number of intersection and cycling links were cut, notwithstanding practical solutions being available if the construction contract had placed more emphasis on trip continuity. Cycling approaches to intersections were restricted to right angle and similar crossings, on a safety basis, so that narrow wheels did not get caught in the rail flange gap in the road.

In Europe and other countries, rail authorities have the use of rubber track inserts which can significantly eliminate this issue. Light rail systems in NSW do not have this solution. The light rail and public domain infrastructure should not be designed at transport cross-purposes. TfNSW should develop within PLR Stage 2 an innovative track insert to assist the Project to provide seamless, coherent, visible, and safe pedestrian and cycle access throughout and adjacent to the PLR corridor. Examples at Figures 14A and 14B.

Figures 14A & 14B Example of rubber track inserts

It is recommended TfNSW develop a suitable track insert to assist the Project to provide seamless, coherent, visible, and safe pedestrian and cycle access throughout and adjacent to the PLR corridor.

12.0 Flood affected land and stormwater controls within the corridor

The corridor has various flood affected lands, specifically foreshore areas of the Parramatta River. Experience from Stage 1 of the PLR indicates that the light rail track has strict tolerances for stormwater, requiring upgrade of local stormwater systems in some instances

It is likely that stormwater systems along Hill End Road will require significant upgrades. Council is also proposing stormwater works as part of the Hill End Road Masterplan. Careful engagement and work programing should occur to precent duplication of infrastructure work.

The Project should not worsen existing flood impacts along the alignment, and stormwater upgrade works be the subject of close engagement between TfNSW and Council, to avoid duplication of work and unnecessary cost.

13.0 Public art and heritage interpretation

It is the Council officer view that public art and heritage interpretation in Stage 1 of the PLR was not realised to its full potential. There were adequate Planning Approval conditions, however public art and interpretation was split by TfNSW into obligations across a number of contractors, the contractors were not required to coordinate their work, different consultants were used, the local Council experts had little influence and generally the strategies produced were defined by a budget and a contract condition, rather than a comprehensive approach to achieve a great result.

TfNSW should develop a comprehensive public art and interpretation strategy for the whole alignment, using a consistent consultant scope, engaging closely with Council, and requiring coordination between TfNSW, contractors and stakeholders to provide an integrated approach.

14.0 Cabinet location and disability access

One of the lessons learned from PLR Stage 1 was that electrical, traffic signal and other cabinets located in footpaths can unacceptably obstruct the clear path of travel for people with disability and vision impairment. The cabinets can create unnecessary visual clutter and dominance in the streetscape. The positioning of cabinets in the public domain needs careful contextual design to achieve the least offensive outcome for the path of travel and visual amenity. Examples at Figures 15A and 15B.

Figures 15A & 15B Multiple utility cabinets at North Parramatta and utility cabinets on the footpath

Condition E80 of the Stage 1 Planning Approval required the Proponent to design and construct the Project in a manner that reduced visual and heritage setting impacts and ensured consolidation and rationalisation of kerbside infrastructure to avoid visual clutter. This did not occur.

Whilst it is noted that utility providers have fixed requirements for location and setbacks of cabinets, and it is difficult to consolidate cabinets from separate providers, stronger public domain controls are required in the Project documentation to oblige the contractor to work harder to avoid visual clutter.

- The Project Urban Design Requirements (Blue Book) should provide for the creation of accessible paths with clear ‘paths of travel ‘and shorelines that are unencumbered by incidental electrical and traffic signal cabinets.
- The Blue Book should require cabinet positions in the footpath that are neatly aligned, out of the way and plumb, cabinet positioning meets AS1428 standard requirements, and particularly that designs are carefully considered so as to minimise any potential claim on Council under the Disability Discrimination Act (Comm).