AGENDA

LOCAL TRAFFIC COMMITTEE MEETING

MONDAY 19 SEPTEMBER 2022

11.00AM

Location Ashfield Service Centre, 260 Liverpool Road, Ashfield

Function of the Local Traffic Committee

Background

Roads and Maritime Services (RMS) is legislated as the Authority responsible for the control of traffic on all NSW Roads. The RMS has delegated certain aspects of the control of traffic on local roads to councils. To exercise this delegation, councils must establish a local traffic committee and obtain the advice of the RMS and Police. The Inner West Council Local Traffic Committee has been constituted by Council as a result of the delegation granted by the RMS pursuant to Section 50 of the Transport Administration Act 1988.

Role of the Committee

The Local Traffic Committee is primarily a technical review and advisory committee which considers the technical merits of proposals and ensures that current technical guidelines are considered. It provides recommendations to Council on traffic and parking control matters and on the provision of traffic control facilities and prescribed traffic control devices for which Council has delegated authority. These matters are dealt with under **Part A** of the agenda and require Council to consider exercising its delegation.

In addition to its formal role as the Local Traffic Committee, the Committee may also be requested to provide informal traffic engineering advice on traffic matters not requiring Council to exercise its delegated function at that point in time, for example, advice to Council's Development Assessment Section on traffic generating developments. These matters are dealt with under **Part C** of the agenda and are for information or advice only and do not require Council to exercise its delegation.

Committee Delegations

The Local Traffic Committee has no decision-making powers. The Council must refer all traffic related matters to the Local Traffic Committee prior to exercising its delegated functions. Matters related to State Roads or functions that have not been delegated to Council must be referred directly to the RMS or relevant organisation.

The Committee provides recommendations to Council. Should Council wish to act contrary to the advice of the Committee or if that advice is not supported unanimously by the Committee members, then the Police or RMS have an opportunity to appeal to the Regional Traffic Committee.

Committee Membership & Voting

Formal voting membership comprises the following:

- one representative of Council as nominated by Council;
- one representative of the NSW Police from each Local Area Command (LAC) within the LGA, being Newtown, Marrickville, Leichhardt and Ashfield LAC's.
- one representative from the RMS; and
- State Members of Parliament (MP) for the electorates of Summer Hill, Newtown, Heffron, Canterbury, Strathfield and Balmain or their nominees.

Where the Council area is represented by more than one MP or covered by more than one Police LAC, representatives are only permitted to vote on matters which effect their electorate or LAC.

Informal (non-voting) advisors from within Council or external authorities may also attend Committee meetings to provide expert advice.

Committee Chair

Council's representative will chair the meetings.

Public Participation

Members of the public or other stakeholders may address the Committee on agenda items to be considered by the Committee. The format and number of presentations is at the discretion of the Chairperson and is generally limited to 3 minutes per speaker. Committee debate on agenda items is not open to the public.

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Nil at time of printing.

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Nil at the time of printing.

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Minutes of Local Traffic Committee Meeting
Held on 15 August 2022 at Ashfield Service Centre

Meeting commenced at 11.01AM

ACKNOWLEDGEMENT OF COUNTRY BY CHAIRPERSON

I acknowledge the Gadigal and Wangal people of the Eora nation on whose country we are meeting today, and their elders past and present.

COMMITTEE REPRESENTATIVES PRESENT

Cr Justine Langford	Councillor – Midjuburi-Marrickville Ward (Chair)
Bill Holliday	Representative for Jamie Parker MP, Member for Balmain
Graeme McKay	Representative for Jo Haylen MP, Member for Summer Hill
Paul Kelaita	Representative for Jason Yat-Sen Li MP, Member for Strathfield
Solon Ghosh	Transport for NSW (TfNSW)

OFFICERS IN ATTENDANCE

Sunny Jo	IWC's Acting Traffic and Transport Services Manager
George Tsaprounis	IWC's Coordinator Traffic Engineering Services (South)
Felicia Lau	IWC's Acting Coordinator Traffic Engineering Services (North)
Jason Scoufis	IWC's Traffic and Parking Planner
Christina Ip	IWC's Business Administration Officer

VISITORS

Nil.

APOLOGIES:

Sgt Charles Buttrose	NSW Police – Leichhardt Police Area Command
SC Anthony Kenny	NSW Police – Inner West Police Area Command
Colin Hesse	Representative for Jenny Leong MP, Member for Newtown
Adrian Pritchard	Transit Systems
Mayor Darcy Bryne	Councillor – Baludarri-Balmain Ward
Colin Jones	Inner West Bicycle Coalition

DISCLOSURES OF INTERESTS:

Nil.

CONFIRMATION OF MINUTES

The minutes of the Local Traffic Committee meeting held on 18 July 2022 were confirmed.

Council Officers made a correction to Item 7 in the Local Traffic Committee minutes of 20 June 2022 in relation to the day of the proposed temporary full road closure in Smidmore Street, Marrickville. Part 1 of the recommendation should state that the road closure is proposed to commence on Thursday 8 September.

MATTERS ARISING FROM COUNCIL'S RESOLUTION OF MINUTES

The Local Traffic Committee recommendations of its meeting on 20 June 2022 and 18 July 2022 were adopted at Council's meeting on 9 August 2022. Council also resolved that:

The Traffic Committee have Frederick Street as a standing item in general business until real safety improvements occur.

LTC0822(1) Item 1 Rozelle North LATM Final Report

SUMMARY

This is a recommendation to endorse the findings of the Final Rozelle North LATM Study report. Council has recently undertaken Public Exhibition of the draft Rozelle North LATM Study through Yoursay Inner West.

The response results indicate that the community generally supported all of the proposed changes, including support for the short-term proposal to install a roundabout at the Elliott Street/Terry Street/Glassop Street stop-controlled intersection. Similarly, support was provided for the proposal to install a raised zebra crossing in Darling Street south of Merton Street.

After considering the Public Exhibition feedback, a review on the proposed scheme was undertaken with minor adjustments made to the LATM Study recommendations and some additional recommendations added. As the changes included both short term and long-term strategies, this would require Council to implement the changes over a life cycle of the study.

Officer's Recommendation

That:

1. The final Rozelle North LATM Study be received and noted;
2. A kerb blister be installed in Wellington Street at Nelson Street;
3. A roundabout be installed at Elliott Street/Terry Street/Glassop Street;
4. Kerb blisters be installed in Glassop Street at White Street;
5. A raised pedestrian (zebra) crossing in Darling Street be installed immediately south of Merton Street including relocation of existing motorbike spaces;
6. Raise the existing at grade pedestrian (zebra) crossing in Wise Street immediately west of Darling Street;
7. Raise the existing at grade pedestrian (zebra) crossing in Terry Street immediately south of Nagurra Place;
8. Install an asphalt/concrete speed cushion in Terry Street between Norman Street and Thornton Street;
9. Replace existing rubber speed cushions with asphalt/concrete speed cushions in Wellington Street between Terry Street and Victoria Road;
10. Install a pedestrian (zebra) crossing in Wellington Street, immediately south of Terry Street;

11. Install a pedestrian (zebra) crossing in Terry Street, immediately west of Wellington Street;

12. Install a kerb extension and accessible parking space on the eastern side of Darling Street immediately south of Nelson Street;

13. Install a 10 km/h Shared Zone in Tilba Avenue subject to TfNSW approval of a TMP;

14. Install kerb extensions in Wellington Street immediately north of Merton Street;

15. Upgrade linemarking in Terry Street near Wise Street including edgeline markings and linemarking around the median island;

16. Undertake further investigation into converting Crystal Street to one way (either way), additional parking capacity and extension of existing on street resident parking scheme;

17. Install advisory 'Do Not Queue Across Intersection' (G9-237) signs in Wise Street at York Place;

18. TfNSW be requested to investigate implementing a 40 km/h School Zone along the frontage of Rozelle Public School in Victoria Road; and

19. TfNSW be requested to investigate adjustment to the traffic signals at the Victoria Road/Wellington Street to reduce traffic delays/queuing in Wellington Street and provide safer conditions for pedestrians crossing Victoria Road.

DISCUSSION

Council Officers tabled the following comments from the Inner West Bicycle Coalition:

- There is potential for a contraflow lane at the one-way section of Wellington Street, between Nelson Street and Terry Street.
- A two-way bicycle flow was requested for Nelson Street which is currently one-way westbound for vehicles.
- There are concerns for cyclist safety at the roundabout proposed for Elliott Street and Glassop Street. It was requested that the stop priority control to be swapped around at that location.

Council Officers suggested adding a recommendation for additional bicycle improvements to be considered for Terry Street, Nelson Street and Wellington Street during the detailed design stage.

Council Officers advised that swapping the priority at the roundabout would lead to speeding at Terry Street. The representative for the Member for Balmain agreed with the recommendation for the roundabout as it is difficult to see traffic coming down at the Nelson Street/Terry Street/Elliot Street intersection.

Cr Langford tabled comments from Cr Kobi Shetty which supported the request for a two-way bicycle flow on Nelson Street. Cr Shetty also requested that the concrete island at the road narrowing on Terry Street at Sydney Secondary College be investigated as it creates a squeeze point for bicycle riders. Council Officers advised that a recommendation can be added for this to be investigated as a separate matter.

The TfNSW representative supported the proposals pending detailed designs.

The Committee members agreed with the Officer’s recommendation with the additional recommendations discussed.

COMMITTEE RECOMMENDATION

That:

1. The final Rozelle North LATM Study be received and noted;

2. A kerb blister be installed in Wellington Street at Nelson Street;

3. A roundabout be installed at Elliott Street/Terry Street/Glassop Street;

4. Kerb blisters be installed in Glassop Street at White Street;

5. A raised pedestrian (zebra) crossing in Darling Street be installed immediately south of Merton Street including relocation of existing motorbike spaces;

6. Raise the existing at grade pedestrian (zebra) crossing in Wise Street immediately west of Darling Street;

7. Raise the existing at grade pedestrian (zebra) crossing in Terry Street immediately south of Nagurra Place;

8. Install an asphalt/concrete speed cushion in Terry Street between Norman Street and Thornton Street;

9. Replace existing rubber speed cushions with asphalt/concrete speed cushions in Wellington Street between Terry Street and Victoria Road;

10. Install a pedestrian (zebra) crossing in Wellington Street, immediately south of Terry Street;

11. Install a pedestrian (zebra) crossing in Terry Street, immediately west of Wellington Street;

12. Install a kerb extension and accessible parking space on the eastern side of Darling Street immediately south of Nelson Street;

13. Install a 10 km/h Shared Zone in Tilba Avenue subject to TfNSW approval of a TMP;

14. Install kerb extensions in Wellington Street immediately north of Merton Street;

15. Upgrade linemarking in Terry Street near Wise Street including edgeline markings and linemarking around the median island;

16. Undertake further investigation into converting Crystal Street to one way (either way), additional parking capacity and extension of existing on street resident parking scheme;

17. Install advisory 'Do Not Queue Across Intersection’ (G9-237) signs in Wise Street at York Place;

18. TfNSW be requested to investigate implementing a 40 km/h School Zone along the frontage of Rozelle Public School in Victoria Road;

19. TfNSW be requested to investigate adjustment to the traffic signals at the Victoria Road/Wellington Street to reduce traffic delays/queuing in Wellington Street and provide safer conditions for pedestrians crossing Victoria Road;

20. Additional improvements to bicycle infrastructure be considered in and around Nelson Street, Terry Street and Wellington Street during the detailed design stage, including a contraflow on Nelson Street and Wellington Street, between Nelson Street and Terry Street; and

21. Council separately investigate the road narrowing of Terry Street near Sydney Secondary College to improve safety for bicycle riders.

For motion: Unanimous

LTC0822(1) Item 2 Dudley Street, Dulwich Hill; Illawarra Road, Marrickville; Burrows Avenue, Railway Road, Gleeson Avenue and (lower) Railway Parade, Sydenham - Temporary parking changes during major rail shutdown of T3 Line for Sydney Metro Upgrade Works - Bus replacements – 24 September 2022 TO 9 October 2022 and 26 December 2022 to 15 January 2023 (Midjuburi - Marrickville Ward / Summer Hill Electorate / Inner West PAC)

SUMMARY

Council has been notified by Transport for NSW (TfNSW) that Sydney Metro works will involve a major rail shutdown of the Sydenham to Bankstown rail line (T3) over the following 2 periods:

- Saturday 24 September 2022 to Sunday 9 October 2022 (inclusive); and
- Monday 26 December 2022 to Sunday 15 January 2023 (inclusive).

During the shutdown buses will replace train services along the T3 line and to accommodate the increased bus movements and necessary holding areas some short-term parking changes are required at a number of locations.

Specifically, TfNSW is requesting approval for the temporary conversion of multiple parking spaces at the following locations: Dudley Street, Dulwich Hill; Illawarra Road, Marrickville; Burrows Avenue, Railway Road, Gleeson Avenue and (Lower) Railway Parade, Sydenham. It is recommended that no objections be raised, and Council approves the temporary short-term parking changes at the identified locations during the planned rail shutdowns, as previously approved for the prior 2-15 July 2022 shutdown.

Officer's Recommendation

That the Local Traffic Committee receive and note the report and the following temporary short-term parking changes over the two periods - Saturday 24 September 2022 to Sunday 9 October 2022 (inclusive) and Monday 26 December 2022 to Sunday 15 January 2023 (inclusive) be approved and implemented by TfNSW:

Dulwich Hill Station Precinct - Dudley Street (5 parking spaces)

1. The short-term conversion of 7m (1 parking space) 'Loading Zone 8:30 am – 6 pm Mon – Fri & 8:30 am – 12:30 pm Sat' on the northern side of Dudley Street (between Wardell Road and School Parade) to a 'Bus Zone' be APPROVED in order to provide an additional bus bay with adequate draw-in length;

2. The short-term conversion of 18m (3 parking spaces) ‘P30 min 8:30 am – 6 pm Mon – Fri & 8:30 am – 12:30 pm Sat’ on the northern side of Dudley Street (between Wardell Road and School Parade) to a ‘Bus Zone’ be APPROVED in order to provide an additional bus bay with adequate draw-in length;

3. The short-term conversion of 7m (1 parking space) ‘Unrestricted Parking’ on the southern side of Dudley Street (between School Parade and Wardell Road) to a ‘Bus Zone’ be APPROVED in order to provide an additional bus bay with adequate draw-in length;

Marrickville Station Precinct - Illawarra Road (1 parking space)

4. The short-term conversion of 7m (1 parking space) ‘1P 8:30 am – 6 pm’ on the western side of Illawarra Road (between Warburton Street and Greenbank Street) to a ‘Bus Zone’ be APPROVED in order to provide additional space for adequate bus draw-in/draw-out length;

Sydenham Station Precinct - Burrows Avenue (23 parking spaces)

5. The short-term conversion of 50m (14 parking spaces) rear to kerb ‘unrestricted parking’ on the northern kerb of Burrows Avenue (west of Gleeson Avenue) to a ‘Bus Zone’ be APPROVED in order to provide additional bus bays for adequate bus draw-in/draw-out length;

6. The short-term conversion of 58m (9 parking spaces) ‘unrestricted parking’ on the southern kerb of Burrows Avenue (west of Gleeson Avenue) to a ‘Bus Zone’ be APPROVED in order to provide additional bus bays for bus layover purposes;

Sydenham Station Precinct – Railway Road (3 parking spaces)

7. The short-term conversion of 18m (3 parking spaces) ‘2P 8:30 am – 10 pm Mon - Fri’ on the eastern side kerb of Railway Road (between Burrows Avenue and Gleeson Avenue) to a ‘Bus Zone’ be APPROVED in order to provide additional bus bays for bus layover purposes;

Sydenham Station Precinct - Gleeson Avenue (2 parking spaces)

8. The short-term conversion of 12m (2 parking spaces) ‘1P 9:00 am – 3:30 pm Mon - Fri and No Parking 6 am-9 am & 3:30 pm – 6:30 pm’ on the eastern kerb of Gleeson Avenue (between Burrows Avenue and Unwins Bridge Road) to a ‘Bus Zone’ be APPROVED in order to provide a bus stop extension with adequate draw-in/draw-out length;

Sydenham Station Precinct - Lower Railway Parade (57 parking spaces)

9. The short-term conversion of 122m (46 parking spaces) 45 degree angled ‘unrestricted parking’ on the southern side kerb of Lower Railway Parade (between Sydenham Road and Marrickville Road) to a ‘Bus Zone’ be APPROVED in order to provide additional layover and standby bus bays;

10. The short-term conversion of 32m (11 parking spaces) 45 degree angled parking ‘4P 8:30 am – 6 pm Mon - Fri’ on the southwest kerb of Lower Railway Parade (between Gleeson Avenue and Marrickville Road) to a ‘Bus Zone’ be APPROVED in order to provide additional layover bus bays with adequate draw-in length; and

11. The applicant and Council Rangers be advised in terms of this report.

DISCUSSION

The Committee members agreed with the Officer's recommendation.

COMMITTEE RECOMMENDATION

That the Local Traffic Committee receive and note the report and the following temporary short-term parking changes over the two periods - Saturday 24 September 2022 to Sunday 9 October 2022 (inclusive) and Monday 26 December 2022 to Sunday 15 January 2023 (inclusive) be approved and implemented by TfNSW:

Dulwich Hill Station Precinct - Dudley Street (5 parking spaces)

1. **The short-term conversion of 7m (1 parking space) 'Loading Zone 8:30 am – 6 pm Mon – Fri & 8:30 am – 12:30 pm Sat' on the northern side of Dudley Street (between Wardell Road and School Parade) to a 'Bus Zone' be APPROVED in order to provide an additional bus bay with adequate draw-in length;**

2. **The short-term conversion of 18m (3 parking spaces) 'P30 min 8:30 am – 6 pm Mon – Fri & 8:30 am – 12:30 pm Sat' on the northern side of Dudley Street (between Wardell Road and School Parade) to a 'Bus Zone' be APPROVED in order to provide an additional bus bay with adequate draw-in length;**

3. **The short-term conversion of 7m (1 parking space) 'Unrestricted Parking' on the southern side of Dudley Street (between School Parade and Wardell Road) to a 'Bus Zone' be APPROVED in order to provide an additional bus bay with adequate draw-in length;**

Marrickville Station Precinct - Illawarra Road (1 parking space)

4. **The short-term conversion of 7m (1 parking space) '1P 8:30 am – 6 pm' on the western side of Illawarra Road (between Warburton Street and Greenbank Street) to a 'Bus Zone' be APPROVED in order to provide additional space for adequate bus draw-in/draw-out length;**

Sydenham Station Precinct - Burrows Avenue (23 parking spaces)

5. **The short-term conversion of 50m (14 parking spaces) rear to kerb 'unrestricted parking' on the northern kerb of Burrows Avenue (west of Gleeson Avenue) to a 'Bus Zone' be APPROVED in order to provide additional bus bays for adequate bus draw-in/draw-out length;**

6. **The short-term conversion of 58m (9 parking spaces) 'unrestricted parking' on the southern kerb of Burrows Avenue (west of Gleeson Avenue) to a 'Bus Zone' be APPROVED in order to provide additional bus bays for bus layover purposes;**

Sydenham Station Precinct – Railway Road (3 parking spaces)

7. **The short-term conversion of 18m (3 parking spaces) '2P 8:30 am – 10 pm Mon - Fri' on the eastern side kerb of Railway Road (between Burrows Avenue and Gleeson Avenue) to a 'Bus Zone' be APPROVED in order to provide additional bus bays for bus layover purposes;**

Sydenham Station Precinct - Gleeson Avenue (2 parking spaces)

8. **The short-term conversion of 12m (2 parking spaces) '1P 9:00 am – 3:30 pm Mon - Fri and No Parking 6 am-9 am & 3:30 pm – 6:30 pm' on the eastern kerb of Gleeson Avenue (between Burrows Avenue and Unwins Bridge Road) to a 'Bus**

Zone' be APPROVED in order to provide a bus stop extension with adequate draw-in/draw-out length;

Sydenham Station Precinct - Lower Railway Parade (57 parking spaces)

9. **The short-term conversion of 122m (46 parking spaces) 45 degree angled 'unrestricted parking' on the southern side kerb of Lower Railway Parade (between Sydenham Road and Marrickville Road) to a 'Bus Zone' be APPROVED in order to provide additional layover and standby bus bays;**

10. **The short-term conversion of 32m (11 parking spaces) 45 degree angled parking '4P 8:30 am – 6 pm Mon - Fri' on the southwest kerb of Lower Railway Parade (between Gleeson Avenue and Marrickville Road) to a 'Bus Zone' be APPROVED in order to provide additional layover bus bays with adequate draw-in length; and**

11. **The applicant and Council Rangers be advised in terms of this report.**

For motion: Unanimous

LTC0822(1) Item 3 Beattie Street at Harris Street, Balmain - Proposed kerb blister island (Baludarri - Balmain/ Balmain Electorate/ Leichhardt PAC)

SUMMARY

Council is planning to improve safety at the intersection of Beattie and Harris Street, Balmain by constructing new kerb blister islands to facilitate better and safer pedestrian access as well as safer vehicle turning movements. The intention of the proposal is to slow traffic, protect existing adjacent property and provide a safer more accessible crossing point across Harris Street for pedestrians.

Officer's Recommendation

That the attached detailed design plan (Design Plan No.10186-B) for the proposed installation of the new kerb blister islands on Harris Street at Beattie Street, Balmain be approved.

DISCUSSION

The Committee members agreed with the Officer's recommendation.

COMMITTEE RECOMMENDATION

That the attached detailed design plan (Design Plan No.10186-B) for the proposed installation of the new kerb blister islands on Harris Street at Beattie Street, Balmain be approved.

For motion: Unanimous

LTC0822(1) Item 4 Cameron Street, Balmain (between Mort Street and Clayton Street) - Proposed kerb indentation (Baludarri-Balmain/ Balmain Electorate/ Leichhardt PAC)

SUMMARY

Council is planning to improve the existing parking arrangements in Cameron Street, Balmain (Mort Street to Clayton Street) by adjusting the existing kerb on the southern side of the street to widen the road and forming indented parking bays. The proposed works is intended to improve pedestrian and motorist safety in the area.

Officer's Recommendation

That the attached detail design plan (Design Plan No.10205) for the proposed kerb indentation on the southern side of Cameron Street, Balmain be approved.

DISCUSSION

The representative for the Member for Balmain raised concerns that the proposed kerb treatment may become more common in the narrow streets of Balmain which would impact pedestrian access and suggested that shared zones may be more appropriate. Council Officers advised that the proposed treatment for Cameron Street is possible due to sufficient footpath width in that street, and that the treatment may not be possible in other streets due to the inadequate footpath width.

The Committee members agreed with the Officer's recommendation.

COMMITTEE RECOMMENDATION

That the attached detail design plan (Design Plan No.10205) for the proposed kerb indentation on the southern side of Cameron Street, Balmain be approved.

For motion: Unanimous

LTC0822(1) Item 5 27-29 Percy Street Rozelle - Temporary full road closure (Baludarri-Balmain/ Balmain Electorate/ Leichhardt PAC)

SUMMARY

Council has received an application from dban for the approval of a temporary full road closure of Percy Street, between Albion Street and Evans Street, Rozelle from Monday 19 September 2022 to Thursday 22 September 2022 to facilitate the installation of sewer mains.

Officer's Recommendation

That the proposed temporary full road closure of Percy Street, between Albion Street and Evans Street, Rozelle from Monday 19 September 2022 to Thursday 22 September 2022 to facilitate the installation of sewer mains (contingency period 2 weeks) be approved subject to, but not limited to the following conditions:

1. A Road Occupancy License be obtained by the applicant from the Transport Management Centre;

2. All affected residents and businesses, including NSW Police Area Command, Fire & Rescue NSW and the NSW Ambulance Services be notified in writing, by the applicant, of the proposed temporary full road closure at least 7 days in advance of the closure with the applicant making reasonable provision for stakeholders; and

3. The occupation of the road carriageway must not occur until the road has been physically closed.

DISCUSSION

The Committee members agreed with the Officer’s recommendation.

COMMITTEE RECOMMENDATION

That the proposed temporary full road closure of Percy Street, between Albion Street and Evans Street, Rozelle from Monday 19 September 2022 to Thursday 22 September 2022 to facilitate the installation of sewer mains (contingency period 2 weeks) be approved subject to, but not limited to the following conditions:

1. **A Road Occupancy License be obtained by the applicant from the Transport Management Centre;**

2. **All affected residents and businesses, including NSW Police Area Command, Fire & Rescue NSW and the NSW Ambulance Services be notified in writing, by the applicant, of the proposed temporary full road closure at least 7 days in advance of the closure with the applicant making reasonable provision for stakeholders; and**

3. **The occupation of the road carriageway must not occur until the road has been physically closed.**

For motion: Unanimous

LTC0822(1) Item 6 Holbeach Avenue, Tempe – Temporary full road closures for MS Sydney to the Gong Bike Ride on Sunday 6 November 2022 – (Midjuburi - Marrickville Ward/Heffron Electorate/Newtown LAC)

SUMMARY

Council has received an application under Section 68 of the Local Government Act 1993 to use Holbeach Avenue and Tempe Recreation Reserve to hold the annual 'MS Sydney to the Gong Bike Ride' supported by Multiple Sclerosis (MS) Australia on Sunday 6 November 2022. This event will necessitate the temporary full road closure of Holbeach Avenue, Tempe and southbound lane closures on Princes Highway from the car park entrance of IKEA to Cooks River along with closures (Residents Excepted) of South Street, Hart Street, Bay Street and Old Street, Tempe between the hours 0400 to 1000 hours on Sunday 6 November 2022.

It is recommended that the comments of the Local Traffic Committee be referred to Council’s Development Assessment Section for consideration in determining the Development Application.

Officer’s Recommendation

That the Local Traffic Committee receive and note the report.

DISCUSSION

The Committee members agreed with the Officer’s recommendation.

COMMITTEE RECOMMENDATION

That the Local Traffic Committee receive and note the report.

For motion: Unanimous

General Business

LTC0822 Item 7 School crossing supervisor for Darling Street, Balmain

The representative for the Member for Balmain asked for an update on the school crossing supervisor for crossings on Darling Street, Balmain raised at the last meeting. The TfNSW representative advised that the matter had been forwarded to the team that manages the School Crossing Supervisor program for action. Contact details of the team will be provided to the representative for the Member for Balmain.

LTC0822 Item 8 Update on improvements to the Frederick Street, Ashfield crossing

The TfNSW representative advised that the report on the safety review of Frederick Street is expected to be finalised by the end of August. If the report recommends signals at John Street, additional modelling and a supplementary report will be required to understand the impact the signals would have on the surrounding road network. The recommendation to reduce the speed limit to 50km/h is awaiting approval at the Transport Minister's office.

LTC0822 Item 9 Bunnings Tempe Traffic Signal Feasibility Study

Council Officers tabled the Bunnings Tempe Traffic Signal Feasibility report for noting (Attachment 1). The study investigated the impact of a proposed traffic signals at the Princes Highway driveway for 750 Princes Highway, Tempe. Intersection and network modelling showed that there would be unacceptable delays for the approved unsignalised right turn from Princes Highway to the Bunnings driveway and the consultants recommended additional measures to address safety issues at this location. In addition, the study found that the proposed traffic signals at the Bunnings driveway would have implications to the operation of the traffic signals at Ikea, including delays to the road network. Council Officers will forward the study to TfNSW for consideration and a copy will also be emailed to the Committee members.

Meeting closed at 11.49am.

ATTACHMENT 1

TRAFFIX
TRAFFIC AND TRANSPORT PLANNERS

TRAFFIC SIGNAL FEASIBILITY REPORT

Bunnings Tempe Traffic Signal Feasibility Report
Inner West Council

Reference: 22.256r02v03
Date: August 2022

Suite 2.08, 50 Holt St
Surry Hills, NSW 2010

t: (02) 8324 8700
w: www.traffix.com.au

TRAFFIX

DOCUMENT VERIFICATION

Job Number	**22.256**			
Project	Bunnings Tempe Traffic Signal Feasibility Study			
Client	Inner West Council			
Revision	Date	Prepared By	Checked By	Signed
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TRAFFIX

EXECUTIVE SUMMARY

This traffic signal feasibility report has been prepared for Inner West Council in response to strong community feedback regarding the approved access arrangements for the Bunnings Tempe development at 750 Princes Highway, Tempe.

The approved development for the subject site consists of works for the construction of a Bunnings development being a hardware and building supplies store.

The applicant's traffic report undertook a SIDRA intersection analysis at the intersection of Princes Highway and the proposed access and Princes Highway and Smith Street. The study concluded that the results of the SIDRA assessment indicated satisfactory operational performance at the access and intersection, with both sites operating at a LOS A in the morning, evening and weekend scenarios with the development traffic incorporated.

The access arrangements as detailed within the traffic report describes the following:

- Smith Street access: Ingress and egress for the carpark and ingress for delivery/service vehicles.
- Princes Highway: Right turn ingress and left turn egress for the carpark and left turn egress for delivery/service vehicles.

Council has initiated this feasibility study in response to safety concerns raised by the community under the approved traffic arrangements. Residents have raised concerns on the forecasted vehicles travelling through Union Street, which acts as a link road to Unwins Bridge Road.

A signal warrant assessment has been undertaken as part of the study, and it is considered that traffic signals are warranted at the Bunnings Tempe Princes Highway access driveway.

A Concept Plan was subsequently developed for the purposes of this feasibility study to show a signalised intersection layout that could be physically accommodated within the existing driveway with minimal changes to the internal configuration of the Bunnings development. The Concept Plan depicts a signalised intersection layout that aims to contain all vehicle egress onto Princes Highway and making it difficult and undesirable for any vehicles travelling through Union Street.

A number of traffic engineering and transport planning factors has been considered, none of which would preclude the provision of traffic signals for the Bunnings Tempe access driveway altogether.

A separate, independent Road Safety Audit (RSA) has also been carried out for the concept design in accordance with the Road Safety's Guidelines for Road Safety Auditing Practices noting all safety findings can be addressed through subsequent detailed engineering design, and there are no safety items that has been raised in the RSA which would preclude the provision of traffic signals at this location altogether.

Furthermore, impacts to existing infrastructure within the road reserve, such as lighting, sewer, water, stormwater, electricity, gas etc. does not preclude the provision of traffic signals, and can be addressed through detailed engineering solutions/design and is a common component for brownfield projects.

SIDRA 9 network modelling has been undertaken for the Princes Highway corridor between Union Street / Smith Street and Ikea's Access Driveway, and the following is noteworthy:

- Under the approved scenario, SIDRA 9 modelling shows that for the PM peak period, vehicles would have to wait for up to 72.9 seconds to turn right into Bunnings from Princes Highway. This was modelled under the assumption that drivers would find small gaps in traffic acceptable, however if driver behaviours does not reflect this, extended delays may occur. This may pressure vehicles to find alternate routes into the site. As there are limited options for vehicles to turn back to the Bunnings site once already queuing for the right-turn, they may merge back in the through lane and head towards the next signalised intersection instead to turn right into the IKEA access and then turn around within the IKEA site to approach the Bunnings access southbound. Whilst this movement is banned there is little way to enforce this restriction. Drivers that remain queuing for the right turn may accept shorter and possibly unsafe gaps across the three-lane road.
- Under the proposed signalised scenario, SIDRA has identified that the Princes Highway and Ikea Access intersection will be negatively impacted during the PM peak period and is expected to deteriorate to a LoS F in the evening peak period. Noting that the access operates as a LoS A in the AM and PM peak hour scenarios and LoS B in the Saturday scenario for the approved arrangement, this is a significant impact on the operation of the IKEA access.

Overall, SIDRA modelling results has found that the current approved scenario would have less impact to the existing road network operation notwithstanding that the right-turn into Bunnings Tempe under priority control is expected to be underutilised due to potential delays and intimidate unconfident drivers.

In summary, the findings of the study have concluded that there are no reasons that would preclude the provision of traffic signals at the Tempe Bunning's access driveway altogether, and its feasibility is also dependent on many external factors other than traffic engineering or transport planning:

- Ikea will need to be consulted to traffic signals as their customers will experience greater delays when visiting or leaving the store during the PM peak hour, noting that the intersection operates at a LoS A in the approved PM scenario and a LoS F in the signalised concept scenario which is a significant impact on the operation of the IKEA access.
- Bunnings may need to submit a modification application, including potential amendments to their internal carpark layout in order to provide a signalised access off Princes Highway that is similar or an improvement to the concept scheme shown in this feasibility study. This concept design may be further altered with larger impacts to the proposed Bunnings building by providing for improved vehicle storage at the egress.
- The SIDRA 9 modelling of the approved Bunning access arrangement shows significant delays for vehicles turning right into Bunnings. Specifically, the PM scenario shows that vehicles would have to wait for up to 72.9 seconds to turn right into Bunnings from Princes Highway. If drivers do not take shorter and potentially unsafe gaps, extended delays may occur which may pressure vehicles to find alternate routes into the site.
- Impacts to existing infrastructure within the road reserve, such as lighting, sewer, water, stormwater, electricity, gas etc. will need to be addressed through detailed engineering solutions/design.
- Safety findings in the RSA will need to be addressed through detailed engineering solutions/design.
- Transport for NSW will need to provide concurrence to traffic signals noting a safer access for Bunnings customers under a signalised arrangement via Princes Highway can potentially negatively impact Princes Highway / Ikea's access driveway during the PM peak hour.

Having considered the findings in the feasibility study, the following is recommended:

- At least two (2) additional independent Road Safety Audits (RSA) should be undertaken for the currently approved priority controlled right-turn access into Bunnings via Princes Highway at the detailed design stage to ensure current conditions and opinions of different experts are adequately considered.
- TfNSW to explore signalising the right-turn entry into Bunnings site under the current approved arrangement to address potential safety concerns.
- Consideration to remove the right-turn access into Bunnings altogether if safe access to Bunnings via Princes Highway cannot be feasibility achieved.

TRAFFIX

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1. INTRODUCTION

1.1 Purpose

TRAFFIX has been commissioned by Inner West Council to assess the feasibility of providing traffic signals for a vehicular access driveway off Princes Highway which is to provide access to the approved Bunnings Tempe Development at 750 Princes Highway, Tempe.

This report documents the findings of our investigations and should be read in the context of all documentations relating to the Bunnings Tempe DA approval, noting that installation of traffic signals will also need separate approval from Transport for New South Wales (TfNSW).

1.2 Scope of Work

The report is structured as follows:

- Section 2: Describes the site and its location
- Section 3: Documents existing traffic conditions
- Section 4: Describes the background information
- Section 5: Provides an analysis on traffic signals warrants
- Section 6: Discusses the feasibility of traffic signals
- Section 7: Discusses traffic modelling results
- Section 8: Presents the overall study conclusions

2. LOCATION AND SITE

The approved Bunnings Tempe site is located at 728-750 Princes Highway, Tempe (Lot 2 in DP 803493) and is located on the southern side of Princes Highway, at the south-eastern corner of the intersection with Smith Street. It is also located about 7.5 kilometres south-west of the Sydney CBD and approximately 2.4 kilometres northwest of Sydney Airport.

The site has a total site area of approximately 2.04 hectares and has street frontages of approximately 150 metres to Princes Highway and approximately 120 metres to Smith Street.

The site has two separate vehicular access driveways located off Smith Street and Princes Highway.

At the time of this report, construction has not commenced on site. Under the approved application DA2017/00185, vehicular access was to be provided onto Smith Street and a vehicular access onto Princes Highway. These accesses are approved with the following restrictions:

- No left turn entry into site at Princes Highway access.
- No right turn onto Princes Highway.
- No left turn exit from Smith Street access.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**.

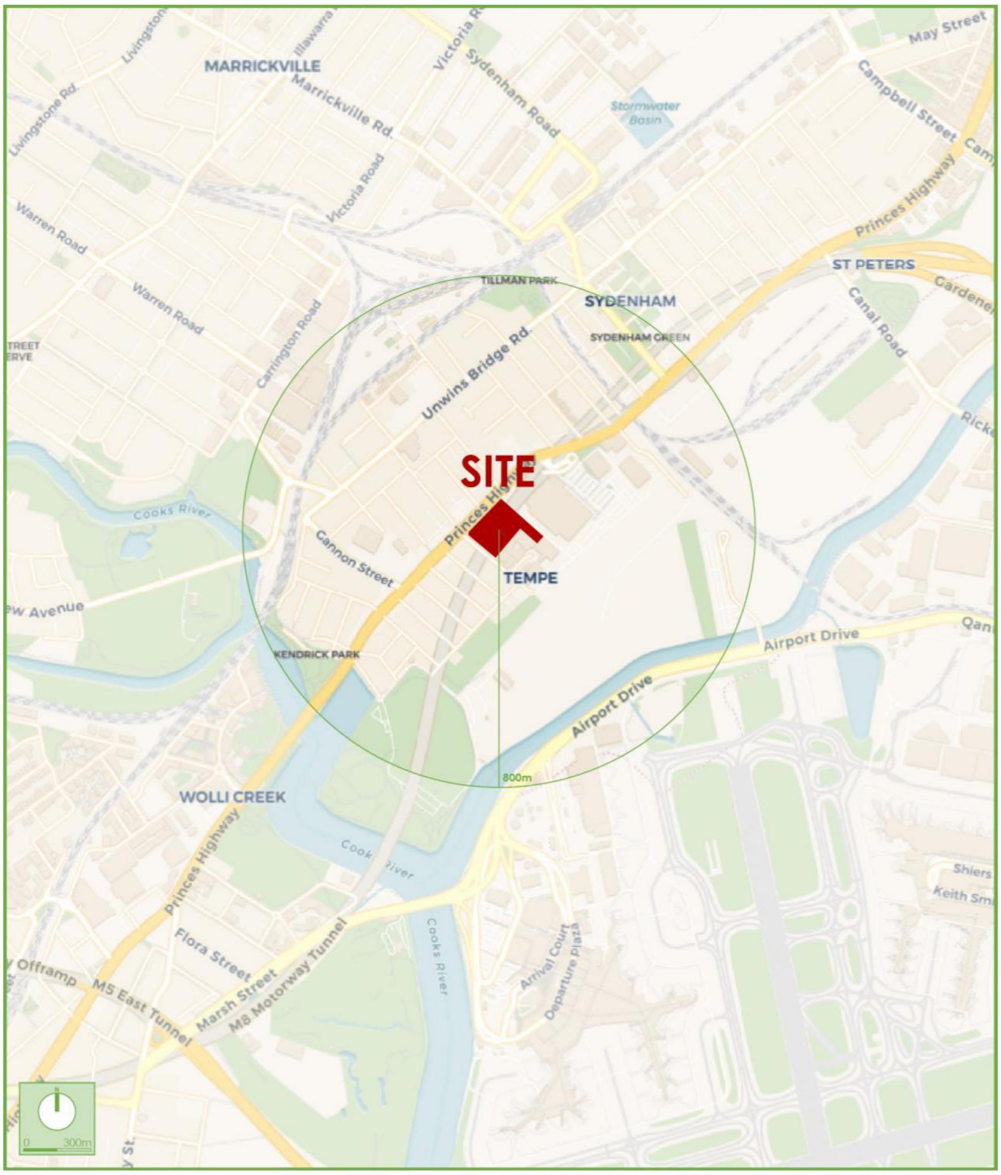


Figure 1: Location Plan

TRAFFIX

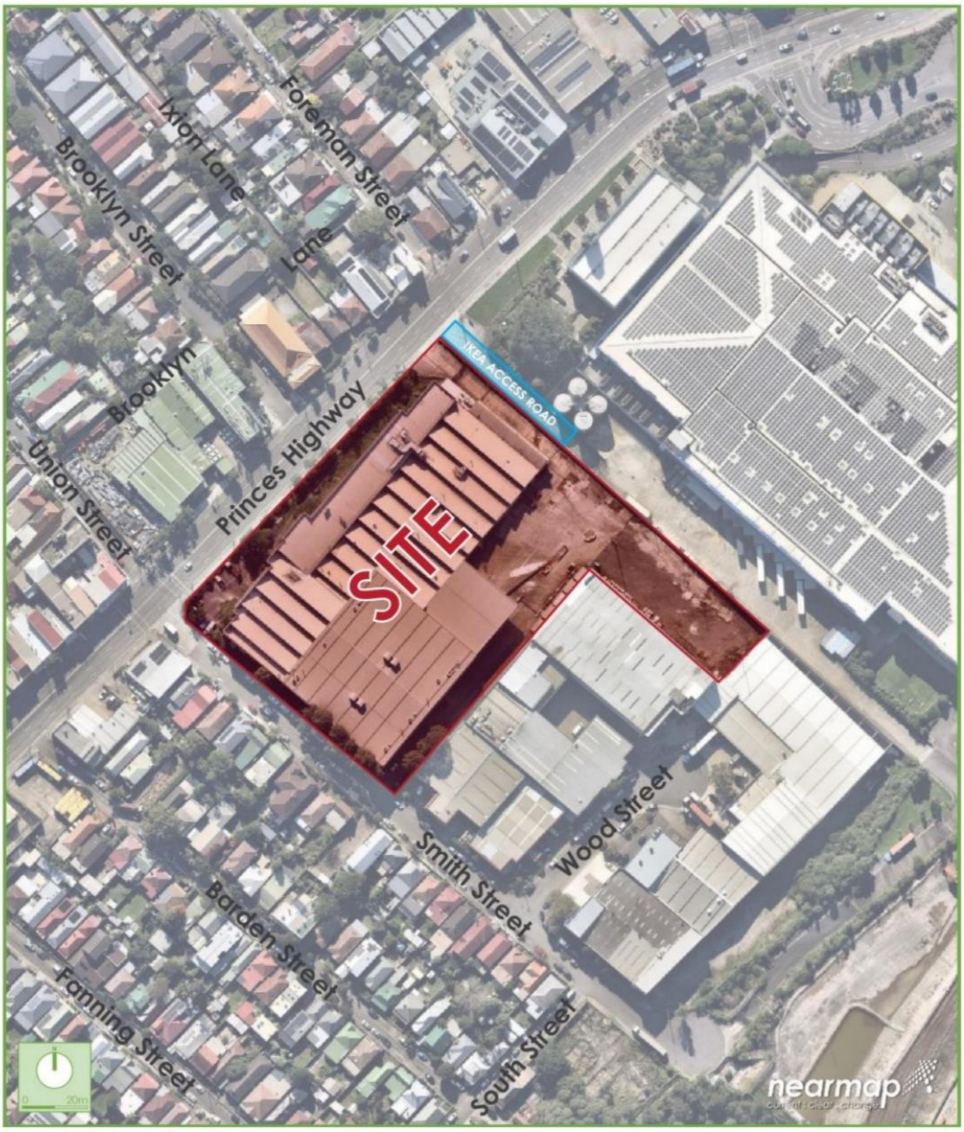


Figure 2: Site Plan

3. EXISTING TRAFFIC CONDITIONS

3.1 Road Network

The road hierarchy in the vicinity of the site is shown in **Figure 3** with the following roads of particular interest:

Princes Highway:	a TfNSW Main Road (MR 1) that generally runs in a northeast to southwest direction between Broadway in the northeast and the Victorian border in the southwest. In the vicinity of the site, Princes Highway carries three (3) lanes of traffic and is subject to a speed zoning of 60km/h. The southern kerbside lane is subject to a clearway restriction between 3:00pm-7:00pm Monday to Friday and the northern kerbside lane is subject to a clearway restriction between 6:00am-10:00am Monday to Friday. Kerbside parking is permitted along limited sections of the highway, subject to various restrictions.
Smith Street:	a local road that traverses northwest to southeast between Princes Highway in the northwest and a cul-de-sac in the southeast. Smith Street is subject to a local speed zoning of 50km/h and carries a single lane of traffic in either direction. Unrestricted kerbside parking is permitted along either side of the road.
Union Street:	a one-way local road that generally traverses in a north-south direction between Unwins Bridge Road in the north and Princes Highway in the south. Union Street is subject to a local speed zone of 50km/h and accommodates a single lane of northbound traffic. Tempe Public School is located on Union Street and sections of the road are subject to a 40km/h school zone restriction between 8:00am-9:30am and 2:30-4:00pm on school days. Unrestricted kerbside parking is permitted along either side of the road.

Brooklyn Street:	a local road that generally traverses in a north-south direction between School Lane in the north and Princes Highway in the south. Brooklyn Street is subject to a local speed zone of 50km/h and accommodates a single lane of traffic in each direction. Unrestricted kerbside parking is permitted along either side of the road.
Foreman Street:	a one-way local road that generally traverses in a north-south direction between Unwins Bridge Road in the north and Princes Highway in the south. Foreman Street is subject to a local speed zone of 50km/h and accommodates a single lane of southbound traffic. Unrestricted kerbside parking is permitted along either side of the road.

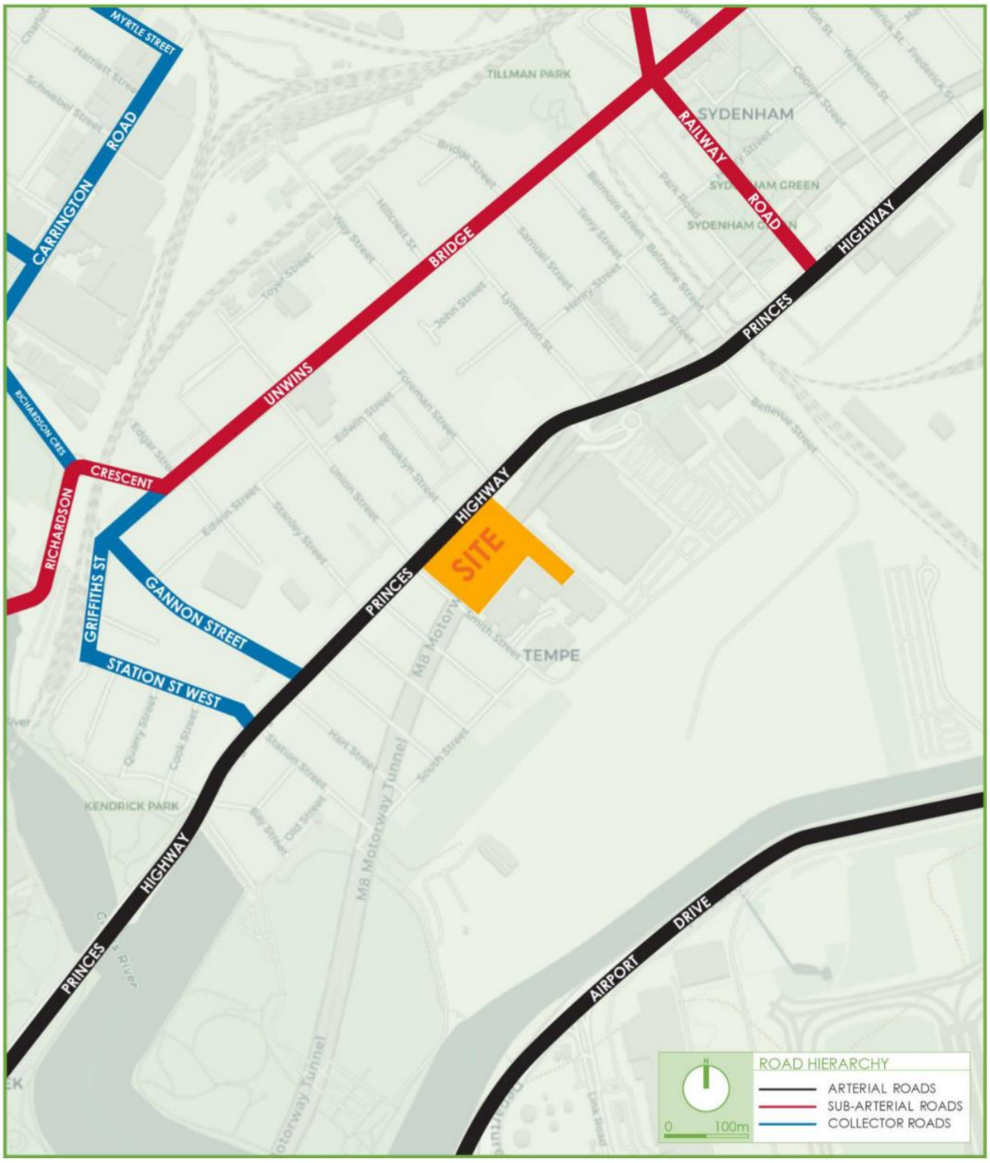


Figure 3: Road Hierarchy

3.2 Key Intersections

The key intersections in the vicinity of the site are shown below and provide an understanding of the existing road geometry and alignment in the locality.

3.2.1 Intersection of Princes Highway, Union Street and Smith Street

Figure 4: Intersection of Princes Highway and Union Street

It can be seen from **Figure 4** that the intersection of Princes Highway and Union Street is a four-legged signalised intersection. The main attributes of each approach are outlined below:

- Princes Highway (northeast and southwest legs):
  - The north bound approach provides three (3) through lanes. This allows for both left turns onto Union Street and right turns onto Smith Street.
  - The south bound approach provides three (3) through lanes. This allows for left turns onto Smith Street, however, right turns onto Union Street are not permitted.

- Smith Street (southeast leg):
    - The north bound approach provides one (1) through lane and one (1) short left turn lane.
- Union Street (northwest leg):
    - This is a one-way road in a northbound direction and therefore provides no approach lanes, instead providing a single exit lane.

3.2.2 Intersection of Princes Highway and Brooklyn Street

Figure 5: Intersection of Princes Highway and Brooklyn Street

It can be seen from **Figure 5** that the intersection of Brooklyn Street and Princes Highway is a three-legged priority intersection. The main attributes of each approach are outlined below.

- Princes Highway (northeast and southwest legs):
    - The north bound approach provides three (3) through lanes from which left turns are permitted from the kerbside lane onto Brooklyn Street.
    - The south bound approach provides three (3) through lanes. A median extends across the intersection and restricts any right turns.

- Brooklyn Street (northwest legs)
  - The south bound approach provides a single through lane which permits left turns only onto Princes Highway.

3.2.3 Intersection of Princes Highway and Proposed Bunning Access/Ikea Servicing Access

Figure 6: Intersection of Princes Highway and Proposed Bunnings Access/Ikea Access

It can be seen from **Figure 6** that the intersection of Princes Highway and the future Bunnings Access/Ikeas Servicing Access is a three-legged priority intersection. This intersection is to be upgraded for the construction of the Bunnings development. The main attributes of the existing and future layout are outlined below.

- Princes Highway (northeast and southwest legs):

  Existing Layout
  - The north bound approach provides three (3) through lanes. A median currently extends across the intersection, preventing right turns into the Bunnings site.
  - The south bound approach provides three (3) through lanes. The kerbside lane allows for left turns into the Bunnings site but restricted to deliveries only.

Future Layout

- The north bound approach provides three (3) through lanes. A short right turn lane will be constructed in the future to enable right turns into the Bunnings access.
- The south bound approach provides three (3) through lanes. Left turns will not be permitted into the Bunnings Access.

- Bunnings Access (southeast leg)

Existing Layout

- The north bound approach provides a single through lane which permits left turns only onto Princes Highway.

Future Layout

- The north bound approach provides a single through lane which permits left turns only onto Princes Highway.

3.2.4 Intersection of Princes Highway and Foreman Street

Figure 7: Intersection of Princes Highway and Foreman Street

It can be seen from **Figure 7** that the intersection of Princes Highway and Foreman Street is a three-legged priority intersection. The main attributes of each approach are outlined below.

- Princes Highway (northeast and southwest legs):
  - The north bound approach provides three (3) through lanes. Left turns are not permitted onto Forman Street as this road is one-way.
  - The south bound approach provides three (3) through lanes. No right turns are permitted at this intersection as Forman Street is restricted to one-way traffic.
- Foreman Street (northwest leg)

  Existing Layout
  - The south bound approach provides a single through lane from which left and right turns onto Princes Highway are permitted.

  Future Layout
  - Under the approved design for the Bunnings development, the concrete median on Princes Highway will be closed, prohibiting right turns out of Foreman Street.

3.2.5 Intersection of Princes Highway and IKEA Access

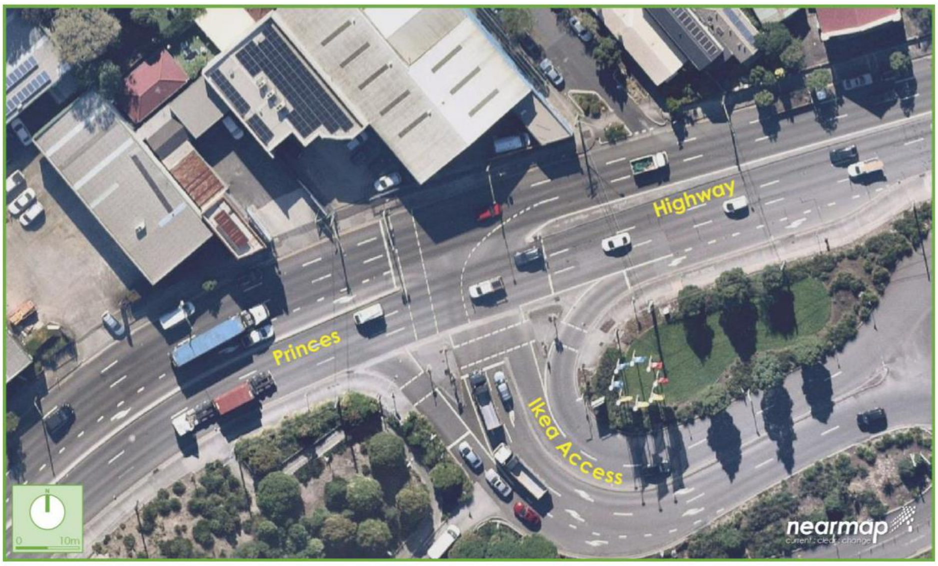


Figure 8: Intersection of Princes Highway and IKEA Access Road

It can be seen from **Figure 8** that the intersection of Princes Highway and the IKEA Access Road is a three-legged signalised intersection. The main attributes of each approach are outlined below.

- Princes Highway (east and west legs):
  - The east bound approach provides three (3) through lanes and a short right turn lane.
  - The west bound approach provides three (3) through lanes and short left turn lane.
- IKEA Access Road (south leg)
  - The north bound approach provides two (2) right turn lanes and a short-left turn lane.

3.3 Existing Traffic Volumes

The existing daily throughputs for the key intersections located in the vicinity of the site and can be summarised as follows:

- Intersection of Princes Highway, Smith Street and Union Street
  - Weekday morning peak hour throughput of 3,755 vehicles
  - Weekday evening peak hour throughput of 3,998 vehicles
  - Weekend peak hour throughput of 3,483 vehicles
- Intersection of Princes Highway and Brooklyn Street
  - Weekday morning peak hour throughput of 3,716 vehicles
  - Weekday evening peak hour throughput of 3,930 vehicles
  - Weekend peak hour throughput of 3,422 vehicles
- Intersection of Princes Highway and Bunnings Access/IKEA Servicing Access
  - Weekday morning peak hour throughput of 3,676 vehicles
  - Weekday evening peak hour throughput of 3,911 vehicles
  - Weekend peak hour throughput of 3,408 vehicles
- Intersection of Princes Highway and Foreman Street
  - Weekday morning peak hour throughput of 3,705 vehicles
  - Weekday evening peak hour throughput of 3,931 vehicles
  - Weekend peak hour throughput of 3,458 vehicles
- Intersection of Princes Highway and IKEA Access Road
  - Weekday morning peak hour throughput of 3,722 vehicles

- Weekday evening peak hour throughput of 4,220 vehicles
- Weekend peak hour throughput of 4,128 vehicles

4. BACKGROUND INFORMATION

4.1 Approved Development and Traffic Report

The approved development for the subject site consists of works for the construction of a Bunnings development being a hardware and building supplies store. A traffic report was prepared for the development application prepared by Transport and Traffic Planning Associates (Ref: 17053, dated October 2017, Rev E).

The traffic report undertook a SIDRA intersection analysis at the intersection of Princes Highway and the proposed access and Princes Highway and Smith Street. The study concluded that the results of the SIDRA assessment indicated satisfactory operational performance at the access and intersection, with both sites operating at a LOS A in the morning, evening and weekend scenarios with the development traffic incorporated.

4.2 Access Arrangements

The access arrangements as detailed within the traffic report prepared for DA describes the following:

- Smith Street access: Ingress and egress for the carpark and ingress for delivery/service vehicles.
- Princes Highway: Right turn ingress and left turn egress for the carpark and left turn egress for delivery/service vehicles.

4.3 Parking Arrangements

The DA traffic report details that a total of 424 parking spaces will be provided within the basement carpark for Bunnings including accessible and trailer spaces.

4.4 Council's Response to Community Concerns

Council has received concerns from Tempe residents regarding the approved traffic arrangements, and safety concerns. On this matter Transport for NSW has advised residents that they "would support further risk assessment being undertaken by either Bunnings or Council of the Princes Highway access and a feasibility review of the traffic lights to determine if the safety and network impacts could be effectively mitigated".

5. WARRANT FOR TRAFFIC SIGNALS

5.1 Signal Warrant Assessment

The TfNSW Traffic Signal Design Guide Section 2 describes the general warrants for the installation of a signalised intersection. The following is the assessment criteria to determine if the intersection meets the warrants for a signalised intersection. As construction has not commences at the time of this report, development traffic generation has been used in lieu of traffic data for the minor legs being for the Bunnings access.

Traffic for a TCS warrant assessment is presented in **Table 1** below:

Table 1: Traffic Data for TfNSW Warrants

Time	Traffic - Vehicles/hour		
	Princes Highway Eastbound	Princes Highway Westbound	Approved Bunning Tempe Development Volumes in One Direction
Weekday			
Hourly AM Average	2731	836	60 veh/hour in the AM peak
Hourly PM Average	1187	2571	186 veh/hour in the PM peak
Saturday			
Hourly SAT Average	1624	1422	445 veh/hour

A signalised intersection may be considered if one of five warrants is met (as per the Traffic Signal Design Manual – Section 2 Warrants). The relevant warrants are summarised below.

a) Traffic Demand:

For each of four one-hour periods of an average day:

I. The major road flow exceeds 600 vehicles/hour in each direction; and
II. The minor road flow exceeds 200 vehicles/hour in one direction.

WARRANT MET:

Traffic survey data collected as part of this feasibility study shows average hourly volume on Princes Highway well exceeding the 600 vehicles/hour threshold in each direction during both the weekday AM and PM peak period as well as the weekend peak period.

The approved traffic report also estimated Bunnings Tempe is expected to generate up to 445 vehicles/hour on the weekend and is expected to satisfy the minor road flow requirements of 200 vehicles/hour requirement.

Accordingly, traffic demand-based signal warrant is considered to be met on weekends.

OR

b) Continuous Traffic:

For each of four one-hour periods of an average day:

I. The major road flow exceeds 900 vehicles/hour in each direction; and
II. The minor road flow exceeds 100 vehicles/hour in one direction; and
III. The speed of traffic on the major road or limited sight distance from the minor road causes undue delay or hazard to the minor road vehicles; and
IV. There is no other nearby traffic signal site easily accessible to the minor road vehicles.

WARRANT TENTATIVELY MET:

Item (ii) and (iii) are subjective and can be argued that it is unsafe for vehicles to turn across three (3) lanes of traffic carrying over 2,600 veh/hr in the PM peak hour, and that the existing signalised intersection at Princes Highway / Union Street / Smith Street is not an appropriate alternative, especially for large trucks.

Accordingly, the continuous traffic based signal warrant is considered to be tentatively met.

OR

c) Pedestrian Safety:

For each of four one-hour periods of an average day:

I. The pedestrian flow crossing the major road exceeds 150 pedestrian/hour; and

II. The major road exceeds 600vehicles/hour in each direction or, where there is a central median of at least 1.2m wide, 1000 vehicles /hour in each direction.

WARRANT NOT MET:

The pedestrian volumes at this intersection do not meet the warrants.

OR

d) Pedestrian Safety – high speed road:

For each of four one-hour periods of an average day:

I. The pedestrian flow crossing the major road exceeds 150 pedestrian/hour; and
II. The major road exceeds 450vehicles/hour in each direction or, where there is a central median of at least 1.2m wide, 750 vehicles /hour in each direction; and
III. The 85th percentile speed on the major road exceeds 75 km/hour.

WARRANT NOT MET:

The pedestrian volumes at this intersection do not meet the warrants.

OR

e) Crashes:

I. The intersection has been the site of an average of three or more reported tow-away or casualty traffic accidents per year over a three year period, where the traffic accidents could have been prevented by traffic signals; and
II. The traffic flows are at least 80% of the appropriate flow warrants.

WARRANT NOT MET:

Not applicable to a new intersection.

5.2 Assessment Outcome

Based on the signal warrant assessment presented in **Section 5.1**, it is considered that traffic signals are warranted at the Bunnings Tempe Princes Highway access driveway.

6. FEASIBILITY OF TRAFFIC SIGNALS

6.1 Concept Design to include Traffic Signals

On the basis that traffic signals are warranted at the approved Bunnings Tempe Princes Highway access driveway; a Concept Plan has been developed to show a signalised intersection layout that could be physically accommodated within the existing driveway with minimal changes to the internal configuration of the Bunnings development.

The Concept Plan depicts a signalised intersection layout that aims to contain all vehicle egress onto Princes Highway and making it difficult and undesirable for any vehicles travelling through Union Street.

It is also pertinent to note that the currently approved access driveway does not permit vehicles to turn left into Bunnings via Princes Highway and the approved driveway has been slightly angled to deter this particular vehicular movement. This has been retained in the Concept Plan.

Accordingly, a Concept Plan has been developed using "Proposed Road Layout General Arrangement Plan – Option 2" as a base plan prepared by at&l (reproduced in **Appendix A**) which is understood to be the currently approved access layout for the Bunnings Tempe development.

It is also noted that swept path analysis has been undertaken to ensure a 20m Articulated Vehicle (AV) can turn into and out of the site satisfactorily, and are shown on the concept drawings.

The Concept Plan prepared for the purposes of this feasibility study is provided in **Figure 9** and reproduced at full scale in **Appendix B**.

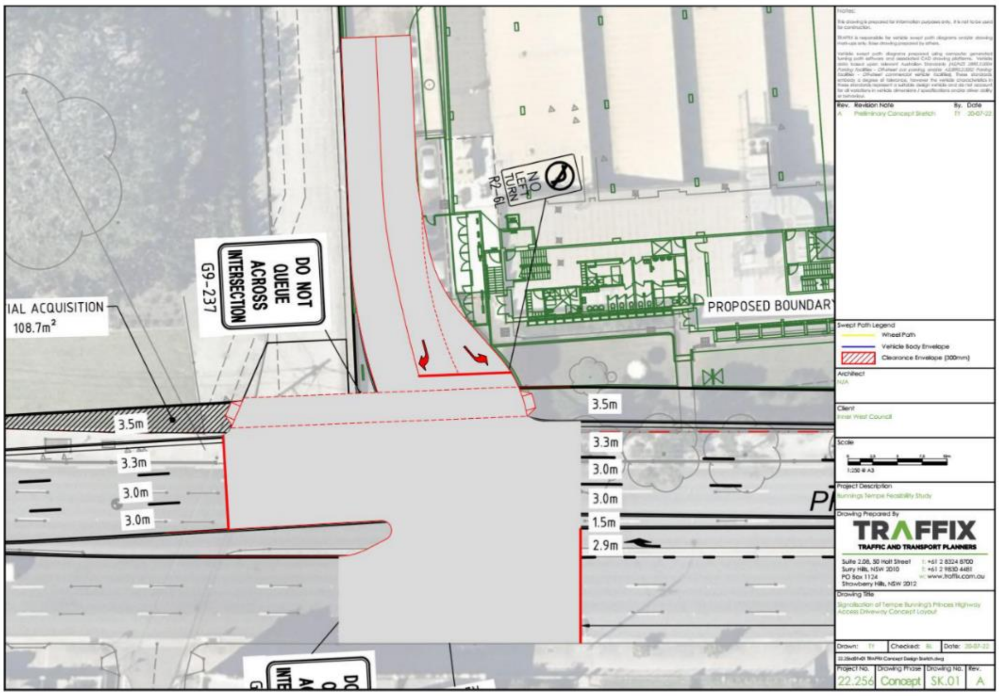


Figure 9: Concept Plan for Bunnings Tempe Signalised Princes Highway Access Driveway

6.2 Community and Resident Impacts

The Concept Design shows there are unlikely to be any additional impacts to local community and residents when compared to the currently approved access arrangement.

Furthermore, removing vehicle egress on Smith Street and allowing vehicles to turn right onto Princes Highway addresses local community concerns, making it difficult and undesirable for Bunnings traffic to travel through Union Street.

6.3 Public Transport

The Concept Design does not have an impact on any existing public transport infrastructure.

6.4 Accessibility for Bunnings Customers

The Concept Plan shows a signalised turn off Princes Highway can potentially achieve improved access for Bunnings' customers, as they will be able to utilise the right-turn lane to access Bunnings under a safer, green phase instead of trying to find a safe gap to cross three (3) lanes of traffic on an arterial road which carries a significant volume of traffic (up to 2,683 vehicles in the southbound direction during the PM peak hour) and a bicycle route.

This will also likely reduce the number of northbound right turn vehicles occupying the rightmost through lane at the Princes Highway / Smith Street / Union Street intersection to access Bunnings via Smith Street, negatively impacting the through lane capacity.

All egress vehicles will also have convenient access directly onto the arterial road network, being Princes Highway and is potentially an improvement over the currently approved egress arrangements.

Google Maps also show similar travel times for those customers situated northwest of the railway line travelling through Railway Road when turning right onto Princes Highway instead of travelling through Union Street as currently approved. Marrickville Station has been used as a reference point and the PM peak hour travel times are provided in **Figure 10** and **Figure 11**.

Notwithstanding the above, Bunnings' customer may still choose to turn left onto Princes Highway, then left onto Smith Street to perform a U-turn at the cul-de-sac to access Union Street. In any event, the delays resulting from traversing three sets of traffic signals will likely deter motorists from taking this route. In any event, the revised access / egress arrangement will result in significantly less traffic accessing Union Street compared to the currently approved vehicular access arrangement.

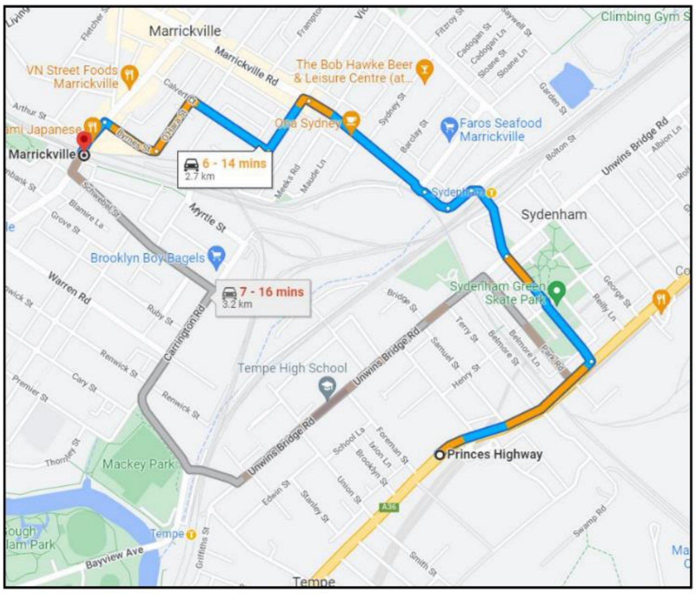


Figure 10: Norwest Customers Travel Time Through Railway Road

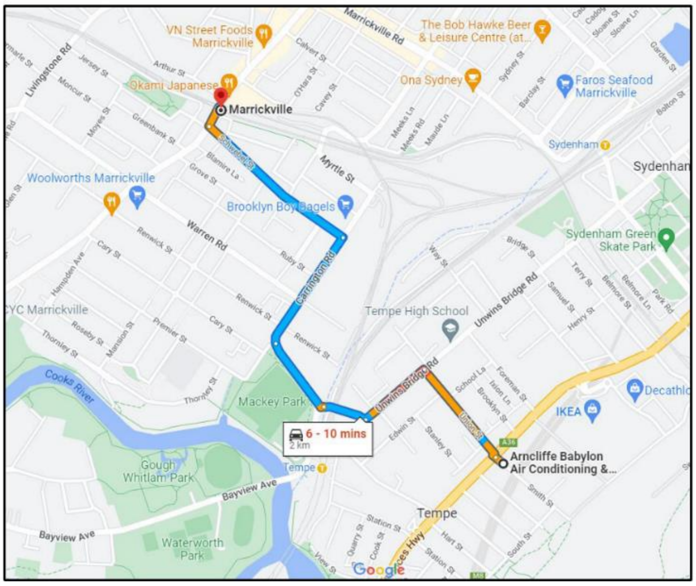


Figure 11: Norwest Customers Travel Time Through Union Street

6.5 Impacts on existing Trees and Street Furniture

The Concept Plan shows a signalised intersection can potentially be accommodated entirely within the existing design without affecting trees and street furniture as currently approved.

6.6 Pedestrian and Active Transport Movement Desire Lines

The Concept Plan shows a signalised intersection can potentially be accommodated entirely within the existing design without affecting pedestrian and active transport movement desire lines as currently approved.

It is envisaged that pedestrian movements on the southern side of Princes Highway will be substantially improved and better protected under a signalised access arrangement compared the currently approved access arrangement where they will need to travel almost 30 metres across the two driveways, and being vulnerable to vehicles turning right into the site that are likely to be more focused on finding a suitable gap across three lanes of busy traffic and not able to sufficiently observe pedestrians.

6.7 Impacts on Nearby Driveways and Intersections

The Concept Plan shows a signalised intersection can potentially be accommodated entirely within the existing design without affecting nearby driveways and intersections as currently approved.

6.8 Road Alignment

The Concept Plan shows the centreline of Prince Highway and Tempe Bunning's driveway generally intersect close to 90°. An inspection of existing site conditions also identified a large vertical curve (crest) located south of the proposed intersection on Princes Highway. No concerns are raised in regard to the existing vertical alignment, which appears to provide sufficient sight distance for the northbound and southbound approaches.

Furthermore, it is considered that all approaches are generally straight, and drivers are expected to have clear view of traffic signals, if implemented.

6.9 Sight Distance

It is noted Approach Sight Distance (ASD), Minimum Gap Sight Distance (MGSD) and Safe Intersection Sight Distance (SISD) are desirable at signalised intersections but not a mandatory requirement as per Austroads Guide to Road Design Part 4A 2021 (AGRD Part 4A, 2021).

Accordingly, it is reasonable to conclude these parameters do not influence the feasibility of providing traffic signals at this location.

In addition, it should be noted that the concept plan would result in slight widening of Princes Highway at the point of the proposed intersection which will result in a change to the existing alignment of the roadway, causing a minor bend in the path of travel for vehicles. As per Section 6.8, all approaches are generally straight, and drivers are expected to have a clear view of traffic signals if implemented. Therefore, this arrangement is not expected to have any impact on the intersection sight distance.

6.10 Spacing between Signalised Intersections

AGRD Part 4 specifies that it is desirable that intersections should be separated by at least five (5) seconds of travel time at the design speed to provide time for drivers to process information relating to traffic, the road layout and traffic signs.

Accordingly, it is desirable that intersections along Princes Highway within the vicinity of the site with a design speed limit of 70km/h (sign-posted speed limit of 60km/h) are spaced at least some 97 metres apart.

Notwithstanding, the introduction of traffic signals at the Tempe Bunning's Princes Highway access driveway does not change the spacing to its nearby intersections as currently approved.

6.11 See-Through Effects

See through effect refers to a driver approaching along the major road focuses on green lights at the second intersection rather than red lights at the first intersection.

This is unlikely a concern for southbound drivers approaching the signalised Ikea access driveway, which is located approximately 200 metres north and southbound drivers do not have a direct line of sight to the proposed signals due to the existing horizontal road alignment. No concerns are raised for vehicles approaching the proposed intersection from the south, noting the substantial distance to the Ikea intersection, which exceeds Austroads recommendations.

This is also unlikely to be a concern for northbound drivers approaching the signalised Princes Highway / Union Street / Smith Street intersection as it will be spaced approximately 150 metres apart, meeting minimum AGRD Part 4 requirements. Likewise, vehicles approaching the proposed intersection from the north will benefit from the 150 metres intersection spacing with no concerns raised by see through effects.

Furthermore, it is noted that the spacing between Princes Highway / Union Street / Smith Street signals and the signalised pedestrian crossing in front of 725-727 Princes Highway is some 110 metres apart, and there are no existing concerns with see through effects.

6.12 Road Safety Audit

An independent Road Safety Audit (RSA) has been carried out for the concept design in accordance with the Road Safety's Guidelines for Road Safety Auditing Practices, including a completed checklist as sourced from the Austroads Guide to Road Safety Part 6A – Implementing Road Safety Audits.

The RSA is reproduced in full in **Appendix C** noting all safety findings can be addressed through subsequent detailed engineering design and there are no safety items that would preclude the provision of traffic signals at this location altogether.

6.13 Changes to Adjacent Land

The concept design proposed above would involve the following spatial changes in relation to IKEA's property:

- Potential acquisition of 108.7m^2 of area along Princes Highway to allow for the signalised intersection arrangement.

- The above would result in the re-alignment of the IKEA property boundary on the north western frontage to Princes Highway.

6.14 Other Impacts

There may be other impacts that can affect the feasibility of providing traffic signals at this location and will need to be separately reviewed by consultants in those respective fields, some of these include:

- Environmental impacts;
- Socio-economic impacts;
- Heritage impacts;
- Street lighting requirements;
- Pavement impacts; and
- Stormwater and drainage impacts.

Generally, impacts to existing infrastructure within the road reserve, such as lighting, sewer, water, stormwater, electricity, gas etc. can be addressed through detailed engineering solutions/design and is a common component for brownfield projects.

7. TRAFFIC MODELLING

7.1 Methodology

A SIDRA 9 Network model has been developed for the Princes Highway corridor between Union Street / Smith Street and Ikea's Access Driveway to determine the road capacity implications if the approved Tempe Bunning's Princes Highway access driveway were signalised as discussed in **Section 6**.

7.1.1 Surveys

Traffic surveys were undertaken at the key intersections described in **Section 3.2**, which are considered to be most critical in relation to the site. These counts were undertaken during a weekday morning peak between 7:00am-9:00am and an evening peak between 4:00pm-6:00pm on the 29th of June 2022. In addition, surveys were also conducted on a typical Saturday peak period between 11:00am-200pm on 23 July 2022.

The individual peak hour volumes for each intersection have been used within the SIDRA 9 modelling which is presented in Section 7.2 as a worst-case assessment. The relevant peak periods for each intersection are listed below for reference.

- Intersection of Princes Highway, Smith Street and Union Street
    - AM Peak: 7:45am - 8:45am; and
    - PM Peak: 5:00pm - 6:00pm.
    - SAT Peak: 12:45pm - 1:45pm.
- Intersection of Princes Highway and Brooklyn Street
    - AM Peak: 7:45am - 8:45am; and
    - PM Peak: 4:45pm - 5:45pm.
    - SAT Peak: 12:45pm - 1:45pm.
- Intersection of Princes Highway and Bunnings Access/IKEA Servicing Access
    - AM Peak: 7:45am - 8:45am; and
    - PM Peak: 4:45pm - 5:45pm.
    - SAT Peak: 12:45pm - 1:45pm.

- Intersection of Princes Highway and Foreman Street
  - AM Peak: 7:45am - 8:45am; and
  - PM Peak: 4:45pm - 5:45pm.
  - SAT Peak: 12:30pm - 1:30pm.
- Intersection of Princes Highway and IKEA Access Road
  - AM Peak: 7:45am - 8:45am; and
  - PM Peak: 5:00pm - 6:00pm.
  - SAT Peak: 12:30pm - 1:30pm.

7.1.2 Intersection Performance Measures

The survey data forms the base case volumes for software modelling undertaken to assess intersection performance characteristics under existing traffic conditions. The SIDRA Intersection 9 model produces a range of outputs, the most useful of which are the Degree of Saturation (DoS) and Average Vehicle Delay per vehicle (AVD). The AVD is in turn related to a level of service (LoS) criteria. These performance measures can be interpreted using the following explanations:

DoS - the DoS is a measure of the operational performance of individual intersections. As both queue length and delay increase rapidly as DoS approaches 1, it is usual to attempt to keep DoS to less than 0.9. When DoS exceeds 0.9 residual queues can be anticipated, as occurs at many major intersections throughout the metropolitan area during peak periods. In this regard, a practical limit at 1.1 can be assumed. For intersections controlled by roundabout or give way/stop control, satisfactory intersection operation is generally indicated by a DoS of 0.8 or less.

AVD - the AVD for individual intersections provides a measure of the operational performance of an intersection. In general, levels of acceptability of AVD for individual intersections depend on the time of day (motorists generally accept higher delays during peak commuter periods) and the road system being modelled (motorists are more likely to accept longer delays on side streets than on the main road system).

LoS - this is a comparative measure which provides an indication of the operating performance of an intersection.

7.2 Peak Period Intersection Performance

In order to compare the traffic implications of potential signals at the Bunnings Tempe Princes Highway access driveway, the following scenarios has been assessed:

- Existing Road Corridor (2022 Traffic Surveys);
- Approved Priority Controlled Access (2022 Traffic Surveys + Bunnings' Traffic under Approved Arrangements); and
- Signals at the Bunnings Princes Highway access driveway (2022 Traffic Surveys + Bunning's Rerouted Traffic under the Signalised Access Arrangements).

7.2.1 Trip Distribution under Signalised Scenario

The traffic report prepared by Transport and Traffic Planning Associates (Ref: 17053, dated October 2017, Rev E) details the assumptions regarding traffic distribution. The SIDRA 9 traffic modelling conducted as part of this feasibility study adopts the same traffic distribution assumptions to assign the traffic generated by the Bunnings Tempe development onto the adjacent road network for the signalised scenario.

On the above basis, the traffic distribution adopted in the modelling of the signalised scenario are shown in **Figures 10, 11** and **12**.

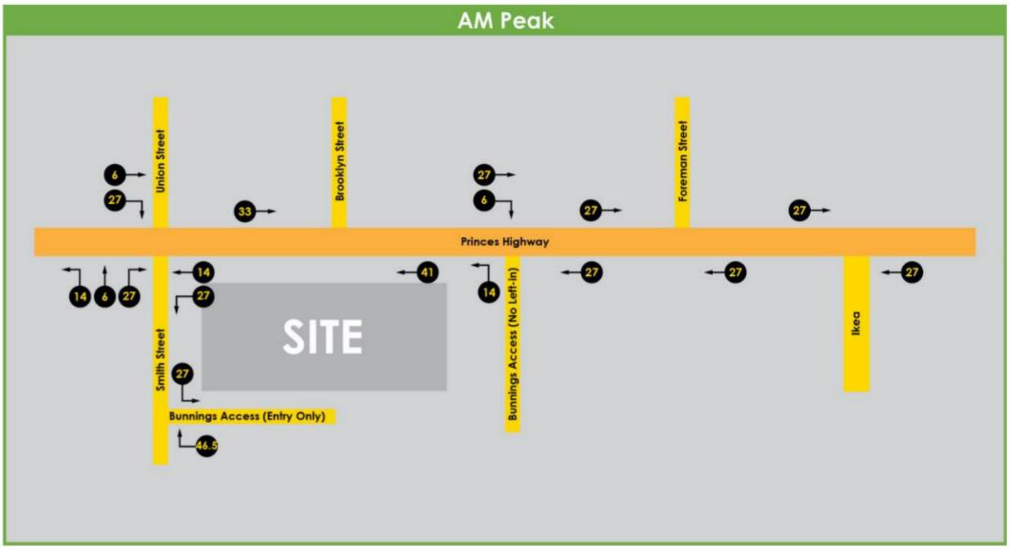


Figure 10: AM Traffic Distribution (veh/hr)

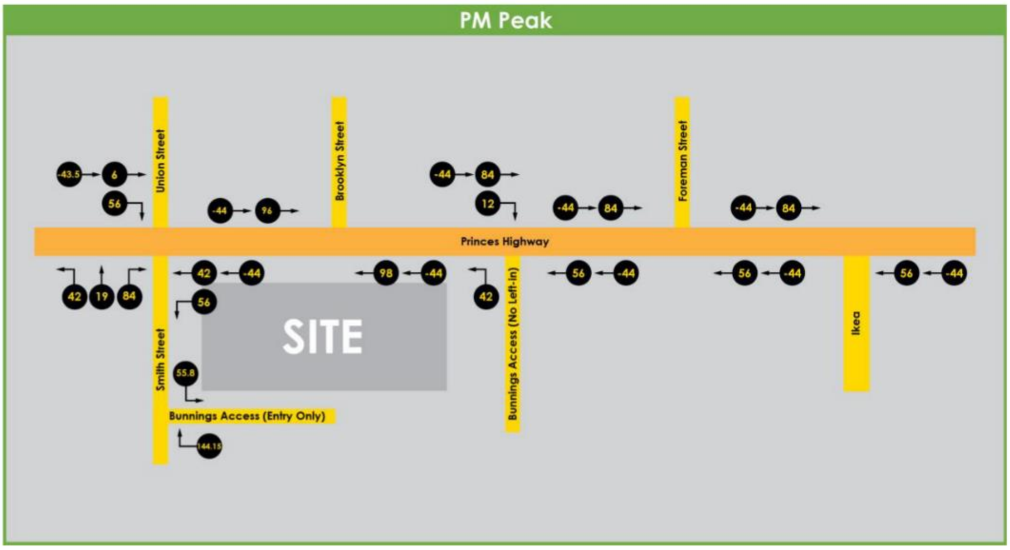


Figure 11: PM Traffic Distribution (veh/hr)

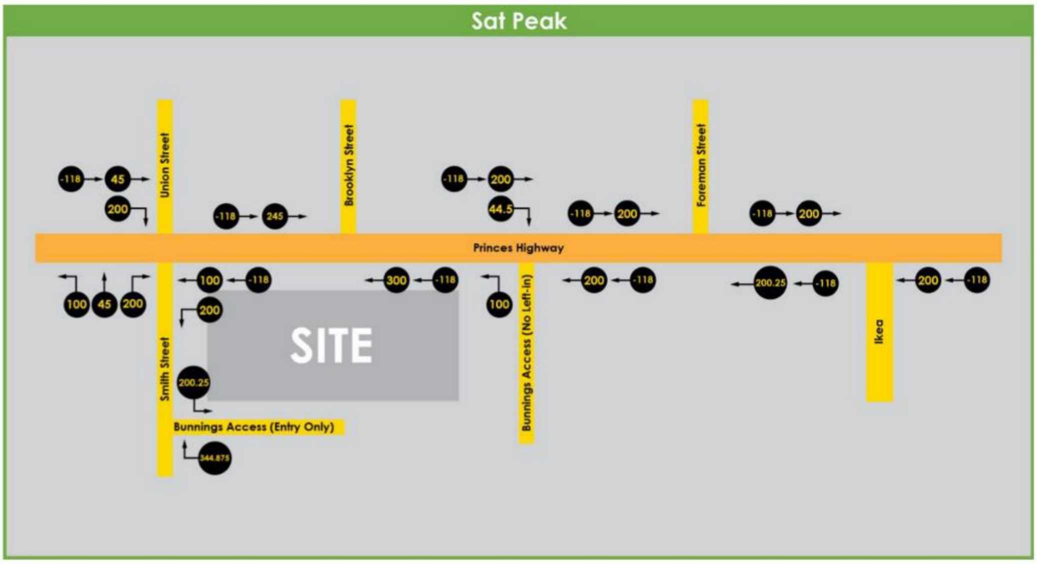


Figure 12: Saturday Traffic Distribution (veh/hr)

7.2.2 Existing Scenario

The Princes Highway corridor between Union Street / Smith Street and Ikea's Access Driveway adopted for the existing scenario is shown in **Figure 13**.

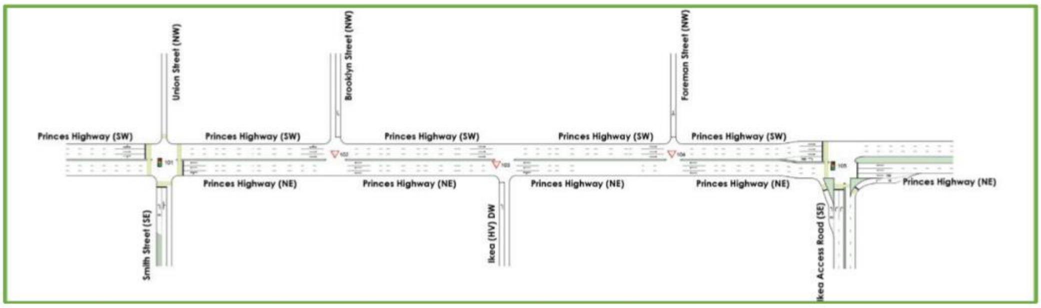


Figure 13: Existing Scenario Road Network Layout

A summary of the modelled results for the existing scenario are provided below in **Table 2**. Reference should also be made to the SIDRA outputs provided in **Appendix D** which provide detailed results for individual lanes and approaches.

Table 2: Existing Scenario Intersection Performance

Intersection	Control	Scenario	Period	DoS	AVD	LoS
Princes Highway, Union Street and Smith Street	Signal	Existing	AM	0.674	15.5	B
			PM	0.681	10.2	A
			SAT	0.426	5.8	A
Princes Highway and Brooklyn Street	Priority*	Existing	AM	0.525	13.3	A
			PM	0.492	6.4	A
			SAT	0.425	7.7	A
Princes Highway and Ikea Servicing Access	Priority*	Existing	AM	0.522	2.3	A
			PM	0.494	8.9	A
			SAT	0.317	4.0	A
Princes Highway and Foreman Street	Priority*	Existing	AM	0.935	849.6	F
			PM	1.090	818.2	F
			SAT	0.325	260.3	F
Princes Highway and IKEA Access	Signal	Existing	AM	0.603	3.8	A
			PM	0.645	9.2	A
			SAT	0.649	17.9	B

* LoS for priority intersections based on the worst performing movement in accordance with TfNSW Guide to Traffic Generating Development.

It can be seen from **Table 2** that:

- Princes Highway, Union Street and Smith Street intersection currently operates satisfactorily during all peak periods at either LoS A or B;
- Princes Highway and Brooklyn Street intersection currently operates satisfactorily during all peak periods at LoS A;
- Princes Highway and Ikea Servicing Access intersection currently operates satisfactorily during all peak periods at LoS A;

- Princes Highway and Foreman Street intersection currently operates at LoS F during all peak periods, this is primarily due to vehicles turning right out of Foreman Street experiencing substantial delays when they need to identify a safe gap between six (6) lanes of busy traffic, and the modelling results reflects the difficulty of this movement; and
- Princes Highway and Ikea Access intersection currently operates satisfactorily during all peak periods at either LoS A or B.

7.2.3 Approved Scenario

The Princes Highway corridor between Union Street / Smith Street and Ikea's Access Driveway adopted for the approved scenario is shown in **Figure 14**.

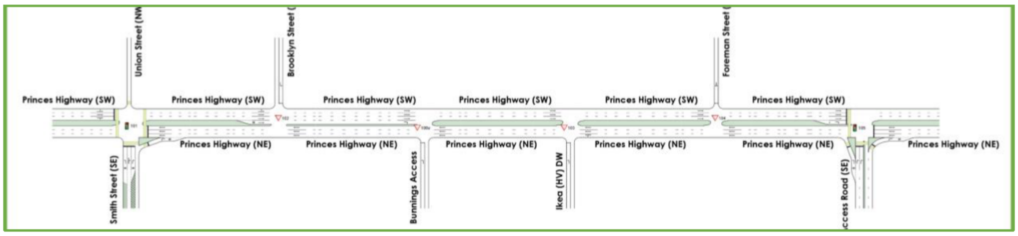


Figure 14: Approved Scenario Road Network Layout

A summary of the modelled results for the approved scenario are provided below in **Table 3**. Reference should also be made to the SIDRA outputs provided in **Appendix D** which provide detailed results for individual lanes and approaches.

Table 3: Approved Scenario Intersection Performance

Intersection	Control	Scenario	Period	DoS	AVD	LoS
Princes Highway, Union Street and Smith Street	Signal	Approved	AM	0.754	17.8	B
			PM	0.840	20.8	B
			SAT	0.863	27.0	B
Princes Highway and Brooklyn Street	Priority*	Approved	AM	0.399	8.4	A
			PM	0.502	5.8	A

Intersection	Control	Scenario	Period	DoS	AVD	LoS
			SAT	0.340	6.5	A
Princes Highway and Ikea Servicing Access	Priority*	Approved	AM	0.527	2.2	A
			PM	0.496	6.6	A
			SAT	0.332	3.7	A
Princes Highway and Foreman Street	Priority*	Approved	AM	0.527	11.8	A
			PM	0.495	6.4	A
			SAT	0.339	7.9	A
Princes Highway and IKEA Access	Signal	Approved	AM	0.617	3.9	A
			PM	0.772	9.8	A
			SAT	0.686	17.8	B
Princes Highway and Bunnings Tempe Access	Priority*	Approved	AM	0.527	9.8	A
			PM	0.496	72.9	F
			SAT	0.353	31.5	C

* LoS for priority intersections based on the worst performing movement in accordance with TfNSW Guide to Traffic Generating Development.

It can be seen from **Table 3** that:

- Princes Highway, Union Street and Smith Street intersection is expected to operate satisfactorily under the approved scenario during all peak periods at LoS B;
- Princes Highway and Brooklyn Street intersection is expected to operate satisfactorily under the approved scenario during all peak periods at LoS B;
- Princes Highway and Ikea Servicing Access intersection is expected to operate satisfactorily under the approved scenario during all peak periods at LoS A;
- Princes Highway and Foreman Street intersection is expected to continue to operate at LoS A under the approved scenario during all peak periods.
- Princes Highway and Ikea Access intersection is expected to operate satisfactorily under the approved scenario during all peak periods at either LoS A or B; and

- The approved Princes Highway and Tempe Bunning Access is expected to operate satisfactorily during the AM peak period at LoS A but will however operate at LoS F during both the PM and Saturday peak periods due to:
  - During the PM peak hour, 13 vehicles turning right into Bunnings via Princes Highway will experience delays in order to identify a safe gap between 2,837 through vehicle movements. The modelling showed that the right turns into Bunnings under this scenario experienced an average delay of 72.9 seconds. It should also be noted that the network model takes into account the bunching caused by the upstream signalised intersection. Within the SIDRA model, gap acceptance parameter for this right turn movement has been set as “high”, however even with drivers choosing smaller gaps which could potentially be dangerous, the intersection operates at a LoS F; and
  - During the Saturday peak hour, 47 vehicles turning right into Bunnings via Princes Highway will experience substantial delays in order to identify a safe gap between 1,839 through vehicle movements. The modelling showed that the right turns into Bunnings under this scenario experienced an average delay of 31.5 seconds. As above, the effect of bunching is also incorporated from the upstream signal due to the intersection being modelled as part of a network.

The SIDRA modelling of the approved intersection layout shows that significant delays are expected under this scenario. This is expected to result in safety concerns at the intersection as driver anxiety over the increasing delay will cause them to accept risks associated with selecting smaller gaps .

Notwithstanding, it is noted that if drivers do not choose short gaps as modelled, vehicles are unlikely to wait for extended periods to turn right into Bunnings via Princes Highway and may instead find another route. With limited opportunity to turn around once at the point of the short right turn lane of the approved scenario, vehicles may merge back into the through lane to proceed to the next signalised intersection and use the IKEA access and roundabout within the site to turn around and approach the site from a southbound direction. Whilst the approved Bunnings development does not permit left turns into the site this will be difficult to enforce and with consideration of the delays that are expected from the SIDRA modelling of the approved scenario, vehicles may still attempt to turn left into the site.

In addition, it should be noted that Princes Highway is a bicycle route and pedestrians walking along the frontage of the site are required to cross both the IKEA access driveway and the approved Bunnings access without any refuge point between the two accesses. Drivers will be required to seek gaps in a high volume three-lane road and also look for pedestrians crossing along the frontage of the site at the access which may be missed by drivers that are concentrating on finding a sufficient gap to avoid long delays. Therefore, there are some significant risks associated with both road and pedestrian users for the approved access arrangements.

7.2.4 Signalised Scenario

The Princes Highway corridor between Union Street / Smith Street and Ikea's Access Driveway adopted for the approved scenario is shown in **Figure 15**.

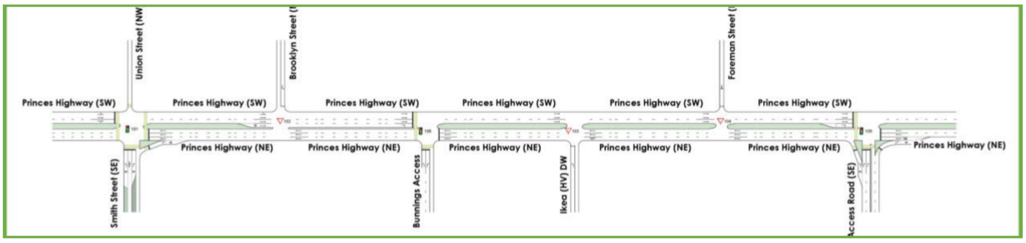


Figure 15: Signalised Scenario Road Network Layout

A summary of the modelled results for the signalised scenario are provided below in **Table 4**. Reference should also be made to the SIDRA outputs provided in **Appendix D** which provide detailed results for individual lanes and approaches.

Table 4: Signalised Scenario Intersection Performance

Intersection	Control	Scenario	Period	DoS	AVD	LoS
Princes Highway, Union Street and Smith Street	Signal	Signalised Concept	AM	0.680	30.5	B
			PM	0.717	5.2	A
			SAT	0.682	7.0	A
Princes Highway and Brooklyn Street	Priority*	Signalised Concept	AM	0.569	8.4	A
			PM	0.512	5.7	A
			SAT	0.414	6.5	A
Princes Highway and Ikea Servicing Access	Priority*	Signalised Concept	AM	0.527	3.0	A
			PM	0.490	6.5	A
			SAT	0.336	3.8	A
Princes Highway and Foreman Street	Priority*	Signalised Concept	AM	0.527	11.8	A
			PM	0.473	6.4	A
			SAT	0.469	8.0	A
Princes Highway and IKEA Access	Signal	Signalised Concept	AM	0.604	3.6	A
			PM	1.229	167.6	F
			SAT	0.713	17.6	B
Princes Highway and Bunnings Tempe Access	Signal	Signalised Concept	AM	0.677	4.8	A
			PM	0.751	15.0	B
			SAT	0.721	20.1	B

* LoS for priority intersections based on the worst performing movement in accordance with TfNSW Guide to Traffic Generating Development.

It can be seen from Table 4 that:

- Princes Highway, Union Street and Smith Street intersection is expected to operate satisfactorily under the signalised scenario during all peak periods at either LoS A or B;

- Princes Highway and Brooklyn Street intersection is expected to operate satisfactorily under the signalised scenario during all peak periods at LoS A;
- Princes Highway and Ikea Servicing Access intersection is expected to operate satisfactorily under the signalised scenario during all peak periods at LoS A;
- Princes Highway and Foreman Street intersection is expected to continue to operate at LoS A under the signalised scenario during all peak periods;
- Princes Highway and Ikea Access intersection is expected to operate satisfactorily under the signalised scenario during AM and Saturday periods at either LoS A or B but is however found to operate at LoS F during the PM peak period. The intersection will experience an average delay of 167.6 seconds during the PM peak period which is a significant impact to the IKEA development; and
- The signalised Princes Highway and Tempe Bunning Access is expected to operate satisfactorily during all peak periods at either LoS A or B.

7.3 Modelling Summary

Based on the modelling results presented in **Section 7.2** the following is noteworthy:

- Under the approved scenario, vehicles will find it difficult to turn into Bunnings Tempe during the PM and Saturday peak periods and will likely instead use an alternate route.
- Under the signalised scenario, SIDRA has identified the Princes Highway and Ikea Access intersection will be negatively impacted during the PM peak period and is expected to deteriorate to a LoS F.

Overall, SIDRA modelling results has found that the current approved scenario would have the least impact to the existing road network operation noting the impact to the upstream IKEA access under a signalised access scenario. This is notwithstanding that the right-turn into Bunnings Tempe under priority control is expected to be underutilised due to potential delays if drivers do not choose small and potentially unsafe gaps to turn right into the subject site.

8. CONCLUSION

This traffic signal feasibility study has been conducted to determine the feasibility to signalise the intersection of Princes Highway with Bunnings Tempe access driveway. This is largely due to the community response to the approved access arrangements and the push for a signalised intersection that provides a safer traffic solution.

The findings of the study have concluded that there are no reasons that would preclude the provision of traffic signals at the Tempe Bunning's access driveway altogether, and its feasibility is also dependent on many external factors other than traffic engineering or transport planning:

- Impacts to existing infrastructure within the road reserve, such as lighting, sewer, water, stormwater, electricity, gas etc. will need to be addressed through detailed engineering solutions/design.
- Safety findings in the RSA will need to be addressed through detailed engineering solutions/design.
- Transport for NSW will need to provide concurrence to traffic signals noting a safer access for Bunnings customers under a signalised arrangement via Princes Highway will negatively impact Princes Highway / Ikea's access driveway during the PM peak hour.
- Ikea will need to be consulted to traffic signals as their customers will experience greater delays when visiting or leaving the store during the PM peak hour, noting that the intersection operates at a LoS A in the approved PM scenario and a LoS F in the signalised concept scenario which is a significant impact on the operation of the IKEA access.
- Bunnings may need to submit a modification application, including potential amendments to their internal carpark layout in order to provide a signalised access off Princes Highway that is similar or an improvement to the concept scheme shown in this feasibility study. This concept design may be further altered with larger impacts to the proposed Bunnings building by providing for improved vehicle storage at the egress.
- The SIDRA 9 modelling of the approved Bunning access arrangement shows significant delays for vehicles turning right into Bunnings. Specifically, the PM scenario shows that vehicles would have to wait for up to 72.9 seconds to turn right into Bunnings from Princes Highway under the assumption that drivers will find small gaps acceptable. Driver anxiety

Highway under the assumption that drivers will find small gaps acceptable. Driver anxiety behaviours may result in choosing unsafe gaps in a high volume three-lane roadway to turn into the site causing safety concerns. If drivers do not take small gaps, extended delays will occur and this will encourage vehicles to enter the site through alternate routes.

9. RECOMMENDATIONS

This feasibility study has found the approved Princes Highway and Bunnings access experiences substantial delays, and vehicles would have to wait on average 72.9 seconds in the PM peak hour before being able to find a suitable gap to turn right into Bunnings.

It is pertinent to note that this is also on the basis that the gap acceptance parameter within the SIDRA models for this right turn movements have been set as "high", however, even with drivers choosing smaller gaps which could potentially be dangerous, the intersection would still operate at a LoS F.

It is likely that extended delays will occur if drivers do not accept small and potentially unsafe gaps. This may result in vehicles attempting to find another route into Bunnings. With limited opportunity to turn around once at the point of the short right turn lane of the approved scenario, vehicles may merge back into the through lane and proceed to the next signalised intersection and use the IKEA access and roundabout within the site to turn around and approach the site from a southbound direction. Whilst the approved Bunnings development does not permit left turns into the site this will be difficult to enforce and with consideration of the delays that are expected from the SIDRA modelling of the approved scenario, vehicles may still attempt to turn left into the site.

In addition to all of the above, concerns are raised for pedestrians / cyclists travelling along the south-eastern side of the road when crossing the driveway in is current approved form as drivers will be preoccupied to find a suitable gap across three-lanes of traffic and may not have sufficient time to observe and react to pedestrian or cyclist movements.

It is further noted that there is a precedent for a signalised intersection treatment for a fast-food premises (Hungry Jacks) located at 400 Princes Highway, St Peters. This is located along the same arterial road (Princes Highway) less than a kilometre away from the subject site and signals are used here to create a sufficient gap in traffic to allow left turns out of the access road. Generally left turns do not require signal treatment to allow for egress movements which demonstrates the significant volume of traffic along Princes Highway. It further emphasises the safety concerns regarding an unsignalised right turn into the Bunnings site if vehicles a kilometre upstream have difficulty just turning left out of the Hungry Jacks development without traffic being stopped by signals. This intersection is shown in the figure below for reference.

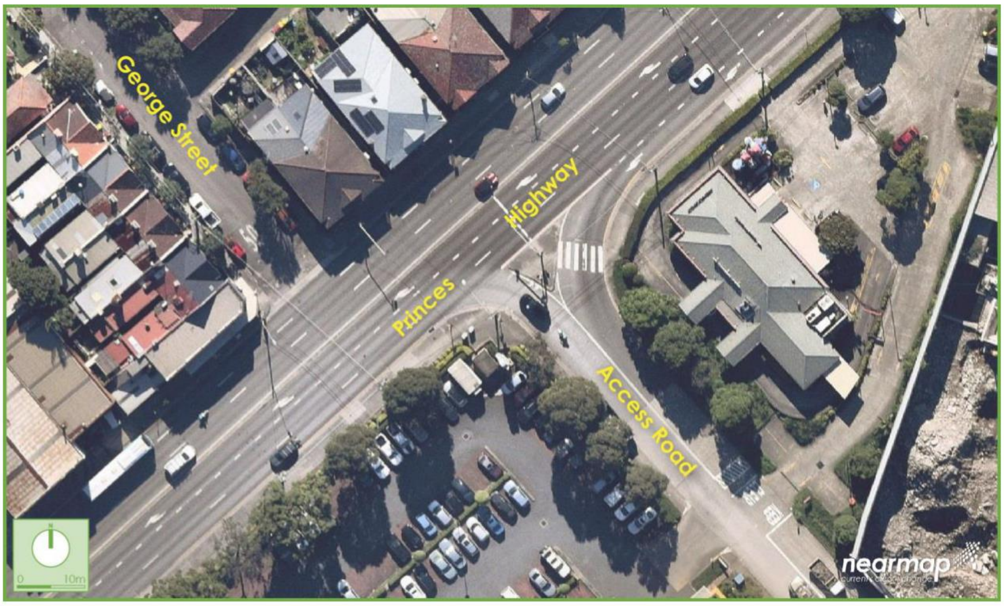


Figure 16: Intersection of Princes Highway and Access Roadway for St Peters Hungry Jacks

The feasibility study has also found that a concept signalised intersection layout sought by the local community and residents group would result in unacceptable impacts on the operation of the existing upstream IKEA access – showing a significant increase in the average delay in the PM peak hour and a change in the LoS of this intersection from a LoS A in the approved PM scenario to a LoS F in the signalised PM scenario. The upgrade of the approved Bunnings intersection into a signalised intersection will also have other challenges including significant economic implications on Bunnings over the approved access arrangements.

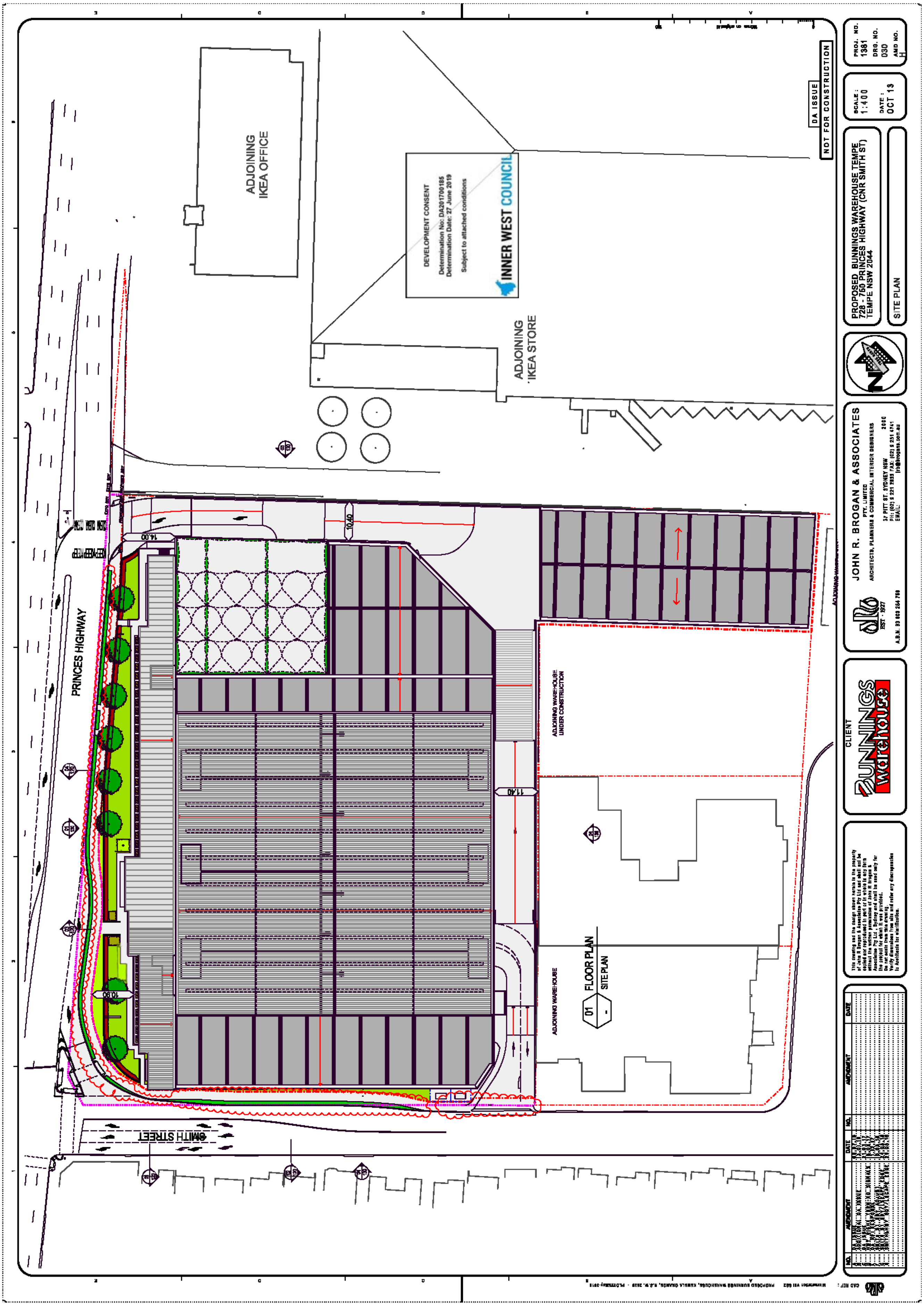
Having considered all of the above, the following is recommended:

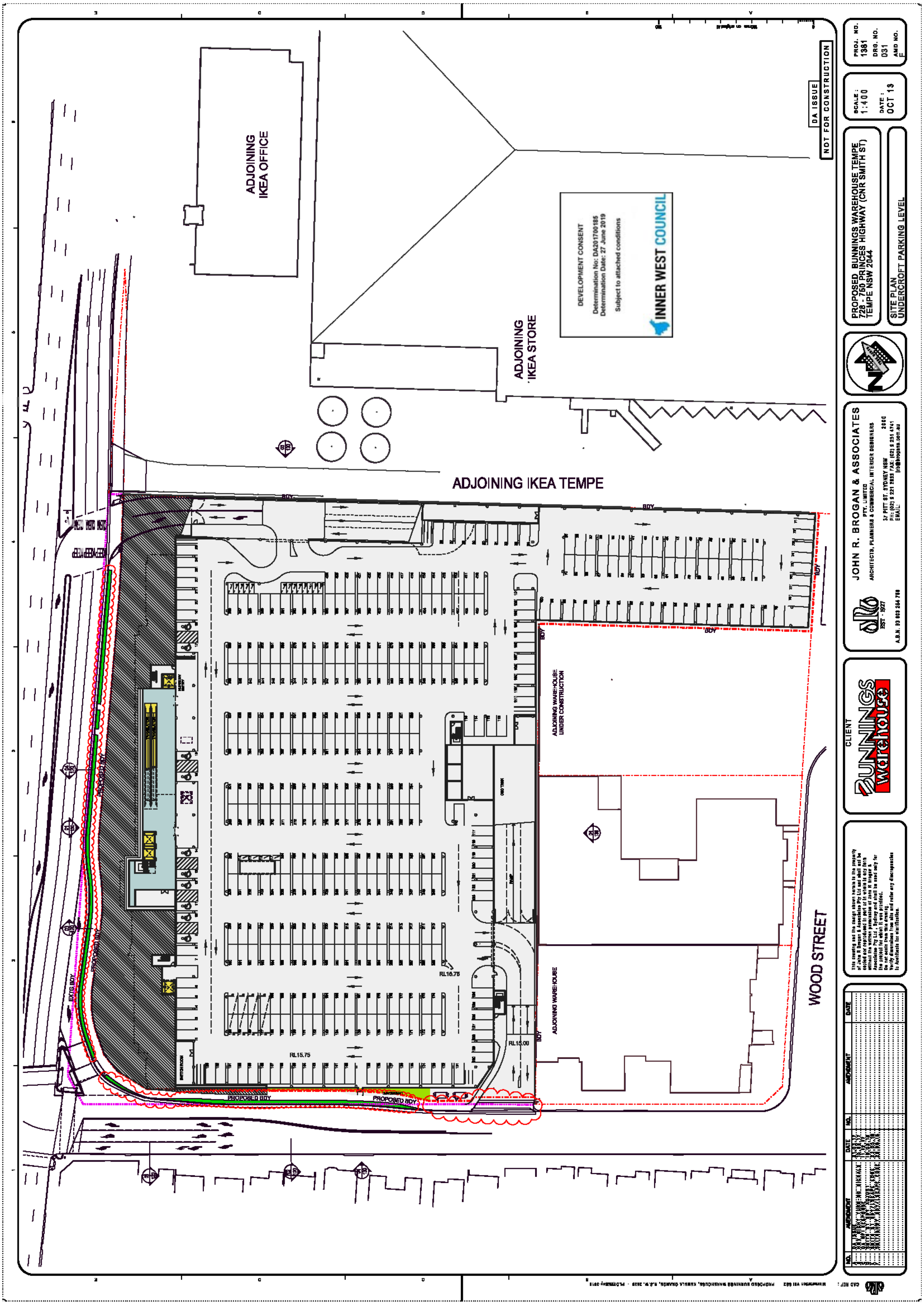
- At least two (2) additional independent Road Safety Audits (RSA) should be undertaken for the currently approved priority controlled right-turn access into Bunnings via Princes Highway at the detailed design stage to ensure current conditions and opinions of different experts are adequately considered.
- TfNSW to explore signalising the right-turn entry into Bunnings site under the current approved arrangement to address potential safety concerns.

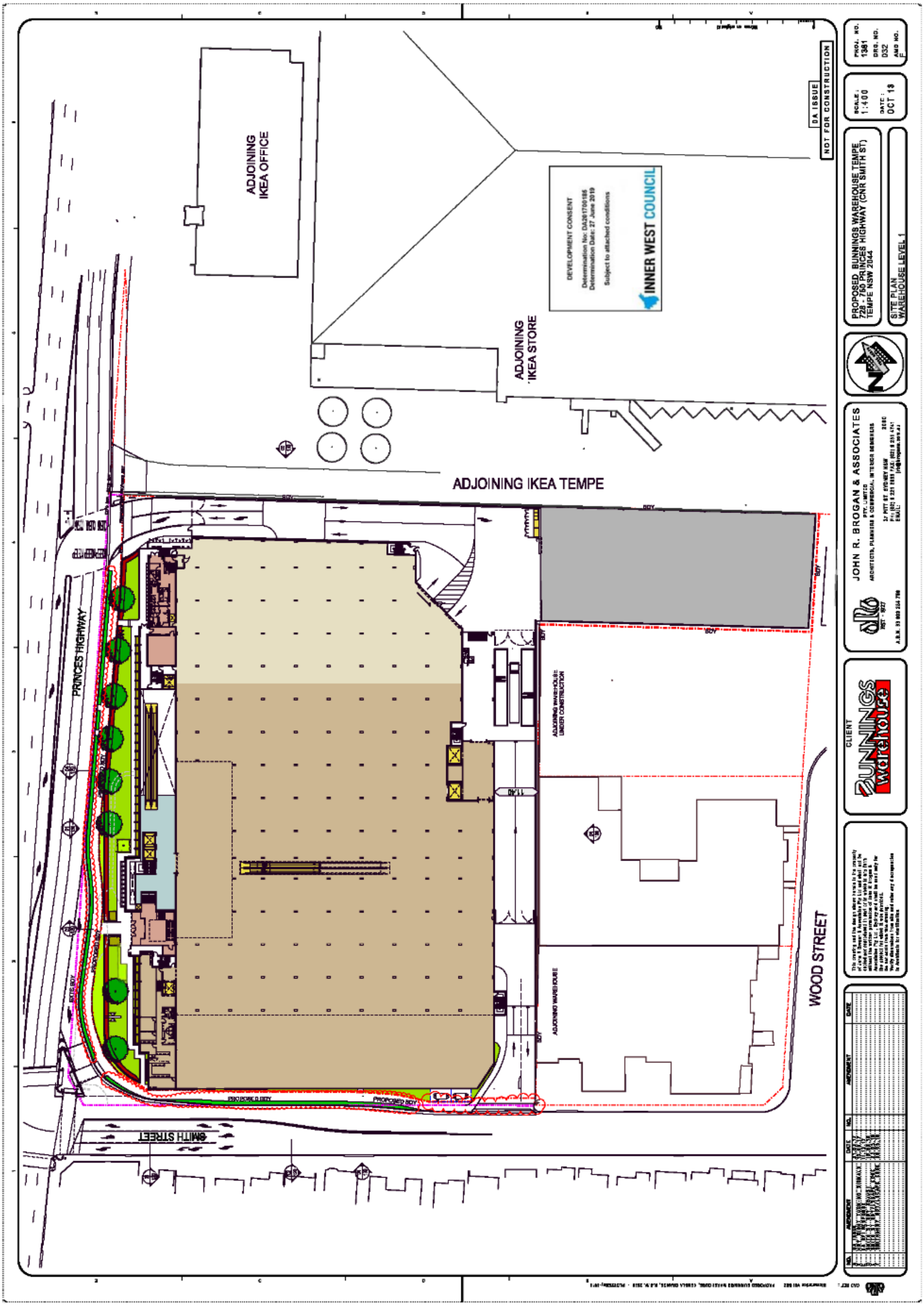
- Consideration to remove the right-turn access into Bunnings altogether if safe access to Bunnings via Princes Highway cannot be feasibility achieved.

APPENDIX A

Bunning Tempe Approved Architectural Plans


ADJOINING IKEA OFFICE
DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
ADJOINING IKEA STORE
PRINCES HIGHWAY
SMITH STREET
ADJOINING WAREHOUSE UNDER CONSTRUCTION
ADJOINING WAREHOUSE
14.00
10.40
11.40
10.90
01 FLOOR PLAN
- SITE PLAN
DA ISSUE
NOT FOR CONSTRUCTION
PROJ. NO. 1381
DRG. NO. 030
AMD NO. H
SCALE : 1:400
DATE : OCT 13
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
SITE PLAN
N
JOHN R. BROGAN & ASSOCIATES
PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS
37 PITT ST. SYDNEY NSW 2000
PH: (02) 9 221 2855 FAX: (02) 9 251 4741
EMAIL: jrb@brogans.com.au
EST. 1927
A.B.N. 93 003 264 760
CLIENT
BUNNINGS warehouse


ADJOINING IKEA OFFICE
ADJOINING IKEA STORE
ADJOINING IKEA TEMPE
DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
ADJOINING WAREHOUSE UNDER CONSTRUCTION
ADJOINING WAREHOUSE
WOOD STREET
PROPOSED BDY
EXTG BDY
BDY
RL15.75
RL16.75
RL15.00
DA ISSUE
NOT FOR CONSTRUCTION
PROJ. NO. 1381
DRG. NO. 031
AMD NO. F
SCALE : 1:400
DATE : OCT 13
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
SITE PLAN
UNDERCROFT PARKING LEVEL
N
JOHN R. BROGAN & ASSOCIATES
PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS
37 PITT ST. SYDNEY NSW 2000
PH: (02) 9 221 2833 FAX: (02) 9 251 4741
EMAIL: jrb@brogans.com.au
EST · 1927
A.B.N. 93 003 264 780
CLIENT
BUNNINGS warehouse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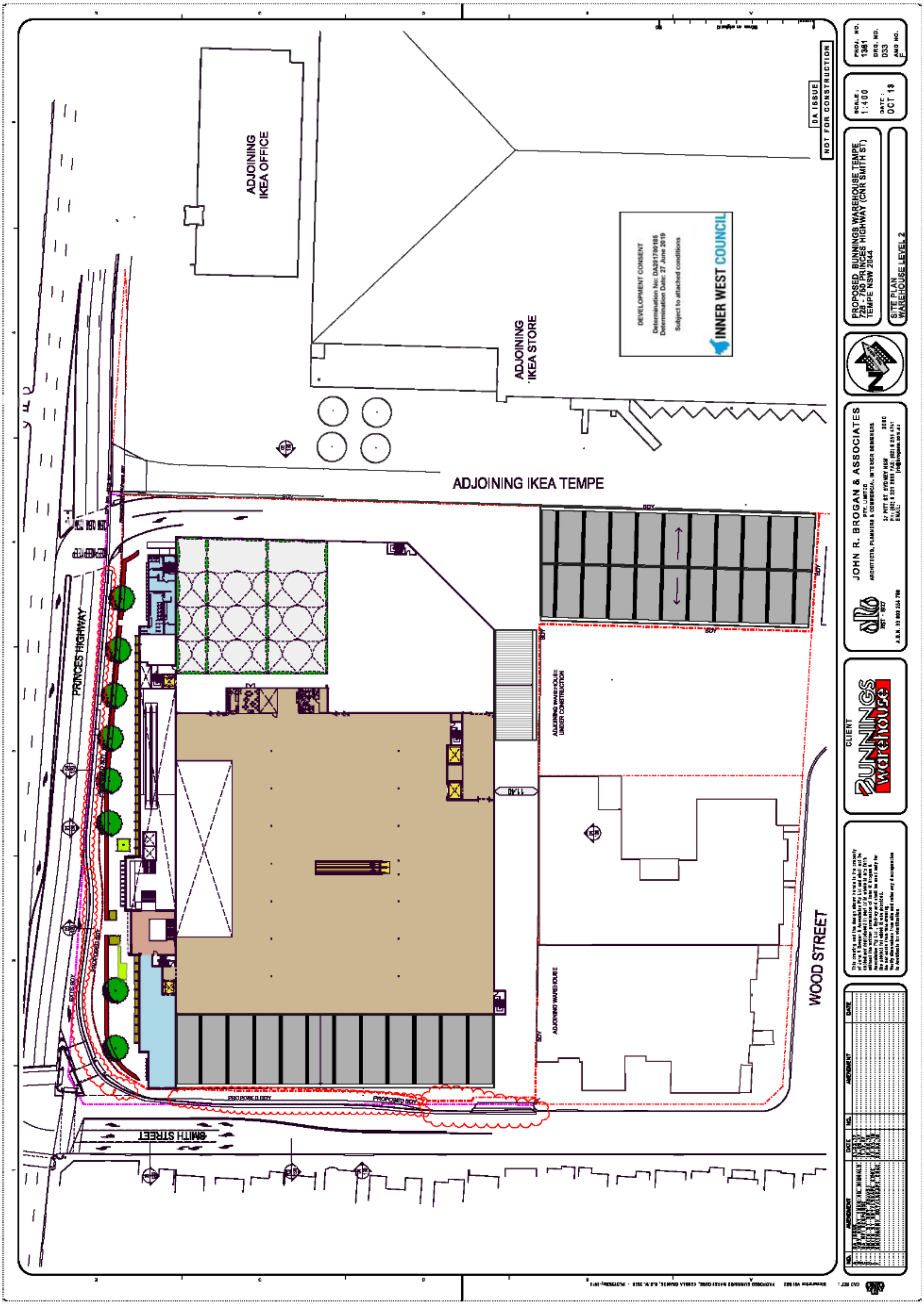
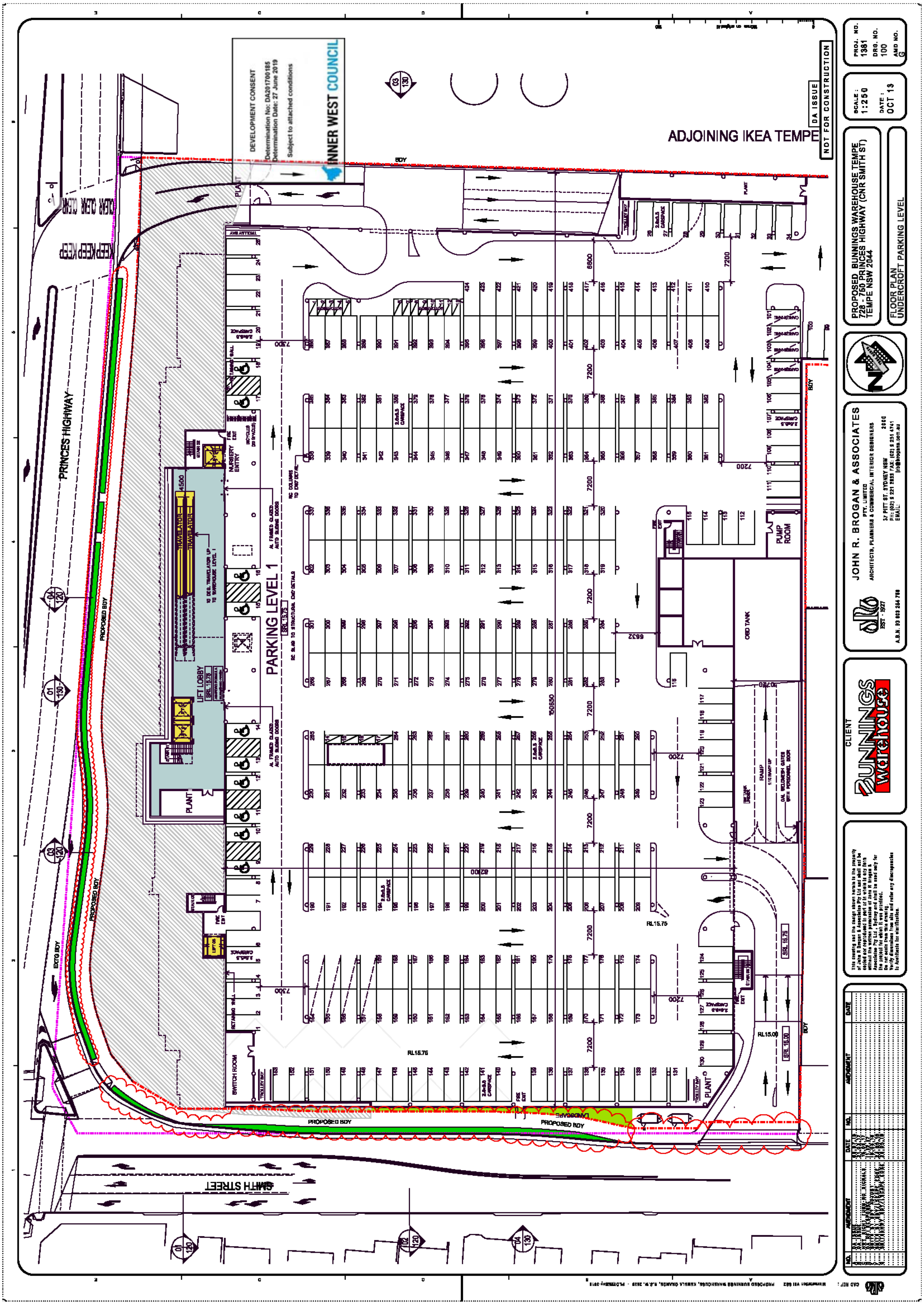
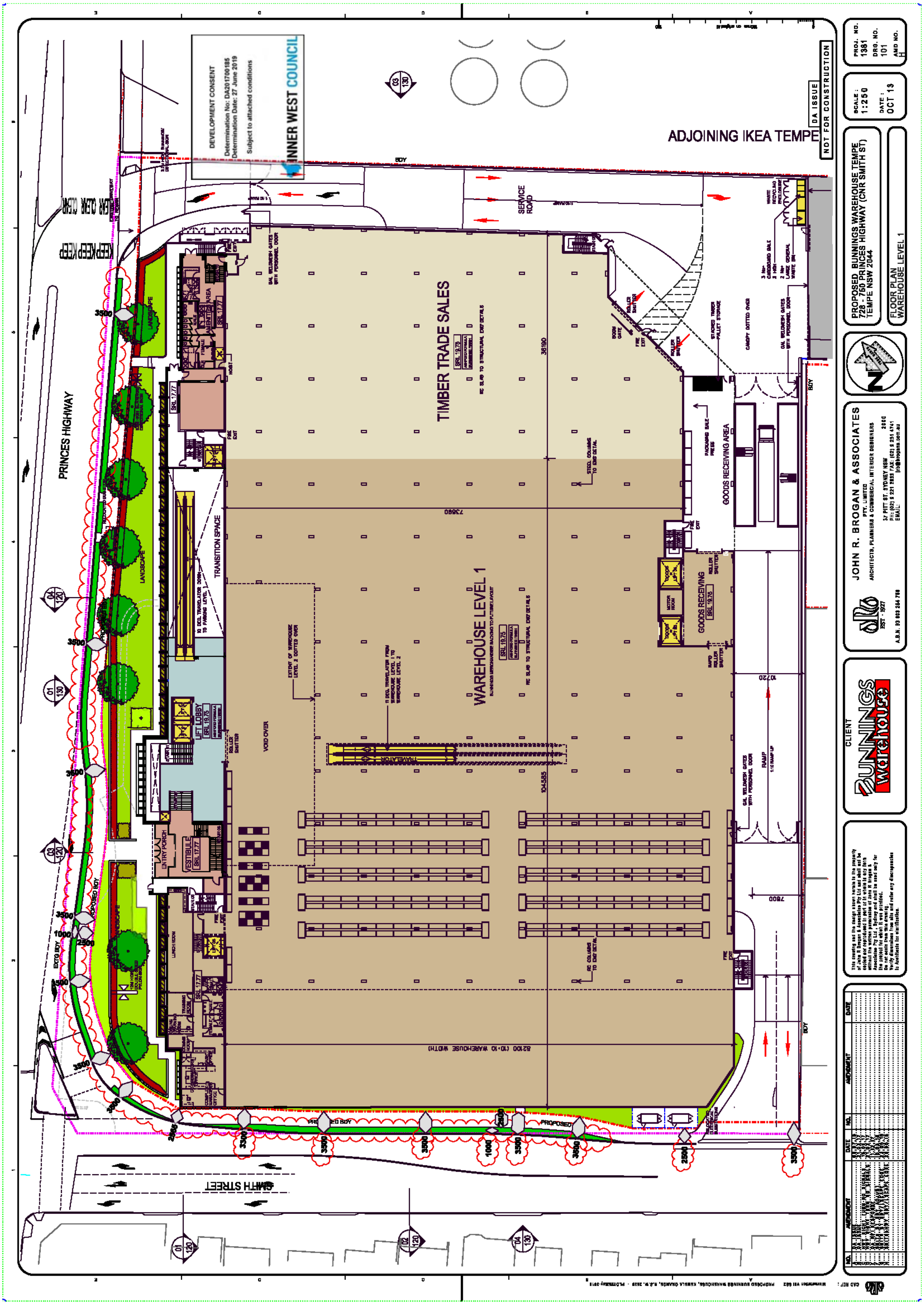
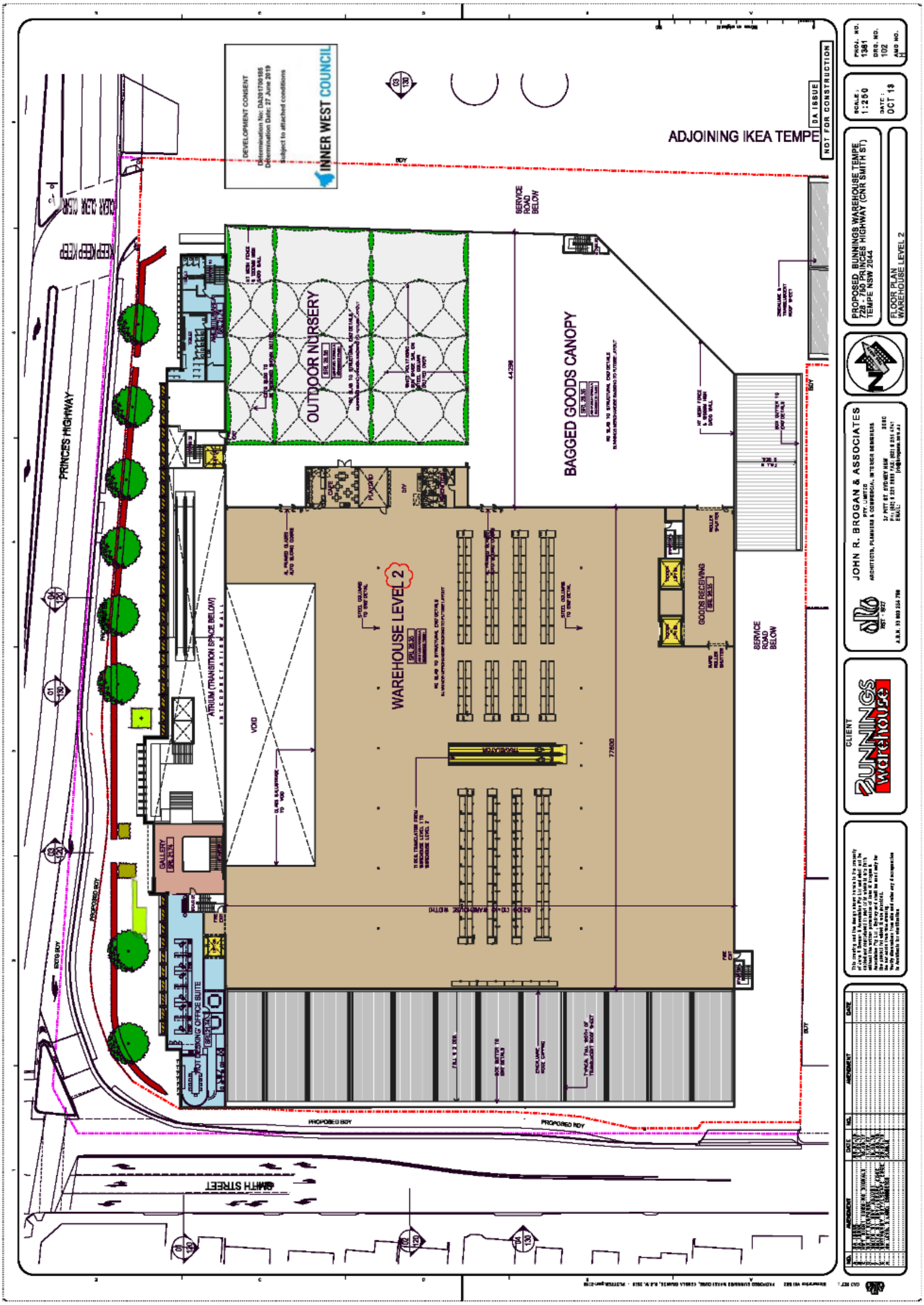
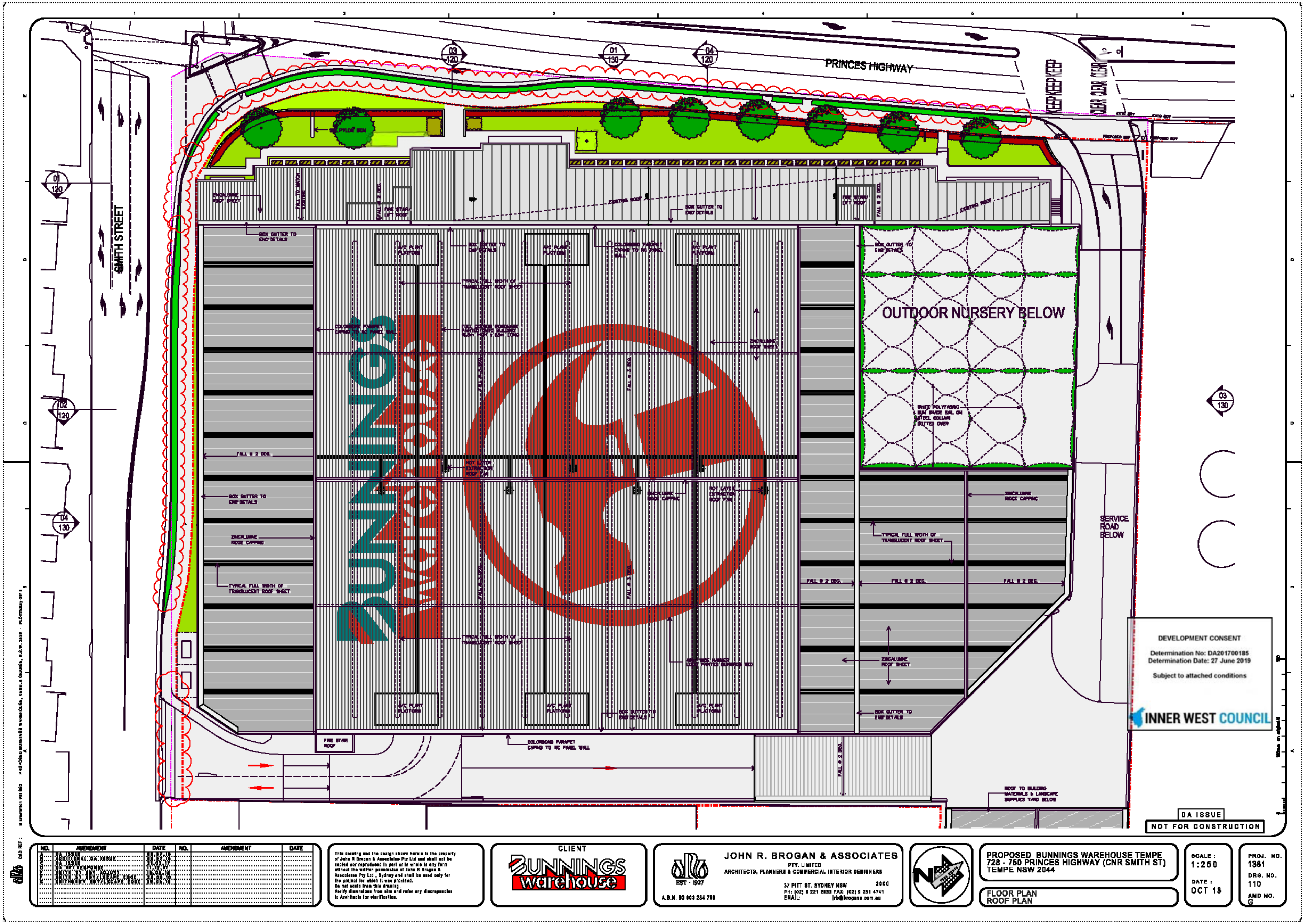
Subject to attached conditions
INNER WEST COUNCIL
DA ISSUE
NOT FOR CONSTRUCTION
PRINCES HIGHWAY
SMITH STREET
WOOD STREET
ADJOINING WAREHOUSE UNDER CONSTRUCTION
ADJOINING WAREHOUSE
PROPOSED BDY
BDY
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
SITE PLAN
WAREHOUSE LEVEL 1
SCALE: 1:400
DATE: OCT 18
PROJ. NO. 1381
DRG. NO. D32
AMD NO. F
JOHN R. BROGAN & ASSOCIATES
CLIENT
BUNNINGS warehouse


ADJOINING IKEA OFFICE
ADJOINING IKEA STORE
ADJOINING IKEA TEMPE
PRINCES HIGHWAY
SMITH STREET
WOOD STREET
ADJOINING WAREHOUSE UNDER CONSTRUCTION
ADJOINING WAREHOUSE
PROPOSED BDY
BDY
11.40
DA ISSUE
NOT FOR CONSTRUCTION
DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
SITE PLAN
WAREHOUSE LEVEL 2
SCALE: 1:400
DATE: OCT 18
PROJ. NO. 1381
DRG. NO. D33
AMD NO. F
JOHN R. BROGAN & ASSOCIATES PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL, INTERIOR DESIGNERS
37 PITT ST. SYDNEY NSW 2000
CLIENT
BUNNINGS warehouse


DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
ADJOINING IKEA TEMPE
DA ISSUE
NOT FOR CONSTRUCTION
PRINCES HIGHWAY
SMITH STREET
PARKING LEVEL 1
LIFT LOBBY
TRAVELATOR
PLANT
SWITCH ROOM
PUMP ROOM
OSD TANK
RAMP
NURSERY ENTRY
PROPOSED BDY
EXTG BDY
KEEP CLEAR
RL15.75
RL15.00
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
FLOOR PLAN
UNDERCROFT PARKING LEVEL
SCALE: 1:250
DATE: OCT 13
PROJ. NO. 1381
DRG. NO. 100
AMD NO. G
JOHN R. BROGAN & ASSOCIATES
PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS
CLIENT
BUNNINGS warehouse


DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
ADJOINING IKEA TEMPE
DA ISSUE
NOT FOR CONSTRUCTION
PROJ. NO. 1381
DRG. NO. 101
AMD NO. H
SCALE: 1:250
DATE: OCT 13
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
FLOOR PLAN
WAREHOUSE LEVEL 1
JOHN R. BROGAN & ASSOCIATES
PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS
37 PITT ST. SYDNEY NSW 2000
CLIENT
BUNNINGS warehouse
TIMBER TRADE SALES
WAREHOUSE LEVEL 1
GOODS RECEIVING AREA
GOODS RECEIVING
SERVICE ROAD
TRANSITION SPACE
LIFT LOBBY
VOID OVER
RAMP
ENTRY PORCH
VESTIBULE
LANDSCAPE
PRINCES HIGHWAY
SMITH STREET
KEEP CLEAR
73680
104585
82100 (10×10 WAREHOUSE WIDTH)
36190
10720
7800


DEVELOPMENT CONSENT
Determination No: DA201700186
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
ADJOINING IKEA TEMPE
DA ISSUE
NOT FOR CONSTRUCTION
SERVICE ROAD BELOW
OUTDOOR NURSERY
BAGGED GOODS CANOPY
44298
WAREHOUSE LEVEL 2
GOODS RECEIVING
TRAVELATOR
ATRIUM (TRANSITION SPACE BELOW)
VOID
GALLERY
HOT DESKING' OFFICE SUITE
CAFE
PLAYGRD
DIY
77600
PRINCES HIGHWAY
KEEP CLEAR
SMITH STREET
PROPOSED BDY
EXTG BDY
BDY
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
FLOOR PLAN
WAREHOUSE LEVEL 2
PROJ. NO. 1381
DRG. NO. 102
AMD NO. H
SCALE: 1:250
DATE: OCT 13
JOHN R. BROGAN & ASSOCIATES
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS
CLIENT
BUNNINGS warehouse



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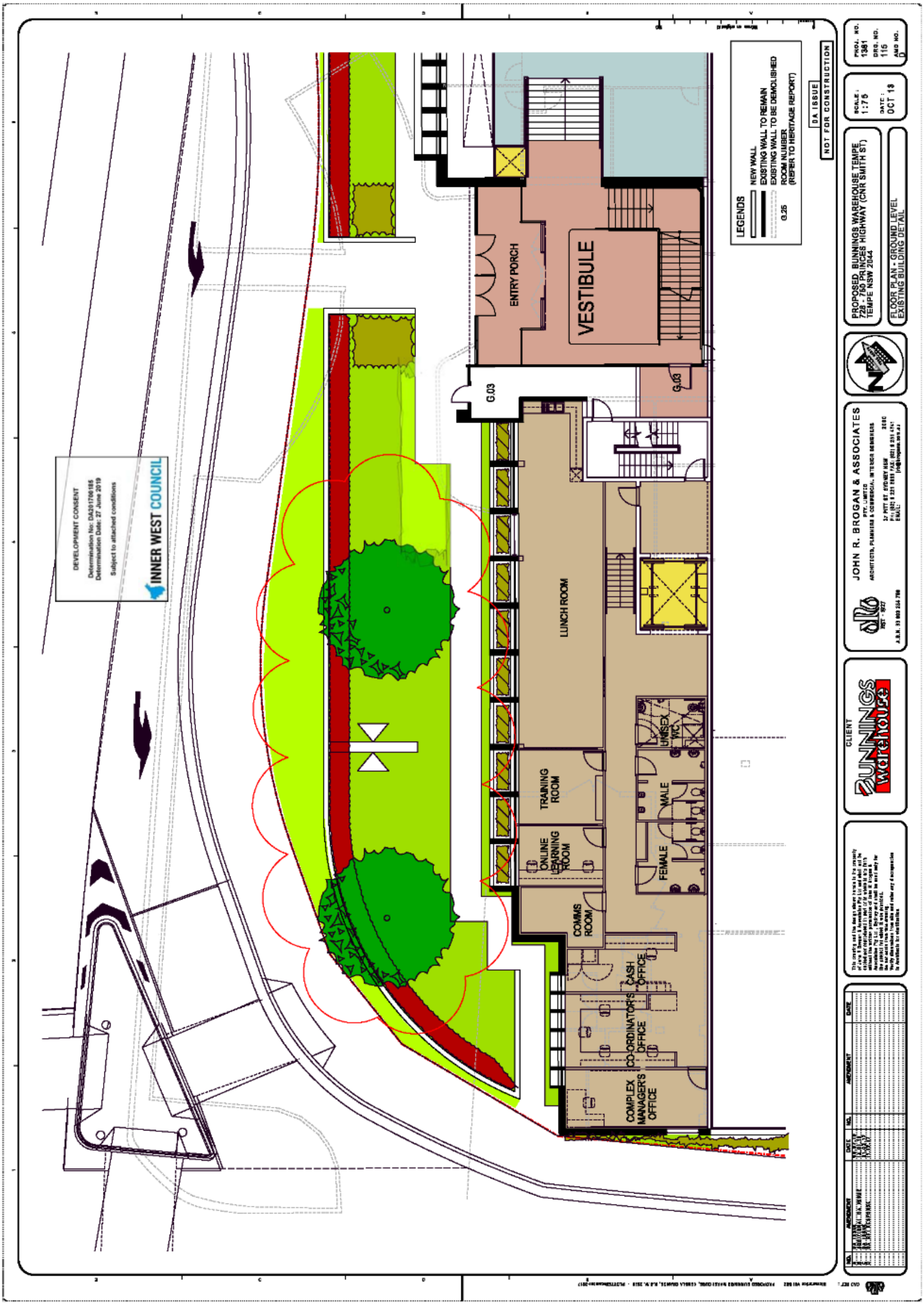
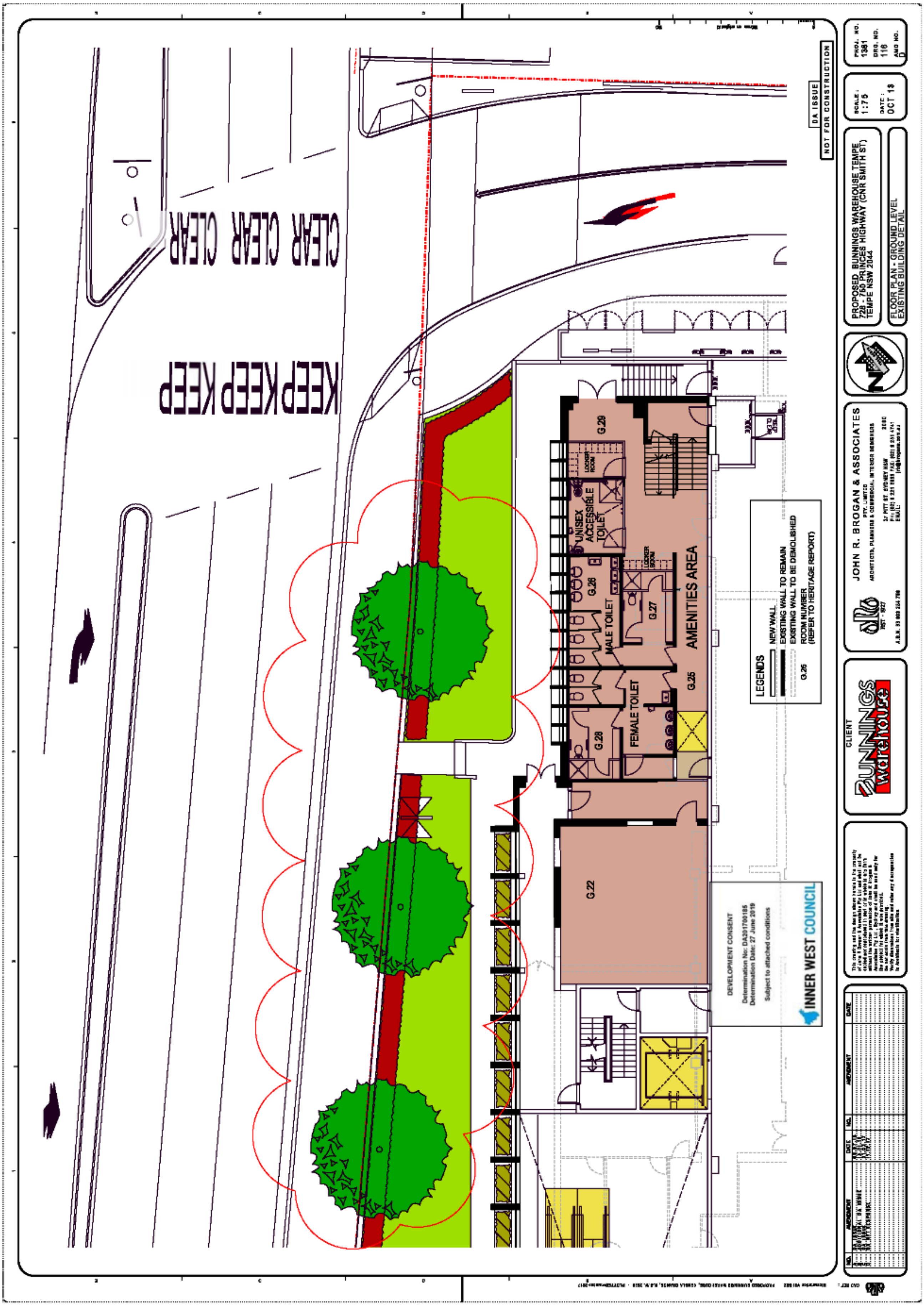
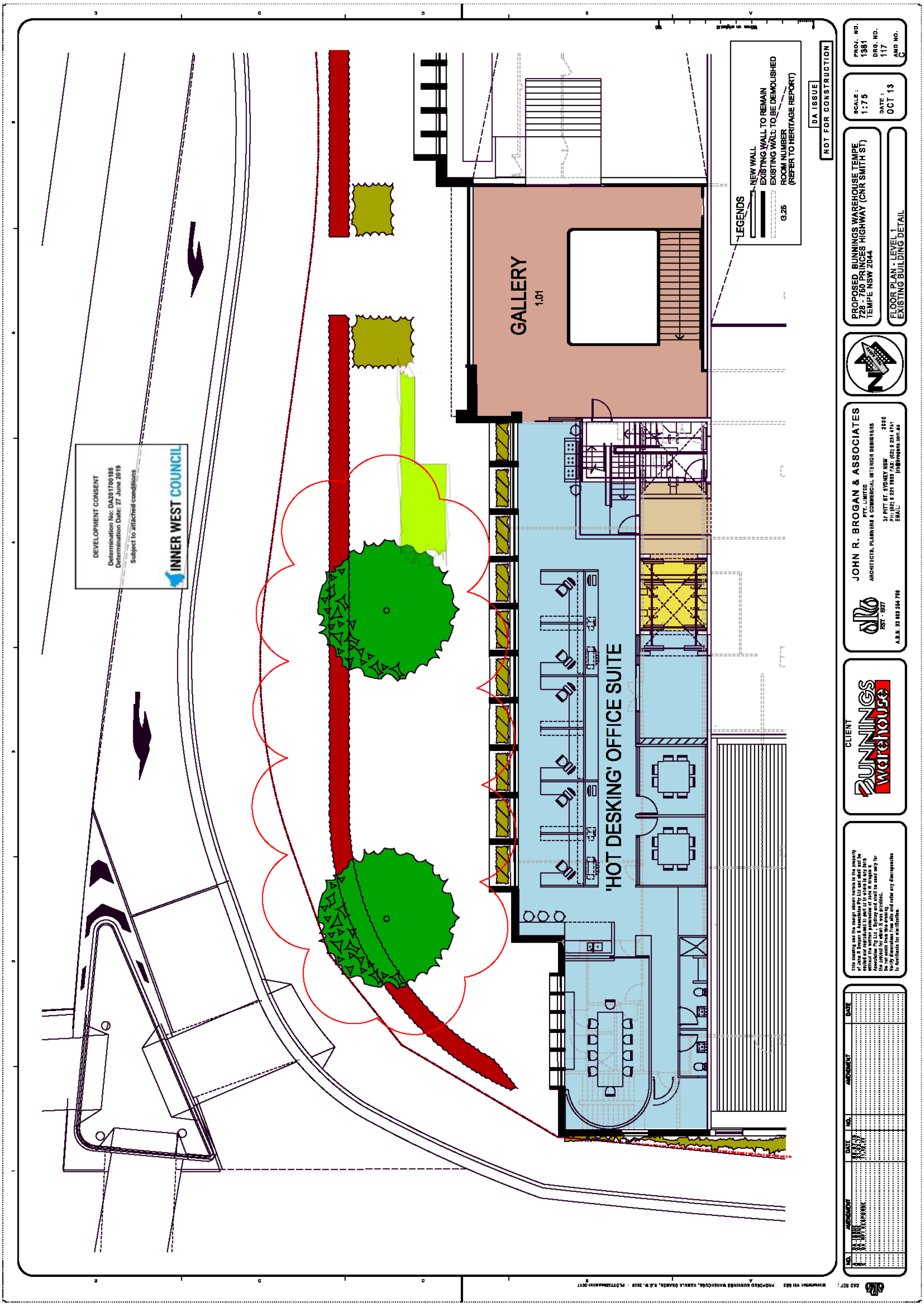
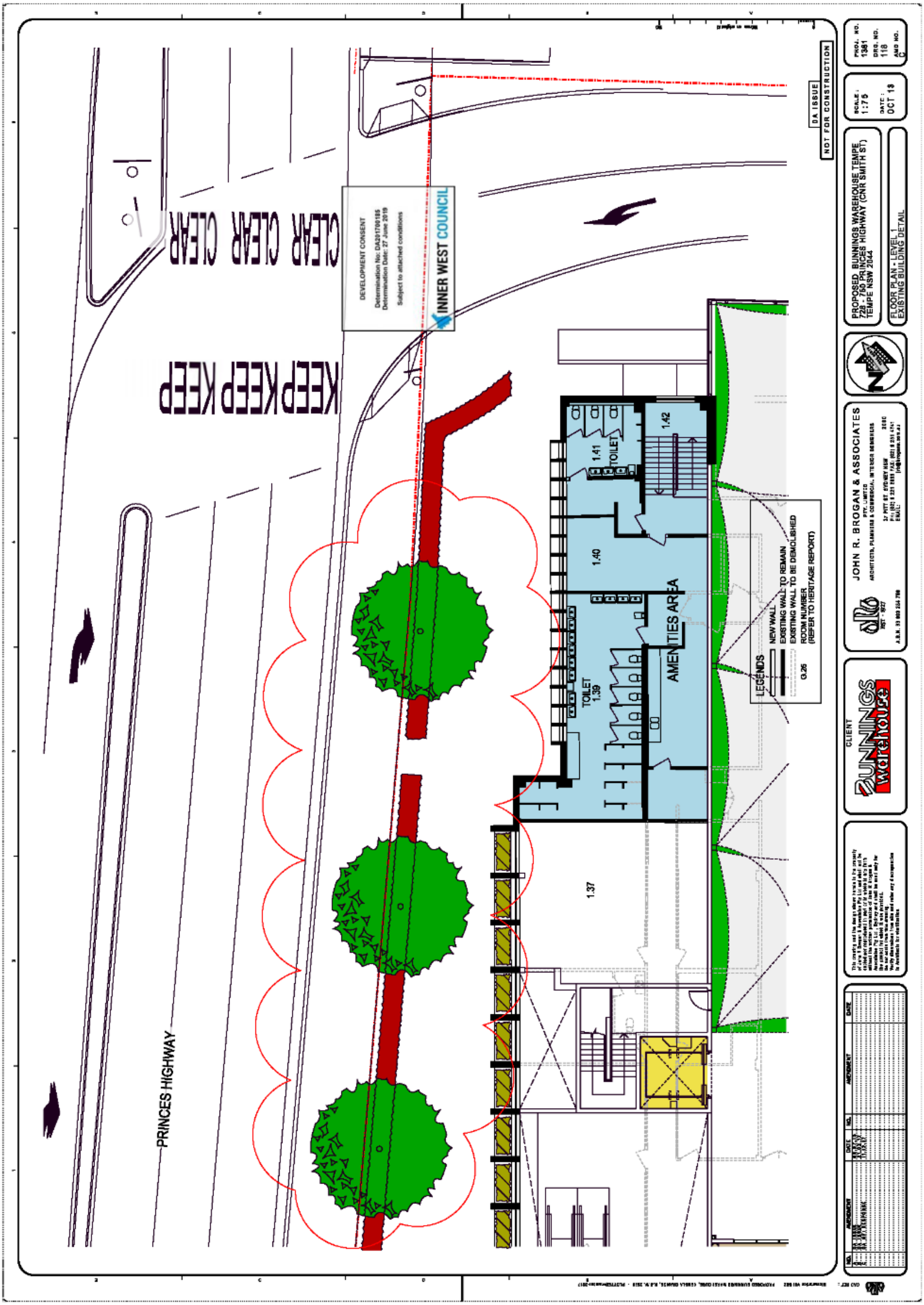
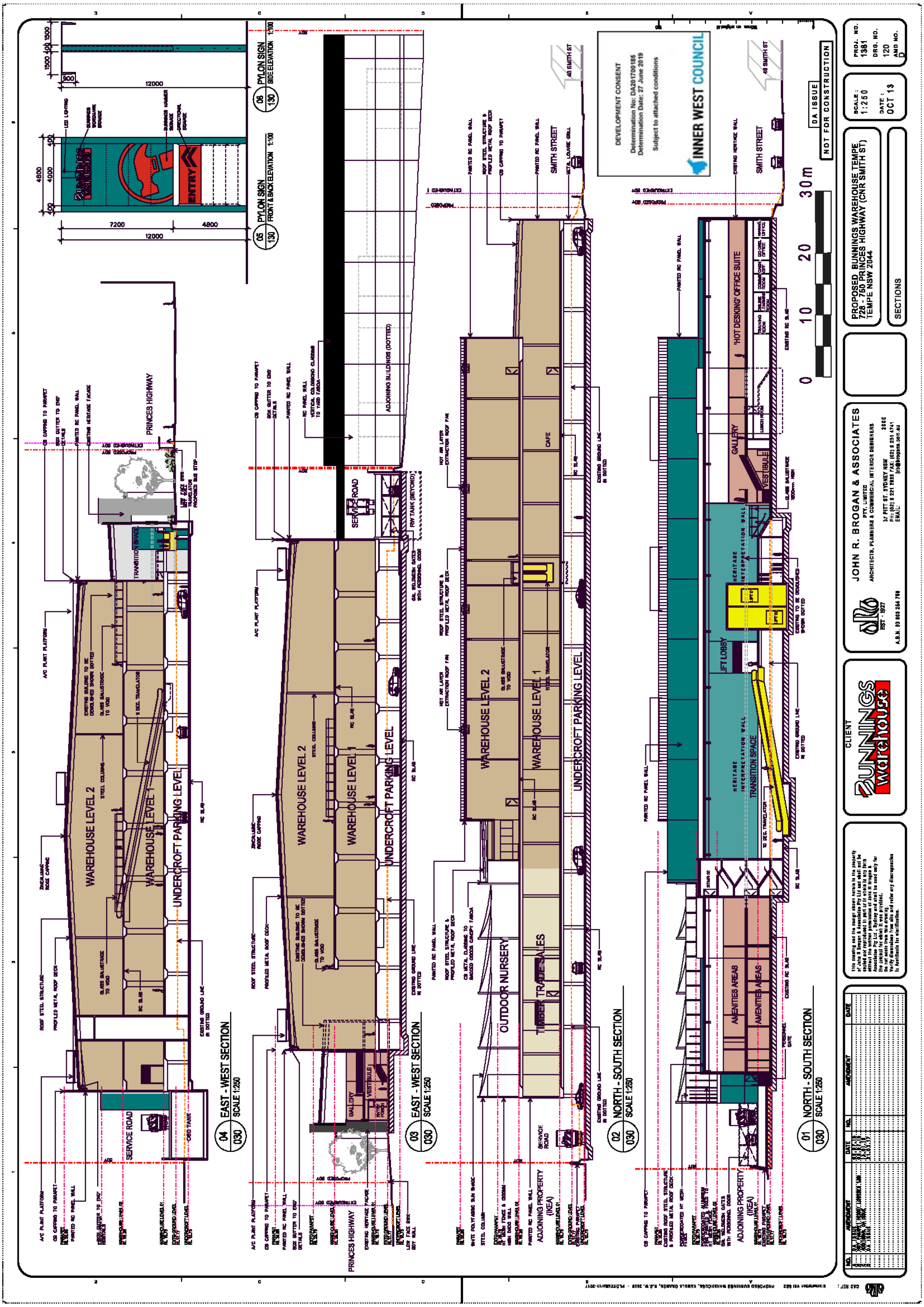
DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL

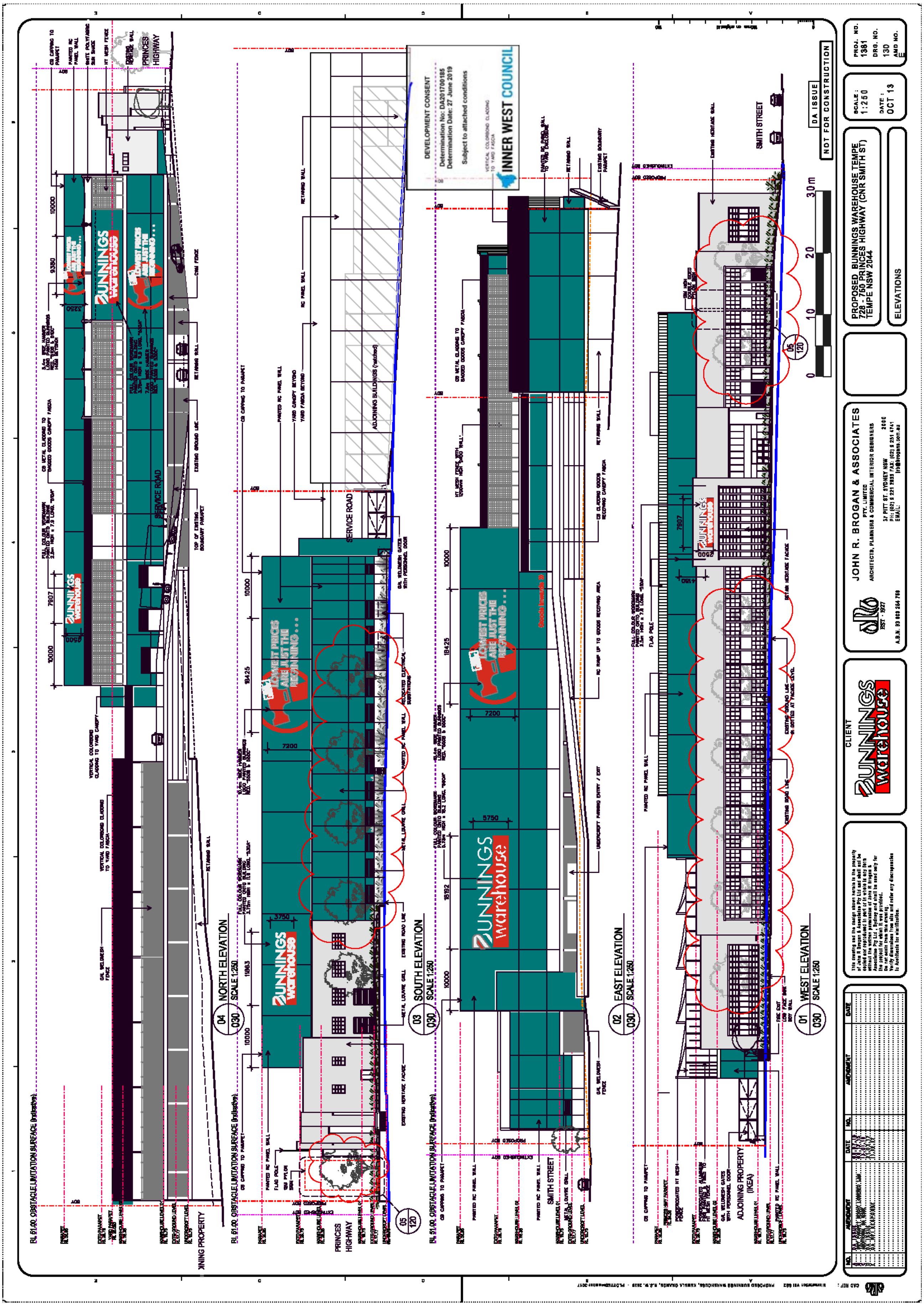

DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
ENTRY PORCH
VESTIBULE
G.03
LUNCH ROOM
TRAINING ROOM
ONLINE LEARNING ROOM
COMMS ROOM
CASH OFFICE
CO-ORDINATOR'S OFFICE
COMPLEX MANAGER'S OFFICE
UNISEX WC
MALE
FEMALE
LEGENDS
NEW WALL
EXISTING WALL TO REMAIN
EXISTING WALL TO BE DEMOLISHED
G.25 ROOM NUMBER (REFER TO HERITAGE REPORT)
DA ISSUE
NOT FOR CONSTRUCTION
PROJ. NO. 1381
DRG. NO. 115
AMD NO. D
SCALE : 1:75
DATE : OCT 18
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
FLOOR PLAN - GROUND LEVEL
EXISTING BUILDING DETAIL
N
JOHN R. BROGAN & ASSOCIATES PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS
37 PITT ST. SYDNEY NSW 2000
EST - 1927
CLIENT
BUNNINGS warehouse
NO.
DATE
AMENDMENT

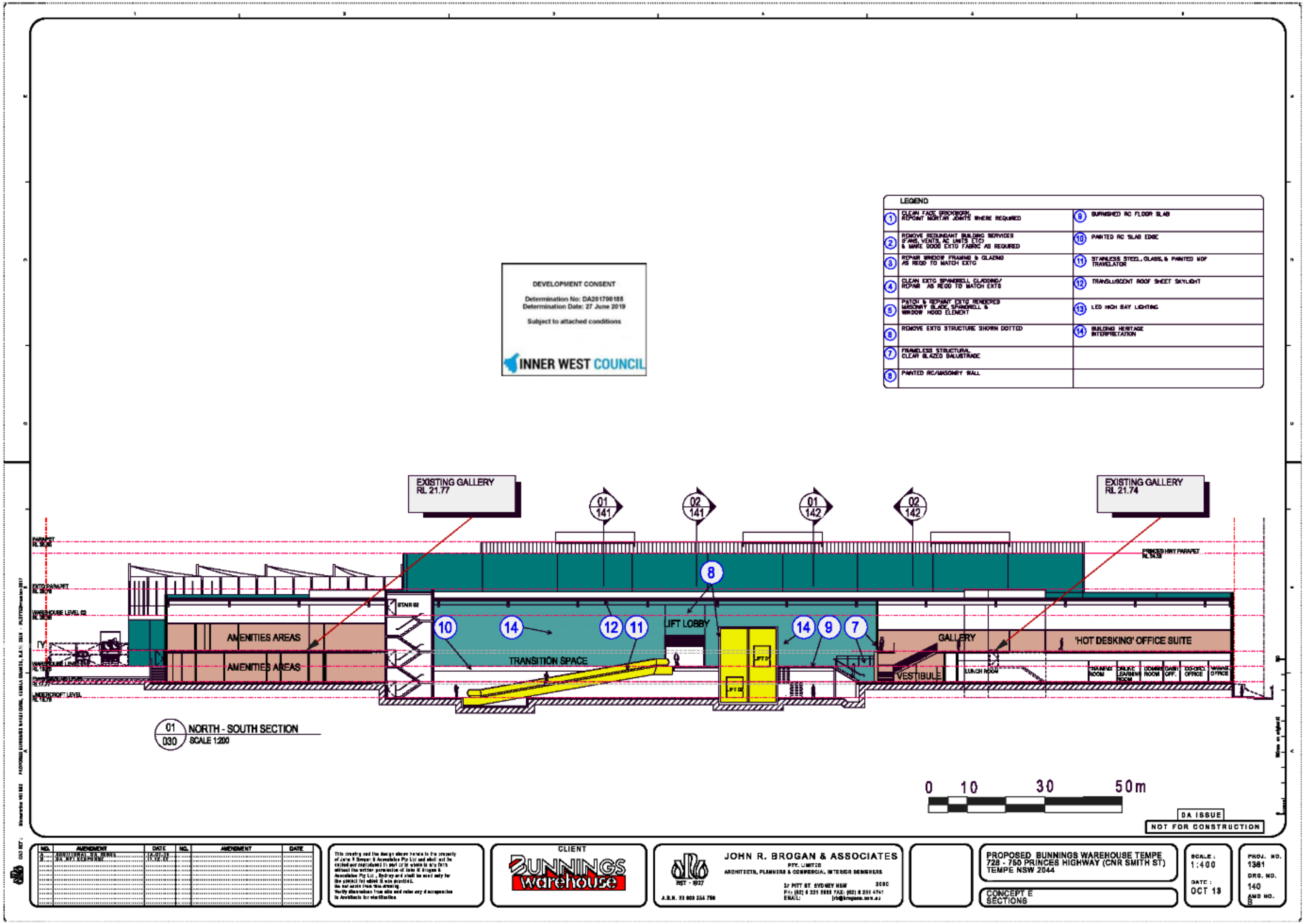

KEEP KEEP KEEP
CLEAR CLEAR CLEAR
G.29
LOCKER ROOM
UNISEX ACCESSIBLE TOILET
LOCKER ROOM
G.26
G.27
MALE TOILET
AMENITIES AREA
G.25
FEMALE TOILET
G.28
G.22
LEGENDS
NEW WALL
EXISTING WALL TO REMAIN
EXISTING WALL TO BE DEMOLISHED
G.26 ROOM NUMBER (REFER TO HERITAGE REPORT)
DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
DA ISSUE
NOT FOR CONSTRUCTION
CLIENT
BUNNINGS warehouse
JOHN R. BROGAN & ASSOCIATES PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS
EST. 1927
37 PITT ST. SYDNEY NSW 2000
A.B.N. 33 003 254 786
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
FLOOR PLAN - GROUND LEVEL
EXISTING BUILDING DETAIL
SCALE : 1:75
DATE : OCT 18
PROJ. NO. 1381
DRG. NO. 116
AMD NO. D


GALLERY
1.01
'HOT DESKING' OFFICE SUITE
DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
LEGENDS
NEW WALL
EXISTING WALL TO REMAIN
EXISTING WALL TO BE DEMOLISHED
G.25 ROOM NUMBER (REFER TO HERITAGE REPORT)
DA ISSUE
NOT FOR CONSTRUCTION
PROJ. NO. 1381
DRG. NO. 117
AMD NO. C
SCALE : 1:75
DATE : OCT 13
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
FLOOR PLAN - LEVEL 1
EXISTING BUILDING DETAIL
JOHN R. BROGAN & ASSOCIATES
PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS
37 PITT ST. SYDNEY NSW 2000
PH: (02) 9 221 2833 FAX: (02) 9 251 4741
EMAIL: jrb@brogans.com.au
EST. 1927
A.B.N. 93 003 284 750
CLIENT
BUNNINGS warehouse
NO.
AMENDMENT
DATE


KEEP KEEP KEEP
CLEAR CLEAR CLEAR
PRINCES HIGHWAY
DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
1.42
1.41
TOILET
1.40
TOILET 1.39
AMENITIES AREA
1.37
LEGENDS
NEW WALL
EXISTING WALL TO REMAIN
EXISTING WALL TO BE DEMOLISHED
G.26
ROOM NUMBER (REFER TO HERITAGE REPORT)
DA ISSUE
NOT FOR CONSTRUCTION
CLIENT
BUNNINGS warehouse
JOHN R. BROGAN & ASSOCIATES
PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS
37 PITT ST. SYDNEY NSW 2000
N
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
FLOOR PLAN - LEVEL 1
EXISTING BUILDING DETAIL
SCALE : 1:75
DATE : OCT 18
PROJ. NO. 1381
DRG. NO. 118
AMD NO. C
NO.
AMENDMENT
DATE


05 130 PYLON SIGN FRONT & BACK ELEVATION 1:100
06 130 PYLON SIGN SIDE ELEVATION 1:100
ENTRY
04 030 EAST - WEST SECTION SCALE 1:250
03 030 EAST - WEST SECTION SCALE 1:250
02 030 NORTH - SOUTH SECTION SCALE 1:250
01 030 NORTH - SOUTH SECTION SCALE 1:250
WAREHOUSE LEVEL 2
WAREHOUSE LEVEL 1
UNDERCROFT PARKING LEVEL
PRINCES HIGHWAY
SERVICE ROAD
SMITH STREET
ADJOINING BUILDINGS (DOTTED)
CAFE
OUTDOOR NURSERY
TIMBER TRADE SALES
ADJOINING PROPERTY (IKEA)
HOT DESKING OFFICE SUITE
GALLERY
VESTIBULE
LIFT LOBBY
TRANSITION SPACE
AMENITIES AREAS
DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
DA ISSUE
NOT FOR CONSTRUCTION
0 10 20 30 m
JOHN R. BROGAN & ASSOCIATES PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS
CLIENT
BUNNINGS warehouse
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
SECTIONS
SCALE: 1:250
DATE: OCT 13
PROJ. NO. 1381
DRG. NO. 120
AMD NO. D


DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
04 NORTH ELEVATION SCALE 1:250
03 SOUTH ELEVATION SCALE 1:250
02 EAST ELEVATION SCALE 1:250
01 WEST ELEVATION SCALE 1:250
PRINCES HIGHWAY
SERVICE ROAD
SMITH STREET
ADJOINING PROPERTY (IKEA)
BUNNINGS warehouse
LOWEST PRICES ARE JUST THE BEGINNING...
DA ISSUE
NOT FOR CONSTRUCTION
PROPOSED BUNNINGS WAREHOUSE TEMPE
728-750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
ELEVATIONS
JOHN R. BROGAN & ASSOCIATES
CLIENT
PROJ. NO. 1381
DRG. NO. 130
SCALE: 1:250
DATE: OCT 13



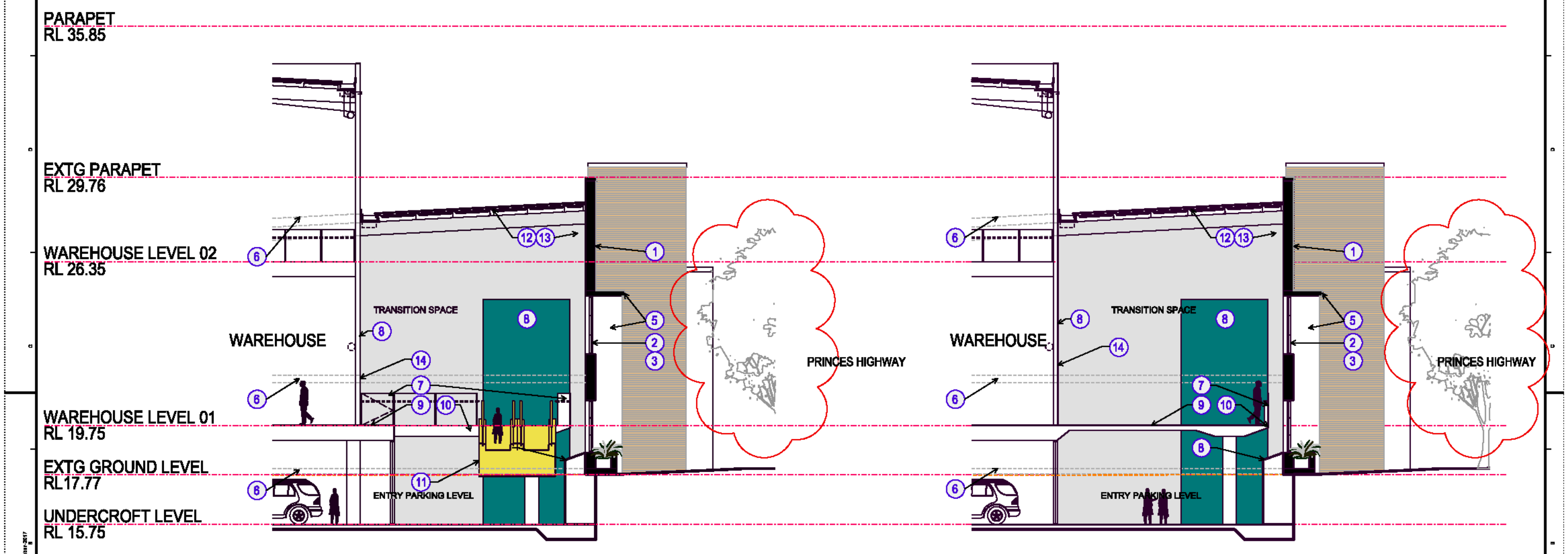
DEVELOPMENT CONSENT

Determination No: DA201700185
Determination Date: 27 June 2019

Subject to attached conditions

INNER WEST COUNCIL

LEGEND			
①	CLEAN FACE BRICKWORK, REPOINT MORTAR JOINTS WHERE REQUIRED	⑨	BURNISHED RC FLOOR SLAB
②	REMOVE REDUNDANT BUILDING SERVICES (FANS, VENTS, AC UNITS ETC) & MAKE GOOD EXTG FABRIC AS REQUIRED	⑩	PAINTED RC SLAB EDGE
③	REPAIR WINDOW FRAMING & GLAZING AS REQD TO MATCH EXTG	⑪	STAINLESS STEEL, GLASS, & PAINTED MDF TRAVELATOR
④	CLEAN EXTG SPANDRELL CLADDING/ REPAIR AS REQD TO MATCH EXTG	⑫	TRANSLUSCENT ROOF SHEET SKYLIGHT
⑤	PATCH & REPAINT EXTG RENDERED MASONRY BLADE, SPANDRELL & WINDOW HOOD ELEMENT	⑬	LED HIGH BAY LIGHTING
⑥	REMOVE EXTG STRUCTURE SHOWN DOTTED	⑭	BUILDING HERITAGE INTERPRETATION
⑦	FRAMELESS STRUCTURAL CLEAR GLAZED BALUSTRADE		
⑧	PAINTED RC/MASONRY WALL		



01 / 030 EAST- WEST SECTION
SCALE 1:75

02 / 030 EAST - WEST SECTION
SCALE 1:75

LEGEND

①	CLEAN FACE BRICKWORK. REPOINT MORTAR JOINTS WHERE REQUIRED	⑨	BURNISHED RC FLOOR SLAB
②	REMOVE REDUNDANT BUILDING SERVICES (FANS, VENTS, AC UNITS ETC) & MAKE GOOD EXTG FABRIC AS REQUIRED	⑩	PAINTED RC SLAB EDGE
③	REPAIR WINDOW FRAMING & GLAZING AS REQD TO MATCH EXTG	⑪	STAINLESS STEEL, GLASS, & PAINTED MDF TRAVELATOR
④	CLEAN EXTG SPANDRELL CLADDING/ REPAIR AS REQD TO MATCH EXTG	⑫	TRANSLUSCENT ROOF SHEET SKYLIGHT
⑤	PATCH & REPAINT EXTG RENDERED MASONRY BLADE, SPANDRELL & WINDOW HOOD ELEMENT	⑬	LED HIGH BAY LIGHTING
⑥	REMOVE EXTG STRUCTURE SHOWN DOTTED	⑭	BUILDING HERITAGE INTERPRETATION
⑦	FRAMELESS STRUCTURAL CLEAR GLAZED BALUSTRADE		
⑧	PAINTED RC/MASONRY WALL		

DEVELOPMENT CONSENT

Determination No: DA201700185
Determination Date: 27 June 2019

Subject to attached conditions

INNER WEST COUNCIL

0 2 5 10m

DA ISSUE
NOT FOR CONSTRUCTION

NO.	AMENDMENT	DATE	NO.	AMENDMENT	DATE
A	ADDITIONAL DA ISSUE	13.07.18			
B	DA RFI RESPONSE	17.12.17			

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CLIENT
BUNNINGS warehouse

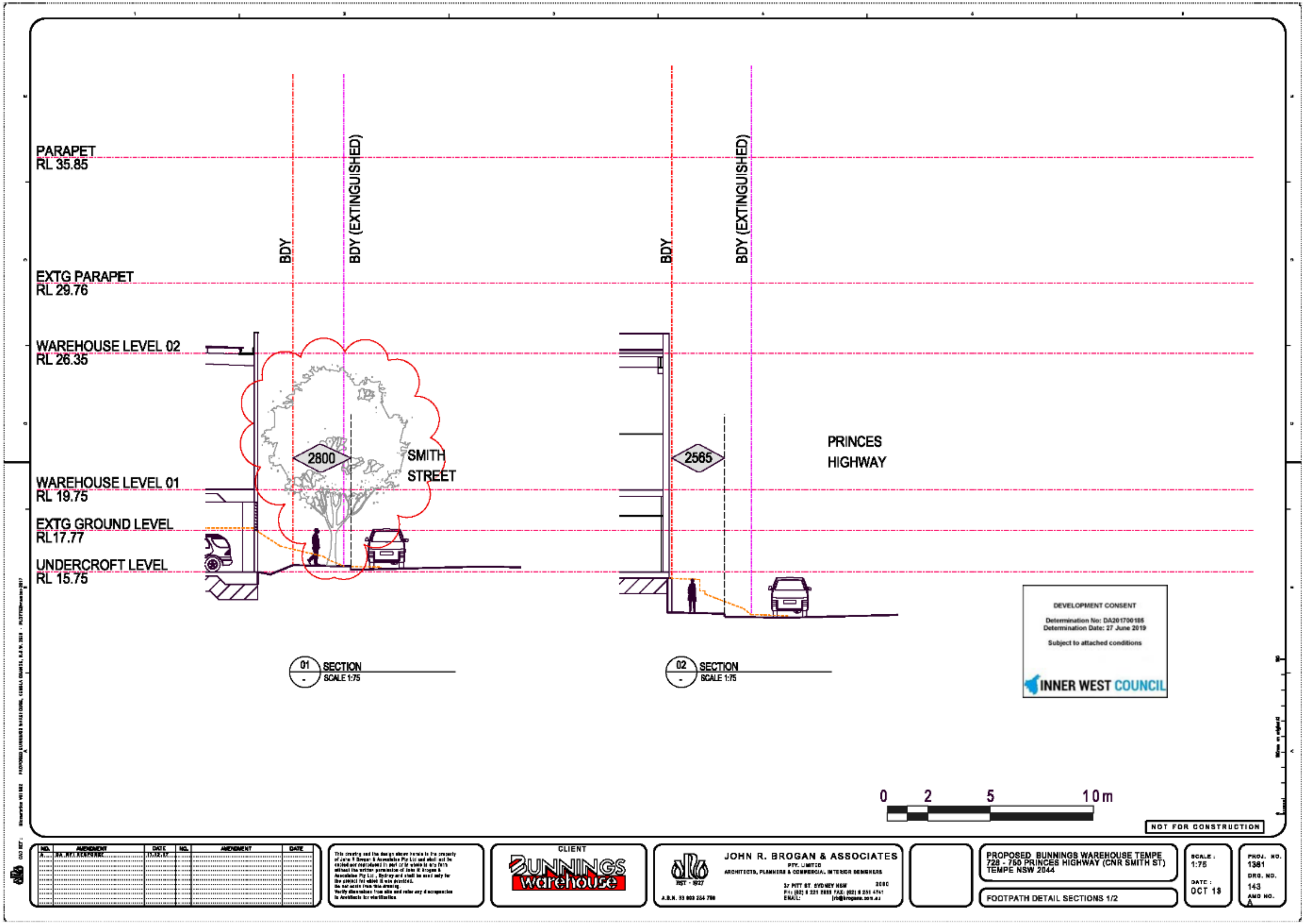
JOHN R. BROGAN & ASSOCIATES
PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS
EST · 1927
37 PITT ST. SYDNEY NSW 2000
PH: (02) 9 221 2833 FAX: (02) 9 251 4741
EMAIL: jrb@brogans.com.au
A.B.N. 93 003 284 750

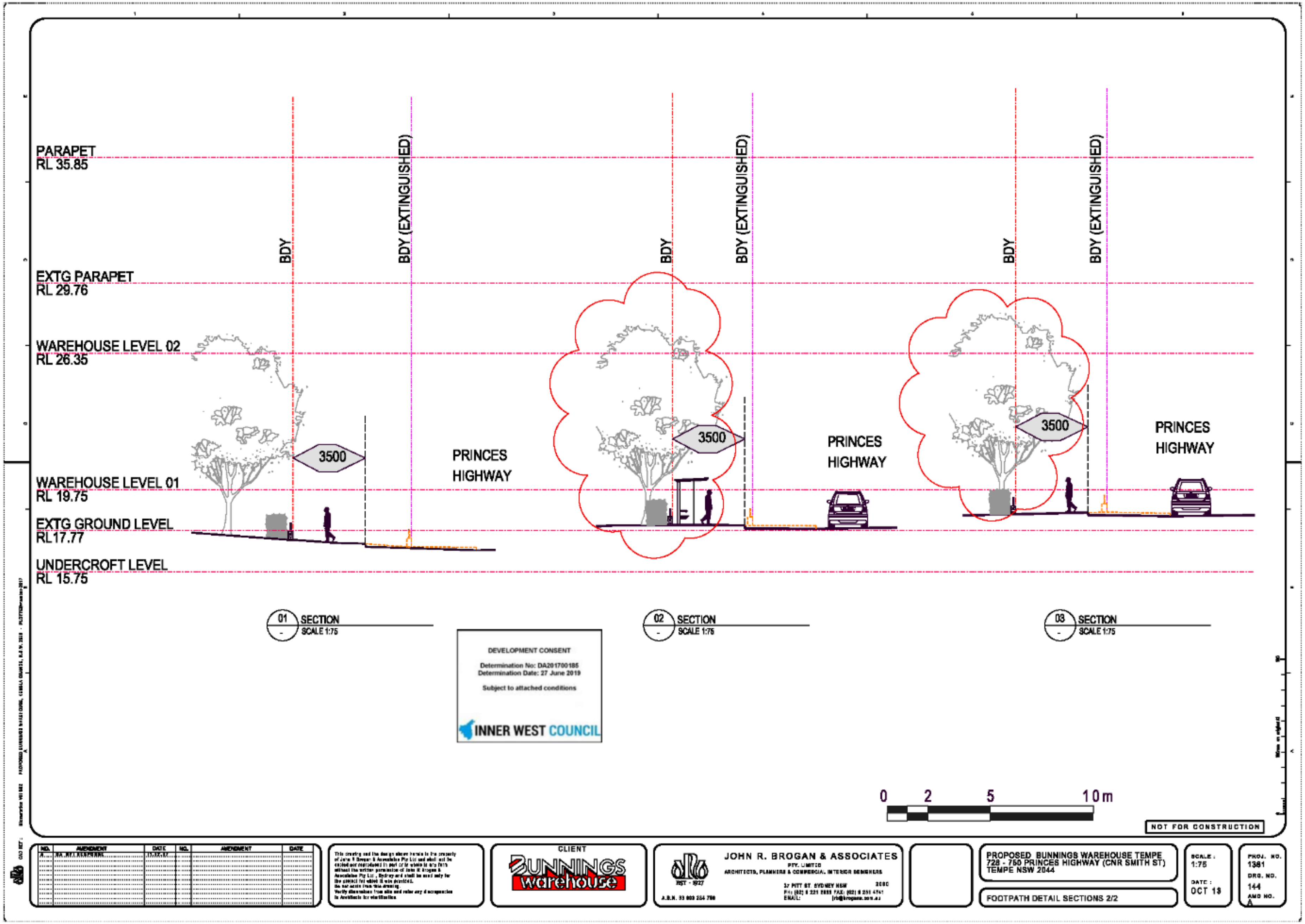
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044

DETAIL SECTIONS

SCALE : 1:75
DATE : OCT 13
PROJ. NO. 1381
DRG. NO. 141
AMD NO. B

CAD REF :


PARAPET
RL 35.85
EXTG PARAPET
RL 29.76
WAREHOUSE LEVEL 02
RL 26.35
WAREHOUSE LEVEL 01
RL 19.75
EXTG GROUND LEVEL
RL17.77
UNDERCROFT LEVEL
RL 15.75
BDY
BDY (EXTINGUISHED)
2800
SMITH
STREET
01 SECTION
SCALE 1:75
BDY
BDY (EXTINGUISHED)
2565
PRINCES
HIGHWAY
02 SECTION
SCALE 1:75
DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
0
2
5
10m
NOT FOR CONSTRUCTION
CLIENT
BUNNINGS warehouse
JOHN R. BROGAN & ASSOCIATES
PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS
EST - 1927
PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044
FOOTPATH DETAIL SECTIONS 1/2
SCALE : 1:75
DATE : OCT 13
PROJ. NO. 1361
DRG. NO. 143
AMD NO. A



DEVELOPMENT CONSENT

Determination No: DA201700185
Determination Date: 27 June 2019

Subject to attached conditions

INNER WEST COUNCIL

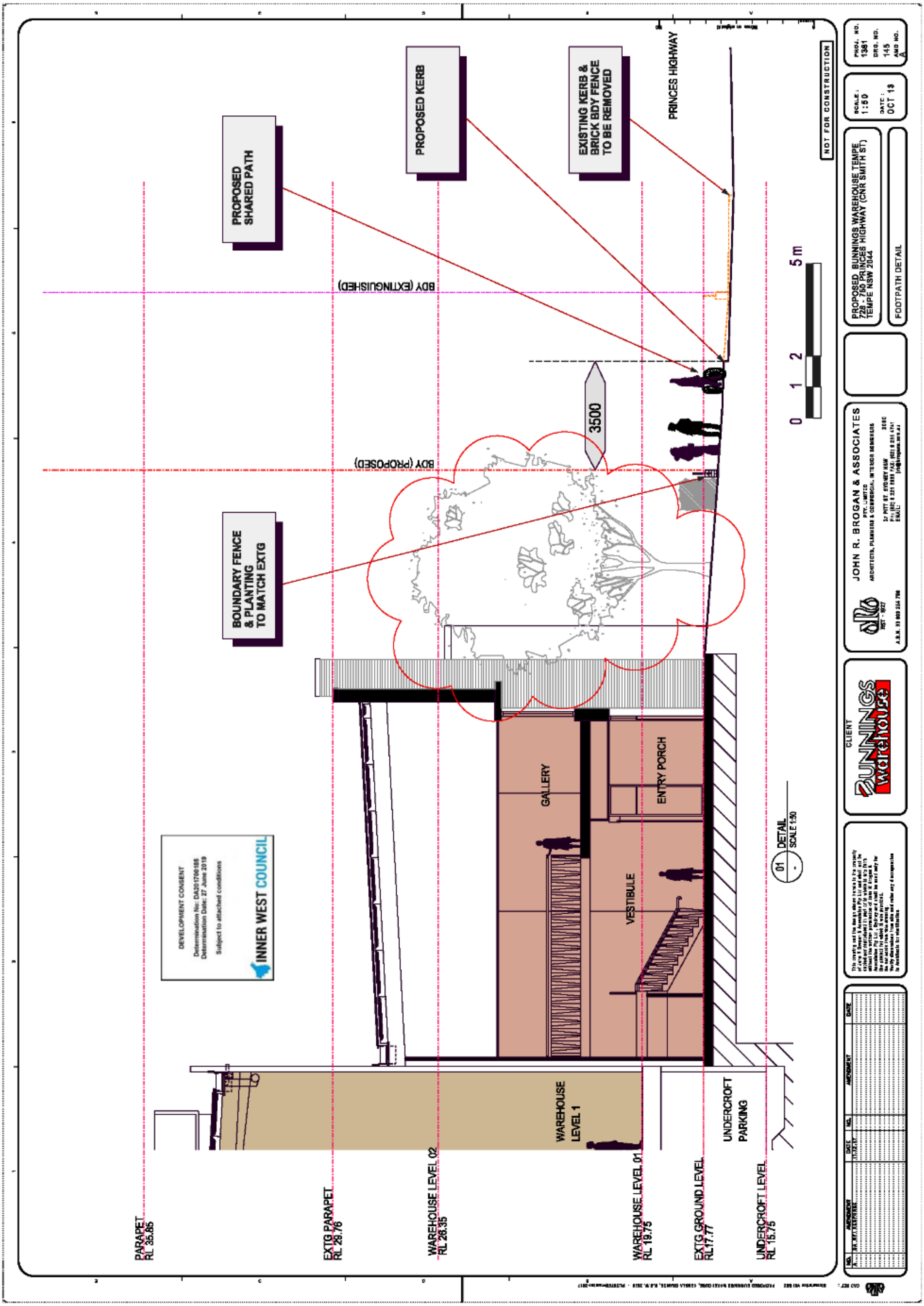
JOHN R. BROGAN & ASSOCIATES
PTY. LIMITED
ARCHITECTS, PLANNERS & COMMERCIAL INTERIOR DESIGNERS

PROPOSED BUNNINGS WAREHOUSE TEMPE
728 - 750 PRINCES HIGHWAY (CNR SMITH ST)
TEMPE NSW 2044

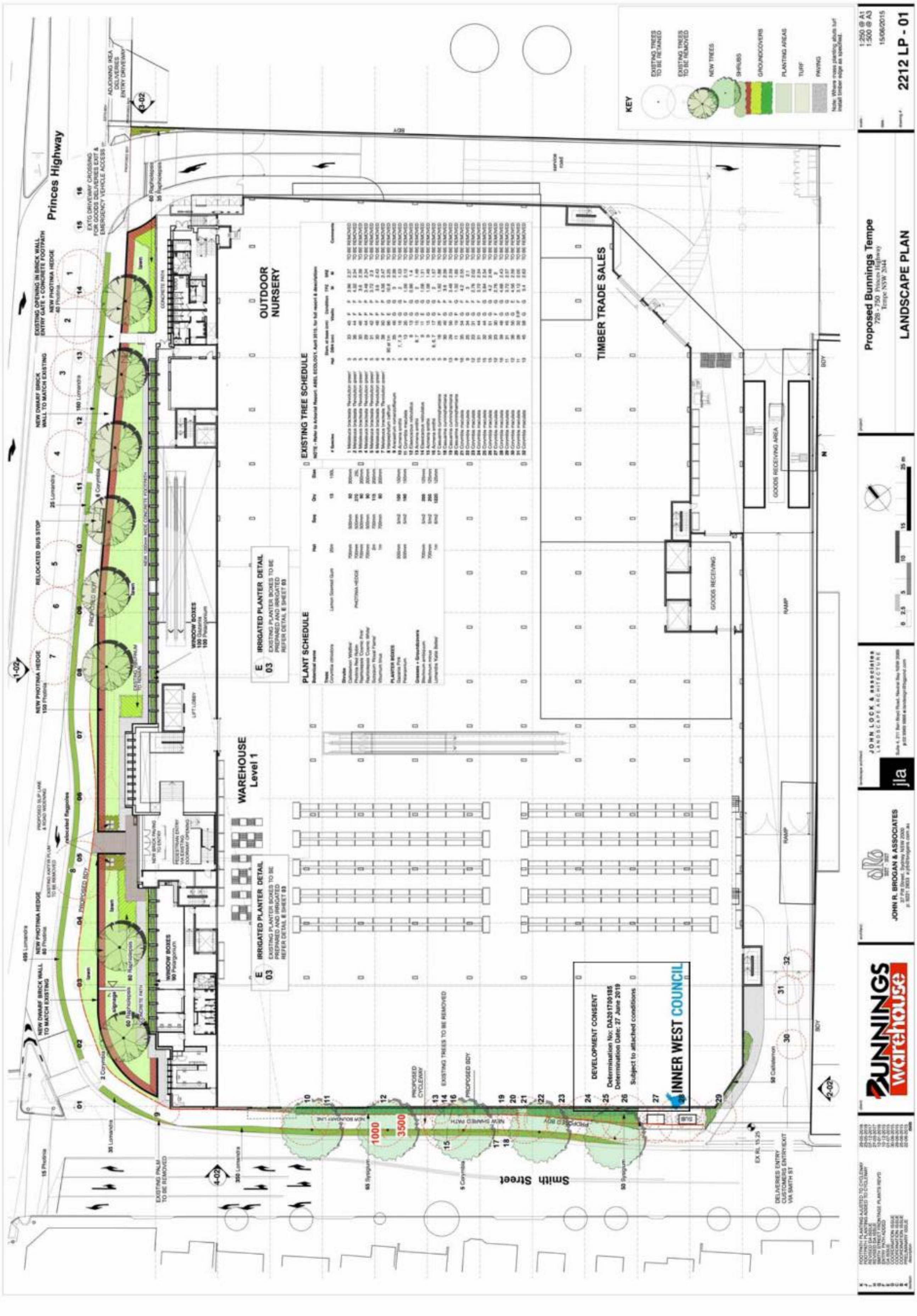
FOOTPATH DETAIL SECTIONS 2/2

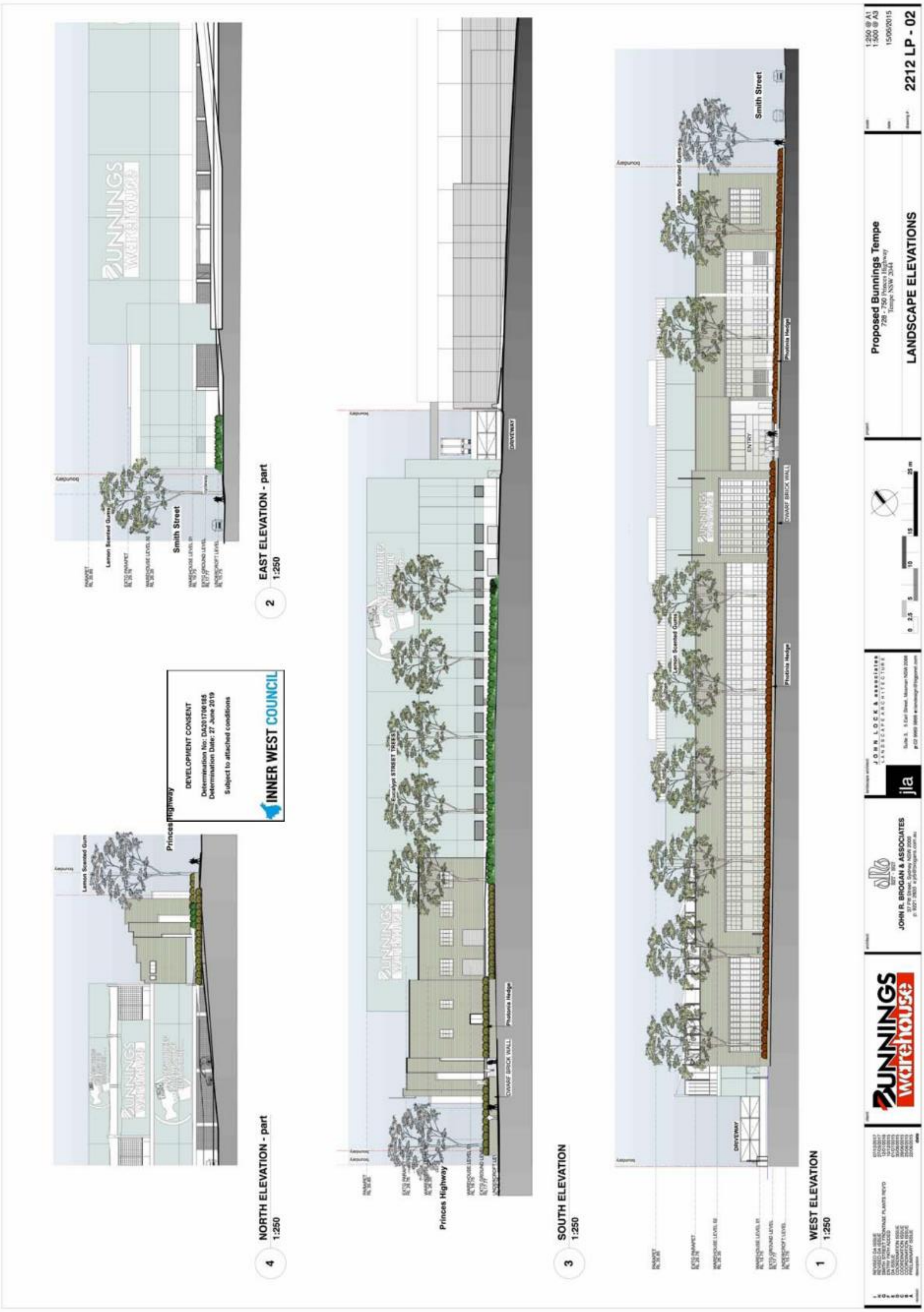
SCALE : 1:75
DATE : OCT 18

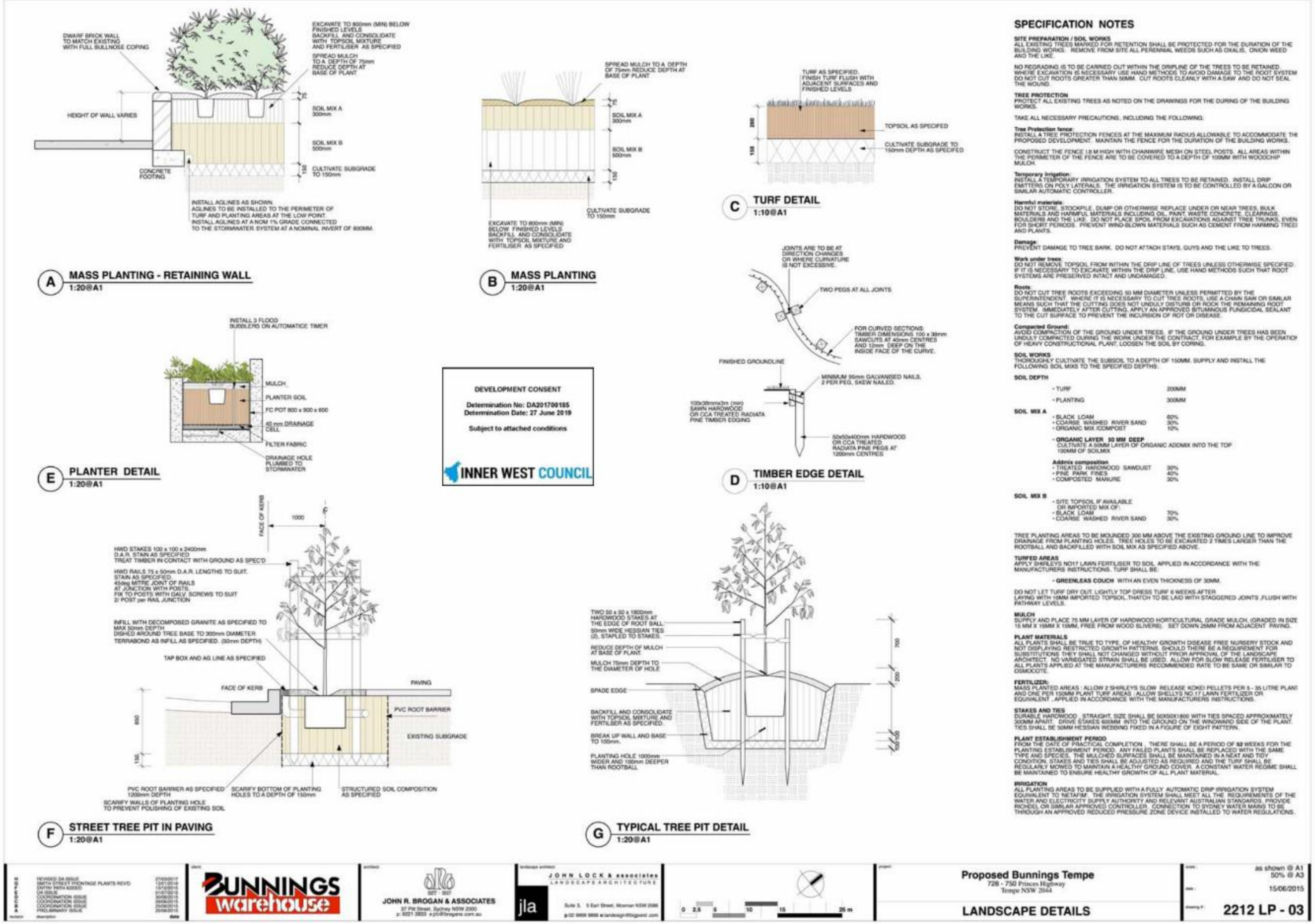
PROJ. NO. 1381
DRG. NO. 144
AMD NO. A



DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL


Princes Highway
Smith Street
WAREHOUSE
Level 1
OUTDOOR NURSERY
TIMBER TRADE SALES
EXISTING TREE SCHEDULE
PLANT SCHEDULE
IRRIGATED PLANTER DETAIL
GOODS RECEIVING
RAMP
KEY
DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
BUNNINGS warehouse
Proposed Bunnings Tempe
728 - 750 Princes Highway
Tempe NSW 2044
LANDSCAPE PLAN
2212 LP - 01
15/06/2015


4 NORTH ELEVATION - part 1:250
2 EAST ELEVATION - part 1:250
3 SOUTH ELEVATION 1:250
1 WEST ELEVATION 1:250
Smith Street
Princes Highway
Lemon Scented Gums
Lemon Scented Gum
Eucalypt STREET TREES
Photinia Hedge
DWARF BRICK WALL
DRIVEWAY
ENTRY
boundary
DEVELOPMENT CONSENT
Determination No: DA201700185
Determination Date: 27 June 2019
Subject to attached conditions
INNER WEST COUNCIL
BUNNINGS warehouse
JOHN R. BROGAN & ASSOCIATES
JOHN LOCK & associates LANDSCAPE ARCHITECTURE
jla
0 2.5 5 10 15 25 m
Proposed Bunnings Tempe
728 - 750 Princes Highway
Tempe NSW 2044
LANDSCAPE ELEVATIONS
1:250 @ A1
1:500 @ A3
15/06/2015
2212 LP - 02



DEVELOPMENT CONSENT

Determination No: DA201700185
Determination Date: 27 June 2019

Subject to attached conditions

INNER WEST COUNCIL

SPECIFICATION NOTES

SITE PREPARATION / SOIL WORKS
ALL EXISTING TREES MARKED FOR RETENTION SHALL BE PROTECTED FOR THE DURATION OF THE BUILDING WORKS. REMOVE FROM SITE ALL PERENNIAL WEEDS SUCH AS OXALIS, ONION WEED AND THE LIKE.

NO REGRADING IS TO BE CARRIED OUT WITHIN THE DRIPLINE OF THE TREES TO BE RETAINED. WHERE EXCAVATION IS NECESSARY USE HAND METHODS TO AVOID DAMAGE TO THE ROOT SYSTEM DO NOT CUT ROOTS GREATER THAN 50MM. CUT ROOTS CLEANLY WITH A SAW AND DO NOT SEAL THE WOUND.

TREE PROTECTION
PROTECT ALL EXISTING TREES AS NOTED ON THE DRAWINGS FOR THE DURING OF THE BUILDING WORKS.

TAKE ALL NECESSARY PRECAUTIONS, INCLUDING THE FOLLOWING:

Tree Protection fence:
INSTALL A TREE PROTECTION FENCES AT THE MAXIMUM RADIUS ALLOWABLE TO ACCOMMODATE THE PROPOSED DEVELOPMENT. MAINTAIN THE FENCE FOR THE DURATION OF THE BUILDING WORKS.

CONSTRUCT THE FENCE 1.8 M HIGH WITH CHAINWIRE MESH ON STEEL POSTS. ALL AREAS WITHIN THE PERIMETER OF THE FENCE ARE TO BE COVERED TO A DEPTH OF 100MM WITH WOODCHIP MULCH.

Temporary Irrigation:
INSTALL A TEMPORARY IRRIGATION SYSTEM TO ALL TREES TO BE RETAINED. INSTALL DRIP EMITTERS ON POLY LATERALS. THE IRRIGATION SYSTEM IS TO BE CONTROLLED BY A GALCON OR SIMILAR AUTOMATIC CONTROLLER.

Harmful materials:
DO NOT STORE, STOCKPILE, DUMP OR OTHERWISE REPLACE UNDER OR NEAR TREES, BULK MATERIALS AND HARMFUL MATERIALS INCLUDING OIL, PAINT, WASTE CONCRETE, CLEARINGS, BOULDERS AND THE LIKE. DO NOT PLACE SPOIL FROM EXCAVATIONS AGAINST TREE TRUNKS, EVEN FOR SHORT PERIODS. PREVENT WIND-BLOWN MATERIALS SUCH AS CEMENT FROM HARMING TREES AND PLANTS.

Damage:
PREVENT DAMAGE TO TREE BARK. DO NOT ATTACH STAYS, GUYS AND THE LIKE TO TREES.

Work under trees:
DO NOT REMOVE TOPSOIL FROM WITHIN THE DRIP LINE OF TREES UNLESS OTHERWISE SPECIFIED. IF IT IS NECESSARY TO EXCAVATE WITHIN THE DRIP LINE, USE HAND METHODS SUCH THAT ROOT SYSTEMS ARE PRESERVED INTACT AND UNDAMAGED.

Roots:
DO NOT CUT TREE ROOTS EXCEEDING 50 MM DIAMETER UNLESS PERMITTED BY THE SUPERINTENDENT. WHERE IT IS NECESSARY TO CUT TREE ROOTS, USE A CHAIN SAW OR SIMILAR MEANS SUCH THAT THE CUTTING DOES NOT UNDULY DISTURB OR ROCK THE REMAINING ROOT SYSTEM. IMMEDIATELY AFTER CUTTING, APPLY AN APPROVED BITUMINOUS FUNGICIDAL SEALANT TO THE CUT SURFACE TO PREVENT THE INCURSION OF ROT OR DISEASE.

Compacted Ground:
AVOID COMPACTION OF THE GROUND UNDER TREES. IF THE GROUND UNDER TREES HAS BEEN UNDULY COMPACTED DURING THE WORK UNDER THE CONTRACT, FOR EXAMPLE BY THE OPERATION OF HEAVY CONSTRUCTIONAL PLANT, LOOSEN THE SOIL BY CORING.

SOIL WORKS
THOROUGHLY CULTIVATE THE SUBSOIL TO A DEPTH OF 150MM. SUPPLY AND INSTALL THE FOLLOWING SOIL MIXS TO THE SPECIFIED DEPTHS:

SOIL DEPTH

• TURF	200MM
• PLANTING	300MM

SOIL MIX A

• BLACK LOAM	60%
• COARSE WASHED RIVER SAND	30%
• ORGANIC MIX /COMPOST	10%

• **ORGANIC LAYER 50 MM DEEP**
CULTIVATE A 50MM LAYER OF ORGANIC ADDMIX INTO THE TOP 100MM OF SOILMIX

Addmix composition

• TREATED HARDWOOD SAWDUST	30%
• PINE PARK FINES	40%
• COMPOSTED MANURE	30%

SOIL MIX B

• SITE TOPSOIL IF AVAILABLE OR IMPORTED MIX OF:	
• BLACK LOAM	70%
• COARSE WASHED RIVER SAND	30%

TREE PLANTING AREAS TO BE MOUNDED 300 MM ABOVE THE EXISTING GROUND LINE TO IMPROVE DRAINAGE FROM PLANTING HOLES. TREE HOLES TO BE EXCAVATED 2 TIMES LARGER THAN THE ROOTBALL AND BACKFILLED WITH SOIL MIX AS SPECIFIED ABOVE.

TURFED AREAS
APPLY SHIRLEYS NO17 LAWN FERTILISER TO SOIL APPLIED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. TURF SHALL BE:

• **GREENLEAS COUCH** WITH AN EVEN THICKNESS OF 30MM.

DO NOT LET TURF DRY OUT. LIGHTLY TOP DRESS TURF 6 WEEKS AFTER LAYING WITH 10MM IMPORTED TOPSOIL. THATCH TO BE LAID WITH STAGGERED JOINTS ,FLUSH WITH PATHWAY LEVELS.

MULCH
SUPPLY AND PLACE 75 MM LAYER OF HARDWOOD HORTICULTURAL GRADE MULCH, (GRADED IN SIZE 15 MM X 15MM X 15MM, FREE FROM WOOD SLIVERS). SET DOWN 25MM FROM ADJACENT PAVING.

PLANT MATERIALS
ALL PLANTS SHALL BE TRUE TO TYPE, OF HEALTHY GROWTH DISEASE FREE NURSERY STOCK AND NOT DISPLAYING RESTRICTED GROWTH PATTERNS. SHOULD THERE BE A REQUIREMENT FOR SUBSTITUTIONS THEY SHALL NOT CHANGED WITHOUT PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT. NO VARIEGATED STRAIN SHALL BE USED. ALLOW FOR SLOW RELEASE FERTILISER TO ALL PLANTS APPLIED AT THE MANUFACTURERS RECOMMENDED RATE TO BE SAME OR SIMILAR TO OSMOCOTE.

FERTILIZER:
MASS PLANTED AREAS : ALLOW 2 SHIRLEYS SLOW RELEASE KOKEI PELLETS PER 5 - 35 LITRE PLANT AND ONE PER 150MM PLANT TURF AREAS : ALLOW SHELLYS NO.17 LAWN FERTILIZER OR EQUIVALENT , APPLIED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.

STAKES AND TIES
DURABLE HARDWOOD , STRAIGHT, SIZE SHALL BE 50X50X1800 WITH TIES SPACED APPROXIMATELY 300MM APART. DRIVE STAKES 600MM INTO THE GROUND ON THE WINDWARD SIDE OF THE PLANT. TIES SHALL BE 50MM HESSIAN WEBBING FIXED IN A FIGURE OF EIGHT PATTERN.

PLANT ESTABLISHMENT PERIOD
FROM THE DATE OF PRACTICAL COMPLETION , THERE SHALL BE A PERIOD OF **52** WEEKS FOR THE PLANTING ESTABLISHMENT PERIOD. ANY FAILED PLANTS SHALL BE REPLACED WITH THE SAME TYPE AND SPECIES. THE MULCHED SURFACES SHALL BE MAINTAINED IN A NEAT AND TIDY CONDITION. STAKES AND TIES SHALL BE ADJUSTED AS REQUIRED AND THE TURF SHALL BE REGULARLY MOWED TO MAINTAIN A HEALTHY GROUND COVER. A CONSTANT WATER REGIME SHALL BE MAINTAINED TO ENSURE HEALTHY GROWTH OF ALL PLANT MATERIAL.

IRRIGATION
ALL PLANTING AREAS TO BE SUPPLIED WITH A FULLY AUTOMATIC DRIP IRRIGATION SYSTEM EQUIVALENT TO 'NETAFIM'. THE IRRIGATION SYSTEM SHALL MEET ALL THE REQUIREMENTS OF THE WATER AND ELECTRICITY SUPPLY AUTHORITY AND RELEVANT AUSTRALIAN STANDARDS. PROVIDE RICHDEL OR SIMILAR APPROVED CONTROLLER. CONNECTION TO SYDNEY WATER MAINS TO BE THROUGH AN APPROVED REDUCED PRESSURE ZONE DEVICE INSTALLED TO WATER REGULATIONS.

revision	description	date
H	REVISED DA ISSUE	27/03/2017
G	SMITH STREET FRONTAGE PLANTS REVD	12/01/2016
F	ENTRY PATH ADDED	15/12/2015
E	DA ISSUE	01/07/2015
D	COORDINATION ISSUE	30/06/2015
C	COORDINATION ISSUE	29/06/2015
B	COORDINATION ISSUE	25/06/2015
A	PRELIMINARY ISSUE	23/06/2015

client: BUNNINGS warehouse

architect:
JOHN R. BROGAN & ASSOCIATES
37 Pitt Street, Sydney NSW 2000
p: 9221 2833 e:jrb@brogans.com.au

landscape architect:
JOHN LOCK & associates
LANDSCAPE ARCHITECTURE
jla
Suite 3, 5 Earl Street, Mosman NSW 2088
p:02 9969 9898 e:landesign@bigpond.com

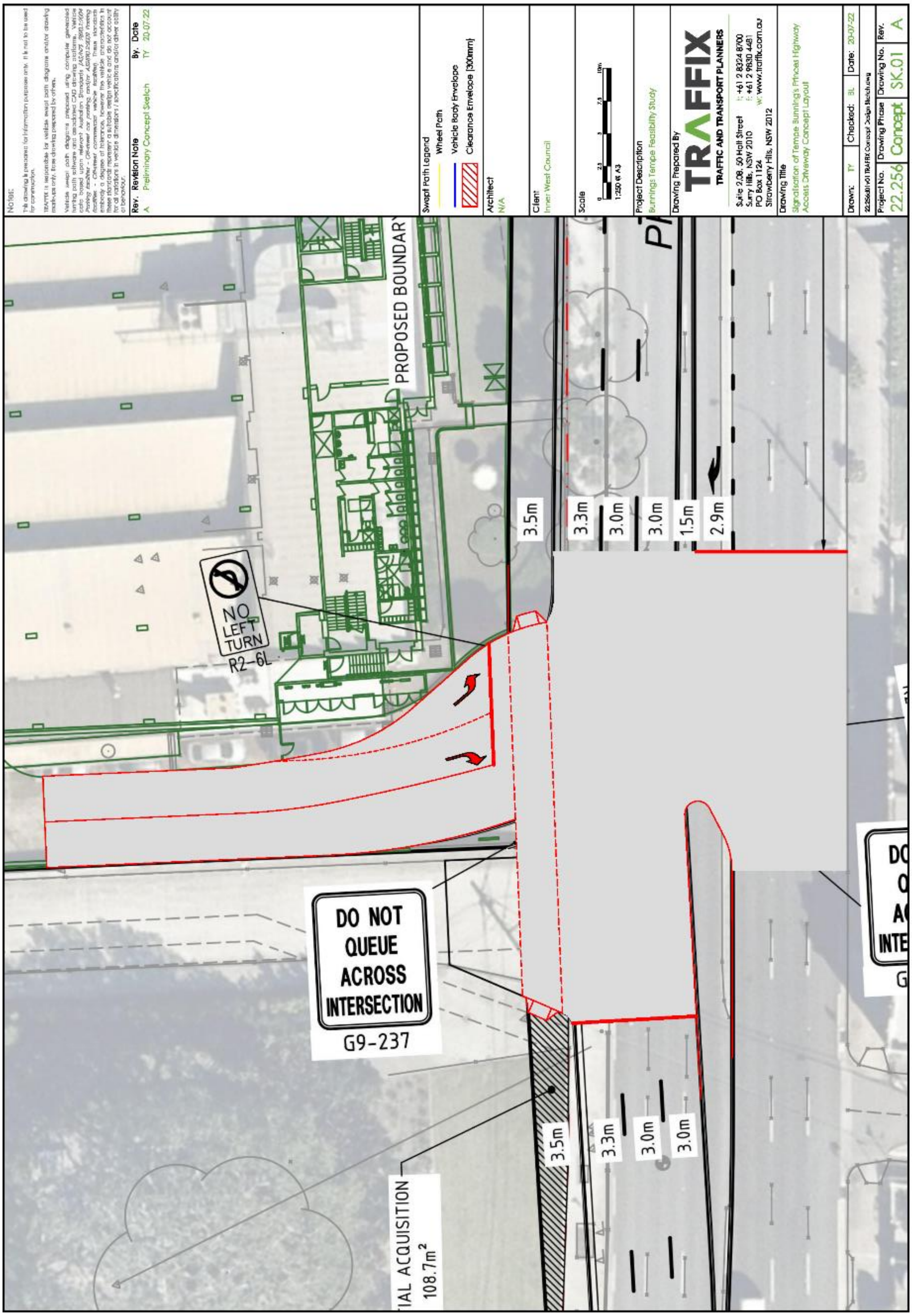
project:
Proposed Bunnings Tempe
728 - 750 Princes Highway
Tempe NSW 2044

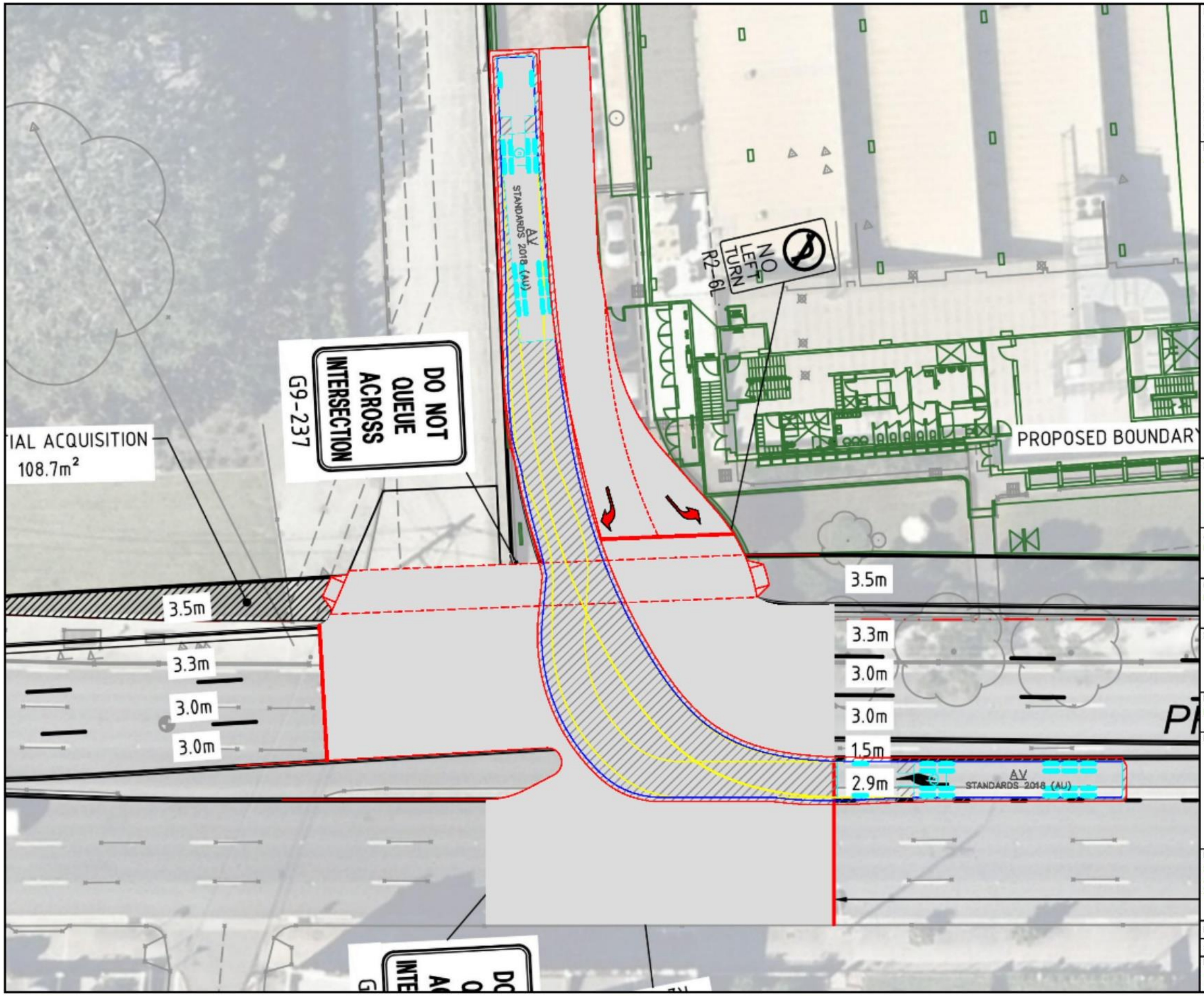
LANDSCAPE DETAILS

scale: as shown @ A1
50% @ A3
date: 15/06/2015
drawing #: **2212 LP - 03**

APPENDIX B

Concept Plan


Notes:
This drawing is prepared for information purposes only. It is not to be used for construction.
TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.
Rev.
Revision Note
By.
Date
A
Preliminary Concept Sketch
TY
20-07-22
Swept Path Legend
Wheel Path
Vehicle Body Envelope
Clearance Envelope (300mm)
Architect
N/A
Client
Inner West Council
Scale
0
2.5
5
7.5
10m
1:250 @ A3
Project Description
Bunnings Tempe Feasibility Study
Drawing Prepared By
TRAFFIX
TRAFFIC AND TRANSPORT PLANNERS
Suite 2.08, 50 Holt Street
Surry Hills, NSW 2010
PO Box 1124
Strawberry Hills, NSW 2012
t: +61 2 8324 8700
f: +61 2 9830 4481
w: www.traffix.com.au
Drawing Title
Signalisation of Tempe Bunning's Princes Highway Access Driveway Concept Layout
Drawn: TY
Checked: BL
Date: 20-07-22
22256d01v01 TRAFFIX Concept Design Sketch.dwg
Project No.
22.256
Drawing Phase
Concept
Drawing No.
SK.01
Rev.
A
PROPOSED BOUNDARY
NO LEFT TURN
R2-6L
DO NOT QUEUE ACROSS INTERSECTION
G9-237
3.5m
3.3m
3.0m
3.0m
1.5m
2.9m
3.5m
3.3m
3.0m
3.0m
IAL ACQUISITION
108.7m²



Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (*AS/NZS 2890.1:2004 Parking facilities - Off-street car parking*, and/or *AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Preliminary Concept Sketch	TY	20-07-22

Swept Path Legend
Wheel Path
Vehicle Body Envelope
▨ Clearance Envelope (300mm)

Architect
N/A

Client
Inner West Council

Scale
0 2.5 5 7.5 10m
1:250 @ A3

Project Description
Bunnings Tempe Feasibility Study

Drawing Prepared By
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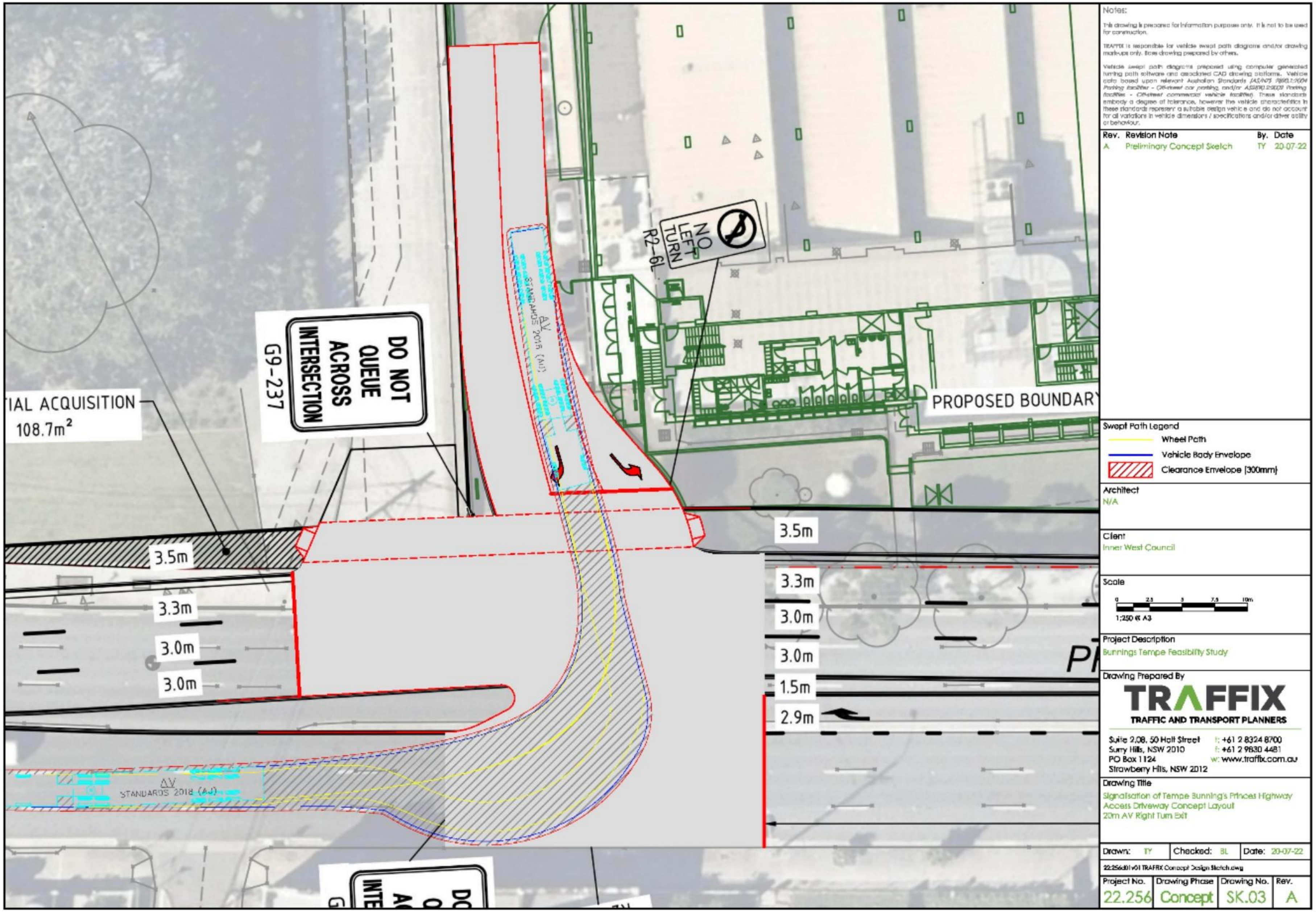
Drawing Title
Signalisation of Tempe Bunning's Princes Highway Access Driveway Concept Layout
20m AV Right Turn Entry

Drawn: TY | Checked: BL | Date: 20-07-22

22.256d01v01 TRAFFIX Concept Design Sketch.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
22.256	Concept	SK.02	A



Notes:

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TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (AS/NZS 2890.1:2004 Parking facilities - Off-street car parking, and/or AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Preliminary Concept Sketch	TY	20-07-22

Swept Path Legend
Wheel Path
Vehicle Body Envelope
Clearance Envelope (300mm)

Architect
N/A

Client
Inner West Council

Scale
0 2.5 5 7.5 10m
1:250 @ A3

Project Description
Bunnings Tempe Feasibility Study

Drawing Prepared By
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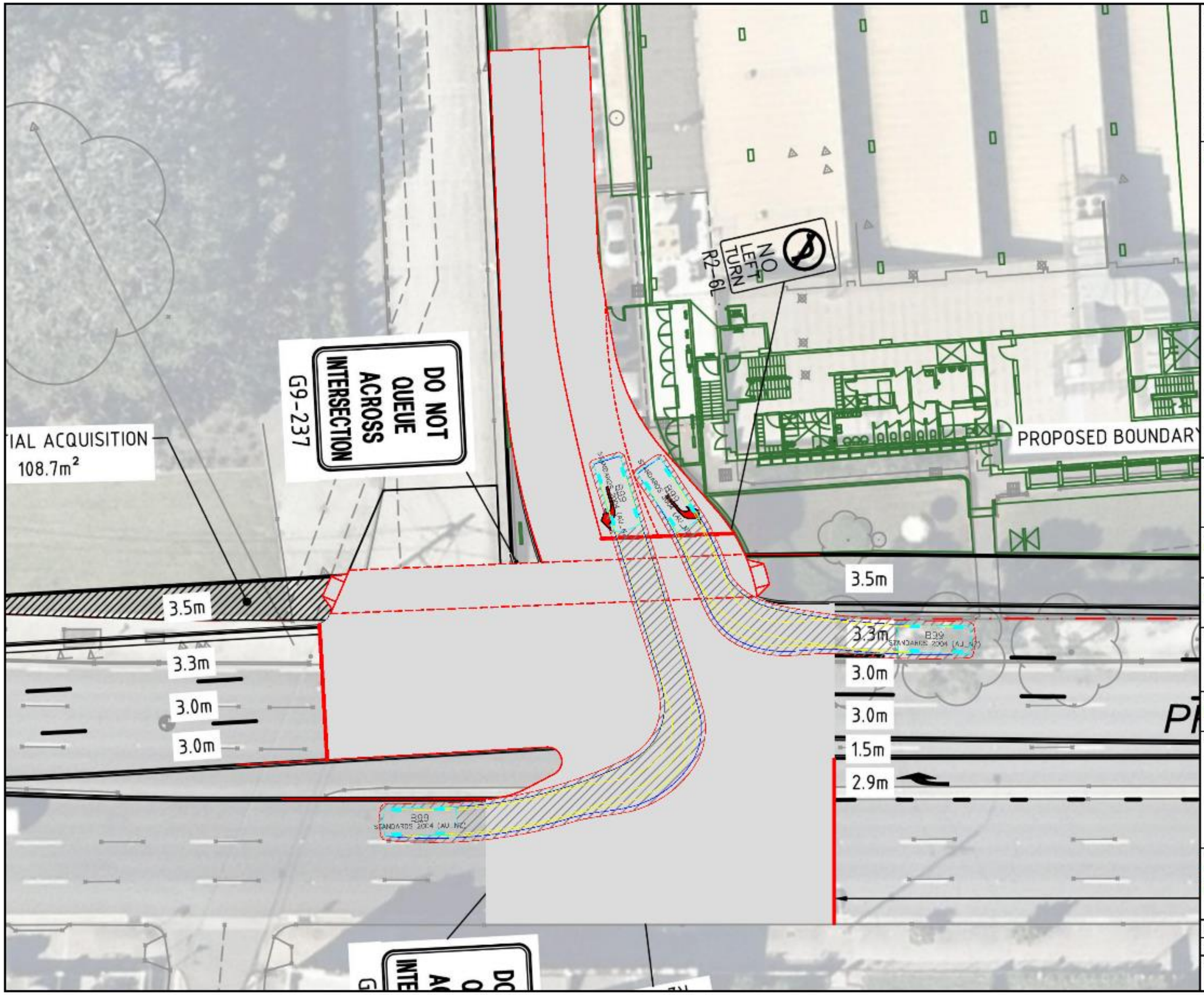
Drawing Title
Signalisation of Tempe Bunning's Princes Highway Access Driveway Concept Layout
20m AV Right Turn Exit

Drawn: TY	Checked: BL	Date: 20-07-22

22.256d01v01 TRAFFIX Concept Design Sketch.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
22.256	Concept	SK.03	A



Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (*AS/NZS 2890.1:2004 Parking facilities - Off-street car parking, and/or AS2890.2:2018 Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Preliminary Concept Sketch	TY	20-07-22

Swept Path Legend
- Wheel Path
- Vehicle Body Envelope
- ▨ Clearance Envelope (300mm)

Architect
N/A

Client
Inner West Council

Scale
0 2.5 5 7.5 10m
1:250 @ A3

Project Description
Bunnings Tempe Feasibility Study

Drawing Prepared By
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Drawing Title
Signalisation of Tempe Bunning's Princes Highway
Access Driveway Concept Layout
B99 Left and Right Turn Exit

Drawn: TY	Checked: BL	Date: 20-07-22

22.256d01v01 TRAFFIX Concept Design Sketch.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
22.256	Concept	SK.04	A

APPENDIX C

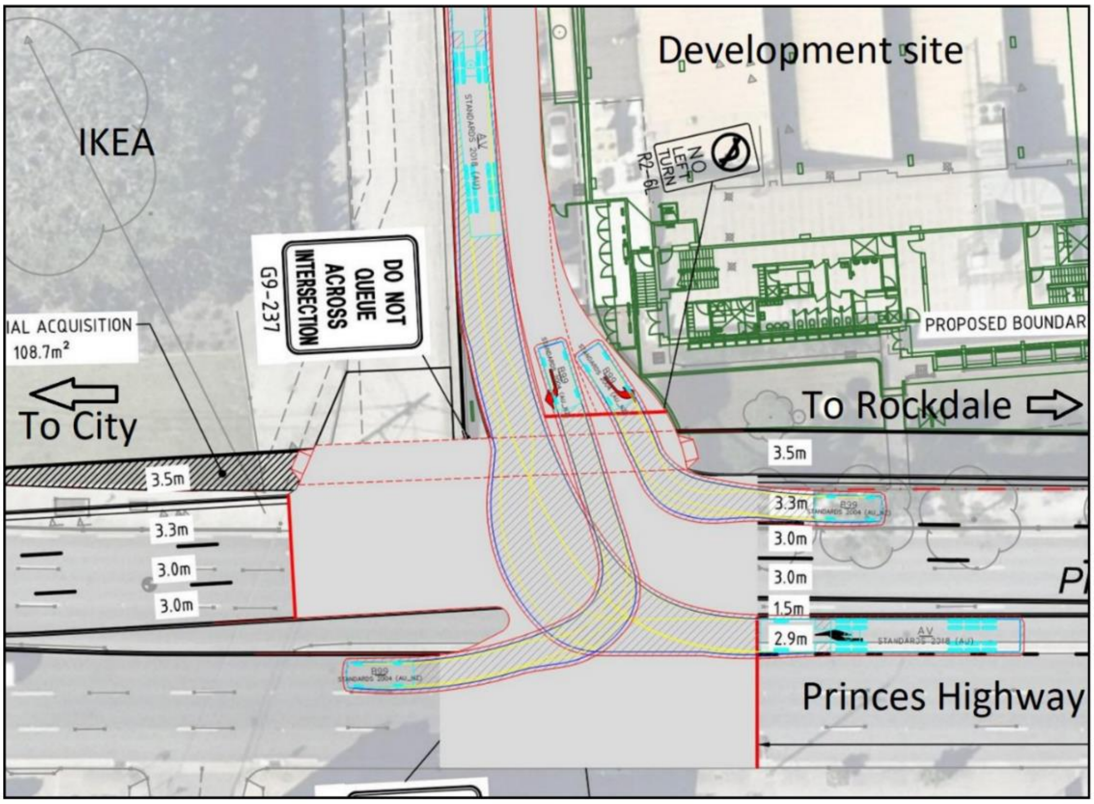
Road Safety Audit

TRAFFIC ENGINEERING

Traffix

Proposed signalised access to Tempe Bunnings develoment

Concept design road safety audit



DC Traffic Engineering Pty Ltd
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Traffix

Proposed signalised access to Tempe Bunnings develoment

Concept design road safety audit

Authors Damien Chee

Damien Chee

Report No TRF-PROJ-0040-01 CD RSA TEMPE REV 1

Date 2/8/2022

This report has been prepared for Traffix.

TRAFFIC ENGINEERING

CONTENTS

1 Introduction ... 2
- 1.1 Project and audit details ... 2
- 1.2 Responding to the audit report ... 3
- 1.3 Previous audits ... 3

2 Safety audit findings ... 4
3 Concluding statement ... 13

Appendices

Appendix A
Road Safety Audit Checklist

1 Introduction

1.1 Project and audit details

Details of the audit have been summarised in Table 1.

Table 1 Details of the road safety audit.

Audited project	Proposed signalised access to proposed Bunnings development, on the eastern side of Princes Highway, to the north of Smith Street, Tempe.
Client/ contact	Thomas Yang Senior Engineer Traffix Ph: (02) 8384 8700 / 0433 438 966 E: thomas.yang@traffix.com.au
Audit type	*Concept design* road safety audit.
Purpose	A *concept design* road safety audit was required so that safety issues could be considered and addressed in the refinement of the design.
Background	A new Bunnings Warehouse is proposed on the eastern side of Princes Highway to the north of Smith Street, in Tempe. As part of this development, a new signalised access is proposed which will stem off the eastern side of Princes Highway. This side road will allow left and right turns out of the site, as well as right-turns into the site. Inbound left-turns to the site will be prohibited. These movements would need to use the alternative access via Smith Street. A concept design has been prepared and was required to be formally reviewed via a road safety audit. An extract of this concept is shown on the front cover of this report. This report details the processes and findings of the *concept design* road safety audit.
Scope of project/ audit	The following plan was presented to the audit team and was considered to be the auditable material and scope: ▪ Project 22.256 drawing SK.01 revision A.
Audit team details	Damien Chee, level 3 (lead) road safety auditor - Registration number: RSA-02-0094. Linda Chee, level 2 road safety auditor –Registration number RSA-02-1069.
Audit methodology	The audit was undertaken using the following methodology: ▪ The concept design was reviewed on 1/8/2022. ▪ A site inspection was carried out on 1/8/2022. This was only for familiarisation purposes, to understand the pre-existing road, traffic and land use conditions, and to contextualise the setting/ environment that the intersection works would be delivered in. ▪ The road safety audit findings have been documented in this report in accordance with the NSW Centre for Road Safety's *Guidelines for Road Safety Audit Practices* (2011). The audit findings are documented in Section 2. ▪ This report includes completed road safety audit checklist as sourced from the Austroads *Guide to Road Safety Part 6A: Implementing Road Safety Audits.*
Material supplied	See *scope of audit*.
Meeting and assessment details	Review of plans on 1/8/2022. Site inspection carried out on 1/8/2022.

1.2 Responding to the audit report

Road safety audits provide the opportunity to highlight potential road safety problems and have them formally considered by the project manager in conjunction with all other project considerations.

The responsibility for the project rests with the project manager, not with the auditor. The project manager is under no obligation to accept the audit findings. Also, it is not the role of the auditor to agree to, or approve the project manager's responses to the audit.

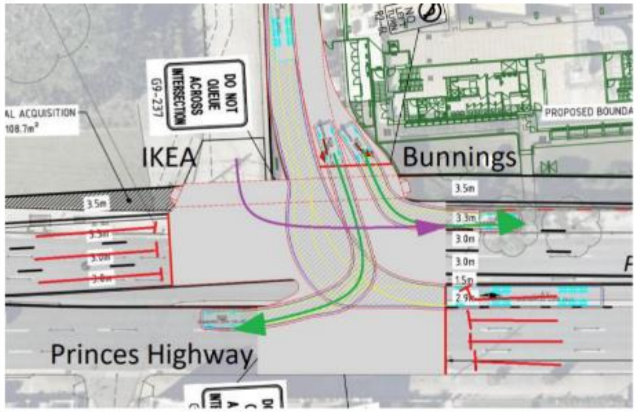
1.3 Previous audits

There were no previous road safety audit reports of direct relevance to this project that were issued to the audit team.

2 Safety audit findings

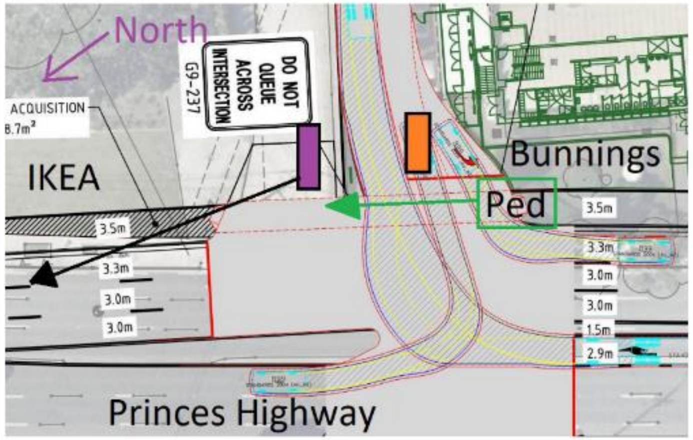
The road safety audit findings are documented in Table 2.

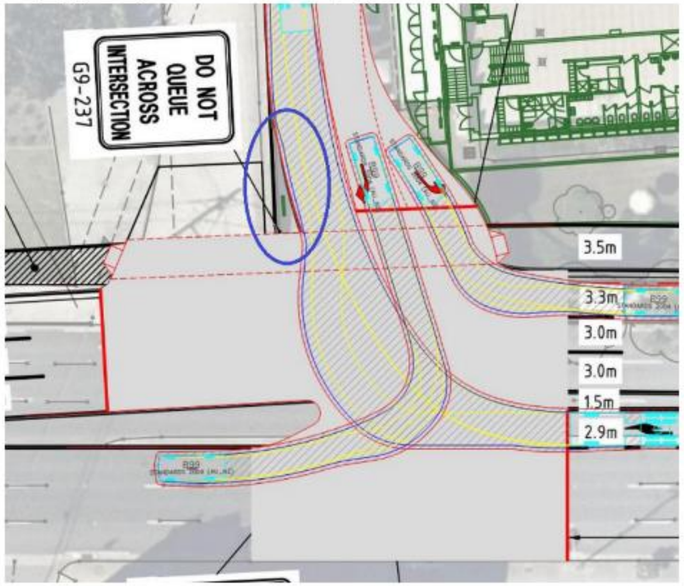
Table 2 Road safety audit findings.

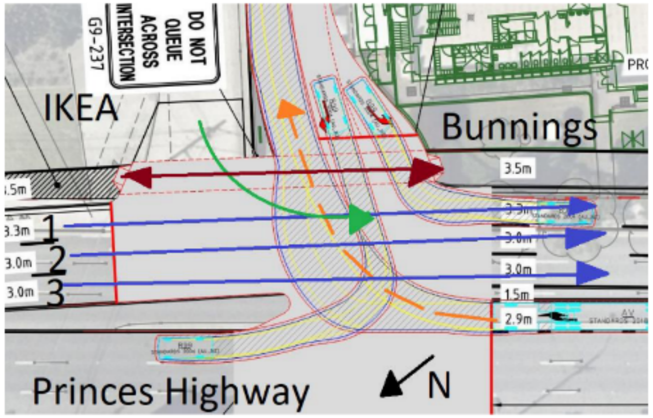
Ref	Location/ priority	Road safety audit finding	Priority
1	Conflict between outbound left-turn from IKEA driveway[1] and outbound movements from Bunnings.	Two fundamental problems with the design are that (1) the IKEA driveway and the Bunnings driveway are too close to each other and (2) the IKEA driveway remains as a priority-controlled intersection despite being within a signal-controlled intersection. These two fundamental problems would lead to the following crash conflict and risk. The outbound traffic in the IKEA driveway, presumably restricted to left-turns only, would need to select gaps in the southbound direction of Princes Highway when egressing from this property. During the signal phase when northbound-southbound traffic on Princes Highway are held on red signal (all red arrow-stubs), and the outbound traffic from Bunnings is given the green signal display, this would be an opportune time for any outbound traffic from IKEA to egress from this property (see purple arrow). Furthermore, this traffic (not under any signalised control) would be able to legally make this egressing movement. As shown below, this would create an obvious crash conflict with the outbound traffic from Bunnings. Many of these outbound drivers from Bunnings would not expect a conflict to emerge from the adjacent driveway in this manner. As described in items 2a and 2b, the outbound traffic from IKEA would also be under priority control (not signalised control) and would not be adequately controlled against north-south pedestrian movements on the signalised crossing. This would lead to distinct *vehicle-pedestrian* crash conflicts as well.  ***Left:*** *The signal phase where outbound traffic from Bunnings is given a green display would be the most opportune time for vehicles to also egress from IKEA. However, as shown, this would create distinct crash conflicts with the outbound traffic from Bunnings (ie. conflicts between the purple movement and the two green movements).*	High

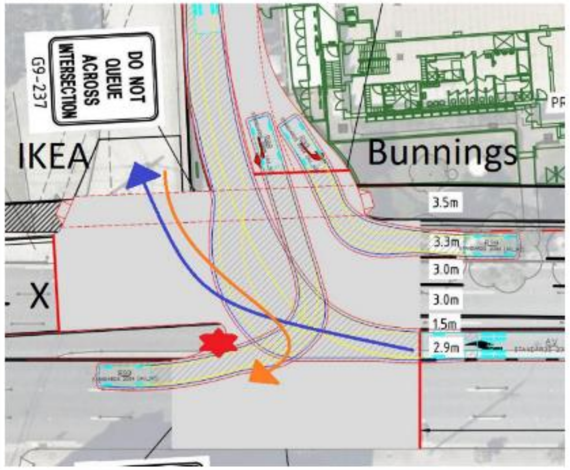
---

[1] This is not the main vehicular access-egress to IKEA. Rather, it is a secondary and lower-volume driveway to the IKEA administration building.

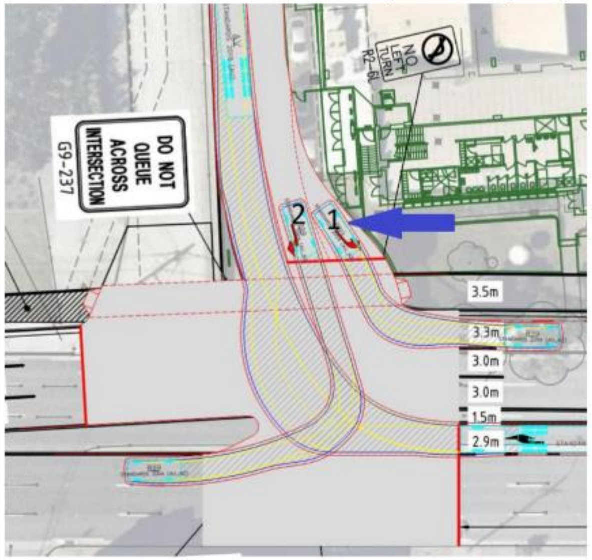
Ref	Location/ priority	Road safety audit finding	Priority
2a	Poor legibility in the priority and control rules for pedestrians on the eastern signalised crossing.	Item 1 discussed the fundamental problem of having a signal-controlled driveway to Bunnings immediately adjacent to a priority controlled driveway to IKEA. This will also reduce the legibility of the pedestrian crossing and the relative priority rules. For example, outbound traffic from the IKEA driveway would need to adhere to priority rules when egressing. They would need to give way to southbound vehicles on Princes Highway as well as pedestrians on the north-south crossing. However, this is a *give way* control rather than the outbound traffic being traffic signal controlled (ie. held on red and released on green). By contrast, the outbound traffic from Bunnings would be controlled by signals so there should be less ambiguity regarding which road user has priority (ie. outbound vehicles or crossing pedestrians). By having two differing priority-systems side-by-side, the crossing pedestrian would be subjected to differing degrees of protection. On one hand, they would be better protected against outbound traffic from Bunnings due to the signal control and the fact that this is less ambiguous and offers more clear-cut time-separation between the conflicting road user movements. On the other hand, they would be subjected to a give way control at the IKEA driveway where drivers may make poor decisions without the aid of traffic signals. Pedestrians crossing in the northbound direction would be most at risk. Since the outbound traffic from IKEA is restricted to left-turns only, these drivers would tend to look to their right towards the oncoming southbound traffic on Princes Highway to judge for gaps. By doing so, they are at higher risk of not noticing a pedestrian approaching from their left (ie. a northbound pedestrian approaching from the south). This could lead to a *vehicle-pedestrian* crash.  ***Left:** The outbound driver in the IKEA driveway (purple vehicle) is subjected to a give way priority rule. These drivers would tend to look to their right (north) to check for gaps in the southbound traffic stream of Princes Highway. By doing so, they may not notice pedestrians approaching from their left (from the south).*	High

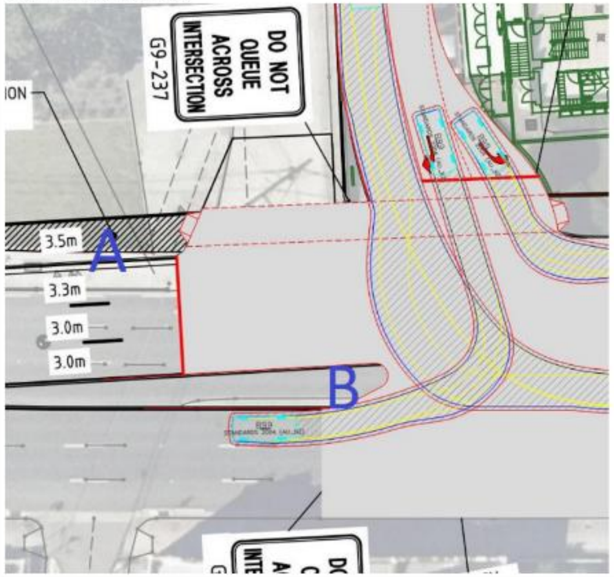
Ref	Location/ priority	Road safety audit finding	Priority
2b	Poor legibility in the priority and control rules for pedestrians on the eastern signalised crossing.	Further to item 2a, pedestrians are likely to use the small gap between the two driveways as a refuge point, especially when crossing illegally (during the "don't walk" display). This area is small and not suitable as a pedestrian refuge area.  ***Left:*** *Pedestrians are likely to use the small area between the two driveways as a makeshift refuge point.*	High

Ref	Location/ priority	Road safety audit finding	Priority
3	Filtered right-turns into the Bunnings driveway.	At the concept stage with no TCS plan prepared, it is unclear whether filtered right turns will be permitted by northbound traffic into Bunnings (orange arrow). This is considered to be a very high risk movement. The northbound right-turning driver would need to detect and select gaps in, and give way to the following traffic streams: ▪ Traffic in lane 3 southbound (lanes are numbered below). ▪ Traffic in lane 2 southbound, which may be visually obscured by traffic in lane 3. ▪ Traffic in lane 1 southbound, which may be visually obscured by traffic in lanes 2 and 3. ▪ Pedestrians crossing the eastern signalised leg, which may be obscured by traffic in lanes 1, 2 and 3. ▪ Outbound left-turning vehicles from the IKEA driveway. Note that this conflict would also exist with a fully controlled right-turn since the outbound left-turning driver from IKEA would only need to adhere to a *give way* rule (ie. they are not traffic signal controlled). With the multitude of conflicting movements, northbound right-turning drivers are likely to make poor gap selections with consequential crash risk. As such, filtered right-turns are not recommended.  ***Left:*** *Filtered right turns into the Bunnings driveway would need to detect and select gaps in three southbound traffic streams, a two-way pedestrian crossing facility and outbound traffic from the IKEA driveway.*	High

Ref	Location/ priority	Road safety audit finding	Priority
4	Illegal right-turns into and out of the IKEA driveway.	The proposed driveway to Bunnings would be positioned immediately adjacent to the driveway to the IKEA administration building. As shown below, due to the hold line at X, the IKEA driveway actually falls within the traffic-controlled area of the intersection. The audit team anticipates that there will be occasional illegal right-turn movements into and out of the IKEA driveway. For example, a northbound vehicle could turn right into the IKEA driveway under the guise of an intended right-turn into the Bunnings driveway (see blue arrow). Since the hold line X keeps queued traffic out of the way of the IKEA driveway, there would tend to be an uninhibited passage to IKEA. Similarly, there could be illegal right turns out of the IKEA driveway as per the orange arrow. This is especially since the proper alternative route would be via (i) a left-turn into Princes Highway southbound, (ii) a left-turn into Smith Street, (iii) a u-turn/ three-point turn in Smith Street and (iv) an outbound right-turn from Smith Street. This alternative route is circuitous and time-consuming. Any illegal right-turn movements from the IKEA driveway would also increase the risk of impacts with the median nose (red star) including any traffic signal posts and signs. The IKEA driveway is currently a *left-in-left-out* T intersection and is assumed to retain the same access restrictions under the proposed scenario.  ***Left:*** *The introduction of a gap in the raised median (compared to existing and pre-project conditions where there is no gap in place), could result in illegal right turns into and out of the IKEA driveway as shown by the blue and orange arrows respectively.*	Medium

Ref	Location/ priority	Road safety audit finding	Priority
5	NO LEFT TURN rule from Princes Highway to Bunnings.	The design indicates that there will be a NO LEFT TURN rule for southbound traffic on Princes Highway to the Bunnings site. The audit team notes the following issues: ▪ This is a very unrealistic expectation, and a high degree of non-compliance would be expected. Left-turn bans are extremely rare since they are the least conflicted/ opposed movement. The alternative access route via Smith Street is more circuitous and time-consuming. As shown in the right-hand image, there is a brick wall separating both driveways. Any illegal left-turns into the Bunnings site could lead to vehicle impacts with this wall. Alternatively, there could be *head-on* crashes with outbound traffic in the Bunnings driveway. ▪ Since a left-turn ban would apply to the Bunnings driveway, it stands to reason that there will not be any left-turn signal controls to safeguard pedestrians (since this movement should not happen anyway, assuming 100% compliance). Without any left-turn control, and since the driveway to IKEA remains a priority-controlled intersection, this would allow for uncontrolled left-turns into the IKEA driveway. Without any left-turn arrow controls, this could increase the risk of *left-turn on pedestrian* crashes involving left-turn movements into IKEA. Contrastingly, there is no legible method for controlling the left-turns into the IKEA driveway. If a left-turn arrow aspect is included with the signal personality, then the release of the red-arrow hold (therefore allowing left-turns into the IKEA driveway), could be misinterpreted as a release for southbound traffic to also turn left into Bunnings (which would be illegal). ▪ The NO LEFT TURN sign could be misinterpreted as a rule that also applies to the IKEA driveway. Clearly this is not the case as there is no other legal method of entering that driveway.  ***Left:** Extract from the design showing the intended NO LEFT TURN rule prohibiting inbound left-turns into the Bunnings site. **Right:** The existing conditions showing the two driveways side-by-side and the brick wall separating these.*	Medium

Ref	Location/ priority	Road safety audit finding	Priority
6	Outbound left-turn lane from Bunnings.	The design indicates that a short left-turn lane will be provided for outbound traffic in the Bunnings driveway. This will be very ineffective in servicing outbound left-turning traffic and is likely to have a poor utilisation rate. The audit team notes the following issues: ▪ In many situations, left-turning drivers will not be able to access this lane due to the queue in the right-turn lane extending back to the east. Even a one-car queue may block access to the left-turn lane. ▪ Left-turning vehicles that are trapped in the right-turn lane and in queue are likely to remain in lane 2 even when making their left-turn movement. Many drivers would be reluctant to move into lane 1 at the "last second" to make this left-turn movement. This is a case of poor utilisation of lane 1, and this driveway would perform very similar to if there was only one lane provided (shared by left and right-turning traffic). ▪ Further to the previous points, the low utilisation and blocked access to the left-turn lane would waste much cycle time. For example, when the northbound right-turn is given a green arrow display, this would typically be accompanied by an outbound left-turn green arrow display. However, if "would be" left-turning vehicles cannot access this short lane, the entire signal phase would be wasted and there would be no throughput from the outbound left-turn lane. Whilst many of these issues are traffic management and operation related, there are road safety side effects as well. For example, extensive queuing and *rear-end* crash risks, unnecessary delays leading to driver frustration and risk-taking behaviour.  ***Left:*** *The outbound left-turn lane is short and likely to be severely under-utilised.*	Low

Ref	Location/ priority	Road safety audit finding	Priority
7	DO NOT QUEUE ACROSS INTERSECTION signs.	G9-237 DO NOT QUEUE ACROSS INTERSECTION signs are proposed on the eastern and western sides of Princes Highway. However, these are not appropriately placed. The eastern sign is placed midway along the control area of the intersection. It really ought to be placed at the start of, or upstream of the start of, the control area (such as point A). The western sign would be too far to the right to be effective as a regulatory sign. It would be better placed at point B such that it is visible by drivers at the hold line as well as those moving into the intersection.  ***Left:*** *The DO NOT QUEUE ACROSS INTERSECTION signs are poorly placed.*	Low

Ref	Location/ priority	Road safety audit finding	Priority
8	Alignment of southbound lanes.	The three southbound lanes will have a slight horizontal kink in the control area of the intersection. As such, drivers in each lane would be required to make minor steering adjustments when in the control area of the intersection. Whilst this is a relatively minor steering requirement, consideration should be given to revising the lane alignment such that the approach lanes match up with the departure lane alignments. It should be noted that in the existing, pre-project situation, the approach lanes match up with the departure lane alignments and the road is straight.  ***Left:*** *Extract from the design showing the slight horizontal kink for the southbound lanes from approach to departure.* ***Right:*** *Under current, pre-project conditions, the three southbound lanes are straight with no horizontal changes.*	Low

3 Concluding statement

DC Traffic Engineering has undertaken a *concept design* road safety audit of this project in accordance with the methodology outlined in Section 1 of this report.

Issues identified have been noted in this report for the Project Manager to review, assess, and where appropriate, make the necessary recommendations to improve safety.

Damien Chee

Damien Chee
Audit Team Leader
DC Traffic Engineering Pty Ltd

Appendix A

Road Safety Audit Checklist

Issue	**Comment**
2.1 General topics	
1 Changes since previous audit ▪ Do the conditions for which the scheme was originally designed still apply? (eg. no changes to the surrounding network, area activities or traffic mix) ▪ Has the general form of the project design remained unchanged since previous audit (if any)?	There were no previous road safety audit reports issued to the audit team.
2 Drainage ▪ Will the scheme drain adequately? ▪ Has the possibility of surface flooding been adequately addressed, including overflow from surrounding or intersecting drains and water courses?	Yes.
3 Climatic conditions ▪ Has consideration been given to weather records or local experience which may indicate a particular problem? (eg. snow, ice, wind, fog).	Yes.
4 Landscaping ▪ If any landscaping proposals are available, are they compatible with safety requirements (eg. sight lines and hazards in clear zones)?	Yes.
5 Services ▪ Does the design adequately deal with buried and overhead services (especially in regard to overhead clearances, etc)? ▪ Has the location of fixed objects or furniture associated with services been checked, including the position of poles?	Services adjustment plans not provided.
6 Access to property and developments ▪ Can all accesses be used safely? (entry and exit/merging). ▪ Is the design free of any downstream or upstream effects from accesses, particularly near intersections? ▪ Have rest areas and truck parking accesses been checked for adequate sight distance, etc.?	All issues were with respects to the property access.
7 Adjacent developments ▪ Does the design handle accesses to major adjacent generators of traffic and developments safely? ▪ Is the drivers' perception of the road ahead free of misleading effects of any lighting or traffic signals on an adjacent road?	Yes.
8 Emergency vehicles and access ▪ Has provision been made for safe access and movements by emergency vehicles? ▪ Does the design and positioning of medians and vehicle barriers allow emergency vehicles to stop & turn without unnecessarily disrupting traffic?	Yes.

Issue	**Comment**
9 Future widening and/or realignments ▪ If the scheme is only a stage towards a wider or dual carriageway is the design adequate to impart this message to drivers? (Is the reliance on signs minimal/appropriate, rather than excessive?) ▪ Is the transition between single and dual carriageway (either way) handled safely?	Unknown.
10 Staging of the scheme ▪ If the scheme is to be staged or constructed at different times: ▪ Are the construction plans and program arranged to ensure maximum safety? ▪ Do the construction plans and program include specific safety measures, signing; adequate transitional geometry; etc. for any temporary arrangements?	Unknown.
11 Staging of the works ▪ If the construction is to be split into several contracts, are they arranged safely?	Unknown.
12 Maintenance ▪ Can maintenance vehicles be safely located?	Yes. Similar to existing conditions.
2.2 Design issues (general)	
1 Design standards ▪ Is the design speed and speed limit appropriate (eg. consider the terrain; function of the road)? ▪ Has the appropriate design vehicle and check vehicle been used?	Yes.
2 Typical cross sections ▪ Are lane widths, shoulders, medians and other cross section features adequate for the function of the road? ▪ Is the width of traffic lanes and carriageway suitable in relation to: • ▪ Alignment? ▪ Traffic volume? ▪ Vehicle dimensions? ▪ The speed environment? ▪ Combinations of speed and traffic volume? ▪ Are overtaking/climbing lanes provided if needed? ▪ Have adequate clear zones been achieved?	The short left-turn lane in the new access will lack utilisation.

Issue	Comment
3 The effect of cross sectional variation - Is the design free of undesirable variations in cross section design? - Are crossfalls safe? (particularly where sections of existing highway have been utilised or there have been compromises to accommodate accesses, etc.) - Does the cross section avoid unsafe compromises such as narrowings at bridge approaches or past physical features?	See previous.
4 Roadway layout - Are all traffic management features designed so as to avoid creating unsafe conditions? - Is the layout of road markings and reflective materials able to deal satisfactorily with changes in alignment? (particularly where the alignment may be substandard.)	Fundamental problem with having two accesses side-by-side and with two differing control methods.
5 Shoulders and edge treatment - Are the following safety aspects of shoulder provision satisfactory: - Provision of sealed or unsealed shoulders? - Width and treatment on embankments? - Cross fall of shoulders? - Are the shoulders likely to be safe if used by slow moving vehicles or cyclists? - Are any rest areas and truck parking areas safely designed?	Kerbed road.
6 Effect of departures from standards or guidelines - Any approved departures from standards or guidelines: is safety maintained? - Any hitherto undetected departures from standards: is safety maintained?	Yes.
2.3 Alignment details	
1 Geometry of horizontal and vertical alignment - Does the horizontal and vertical design fit together correctly? - Is the design free of visual cues that would cause a driver to misread the road characteristics (eg. visual illusions, subliminal delineation such as lines of trees, poles, etc.)? - Does the alignment provide for speed consistency?	Horizontal kink in southbound lanes raised.

Issue	**Comment**
2 Visibility; sight distance ▪ Are horizontal and vertical alignments consistent with the visibility requirements? ▪ Will the design be free of sight line obstructions due to: ▪ Safety fences or barriers? ▪ Boundary fences? ▪ Street furniture? ▪ Parking facilities? ▪ Signs? ▪ Landscaping? ▪ Bridge abutments? ▪ Parked vehicles in laybys or at the kerb? ▪ Queued traffic? ▪ Are railway crossings, bridges and other hazards all conspicuous? ▪ Is the design free of any other local features which may affect visibility?	Yes.
3 New/existing road interface ▪ Does the interface occur well away from any hazard? (eg. a crest, a bend, a roadside hazard or where poor visibility/distractions may occur.) ▪ If carriageway standards differ, is the change effected safely? ▪ Is the transition where the road environment changes (eg. urban to rural; restricted to unrestricted; lit to unlit) Is it done safely? ▪ Has the need for advance warning been considered?	Yes.
4 'Readability' of the alignment by drivers ▪ Will the general layout, function and broad features be recognised by drivers in sufficient time? ▪ Will approach speeds be suitable and can drivers correctly track through the scheme?	Yes.
2.4 Intersections	

Issue	Comment
1 Visibility to and visibility at intersections ▪ Are horizontal and vertical alignments at the intersection or on the approaches to the intersection consistent with the visibility requirements? ▪ Will drivers be aware of the presence of the intersection (especially on the minor road approach)? ▪ Will the design be free of sight line obstructions due to: ▪ Safety fences or barriers? ▪ Boundary fences? ▪ Street furniture? ▪ Parking facilities? ▪ Signs? ▪ Landscaping? ▪ Bridge abutments? ▪ Are railway crossings, bridges and other hazards near intersections conspicuous? ▪ Will the design be free of any local features which adversely affect visibility? ▪ Will intersection sight lines be obstructed by permanent or temporary features such as parked vehicles in laybys, or by parked or queued traffic generally?	Yes.
2 Layout, including the appropriateness of type ▪ Is the type of intersection selected (cross roads, T, roundabout, signalised, etc.) appropriate for the function of the two roads? ▪ Are the proposed controls (Give Way, Stop, Signals, etc.) appropriate for the particular intersection? ▪ Are junction sizes appropriate for all vehicle movements? ▪ Are the intersections free of any unusual features which could affect road safety? ▪ Are the lane widths and swept paths adequate for all vehicles? ▪ Is the design free of any upstream or downstream geometric features which could affect safety? (eg. merging of lanes.) ▪ Are the approach speeds consistent with the intersection design? ▪ Where a roundabout is proposed: ▪ Have pedal cycle movements been considered? ▪ Have pedestrian movements been considered? ▪ Are details regarding the circulating carriageway sufficient?	Fundamental problem with having two accesses side-by-side and with two differing control methods.

Issue	**Comment**
3 Readability by drivers ▪ Will the general type, function and broad features be perceived correctly by drivers? ▪ Are the approach speeds and likely positions of vehicles as they track through the scheme safe? ▪ Is the design free of sunrise or sunset problems which may create a hazard for motorists?	Yes.
2.5 Special road users	
1 Adjacent land ▪ Will the scheme be free of adverse effects from adjacent activity and intensity of land use? (If not, what special measures are needed?	Yes.
2 Pedestrians ▪ Have pedestrian needs been satisfactorily considered? ▪ If footpaths are not specifically provided, is the road layout safe for use by pedestrians (particularly at blind corners or on bridges)? ▪ Are pedestrian subways or footbridges sited to provide maximum use? (i.e. Is the possibility of pedestrians crossing at grade in their vicinity minimised?) ▪ Has specific provision been made for pedestrian crossings, school crossings or pedestrian signals? ▪ Where present, are these facilities sited to provide maximum use with safety? ▪ Are pedestrian refuges/kerb extensions provided where needed? ▪ Has specific consideration been given to provision required for special groups (eg. young, elderly, disabled, deaf or blind)?	Pedestrians on the eastern side of the crossing will be signal controlled, but will be subjected to two traffic streams that are controlled by entirely different means.
3 Cyclists ▪ Have the needs of cyclists been satisfactorily considered, especially at intersections? ▪ Have cycle lanes been considered? ▪ Are all cycleways of standard or adequate design? ▪ Where a need for shared pedestrian/cycle facilities exists, have they been safely treated? ▪ Where cycleways terminate at intersections or adjacent to the carriageway, has the transition treatment been handled safely? ▪ Have any needs for special cycle facilities been satisfactorily considered? (eg. cycle signals)	Yes.

Issue	Comment
4 Motorcyclists ▪ Has the location of devices or objects which might destabilise a motorcycle been avoided on the road surface? ▪ Will warning or delineation be adequate for motorcyclists? ▪ Has barrier kerb been avoided in high speed areas? ▪ In areas more likely to have motorcycles run off the road is the roadside forgiving or safely shielded?	Yes.
5 Equestrians and stock ▪ Have the needs of equestrians been considered, including the use of verges or shoulders and rules regarding the use of the carriageway? ▪ Can underpass facilities be used by equestrians/stock?	NA.
6 Freight ▪ Have the needs of truck drivers been considered, including turning radii and lane widths?	Most issues will affect trucks.
7 Public transport ▪ Has public transport been catered for? ▪ Have the needs of public transport users been considered? ▪ Have the manoeuvring needs of public transport vehicles been considered? ▪ Are bus stops well positioned for safety?	Yes.
8 Road maintenance vehicles ▪ Has provision been made for road maintenance vehicles to be used safely at the site?	Yes.
2.6 Signs and lighting	
1 Lighting ▪ Is this project to be lit? Will safety be maintained if the project is not lit? ▪ Is the design free of features which make illuminating sections of the road difficult (eg. Shadow from trees or overbridges)? ▪ Has the question of siting of lighting poles been considered as part of the general concept of the scheme? ▪ Are frangible or slip-base poles to be provided? ▪ Are any special needs created by ambient lighting? Will safety be maintained if special treatments are not provided? ▪ Have the safety consequences of vehicles striking lighting poles (of any type) been considered?	Assumed to be similar to existing.

Issue	**Comment**
2 Signs ▪ Are signs appropriate for their location? ▪ Are signs located where they can be seen and read in adequate time? ▪ Will signs be readily understood? ▪ Are signs located so that visibility to and from accesses and intersecting roads is maintained? ▪ Are signs appropriate to the driver's needs (eg. destination signs, advisory speed signs, etc.)? ▪ Have the safety consequences of vehicles striking sign posts been considered? ▪ Are signs located so that drivers' sight distance is maintained? ▪ Any signs to be located in the clear zone: are they frangible or adequately shielded by a crash barrier?	Signage not included on the plans since these were only concept level plans.
3 Marking and delineation ▪ Has the appropriate standard of delineation and marking been adopted? ▪ Are the proposed markings consistent with the works in the adjoining section of the route? ▪ Are the previous/adjacent markings to be upgraded? If not, will safety be maintained?	Southbound lanes will have a horizontal kink.
2.7 Traffic management	
1 Traffic flow and access restrictions ▪ Can traffic volumes from the proposed scheme be safely accommodated on existing sections of road? ▪ Has parking provision and parking control been adequately considered? ▪ Can any turn bans be implemented without causing problems at adjacent intersections? ▪ Has the effect of access to future developments been considered? ▪ Any traffic diverting to other roads (eg. to avoid a traffic control device): is safety maintained?	Traffic management issues identified with short left-turn lane from Bunnings.

Issue	**Comment**
2 Overtaking and merges ▪ Is overtaking sight distance and stopping distance adequate? ▪ Have suitable shoulder widths been provided at lane drop merges? ▪ Have standard signs and markings been provided for any lane drop? ▪ Has adequate sight distance been provided to any lane drop? ▪ Are shoulders wide enough opposite access points and intersections?	NA. Multi-lane road.
3 Rest areas and stopping zones Are there sufficient roadside stopping areas, rest areas and truck parking areas? Are any entries and exits to rest areas or truck parking areas safe?	NA.
4 Construction and operation ▪ If the scheme is to be constructed "under traffic", can this be done so safely? ▪ Can the scheme be safely constructed? ▪ Have the maintenance requirements been adequately considered? ▪ Is safe access to and from the works available?	Road occupancy required.
2.8 Additional questions to be considered for development proposals	Questions omitted as they were adequately covered in other checklist questions.
2.9 Any other matter	
1 Safety aspects not already covered ▪ Will there be special events? Have any consequent unusual or hazardous conditions been considered? ▪ Is the road able to safely handle oversize vehicles, or large vehicles like trucks, buses, emergency vehicles, road maintenance vehicles? ▪ If required, can the road be closed for special events in a safe manner? ▪ If applicable, are special requirements of scenic or tourist routes satisfied?	No.

APPENDIX D

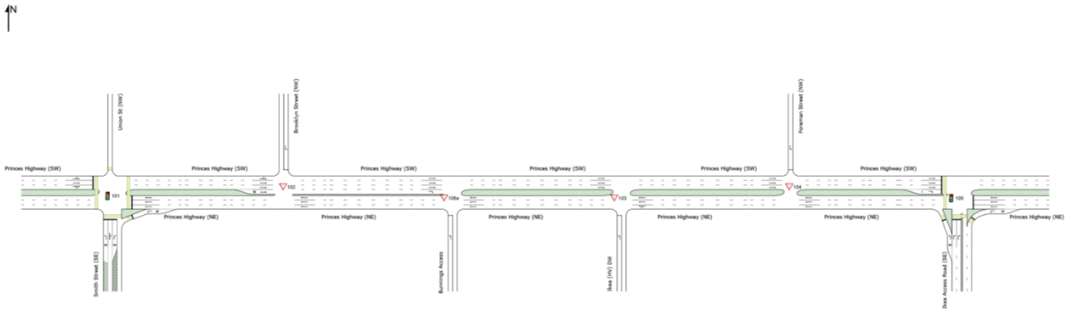
SIDRA Movement Summaries

NETWORK LAYOUT

Network: N101 [Approved AM (Network Folder: Approved)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
101	NA	101 AM APPROVED Princes Hwy, Smith St & Union St
▽102	NA	102 AM APPROVED Princes Hwy & Brooklyn St
▽103	NA	103 AM APPROVED Princes Hwy & Ikea (HV) DW
▽104	NA	104 AM APPROVED Princes Hwy & Foreman St
105	NA	105 AM APPROVED Princes Hwy & Ikea Access Road
▽106v	NA	106 AM APPROVED Princes Hwy & Bunnings Access

Organisation: TRAFFIX PTY LTD | Licence: NETWORK / 1PC | Created: Wednesday, 10 August 2022 4:19:42 PM
Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study **Template: Phase Summaries**

Site: 101 [101 AM APPROVED Princes Hwy, Smith St & Union St (Site Folder: Approved AM - Network)] **Network: 5 [Approved AM (Network Folder: Approved)]**

Intersection: Princes Hwy, Smith St & Union St
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

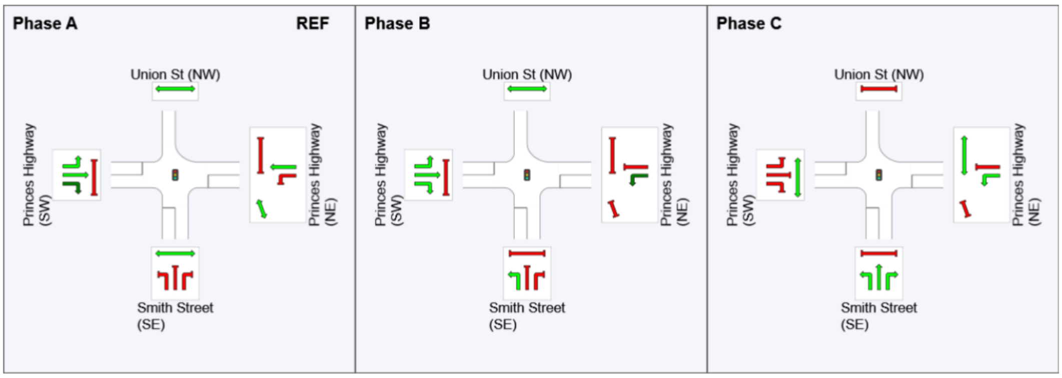
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

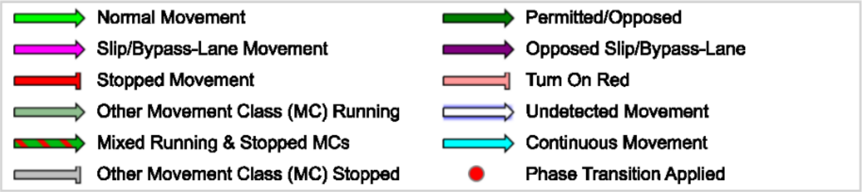
Phase	A	B	C
Phase Change Time (sec)	0	27	98
Green Time (sec)	21	65	16
Phase Time (sec)	27	71	22
Phase Split	23%	59%	18%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



→	Normal Movement	→	Permitted/Opposed
→	Slip/Bypass-Lane Movement	→	Opposed Slip/Bypass-Lane
⊣	Stopped Movement	⊣	Turn On Red
→	Other Movement Class (MC) Running	⇒	Undetected Movement
→	Mixed Running & Stopped MCs	→	Continuous Movement
⊣	Other Movement Class (MC) Stopped	●	Phase Transition Applied

Site: 105 [105 AM APPROVED Princes Hwy & Ikea Access Road (Site Folder: Approved AM - Network)]

Network: 5 [Approved AM (Network Folder: Approved)]

Intersection: Princes Hwy & Ikea Access Road
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

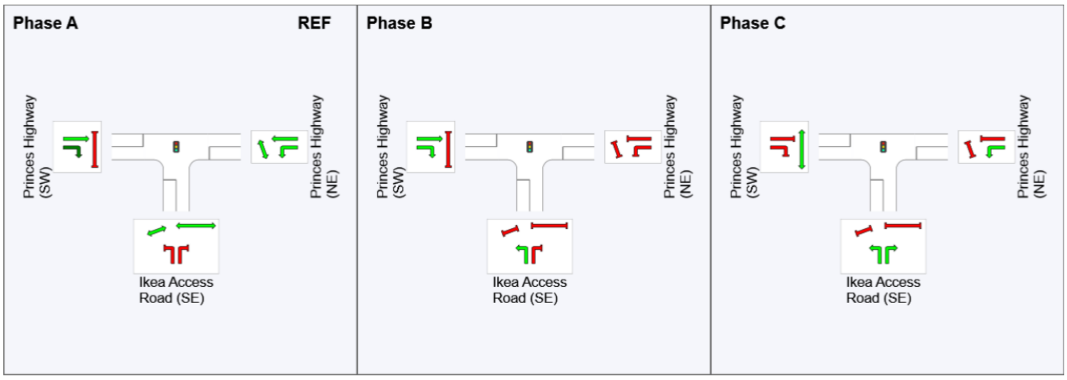
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	26	117	14
Green Time (sec)	85	11	6
Phase Time (sec)	91	17	12
Phase Split	76%	14%	10%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

🟩	Normal Movement	🟩	Permitted/Opposed
🟪	Slip/Bypass-Lane Movement	🟪	Opposed Slip/Bypass-Lane
🟥	Stopped Movement	🟥	Turn On Red
🟩	Other Movement Class (MC) Running	⇨	Undetected Movement
▨	Mixed Running & Stopped MCs	🟦	Continuous Movement
⬜	Other Movement Class (MC) Stopped	●	Phase Transition Applied

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Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Movement Summaries

Site: 101 [101 AM APPROVED Princes Hwy, Smith St & Union St (Site Folder: Approved AM - Network)]

Network: 5 [Approved AM (Network Folder: Approved)]

Intersection: Princes Hwy, Smith St & Union St
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total	HV]	[Total	HV]				[Veh.	Dist]				
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Smith Street (SE)														
1	L2	29	7.1	29	7.1	0.023	9.1	LOS A	0.5	3.4	0.28	0.59	0.28	36.0
2	T1	15	0.0	15	0.0	*0.170	49.6	LOS D	2.2	16.2	0.92	0.72	0.92	23.0
3	R2	67	7.8	67	7.8	0.170	54.8	LOS D	2.2	16.2	0.92	0.72	0.92	14.0
Approach		112	6.6	112	6.6	0.170	42.1	LOS C	2.2	16.2	0.75	0.69	0.75	19.0
East: Princes Highway (NE)														
4	L2	47	0.0	47	0.0	0.045	9.8	LOS A	0.7	5.2	0.33	0.62	0.33	37.9
5	T1	796	0.0	796	0.0	*0.754	52.7	LOS D	15.7	109.7	1.00	0.89	1.08	10.7
Approach		843	0.0	843	0.0	0.754	50.3	LOS D	15.7	109.7	0.96	0.87	1.04	11.6
West: Princes Highway (SW)														
10	L2	33	3.2	33	3.2	0.702	12.6	LOS A	29.1	211.6	0.54	0.51	0.54	41.5
11	T1	2941	4.8	2941	4.8	0.702	7.7	LOS A	29.1	212.0	0.55	0.54	0.55	28.2
12	R2	54	0.0	54	0.0	*0.702	14.8	LOS B	24.2	175.9	0.59	0.61	0.59	38.4
Approach		3027	4.7	3027	4.7	0.702	7.9	LOS A	29.1	212.0	0.56	0.54	0.56	28.9
All Vehicles		3982	3.7	3982	3.7	0.754	17.8	LOS B	29.1	212.0	0.65	0.62	0.66	19.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Site: 102 [102 AM APPROVED Princes Hwy & Brooklyn St (Site Folder: Approved AM - Network)]

Network: 5 [Approved AM (Network Folder: Approved)]

Intersection: Princes Hwy & Brooklyn St
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Princes Highway (NE)														
5	T1	954	10.3	954	10.3	0.281	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		954	10.3	954	10.3	0.281	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.7
North: Brooklyn Street (NW)														
7	L2	24	4.3	24	4.3	0.036	8.4	LOS A	0.1	1.0	0.56	0.71	0.56	40.8
Approach		24	4.3	24	4.3	0.036	8.4	LOS A	0.1	1.0	0.56	0.71	0.56	40.8
West: Princes Highway (SW)														
10	L2	18	11.8	18	11.8	0.399	5.0	LOS A	0.0	0.0	0.00	0.01	0.00	55.9
11	T1	2994	4.9	2994	4.9	0.399	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.4
Approach		3012	4.9	3012	4.9	0.399	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.3
All Vehicles		3989	6.2	3989	6.2	0.399	0.1	NA	0.1	1.0	0.00	0.01	0.00	58.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 103 [103 AM APPROVED Princes Hwy & Ikea (HV) DW (Site Folder: Approved AM - Network)]

Network: 5 [Approved AM (Network Folder: Approved)]

Intersection: Princes Hwy & Ikea (HV) DW
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea (HV) DW														
1	L2	1	0.0	1	0.0	0.001	2.2	LOS A	0.0	0.0	0.36	0.30	0.36	24.2
Approach		1	0.0	1	0.0	0.001	2.2	LOS A	0.0	0.0	0.36	0.30	0.36	24.2
East: Princes Highway (NE)														
4	L2	1	0.0	1	0.0	0.172	2.1	LOS A	0.0	0.0	0.00	0.00	0.00	56.8
5	T1	939	10.4	939	10.4	0.172	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		940	10.4	940	10.4	0.172	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.6
West: Princes Highway (SW)														
11	T1	2987	4.9	2987	4.9	0.527	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
Approach		2987	4.9	2987	4.9	0.527	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.5
All Vehicles		3928	6.2	3928	6.2	0.527	0.0	NA	0.0	0.0	0.00	0.00	0.00	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▽ Site: 104 [104 AM APPROVED Princes Hwy & Foreman St (Site Folder: Approved AM - Network)]

Network: 5 [Approved AM (Network Folder: Approved)]

Intersection: Princes Hwy & Foreman St
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	DEMAND FLOWS HV] %	ARRIVAL FLOWS [Total veh/h	ARRIVAL FLOWS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	95% BACK OF QUEUE Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Princes Highway (NE)														
5	T1	939	10.4	939	10.4	0.171	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		939	10.4	939	10.4	0.171	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Foreman Street (NW)														
7	L2	31	3.4	31	3.4	0.072	11.8	LOS A	0.2	1.6	0.73	0.87	0.73	38.0
Approach		31	3.4	31	3.4	0.072	11.8	LOS A	0.2	1.6	0.73	0.87	0.73	38.0
West: Princes Highway (SW)														
11	T1	2987	4.9	2987	4.9	0.527	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
Approach		2987	4.9	2987	4.9	0.527	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.5
All Vehicles		3957	6.2	3957	6.2	0.527	0.1	NA	0.2	1.6	0.01	0.01	0.01	57.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 105 [105 AM APPROVED Princes Hwy & Ikea Access Road (Site Folder: Approved AM - Network)]

Network: 5 [Approved AM (Network Folder: Approved)]

Intersection: Princes Hwy & Ikea Access Road
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

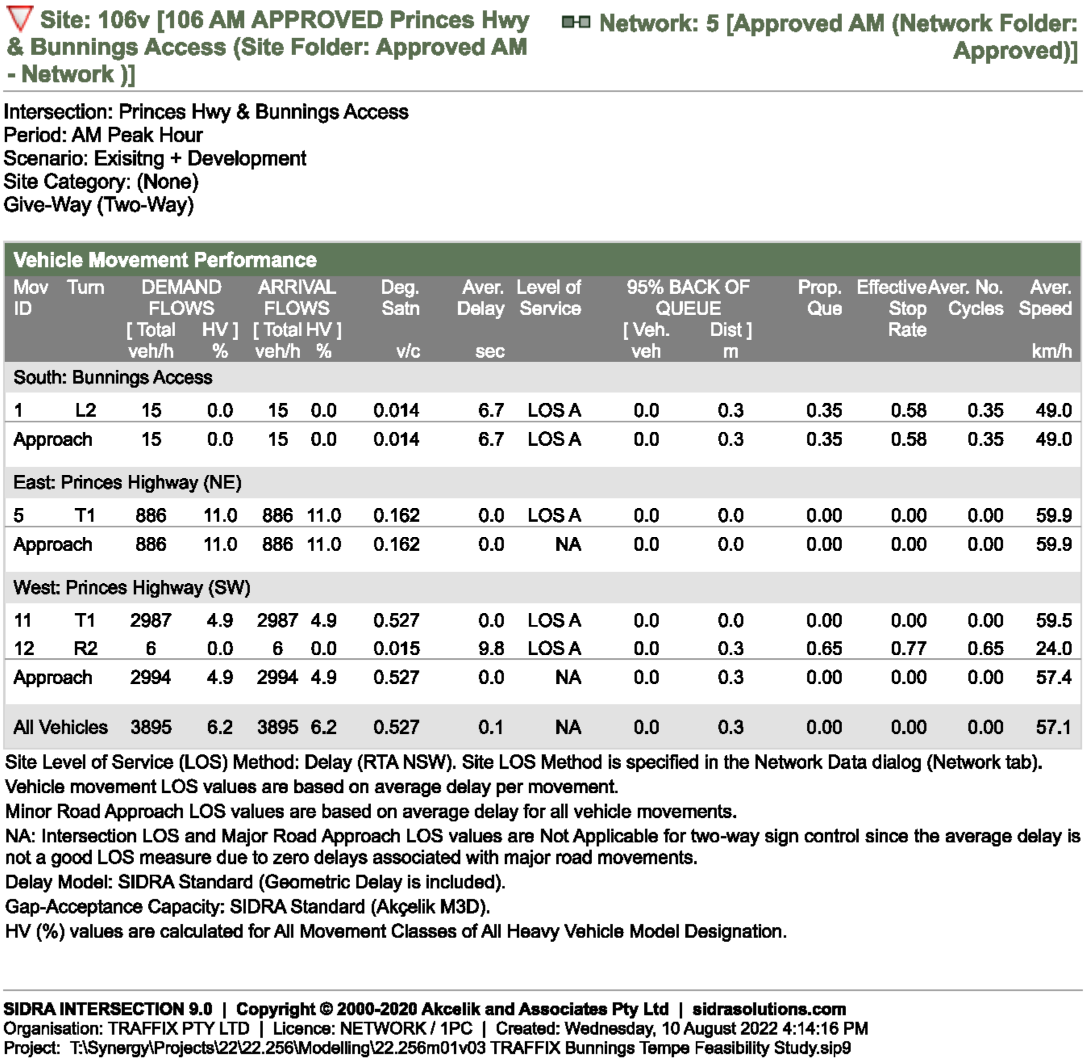
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea Access Road (SE)														
1	L2	9	0.0	9	0.0	0.029	45.9	LOS D	0.4	3.1	0.83	0.66	0.83	6.7
3	R2	13	41.7	13	41.7	* 0.076	65.5	LOS E	0.4	3.5	0.97	0.66	0.97	12.2
Approach		22	23.8	22	23.8	0.076	57.1	LOS E	0.4	3.5	0.91	0.66	0.91	10.6
East: Princes Highway (NE)														
4	L2	22	28.6	22	28.6	0.017	8.0	LOS A	0.2	2.0	0.19	0.56	0.19	39.3
5	T1	928	11.6	928	11.6	0.238	6.1	LOS A	6.0	46.5	0.37	0.32	0.37	41.9
Approach		951	12.0	951	12.0	0.238	6.1	LOS A	6.0	46.5	0.36	0.33	0.36	41.8
West: Princes Highway (SW)														
11	T1	2959	5.0	2959	5.0	* 0.617	2.7	LOS A	17.2	125.9	0.32	0.30	0.32	53.9
12	R2	43	0.0	43	0.0	0.110	8.3	LOS A	0.5	3.7	0.26	0.62	0.26	34.9
Approach		3002	4.9	3002	4.9	0.617	2.7	LOS A	17.2	125.9	0.32	0.31	0.32	53.6
All Vehicles		3975	6.7	3975	6.7	0.617	3.9	LOS A	17.2	125.9	0.34	0.31	0.34	50.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)



▽ Site: 106v [106 AM APPROVED Princes Hwy & Bunnings Access (Site Folder: Approved AM - Network)]

Network: 5 [Approved AM (Network Folder: Approved)]

Intersection: Princes Hwy & Bunnings Access
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Bunnings Access														
1	L2	15	0.0	15	0.0	0.014	6.7	LOS A	0.0	0.3	0.35	0.58	0.35	49.0
Approach		15	0.0	15	0.0	0.014	6.7	LOS A	0.0	0.3	0.35	0.58	0.35	49.0
East: Princes Highway (NE)														
5	T1	886	11.0	886	11.0	0.162	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		886	11.0	886	11.0	0.162	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
West: Princes Highway (SW)														
11	T1	2987	4.9	2987	4.9	0.527	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
12	R2	6	0.0	6	0.0	0.015	9.8	LOS A	0.0	0.3	0.65	0.77	0.65	24.0
Approach		2994	4.9	2994	4.9	0.527	0.0	NA	0.0	0.3	0.00	0.00	0.00	57.4
All Vehicles		3895	6.2	3895	6.2	0.527	0.1	NA	0.0	0.3	0.00	0.00	0.00	57.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Phase Summaries

Site: 101 [101 PM APPROVED Princes Hwy, Smith St & Union St (Site Folder: Approved PM - Network)]

Network: 6 [Approved PM (Network Folder: Approved)]

Intersection: Princes Hwy, Smith St & Union St
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

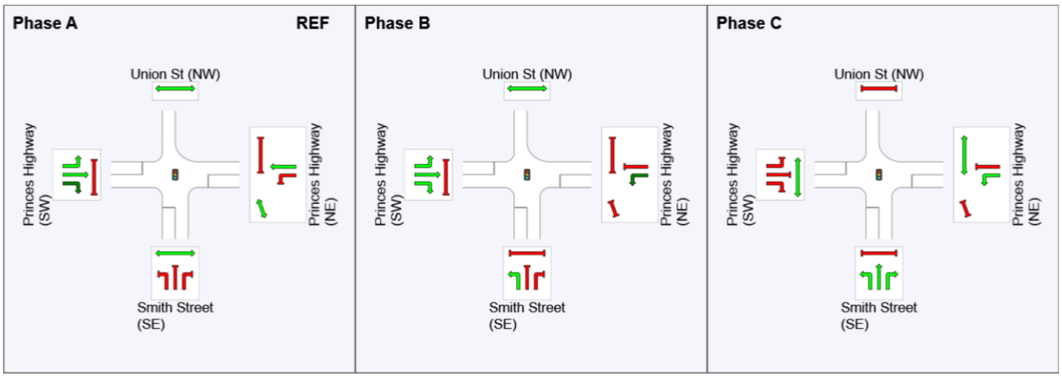
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

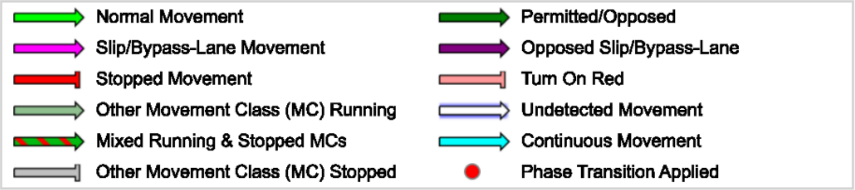
Phase	A	B	C
Phase Change Time (sec)	0	75	98
Green Time (sec)	69	17	16
Phase Time (sec)	75	23	22
Phase Split	63%	19%	18%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase


Normal Movement
Permitted/Opposed
Slip/Bypass-Lane Movement
Opposed Slip/Bypass-Lane
Stopped Movement
Turn On Red
Other Movement Class (MC) Running
Undetected Movement
Mixed Running & Stopped MCs
Continuous Movement
Other Movement Class (MC) Stopped
Phase Transition Applied

Site: 105 [105 PM APPROVED Princes Hwy & Ikea Access Road (Site Folder: Approved PM - Network)]

Network: 6 [Approved PM (Network Folder: Approved)]

Intersection: Princes Hwy & Ikea Access Road
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

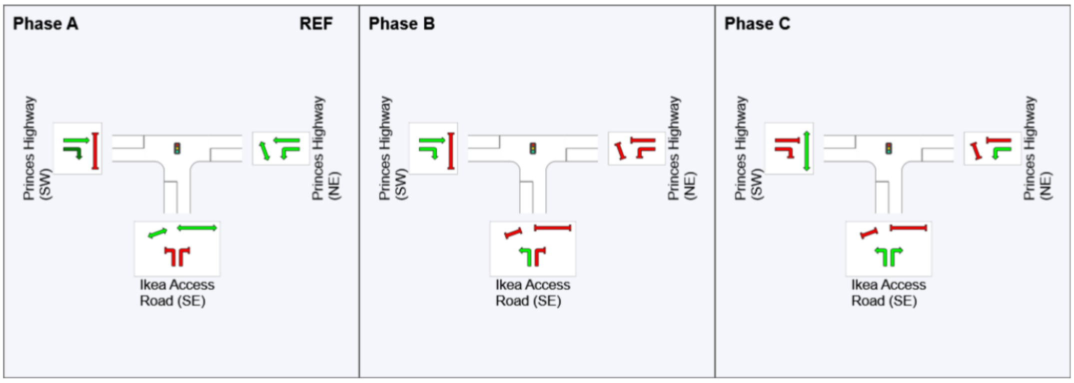
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	94	70	82
Green Time (sec)	90	6	6
Phase Time (sec)	96	12	12
Phase Split	80%	10%	10%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

➡	Normal Movement	➡	Permitted/Opposed
➡	Slip/Bypass-Lane Movement	➡	Opposed Slip/Bypass-Lane
⊣	Stopped Movement	⊣	Turn On Red
➡	Other Movement Class (MC) Running	⇨	Undetected Movement
➡	Mixed Running & Stopped MCs	➡	Continuous Movement
⊣	Other Movement Class (MC) Stopped	●	Phase Transition Applied

Organisation: TRAFFIX PTY LTD | Licence: NETWORK / 1PC | Created: Thursday, 11 August 2022 10:34:31 AM
Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Movement Summaries

Site: 101 [101 PM APPROVED Princes Hwy, Smith St & Union St (Site Folder: Approved PM - Network)]

Network: 6 [Approved PM (Network Folder: Approved)]

Intersection: Princes Hwy, Smith St & Union St
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Smith Street (SE)														
1	L2	72	1.5	72	1.5	0.117	34.1	LOS C	2.9	20.4	0.73	0.72	0.73	21.9
2	T1	56	0.0	56	0.0	*0.349	51.1	LOS D	5.1	35.7	0.95	0.75	0.95	22.9
3	R2	131	0.0	131	0.0	0.349	55.7	LOS D	5.1	35.7	0.95	0.77	0.95	13.8
Approach		258	0.4	258	0.4	0.349	48.7	LOS D	5.1	35.7	0.89	0.75	0.89	18.2
East: Princes Highway (NE)														
4	L2	84	5.0	84	5.0	0.180	36.3	LOS C	3.6	26.1	0.78	0.73	0.78	21.5
5	T1	2737	2.7	2737	2.7	*0.840	22.8	LOS B	17.1	122.4	0.87	0.82	0.89	20.1
Approach		2821	2.8	2821	2.8	0.840	23.2	LOS B	17.1	122.4	0.86	0.81	0.88	20.2
West: Princes Highway (SW)														
10	L2	32	6.7	32	6.7	0.504	10.0	LOS A	9.7	70.0	0.34	0.33	0.34	44.2
11	T1	1260	3.3	1260	3.3	0.504	9.0	LOS A	13.7	98.0	0.43	0.39	0.43	25.7
12	R2	66	0.0	66	0.0	*0.504	37.3	LOS C	13.7	98.0	0.88	0.78	0.88	23.3
Approach		1358	3.3	1358	3.3	0.504	10.4	LOS A	13.7	98.0	0.45	0.41	0.45	26.1
All Vehicles		4437	2.8	4437	2.8	0.840	20.8	LOS B	17.1	122.4	0.74	0.69	0.75	21.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

▽ Site: 102 [102 PM APPROVED Princes Hwy & Brooklyn St (Site Folder: Approved PM - Network)]

▭▭ Network: 6 [Approved PM (Network Folder: Approved)]

Intersection: Princes Hwy & Brooklyn St
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Princes Highway (NE)														
5	T1	2874	3.4	2874	3.4	0.502	0.0	LOS A	7.9	57.1	0.00	0.00	0.00	59.6
Approach		2874	3.4	2874	3.4	0.502	0.0	NA	7.9	57.1	0.00	0.00	0.00	59.6
North: Brooklyn Street (NW)														
7	L2	7	0.0	7	0.0	0.007	5.8	LOS A	0.0	0.2	0.36	0.53	0.36	43.0
Approach		7	0.0	7	0.0	0.007	5.8	LOS A	0.0	0.2	0.36	0.53	0.36	43.0
West: Princes Highway (SW)														
10	L2	13	8.3	13	8.3	0.179	4.9	LOS A	0.0	0.0	0.00	0.02	0.00	56.2
11	T1	1355	3.5	1355	3.5	0.179	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.4
Approach		1367	3.5	1367	3.5	0.179	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.2
All Vehicles		4248	3.4	4248	3.4	0.502	0.0	NA	7.9	57.1	0.00	0.00	0.00	59.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▽ Site: 103 [103 PM APPROVED Princes Hwy & Ikea (HV) DW (Site Folder: Approved PM - Network)]

Network: 6 [Approved PM (Network Folder: Approved)]

Intersection: Princes Hwy & Ikea (HV) DW
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea (HV) DW														
1	L2	1	0.0	1	0.0	0.004	6.6	LOS A	0.0	0.1	0.68	0.61	0.68	22.9
Approach		1	0.0	1	0.0	0.004	6.6	LOS A	0.0	0.1	0.68	0.61	0.68	22.9
East: Princes Highway (NE)														
4	L2	1	0.0	1	0.0	0.496	2.1	LOS A	1.1	8.2	0.00	0.00	0.00	56.6
5	T1	2837	3.4	2837	3.4	0.496	0.0	LOS A	1.1	8.2	0.00	0.00	0.00	59.5
Approach		2838	3.4	2838	3.4	0.496	0.0	NA	1.1	8.2	0.00	0.00	0.00	59.5
West: Princes Highway (SW)														
11	T1	1342	3.5	1342	3.5	0.235	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1342	3.5	1342	3.5	0.235	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		4181	3.4	4181	3.4	0.496	0.0	NA	1.1	8.2	0.00	0.00	0.00	58.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 104 [104 PM APPROVED Princes Hwy & Foreman St (Site Folder: Approved PM - Network)]

Network: 6 [Approved PM (Network Folder: Approved)]

Intersection: Princes Hwy & Foreman St
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
East: Princes Highway (NE)														
5	T1	2829	3.5	2829	3.5	0.495	0.1	LOS A	18.3	132.1	0.00	0.00	0.00	59.6
Approach		2829	3.5	2829	3.5	0.495	0.1	NA	18.3	132.1	0.00	0.00	0.00	59.6
North: Foreman Street (NW)														
7	L2	21	0.0	21	0.0	0.023	6.4	LOS A	0.1	0.6	0.43	0.61	0.43	42.6
Approach		21	0.0	21	0.0	0.023	6.4	LOS A	0.1	0.6	0.43	0.61	0.43	42.6
West: Princes Highway (SW)														
11	T1	1342	3.5	1342	3.5	0.235	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1342	3.5	1342	3.5	0.235	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		4193	3.5	4193	3.5	0.495	0.1	NA	18.3	132.1	0.00	0.00	0.00	59.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 105 [105 PM APPROVED Princes Hwy & Ikea Access Road (Site Folder: Approved PM - Network)]

Network: 6 [Approved PM (Network Folder: Approved)]

Intersection: Princes Hwy & Ikea Access Road
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total	HV]	[Total	HV]				[Veh.	Dist]				
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Ikea Access Road (SE)														
1	L2	123	1.7	123	1.7	0.505	55.7	LOS D	6.8	48.3	0.96	0.79	0.96	5.6
3	R2	117	3.6	117	3.6	* 0.553	68.0	LOS E	3.6	25.7	1.00	0.76	1.03	12.6
Approach		240	2.6	240	2.6	0.553	61.7	LOS E	6.8	48.3	0.98	0.78	0.99	9.6
East: Princes Highway (NE)														
4	L2	125	1.7	125	1.7	0.079	7.0	LOS A	1.1	7.7	0.16	0.58	0.16	40.9
5	T1	2691	3.0	2691	3.0	* 0.772	8.4	LOS A	29.8	213.7	0.60	0.56	0.60	37.5
Approach		2816	3.0	2816	3.0	0.772	8.4	LOS A	29.8	213.7	0.58	0.56	0.58	37.7
West: Princes Highway (SW)														
11	T1	1354	3.0	1354	3.0	0.275	1.6	LOS A	4.8	34.2	0.20	0.18	0.20	56.0
12	R2	87	0.0	87	0.0	* 0.460	37.0	LOS C	5.0	35.2	0.97	0.86	0.97	16.6
Approach		1441	2.8	1441	2.8	0.460	3.8	LOS A	5.0	35.2	0.25	0.22	0.25	51.2
All Vehicles		4497	2.9	4497	2.9	0.772	9.8	LOS A	29.8	213.7	0.49	0.46	0.50	37.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

▽ Site: 106v [106 PM APPROVED Princes Hwy & Bunnings Access (Site Folder: Approved PM - Network)]

Network: 6 [Approved PM (Network Folder: Approved)]

Intersection: Princes Hwy & Bunnings Access
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bunnings Access														
1	L2	44	0.0	44	0.0	0.184	11.8	LOS A	0.6	4.5	0.70	0.87	0.71	43.5
Approach		44	0.0	44	0.0	0.184	11.8	LOS A	0.6	4.5	0.70	0.87	0.71	43.5
East: Princes Highway (NE)														
5	T1	2837	3.4	2837	3.4	0.496	0.0	LOS A	0.9	6.5	0.00	0.00	0.00	59.6
Approach		2837	3.4	2837	3.4	0.496	0.0	NA	0.9	6.5	0.00	0.00	0.00	59.6
West: Princes Highway (SW)														
11	T1	1342	3.5	1342	3.5	0.235	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
12	R2	13	0.0	13	0.0	0.242	72.9	LOS F	0.6	4.3	0.97	1.00	1.02	13.6
Approach		1355	3.5	1355	3.5	0.242	0.7	NA	0.6	4.3	0.01	0.01	0.01	44.3
All Vehicles		4236	3.4	4236	3.4	0.496	0.3	NA	0.9	6.5	0.01	0.01	0.01	47.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: TRAFFIX PTY LTD | Licence: NETWORK / 1PC | Created: Wednesday, 10 August 2022 4:15:00 PM
Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Phase Summaries

Site: 101 [101 SAT APPROVED Princes Hwy, Smith St & Union St (Site Folder: Approved SAT - Network)]

Network: 9 [Approved SAT (Network Folder: Approved)]

Intersection: Princes Hwy, Smith St & Union St
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

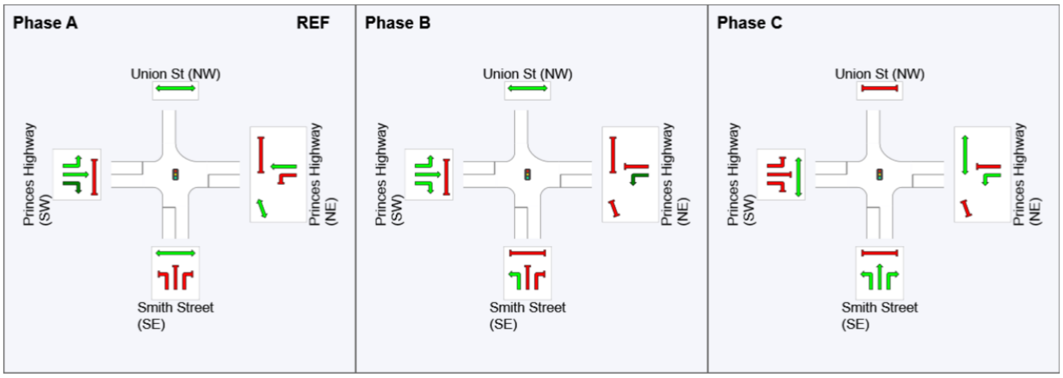
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

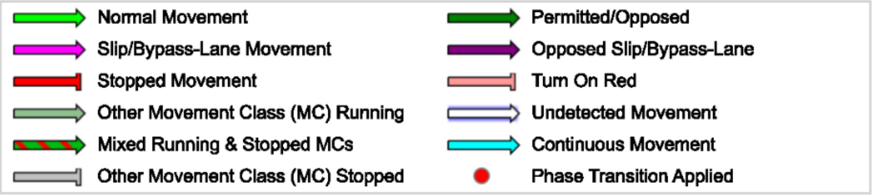
Phase	A	B	C
Phase Change Time (sec)	0	53	102
Green Time (sec)	47	43	12
Phase Time (sec)	53	49	18
Phase Split	44%	41%	15%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase


Normal Movement
Permitted/Opposed
Slip/Bypass-Lane Movement
Opposed Slip/Bypass-Lane
Stopped Movement
Turn On Red
Other Movement Class (MC) Running
Undetected Movement
Mixed Running & Stopped MCs
Continuous Movement
Other Movement Class (MC) Stopped
Phase Transition Applied

Site: 105 [105 SAT APPROVED Princes Hwy & Ikea Access Road (Site Folder: Approved SAT - Network)]

Network: 9 [Approved SAT (Network Folder: Approved)]

Intersection: Princes Hwy & Ikea Access Road
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

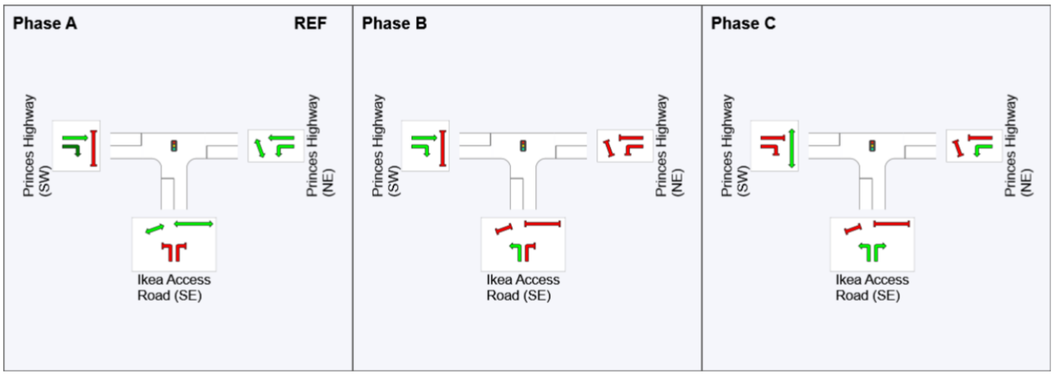
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	94	45	70
Green Time (sec)	65	19	18
Phase Time (sec)	71	25	24
Phase Split	59%	21%	20%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

➡	Normal Movement	➡	Permitted/Opposed
➡	Slip/Bypass-Lane Movement	➡	Opposed Slip/Bypass-Lane
⇥	Stopped Movement	⇥	Turn On Red
➡	Other Movement Class (MC) Running	⇨	Undetected Movement
➡	Mixed Running & Stopped MCs	➡	Continuous Movement
⇥	Other Movement Class (MC) Stopped	●	Phase Transition Applied

Organisation: TRAFFIX PTY LTD | Licence: NETWORK / 1PC | Created: Thursday, 11 August 2022 10:34:55 AM
Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Movement Summaries

Site: 101 [101 SAT APPROVED Princes Hwy, Smith St & Union St (Site Folder: Approved SAT - Network)]

Network: 9 [Approved SAT (Network Folder: Approved)]

Intersection: Princes Hwy, Smith St & Union St
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

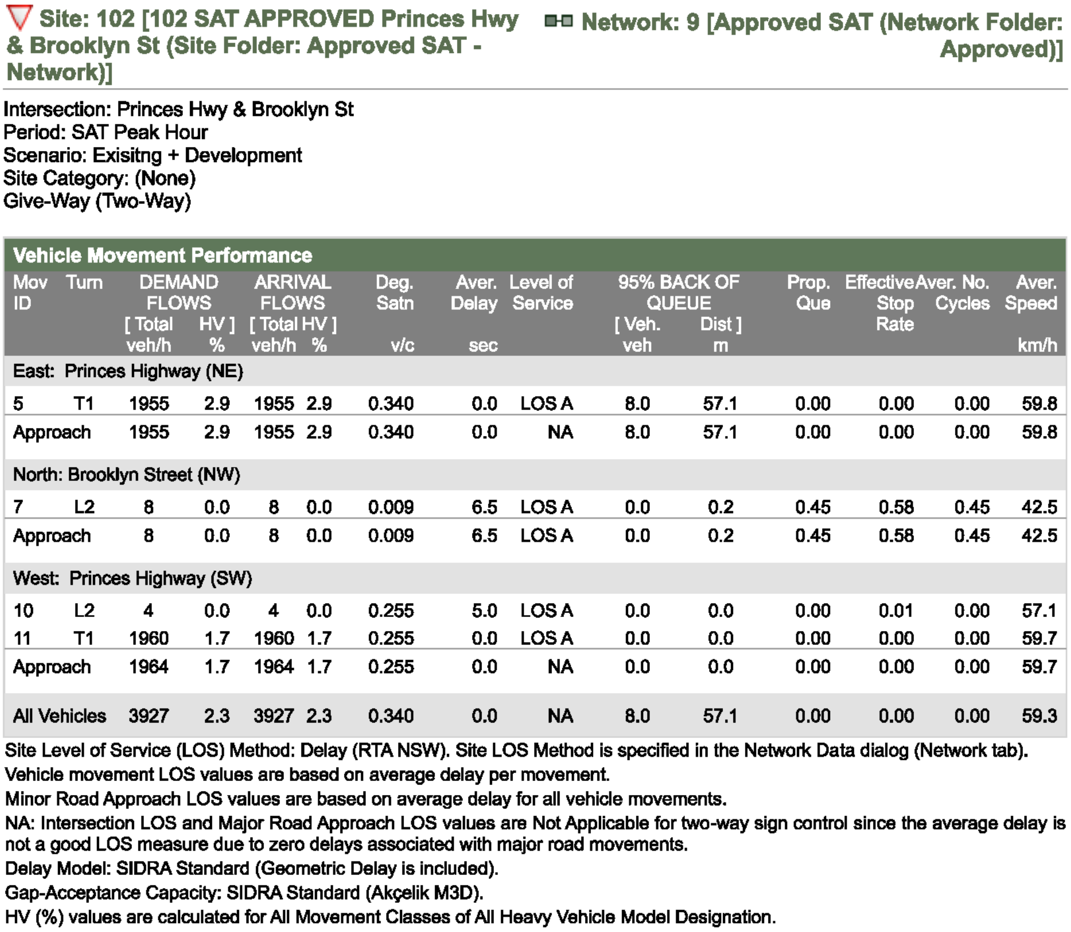
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	DEMAND FLOWS HV] %	ARRIVAL FLOWS [Total veh/h	ARRIVAL FLOWS HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	95% BACK OF QUEUE Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Smith Street (SE)														
1	L2	131	0.8	131	0.8	0.137	20.5	LOS B	3.9	27.4	0.55	0.69	0.55	27.9
2	T1	61	0.0	61	0.0	* 0.863	66.0	LOS E	9.3	65.4	1.00	1.00	1.36	19.8
3	R2	249	0.4	249	0.4	0.863	70.7	LOS F	10.7	75.4	1.00	0.98	1.34	11.5
Approach		441	0.5	441	0.5	0.863	55.2	LOS D	10.7	75.4	0.87	0.90	1.11	16.0
East: Princes Highway (NE)														
4	L2	239	0.4	239	0.4	0.381	27.0	LOS B	9.0	63.6	0.73	0.77	0.73	25.4
5	T1	1716	3.3	1716	3.3	* 0.825	37.5	LOS C	17.0	122.4	0.93	0.89	1.00	14.1
Approach		1955	2.9	1955	2.9	0.825	36.2	LOS C	17.0	122.4	0.91	0.87	0.97	15.5
West: Princes Highway (SW)														
10	L2	21	0.0	21	0.0	0.681	9.1	LOS A	11.5	81.6	0.32	0.30	0.32	45.6
11	T1	1715	1.8	1715	1.8	0.681	8.7	LOS A	22.6	159.6	0.44	0.44	0.44	25.8
12	R2	223	0.0	223	0.0	* 0.681	32.6	LOS C	22.6	159.6	0.84	0.95	0.84	25.0
Approach		1959	1.6	1959	1.6	0.681	11.5	LOS A	22.6	159.6	0.48	0.50	0.48	25.9
All Vehicles		4355	2.1	4355	2.1	0.863	27.0	LOS B	22.6	159.6	0.71	0.71	0.76	18.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)



▽ Site: 102 [102 SAT APPROVED Princes Hwy & Brooklyn St (Site Folder: Approved SAT - Network)]

Network: 9 [Approved SAT (Network Folder: Approved)]

Intersection: Princes Hwy & Brooklyn St
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total	HV]	ARRIVAL FLOWS [Total	HV]	Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE [Veh.	Dist]	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Princes Highway (NE)														
5	T1	1955	2.9	1955	2.9	0.340	0.0	LOS A	8.0	57.1	0.00	0.00	0.00	59.8
Approach		1955	2.9	1955	2.9	0.340	0.0	NA	8.0	57.1	0.00	0.00	0.00	59.8
North: Brooklyn Street (NW)														
7	L2	8	0.0	8	0.0	0.009	6.5	LOS A	0.0	0.2	0.45	0.58	0.45	42.5
Approach		8	0.0	8	0.0	0.009	6.5	LOS A	0.0	0.2	0.45	0.58	0.45	42.5
West: Princes Highway (SW)														
10	L2	4	0.0	4	0.0	0.255	5.0	LOS A	0.0	0.0	0.00	0.01	0.00	57.1
11	T1	1960	1.7	1960	1.7	0.255	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		1964	1.7	1964	1.7	0.255	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.7
All Vehicles		3927	2.3	3927	2.3	0.340	0.0	NA	8.0	57.1	0.00	0.00	0.00	59.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▽ Site: 103 [103 SAT APPROVED Princes Hwy & Ikea (HV) DW (Site Folder: Approved SAT - Network)]

Network: 9 [Approved SAT (Network Folder: Approved)]

Intersection: Princes Hwy & Ikea (HV) DW
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea (HV) DW														
1	L2	1	0.0	1	0.0	0.001	3.7	LOS A	0.0	0.0	0.50	0.41	0.50	23.8
Approach		1	0.0	1	0.0	0.001	3.7	LOS A	0.0	0.0	0.50	0.41	0.50	23.8
East: Princes Highway (NE)														
4	L2	1	0.0	1	0.0	0.321	2.1	LOS A	0.0	0.0	0.00	0.00	0.00	56.7
5	T1	1839	3.1	1839	3.1	0.321	0.0	LOS A	1.1	8.2	0.00	0.00	0.00	59.7
Approach		1840	3.1	1840	3.1	0.321	0.0	NA	1.1	8.2	0.00	0.00	0.00	59.7
West: Princes Highway (SW)														
11	T1	1921	1.7	1921	1.7	0.332	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1921	1.7	1921	1.7	0.332	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		3762	2.4	3762	2.4	0.332	0.0	NA	1.1	8.2	0.00	0.00	0.00	58.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

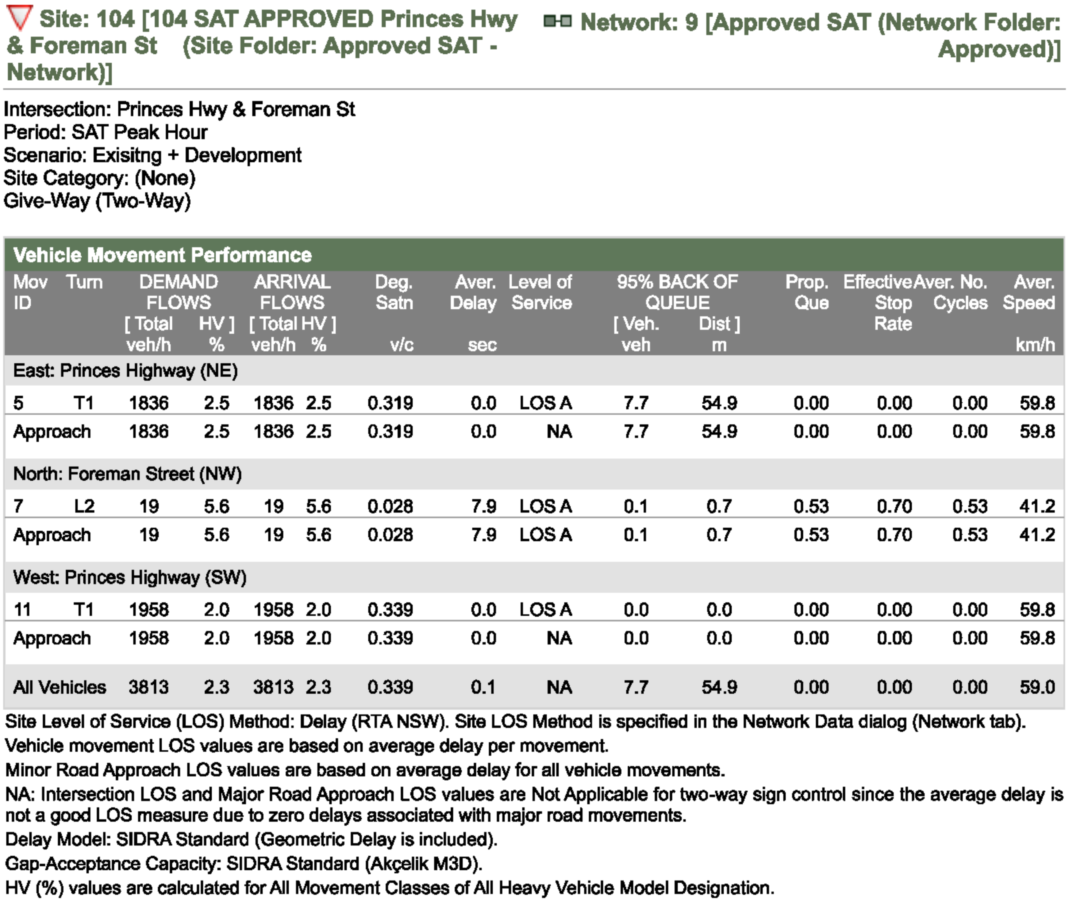
Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



▽ Site: 104 [104 SAT APPROVED Princes Hwy & Foreman St (Site Folder: Approved SAT - Network)]

Network: 9 [Approved SAT (Network Folder: Approved)]

Intersection: Princes Hwy & Foreman St
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Princes Highway (NE)														
5	T1	1836	2.5	1836	2.5	0.319	0.0	LOS A	7.7	54.9	0.00	0.00	0.00	59.8
Approach		1836	2.5	1836	2.5	0.319	0.0	NA	7.7	54.9	0.00	0.00	0.00	59.8
North: Foreman Street (NW)														
7	L2	19	5.6	19	5.6	0.028	7.9	LOS A	0.1	0.7	0.53	0.70	0.53	41.2
Approach		19	5.6	19	5.6	0.028	7.9	LOS A	0.1	0.7	0.53	0.70	0.53	41.2
West: Princes Highway (SW)														
11	T1	1958	2.0	1958	2.0	0.339	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1958	2.0	1958	2.0	0.339	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		3813	2.3	3813	2.3	0.339	0.1	NA	7.7	54.9	0.00	0.00	0.00	59.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 105 [105 SAT APPROVED Princes Hwy & Ikea Access Road (Site Folder: Approved SAT - Network)]

Network: 9 [Approved SAT (Network Folder: Approved)]

Intersection: Princes Hwy & Ikea Access Road
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea Access Road (SE)														
1	L2	203	0.5	203	0.5	0.412	34.2	LOS C	8.6	60.8	0.77	0.76	0.77	8.6
3	R2	311	1.4	311	1.4	*0.570	55.6	LOS D	9.2	65.1	0.97	0.80	0.97	14.6
Approach		514	1.0	514	1.0	0.570	47.2	LOS D	9.2	65.1	0.89	0.79	0.89	13.0
East: Princes Highway (NE)														
4	L2	414	1.0	414	1.0	0.296	10.7	LOS A	7.6	53.6	0.35	0.65	0.35	36.2
5	T1	1633	2.8	1633	2.8	*0.581	18.3	LOS B	23.4	167.4	0.69	0.62	0.69	26.1
Approach		2046	2.4	2046	2.4	0.581	16.7	LOS B	23.4	167.4	0.62	0.62	0.62	28.1
West: Princes Highway (SW)														
11	T1	1649	2.4	1649	2.4	0.378	5.2	LOS A	10.6	76.0	0.37	0.33	0.37	49.2
12	R2	308	0.0	308	0.0	*0.686	42.9	LOS D	15.7	109.7	0.97	1.02	0.97	15.0
Approach		1958	2.0	1958	2.0	0.686	11.1	LOS A	15.7	109.7	0.46	0.44	0.46	39.5
All Vehicles		4518	2.1	4518	2.1	0.686	17.8	LOS B	23.4	167.4	0.58	0.56	0.58	29.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

▽ Site: 106v [106 SAT APPROVED Princes Hwy & Bunnings Access (Site Folder: Approved SAT - Network)]

Network: 9 [Approved SAT (Network Folder: Approved)]

Intersection: Princes Hwy & Bunnings Access
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bunnings Access														
1	L2	105	0.0	105	0.0	0.169	7.9	LOS A	0.4	3.1	0.48	0.73	0.48	47.8
Approach		105	0.0	105	0.0	0.169	7.9	LOS A	0.4	3.1	0.48	0.73	0.48	47.8
East: Princes Highway (NE)														
5	T1	1839	3.1	1839	3.1	0.353	0.0	LOS A	0.9	6.5	0.00	0.00	0.00	59.8
Approach		1839	3.1	1839	3.1	0.353	0.0	NA	0.9	6.5	0.00	0.00	0.00	59.8
West: Princes Highway (SW)														
11	T1	1921	1.7	1921	1.7	0.332	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
12	R2	47	0.0	47	0.0	0.327	31.5	LOS C	1.0	7.0	0.92	1.00	1.06	19.0
Approach		1968	1.7	1968	1.7	0.332	0.8	NA	1.0	7.0	0.02	0.02	0.03	40.0
All Vehicles		3912	2.3	3912	2.3	0.353	0.6	NA	1.0	7.0	0.02	0.03	0.03	44.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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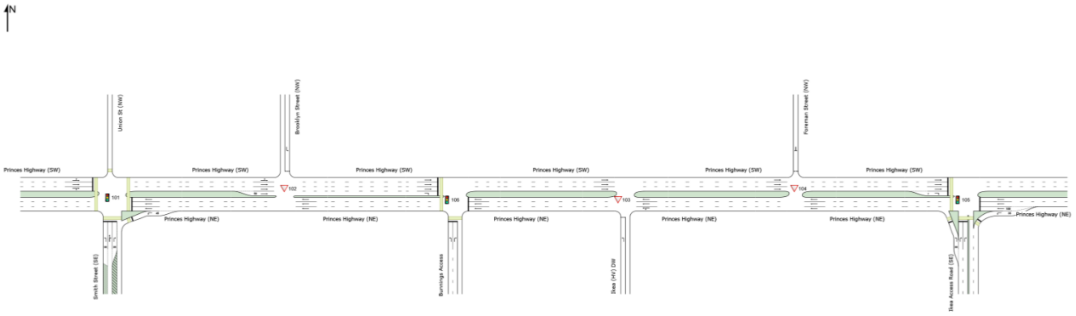
Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

NETWORK LAYOUT

Network: N101 [DEV AM Network (Network Folder: Proposed)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
🚦 101	NA	101 AM DEV Princes Hwy, Smith St & Union St
▽ 102	NA	102 AM DEV Princes Hwy & Brooklyn St
▽ 103	NA	103 AM DEV Princes Hwy & Ikea (HV) DW
▽ 104	NA	104 AM DEV Princes Hwy & Foreman St
🚦 105	NA	105 AM DEV Princes Hwy & Ikea Access Road
🚦 106	NA	106 AM DEV Princes Hwy & Bunnings Access

Organisation: TRAFFIX PTY LTD | Licence: NETWORK / 1PC | Created: Wednesday, 10 August 2022 4:19:05 PM
Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Phase Summaries

Site: 101 [101 AM DEV Princes Hwy, Smith St & Union St (Site Folder: Proposed AM - Network)]

Network: 3 [DEV AM Network (Network Folder: Proposed)]

Intersection: Princes Hwy, Smith St & Union St
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

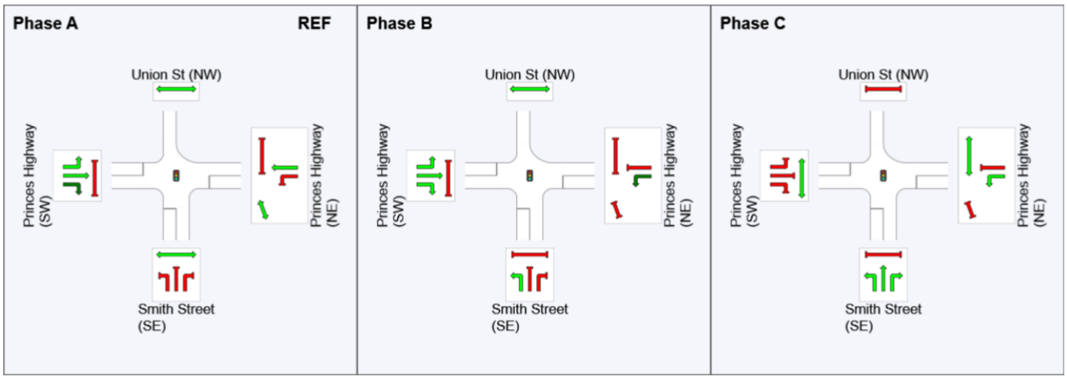
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

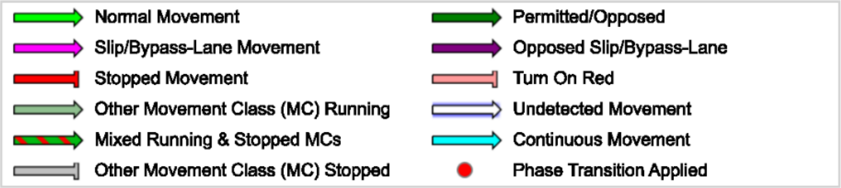
Phase	A	B	C
Phase Change Time (sec)	0	35	116
Green Time (sec)	29	75	18
Phase Time (sec)	35	81	24
Phase Split	25%	58%	17%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase


Normal Movement
Slip/Bypass-Lane Movement
Stopped Movement
Other Movement Class (MC) Running
Mixed Running & Stopped MCs
Other Movement Class (MC) Stopped
Permitted/Opposed
Opposed Slip/Bypass-Lane
Turn On Red
Undetected Movement
Continuous Movement
Phase Transition Applied

Site: 105 [105 AM DEV Princes Hwy & Ikea Access Road (Site Folder: Proposed AM - Network)]

Network: 3 [DEV AM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Ikea Access Road
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

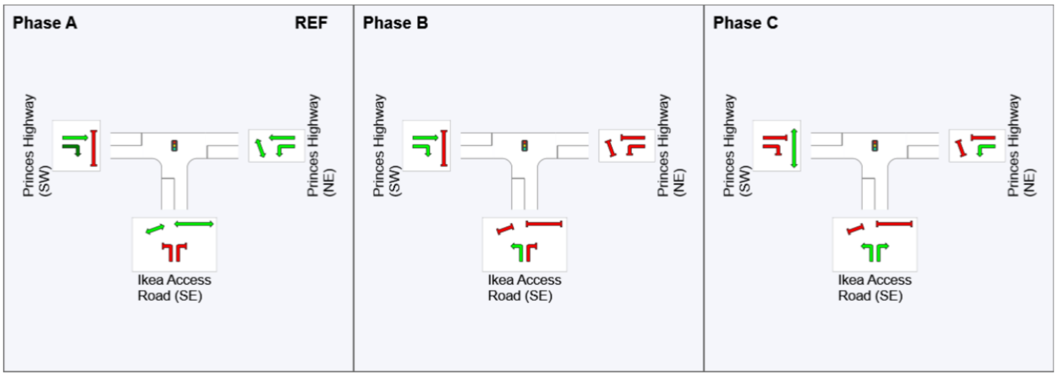
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	26	135	14
Green Time (sec)	103	13	6
Phase Time (sec)	109	19	12
Phase Split	78%	14%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

➡	Normal Movement	➡	Permitted/Opposed
➡	Slip/Bypass-Lane Movement	➡	Opposed Slip/Bypass-Lane
⊣	Stopped Movement	⊣	Turn On Red
➡	Other Movement Class (MC) Running	⇨	Undetected Movement
➡	Mixed Running & Stopped MCs	➡	Continuous Movement
⊣	Other Movement Class (MC) Stopped	●	Phase Transition Applied

Site: 106 [106 AM DEV Princes Hwy & Bunnings Access (Site Folder: Proposed AM - Network)]

Network: 3 [DEV AM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Bunnings Access
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

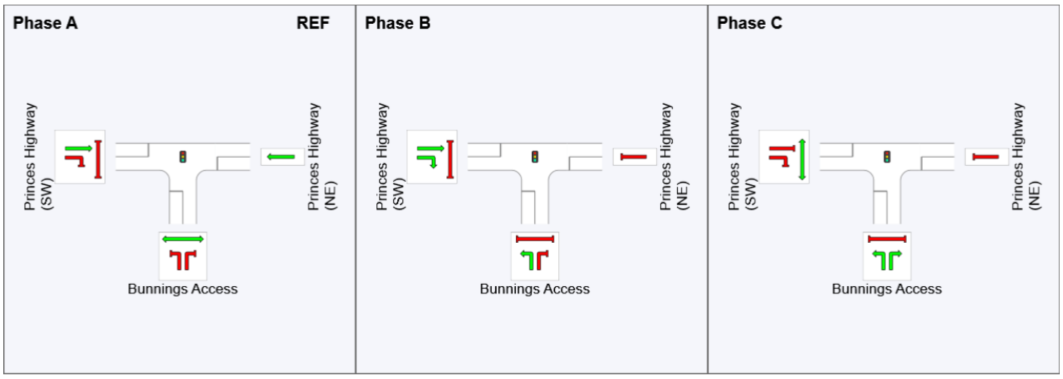
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: Proposed Sequence
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	**A**	**B**	**C**
Phase Change Time (sec)	11	109	124
Green Time (sec)	92	9	21
Phase Time (sec)	98	15	27
Phase Split	70%	11%	19%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

⇨	Normal Movement	⇨	Permitted/Opposed
⇨	Slip/Bypass-Lane Movement	⇨	Opposed Slip/Bypass-Lane
⊣	Stopped Movement	⊣	Turn On Red
⇨	Other Movement Class (MC) Running	⇨	Undetected Movement
⇨	Mixed Running & Stopped MCs	⇨	Continuous Movement
⊣	Other Movement Class (MC) Stopped	●	Phase Transition Applied

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Movement Summaries

Site: 101 [101 AM DEV Princes Hwy, Smith St & Union St (Site Folder: Proposed AM - Network)]

Network: 3 [DEV AM Network (Network Folder: Proposed)]

Intersection: Princes Hwy, Smith St & Union St
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total	HV]	ARRIVAL FLOWS [Total	HV]	Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE [Veh.	Dist]	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Smith Street (SE)														
1	L2	15	14.3	15	14.3	0.012	10.7	LOS A	0.3	2.2	0.30	0.59	0.30	34.5
2	T1	8	0.0	8	0.0	*0.105	57.6	LOS E	1.5	11.2	0.91	0.69	0.91	21.3
3	R2	39	13.5	39	13.5	0.105	62.9	LOS E	1.5	11.2	0.91	0.70	0.91	12.6
Approach		62	11.9	62	11.9	0.105	49.8	LOS D	1.5	11.2	0.77	0.67	0.77	17.0
East: Princes Highway (NE)														
4	L2	51	0.0	51	0.0	0.048	12.9	LOS A	1.3	9.4	0.47	0.66	0.47	34.8
5	T1	813	0.0	813	0.0	*0.662	44.9	LOS D	16.1	112.7	0.89	0.76	0.89	12.2
Approach		863	0.0	863	0.0	0.662	43.0	LOS D	16.1	112.7	0.87	0.75	0.87	13.1
West: Princes Highway (SW)														
10	L2	33	3.2	33	3.2	0.680	12.4	LOS A	30.5	221.8	0.49	0.47	0.49	41.7
11	T1	2966	4.7	2966	4.7	0.680	7.2	LOS A	30.5	222.2	0.50	0.47	0.50	29.2
12	R2	25	0.0	25	0.0	*0.680	13.5	LOS A	29.0	210.9	0.52	0.47	0.52	39.9
Approach		3024	4.7	3024	4.7	0.680	7.3	LOS A	30.5	222.2	0.50	0.47	0.50	29.7
All Vehicles		3949	3.8	3949	3.8	0.680	15.8	LOS B	30.5	222.2	0.59	0.53	0.59	21.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Site: 102 [102 AM DEV Princes Hwy & Brooklyn St (Site Folder: Proposed AM - Network)]

Network: 3 [DEV AM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Brooklyn St
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Princes Highway (NE)														
5	T1	974	10.1	974	10.1	0.310	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		974	10.1	974	10.1	0.310	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.7
North: Brooklyn Street (NW)														
7	L2	24	4.3	24	4.3	0.052	8.4	LOS A	0.1	1.0	0.56	0.73	0.56	40.8
Approach		24	4.3	24	4.3	0.052	8.4	LOS A	0.1	1.0	0.56	0.73	0.56	40.8
West: Princes Highway (SW)														
10	L2	18	11.8	18	11.8	0.569	5.0	LOS A	0.0	0.0	0.00	0.01	0.00	55.6
11	T1	2991	4.9	2991	4.9	0.569	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	58.9
Approach		3008	4.9	3008	4.9	0.569	0.1	NA	0.0	0.0	0.00	0.00	0.00	58.8
All Vehicles		4006	6.1	4006	6.1	0.569	0.1	NA	0.1	1.0	0.00	0.01	0.00	57.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

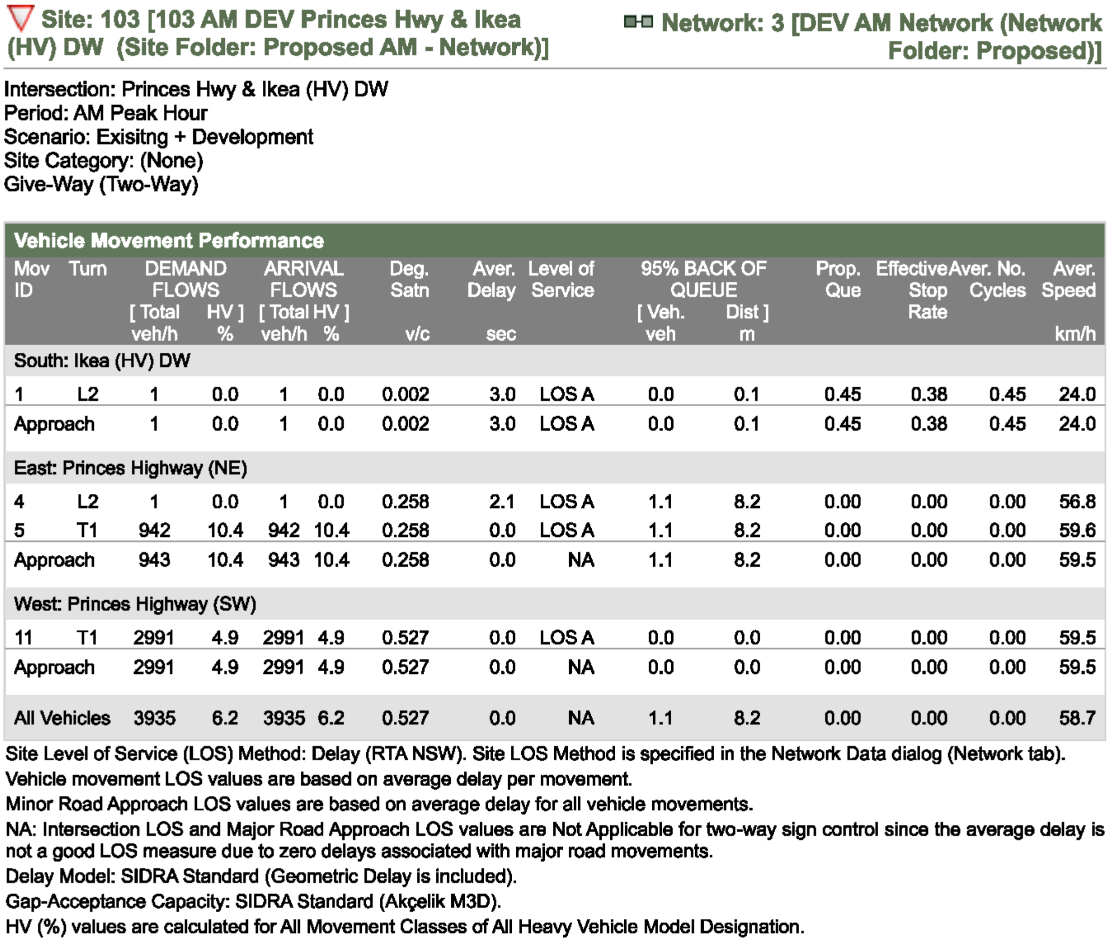
Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



▽ Site: 103 [103 AM DEV Princes Hwy & Ikea (HV) DW (Site Folder: Proposed AM - Network)]

Network: 3 [DEV AM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Ikea (HV) DW
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total	HV]	[Total	HV]				[Veh.	Dist]				
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Ikea (HV) DW														
1	L2	1	0.0	1	0.0	0.002	3.0	LOS A	0.0	0.1	0.45	0.38	0.45	24.0
Approach		1	0.0	1	0.0	0.002	3.0	LOS A	0.0	0.1	0.45	0.38	0.45	24.0
East: Princes Highway (NE)														
4	L2	1	0.0	1	0.0	0.258	2.1	LOS A	1.1	8.2	0.00	0.00	0.00	56.8
5	T1	942	10.4	942	10.4	0.258	0.0	LOS A	1.1	8.2	0.00	0.00	0.00	59.6
Approach		943	10.4	943	10.4	0.258	0.0	NA	1.1	8.2	0.00	0.00	0.00	59.5
West: Princes Highway (SW)														
11	T1	2991	4.9	2991	4.9	0.527	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
Approach		2991	4.9	2991	4.9	0.527	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.5
All Vehicles		3935	6.2	3935	6.2	0.527	0.0	NA	1.1	8.2	0.00	0.00	0.00	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▽ Site: 104 [104 AM DEV Princes Hwy & Foreman St (Site Folder: Proposed AM - Network)]

Network: 3 [DEV AM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Foreman St
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total	HV]	[Total	HV]				[Veh.	Dist]				
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Princes Highway (NE)														
5	T1	942	10.4	942	10.4	0.172	0.0	LOS A	6.2	47.1	0.00	0.00	0.00	59.9
Approach		942	10.4	942	10.4	0.172	0.0	NA	6.2	47.1	0.00	0.00	0.00	59.9
North: Foreman Street (NW)														
7	L2	31	3.4	31	3.4	0.073	11.8	LOS A	0.2	1.6	0.73	0.87	0.73	38.0
Approach		31	3.4	31	3.4	0.073	11.8	LOS A	0.2	1.6	0.73	0.87	0.73	38.0
West: Princes Highway (SW)														
11	T1	2991	4.9	2991	4.9	0.527	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
Approach		2991	4.9	2991	4.9	0.527	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.5
All Vehicles		3963	6.2	3963	6.2	0.527	0.1	NA	6.2	47.1	0.01	0.01	0.01	57.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 105 [105 AM DEV Princes Hwy & Ikea Access Road (Site Folder: Proposed AM - Network)]

Network: 3 [DEV AM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Ikea Access Road
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea Access Road (SE)														
1	L2	9	0.0	9	0.0	0.032	54.5	LOS D	0.5	3.7	0.85	0.66	0.85	5.8
3	R2	13	41.7	13	41.7	* 0.088	77.0	LOS F	0.4	4.1	0.98	0.66	0.98	10.9
Approach		22	23.8	22	23.8	0.088	67.3	LOS E	0.5	4.1	0.92	0.66	0.92	9.3
East: Princes Highway (NE)														
4	L2	22	28.6	22	28.6	0.017	8.1	LOS A	0.3	2.2	0.18	0.56	0.18	39.2
5	T1	932	11.5	932	11.5	0.230	5.8	LOS A	6.4	49.2	0.33	0.29	0.33	42.4
Approach		954	11.9	954	11.9	0.230	5.9	LOS A	6.4	49.2	0.33	0.30	0.33	42.3
West: Princes Highway (SW)														
11	T1	2962	5.0	2962	5.0	* 0.604	2.3	LOS A	17.2	125.7	0.28	0.26	0.28	54.7
12	R2	43	0.0	43	0.0	0.128	8.1	LOS A	0.5	3.8	0.23	0.61	0.23	35.2
Approach		3005	4.9	3005	4.9	0.604	2.3	LOS A	17.2	125.7	0.28	0.27	0.28	54.4
All Vehicles		3981	6.7	3981	6.7	0.604	3.6	LOS A	17.2	125.7	0.29	0.28	0.29	51.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Site: 106 [106 AM DEV Princes Hwy & Bunnings Access (Site Folder: Proposed AM - Network)]

Network: 3 [DEV AM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Bunnings Access
Period: AM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 140 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: Proposed Sequence
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bunnings Access														
1	L2	32	0.0	32	0.0	0.064	46.4	LOS D	1.6	11.1	0.78	0.71	0.78	24.0
3	R2	32	0.0	32	0.0	* 0.108	60.1	LOS E	1.9	13.0	0.89	0.72	0.89	20.4
Approach		63	0.0	63	0.0	0.108	53.3	LOS D	1.9	13.0	0.84	0.72	0.84	22.1
East: Princes Highway (NE)														
5	T1	889	11.0	889	11.0	0.245	9.9	LOS A	0.9	6.5	0.43	0.37	0.43	5.7
Approach		889	11.0	889	11.0	0.245	9.9	LOS A	0.9	6.5	0.43	0.37	0.43	5.7
West: Princes Highway (SW)														
11	T1	2959	4.9	2959	4.9	* 0.677	1.5	LOS A	7.7	56.1	0.12	0.11	0.12	39.4
12	R2	32	0.0	32	0.0	0.238	72.0	LOS F	2.1	14.8	0.98	0.72	0.98	13.8
Approach		2991	4.9	2991	4.9	0.677	2.3	LOS A	7.7	56.1	0.13	0.12	0.13	32.7
All Vehicles		3943	6.2	3943	6.2	0.677	4.8	LOS A	7.7	56.1	0.21	0.18	0.21	22.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

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Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Phase Summaries

Site: 101 [101 PM DEV Princes Hwy, Smith St & Union St (Site Folder: Proposed PM - Network)]

Network: 4 [DEV PM Network (Network Folder: Proposed)]

Intersection: Princes Hwy, Smith St & Union St
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network Optimum Cycle Time - Minimum Delay)

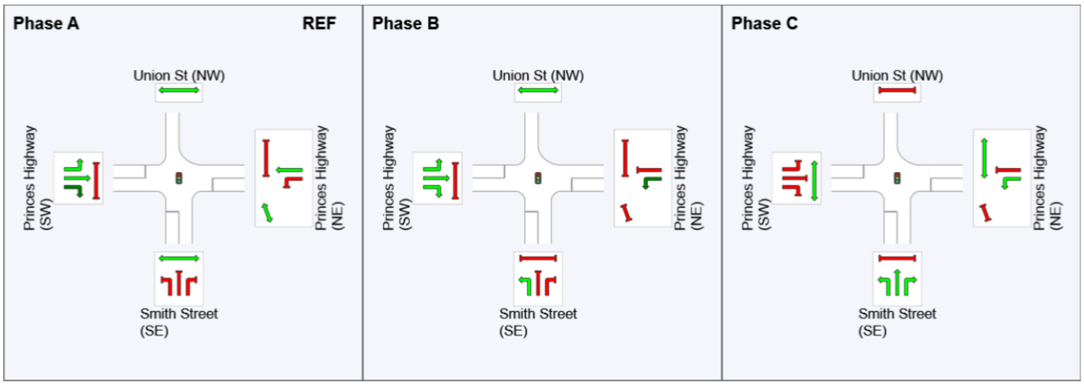
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

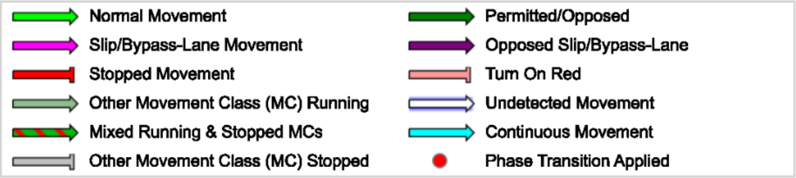
Phase	A	B	C
Phase Change Time (sec)	0	93	107
Green Time (sec)	87	8	17
Phase Time (sec)	93	14	23
Phase Split	72%	11%	18%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase


Normal Movement
Permitted/Opposed
Slip/Bypass-Lane Movement
Opposed Slip/Bypass-Lane
Stopped Movement
Turn On Red
Other Movement Class (MC) Running
Undetected Movement
Mixed Running & Stopped MCs
Continuous Movement
Other Movement Class (MC) Stopped
Phase Transition Applied

Site: 105 [105 PM DEV Princes Hwy & Ikea Access Road (Site Folder: Proposed PM - Network)]

Network: 4 [DEV PM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Ikea Access Road
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 130 seconds (Network Optimum Cycle Time - Minimum Delay)

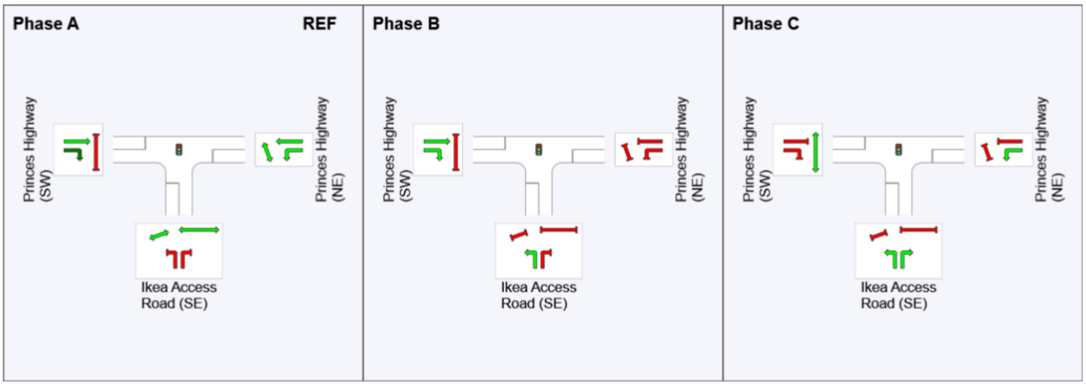
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	104	80	92
Green Time (sec)	100	6	6
Phase Time (sec)	106	12	12
Phase Split	82%	9%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

→	Normal Movement	→	Permitted/Opposed
→	Slip/Bypass-Lane Movement	→	Opposed Slip/Bypass-Lane
⊣	Stopped Movement	⊣	Turn On Red
→	Other Movement Class (MC) Running	⇨	Undetected Movement
→	Mixed Running & Stopped MCs	→	Continuous Movement
⊣	Other Movement Class (MC) Stopped	●	Phase Transition Applied

Site: 106 [106 PM DEV Princes Hwy & Bunnings Access (Site Folder: Proposed PM - Network)]

Network: 4 [DEV PM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Bunnings Access
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 130 seconds (Network Optimum Cycle Time - Minimum Delay)

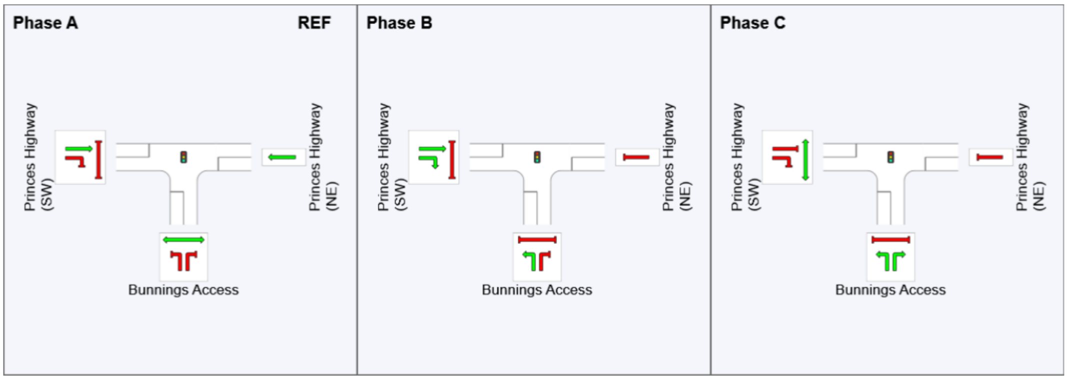
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: Proposed Sequence
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	120	81	93
Green Time (sec)	85	6	21
Phase Time (sec)	91	12	27
Phase Split	70%	9%	21%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

→	Normal Movement	→	Permitted/Opposed
→	Slip/Bypass-Lane Movement	→	Opposed Slip/Bypass-Lane
⊣	Stopped Movement	⊣	Turn On Red
→	Other Movement Class (MC) Running	⇨	Undetected Movement
→	Mixed Running & Stopped MCs	→	Continuous Movement
⊣	Other Movement Class (MC) Stopped	●	Phase Transition Applied

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Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Movement Summaries

Site: 101 [101 PM DEV Princes Hwy, Smith St & Union St (Site Folder: Proposed PM - Network)]

Network: 4 [DEV PM Network (Network Folder: Proposed)]

Intersection: Princes Hwy, Smith St & Union St
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Smith Street (SE)														
1	L2	27	3.8	27	3.8	0.062	44.6	LOS D	1.3	9.5	0.80	0.70	0.80	29.2
2	T1	36	0.0	36	0.0	*0.148	53.5	LOS D	2.2	15.7	0.92	0.69	0.92	22.8
3	R2	42	0.0	42	0.0	0.148	58.2	LOS E	2.2	15.7	0.91	0.72	0.91	13.3
Approach		105	1.0	105	1.0	0.148	53.1	LOS D	2.2	15.7	0.88	0.70	0.88	21.3
East: Princes Highway (NE)														
4	L2	91	4.7	91	4.7	0.259	58.5	LOS E	5.6	40.5	1.00	0.78	1.00	15.8
5	T1	2791	2.7	2791	2.7	*0.717	2.0	LOS A	9.5	68.4	0.14	0.13	0.14	56.9
Approach		2881	2.7	2881	2.7	0.717	3.7	LOS A	9.5	68.4	0.16	0.15	0.16	54.1
West: Princes Highway (SW)														
10	L2	32	6.7	32	6.7	0.378	9.8	LOS A	8.3	59.8	0.31	0.30	0.31	50.6
11	T1	1313	3.2	1313	3.2	0.378	4.3	LOS A	8.3	59.8	0.32	0.30	0.32	52.4
12	R2	7	0.0	7	0.0	*0.378	10.2	LOS A	8.0	57.7	0.35	0.31	0.35	51.2
Approach		1352	3.3	1352	3.3	0.378	4.5	LOS A	8.3	59.8	0.32	0.30	0.32	52.3
All Vehicles		4338	2.9	4338	2.9	0.717	5.2	LOS A	9.5	68.4	0.23	0.21	0.23	51.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

▽ Site: 102 [102 PM DEV Princes Hwy & Brooklyn St (Site Folder: Proposed PM - Network)]

Network: 4 [DEV PM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Brooklyn St
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total	HV]	[Total	HV]				[Veh.	Dist]				
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Princes Highway (NE)														
5	T1	2934	3.3	2934	3.3	0.512	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
Approach		2934	3.3	2934	3.3	0.512	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.6
North: Brooklyn Street (NW)														
7	L2	7	0.0	7	0.0	0.010	5.7	LOS A	0.0	0.2	0.35	0.53	0.35	43.1
Approach		7	0.0	7	0.0	0.010	5.7	LOS A	0.0	0.2	0.35	0.53	0.35	43.1
West: Princes Highway (SW)														
10	L2	13	8.3	13	8.3	0.234	4.9	LOS A	0.0	0.0	0.00	0.02	0.00	56.1
11	T1	1319	3.6	1319	3.6	0.234	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.3
Approach		1332	3.6	1332	3.6	0.234	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.1
All Vehicles		4273	3.4	4273	3.4	0.512	0.0	NA	0.0	0.2	0.00	0.00	0.00	59.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 103 [103 PM DEV Princes Hwy & Ikea (HV) DW (Site Folder: Proposed PM - Network)]

Network: 4 [DEV PM Network (Network Folder: Proposed)]

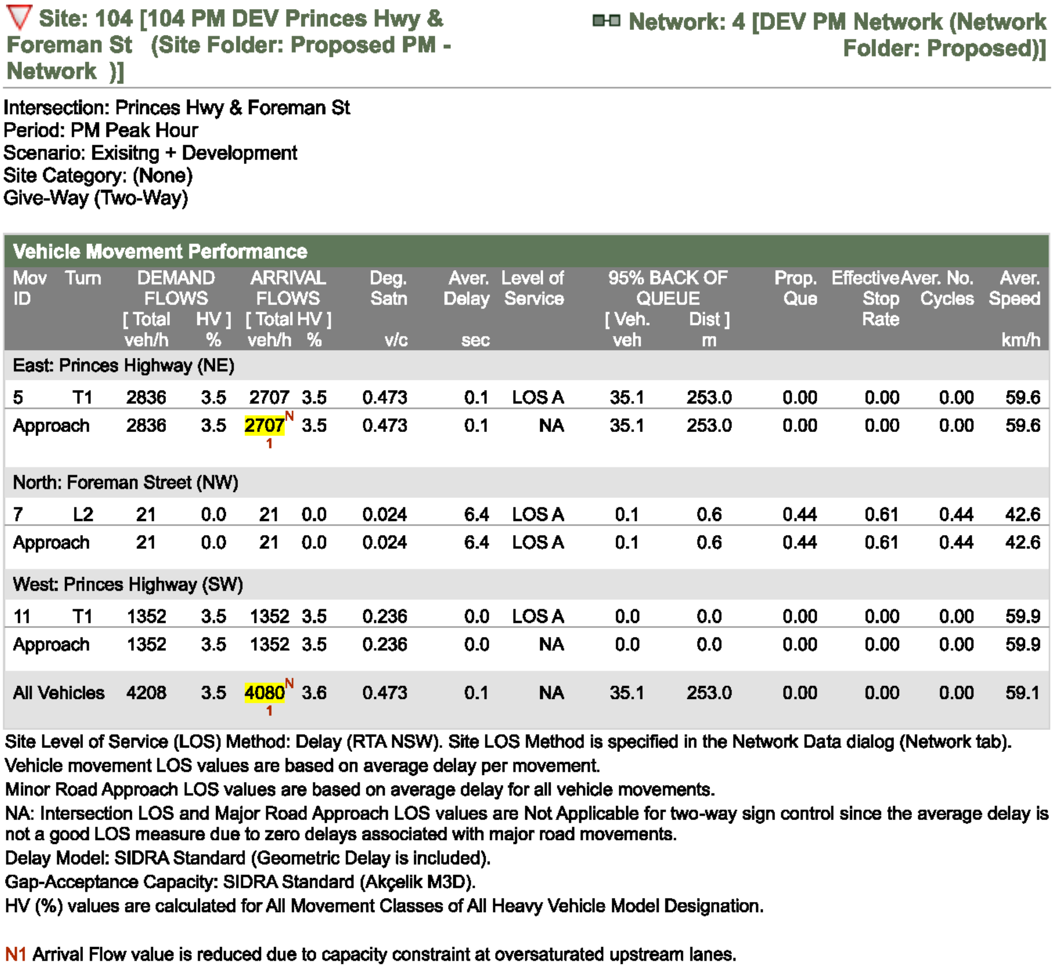
Intersection: Princes Hwy & Ikea (HV) DW
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea (HV) DW														
1	L2	1	0.0	1	0.0	0.004	6.5	LOS A	0.0	0.3	0.67	0.61	0.67	23.0
Approach		1	0.0	1	0.0	0.004	6.5	LOS A	0.0	0.3	0.67	0.61	0.67	23.0
East: Princes Highway (NE)														
4	L2	1	0.0	1	0.0	0.490	2.1	LOS A	1.1	8.2	0.00	0.00	0.00	56.6
5	T1	2843	3.4	2805	3.4	0.490	0.0	LOS A	1.1	8.2	0.00	0.00	0.00	59.6
Approach		2844	3.4	2806[N1]	3.4	0.490	0.0	NA	1.1	8.2	0.00	0.00	0.00	59.5
West: Princes Highway (SW)														
11	T1	1352	3.5	1352	3.5	0.236	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1352	3.5	1352	3.5	0.236	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		4197	3.4	4158[N1]	3.4	0.490	0.0	NA	1.1	8.2	0.00	0.00	0.00	58.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.



▽ Site: 104 [104 PM DEV Princes Hwy & Foreman St (Site Folder: Proposed PM - Network)]

Network: 4 [DEV PM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Foreman St
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Princes Highway (NE)														
5	T1	2836	3.5	2707	3.5	0.473	0.1	LOS A	35.1	253.0	0.00	0.00	0.00	59.6
Approach		2836	3.5	2707[N1]	3.5	0.473	0.1	NA	35.1	253.0	0.00	0.00	0.00	59.6
North: Foreman Street (NW)														
7	L2	21	0.0	21	0.0	0.024	6.4	LOS A	0.1	0.6	0.44	0.61	0.44	42.6
Approach		21	0.0	21	0.0	0.024	6.4	LOS A	0.1	0.6	0.44	0.61	0.44	42.6
West: Princes Highway (SW)														
11	T1	1352	3.5	1352	3.5	0.236	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1352	3.5	1352	3.5	0.236	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		4208	3.5	4080[N1]	3.6	0.473	0.1	NA	35.1	253.0	0.00	0.00	0.00	59.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

[N1] Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Site: 105 [105 PM DEV Princes Hwy & Ikea Access Road (Site Folder: Proposed PM - Network)]

Network: 4 [DEV PM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Ikea Access Road
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 130 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total	HV]	ARRIVAL FLOWS [Total	HV]	Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE [Veh.	Dist]	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Ikea Access Road (SE)														
1	L2	123	1.7	123	1.7	* 1.030	139.4	LOS F	12.7	90.1	1.00	1.31	1.96	2.4
3	R2	117	3.6	117	3.6	0.599	74.1	LOS F	3.9	28.1	1.00	0.78	1.06	11.7
Approach		240	2.6	240	2.6	1.030	107.6	LOS F	12.7	90.1	1.00	1.05	1.53	5.9
East: Princes Highway (NE)														
4	L2	125	1.7	125	1.7	0.078	6.9	LOS A	1.1	7.6	0.15	0.57	0.15	41.0
5	T1	2697	3.0	2697	3.0	* 1.229	267.6	LOS F	151.7	1089.1	1.00	2.16	2.51	3.0
Approach		2822	2.9	2822	2.9	1.229	256.0	LOS F	151.7	1089.1	0.96	2.09	2.41	3.1
West: Princes Highway (SW)														
11	T1	1363	3.0	1363	3.0	0.273	1.5	LOS A	4.8	34.5	0.19	0.17	0.19	56.3
12	R2	87	0.0	87	0.0	0.543	69.6	LOS E	5.6	39.2	1.00	0.83	1.00	10.4
Approach		1451	2.8	1451	2.8	0.543	5.6	LOS A	5.6	39.2	0.23	0.21	0.23	47.9
All Vehicles		4513	2.9	4513	2.9	1.229	167.6	LOS F	151.7	1089.1	0.73	1.43	1.66	5.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Site: 106 [106 PM DEV Princes Hwy & Bunnings Access (Site Folder: Proposed PM - Network)]

Network: 4 [DEV PM Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Bunnings Access
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 130 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: Proposed Sequence
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Bunnings Access														
1	L2	98	0.0	98	0.0	0.202	45.6	LOS D	4.8	33.7	0.82	0.76	0.82	24.2
3	R2	98	0.0	98	0.0	* 0.311	57.1	LOS E	5.5	38.5	0.92	0.77	0.92	21.1
Approach		196	0.0	196	0.0	0.311	51.4	LOS D	5.5	38.5	0.87	0.77	0.87	22.6
East: Princes Highway (NE)														
5	T1	2843	3.4	2843	3.4	* 0.751	15.6	LOS B	0.9	6.5	0.73	0.68	0.73	3.7
Approach		2843	3.4	2843	3.4	0.751	15.6	LOS B	0.9	6.5	0.73	0.68	0.73	3.7
West: Princes Highway (SW)														
11	T1	1254	3.8	1254	3.8	0.291	4.9	LOS A	6.9	49.7	0.28	0.25	0.28	22.3
12	R2	65	0.0	65	0.0	* 0.653	73.5	LOS F	4.4	30.7	1.00	0.80	1.11	13.6
Approach		1319	3.6	1319	3.6	0.653	8.3	LOS A	6.9	49.7	0.31	0.27	0.32	18.0
All Vehicles		4358	3.3	4358	3.3	0.751	15.0	LOS B	6.9	49.7	0.61	0.56	0.61	10.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

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Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study **Template: Phase Summaries**

Site: 101 [101 SAT DEV Princes Hwy, Smith St & Union St (Site Folder: Proposed SAT - Network)]

Network: 8 [DEV SAT Network (Network Folder: Proposed)]

Intersection: Princes Hwy, Smith St & Union St
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

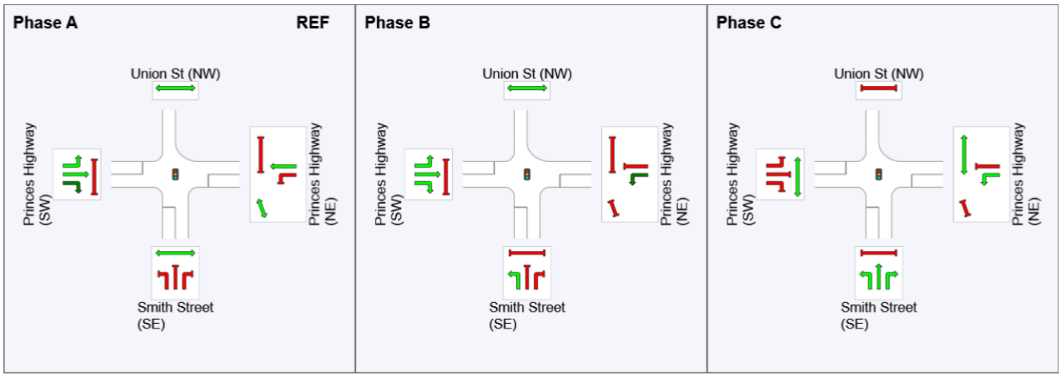
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

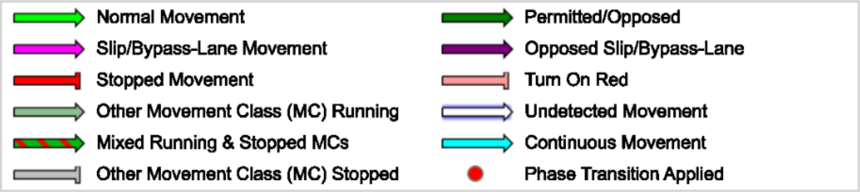
Phase	A	B	C
Phase Change Time (sec)	0	71	108
Green Time (sec)	65	31	6
Phase Time (sec)	71	37	12
Phase Split	59%	31%	10%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase


Normal Movement
Slip/Bypass-Lane Movement
Stopped Movement
Other Movement Class (MC) Running
Mixed Running & Stopped MCs
Other Movement Class (MC) Stopped
Permitted/Opposed
Opposed Slip/Bypass-Lane
Turn On Red
Undetected Movement
Continuous Movement
Phase Transition Applied

Site: 105 [105 SAT DEV Princes Hwy & Ikea Access Road (Site Folder: Proposed SAT - Network)]

Network: 8 [DEV SAT Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Ikea Access Road
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

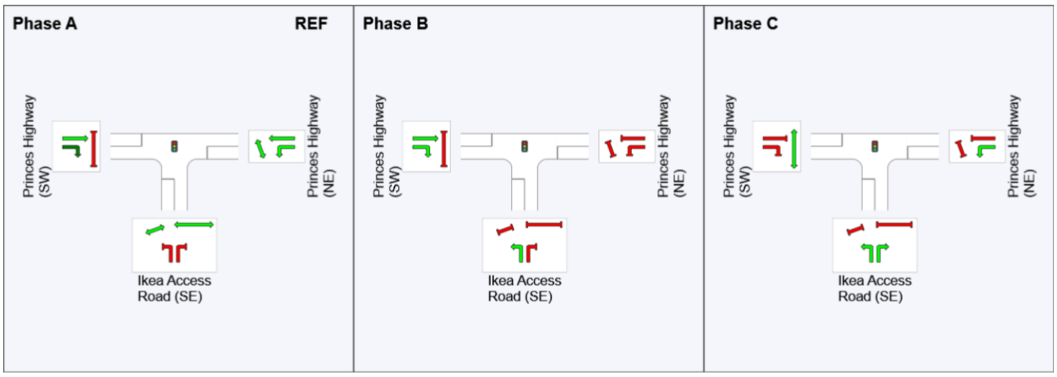
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	94	47	71
Green Time (sec)	67	18	17
Phase Time (sec)	73	24	23
Phase Split	61%	20%	19%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

🟩	Normal Movement	🟩	Permitted/Opposed
🟪	Slip/Bypass-Lane Movement	🟪	Opposed Slip/Bypass-Lane
🟥	Stopped Movement	🟥	Turn On Red
🟩	Other Movement Class (MC) Running	⇨	Undetected Movement
▨	Mixed Running & Stopped MCs	🟦	Continuous Movement
⬜	Other Movement Class (MC) Stopped	●	Phase Transition Applied

Site: 106 [106 SAT DEV Princes Hwy & Bunnings Access (Site Folder: Proposed SAT - Network)]

Network: 8 [DEV SAT Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Bunnings Access
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

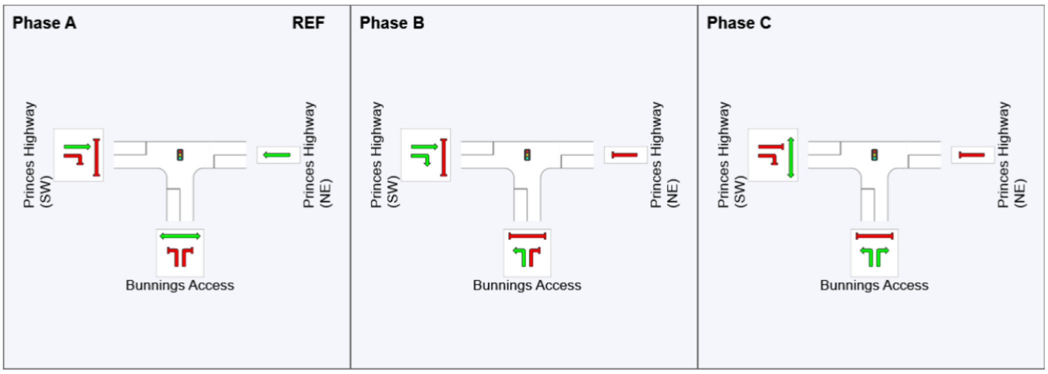
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: Proposed Sequence
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	110	56	84
Green Time (sec)	60	22	20
Phase Time (sec)	66	28	26
Phase Split	55%	23%	22%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

➡	Normal Movement	➡	Permitted/Opposed
➡	Slip/Bypass-Lane Movement	➡	Opposed Slip/Bypass-Lane
⇥	Stopped Movement	⇥	Turn On Red
➡	Other Movement Class (MC) Running	➡	Undetected Movement
➡	Mixed Running & Stopped MCs	➡	Continuous Movement
⇥	Other Movement Class (MC) Stopped	●	Phase Transition Applied

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Movement Summaries

Site: 101 [101 SAT DEV Princes Hwy, Smith St & Union St (Site Folder: Proposed SAT - Network)]

Network: 8 [DEV SAT Network (Network Folder: Proposed)]

Intersection: Princes Hwy, Smith St & Union St
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

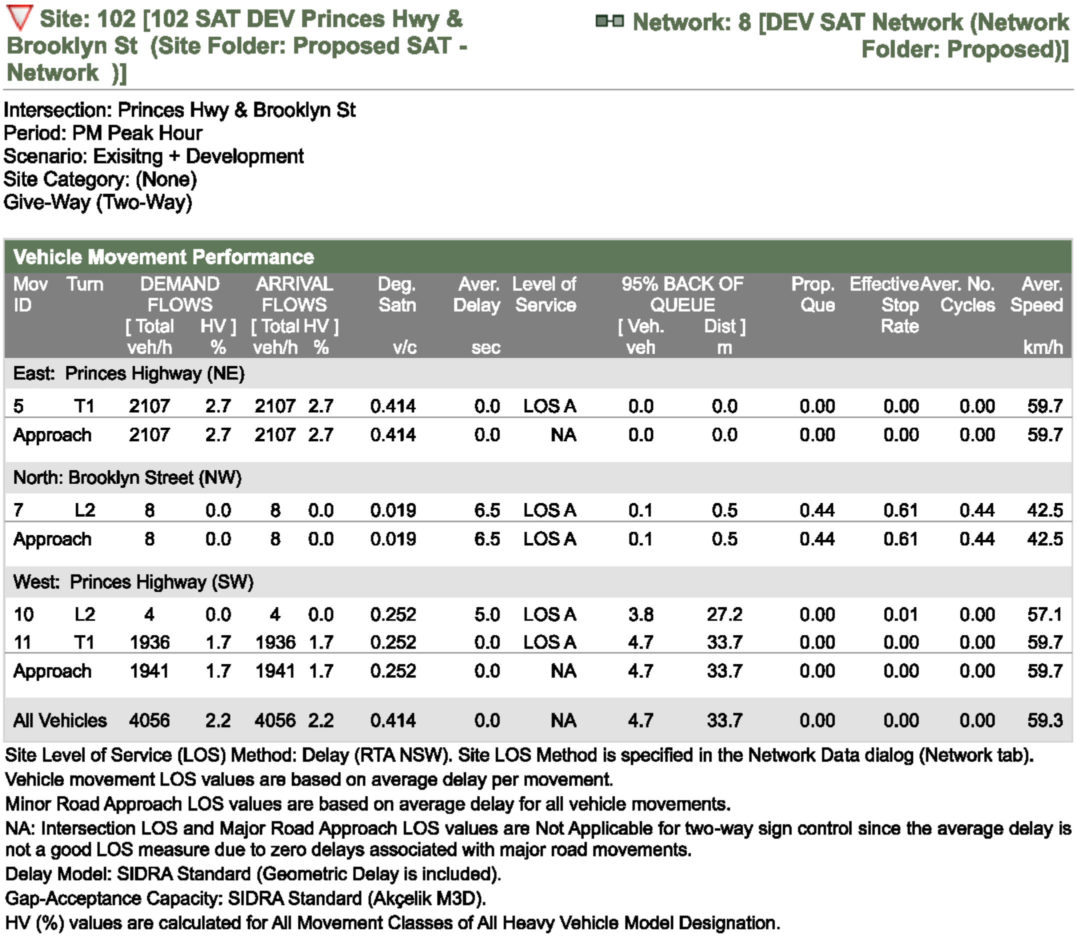
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total	HV]	[Total	HV]				[Veh.	Dist]				
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Smith Street (SE)														
1	L2	25	4.2	25	4.2	0.038	30.4	LOS C	0.9	6.8	0.67	0.67	0.67	34.1
2	T1	14	0.0	14	0.0	0.243	61.3	LOS E	1.6	11.2	0.99	0.71	0.99	20.8
3	R2	39	2.7	39	2.7	0.243	66.0	LOS E	1.6	11.2	0.99	0.71	0.99	12.2
Approach		78	2.7	78	2.7	0.243	53.6	LOS D	1.6	11.2	0.88	0.70	0.88	20.6
East: Princes Highway (NE)														
4	L2	263	0.4	263	0.4	*0.682	46.1	LOS D	13.8	96.7	1.00	0.84	1.00	18.6
5	T1	1845	3.0	1845	3.0	*0.597	4.6	LOS A	10.9	78.0	0.24	0.21	0.24	53.1
Approach		2107	2.7	2107	2.7	0.682	9.8	LOS A	13.8	96.7	0.33	0.29	0.33	46.1
West: Princes Highway (SW)														
10	L2	21	0.0	21	0.0	0.438	7.4	LOS A	7.8	55.1	0.23	0.22	0.23	52.9
11	T1	1902	1.7	1902	1.7	0.438	2.0	LOS A	8.8	62.7	0.24	0.22	0.24	56.2
12	R2	13	0.0	13	0.0	*0.438	7.7	LOS A	8.8	62.7	0.27	0.24	0.27	53.6
Approach		1936	1.6	1936	1.6	0.438	2.1	LOS A	8.8	62.7	0.24	0.22	0.24	56.1
All Vehicles		4121	2.2	4121	2.2	0.682	7.0	LOS A	13.8	96.7	0.30	0.27	0.30	49.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)



▽ Site: 102 [102 SAT DEV Princes Hwy & Brooklyn St (Site Folder: Proposed SAT - Network)]

Network: 8 [DEV SAT Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Brooklyn St
Period: PM Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Princes Highway (NE)														
5	T1	2107	2.7	2107	2.7	0.414	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		2107	2.7	2107	2.7	0.414	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.7
North: Brooklyn Street (NW)														
7	L2	8	0.0	8	0.0	0.019	6.5	LOS A	0.1	0.5	0.44	0.61	0.44	42.5
Approach		8	0.0	8	0.0	0.019	6.5	LOS A	0.1	0.5	0.44	0.61	0.44	42.5
West: Princes Highway (SW)														
10	L2	4	0.0	4	0.0	0.252	5.0	LOS A	3.8	27.2	0.00	0.01	0.00	57.1
11	T1	1936	1.7	1936	1.7	0.252	0.0	LOS A	4.7	33.7	0.00	0.00	0.00	59.7
Approach		1941	1.7	1941	1.7	0.252	0.0	NA	4.7	33.7	0.00	0.00	0.00	59.7
All Vehicles		4056	2.2	4056	2.2	0.414	0.0	NA	4.7	33.7	0.00	0.00	0.00	59.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▽ Site: 103 [103 SAT DEV Princes Hwy & Ikea (HV) DW (Site Folder: Proposed SAT - Network)]

Network: 8 [DEV SAT Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Ikea (HV) DW
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea (HV) DW														
1	L2	1	0.0	1	0.0	0.003	3.8	LOS A	0.0	0.3	0.51	0.43	0.51	23.8
Approach		1	0.0	1	0.0	0.003	3.8	LOS A	0.0	0.3	0.51	0.43	0.51	23.8
East: Princes Highway (NE)														
4	L2	1	0.0	1	0.0	0.325	2.1	LOS A	1.1	8.2	0.00	0.00	0.00	56.7
5	T1	1863	3.1	1863	3.1	0.325	0.0	LOS A	1.1	8.2	0.00	0.00	0.00	59.7
Approach		1864	3.0	1864	3.0	0.325	0.0	NA	1.1	8.2	0.00	0.00	0.00	59.7
West: Princes Highway (SW)														
11	T1	1945	1.7	1945	1.7	0.336	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1945	1.7	1945	1.7	0.336	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		3809	2.3	3809	2.3	0.336	0.0	NA	1.1	8.2	0.00	0.00	0.00	58.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▽ Site: 104 [104 SAT DEV Princes Hwy & Foreman St (Site Folder: Proposed SAT - Network)]

Network: 8 [DEV SAT Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Foreman St
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total	HV]	[Total	HV]				[Veh.	Dist]				
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Princes Highway (NE)														
5	T1	1859	2.5	1859	2.5	0.469	0.1	LOS A	24.7	176.9	0.00	0.00	0.00	59.5
Approach		1859	2.5	1859	2.5	0.469	0.1	NA	24.7	176.9	0.00	0.00	0.00	59.5
North: Foreman Street (NW)														
7	L2	19	5.6	19	5.6	0.028	8.0	LOS A	0.1	0.7	0.53	0.70	0.53	41.2
Approach		19	5.6	19	5.6	0.028	8.0	LOS A	0.1	0.7	0.53	0.70	0.53	41.2
West: Princes Highway (SW)														
11	T1	1982	2.0	1982	2.0	0.343	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1982	2.0	1982	2.0	0.343	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		3860	2.2	3860	2.2	0.469	0.1	NA	24.7	176.9	0.00	0.00	0.00	58.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 105 [105 SAT DEV Princes Hwy & Ikea Access Road (Site Folder: Proposed SAT - Network)]

Network: 8 [DEV SAT Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Ikea Access Road
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea Access Road (SE)														
1	L2	203	0.5	203	0.5	0.540	37.4	LOS C	9.3	65.5	0.82	0.79	0.82	8.0
3	R2	311	1.4	311	1.4	* 0.612	56.8	LOS E	9.5	67.1	0.98	0.81	0.98	14.4
Approach		514	1.0	514	1.0	0.612	49.1	LOS D	9.5	67.1	0.92	0.80	0.92	12.6
East: Princes Highway (NE)														
4	L2	414	1.0	414	1.0	0.293	10.4	LOS A	7.3	51.8	0.33	0.65	0.33	36.5
5	T1	1656	2.7	1656	2.7	* 0.594	17.5	LOS B	24.3	173.8	0.68	0.62	0.68	26.8
Approach		2070	2.4	2070	2.4	0.594	16.1	LOS B	24.3	173.8	0.61	0.62	0.61	28.7
West: Princes Highway (SW)														
11	T1	1673	2.3	1673	2.3	0.379	4.8	LOS A	10.5	74.8	0.36	0.32	0.36	49.7
12	R2	308	0.0	308	0.0	* 0.713	45.3	LOS D	16.2	113.7	0.98	1.04	1.01	14.4
Approach		1982	2.0	1982	2.0	0.713	11.1	LOS A	16.2	113.7	0.45	0.43	0.46	39.4
All Vehicles		4565	2.1	4565	2.1	0.713	17.6	LOS B	24.3	173.8	0.58	0.56	0.58	29.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Site: 106 [106 SAT DEV Princes Hwy & Bunnings Access (Site Folder: Proposed SAT - Network)]

Network: 8 [DEV SAT Network (Network Folder: Proposed)]

Intersection: Princes Hwy & Bunnings Access
Period: SAT Peak Hour
Scenario: Exisitng + Development
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: Proposed Sequence
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total	HV]	[Total	HV]				[Veh.	Dist]				
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Bunnings Access														
1	L2	234	0.0	234	0.0	0.309	31.1	LOS C	9.2	64.3	0.72	0.77	0.72	29.9
3	R2	234	0.0	234	0.0	* 0.721	58.1	LOS E	13.5	94.4	1.00	0.86	1.06	20.9
Approach		468	0.0	468	0.0	0.721	44.6	LOS D	13.5	94.4	0.86	0.81	0.89	24.6
East: Princes Highway (NE)														
5	T1	1863	3.1	1863	3.1	* 0.639	22.8	LOS B	0.9	6.5	0.79	0.71	0.79	2.6
Approach		1863	3.1	1863	3.1	0.639	22.8	LOS B	0.9	6.5	0.79	0.71	0.79	2.6
West: Princes Highway (SW)														
11	T1	1711	1.9	1711	1.9	0.399	5.9	LOS A	8.0	57.1	0.39	0.35	0.39	19.7
12	R2	234	0.0	234	0.0	* 0.658	52.5	LOS D	8.2	57.1	0.98	0.83	0.98	15.9
Approach		1945	1.7	1945	1.7	0.658	11.5	LOS A	8.2	57.1	0.46	0.41	0.46	17.2
All Vehicles		4276	2.1	4276	2.1	0.721	20.1	LOS B	13.5	94.4	0.65	0.58	0.65	14.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

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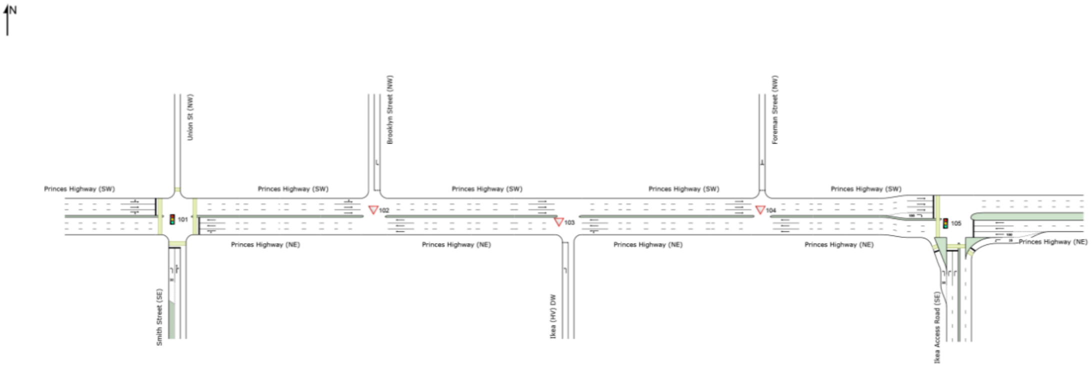
Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

NETWORK LAYOUT

Network: N101 [Ex AM Network (Network Folder: Existing)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
🚦101	NA	101 AM EX Princes Hwy, Smith St & Union St
▽102	NA	102 AM EX Princes Hwy & Brooklyn St
▽103	NA	103 AM EX Princes Hwy & Ikea (HV) DW
▽104	NA	104 AM EX Princes Hwy & Foreman St
🚦105	NA	105 AM EX Princes Hwy & Ikea Access Road

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Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study **Template: Phase Summaries**

Site: 101 [101 AM EX Princes Hwy, Smith St & Union St (Site Folder: Existing AM - Network)]

Network: 1 [Ex AM Network (Network Folder: Existing)]

Intersection: Princes Hwy, Smith St & Union St
Period: AM Peak Hour
Scenario: Exisitng
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

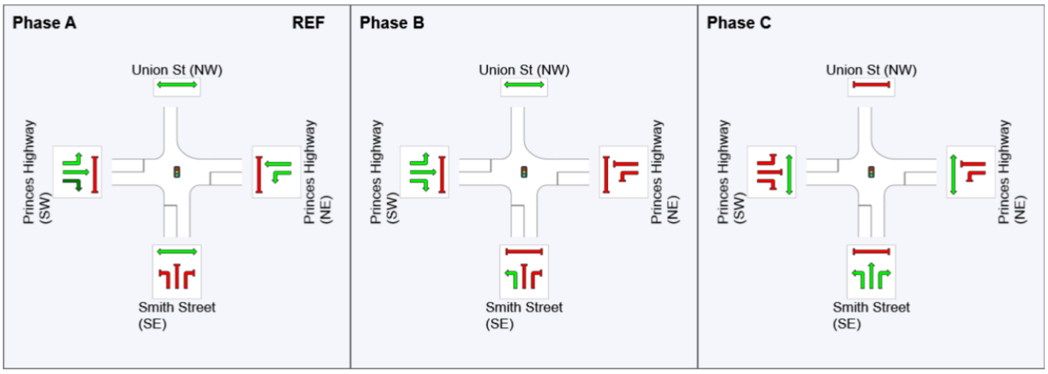
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

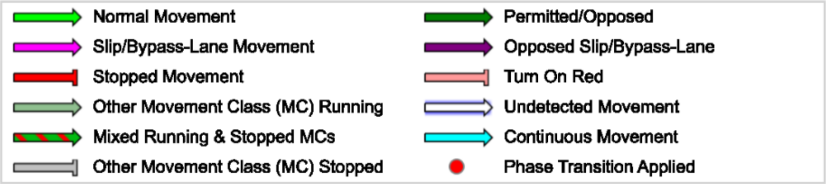
Phase	A	B	C
Phase Change Time (sec)	0	30	100
Green Time (sec)	24	64	14
Phase Time (sec)	30	70	20
Phase Split	25%	58%	17%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase


Normal Movement
Slip/Bypass-Lane Movement
Stopped Movement
Other Movement Class (MC) Running
Mixed Running & Stopped MCs
Other Movement Class (MC) Stopped
Permitted/Opposed
Opposed Slip/Bypass-Lane
Turn On Red
Undetected Movement
Continuous Movement
Phase Transition Applied

🚦 Site: 105 [105 AM EX Princes Hwy & Ikea Access Road (Site Folder: Existing AM - Network)]

Network: 1 [Ex AM Network (Network Folder: Existing)]

Intersection: Princes Hwy & Ikea Access Road
Period: AM Peak Hour
Scenario: Exisitng
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

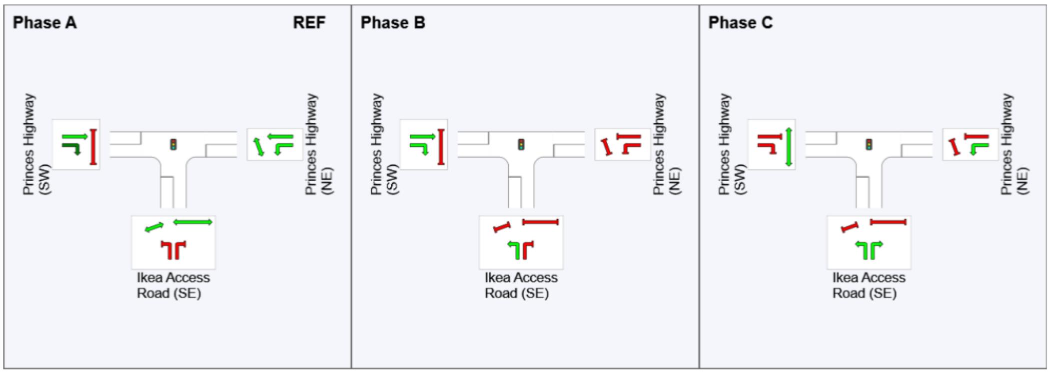
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	23	114	11
Green Time (sec)	85	11	6
Phase Time (sec)	91	17	12
Phase Split	76%	14%	10%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

➡	Normal Movement	➡	Permitted/Opposed
➡	Slip/Bypass-Lane Movement	➡	Opposed Slip/Bypass-Lane
⊣	Stopped Movement	⊣	Turn On Red
➡	Other Movement Class (MC) Running	⇨	Undetected Movement
➡	Mixed Running & Stopped MCs	➡	Continuous Movement
⊣	Other Movement Class (MC) Stopped	●	Phase Transition Applied

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Movement Summaries

Site: 101 [101 AM EX Princes Hwy, Smith St & Union St (Site Folder: Existing AM - Network)]

Network: 1 [Ex AM Network (Network Folder: Existing)]

Intersection: Princes Hwy, Smith St & Union St
Period: AM Peak Hour
Scenario: Exisitng
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

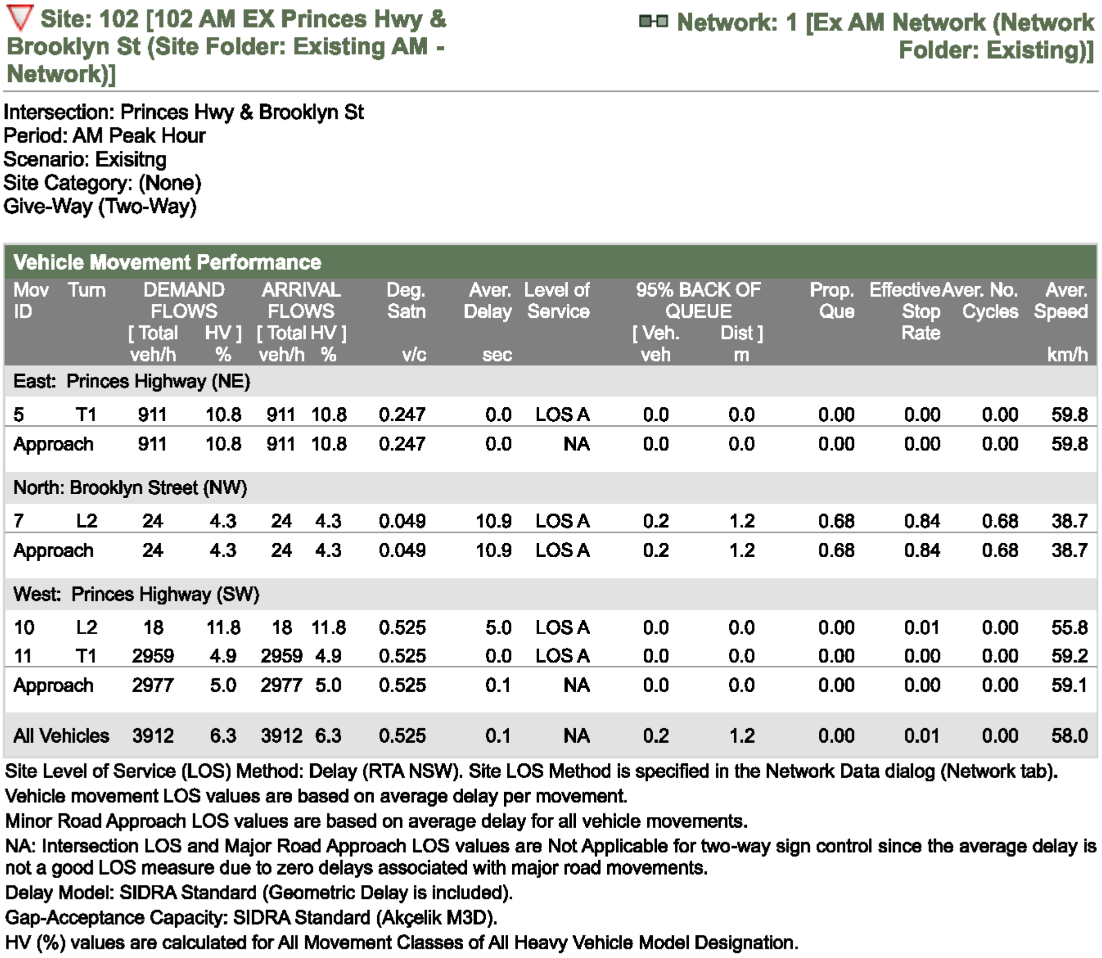
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Smith Street (SE)														
1	L2	15	14.3	15	14.3	0.012	10.0	LOS A	0.2	1.9	0.31	0.59	0.31	35.1
2	T1	8	0.0	8	0.0	* 0.230	52.4	LOS D	2.6	19.7	0.94	0.74	0.94	22.1
3	R2	39	13.5	39	13.5	0.230	57.0	LOS E	2.6	19.7	0.94	0.74	0.94	13.5
Approach		62	11.9	62	11.9	0.230	45.2	LOS D	2.6	19.7	0.79	0.70	0.79	18.0
East: Princes Highway (NE)														
4	L2	19	0.0	19	0.0	* 0.658	52.4	LOS D	14.4	101.1	0.97	0.82	0.97	17.6
5	T1	781	0.0	781	0.0	0.658	47.5	LOS D	14.5	101.6	0.97	0.82	0.97	11.5
Approach		800	0.0	800	0.0	0.658	47.6	LOS D	14.5	101.6	0.97	0.82	0.97	11.7
West: Princes Highway (SW)														
10	L2	33	3.2	33	3.2	0.674	11.4	LOS A	25.8	187.9	0.49	0.47	0.49	42.6
11	T1	2935	4.8	2935	4.8	0.674	6.2	LOS A	25.8	188.2	0.50	0.46	0.50	30.9
12	R2	25	0.0	25	0.0	* 0.674	12.4	LOS A	24.5	178.3	0.52	0.46	0.52	40.6
Approach		2993	4.7	2993	4.7	0.674	6.3	LOS A	25.8	188.2	0.50	0.46	0.50	31.4
All Vehicles		3855	3.9	3855	3.9	0.674	15.5	LOS B	25.8	188.2	0.60	0.54	0.60	20.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)



Site: 102 [102 AM EX Princes Hwy & Brooklyn St (Site Folder: Existing AM - Network)]

Network: 1 [Ex AM Network (Network Folder: Existing)]

Intersection: Princes Hwy & Brooklyn St
Period: AM Peak Hour
Scenario: Exisitng
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Princes Highway (NE)														
5	T1	911	10.8	911	10.8	0.247	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		911	10.8	911	10.8	0.247	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
North: Brooklyn Street (NW)														
7	L2	24	4.3	24	4.3	0.049	10.9	LOS A	0.2	1.2	0.68	0.84	0.68	38.7
Approach		24	4.3	24	4.3	0.049	10.9	LOS A	0.2	1.2	0.68	0.84	0.68	38.7
West: Princes Highway (SW)														
10	L2	18	11.8	18	11.8	0.525	5.0	LOS A	0.0	0.0	0.00	0.01	0.00	55.8
11	T1	2959	4.9	2959	4.9	0.525	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.2
Approach		2977	5.0	2977	5.0	0.525	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.1
All Vehicles		3912	6.3	3912	6.3	0.525	0.1	NA	0.2	1.2	0.00	0.01	0.00	58.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▽ Site: 103 [103 AM EX Princes Hwy & Ikea (HV) DW (Site Folder: Existing AM - Network)]

Network: 1 [Ex AM Network (Network Folder: Existing)]

Intersection: Princes Hwy & Ikea (HV) DW
Period: AM Peak Hour
Scenario: Exisitng
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea (HV) DW														
1	L2	1	0.0	1	0.0	0.001	2.2	LOS A	0.0	0.0	0.35	0.30	0.35	24.2
Approach		1	0.0	1	0.0	0.001	2.2	LOS A	0.0	0.0	0.35	0.30	0.35	24.2
East: Princes Highway (NE)														
4	L2	1	0.0	1	0.0	0.167	2.1	LOS A	0.0	0.0	0.00	0.00	0.00	56.8
5	T1	911	10.8	911	10.8	0.167	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		912	10.7	912	10.7	0.167	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.6
West: Princes Highway (SW)														
11	T1	2959	4.9	2959	4.9	0.522	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
Approach		2959	4.9	2959	4.9	0.522	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.5
All Vehicles		3872	6.3	3872	6.3	0.522	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▽ Site: 104 [104 AM EX Princes Hwy & Foreman St (Site Folder: Existing AM - Network)]

Network: 1 [Ex AM Network (Network Folder: Existing)]

Intersection: Princes Hwy & Foreman St
Period: AM Peak Hour
Scenario: Exisitng
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Princes Highway (NE)														
5	T1	911	10.8	911	10.8	0.167	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		911	10.8	911	10.8	0.167	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Foreman Street (NW)														
7	L2	26	4.0	26	4.0	0.935	234.3	LOS F	3.6	25.6	0.98	1.30	2.00	5.2
9	R2	4	0.0	4	0.0	0.935	849.6	LOS F	3.6	25.6	0.98	1.30	2.00	5.2
Approach		31	3.4	31	3.4	0.935	319.2	LOS F	3.6	25.6	0.98	1.30	2.00	5.2
West: Princes Highway (SW)														
11	T1	2959	4.9	2959	4.9	0.522	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.5
Approach		2959	4.9	2959	4.9	0.522	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.5
All Vehicles		3900	6.3	3900	6.3	0.935	2.5	NA	3.6	25.6	0.01	0.01	0.02	33.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 105 [105 AM EX Princes Hwy & Ikea Access Road (Site Folder: Existing AM - Network)]

Network: 1 [Ex AM Network (Network Folder: Existing)]

Intersection: Princes Hwy & Ikea Access Road
Period: AM Peak Hour
Scenario: Exisitng
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea Access Road (SE)														
1	L2	9	0.0	9	0.0	0.029	45.9	LOS D	0.4	3.1	0.83	0.66	0.83	6.7
3	R2	13	41.7	13	41.7	* 0.076	65.5	LOS E	0.4	3.5	0.97	0.66	0.97	12.2
Approach		22	23.8	22	23.8	0.076	57.1	LOS E	0.4	3.5	0.91	0.66	0.91	10.6
East: Princes Highway (NE)														
4	L2	22	28.6	22	28.6	0.017	8.0	LOS A	0.2	2.0	0.19	0.56	0.19	39.3
5	T1	900	11.9	900	11.9	0.231	6.1	LOS A	5.8	44.9	0.36	0.32	0.36	41.9
Approach		922	12.3	922	12.3	0.231	6.1	LOS A	5.8	44.9	0.36	0.32	0.36	41.8
West: Princes Highway (SW)														
11	T1	2931	5.1	2931	5.1	* 0.603	2.6	LOS A	16.4	119.7	0.32	0.30	0.32	54.0
12	R2	43	0.0	43	0.0	0.070	8.3	LOS A	0.5	3.6	0.26	0.62	0.26	34.9
Approach		2974	5.0	2974	5.0	0.603	2.7	LOS A	16.4	119.7	0.32	0.30	0.32	53.7
All Vehicles		3918	6.8	3918	6.8	0.603	3.8	LOS A	16.4	119.7	0.33	0.31	0.33	50.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Organisation: TRAFFIX PTY LTD | Licence: NETWORK / 1PC | Created: Wednesday, 10 August 2022 4:10:30 PM
Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Phase Summaries

Site: 101 [101 PM EX Princes Hwy, Smith St & Union St (Site Folder: Existing PM - Network)]

Network: 2 [Ex PM Network (Network Folder: Existing)]

Intersection: Princes Hwy, Smith St & Union St
Period: PM Peak Hour
Scenario: Exisitng
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 130 seconds (Network Optimum Cycle Time - Minimum Delay)

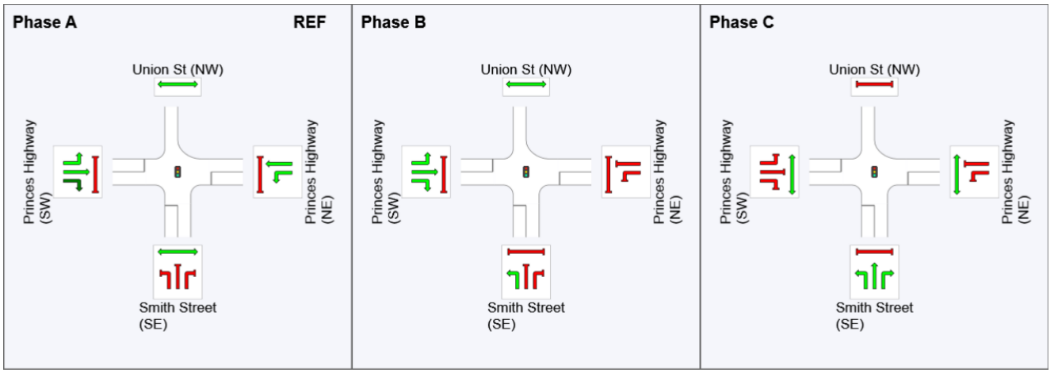
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

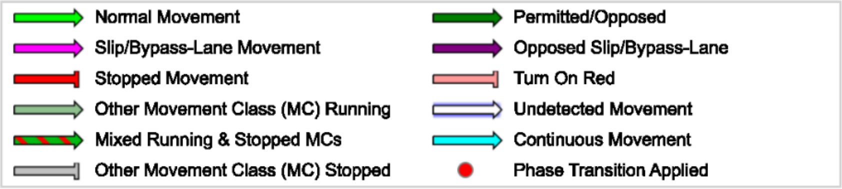
Phase	A	B	C
Phase Change Time (sec)	0	97	109
Green Time (sec)	91	6	15
Phase Time (sec)	97	12	21
Phase Split	75%	9%	16%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase


Normal Movement
Slip/Bypass-Lane Movement
Stopped Movement
Other Movement Class (MC) Running
Mixed Running & Stopped MCs
Other Movement Class (MC) Stopped
Permitted/Opposed
Opposed Slip/Bypass-Lane
Turn On Red
Undetected Movement
Continuous Movement
Phase Transition Applied

Site: 105 [105 PM EX Princes Hwy & Ikea Access Road (Site Folder: Existing PM - Network)]

Network: 2 [Ex PM Network (Network Folder: Existing)]

Intersection: Princes Hwy & Ikea Access Road
Period: PM Peak Hour
Scenario: Exisitng
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network Optimum Cycle Time - Minimum Delay)

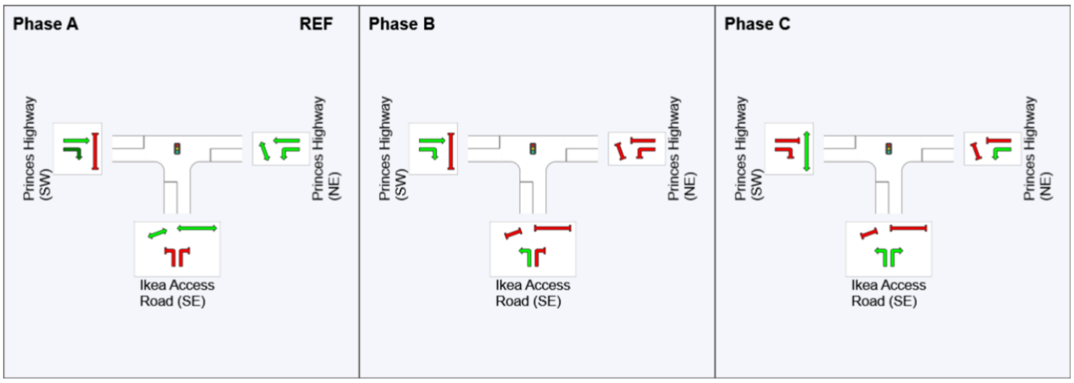
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	**A**	**B**	**C**
Phase Change Time (sec)	106	80	94
Green Time (sec)	98	8	6
Phase Time (sec)	104	14	12
Phase Split	80%	11%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

➡	Normal Movement	➡	Permitted/Opposed
➡	Slip/Bypass-Lane Movement	➡	Opposed Slip/Bypass-Lane
⇥	Stopped Movement	⇥	Turn On Red
➡	Other Movement Class (MC) Running	⇨	Undetected Movement
➡	Mixed Running & Stopped MCs	➡	Continuous Movement
⇥	Other Movement Class (MC) Stopped	●	Phase Transition Applied

Organisation: TRAFFIX PTY LTD | Licence: NETWORK / 1PC | Created: Thursday, 11 August 2022 10:29:27 AM
Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Movement Summaries

Site: 101 [101 PM EX Princes Hwy, Smith St & Union St (Site Folder: Existing PM - Network)]

Network: 2 [Ex PM Network (Network Folder: Existing)]

Intersection: Princes Hwy, Smith St & Union St
Period: PM Peak Hour
Scenario: Exisitng
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 130 seconds (Network Optimum Cycle Time - Minimum Delay)

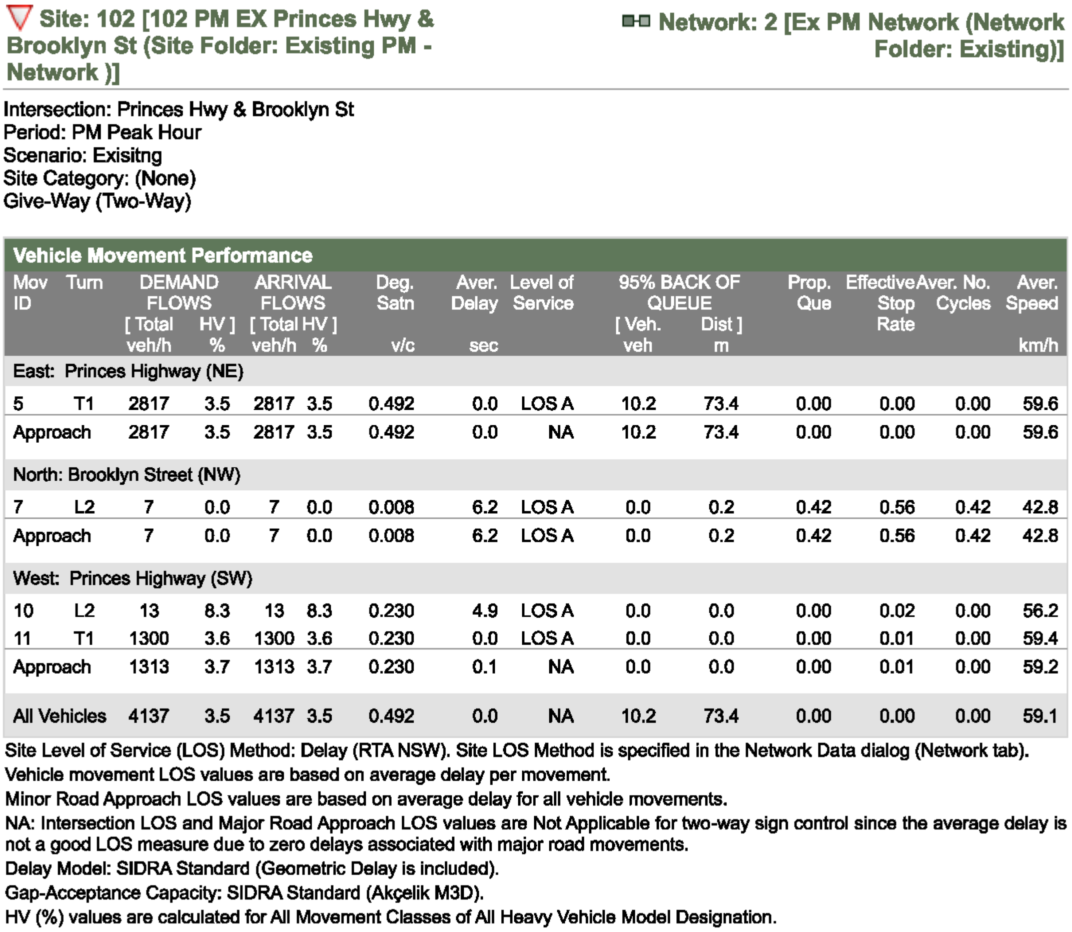
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Smith Street (SE)														
1	L2	27	3.8	27	3.8	0.070	48.1	LOS D	1.4	9.9	0.83	0.70	0.83	31.2
2	T1	36	0.0	36	0.0	*0.333	57.3	LOS E	4.6	32.3	0.96	0.75	0.96	27.6
3	R2	42	0.0	42	0.0	0.333	61.9	LOS E	4.6	32.3	0.96	0.75	0.96	19.2
Approach		105	1.0	105	1.0	0.333	56.8	LOS E	4.6	32.3	0.92	0.74	0.92	25.7
East: Princes Highway (NE)														
4	L2	25	16.7	25	16.7	*0.681	16.2	LOS B	17.0	122.4	0.61	0.58	0.61	39.3
5	T1	2739	2.7	2739	2.7	0.681	11.3	LOS A	17.1	122.4	0.61	0.57	0.61	45.4
Approach		2764	2.9	2764	2.9	0.681	11.3	LOS A	17.1	122.4	0.61	0.57	0.61	45.4
West: Princes Highway (SW)														
10	L2	32	6.7	32	6.7	0.337	9.2	LOS A	7.6	54.9	0.29	0.28	0.29	50.9
11	T1	1294	3.3	1294	3.3	0.337	4.1	LOS A	8.0	57.7	0.31	0.28	0.31	52.7
12	R2	7	0.0	7	0.0	*0.337	10.9	LOS A	8.0	57.7	0.36	0.32	0.36	50.2
Approach		1333	3.3	1333	3.3	0.337	4.3	LOS A	8.0	57.7	0.31	0.28	0.31	52.6
All Vehicles		4202	3.0	4202	3.0	0.681	10.2	LOS A	17.1	122.4	0.52	0.49	0.52	45.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)



Site: 102 [102 PM EX Princes Hwy & Brooklyn St (Site Folder: Existing PM - Network)]

Network: 2 [Ex PM Network (Network Folder: Existing)]

Intersection: Princes Hwy & Brooklyn St
Period: PM Peak Hour
Scenario: Exisitng
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Princes Highway (NE)														
5	T1	2817	3.5	2817	3.5	0.492	0.0	LOS A	10.2	73.4	0.00	0.00	0.00	59.6
Approach		2817	3.5	2817	3.5	0.492	0.0	NA	10.2	73.4	0.00	0.00	0.00	59.6
North: Brooklyn Street (NW)														
7	L2	7	0.0	7	0.0	0.008	6.2	LOS A	0.0	0.2	0.42	0.56	0.42	42.8
Approach		7	0.0	7	0.0	0.008	6.2	LOS A	0.0	0.2	0.42	0.56	0.42	42.8
West: Princes Highway (SW)														
10	L2	13	8.3	13	8.3	0.230	4.9	LOS A	0.0	0.0	0.00	0.02	0.00	56.2
11	T1	1300	3.6	1300	3.6	0.230	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	59.4
Approach		1313	3.7	1313	3.7	0.230	0.1	NA	0.0	0.0	0.00	0.01	0.00	59.2
All Vehicles		4137	3.5	4137	3.5	0.492	0.0	NA	10.2	73.4	0.00	0.00	0.00	59.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▽ Site: 103 [103 PM EX Princes Hwy & Ikea (HV) DW (Site Folder: Existing PM - Network)]

Network: 2 [Ex PM Network (Network Folder: Existing)]

Intersection: Princes Hwy & Ikea (HV) DW
Period: PM Peak Hour
Scenario: Exisitng
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %	v/c	sec		[Veh. veh	Dist] m				km/h
South: Ikea (HV) DW														
1	L2	1	0.0	1	0.0	0.004	6.6	LOS A	0.0	0.0	0.68	0.61	0.68	23.0
Approach		1	0.0	1	0.0	0.004	6.6	LOS A	0.0	0.0	0.68	0.61	0.68	23.0
East: Princes Highway (NE)														
4	L2	1	0.0	1	0.0	0.494	2.1	LOS A	1.1	8.2	0.00	0.00	0.00	56.6
5	T1	2824	3.4	2824	3.4	0.494	0.0	LOS A	1.1	8.2	0.00	0.00	0.00	59.5
Approach		2825	3.4	2825	3.4	0.494	0.0	NA	1.1	8.2	0.00	0.00	0.00	59.5
West: Princes Highway (SW)														
11	T1	1300	3.6	1300	3.6	0.227	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1300	3.6	1300	3.6	0.227	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		4126	3.5	4126	3.5	0.494	0.0	NA	1.1	8.2	0.00	0.00	0.00	59.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▽ Site: 104 [104 PM EX Princes Hwy & Foreman St (Site Folder: Existing PM - Network)]

Network: 2 [Ex PM Network (Network Folder: Existing)]

Intersection: Princes Hwy & Foreman St
Period: PM Peak Hour
Scenario: Exisitng
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total	HV]	ARRIVAL FLOWS [Total	HV]	Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE [Veh.	Dist]	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Princes Highway (NE)														
5	T1	2817	3.5	2817	3.5	0.492	0.1	LOS A	3.9	28.0	0.00	0.00	0.00	59.6
Approach		2817	3.5	2817	3.5	0.492	0.1	NA	3.9	28.0	0.00	0.00	0.00	59.6
North: Foreman Street (NW)														
7	L2	15	0.0	15	0.0	1.090	442.5	LOS F	4.3	29.9	1.00	1.55	2.48	3.1
9	R2	6	0.0	6	0.0	1.090	818.2	LOS F	4.3	29.9	1.00	1.55	2.48	3.1
Approach		21	0.0	21	0.0	1.090	555.2	LOS F	4.3	29.9	1.00	1.55	2.48	3.1
West: Princes Highway (SW)														
11	T1	1300	3.6	1300	3.6	0.227	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1300	3.6	1300	3.6	0.227	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		4138	3.5	4138	3.5	1.090	2.9	NA	4.3	29.9	0.01	0.01	0.01	42.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 105 [105 PM EX Princes Hwy & Ikea Access Road (Site Folder: Existing PM - Network)]

Network: 2 [Ex PM Network (Network Folder: Existing)]

Intersection: Princes Hwy & Ikea Access Road
Period: PM Peak Hour
Scenario: Exisitng
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 130 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea Access Road (SE)														
1	L2	123	1.7	123	1.7	0.468	58.9	LOS E	7.2	51.4	0.95	0.79	0.95	11.3
3	R2	117	3.6	117	3.6	* 0.599	74.1	LOS F	3.9	28.1	1.00	0.78	1.06	21.7
Approach		240	2.6	240	2.6	0.599	66.3	LOS E	7.2	51.4	0.98	0.79	1.01	17.6
East: Princes Highway (NE)														
4	L2	125	1.7	125	1.7	0.079	7.2	LOS A	1.2	8.5	0.17	0.58	0.17	50.2
5	T1	2678	3.0	2678	3.0	* 0.645	7.3	LOS A	27.2	195.7	0.49	0.45	0.49	48.6
Approach		2803	3.0	2803	3.0	0.645	7.3	LOS A	27.2	195.7	0.47	0.46	0.47	48.7
West: Princes Highway (SW)														
11	T1	1312	3.1	1311	3.1	0.263	1.5	LOS A	4.6	32.8	0.18	0.16	0.18	57.8
12	R2	87	0.0	87	0.0	* 0.411	28.6	LOS C	5.0	35.2	0.90	0.85	0.90	25.6
Approach		1399	2.9	1399	2.9	0.411	3.2	LOS A	5.0	35.2	0.23	0.21	0.23	55.3
All Vehicles		4442	2.9	4442	2.9	0.645	9.2	LOS A	27.2	195.7	0.42	0.40	0.43	46.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Organisation: TRAFFIX PTY LTD | Licence: NETWORK / 1PC | Created: Wednesday, 10 August 2022 4:11:58 PM
Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Phase Summaries

Site: 101 [101 SAT EX Princes Hwy, Smith St & Union St (Site Folder: Existing SAT - Network)]

Network: 7 [Ex SAT Network (Network Folder: Existing)]

Intersection: Princes Hwy, Smith St & Union St
Period: SAT Peak Hour
Scenario: Exisitng
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated   Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

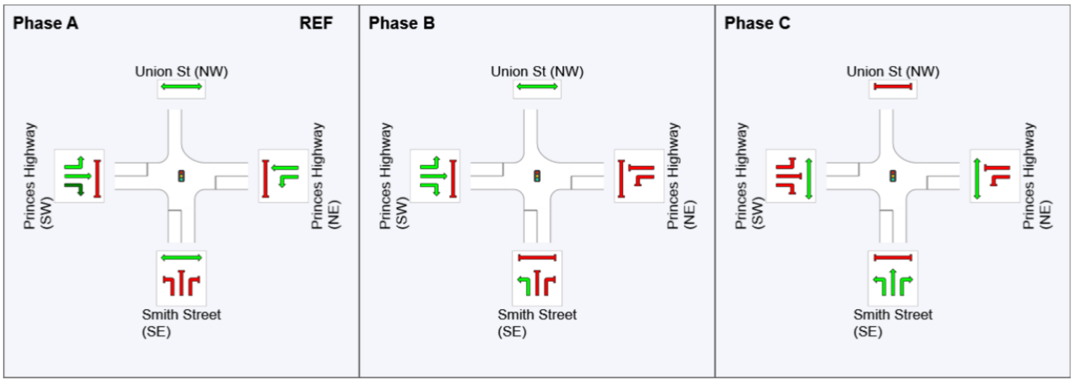
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

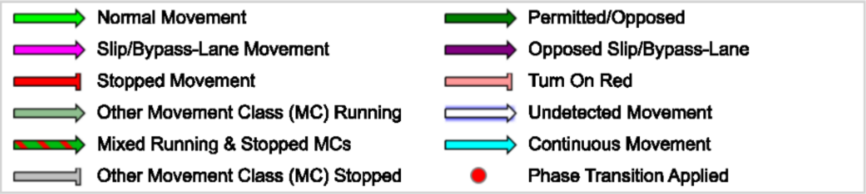
Phase	A	B	C
Phase Change Time (sec)	0	92	107
Green Time (sec)	86	9	7
Phase Time (sec)	92	15	13
Phase Split	77%	13%	11%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase


Normal Movement
Permitted/Opposed
Slip/Bypass-Lane Movement
Opposed Slip/Bypass-Lane
Stopped Movement
Turn On Red
Other Movement Class (MC) Running
Undetected Movement
Mixed Running & Stopped MCs
Continuous Movement
Other Movement Class (MC) Stopped
Phase Transition Applied

Site: 105 [105 SAT EX Princes Hwy & Ikea Access Road (Site Folder: Existing SAT - Network)]

Network: 7 [Ex SAT Network (Network Folder: Existing)]

Intersection: Princes Hwy & Ikea Access Road
Period: SAT Peak Hour
Scenario: Exisitng
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

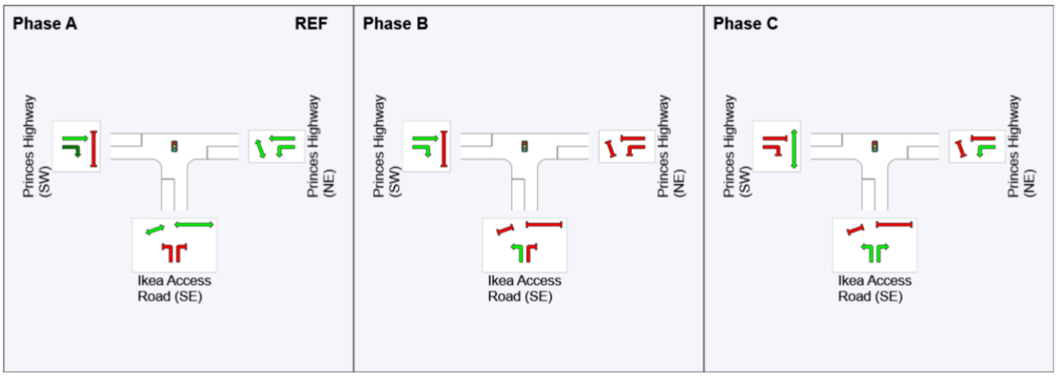
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	23	93	119
Green Time (sec)	64	20	18
Phase Time (sec)	70	26	24
Phase Split	58%	22%	20%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

🟩	Normal Movement	🟩	Permitted/Opposed
🟪	Slip/Bypass-Lane Movement	🟪	Opposed Slip/Bypass-Lane
🟥	Stopped Movement	🟥	Turn On Red
🟩	Other Movement Class (MC) Running	⇨	Undetected Movement
🟥	Mixed Running & Stopped MCs	🟦	Continuous Movement
⬜	Other Movement Class (MC) Stopped	●	Phase Transition Applied

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Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study

Template: Movement Summaries

Site: 101 [101 SAT EX Princes Hwy, Smith St & Union St (Site Folder: Existing SAT - Network)]

Network: 7 [Ex SAT Network (Network Folder: Existing)]

Intersection: Princes Hwy, Smith St & Union St
Period: SAT Peak Hour
Scenario: Exisitng
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

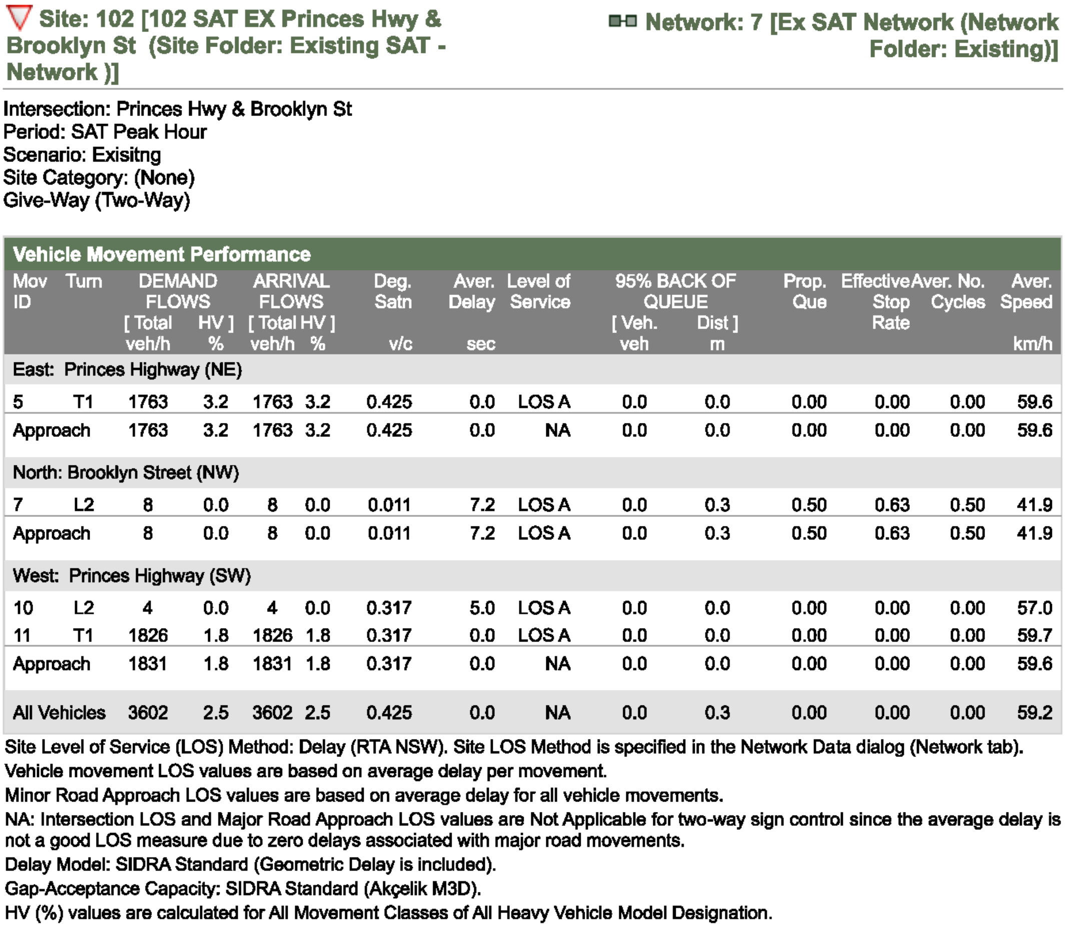
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total	HV]	[Total	HV]				[Veh.	Dist]				
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Smith Street (SE)														
1	L2	25	4.2	25	4.2	0.073	47.4	LOS D	1.2	8.8	0.85	0.70	0.85	31.4
2	T1	14	0.0	14	0.0	*0.426	61.2	LOS E	3.1	22.3	1.00	0.75	1.00	26.6
3	R2	39	2.7	39	2.7	0.426	65.8	LOS E	3.1	22.3	1.00	0.75	1.00	18.3
Approach		78	2.7	78	2.7	0.426	59.0	LOS E	3.1	22.3	0.95	0.73	0.95	24.5
East: Princes Highway (NE)														
4	L2	28	3.7	28	3.7	*0.425	11.8	LOS A	13.3	96.0	0.43	0.41	0.43	43.0
5	T1	1735	3.2	1735	3.2	0.425	6.9	LOS A	13.4	96.3	0.43	0.39	0.43	50.1
Approach		1763	3.2	1763	3.2	0.425	7.0	LOS A	13.4	96.3	0.43	0.39	0.43	50.0
West: Princes Highway (SW)														
10	L2	21	0.0	21	0.0	0.420	7.6	LOS A	7.6	54.0	0.24	0.23	0.24	52.3
11	T1	1792	1.8	1792	1.8	0.420	2.2	LOS A	8.4	59.7	0.25	0.23	0.25	55.8
12	R2	13	0.0	13	0.0	*0.420	8.1	LOS A	8.4	59.7	0.28	0.25	0.28	52.2
Approach		1825	1.7	1825	1.7	0.420	2.3	LOS A	8.4	59.7	0.25	0.23	0.25	55.6
All Vehicles		3666	2.5	3666	2.5	0.426	5.8	LOS A	13.4	96.3	0.35	0.32	0.35	50.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)



▽ Site: 102 [102 SAT EX Princes Hwy & Brooklyn St (Site Folder: Existing SAT - Network)]

Network: 7 [Ex SAT Network (Network Folder: Existing)]

Intersection: Princes Hwy & Brooklyn St
Period: SAT Peak Hour
Scenario: Exisitng
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Princes Highway (NE)														
5	T1	1763	3.2	1763	3.2	0.425	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
Approach		1763	3.2	1763	3.2	0.425	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.6
North: Brooklyn Street (NW)														
7	L2	8	0.0	8	0.0	0.011	7.2	LOS A	0.0	0.3	0.50	0.63	0.50	41.9
Approach		8	0.0	8	0.0	0.011	7.2	LOS A	0.0	0.3	0.50	0.63	0.50	41.9
West: Princes Highway (SW)														
10	L2	4	0.0	4	0.0	0.317	5.0	LOS A	0.0	0.0	0.00	0.00	0.00	57.0
11	T1	1826	1.8	1826	1.8	0.317	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		1831	1.8	1831	1.8	0.317	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.6
All Vehicles		3602	2.5	3602	2.5	0.425	0.0	NA	0.0	0.3	0.00	0.00	0.00	59.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 103 [103 SAT EX Princes Hwy & Ikea (HV) DW (Site Folder: Existing SAT - Network)]

Network: 7 [Ex SAT Network (Network Folder: Existing)]

Intersection: Princes Hwy & Ikea (HV) DW
Period: SAT Peak Hour
Scenario: Exisitng
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Ikea (HV) DW														
1	L2	1	0.0	1	0.0	0.001	3.6	LOS A	0.0	0.0	0.49	0.40	0.49	23.9
Approach		1	0.0	1	0.0	0.001	3.6	LOS A	0.0	0.0	0.49	0.40	0.49	23.9
East: Princes Highway (NE)														
4	L2	1	0.0	1	0.0	0.306	2.1	LOS A	0.0	0.0	0.00	0.00	0.00	56.7
5	T1	1753	3.2	1753	3.2	0.306	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach		1754	3.2	1754	3.2	0.306	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.7
West: Princes Highway (SW)														
11	T1	1835	1.8	1835	1.8	0.317	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1835	1.8	1835	1.8	0.317	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		3589	2.5	3589	2.5	0.317	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

▽ Site: 104 [104 SAT EX Princes Hwy & Foreman St (Site Folder: Existing SAT - Network)]

Network: 7 [Ex SAT Network (Network Folder: Existing)]

Intersection: Princes Hwy & Foreman St
Period: SAT Peak Hour
Scenario: Exisitng
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Princes Highway (NE)														
5	T1	1749	2.6	1749	2.6	0.304	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1749	2.6	1749	2.6	0.304	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
North: Foreman Street (NW)														
7	L2	16	6.7	16	6.7	0.273	16.6	LOS B	0.7	5.1	0.90	0.98	0.98	19.7
9	R2	3	0.0	3	0.0	0.273	260.3	LOS F	0.7	5.1	0.90	0.98	0.98	19.7
Approach		19	5.6	19	5.6	0.273	57.2	LOS E	0.7	5.1	0.90	0.98	0.98	19.7
West: Princes Highway (SW)														
11	T1	1872	2.1	1872	2.1	0.324	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach		1872	2.1	1872	2.1	0.324	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles		3640	2.4	3640	2.4	0.324	0.3	NA	0.7	5.1	0.00	0.01	0.01	56.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).

Vehicle movement LOS values are based on average delay per movement.

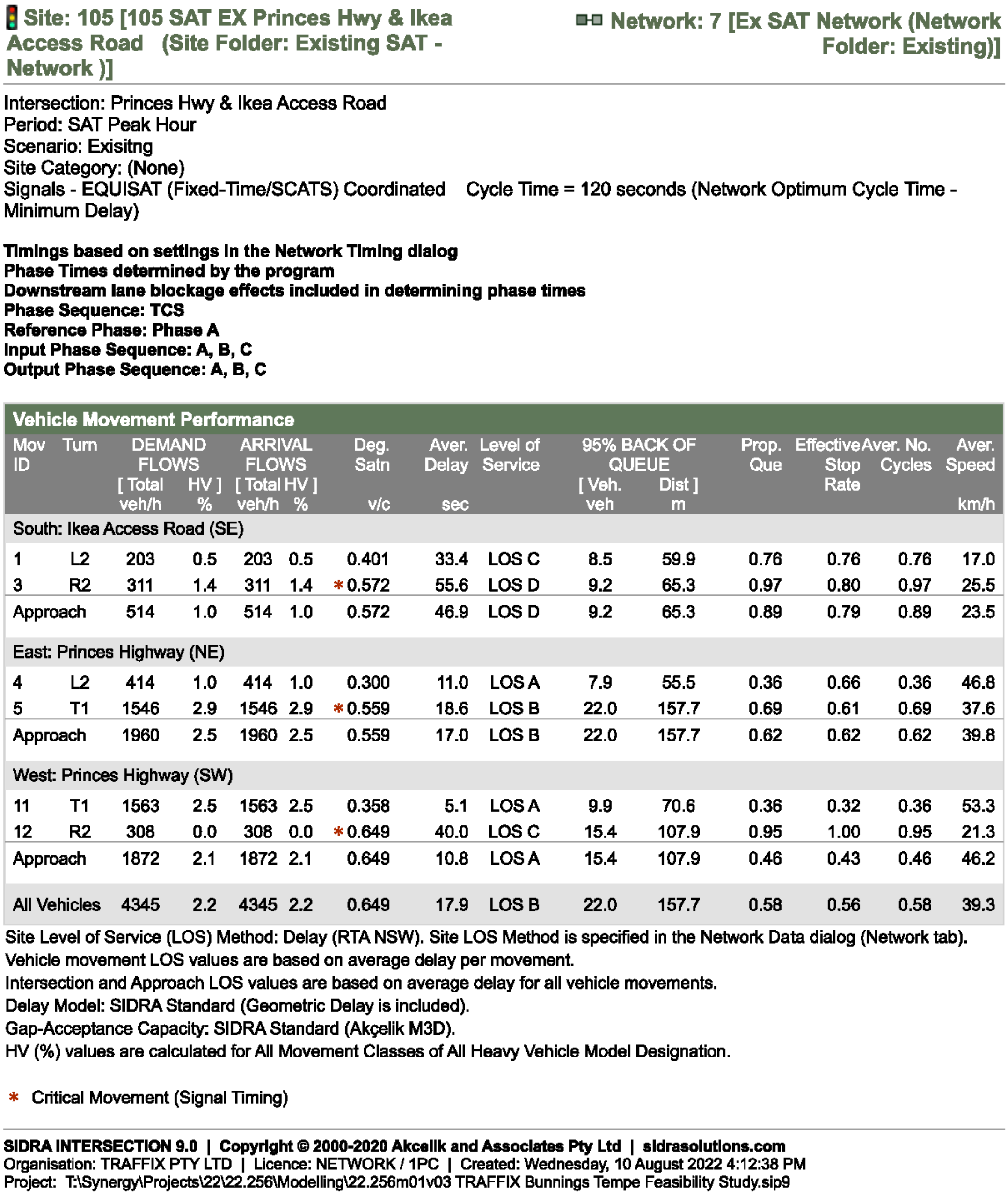
Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Site: 105 [105 SAT EX Princes Hwy & Ikea Access Road (Site Folder: Existing SAT - Network)]

Network: 7 [Ex SAT Network (Network Folder: Existing)]

Intersection: Princes Hwy & Ikea Access Road
Period: SAT Peak Hour
Scenario: Exisitng
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 120 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: TCS
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total	HV]	[Total	HV]				[Veh.	Dist]				
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Ikea Access Road (SE)														
1	L2	203	0.5	203	0.5	0.401	33.4	LOS C	8.5	59.9	0.76	0.76	0.76	17.0
3	R2	311	1.4	311	1.4	* 0.572	55.6	LOS D	9.2	65.3	0.97	0.80	0.97	25.5
Approach		514	1.0	514	1.0	0.572	46.9	LOS D	9.2	65.3	0.89	0.79	0.89	23.5
East: Princes Highway (NE)														
4	L2	414	1.0	414	1.0	0.300	11.0	LOS A	7.9	55.5	0.36	0.66	0.36	46.8
5	T1	1546	2.9	1546	2.9	* 0.559	18.6	LOS B	22.0	157.7	0.69	0.61	0.69	37.6
Approach		1960	2.5	1960	2.5	0.559	17.0	LOS B	22.0	157.7	0.62	0.62	0.62	39.8
West: Princes Highway (SW)														
11	T1	1563	2.5	1563	2.5	0.358	5.1	LOS A	9.9	70.6	0.36	0.32	0.36	53.3
12	R2	308	0.0	308	0.0	* 0.649	40.0	LOS C	15.4	107.9	0.95	1.00	0.95	21.3
Approach		1872	2.1	1872	2.1	0.649	10.8	LOS A	15.4	107.9	0.46	0.43	0.46	46.2
All Vehicles		4345	2.2	4345	2.2	0.649	17.9	LOS B	22.0	157.7	0.58	0.56	0.58	39.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

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Project: T:\Synergy\Projects\22\22.256\Modelling\22.256m01v03 TRAFFIX Bunnings Tempe Feasibility Study.sip9

Item No: **LTC0922(1) Item 1**

Subject: **SEAVIEW STREET DULWICH HILL - PROPOSED CONVERSION OF EXISTING 'BUS ZONE 8.00-9.00AM AND 2.30—3.30PM SCHOOL DAYS' TO 'NO PARKING, BUSES EXCEPTED, 8AM – 9.30AM & 2.30PM – 4PM, MON – FRI, SCHOOL DAYS ONLY' RESTRICTIONS OUTSIDE DULWICH HILL HIGH SCHOOL (DJARRAWUNANG-ASHFIELD WARD/SUMMER HILL ELECTORATE /INNER WEST LAC)**

Prepared By: Jennifer Adams - Engineer – Traffic and Parking Services

Authorised By: George Tsaprounis - Coordinator – Traffic and Parking Services

SUMMARY

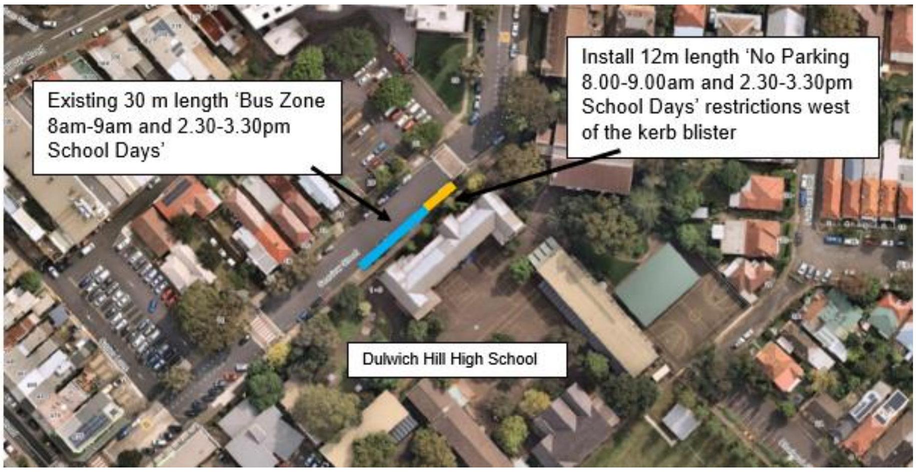
Council initially planned to install a short drop-off zone outside Dulwich Hill High School to aid parents dropping off students at the school as several complaints had been received that there was no suitable location available to legally drop off students in Seaview Street outside the school. The community and the school were consulted on the proposal and due to feedback from the school it was decided that the existing school bus stop could be converted to 'No Parking, Buses excepted 8am-9am 2.30pm-3.30pm Mon-Fri School Days' which can then act as a drop-off zone when not in use by buses. These restrictions would be in place subject to school management of the use of the 'No Parking' area when required by buses.

RECOMMENDATION

That the existing 30 metre length of the school timed Bus Zone ('8.00-9.00am and 2.30—3.30pm School Days') outside Dulwich Hill High School, on the southern side of Seaview Street, Dulwich Hill be approved to be converted to 'NO PARKING, BUSES EXCEPTED, 8AM – 9.30AM & 2.30PM – 4PM, MON – FRI, SCHOOL DAYS ONLY' in order to provide a proxy drop-off zone outside Dulwich Hill High School.

BACKGROUND

Seaview Street, is a local street with a combination of residential, business and special use zonings. It runs north / south between Marrickville Road and Herbert Street, Dulwich Hill. Dulwich Hill High School frontage takes up a considerable length of the street. Currently there is unrestricted parking along the southern side of Seaview Street east of the school timed Bus Zone ('8.00-9.00am and 2.30—3.30pm School Days') outside the school and it was proposed to utilise two adjacent unrestricted car parking spaces in between the kerb blister island and the school timed Bus Zone as a time restricted drop-off zone. Refer to the diagram below.



Surrounding local residents and businesses and the school were consulted on the proposal. Only the school responded. They were concerned that using the proposed spaces would be dangerous as "*cars would be pulling in and out of the zone which is just after a corner with reduced visibility for drivers*. *It is also opposite the entry for the council carpark which is a high pedestrian and vehicular throughfare. This site will also increase the number of drivers doing "U Turns" in front of the school."*

The school proposed two alternative sites for a short drop-off zone:

"Herbert street where there is currently two-hour parking, it is a wide street with a short walk to the school entrance. Alternatively, to put a new pedestrian crossing opposite the school and create a short term drop-off area in the Seaview street carpark across from the school."

Neither of these were considered suitable as drop-off zones are generally adjacent to the school boundary in an existing 'No parking' area under the TfNSW Drop-off initiative. Further, it is noted that school drop-off / pick-up zones are typically placed adjacent to Primary Schools where children are still developing road safety skills. However, in this particular case, given the schools' proximity to Dulwich Hill shops and two off-street car parks, it was considered that there may be an advantage to providing some drop off spaces to reduce the chances of illegal double parking and possible congestion during school arrival and departure times.

The converted bus zone, when installed, will effectively work as a 'unofficial' drop off and pick up zone outside the school and vehicles will be able to pull up in this area and drop off children within the 'No Parking' two minute allowable time frame (ie. when the area is not occupied by buses). It is noted that a similar system is operating at Dulwich Hill Public School in Hercules Street, Dulwich Hill.

Financial Implications:

The cost of the supply and installation of the signposting is to be funded from Council's signs and line marking budget.

Public Consultation:

A notification letter outlining the original proposal was sent out to local residents / businesses opposite the school and an email was sent to Dulwich Hill High School on 27 May 2022. Eight notifications went out and the only response was from the Dulwich Hill High School. Following changes to the proposal, the school was once again consulted and provided support to the proposal subject to the zone being reviewed once operational.

Conclusion

In order to improve accessibility and increase safety it is recommended that the conversion of the existing school bus stop to ‘No Parking, Buses excepted 8am-9am 2.30pm-3.30pm Mon-Fri School Days’ restrictions on the southern side of Seaview Street, Dulwich Hill be approved.

ATTACHMENTS

Nil.

Item No: **LTC0922(1) Item 2**

Subject: **TRAFFIC MANAGEMENT PLAN FOR THE 2022 NEW YEAR'S EVE EVENT (BALUDARRI-BALMAIN WARD/ BALMAIN ELECTORATE/ LEICHHARDT PAC)**

Prepared By: Vinoth Srinivasan - Engineer - Traffic and Parking Services

Authorised By: Sunny Jo - Acting Traffic and Transport Manager

SUMMARY

As instructed by the Police, access to the Balmain peninsula is closed to vehicular traffic every New Year's Eve. This report outlines the traffic management associated with the event.

RECOMMENDATION

That:

1. **The Traffic Management Plan (Attachment 1) detailing the traffic arrangements for the 2022 New Year's Eve be supported;**

2. **The Traffic Management Plan (Attachment 1) be forwarded to Council's Parks and Streetscapes Coordinator, Transport Management Centre and the Major Events & Incidents Group (NSW Police);**

3. **A temporary 'No Stopping' zone be installed on the eastern side of Montague Street between Darling Street and Beattie Street, Balmain;**

4. **That the following temporary modifications to bus stops be approved:**
   - a) **On the northern side of Darling Street:**
     - i. **Install temporary 'Bus Zones' between Mort Street and Ford Street.**
     - ii. **Extend the 'Bus Zone' between Ford Street and McDonald Street.**
     - iii. **Extend the 'Bus Zone' between McDonald Street and Curtis Road, outside Nos.217-223 Darling Street.**
   - b) **On the southern side of Darling Street:**
     - i. **Install a temporary 'Bus Zone' between Booth Street and Beattie Street, outside No. 244-270 Darling Street.**
   - c) **On the eastern side of Grove Street between Wharf Road and Bay Street, Birchgrove.**

5. **The Transit Systems representative be requested to place adequate notices on buses regarding the establishment of an alcohol free zone in the Balmain East area (details to be provided by Council);**

6. **The taxi/hire car access to the Peninsula be restricted from 7:00pm;**

7. **Taxis/hire cars carrying mobility impaired or infirmed residents be permitted access at all hours into the Peninsula; and**

8. **The NSW Taxi Council be advised of the Committee's recommendation.**

BACKGROUND & OTHER STAFF COMMENTS

Traffic Management

The following roads will be closed to all vehicular traffic between 3:00pm Saturday, 31 December 2022 and 12:00am on Sunday, 1 January 2023 to cater for the New Year's Eve celebrations:

- Brent Street at Evans Street intersection, Rozelle (both directions).
- Mansfield Street at Evans Street intersection, Rozelle (both directions).
- Hanover Street at Evans Street intersection, Rozelle (both directions).
- Mackenzie Street at Victoria Road intersection, Rozelle (both directions).
- Hartley Street at Victoria Road intersection, Rozelle (both directions).
- Joseph Street at Victoria Road intersection, Rozelle (both directions).
- Loughlin Street at Victoria Road intersection, Rozelle (both directions).
- Crescent Street at Robert Street intersection, Rozelle (both directions).
- Buchanan Street at Robert Street intersection, Balmain (both directions).
- Waragal Avenue at Terry Street intersection, Rozelle (both directions).
- McKell Street at Yeend Street intersection, Birchgrove (both directions).

In addition, the following roads will be closed to all vehicular traffic except State Transit Authority/Transit Systems buses, Taxis, Hire Cars and Balmain Access Permit holders and will be manned by NSW Police officers between 3:00pm Saturday, 31st December 2022 and 12:00am on Sunday, 1st January 2023:

- Terry Street at Wellington Street intersection, Rozelle (northbound direction).
- Darling Street at Nelson Street intersection, Rozelle (northbound direction).
- Darling Street at Ewenton Street intersection, Balmain (eastbound direction).
- Evans Street at Merton Street intersection, Rozelle (northbound direction).
- Evans Street at Nelson Street, Rozelle (both directions).
- Mullens Street at Robert Street intersection, Rozelle (both directions).
- Ballast Point Road at Lemm Street-Yeend Street intersection, Birchgrove (south and eastbound directions).
- Wharf Road at Grove Street intersection, Birchgrove (eastbound direction).
- Robert Street at Crescent Street, Rozelle (northbound direction).
- Grove Street at Rose Street, Birchgrove (eastbound direction).

The following plan indicates the road closure points.

A Traffic Management Plan including Traffic Control Plans outlining the above road closures and the bus route changes is attached in **Attachment 1**.

Taxi Access

As previously recommended, the NSW Taxi Council will again be requested to inform their members of the proposed taxi access restriction after 7pm to minimise traffic congestion in the peninsula and improve pedestrian safety. Taxis will therefore need to use the following drop-off point locations:

- Taxis entering Terry Street - In the unrestricted parking on the eastern side of Terry Street or 'Bus Zone' and timed kerbside parking along Wellington Street.
- Taxis entering Darling Street - In the ticket parking areas along Darling Street and Nelson Street.
- Taxis entering Robert Street – In the restricted parking area and 'Bus Zone'.

Public Transport Access

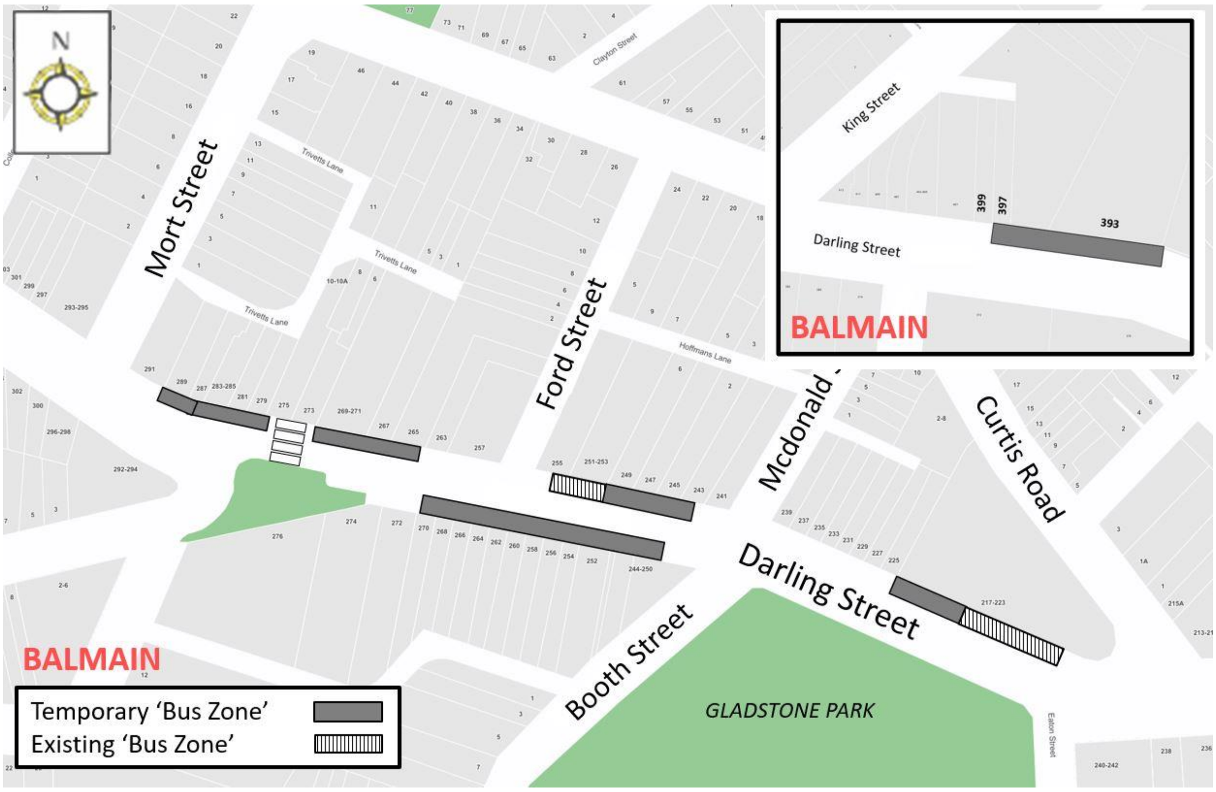
Transit Systems will be scheduling additional services into the Balmain peninsula to cater for the New Year's Eve celebrations.

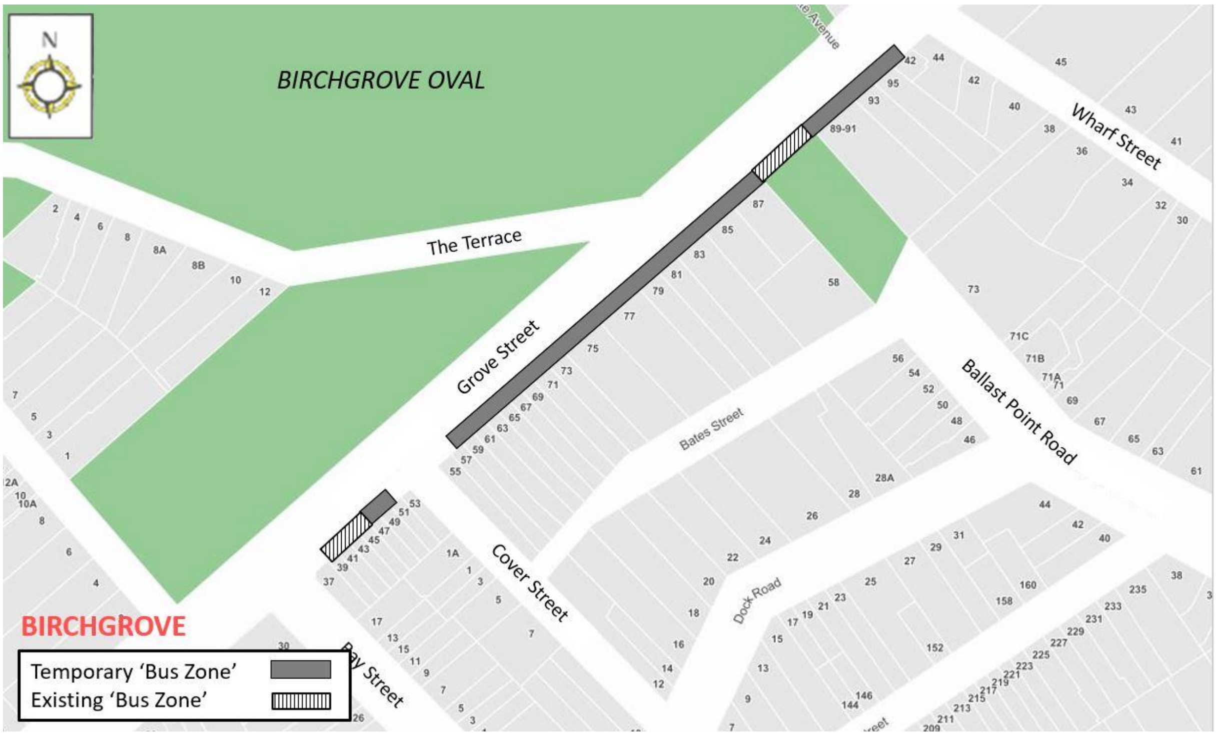
As such, temporary 'Bus Zones' will be installed at the following locations:

- Darling Street and the existing 'Bus Zones' on Darling Street between Mort Street and Curtis Road, Balmain.
- Eastern side of Grove Street between Wharf Road and Bay Street, Birchgrove.

The ‘Bus Zones’ on Grove Street will be used by Transit Systems and the Police to store buses on New Year's Eve. This is required for the safe bump out of the general public from Birchgrove as identified from a debrief from a previous New Year's Eve event conducted in the Balmain Peninsular.

The signs defining the temporary restrictions be in place after 12 Noon on 31 December 2022 and will be removed the following day.





Based on discussions held in previous years regarding disruptions to bus services leaving Gladstone Park/Curtis Road roundabout due to the gathering of large crowds, the Glebe Police representative introduced Police bike units to manage the crowds in the area.

In addition, to avoid delays that occurred at the Robert Street/Mullens Street intersection (which is a Police check point), buses entering Robert Street from Victoria Road are proposed to use Crescent Street and Parsons Street to access Mullens Street (see TCP 06/07 in **Attachment 1**).

It should be noted that Council will install variable message signs ("Balmain Peninsula is closed" and "Alcohol Free Zone") on the main access roads into Balmain Peninsula a few days in advance of the event;

Temporary 'No Stopping' Restrictions

Following a previous year's event, the Sydney Buses representative advised that several vehicles parked on Montague Street out from the kerb thus narrowing the carriageway and preventing buses from passing each other. Therefore, it is proposed to install temporary 'No Stopping' zone on the eastern side of Montague Street between Darling Street and Beattie Street. The residents will be advised of this arrangement in advance of the event.

Resident Access

To ensure resident access is maintained, the following permits will be accepted for access to the Balmain / Rozelle peninsula:

- Inner West Council Resident Access Permit.
- Inner West Council current Resident Parking Scheme Permit for Areas; B1, B2, B3, B5, BE, BG, R1, R2, R3 & R4.
- Australian Mobility Parking Scheme permit

Alcohol Free Zones

Council has already received approval to re-establish the Alcohol Free Areas for the New Year's Eve celebrations in 2020, 2021 & 2022 at the following locations:

- Illoura Reserve
- 2-8 Weston Street
- Thornton Park
- Lookes Avenue Reserve
- Simmons Point Reserve
- Yurulbin Park
- Birchgrove Park
- Miklouho-Maclay Park
- Mort Bay Park
- College Street playground
- Harris Reserve
- Brownlee Reserves
- Darling Street from Duke Street to Darling Street Wharf
- Darling Street Wharf, Balmain East;
- Lookes Avenue
- Weston Street

These alcohol restrictions are proposed to be in place from 12.00pm (noon) 31 December 2022 to 3.00am 1 January 2023.

Matters arising from previous events

Residents' Comments	Officer Comments
The barricades on Merton Street at the intersection of Evans Street were not installed as initially advised by Council in the notification letter sent out to residents in December 2021. *Leading up to the 12pm fireworks, drivers are looking for car spaces with vehicles often parking across driveways and in 'No Stopping' restrictions.* *In future, the peninsula needs to be blocked off from Victoria Road to as it causes a back log of traffic, illegal parking and dangerous behavior on residential streets such as Merton Street.*	*Council's civil works crew has been notified of the missing barricades on Merton Street at the intersection of Evans Street. The barricades will be installed correctly this year as per the plan.* *The Police and Council's enforcement team have been notified of the illegal parking behavior that occurred at last year's event in Merton Street.* *Merton Street is one of several roads that act as a traffic redistribution route to remove this non-resident traffic entering the Balmain peninsular.* *Merton Street is one way towards Darling Street and allows this traffic redistribution without significant vehicular conflict, noting the lack of opposing vehicle movements. Therefore, no changes to the TMP are proposed.*

FINANCIAL IMPLICATIONS

Funding for costs associated with New Year's Eve including labour, notifications and permits have been budgeted for in the 2022-23 operational plan.

PUBLIC CONSULTATION

The proposed road closures are currently being advertised on Council's website in accordance with the Roads Act 1993 for a period of 28 days from 19 August 2022 to 16 September 2022. No comments have been received to date.
In December, the details of these traffic arrangements will be re-advertised on Council's website and via a mail out to all occupants in the Balmain peninsula.

The road closures and other event information will also be available on the Sydney New Year's Eve Event website.

ATTACHMENTS

1.⇩ New Year's Eve Road Closures - TMP and TCP

TRANSPORT MANAGEMENT PLAN

New Year's Eve Fireworks
Balmain Peninsular
December 31st

PREPARED ON BEHALF OF

INNER WEST

Version 21.0
1st Oct 2021

Prepared by
WHO DARES PTY LTD
CANAL ROAD FILM CENTRE
SHED 8 / 1 CANAL ROAD
LEICHHARDT 2040

TRAFFIC PLANNERS
SAFETY CONSULTANTS

PHONE
9659 9922

Document Author: **Greg Mooney**
Who Dares Pty Ltd
Certificate: PWZ 0027718
Phone 9569 9922

Version Control

Version	Date	Status	Comments
Version 21.0	1 Oct, 2020	FINAL	

Introduction

This plan has been prepared on behalf of **INNER WEST COUNCIL.**
It has been prepared after discussions with Councils Traffic Engineers and Leichhardt Police.
The plan relates to New Year's Eve road closures in Rozelle, Birchgrove, Balmain and Balmain East.

Objective

It is the objective of this report to set out the means and measures by which roads will be closed to through traffic to provide a safe area for the general public to view the New Year's Eve fireworks.

The plan will include a description and detailed plan of the proposed measures, will identify, and assess the impact of the proposed measures, will discuss the impact of re-assigned traffic, the proposal's effect on public transport services and what provisions are to be made for Emergency Services vehicles, heavy vehicles, cyclists and pedestrians.

Authority of the TMP

This Traffic Management Plan (TMP) when approved by the relevant authorities becomes the prime document detailing the traffic, transport and pedestrian arrangements under which the Sydney New Year's Eve Fireworks will operate within the Inner West Council area.

In case of emergencies, or for the management of incidents, the NSW Police are not subject to the conditions of this TMP but should endeavour to inform other agencies of the nature of the incident and the Police response.

Contacts

INNER WEST COUNCIL

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Traffic & Transport Planning Manager

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NSW POLICE - Leichhardt Police Area Command

Inspector Gretchen Grove-Jones
Inspector – Operation

	Phone	02 9552 8099
	Email	grov1gre@police.nsw.gov.au

NSW Police - State Planning Unit

Chief Inspector Amanda Calder
Major Events & Incidents Group

	Phone	02 9265 4722
	Email	#ONROADEVENTS@police.nsw.gov.au

TRANSPORT FOR NSW

Tamara Holmes

Transport Operation Planner		
Customer Journey Planning	Phone	02 8396 1648
	Mobile	0459 846 360
	Email	tamara.holmes@transport.nsw.gov.au

1. New Year's Eve

1.1 The fireworks display will take place on Sydney Harbour at 2100 hours and 12 midnight.
1.2 Large crowds are expected at all Sydney Harbour vantage points.
1.3 Previous experience has shown that crowds arrive from early in the day and build from around 1500 hours.

2. Road Closures

2.1. ROAD CLOSURES to all vehicles **EXCEPT** STA and Transit System buses, taxis and resident access permits.

- **Darling Street** at Nelson Street intersection, Rozelle (northbound direction)
- **Evans Street** at Merton Street intersection, Rozelle (northbound direction)
- **Terry Street** at Wellington Street intersection, Rozelle (northbound direction)
- **Robert Street** at Victoria Road intersection, Rozelle (eastbound directions)
- **Mullens Street** closed at Robert Street intersection (both directions)
- **Darling Street** at Ewenton Street intersection, Balmain (eastbound direction)
- **Ballast Point Road** at Lemm Street-Yeend Street intersection, Birchgrove (eastbound direction)
- **Wharf Road** at Grove Street intersection, Birchgrove (eastbound direction)

2.2 ROAD CLOSURES All Vehicles

- **Brent Street** at Evans Street intersection, Rozelle (both directions)
- **Evans St** at Nelson Street intersection, Rozelle (both directions)
- **Mansfield Street** at Evans Street intersection, Rozelle (both directions)
- **Hanover Street** at Evans Street intersection, Rozelle (both directions)
- **Mackenzie Street** at Victoria Road Street intersection, Rozelle (both directions)
- **Hartley Street** at Victoria Road Street intersection, Rozelle (both directions)
- **Joseph Street** at Victoria Road Street intersection, Rozelle (both directions)
- **Loughlin Street** at Victoria Road Street intersection, Rozelle (both directions)
- **Crescent Street** at Robert Street intersection, Rozelle (both directions)
- **Buchanan Street** at Robert Street intersection, Balmain (both directions)
- **Waragal Avenue** at Terry Street intersection, Rozelle (both directions)
- **McKell Street** at Yeend Street intersection, Birchgrove (both directions)
- **Terry Street** at Wellington Street intersection, Rozelle (northbound direction)
- **Yeend Street** at Ballast Point Road intersection, Birchgrove (both directions)
- **Rose Street** at Grove Street intersection, Birchgrove (northbound)

2.3 RESIDENT ACCESS PERMITS

2.3.1 The following permits will be accepted for access to the Balmain / Rozelle peninsula:

- Inner West Council Resident Access Permit.
- Inner West Council Current Resident Parking Scheme Permit for Areas B1, B2, B3, B5, BE, BG, R1, R2, R3 and R4.
- RMS/TfNSW Mobility Parking Scheme Permit.

2.4 TAXI AND HIRE CAR ACCESS

2.4.1 Taxi and Hire Cars are permitted past the closures **only up till 7pm** (1900 hours) New Year's Eve 31st December.

3. Special Event Clearways

3.1 Transport for NSW (TfNSW) will operate a special event clearway western side of Victoria Road from The Crescent, Rozelle to Westbourne Street Drummoyne, from 2pm 31st December until 2am 1st.

4. Road Closure and re-opening times

4.1 Roads will be closed from 1500 and re-opened by the Police after the crowd has dispersed after the midnight fireworks.

5. Identification and assessment of impact of proposed measures and notification

5.1. The proposal will have a reasonably significant impact as it includes the closure of Darling Street. Vehicle movement will be directed away from the area affected by the closures. Local residential access will be maintained by Police.

5.2 Road closures and times will be advertised via:

5.3.1 Inner West Council website.
5.3.2 Traffic live website.
5.3.3 New Year's Eve website.
5.3.4 Mail out to all occupants in the peninsula.

5.3 Transport Management Centre (TMC) Permanent Variable Message Signs

Due to the impact of the New Year's Eve on the road network, several permanent Variable Message Signs (VMS) will be used to inform the public of the event and potential traffic delays.

6. Alcohol Free Zones

6.1. Like previous years, alcohol free zones will be established for New Year's Eve from 12.00pm (noon) 31st December to 3.00am 1st January at

6.1.1 Illoura Reserve.
6.1.2 Thornton Park.
6.1.3 Lookes Avenue Reserve.
6.1.4 Simmons Point Reserve.
6.1.5 Darling Street from Duke Street to Darling Street Wharf.
6.1.6 Lookes Avenue and Weston Street, Balmain East.
6.1.7 Yurulbin Park (Louisa Road)
6.1.8 Ballast Point Park
6.1.9 Birchgrove
6.1.10 Miklouho - Maclay and Mort Bay Parks
6.1.11 College Street Playground
6.1.12 Harris and Brownlee Reserves Birchgrove

7. Assessment of public transport services affected

7.1. State Transit Authority (STA) and Transit Systems will operate services to a special New Year's Eve timetable increasing services to all routes servicing vantage points.
7.2. STA and Transit Systems bus services will need to be re-routed. TfNSW will provide notification of affected services.
7.3. Bus stops on both sides of Darling Street near Curtis Road will be temporarily extended.
7.4. A temporary Bus Zone will be installed in Darling Street between Ford Street and McDonald Street, Balmain.
7.5. A temporary Bus Zone be installed on the southern side of Darling Street between Booth Street and opposite Ford Street outside number 258-260 Darling Street (50m).
7.6. A temporary No Stopping Zone be installed on the eastern side of Montague Street between Little Darling St and Beattie St.
7.7. Police have been requested to provide bike unit resources to improve traffic/crowd controls around the Darling Street/Curtis Road intersection.
7.8. Sydney Harbour Ferry services will be suspended on New Year's Eve from approximately 1800 hours. Sydney Ferries will provide notification of affected services.

8. Details of provision made for emergency vehicles, pedestrian, disabled parking

8.1. **Emergency Services** will be informed of the event and a copy of the TMP will be sent by Inner West Council.
8.2. **In the case of an emergency** along the event route that will require an emergency vehicle to attend Police and Council Staff will be on hand to facilitate.
8.3. **Pedestrian** access will be maintained to footpaths, some points will be facilitated by Police.
8.4. Police will allow vehicles displaying a TfNSW Mobility Parking Permit access into the closures.

9. Cleaning

9.1. Cleaning crews will be on stand-by between 2300 hours 31st December and 0200 hours on 1st January.

10. Assessment of effect on existing and future developments with transport implications in the vicinity of the proposed measures

10.1. It is the intention to implement plans in line with previous New Year's Eve activities of a similar scope to contribute to the amelioration of as much inconvenience as possible in order to not effect negatively on any future events.
10.2. Residents and business owners around the area will be notified by a letterbox drop 3 weeks prior.
10.3. Council will undertake an information campaign to business owners, residents in the affected area by way of a letter drop at least seven days prior and that any concerns raised by those people are attended to.
This will be done through advertising in newspapers, the TfNSW Live Traffic, Sydney NYE and Council's websites, along with VMS boards placed by Transport for NSW.

11. Privacy Notice

The "Personal Information" contained in the completed Transport Management Plan may be collected and held by the NSW Police, Transport for NSW (TfNSW), or Local Government.

I declare that the details in this application are true and complete. I understand that:

- The "personal information" is being collected for submission of the Transport Management Plan for the event described in Section 1 of this document.
- I must supply the information under the Road Transport Legislation (as defined in the Road Transport (General) Act 1999) and the Roads Act 1993.
- Failure to supply full details and to sign or confirm this declaration can result in the event not proceeding.
- The "personal information" being supplied is either my own or I have the approval of the

person concerned to provide his/her "personal information".

- The "personal information" held by the Police, TfNSW or Local Government may be disclosed inside and outside of NSW to event managers, or any other person or organisation required to manage or provide resources required to conduct the event or to any business, road user or resident who may be impacted by the event;
- The person to whom the "personal information" relates has a right to access or correct it in accordance with the provisions of the relevant privacy legislation.

Physical Survey of the Route

Item	Verified	Action Taken
All one-way Streets are as described	☒	
Block access to local businesses	☒	Local Businesses will be aware of the road closures
Block Ambulance access	☒	All Emergency Services notified of event by event organiser. Police to facilitate emergency vehicle access
Block local resident access	☒	Limited access provided under police control
Block Police vehicle access	☒	Police to facilitate access
Block public transport access	☒	Some delays due to traffic diversion
Restricted movements – banned turns, heavy/high vehicles	☒	Intersections under Police
Road signage – existing/temporary	☒	
Signalised intersections	☒	To be managed by Police
Traffic generators – shopping centres, schools, churches, industrial area, hospitals	☒	Traffic generators are aware of standard road closures

Contingency Plan Checklist

Issues/Risks	Applicable	Action Taken
Heavy Weather	☒ Yes	Only in Extreme Weather conditions would this event not take place
Accident on the route	☒ No	Standard
Breakdown of vehicle or heavy vehicle	☒ No	Standard
Security of participants	☒ Yes	Police will be on-site
Security of very important persons (VIPs)	☒ No	

ANNEXURES

	Document	Source
ANNEX 1	Special Event Road Closures & Clearways Map	TfNSW
ANNEX 2	Road Occupancy License	IW Council

ATTACHMENTS

- *TCP's*
    - TCP 01 Hanover St & Evans St ROZELLE
    - TCP 02 Mansfield St & Evans St ROZELLE
    - TCP 03 Brent St & Evans St ROZELLE
    - TCP 04 Victoria Rd at Mackenzie St & Hartley St ROZELLE
    - TCP 05 Victoria Rd Joseph St & Loughlin St ROZELLE
    - TCP 06 Victoria Rd & Robert St ROZELLE
    - TCP 07 Robert St & Mullens St ROZELLE
    - TCP 08 Buchanan St & Robert St ROZELLE
    - TCP 09 Waragal Ave & Terry St ROZELLE
    - TCP 10 Terry St & Wellington St ROZELLE
    - TCP 11 McKell St & Yeend St BIRCHGROVE
    - TCP 12 Darling St & Nelson St ROZELLE
    - TCP 13 Darling St & Ewenton St BALMAIN
    - TCP 14 Wharf Rd & Grove St BIRCHGROVE
    - TCP 15 Darling St & Curtis Rd BALMAIN
    - TCP 16 Temp Bus stops Darling St BALMAIN
    - TCP 17 Temp No Stopping Montague St BALMAIN
    - TCP 18 Rose St & Grove St BIRCHGROVE

ANNEX 1 - SPECIAL EVENT ROAD CLOSURES & CLEARWAYS

Attach Map from TfNSW when available

ANNEX 2 – ROAD OCCUPANCY LICENSE

www.invarion.com

NEW YEARS EVE

TRAFFIC CONTROL PLANS

- TCP 01 Hanover St & Evans St ROZELLE
- TCP 02 Mansfield St & Evans St ROZELLE
- TCP 03 Brent St & Evans St ROZELLE
- TCP 04 Victoria Rd at Mackenzie St & Hartley St ROZELLE
- TCP 05 Victoria Rd Joseph St & Loughlin St ROZELLE
- TCP 06 Victoria Rd & Robert St ROZELLE
- TCP 07 Robert St & Mullens St ROZELLE
- TCP 08 Buchanan St & Robert St ROZELLE
- TCP 09 Waragal Ave & Terry St ROZELLE
- TCP 10 Terry St & Wellington St ROZELLE UPDATED 10 Nov 21
- TCP 11 McKell St & Yeend St BIRCHGROVE
- TCP 12 Darling St & Nelson St ROZELLE
- TCP 13 Darling St & Ewenton St BALMAIN
- TCP 14 Wharf Rd & Grove St BIRCHGROVE
- TCP 15 Darling St & Curtis Rd BALMAIN
- TCP 16 Temp Bus stops Darling St BALMAIN
- TCP 17 Temp No Stopping Montague St BALMAIN
- TCP 18 Rose St & Grove St BIRCHGROVE

As at 1st October 2021

PREPARED ON BEHALF OF

INNER WEST COUNCIL

BY

WHO DARES PTY. LTD.

TRAFFIC PLANNERS
SAFETY CONSULTANTS

SHED 8 / 1 CANAL ROAD
LEICHHARDT 2040
P.O. BOX 187
FIVE DOCK 2046

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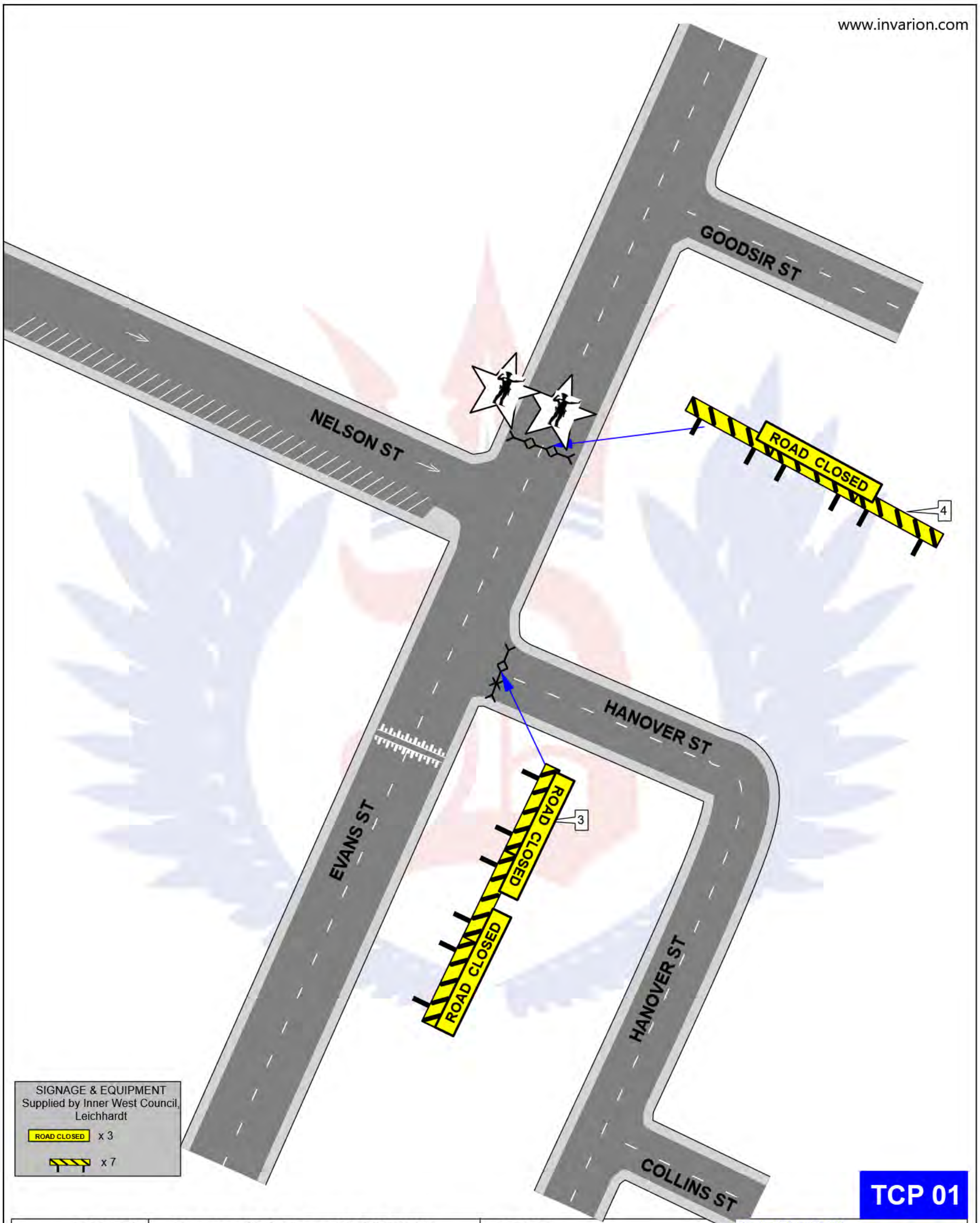


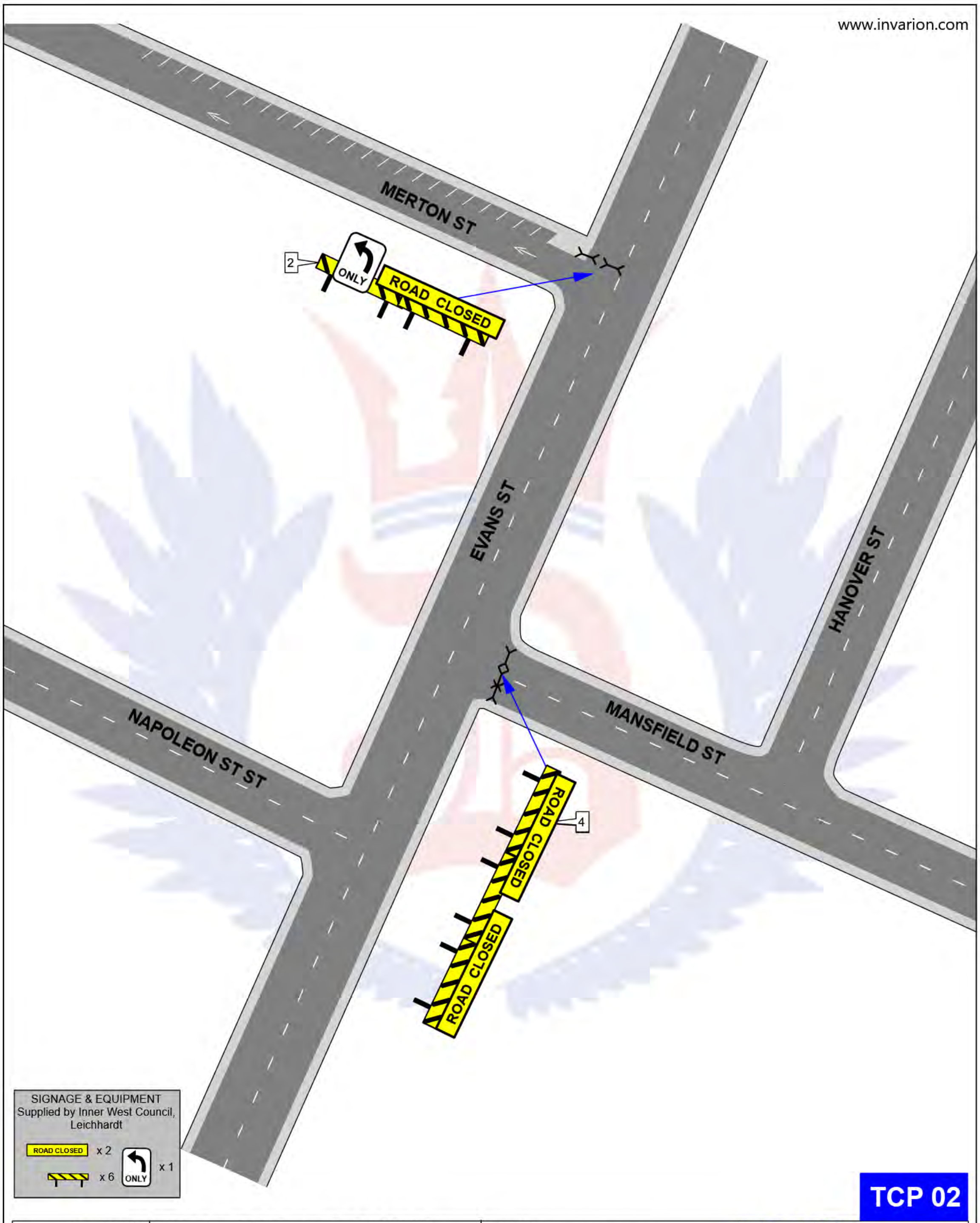
Revised 1 Oct 2021

LOCATION	**Hanover St & Evans St ROZELLE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM01
MINIMUM STAFF REQ	2 Police at Evans St near Nelson

DETAILS

SHORT TERM WORK
Hanover St CLOSED in both directions at Evans St
Evans St CLOSED north bound at north of Nelson St
Equipment Supplied by IWC

Plan By: **Greg Mooney: TCT PWZ: 0027718 for Who Dares Pty Ltd**



LOCATION	**Merton St & Evans St ROZELLE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM02
MINIMUM STAFF REQ	n/a

DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Evans Street CLOSED north bound
at Merton Street
Mansfield Street CLOSED in both directions
at Evans Street

Equipment Supplied by IWC

Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd

LOCATION	**Brent St & Evans St ROZELLE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM03
MINIMUM STAFF REQ	n/a

DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Brent Street CLOSED in both directions
at Evans Street

Equipment Supplied by IWC

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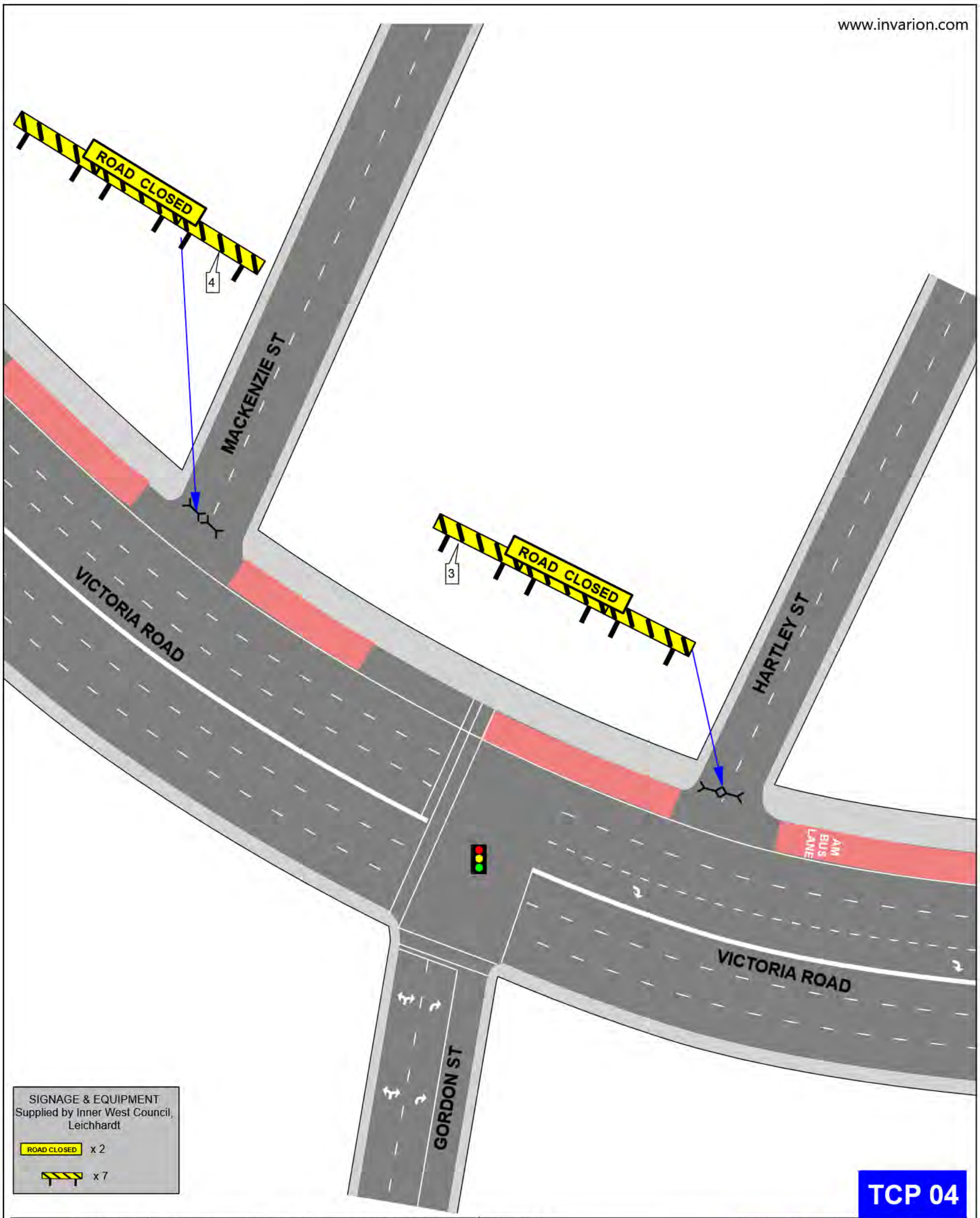
Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd



TCP 04

LOCATION	**Mackenzie St & Hartley St ROZELLE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM04
MINIMUM STAFF REQ	n/a

Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd

DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Mackenzie Street CLOSED in both directions at Victoria Rd
Hartley Street CLOSED in both directions at Victoria Rd

Equipment Supplied by IWC

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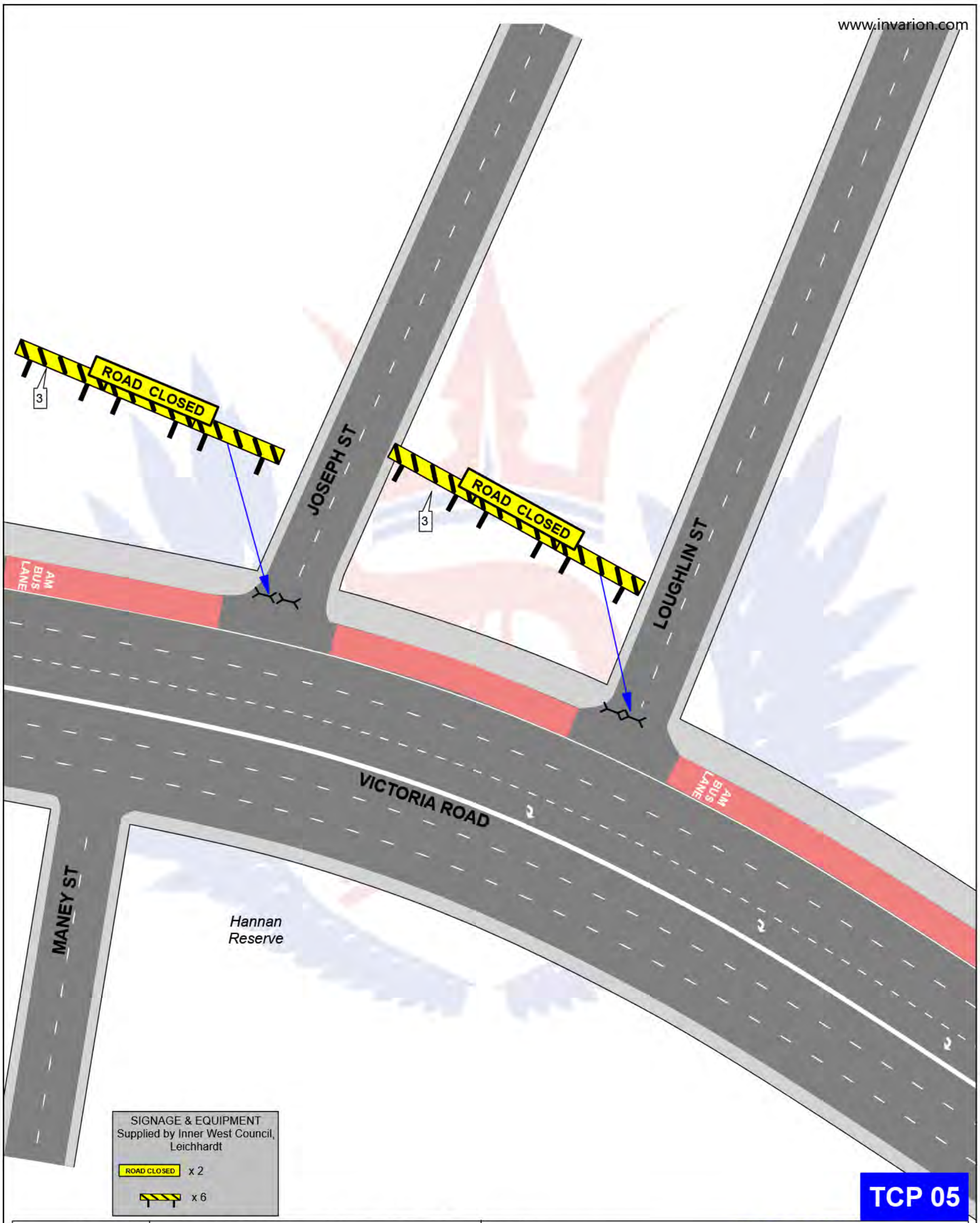

LOCATION	**Joseph St & Loughlin St ROZELLE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM05
MINIMUM STAFF REQ	n/a

Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd

DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Joseph Street CLOSED in both directions
at Victoria Rd
Loughlin Street CLOSED in both directions
at Victoria Rd

Equipment Supplied by IWC

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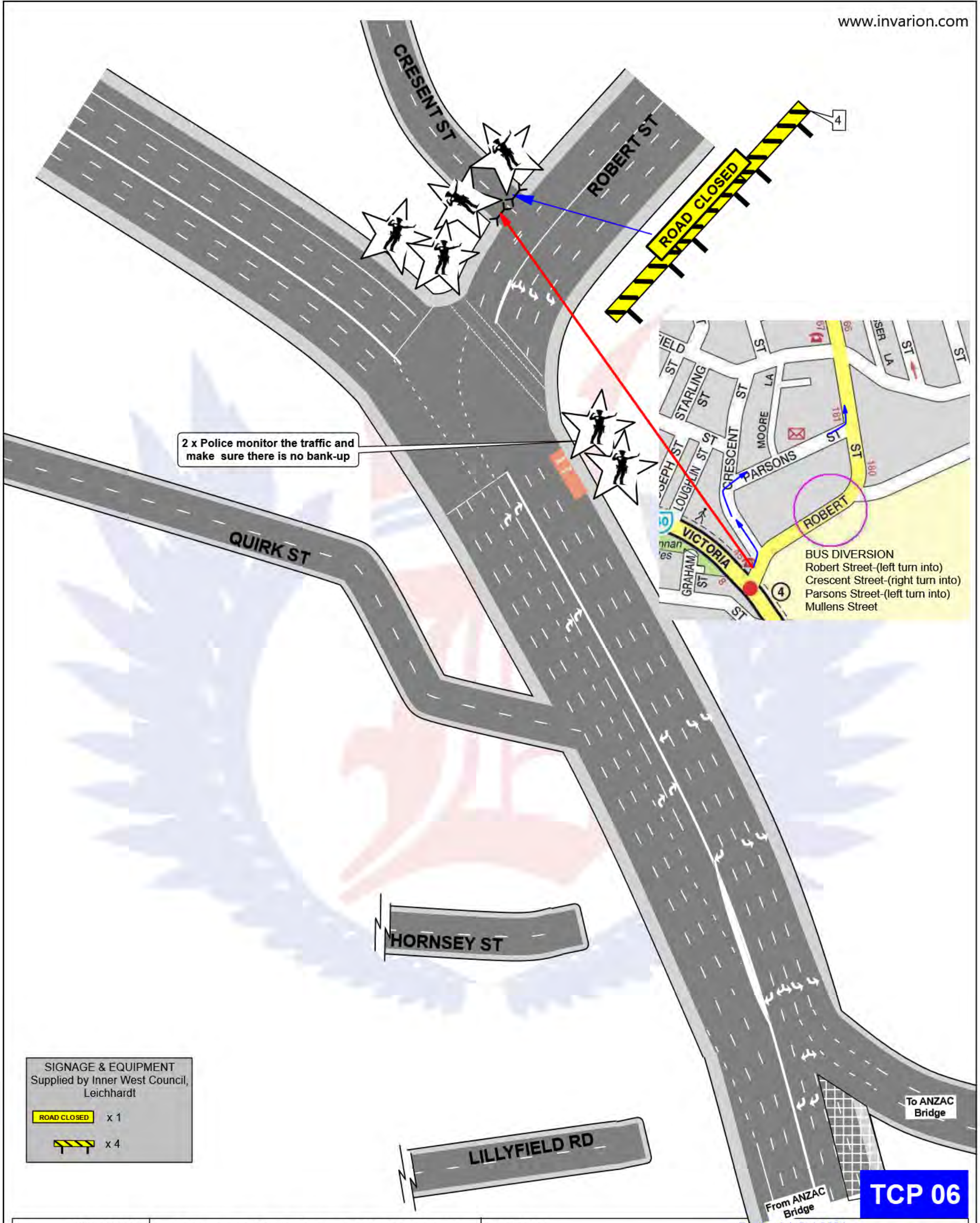


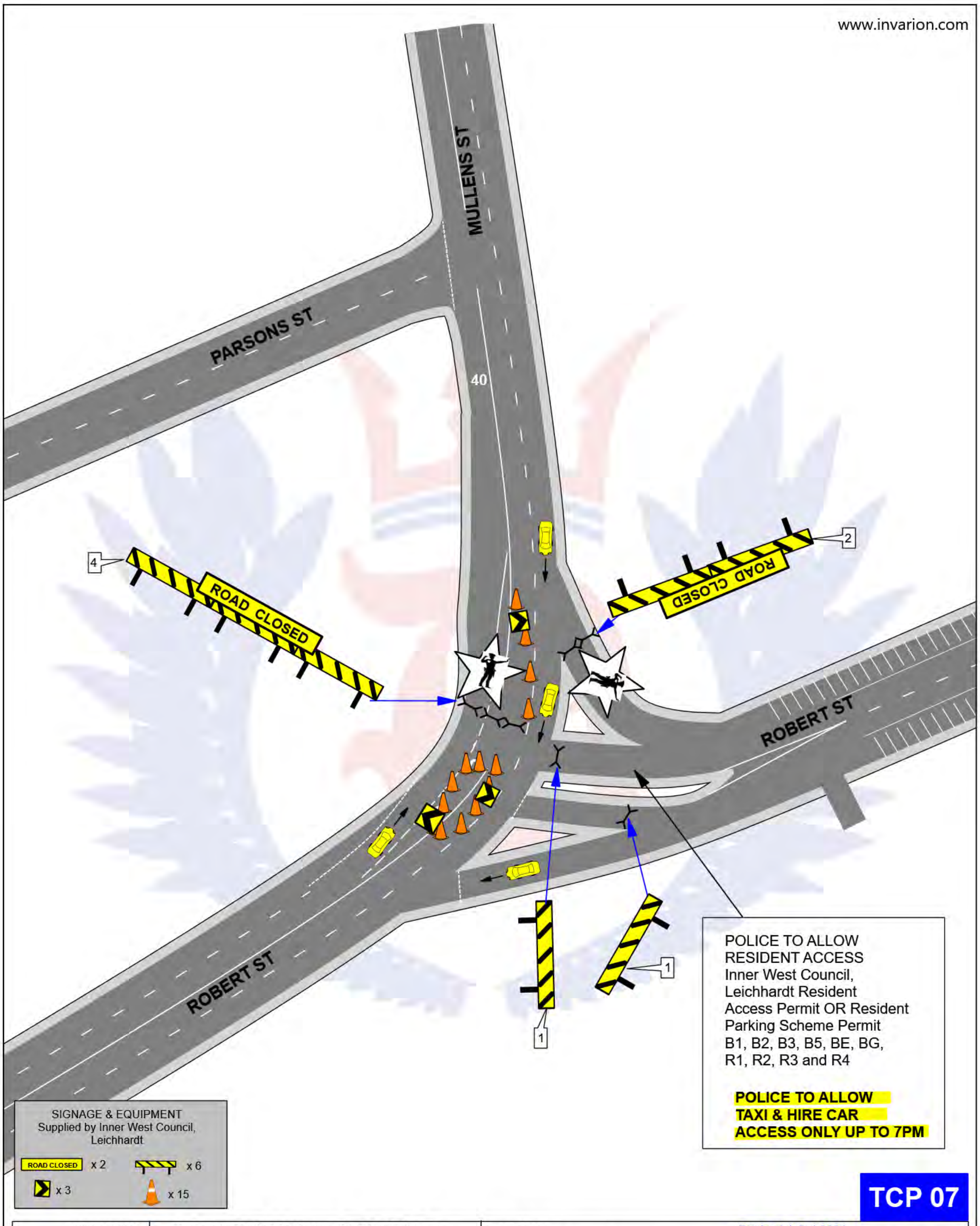
Revised 1 Oct 2021

LOCATION Crescent St & Robert St, ROZELLE
DATE 31 December
TIME OF WORKS 1500 till re-opening directed by Police
CLIENT Inner West Council, Leichhardt
PROJECT NEW YEARS EVE
PLAN # WD/Balmain NYE/GM06
MINIMUM STAFF REQ 6 x Police

DETAILS
SHORT TERM WORK
Crescent St closed at Robert Street

Equipment Supplied by IWC

Plan By: **Greg Mooney: RTA Cert. 22133007523**
for Who Dares Pty Ltd



POLICE TO ALLOW
RESIDENT ACCESS
Inner West Council,
Leichhardt Resident
Access Permit OR Resident
Parking Scheme Permit
B1, B2, B3, B5, BE, BG,
R1, R2, R3 and R4

POLICE TO ALLOW
TAXI & HIRE CAR
ACCESS ONLY UP TO 7PM

TCP 07

LOCATION	**Robert St & Mullens St ROZELLE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM07
MINIMUM STAFF REQ	2 x Police

DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Robert St closed northbound at Mullens St
Mullens Street closed at Robert St

Equipment Supplied by IWC

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Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd

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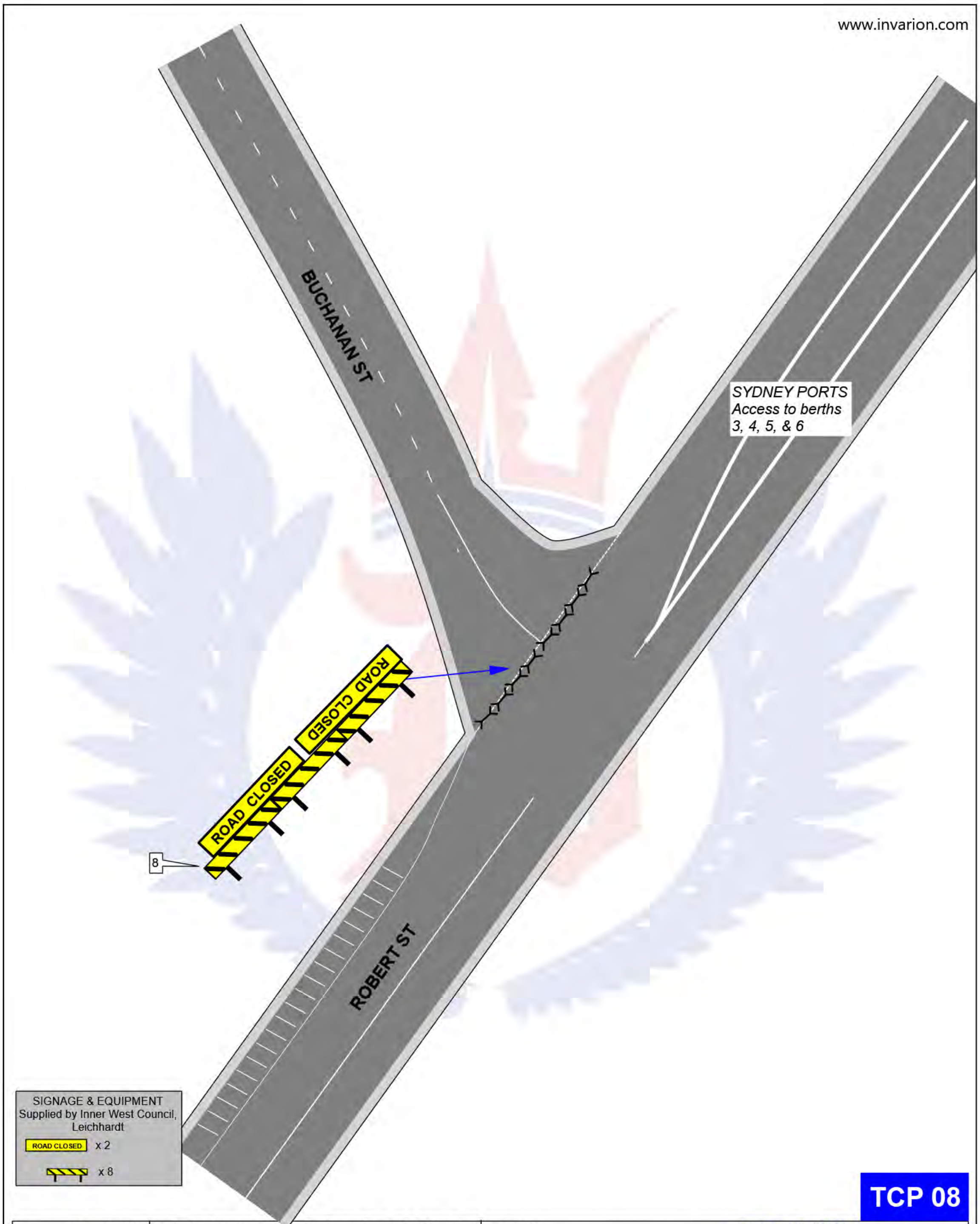


TCP 08

LOCATION	**Buchanan St & Robert St ROZELLE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM08
MINIMUM STAFF REQ	n/a

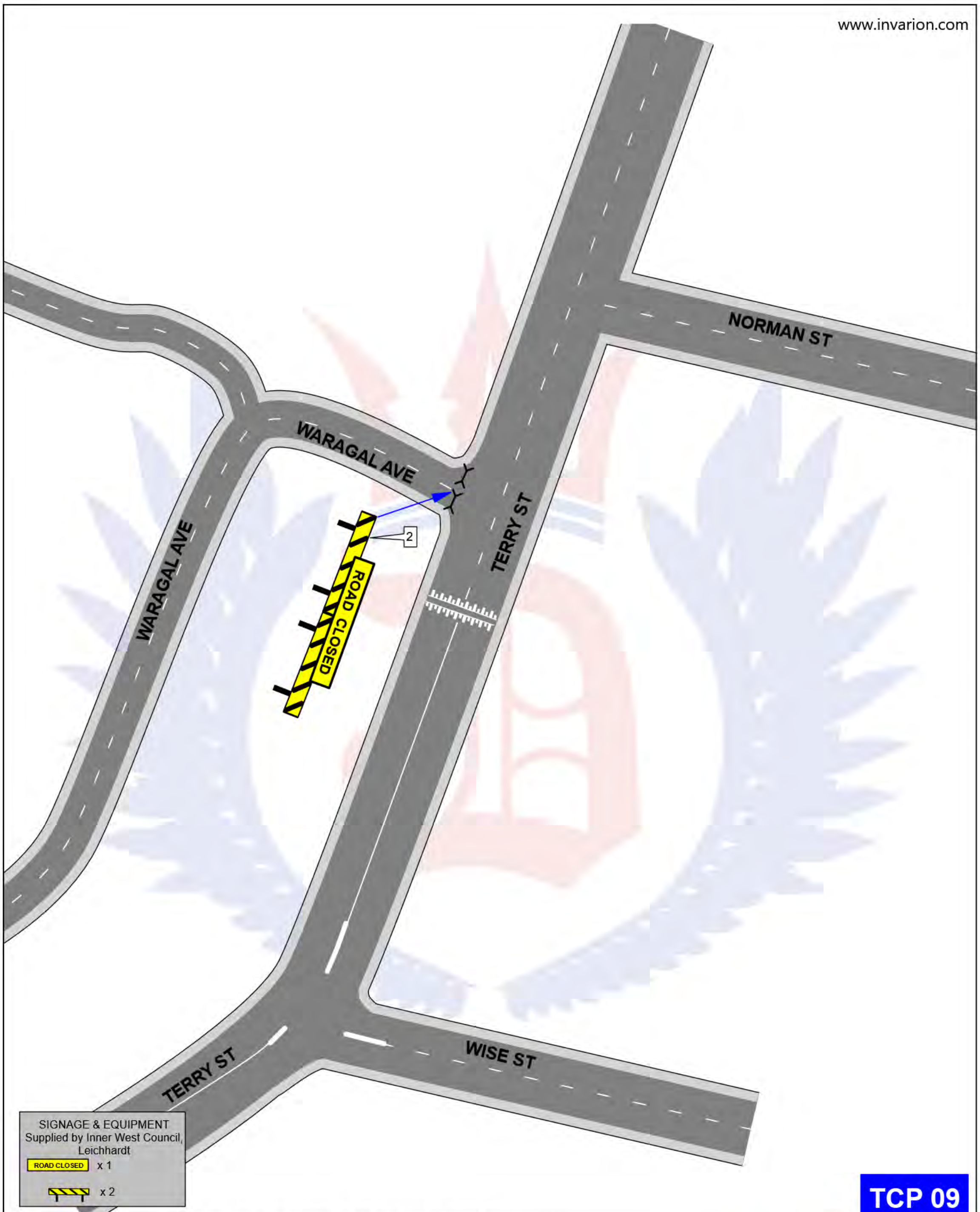
DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Buchanan St closed in both directions
at Robert Street

Equipment Supplied by IWC

Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd



TCP 09

LOCATION	**Waragal Ave & Terry St ROZELLE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM09
MINIMUM STAFF REQ	n/a

DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Waragal Ave CLOSED in both directions at Terry Street

Equipment Supplied by IWC

N W E S

Plan By: **Greg Mooney: TCT PWZ: 0027718 for Who Dares Pty Ltd**

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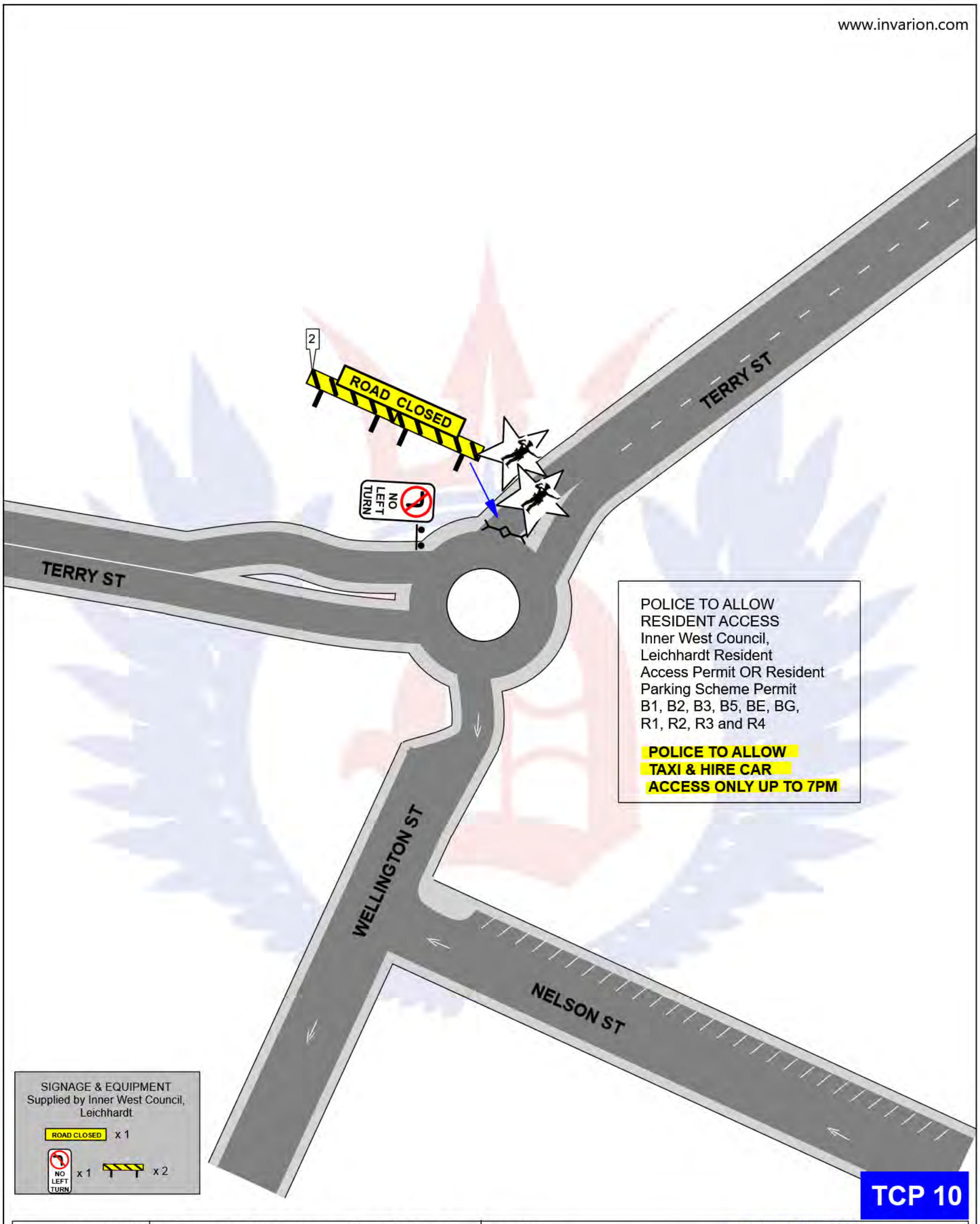

POLICE TO ALLOW
RESIDENT ACCESS
Inner West Council,
Leichhardt Resident
Access Permit OR Resident
Parking Scheme Permit
B1, B2, B3, B5, BE, BG,
R1, R2, R3 and R4

POLICE TO ALLOW
TAXI & HIRE CAR
ACCESS ONLY UP TO 7PM

LOCATION	**Terry St & Wellington St ROZELLE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM10
MINIMUM STAFF REQ	2 x Police

Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd

DETAILS

Revised 10 Nov 2021

SHORT TERM WORK
Terry closed NORTHBOUND at
Wellington St roundabout
Traffic to EXIT via Wellington St

Equipment Supplied by IWC

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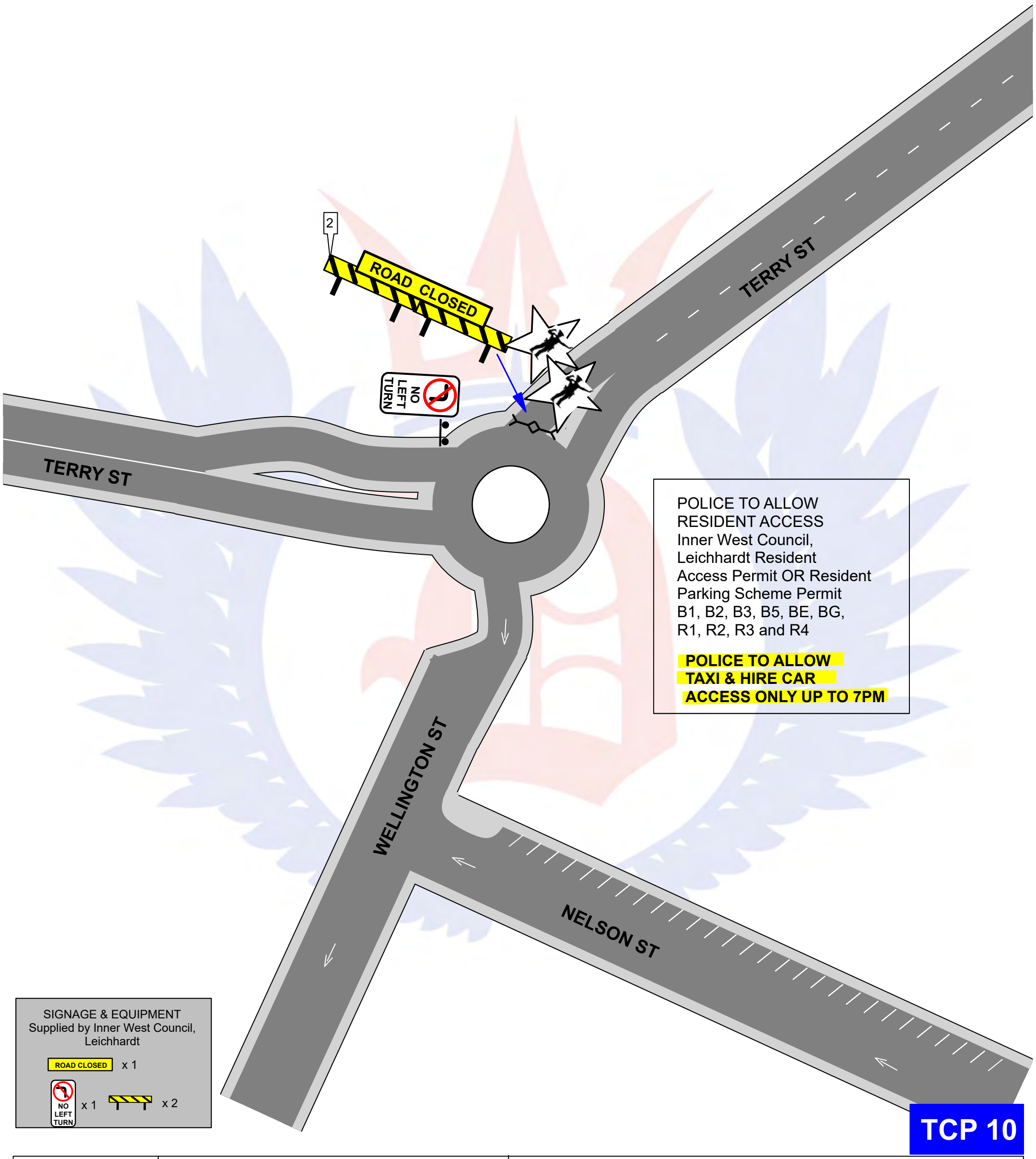

POLICE TO ALLOW
RESIDENT ACCESS
Inner West Council,
Leichhardt Resident
Access Permit OR Resident
Parking Scheme Permit
B1, B2, B3, B5, BE, BG,
R1, R2, R3 and R4

POLICE TO ALLOW
TAXI & HIRE CAR
ACCESS ONLY UP TO 7PM

LOCATION	**Terry St & Wellington St ROZELLE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM10
MINIMUM STAFF REQ	2 x Police

DETAILS

Revised 10 Nov 2021

SHORT TERM WORK
Terry closed NORTHBOUND at
Wellington St roundabout
Traffic to EXIT via Wellington St

Equipment Supplied by IWC

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Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd

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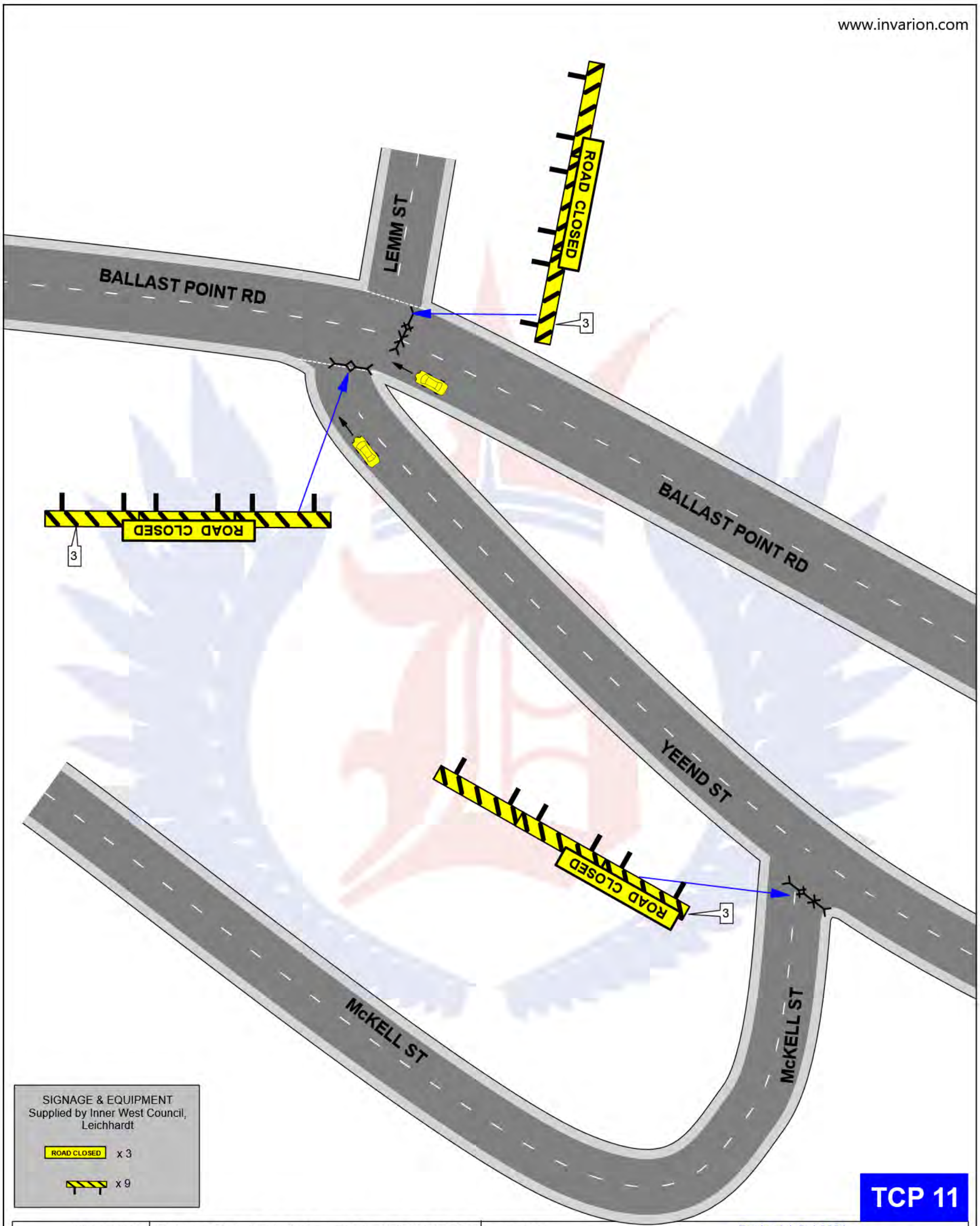


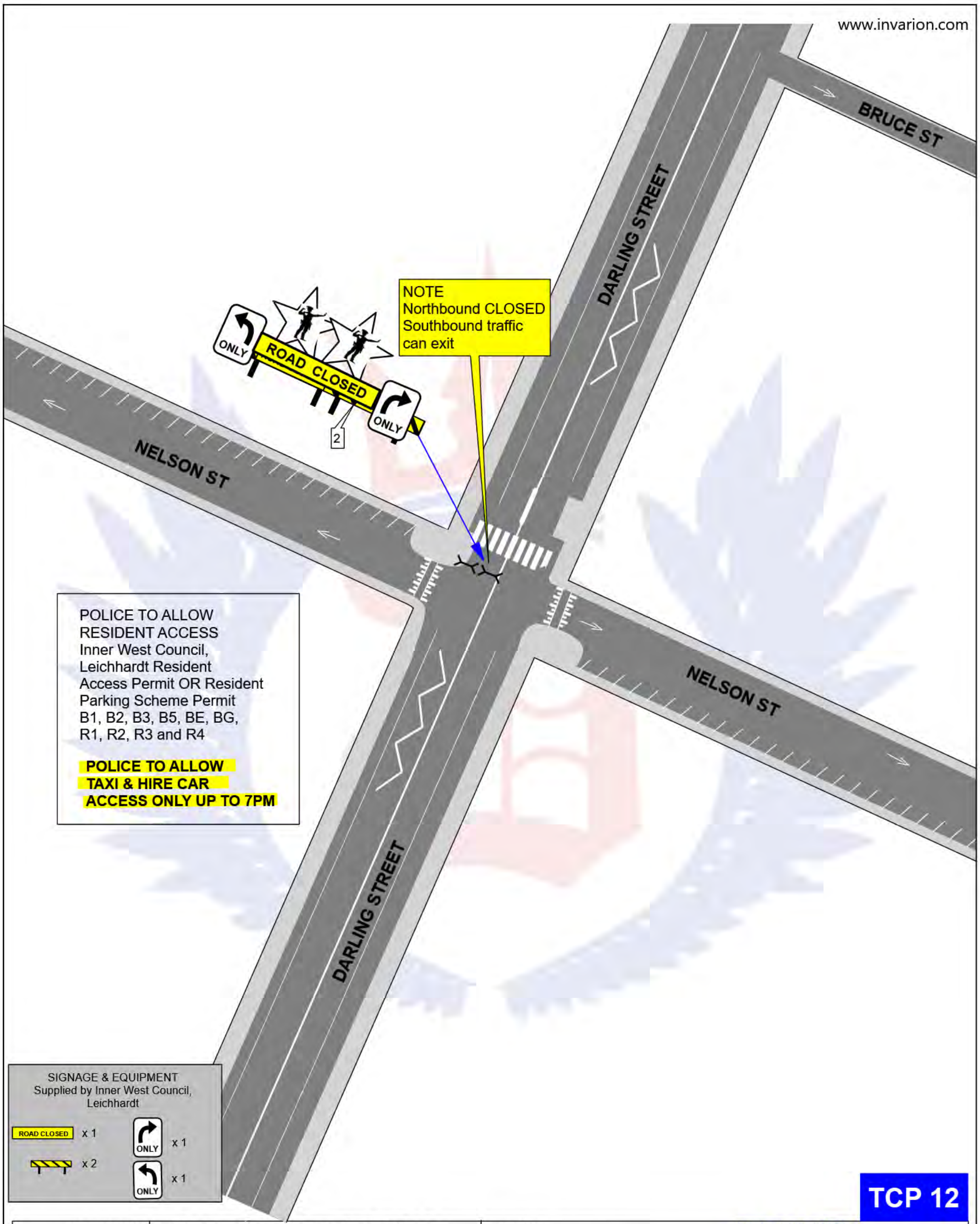
LOCATION	**Ballast Point Rd & Yeend St BIRCHGROVE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEAR EVE
PLAN #	WD/Balmain NYE/GM11
MINIMUM STAFF REQ	

DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Ballast Point Rd CLOSED in both directions
at Yeend Street
Yeend Street CLOSED in both directions
at Ballast Point Road
McKell Street CLOSED in both directions
at Yeend Street

Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd



NOTE
Northbound CLOSED
Southbound traffic
can exit

POLICE TO ALLOW
RESIDENT ACCESS
Inner West Council,
Leichhardt Resident
Access Permit OR Resident
Parking Scheme Permit
B1, B2, B3, B5, BE, BG,
R1, R2, R3 and R4

POLICE TO ALLOW
TAXI & HIRE CAR
ACCESS ONLY UP TO 7PM

SIGNAGE & EQUIPMENT
Supplied by Inner West Council,
Leichhardt

ROAD CLOSED	x 1
▨	x 2
ONLY	x 1
ONLY	x 1

LOCATION	**Darling St & Nelson St ROZELLE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEAR EVE
PLAN #	WD/Balmain NYE/GM12
MINIMUM STAFF REQ	2 x Police

DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Darling Street CLOSED northbound at Nelson Street

Equipment Supplied by IWC

Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd

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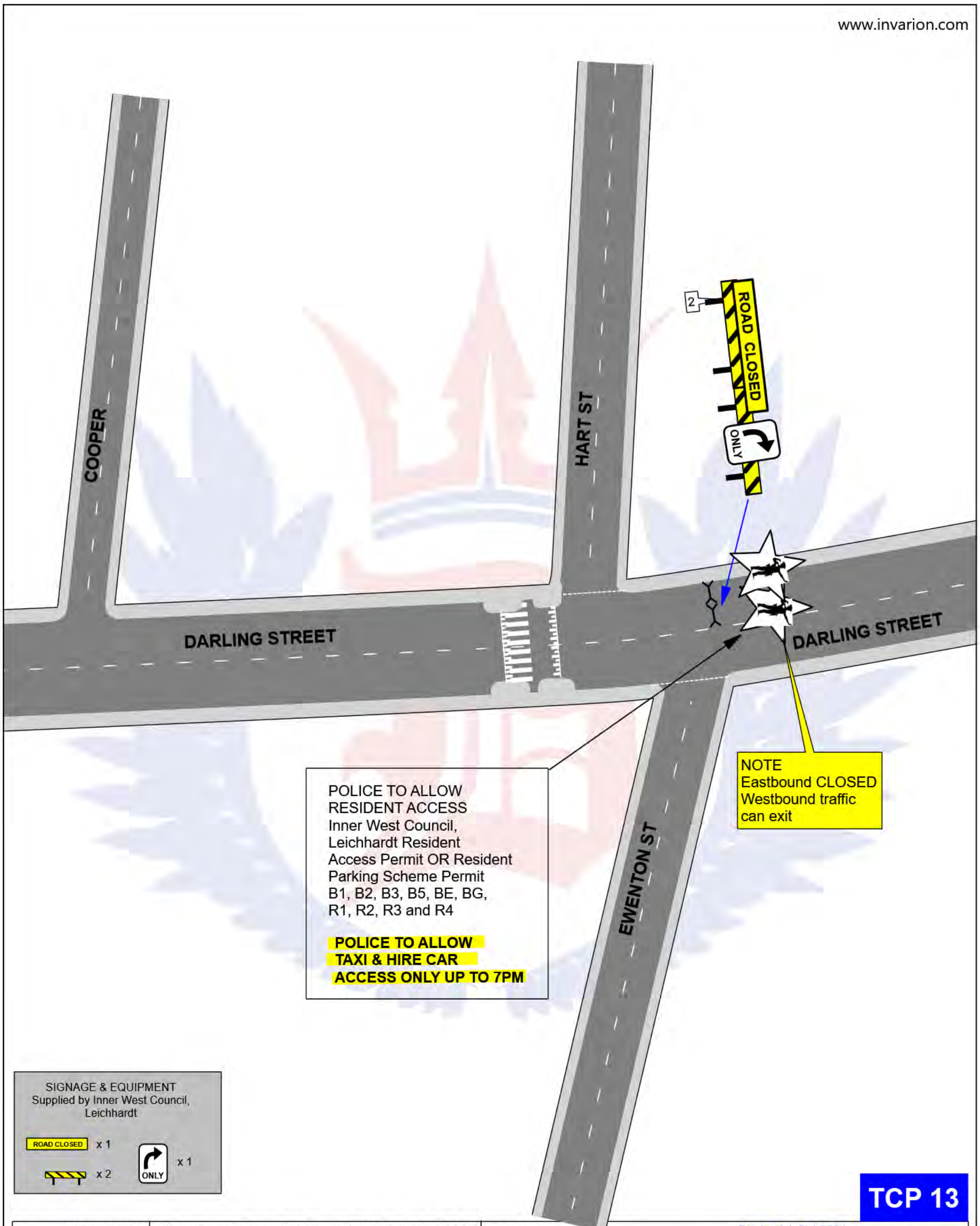

POLICE TO ALLOW
RESIDENT ACCESS
Inner West Council,
Leichhardt Resident
Access Permit OR Resident
Parking Scheme Permit
B1, B2, B3, B5, BE, BG,
R1, R2, R3 and R4

POLICE TO ALLOW
TAXI & HIRE CAR
ACCESS ONLY UP TO 7PM

NOTE
Eastbound CLOSED
Westbound traffic
can exit

SIGNAGE & EQUIPMENT
Supplied by Inner West Council,
Leichhardt

ROAD CLOSED	x 1
ONLY	x 1
▨	x 2

TCP 13

LOCATION	**Darlings Street & Ewenton St BALMAIN**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEAR EVE
PLAN #	WD/Balmain NYE/GM13
MINIMUM STAFF REQ	2 x Police

DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Darling Street CLOSED eastbound
at Ewenton Street

Equipment Supplied by IWC

Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd

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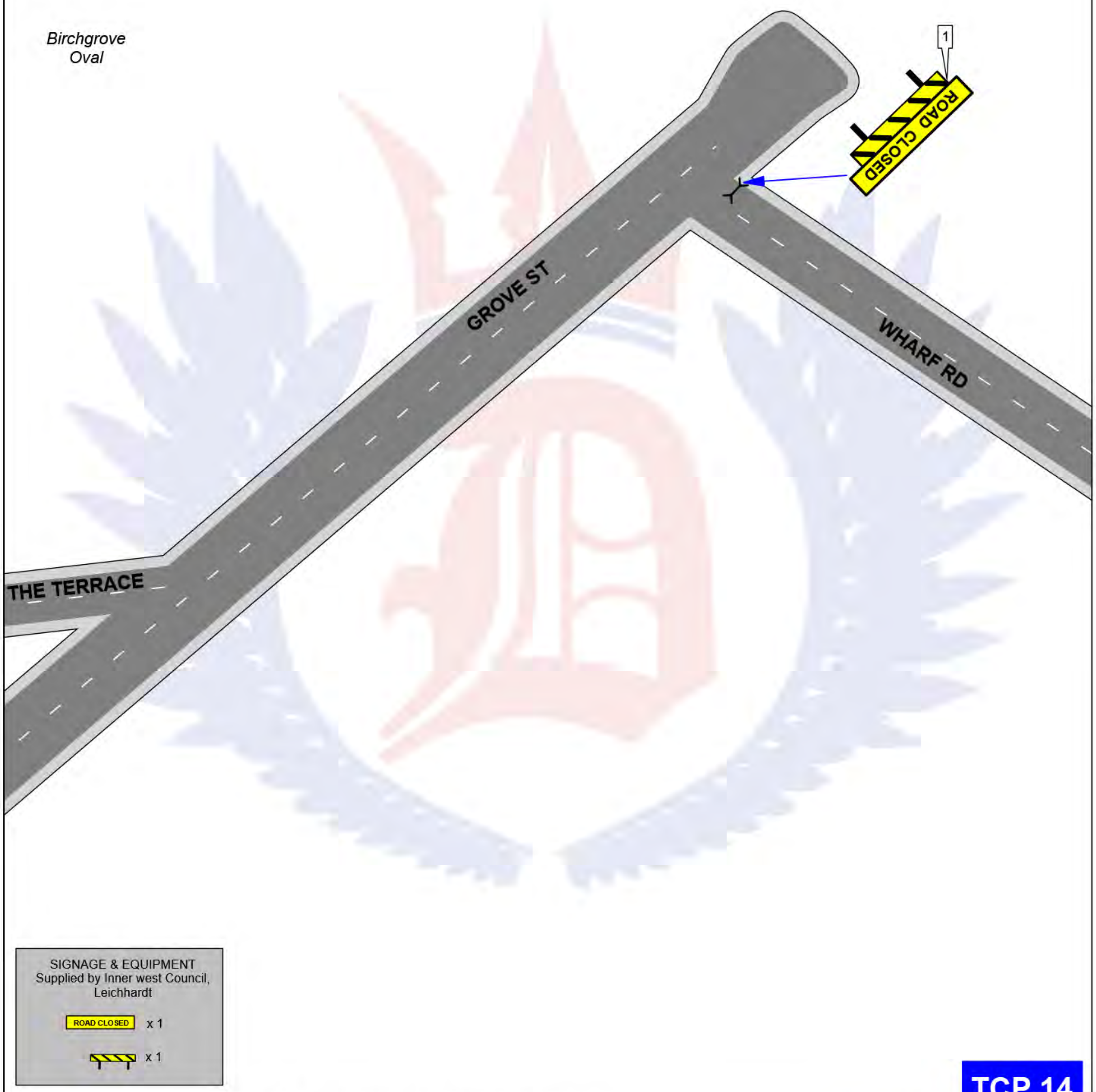

SIGNAGE & EQUIPMENT
Supplied by Inner west Council, Leichhardt

ROAD CLOSED	x 1
▨	x 1

TCP 14

LOCATION	**Wharf Rd & Grove St BIRCHGROVE**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM14
MINIMUM STAFF REQ	

DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Wharf Rd CLOSED eastbound at Grove Street

Equipment Supplied by IWC

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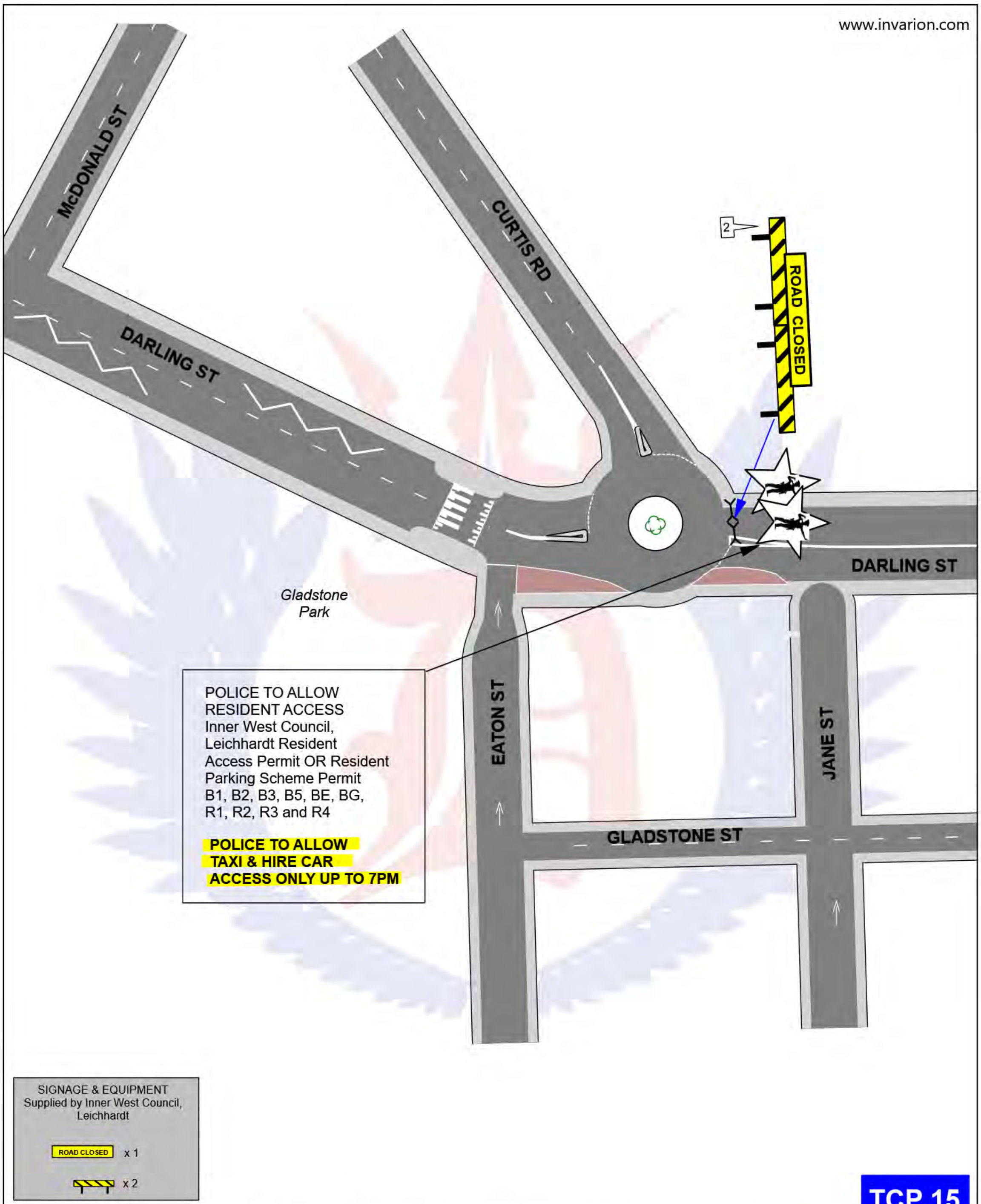
Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd



POLICE TO ALLOW
RESIDENT ACCESS
Inner West Council,
Leichhardt Resident
Access Permit OR Resident
Parking Scheme Permit
B1, B2, B3, B5, BE, BG,
R1, R2, R3 and R4

POLICE TO ALLOW
TAXI & HIRE CAR
ACCESS ONLY UP TO 7PM

SIGNAGE & EQUIPMENT
Supplied by Inner West Council,
Leichhardt

ROAD CLOSED x 1

x 2

TCP 15

LOCATION	**Darling St & Curtis Rd BALMAIN**
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM15
MINIMUM STAFF REQ	2 x Police

DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Darling Street CLOSED eastbound at Curtis Road

Equipment Supplied by IWC

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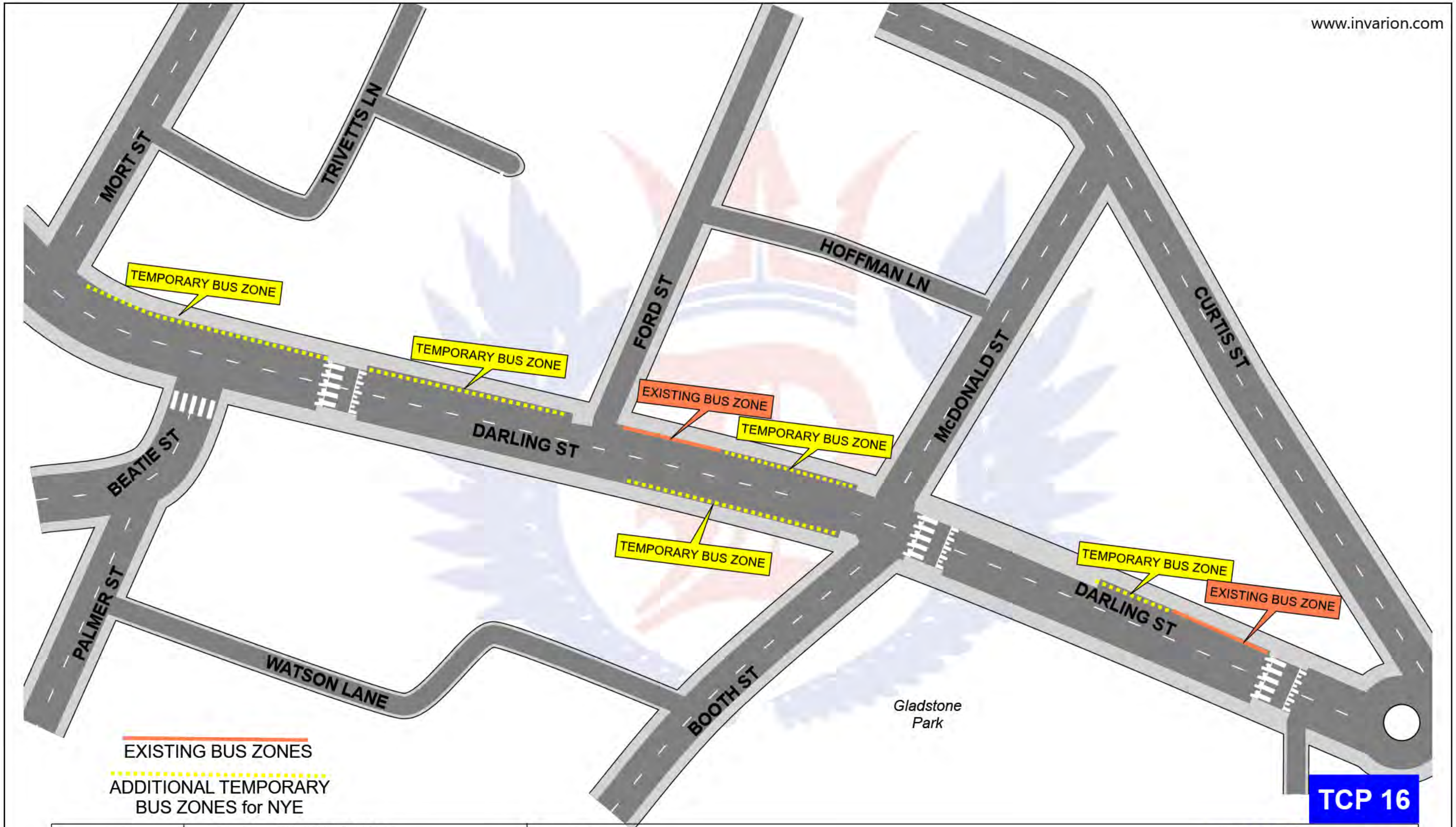
Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd



LOCATION	**Darling St BALMAIN**	**DETAILS** **SHORT TERM WORK** **Additional temporary BUS ZONES in Darling Street Balmain to accommodate NYE services** **Equipment Supplied by IWC**
DATE	31 December	
TIME OF WORKS	From 1500	
CLIENT	Inner West Council, Leichhardt	
PROJECT	NEW YEARS EVE	
PLAN #	WD/Balmain NYE/GM16	
MINIMUM STAFF REQ	n/a	

Revised 1 Oct 2021

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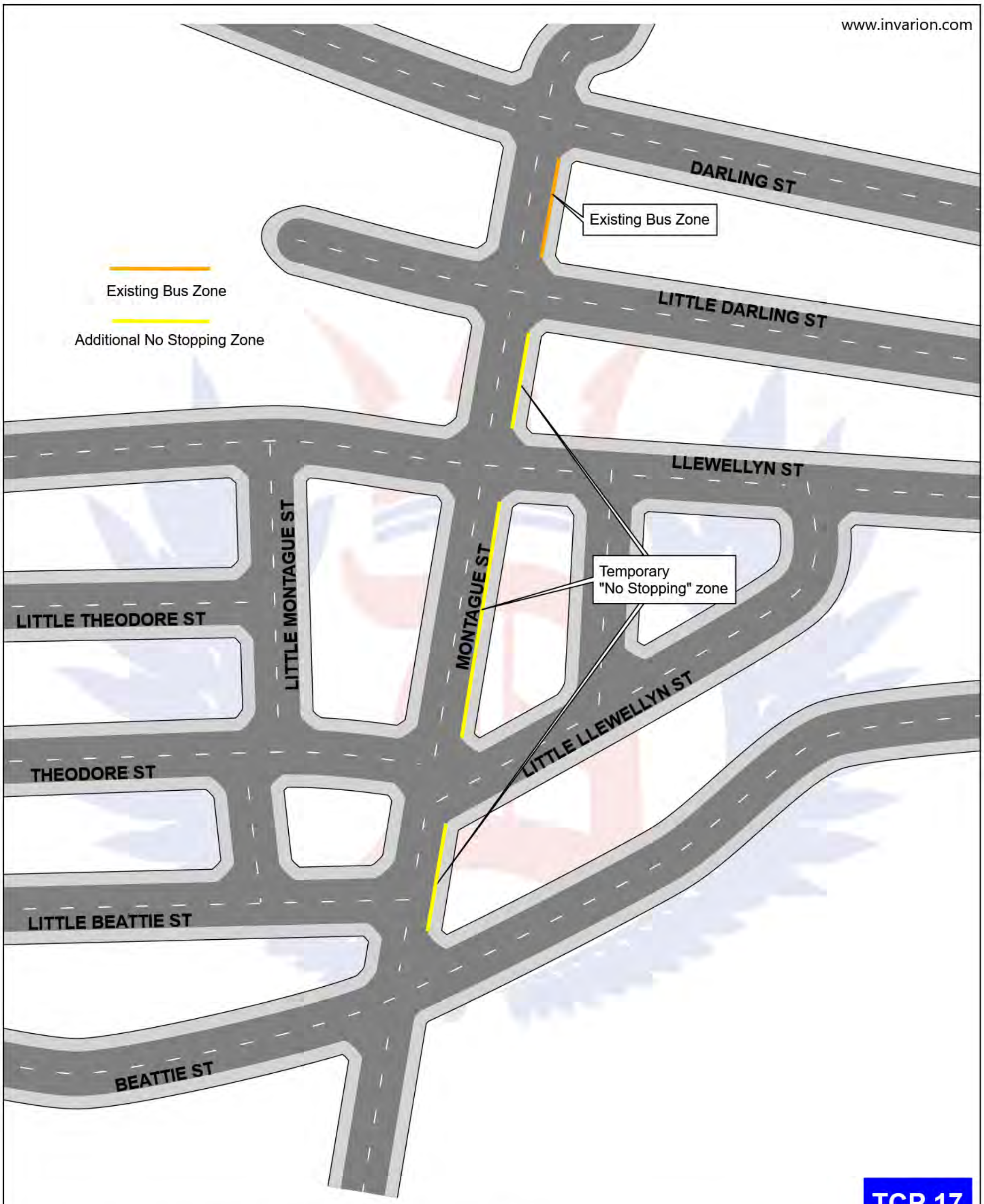
Greg Mooney: TCT PWZ: 0027718
for Who Dares Pty Ltd



TCP 17

LOCATION	**Montague St BALMAIN**
DATE	31 December
TIME OF WORKS	From 1500
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM17
MINIMUM STAFF REQ	n/a

DETAILS

Revised 1 Oct 2021

SHORT TERM WORKS

Additional NO STOPPING zone in Montague St.

Equipment supplied by Inner West Council, Leichhardt.

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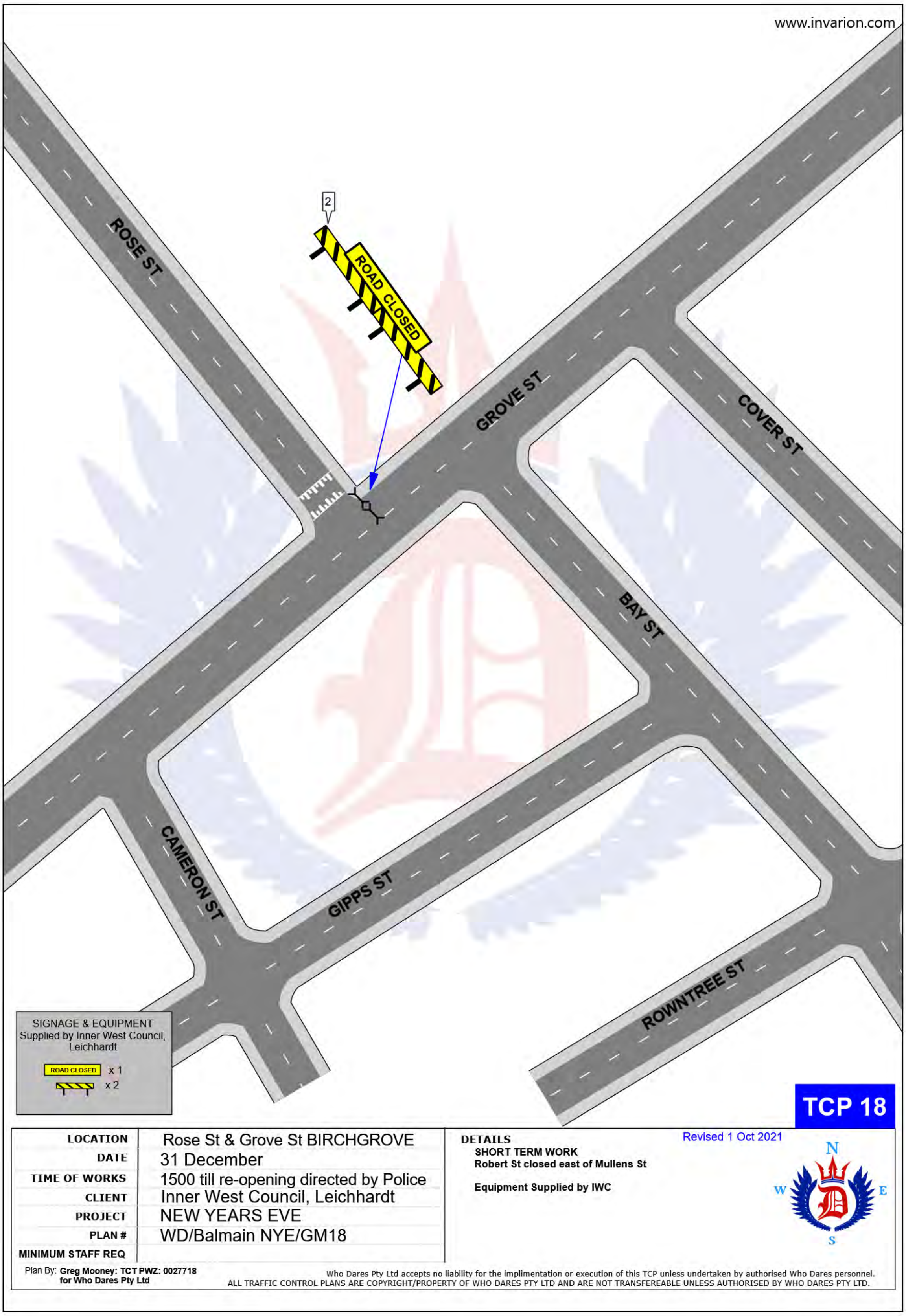
Plan By: Greg Mooney: RTA Cert. 22133007523
for Who Dares Pty Ltd



SIGNAGE & EQUIPMENT
Supplied by Inner West Council, Leichhardt

ROAD CLOSED	x 1
▨	x 2

LOCATION	Rose St & Grove St BIRCHGROVE
DATE	31 December
TIME OF WORKS	1500 till re-opening directed by Police
CLIENT	Inner West Council, Leichhardt
PROJECT	NEW YEARS EVE
PLAN #	WD/Balmain NYE/GM18
MINIMUM STAFF REQ	

DETAILS

Revised 1 Oct 2021

SHORT TERM WORK
Robert St closed east of Mullens St

Equipment Supplied by IWC

Plan By: **Greg Mooney: TCT PWZ: 0027718**
for Who Dares Pty Ltd

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Item No: **LTC0922(1) Item 3**

Subject: **MARRICKVILLE ROAD, MARRICKVILLE – TEMPORARY FULL ROAD CLOSURES FOR MARRICKVILLE FESTIVAL ON SATURDAY 19 NOVEMBER 2022 – ENRC/2022/0037 (MIDJUBURI - MARRICKVILLE WARD / SUMMER HILL ELECTORATE / INNER WEST PAC)**

Prepared By: Jennifer Adams - Engineer – Traffic and Parking Services

Authorised By: Sunny Jo - Acting Traffic and Transport Manager

SUMMARY

Inner West Council is presenting Marrickville Music Festival on Saturday 19 November from 11:00am until 4:00pm. The event will feature multiple outdoor live music stages across the festival site. Including activation of Marrickville laneways through music and art. As part of the event there will be a partial road closure of Marrickville Road and Central Lane. This will require some road detours and bus diversions in surrounding streets. Event bump in will occur from 12:30am and bump out will conclude by 12:00pm midnight. It is recommended that Council approve the temporary full road closures subject to all standard Council conditions for a temporary full road closure.

RECOMMENDATION

That:

1. **The proposed temporary full road closure of Marrickville Road (between Illawarra Road and Victoria Road), Central Lane (between Victoria Road and Meeks Road), Seymour Lane (between Garners Lane and Garners Avenue and between Frampton Avenue and Garners Lane), Garners Lane (north of Seymour Lane) along with short sections of Silver Street, Garners Avenue, Gladstone Street, and Frampton Avenue where these streets intersect with Marrickville Road, Marrickville be APPROVED for the purpose of holding the 'Marrickville Festival' Event on Saturday 19 November 2022 between 12:30am and 12:00pm as per the submitted TMP and TGS and subject to the following conditions and all standard Council conditions for temporary full road closures;**

2. **A Road Occupancy License application be obtained from the Transport Management Centre;**

3. **Notice of the proposed event be forwarded to the NSW Police Local Area Commander, Transit Systems, the NSW Fire Brigades and the NSW Ambulance Services;**

4. **All residents and businesses in and around the affected area are to be notified of the temporary road closure in writing by the applicant in advance (at least 7 days prior to the event) with the applicant making reasonable provision for stakeholders;**

5. **A minimum four (4) metre unencumbered passage be available for emergency vehicles through the closed sections; and**

6. **The occupation of the road carriageway must not occur until the road has been physically closed.**

BACKGROUND

Prior to Covid ‘Marrickville Festival’ was an annual event successfully held over many years. This year, again, Marrickville Music Festival will be a celebration of live music in the Inner West. The event will run on Saturday 19 November from 11am to 4pm and will feature multiple outdoor live music stages across the festival site.

Stages will be set up across the event site including the activation of Marrickville laneways through music and art. The Marrickville Music Festival will be a showcase of music talent from the Inner West, with over 40 acts to play in the one-day event. Stages will host both established and up and coming bands from the Inner West. Music venues in Marrickville will be also encouraged to participate in the festival program to highlight the vibrant array of venues that reside in the Marrickville area.

As part of the Marrickville Music Festival site furniture will be set up within the space created by the temporary road closure, allowing patrons to purchase food from local Marrickville businesses and enjoy the atmosphere while supporting local businesses and enhancing economic activity over the day. Visitors to the festival will be encouraged to engage with local businesses within their retail spaces increasing footfall, and as such experience the true Marrickville and embrace the precinct for its vast array of unique businesses and food experiences.

The Marrickville Music Festival will also host an Inner West Brewery showcase, with local breweries setting up stalls so patrons can taste Inner West offerings. Food and art stalls will be located in pockets around the site to showcase local Inner West product and creativity. Programming for families will be available along with cultural experiences from local creatives.
As part of the event there will be a partial road closure of Marrickville Road and Central Lane.

This will require some road detours and bus diversions in surrounding streets. To facilitate the event the following roads will be affected:
- Marrickville Road between Illawarra Road & Victoria Road
- Silver Street between Marrickville Road and Sydenham Road
- Garners Avenue between Garners Avenue Carpark & Marrickville Road
- Seymour Lane between Garners Lane & Garners Avenue
- Frampton Avenue between Seymour Lane & Marrickville Road
- Gladstone Street between Marrickville Road & Marrickville Lane
- Garners Avenue between Illawarra Road & Garners Avenue Carpark
- Seymour Lane between Frampton Avenue & Garners Lane
- Garners Lane north of Seymour Lane
- Central Lane between Victoria Road and Meeks Road
- Victoria Lane between Sydenham Road and Central Lane

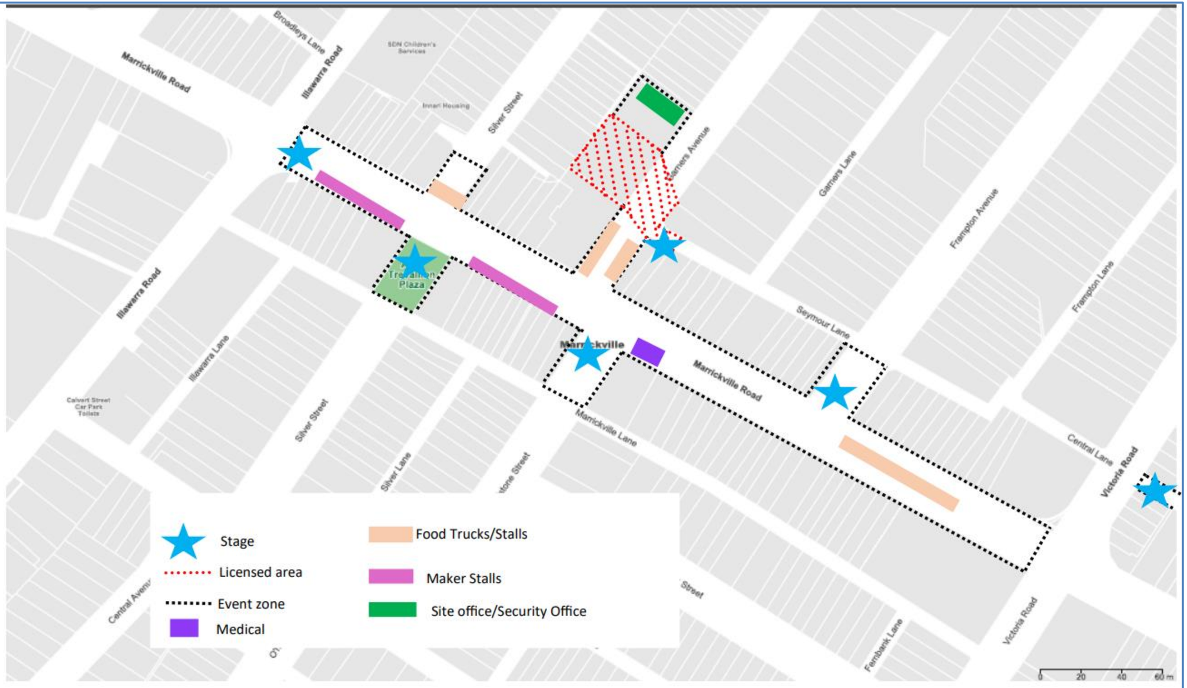
FINANCIAL IMPLICATIONS

Funding of $85,000 has been allocated by Council for organising the ‘Marrickville Festival’ event under the 2022/23 Major Community Events Program.

OFFICER COMMENTS

The event area will be on Marrickville Road between Illawarra Road and Victoria Road (refer to the site map below – Marrickville Festival Area). This year Council’s Event Coordinator has appointed ‘Who Dares Pty Ltd’ to prepare the Traffic Management Plan (TMP) and Traffic Guidance Schemes (TGS) for the event.

Site map



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Version: 1, Version Date: 18/08/2022

Temporary full road closures are planned at the following locations:
Road closures 00:30 hours - 24:00 hours Saturday 19th November:

- Marrickville Road between Illawarra Road and Victoria Road
- Silver Street between Marrickville Road and 25 metres north of Marrickville Road
- Garners Avenue between Garners Avenue Carpark and Marrickville Road
- Seymour Lane between Garners Lane and Garners Avenue
- Frampton Avenue between Seymour Lane and Marrickville Road
- Gladstone Street between Marrickville Road and Marrickville Lane
- Silver Street between Sydenham Road and 25 metres north of Marrickville Road (Resident Access Excepted)
- Garners Avenue between Illawarra Road & Garners Avenue Carpark (Resident Access Excepted)
- Seymour Lane between Frampton Avenue and Garners Lane (Resident Access Excepted)
- Garners Lane north of Seymour Lane (Resident Access Excepted)

Road closures 09:00 hours - 18:00 hours Saturday 19th November

- Central Lane between Victoria Road and Meeks Road
- Victoria Lane between Sydenham Road and Central Lane (Resident Access Excepted)

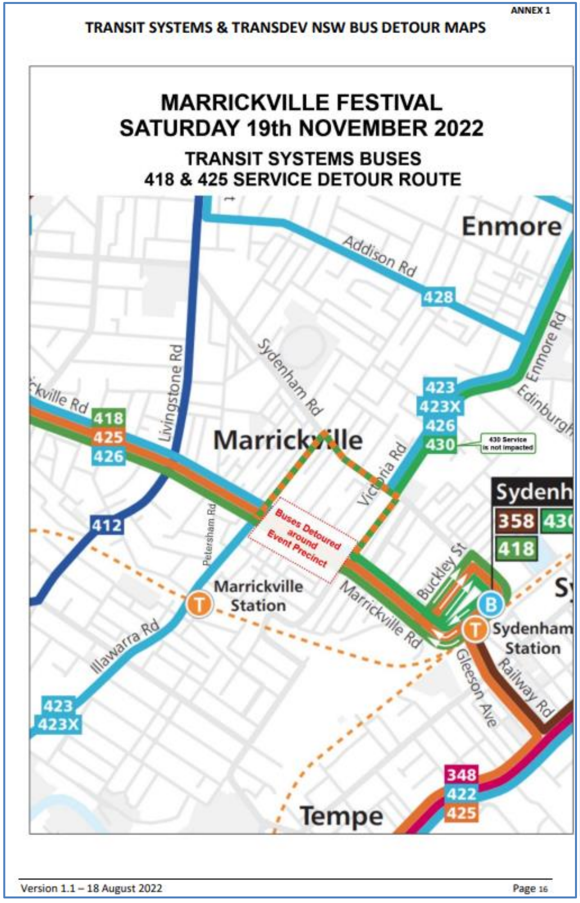
Access around the event site will be maintained by a detour. The detour loop will include Illawarra Road, Sydenham Road, Victoria Road and Calvert Street. Special Event advance notice signs will be strategically installed at least two (2) weeks prior to the event to alert motorists of the proposed closures.

This event is classified as a Class 2 event under the TfNSW' Special Events Guide where it impacts local traffic and transport systems but does not impact major traffic and transport systems and it disrupts the non-event community in the area around the event but not over a wide area. The event requires the involvement of Police and Local Council and a detailed Transport Management Plan (TMP).

Adequate vehicular traffic control shall be provided for the protection and convenience of pedestrians and motorists including appropriate signage and flagging. Workers shall be specially designated for this role (and carry appropriate certificates), as necessary to comply with this condition. This is to be carried out in accordance with the Australian Standard AS 1742.3 - Traffic Control Devices for works on roads.

Impacts on buses

Transit Systems services 418, 423, 423X, 425 & 426 & Transdev NSW N40 service will all be impacted by the event road closures. These services will be detoured around the event precinct. Council will arrange for signage will be placed at impacted bus stops to direct passengers to the nearest stop. Refer to Annex 1 of the attached TMP for Transit Systems and Transdev Bus detour maps at a larger scale.

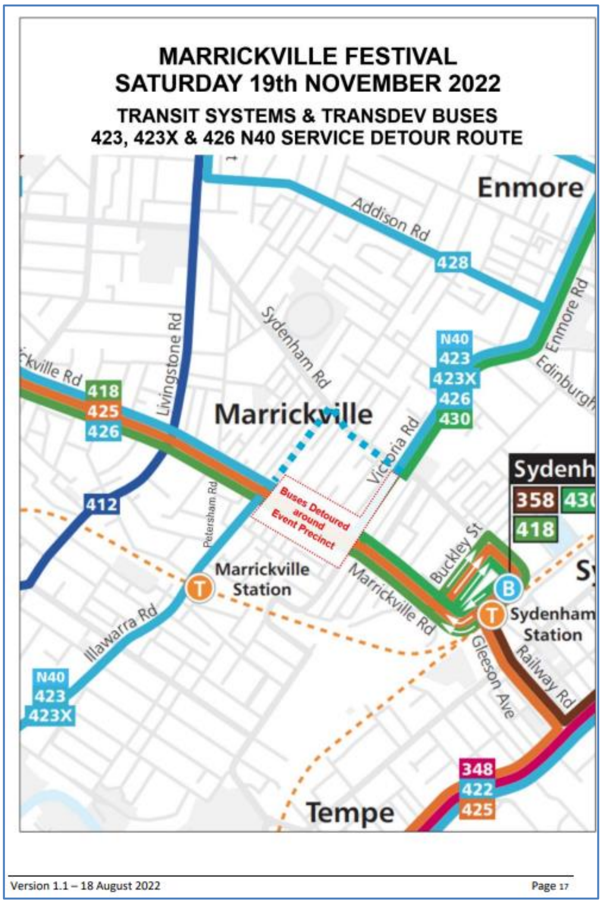


ANNEX 1

TRANSIT SYSTEMS & TRANSDEV NSW BUS DETOUR MAPS

MARRICKVILLE FESTIVAL
SATURDAY 19th NOVEMBER 2022
TRANSIT SYSTEMS BUSES
418 & 425 SERVICE DETOUR ROUTE

Version 1.1 – 18 August 2022 Page 16



MARRICKVILLE FESTIVAL
SATURDAY 19th NOVEMBER 2022
TRANSIT SYSTEMS & TRANSDEV BUSES
423, 423X & 426 N40 SERVICE DETOUR ROUTE

Version 1.1 – 18 August 2022 Page 17

Impacts on pedestrians and cyclists

There will be no major effect to pedestrians in the area. Pedestrians will be able to use the existing pedestrian paths outside of and within the event area.
There are no cycleways directly impacted by this event. Cyclists entering the event site will be requested to dismount.

The closest train station is Marrickville Station. It is approximately 450 metres walk from the event precinct. Currently the track works schedule for event day is as follows:

- T4 Eastern Suburbs & Illawarra Line
  Buses replace trains between Waterfall, Cronulla and Central.
- South Coast Line
  Buses replace trains between Dapto and Central, and between Port Kembla and Wollongong

Impacts on Parking

Parking will only be available in surrounding residential streets and a few small public carparks around the event site. Parking will as such be limited, and the event organiser will be recommending public transport to all event patrons.
Inner West Council will cover all existing parking signage within the event precinct with “No Stopping” signage and/or 'No Parking - Special Event' signage on Friday 18th November 2022. This will assist with clearing the precinct of parked vehicles. Any remaining vehicles will be towed and parked in a nearby location on the morning of the event.

Impacts on traffic

The traffic diverted from Marrickville Road as a result of the proposed road closures, does not coincide with the peak traffic, as the festival will be held on a Saturday when lower than weekday traffic volumes are expected. Therefore, the traffic generated as a result of the proposed festival will not have a major impact on the surrounding traffic network during the event. Furthermore, the arrival and departure of attendees of the festival is expected to be staggered as it is every year when this event takes place.

At present, there is no indication of construction works that will be impact the event. There are no traffic calming devices or traffic generating developments along the route.
Heavy vehicles may experience slight delays due to increased traffic around the event precinct. Heavy vehicles should follow signposted detours.
No special event clearways will be installed for this event. Inner West Council will instead install No Stopping signage throughout the event precinct prior to the event. Any remaining vehicles will be towed and parked in a nearby location on the morning of the event.
A minimum four (4) metre emergency lane will be maintained along the entire closure. Traffic controllers will be onsite to assist emergency vehicles through the closure points.

Traffic Management Plan and Traffic Guidance Schemes

An accredited Who Dares Traffic Manager will oversee implementation of the Traffic Guidance Schemes, including road closures.
Temporary traffic control signage, barricades and equipment as per the supplied Traffic Guidance Schemes must be installed by TfNSW or SafeWork accredited traffic controllers with a current “Implement Traffic Control Plan” certificate. Any person operating a Stop/Slow bat onsite must hold a current “Traffic Controller” certificate.
A Traffic Management Plan (TMP) has been supplied by Who Dares Pty Ltd, the scope of which includes the provision for the safe movement of vehicular traffic in and out of the event areas at the Marrickville Festival on Saturday 19 November 2022. The TMP and Traffic Guidance Schemes (TGS) are reproduced in full at the end of this report.

TGS 01A Sydenham Rd, Illawarra Rd & Victoria Rd MARRICKVILLE
TGS 01B Sydenham Rd, Illawarra Rd & Victoria Rd MARRICKVILLE
TGS 01C Sydenham Rd, Illawarra Rd & Victoria Rd MARRICKVILLE
TGS 02A Marrickville Rd & Illawarra Rd MARRICKVILLE
TGS 02B Marrickville Rd & Illawarra Rd MARRICKVILLE
TGS 02C Marrickville Rd & Illawarra Rd MARRICKVILLE
TGS 03A Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 03B Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 03C Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 03D Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 03E Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 04 Calvert St, Illawarra Road & Victoria Road MARRICKVILLE
TGS 05 Marrickville Rd VMS
TGS 06 Marrickville Rd VMS

The Traffic Management Plan is to be submitted to TfNSW for consideration and approval and a Road Occupancy License application is to be submitted to the Transport Management Centre by Who Dares Pty Ltd.

PUBLIC CONSULTATION

The proposed temporary full road closures have been advertised in accordance with the Roads Act 1993.

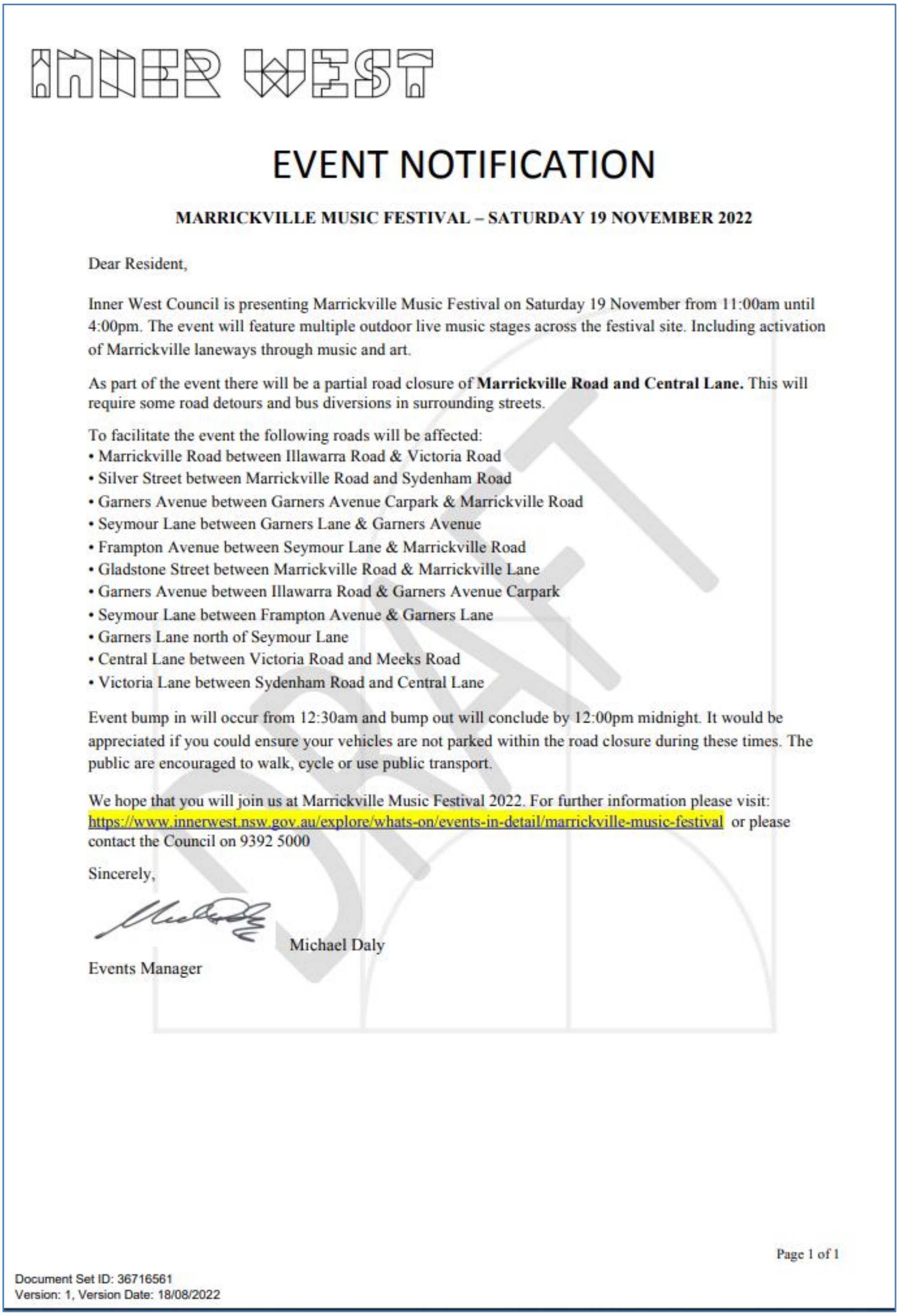
Advice of the proposed event must be forwarded to all the appropriate authorities, including emergency services. A copy of the draft notification letter is attached at the end of this report. The TMP states that: "*All affected residents will be notified of the event through:*

- *Letterbox drop will be conducted for impacted residents within and near the road closure precinct at least two weeks prior to the event.*
- *Date & time specific corflute "Special Event – Road Closed" signs to be placed around the event precinct 14 days prior to the event."*

Two Portable VMS Boards will be used to advertise the road closures leading up to the event day.

CONCLUSION

It is recommended that Council agree to the temporary full road closures on Saturday 19 November 2022 subject to complying with the recommendations stated in this report along with all standard conditions for temporary full road closures.



INNER WEST

EVENT NOTIFICATION

MARRICKVILLE MUSIC FESTIVAL – SATURDAY 19 NOVEMBER 2022

Dear Resident,

Inner West Council is presenting Marrickville Music Festival on Saturday 19 November from 11:00am until 4:00pm. The event will feature multiple outdoor live music stages across the festival site. Including activation of Marrickville laneways through music and art.

As part of the event there will be a partial road closure of **Marrickville Road and Central Lane.** This will require some road detours and bus diversions in surrounding streets.

To facilitate the event the following roads will be affected:

- Marrickville Road between Illawarra Road & Victoria Road
- Silver Street between Marrickville Road and Sydenham Road
- Garners Avenue between Garners Avenue Carpark & Marrickville Road
- Seymour Lane between Garners Lane & Garners Avenue
- Frampton Avenue between Seymour Lane & Marrickville Road
- Gladstone Street between Marrickville Road & Marrickville Lane
- Garners Avenue between Illawarra Road & Garners Avenue Carpark
- Seymour Lane between Frampton Avenue & Garners Lane
- Garners Lane north of Seymour Lane
- Central Lane between Victoria Road and Meeks Road
- Victoria Lane between Sydenham Road and Central Lane

Event bump in will occur from 12:30am and bump out will conclude by 12:00pm midnight. It would be appreciated if you could ensure your vehicles are not parked within the road closure during these times. The public are encouraged to walk, cycle or use public transport.

We hope that you will join us at Marrickville Music Festival 2022. For further information please visit: https://www.innerwest.nsw.gov.au/explore/whats-on/events-in-detail/marrickville-music-festival or please contact the Council on 9392 5000

Sincerely,

Michael Daly

Events Manager

Page 1 of 1

Document Set ID: 36716561
Version: 1, Version Date: 18/08/2022

ATTACHMENTS

1.⇩ Marrickville Music Festival 2022 - TMP Version 1 1

2.⇩ Marrickville Music Festival 2022 - TGS Version

MARRICKVILLE
MUSIC FESTIVAL

TRANSPORT MANAGEMENT PLAN

Saturday 19th November 2022

PREPARED ON BEHALF OF

Version 1.1
18th August 2022

By
WHO DARES PTY LTD
TRAFFIC PLANNERS
SAFETY CONSULTANTS
SHED 8 / 1 CANAL ROAD
LEICHHARDT 2040
P.O. BOX 187
FIVE DOCK 2046
Fax: 02 9569 9933
Ph: 02 9569 9922

Event Organiser: **Inner West Council**

Document Author: **Tim Emslie**
Who Dares Pty Ltd
Prepare a Work Zone Traffic Management Plan
Certificate: 0048945001
Phone: 02 9569 9922

Version Control

Version	Date	Status	Comments
Version 1.0	15 August, 2022	DRAFT	First Draft
Version 1.1	18 August, 2022	DRAFT	Contact Details Updated Event Description Updated

1. INTRODUCTION

1.1. Introduction

This plan has been prepared for the **Inner West Council.**

It has been prepared after discussions with Inner West Council and Who Dares.

The plan relates to road closures for the Marrickville Music Festival event held on Saturday 19th November 2022.

1.2. Objective

It is the objective of this report to set out the means and measures by which roads may be closed to through traffic so that the event described above may take place.

The plan will include a description and detailed plan of the proposed measures, will identify and assess the impact of the proposed measures, will discuss the impact of re-assigned traffic, the proposal's effect on public transport services and what provisions are to be made for Emergency Services vehicle, heavy vehicles, cyclists and pedestrians. Furthermore, the plan will assess the effect of the proposal on existing and future developments within the vicinity, the possible flow on effects for traffic in adjoining Council Areas and finally will include a discussion about the requirement for a public consultation process with respect to the proposal.

1.3. Authority of the TMP

This Transport Management Plan (TMP) when approved by the relevant authorities becomes the prime document detailing the traffic, transport and pedestrian arrangements under which the Marrickville Music Festival, will operate.

In case of emergencies, or for the management of incidents, the NSW Police are not subject to the conditions of this TMP but should endeavour to inform other agencies of the nature of the incident and the Police response.

2. EVENT DETAILS

2.1. Event summary

Event Name	**Marrickville Music Festival**
Event Date:	**Saturday 19th November 2022**
Event Start Time:	**11:00 hours**
Event Finish Time:	**16:00 hours**
Event Set Up Time:	**00:30 hours**
Event Pack Down Finish Time:	**24:00 hours**
Event is:	**Street Festival**

2.2. Key Planning Contact Names

Inner West Council

Michael Daly	**Phone**	02 9392 5259
Events Manager	**Mobile**	
	E-mail	michael.daly@innerwest.nsw.gov.au

George Tsaprounis	**Phone**	
Acting Traffic Manager	**Mobile**	
	E-mail	george.tsaprounis@innerwest.nsw.gov.au

NSW POLICE – Inner West Police Area Command

	Phone	
	Mobile	
	E-mail	

Traffic Contractor – Who Dares Pty Ltd

Tim Emslie	**Phone**	02 9569 9922
Events Manager	**Mobile**	0417 467 814
	E-mail	tim@whodares.com.au

Transport for NSW - Buses

Steven Blight	**Phone**	
A/Transport Planning	**Mobile**	0447 377 450
Project Manager	**E-mail**	busapproval@transport.nsw.gov.au

2.3. Brief Description of the event

Marrickville Music Festival is a celebration of live music in the Inner West. The event will run on Saturday 19 November from 11am to 4pm and will feature multiple outdoor live music stages across the festival site.
Stages will be set up across the event site including the activation of Marrickville laneways through music and art. The Marrickville Music Festival will be a showcase of music talent from the Inner West, with over 40 acts to play in the one-day event. Stages will host both established and up and coming bands from the Inner West. Music venues in Marrickville will be also encouraged to participate in the festival program to highlight the vibrant array of venues that reside in the Marrickville area.

As part of the Marrickville Music Festival site furniture will be set up within the space created by the temporary road closure, allowing patrons to purchase food from local Marrickville businesses and enjoy the atmosphere while supporting local businesses and enhancing economic activity over the day. Visitors to the festival will be encouraged to engage with local businesses within their retail spaces increasing footfall, and as such experience the true Marrickville and embrace the precinct for its vast array of unique businesses and food experiences.

The Marrickville Music Festival will also host an Inner West Brewery showcase, with local breweries setting up stalls so patrons can taste Inner West offerings. Food and art stalls will be located in pockets around the site to showcase local Inner West product and creativity. Programming for families will be available along with cultural experiences from local creatives.

3. TRAFFIC AND TRANSPORT MANAGEMENT

3.1. Road closures 00:30 hours - 24:00 hours Saturday 19th November

- Marrickville Road between Illawarra Road & Victoria Road
- Silver Street between Marrickville Road and 25 metres north of Marrickville Road
- Garners Avenue between Garners Avenue Carpark & Marrickville Road
- Seymour Lane between Garners Lane & Garners Avenue
- Frampton Avenue between Seymour Lane & Marrickville Road
- Gladstone Street between Marrickville Road & Marrickville Lane
- Silver Street between Sydenham Road and 25 metres north of Marrickville Road (Resident Access Excepted)
- Garners Avenue between Illawarra Road & Garners Avenue Carpark (Resident Access Excepted)
- Seymour Lane between Frampton Avenue & Garners Lane (Resident Access Excepted)
- Garners Lane north of Seymour Lane (Resident Access Excepted)

3.2. Road closures 09:00 hours - 18:00 hours Saturday 19th November

- Central Lane between Victoria Road and Meeks Road
- Victoria Lane between Sydenham Road and Central Lane (Resident Access Excepted)

3.3. Detours

Access around the event site will be maintained by a detour. The detour loop will include Illawarra Road, Sydenham Road, Victoria Road & Calvert Street

3.4. Cleaning

Prior to the reopening of the roads at 24:00 hours Saturday 19th November 2022, the Inner West Council will undertake cleaning operations.

3.5. Modification to existing signage

Inner West Council will cover all existing parking signage within the event precinct with “No Stopping” signage on Friday 18th November 2022. This will assist with clearing the precinct of parked vehicles. Any remaining vehicles will be towed and parked in a nearby location on the morning of the event.

3.6. Sydney Trains

The closest train station is Marrickville Station. It is approximately 450 metres walk from the event precinct.

Currently the Trackworks schedule for event day is as follows:

T4 Eastern Suburbs & Illawarra Line

Buses replace trains between Waterfall, Cronulla and Central.

South Coast Line

Buses replace trains between Dapto and Central, and between Port Kembla and Wollongong

3.7. Transit Systems & Transdev NSW Buses amended route changes

Transit Systems services 418, 423, 423X, 425 & 426 & Transdev NSW N40 service will all be impacted by the event road closures. These services will be detoured around the event precinct. Council will arrange for signage will be placed at impacted bus stops to direct passengers to the nearest stop.
Refer Annex 1: Transit Systems & Transdev NSW Bus Detour Maps
Refer Annex 2: Bus Stop Signage

3.8. Parking

Parking will only be available in surrounding residential streets and a few small public carparks around the event site. Parking will as such be limited, and the event organiser will be recommending public transport to all event patrons.

3.9. Construction, traffic calming and traffic generating developments

At present, there are no indication of construction works that will be impact the event. There are no traffic calming devices or traffic generating developments along the route.

3.10. Traffic Control

An accredited Who Dares Traffic Manager will oversee implementation of the Traffic Guidance Schemes, including road closures.

Temporary traffic control signage, barricades and equipment as per the supplied Traffic Guidance Schemes must be installed by TfNSW or SafeWork accredited traffic controllers with a current “Implement Traffic Control Plan” certificate. Any person operating a Stop/Slow bat onsite must hold a current “Traffic Controller” certificate.

3.11. Pedestrians and Cyclists

There will be no major effect to pedestrians in the area. Pedestrians will be able to use the existing pedestrian paths outside of and within the event area.

There are no cycleways directly impacted by this event. Cyclists entering the event site will be requested to dismount.

3.12. Heavy Vehicle impacts

Heavy vehicles may experience slight delays due to increased traffic around the event precinct. Heavy vehicles should follow signposted detours.

3.13. Special Event Clearways

No special event clearways will be installed for this event. Inner West Council will instead install No Stopping signage throughout the event precinct prior to the event. Any remaining vehicles will be towed and parked in a nearby location on the morning of the event.

4. RISK MANAGEMENT - TRAFFIC

4.1. Occupational Health & Safety – Traffic Control

Inner West Council are the Risk Managers for their event operations. It is Inner West Council policy to treat identified hazards by endeavouring to prevent or eliminate health and safety risk where it is in their reasonable authority, to endeavour to minimise the likelihood of risks occurring when outside their authority and when risks occur to minimise the consequence of the risk activity

Any risk treatment measure implemented by Inner West Council will be consistent with their obligations in accordance with the 2011 WHS Regulations and/ or AS/NZS ISO 31000:2009 Risk Management-Principles and guidelines.

Inner West Council by the nature of the event operations has accepted the uncontrollable risks such as weather, environment and crowd behaviour and will implement treatment programs to mitigate risk. Their role is to ensure the risk is transferred from the organisers to the expert contractors. The transfer needs to be formalised by way of contracts and key performance indicators.

Inner West Council needs to ensure that the staff/contractors have contemporary knowledge in their field and apply current safety regulations including J.S.A's and S.W.M.S's. Inner West Council need to ensure that the attached checklists, where relevant are applied and completed. Inner West Council then has to ensure that any new emerging risks or safety concerns are controlled as and when they arise.

4.2. Public Liability Insurance

Public liability insurance in the value of $20,000,000 has been arranged. A certificate of currency which lists the NSW Police, Transport Management Centre and Transport for NSW, as interested parties.

A copy is included as ***Annex 3.***

4.3. Police

Inner West Police Area Command is to be notified of the event and a Public Assembly Form submitted.

4.4. Fire and Rescue NSW and NSW Ambulance

Fire and Rescue NSW and NSW Ambulance will be notified in writing of the event by the event organiser.

4.5. Trusts, authorities or Government enterprises

The event uses roads and parklands within the Inner West Council Local Government Area.

4.6. Hostile Vehicle Mitigation

Hostile Vehicle mitigation strategies may be undertaken within the road closure in accordance with the event risk assessment and NSW Police direction. This information is to remain confidential.

4.7. Risk & Contingency Plans

Inner West Council has compiled Risk Assessments and Site-Specific Safety Plans for the events that are not included in this Transport Management Plan

Item	Verified	Action Taken
All one-way streets are as described	☒ Yes ☐ No ☐ N/A	*Road closures, barricade and signage installed. Point duty by NSW Police and or authorised Traffic Controllers.*
Block access to local businesses	☒ Yes ☐ No ☐ N/A	*Confirm list of letters to residents, businesses, and car parks.* *Advertisement of event to general public.*
Block Police vehicle access	☒ Yes ☐ No ☐ N/A	*Confirm access and consultation of routes to and within areas affected by closures with Emergency Services.*
Block Ambulance access	☒ Yes ☐ No ☐ N/A	*Confirm access and consultation of routes to and within areas affected by closures with Emergency Services.*
Block fire station access	☐ Yes ☐ No ☒ N/A	*Normal access to fire station facilities are maintained* *Confirm access and consultation of routes to and within areas affected by closures with Emergency Services.*
Block heavy vehicle access	☒ Yes ☐ No ☐ N/A	*Advertisement of event to general public.*
Restricted movements – banned turns, heavy/high vehicles	☐ Yes ☐ No ☒ N/A	All vehicles are diverted before the closure.
Block Public facility (football oval, car park etc.)	☒ Yes ☐ No ☐ N/A	*Confirm list of letters to residents, businesses, and car parks.* *Advertisement of event to general public.*
Block public transport access	☐ Yes ☐ No ☒ N/A	*Confirm access points affected from Buses, Sydney Rail, Ferries, and Taxis.* *Are public transport closures/arrangements communicated publicly??* *Buses re-routed and temporary stops installed.*
Can route use alternatives such as bicycle tracks, paths, parks, bush tracks etc.?	☐ Yes ☐ No ☒ N/A	
Construction – existing, proposed that may conflict	☐ Yes ☒ No ☐ N/A	*Confirm list of letters to residents, businesses, and car-parks.* There are no known planned road-works.
Numbers of lanes and their width are as described	☒ Yes ☐ No ☐ N/A	

Item	**Verified**	**Action Taken**
Road signage – existing/temporary	☒ Yes ☐ No ☐ N/A	Council will install advanced warning Road Closure signage at least 14 days prior to the event. Other temporary signage will be installed and removed by Authorised Traffic Controllers.
Route impeded by traffic calming devices?	☐ Yes ☐ No ☒ N/A	
Signalised intersections (flashing yellow? Point duty?	☐ Yes ☐ No ☒ N/A	As required by NSW Police
Tidal flows	☐ Yes ☐ No ☒ N/A	
Traffic generators – shopping centres, schools, churches, industrial area, hospitals	☒ Yes ☐ No ☐ N/A	*Advertisement of event to general public.*
Traffic movement contrary to any Notice	☐ Yes ☐ No ☒ N/A	Under the direction of Police or traffic controllers
Traffic signals are as described	☒ Yes ☐ No ☐ N/A	Controlled by TMC
Turning lanes are as described	☒ Yes ☐ No ☐ N/A	Road closures, barricades and signage installed.
Letter Drop Zone Maps to indicate precincts mailed	☒ Yes ☐ No ☐ N/A	

This section of the Transport Management Plan describes the contingency plans for the event. The contingency plan checklist identifies all possible issues/risks that may interfere with the event and the action to be taken to minimise the disturbance of the event.

Issues/Risks	**Applicable**	**Action Taken**
Heavy Weather	☒ Yes ☐ No	If heavy weather may cause crowds to depart early
Flood hazard on the route	☒ Yes ☐ No	TMC / TfNSW and Police provide diversions around flooded area.
Flood hazard at the parking area	☒ Yes ☐ No	TfNSW and Police provide diversions around flooded area. There is no event-specific parking for general public.
Parking during Wet weather	☒ Yes ☐ No	General public are encouraged to utilise public transport.
Bush fire hazard	☒ Yes ☐ No	For major local/regional bushfire hazard affecting general public health or transport to greater Sydney, take direction from NSW Police
Accident on the route	☒ Yes ☐ No	If CCTV monitored by TMC. Facilitate emergency response to area.
Breakdown	☒ Yes ☐ No	If CCTV monitored by TMC. Facilitate response to area.
Absence of marshals and volunteers	☒ Yes ☐ No	Re-deploy existing staff as required.
Block public transport access	☒ Yes ☐ No	Divert general public to next available transport, considering safety and circumstances. Relevant transport agency to employ appropriate steps to accommodate.
Slow participants	☐ Yes ☒ No	Cut off time to be enforced.
Delayed Event	☒ Yes ☐ No	Managed by event organiser
Cancellation of Event	☒ Yes ☐ No	Cancellation of any aspect of the event will be communicated by the event organiser.
Security of participants/general public	☒ Yes ☐ No	Provided by event organiser.
Security of very important persons (VIP's)	☒ Yes ☐ No	As Required.

It shall be noted that Transport Management Plan (TMP) and particularly Traffic Guidance Schemes (TGS) are seen as risk control measures, but alone they cannot substitute for a compliant and detailed event Risk Assessment.

4.7. Regulatory Framework

This Transport Management Plan has been written in accordance with the following Act, Regulation, Australian Standards and Road Design Technical Direction

- WHS Act 2011
- WHS Regulation 2017
- AS/NZS ISO 31000: Risk Management - Principles and Guidelines
- ISO 31000:2018 - Principles and Guidelines on Implementation
- ISO/IEC 31010:2019 - Risk Management - Risk Assessment Techniques
- ISO Guide 73:2009 - Risk Management – Vocabulary
- Traffic control at work sites – TfNSW Feb 2022 V6.1
- AS 1742.2-2019 Manual of uniform traffic control devices - Traffic control devices for general use
- AS 1743-2018 Road signs - Specifications
- AS/NZS 1906.4:2010 Retro-reflective materials and devices for road traffic control purposes - High-visibility materials for safety garments
- AS 3996-2006 Access covers and grates
- AS 1742.10-2019 Manual of uniform traffic control devices - Pedestrian control and protection
- AS 1742.13-2019 Manual of uniform traffic control devices - Local area traffic management
- AS 1742.3-2019 Manual of uniform traffic control devices - Traffic control for works on roads

5. MINIMISING IMPACT ON THE NON-EVENT COMMUNITY AND EMERGENCY SERVICES

5.1. Emergency Lane

A minimum four (4) metre emergency lane will be maintained along the entire closure. Traffic controllers will be onsite to assist emergency vehicles through the closure points.

5.2. Advertise the traffic management arrangements

All affected residents will be notified of the event through:

- Letterbox drop will be conducted for impacted residents within and near the road closure precinct at least two weeks prior to the event.
- Date & time specific corflute "Special Event – Road Closed" signs to be placed around the event precinct 14 days prior to the event.

5.3. Permanent Variable Message Signs

Permanent overhead electronic boards will not be used for this event.

5.4. Portable variable message signs

Two Portable VMS Boards will be used to advertise the road closures leading up to the event day.

Refer TGS 05 & 06.

6. PRIVACY NOTICE

The "Personal Information" contained in the completed Transport Management Plan may be collected and held by the NSW Police, Transport for NSW (TfNSW), or Local Government.

I declare that the details in this application are true and complete. I understand that:

The "personal information" is being collected for submission of the Transport Management Plan for the event described in Section 1 of this document;

I must supply the information under the Road Transport Legislation (as defined in the Road Transport (General) Act 1999) and the Roads Act 1993;

Failure to supply full details and to sign or confirm this declaration can result in the event not proceeding;

The "personal information" being supplied is either my own or I have the approval of the person concerned to provide his/her "personal information";

The "personal information" held by the Police, TfNSW or Local Government may be disclosed inside and outside of NSW to event managers or any other person or organisation required to manage or provide resources required to conduct the event or to any business, road user or resident who may be impacted by the event;

The person to whom the "personal information" relates has a right to access or correct it in accordance with the provisions of the relevant privacy legislation.

7. APPROVAL

TMP Approved by: ………………………………………………….. Date:....................

Event Organiser – Inner West Council

8. AUTHORITY TO *REGULATE TRAFFIC

Council's traffic management requirements have been met. Regulation of traffic is therefore authorised for all non-classified roads described in the risk management plans attached to this TMP.

Regulation of traffic authorised by:……………………………………… Date:.....................

Inner West Council

TfNSW's traffic management requirements have been met. Regulation of traffic is therefore authorised for all classified roads described in the risk management plans attached to this TMP.

Regulation of traffic authorised by:……………………………………… Date:.....................

Transport for NSW

* "Regulate traffic" means restrict or prohibit the passage along a road of persons, vehicles or animals (Roads Act, 1993). Council and TfNSW require traffic to be regulated as described in the risk management plans with the layouts installed under the direction of a qualified person.

9. ATTACHMENTS

Annex 1 – Transit Systems & Transdev NSW Bus Detour Route Maps
Annex 2 – Bus Stop Signage
Annex 2 – Public Liability Insurance

10. TRAFFIC GUIDANCE SCHEMES

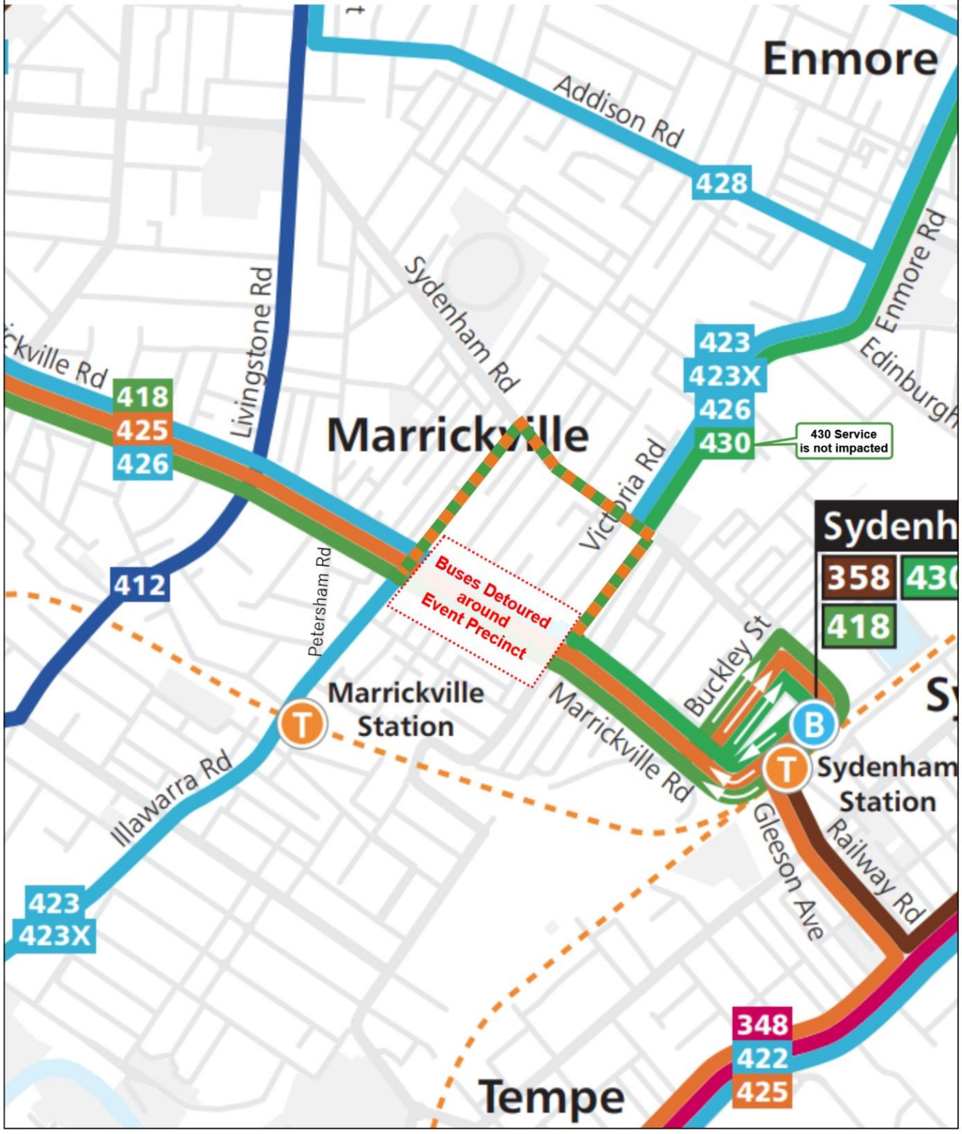
TGS 01A Sydenham Rd, Illawarra Rd & Victoria Rd MARRICKVILLE
TGS 01B Sydenham Rd, Illawarra Rd & Victoria Rd MARRICKVILLE
TGS 01C Sydenham Rd, Illawarra Rd & Victoria Rd MARRICKVILLE
TGS 02A Marrickville Rd & Illawarra Rd MARRICKVILLE
TGS 02B Marrickville Rd & Illawarra Rd MARRICKVILLE
TGS 02C Marrickville Rd & Illawarra Rd MARRICKVILLE
TGS 03A Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 03B Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 03C Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 03D Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 03E Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 04 Calvert St, Illawarra Road & Victoria Road MARRICKVILLE
TGS 05 Marrickville Rd VMS
TGS 06 Marrickville Rd VMS

ANNEX 1

TRANSIT SYSTEMS & TRANSDEV NSW BUS DETOUR MAPS

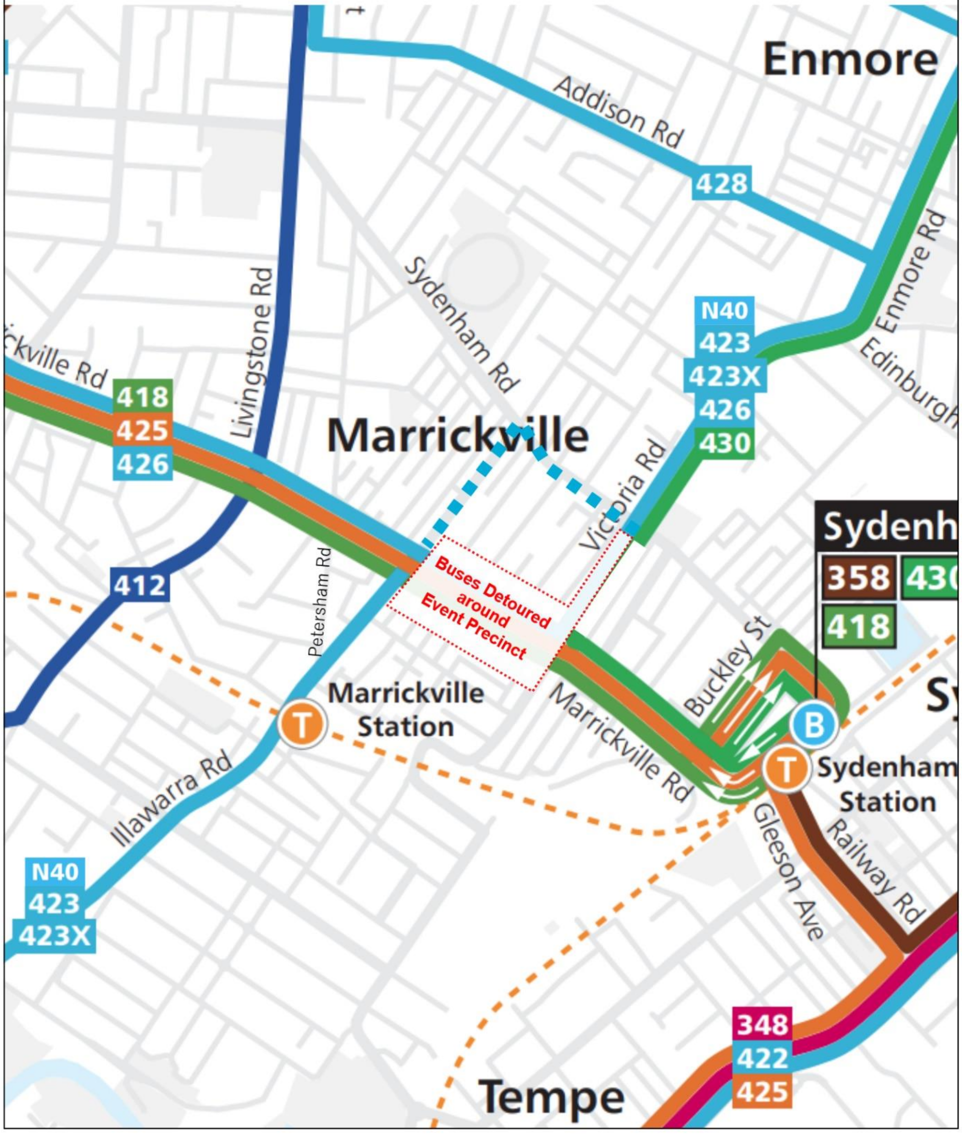
MARRICKVILLE FESTIVAL
SATURDAY 19th NOVEMBER 2022

TRANSIT SYSTEMS BUSES
418 & 425 SERVICE DETOUR ROUTE



MARRICKVILLE FESTIVAL
SATURDAY 19th NOVEMBER 2022

TRANSIT SYSTEMS & TRANSDEV BUSES
423, 423X & 426 N40 SERVICE DETOUR ROUTE



ANNEX 2

BUS STOP SIGNAGE

Bus stop closure

Marrickville Festival

Saturday 19 November 2022
12:30am – Midnight

While roads are closed for the event, buses will not run to or from this bus stop. Buses will detour around the road closures

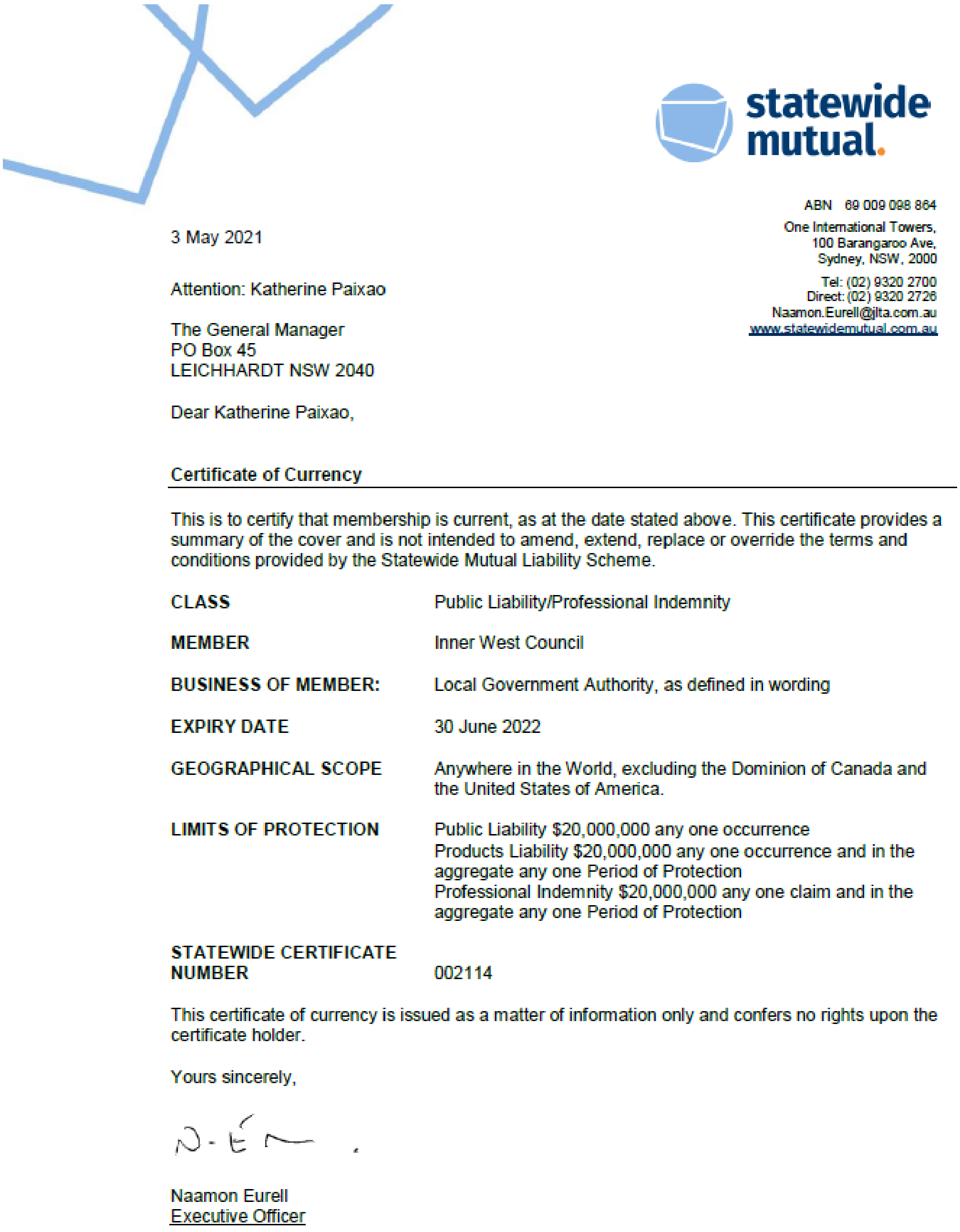
Route affected	Service change
418	Sydenham to Burwood
423 / 423X	Kinsgrove Depot to City Martin Place
425	Tempe to Dulwich Hill
426	Dulwich Hill to City Martin Place
N40	East Hills to City Town Hall (Night Rider)
Nearest alternative bus stops	Marrickville Town Hall, Marrickville Rd (418, 425, 426) Marrickville Station, Illawarra Rd (423, 423X, N40) Marrickville Rd & Victoria Rd (418, 425) Victoria Rd & Sydenham Rd (423, 423X, 426)

NSW GOVERNMENT | Transport

Visit transportnsw.info

ANNEX 3

PUBLIC LIABILITY INSURANCE



statewide mutual.

ABN 69 009 098 864

One International Towers,
100 Barangaroo Ave,
Sydney, NSW, 2000

Tel: (02) 9320 2700
Direct: (02) 9320 2726
Naamon.Eurell@jlta.com.au
www.statewidemutual.com.au

3 May 2021

Attention: Katherine Paixao

The General Manager
PO Box 45
LEICHHARDT NSW 2040

Dear Katherine Paixao,

Certificate of Currency

This is to certify that membership is current, as at the date stated above. This certificate provides a summary of the cover and is not intended to amend, extend, replace or override the terms and conditions provided by the Statewide Mutual Liability Scheme.

CLASS	Public Liability/Professional Indemnity
MEMBER	Inner West Council
BUSINESS OF MEMBER:	Local Government Authority, as defined in wording
EXPIRY DATE	30 June 2022
GEOGRAPHICAL SCOPE	Anywhere in the World, excluding the Dominion of Canada and the United States of America.
LIMITS OF PROTECTION	Public Liability $20,000,000 any one occurrence Products Liability $20,000,000 any one occurrence and in the aggregate any one Period of Protection Professional Indemnity $20,000,000 any one claim and in the aggregate any one Period of Protection
STATEWIDE CERTIFICATE NUMBER	002114

This certificate of currency is issued as a matter of information only and confers no rights upon the certificate holder.

Yours sincerely,

Naamon Eurell
Executive Officer

MARRICKVILLE MUSIC FESTIVAL
SATURDAY 19th NOVEMBER 2022
TRAFFIC GUIDANCE SCHEMES

TGS 01A Sydenham Rd, Illawarra Rd & Victoria Rd MARRICKVILLE
TGS 01B Sydenham Rd, Illawarra Rd & Victoria Rd MARRICKVILLE
TGS 01C Sydenham Rd, Illawarra Rd & Victoria Rd MARRICKVILLE
TGS 02A Marrickville Rd & Illawarra Rd MARRICKVILLE
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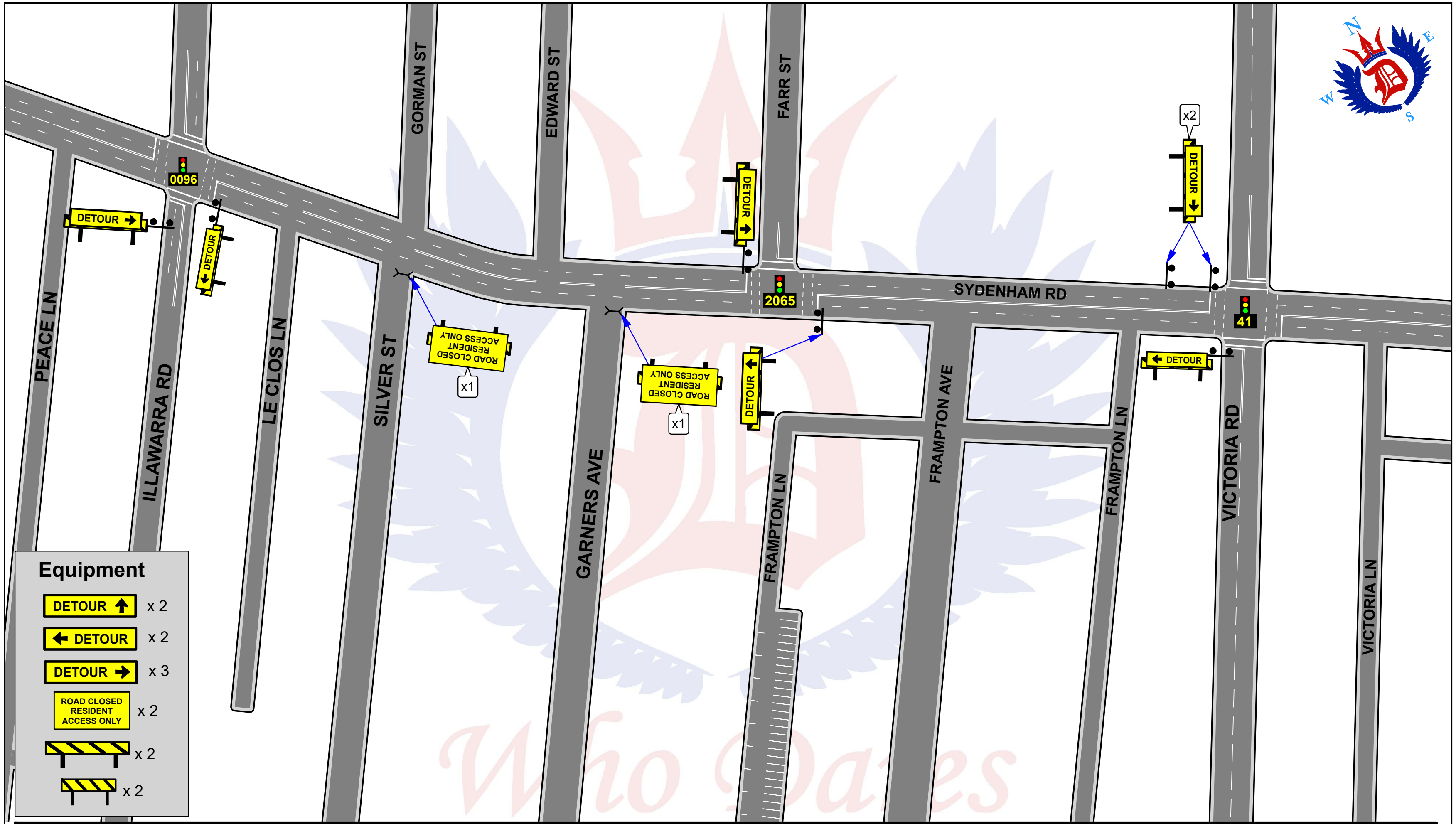
TGS 03B Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 03C Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 03D Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 03E Marrickville Rd & Victoria Rd MARRICKVILLE
TGS 04 Calvert St, Illawarra Road & Victoria Road MARRICKVILLE
TGS 05 Marrickville Rd VMS
TGS 06 Marrickville Rd VMS

Version 1.3

Revised 18 Aug 22

Drawn by: Tim Emslie
SafeWork PWZ Card No. TCT0073149
for Who Dares Pty Ltd

Signature:



AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES	Deliver Signage		N/A	00:30 - 09:00
INNER WEST COUNCIL				

MARRICKVILLE MUSIC FESTIVAL

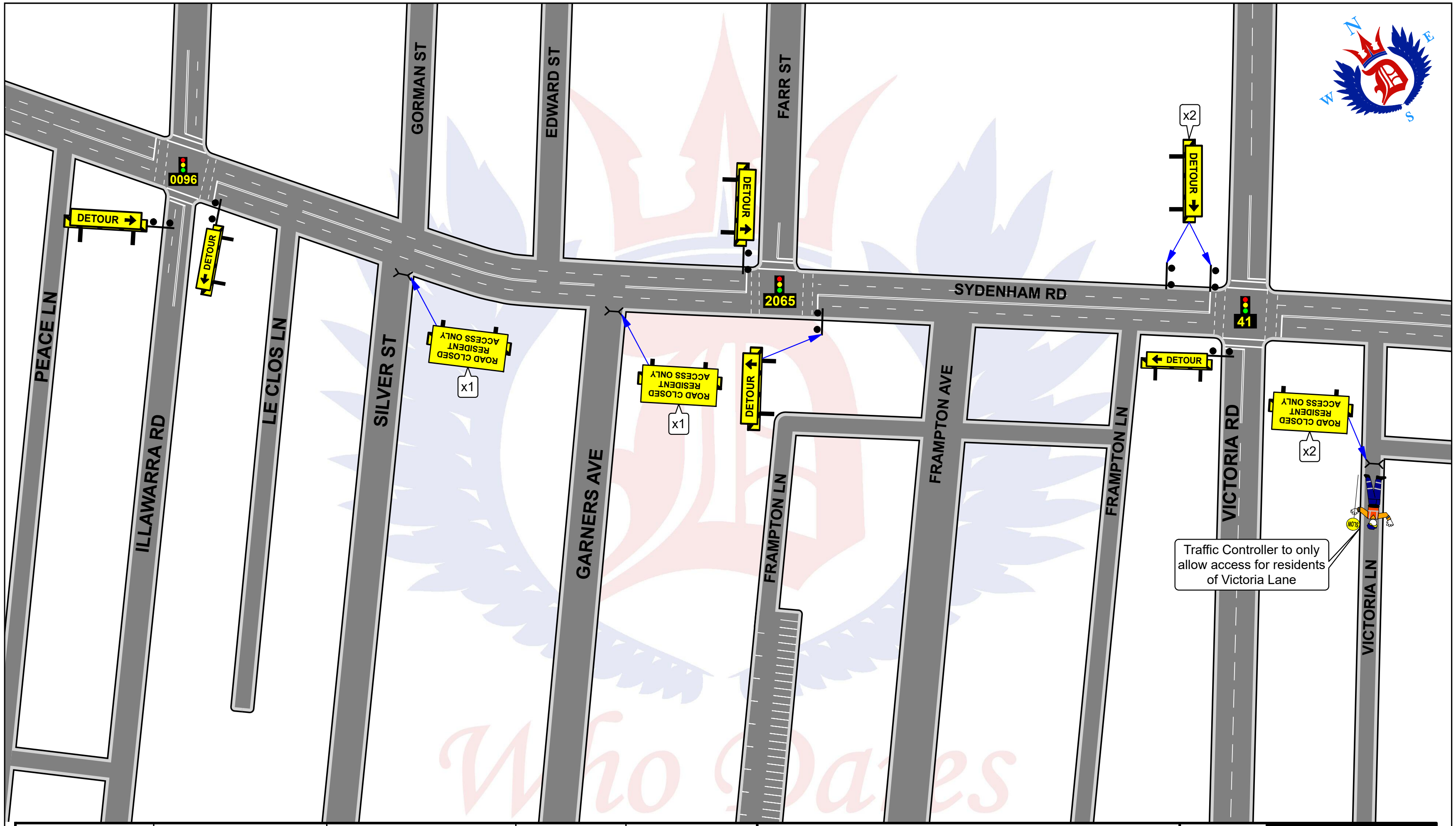
Sydenham Road, Illawarra Road
& Victoria Rd
MARRICKVILLE

Revised 18 Aug 22

TGS	01A
DATE	Sat 19th Nov 2022

Drawn by: Tim Emslie
SafeWork PWZ Card No. TCT0073149
for Who Dares Pty Ltd

Signature:



Traffic Controller to only allow access for residents of Victoria Lane

AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES	Monitor Closures	Deliver Signage	1	09:00 - 18:00
INNER WEST COUNCIL				

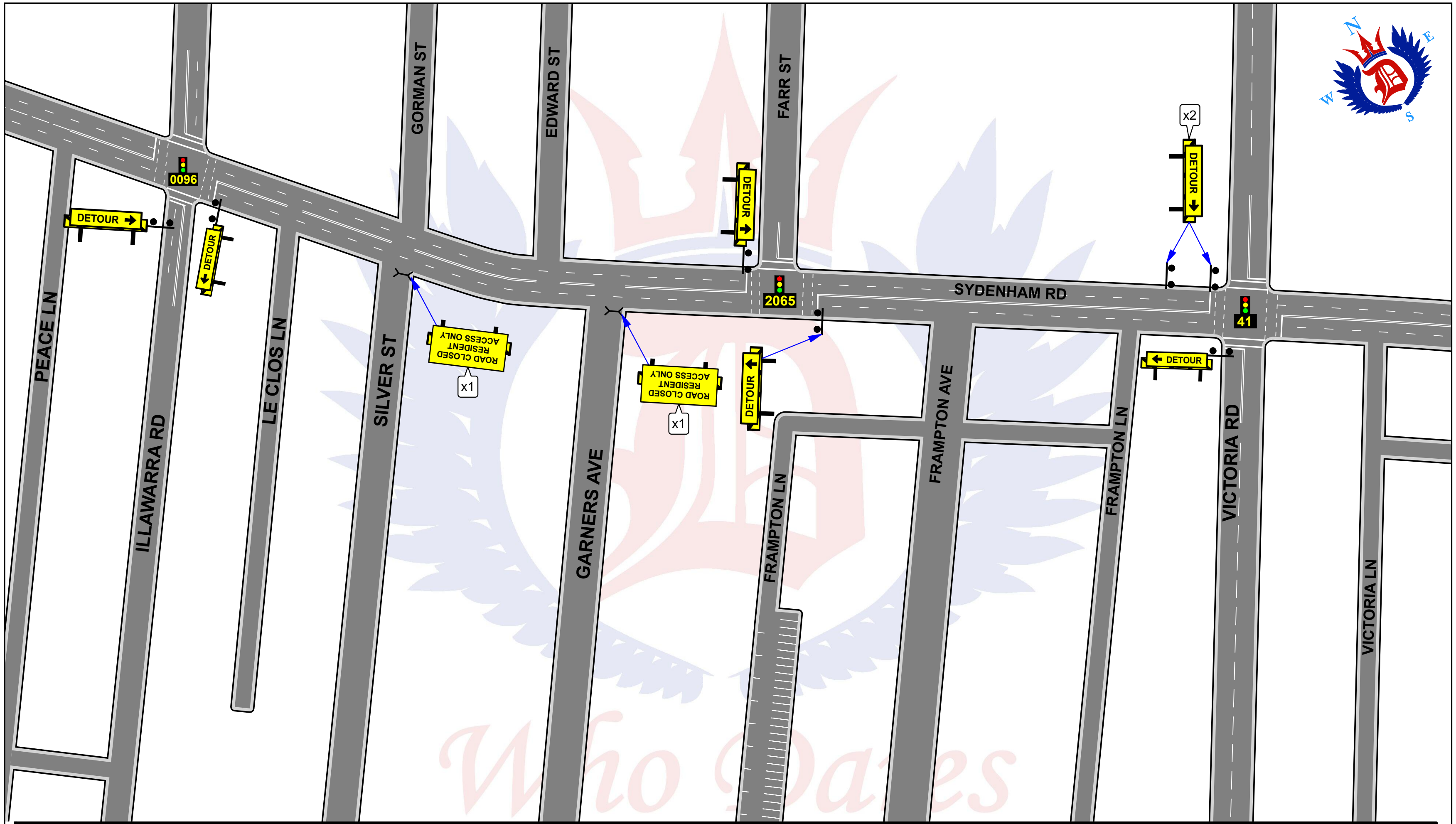
MARRICKVILLE MUSIC FESTIVAL
Sydenham Road, Illawarra Road
& Victoria Rd
MARRICKVILLE

Revised 18 Aug 22

TGS	01A
DATE	Sat 19th Nov 2022

Drawn by: Tim Emslie
SafeWork PWZ Card No. TCT0073149
for Who Dares Pty Ltd

Signature:



AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES	Deliver Signage		N/A	18:00 - 24:00
INNER WEST COUNCIL				

MARRICKVILLE MUSIC FESTIVAL

Sydenham Road, Illawarra Road
& Victoria Rd
MARRICKVILLE

Revised 18 Aug 22

TGS	01C
DATE	Sat 19th Nov 2022

Drawn by: Tim Emslie
SafeWork PWZ Card No. TCT0073149
for Who Dares Pty Ltd

Signature:

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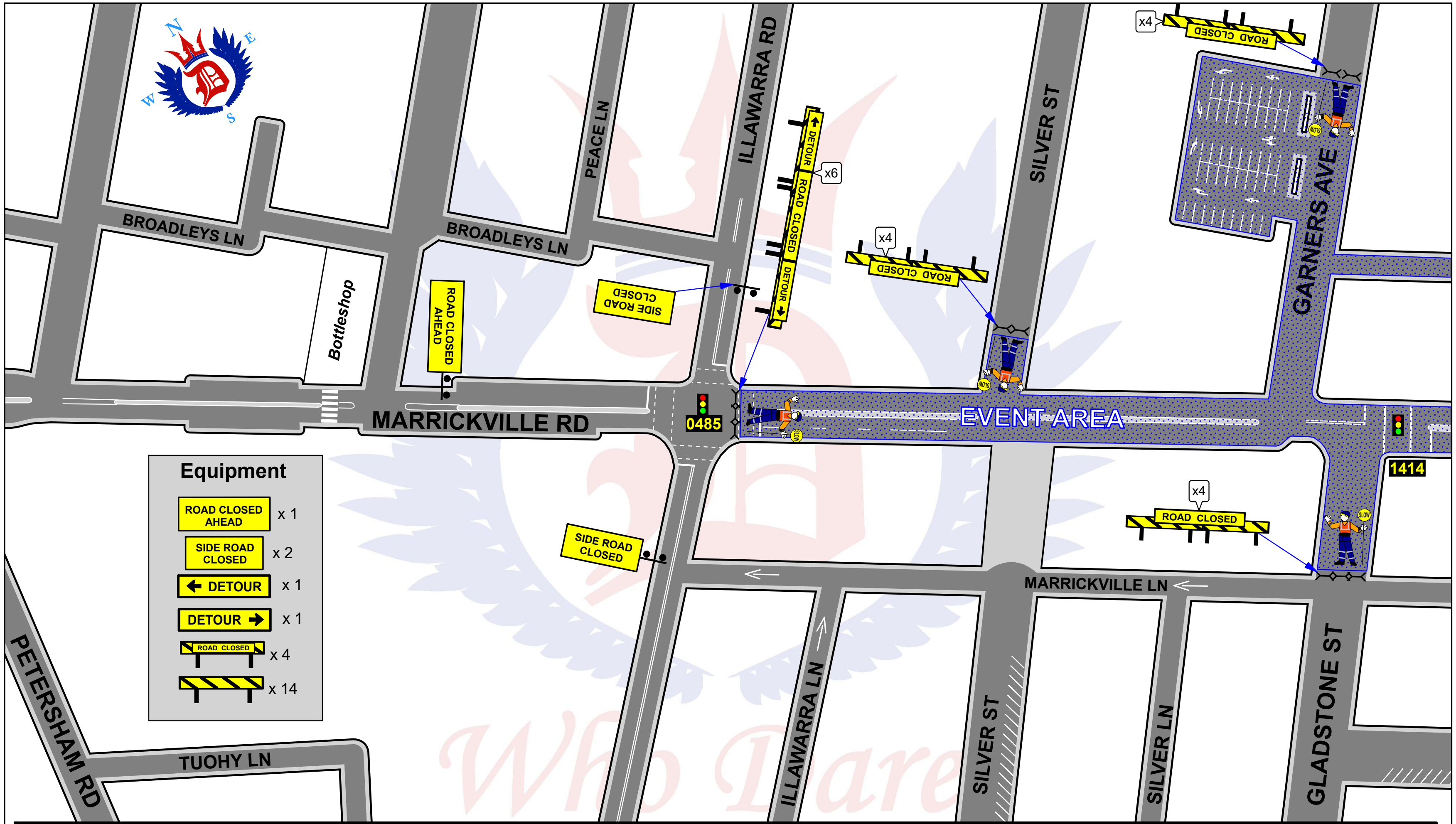
Version: 1, Version Date: 18/08/2022



AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES	Monitor Closures	Deliver Signage	4	00:30 - 11:00
INNER WEST COUNCIL				

MARRICKVILLE MUSIC FESTIVAL

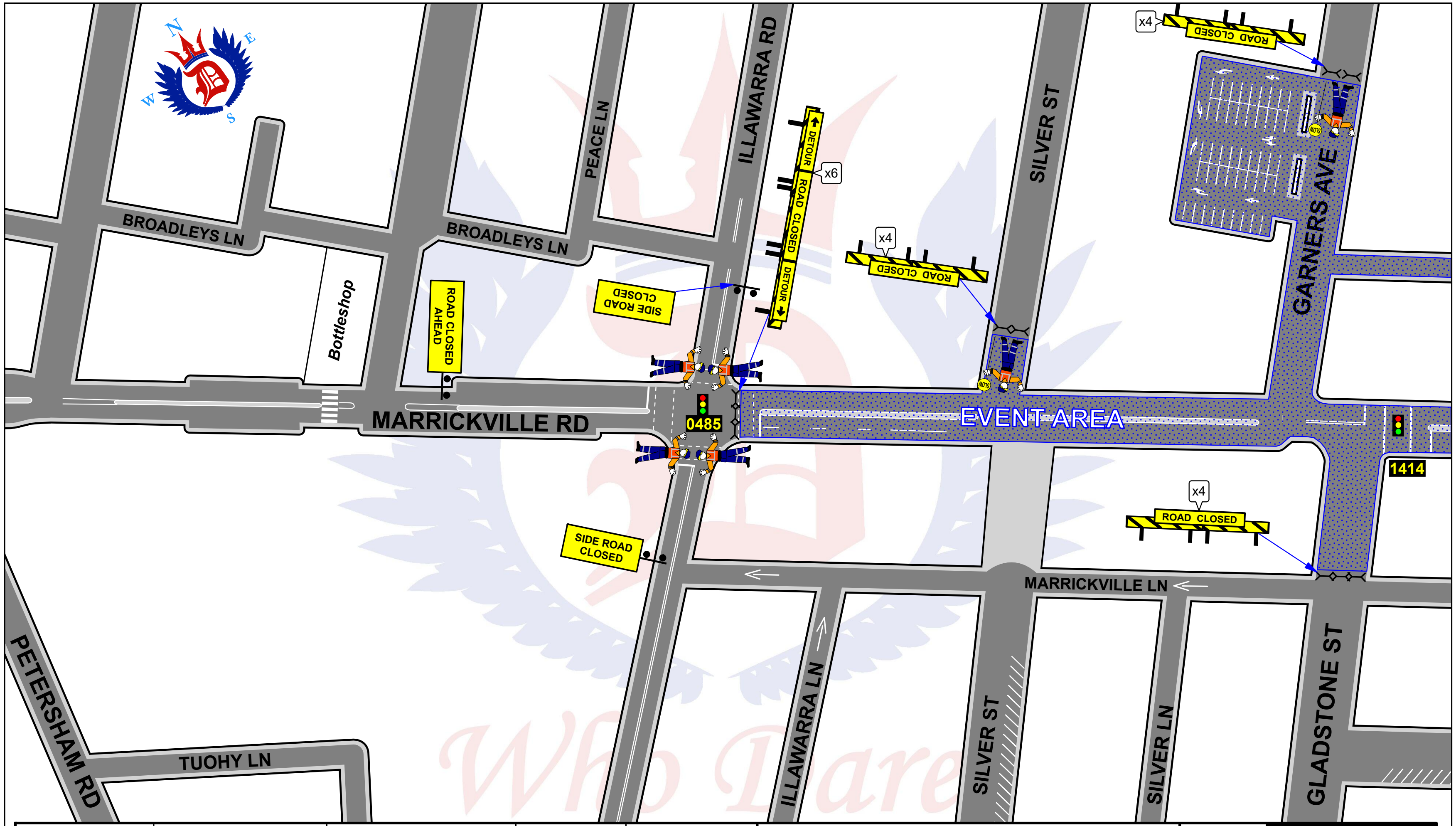
Marrickville Road & Illawarra Road
MARRICKVILLE

Revised 18 Aug 22

TGS	02A
DATE	Sat 19th Nov 2022

Drawn by: Tim Emslie
SafeWork PWZ Card No. TCT0073149
for Who Dares Pty Ltd

Signature:



AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES	Monitor Closures	Pedestrian Management	6	11:00 - 16:00
INNER WEST COUNCIL				

MARRICKVILLE MUSIC FESTIVAL

Marrickville Road & Illawarra Road
MARRICKVILLE

Revised 18 Aug 22

TGS	02B
DATE	Sat 19th Nov 2022

Drawn by: Tim Emslie
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for Who Dares Pty Ltd

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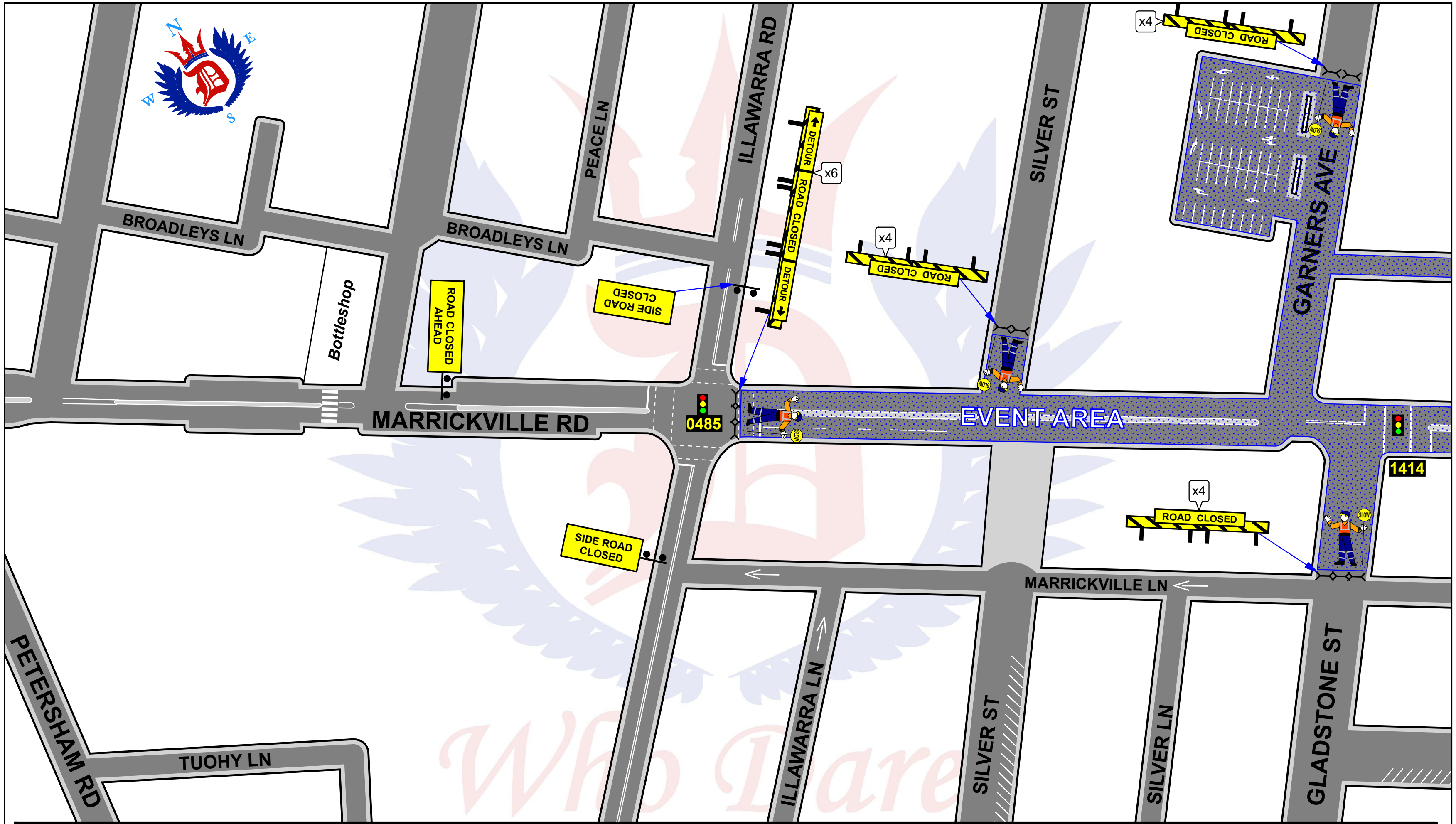


AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES	Monitor Closures	Deliver Signage	4	16:00 - 24:00
INNER WEST COUNCIL				

MARRICKVILLE MUSIC FESTIVAL

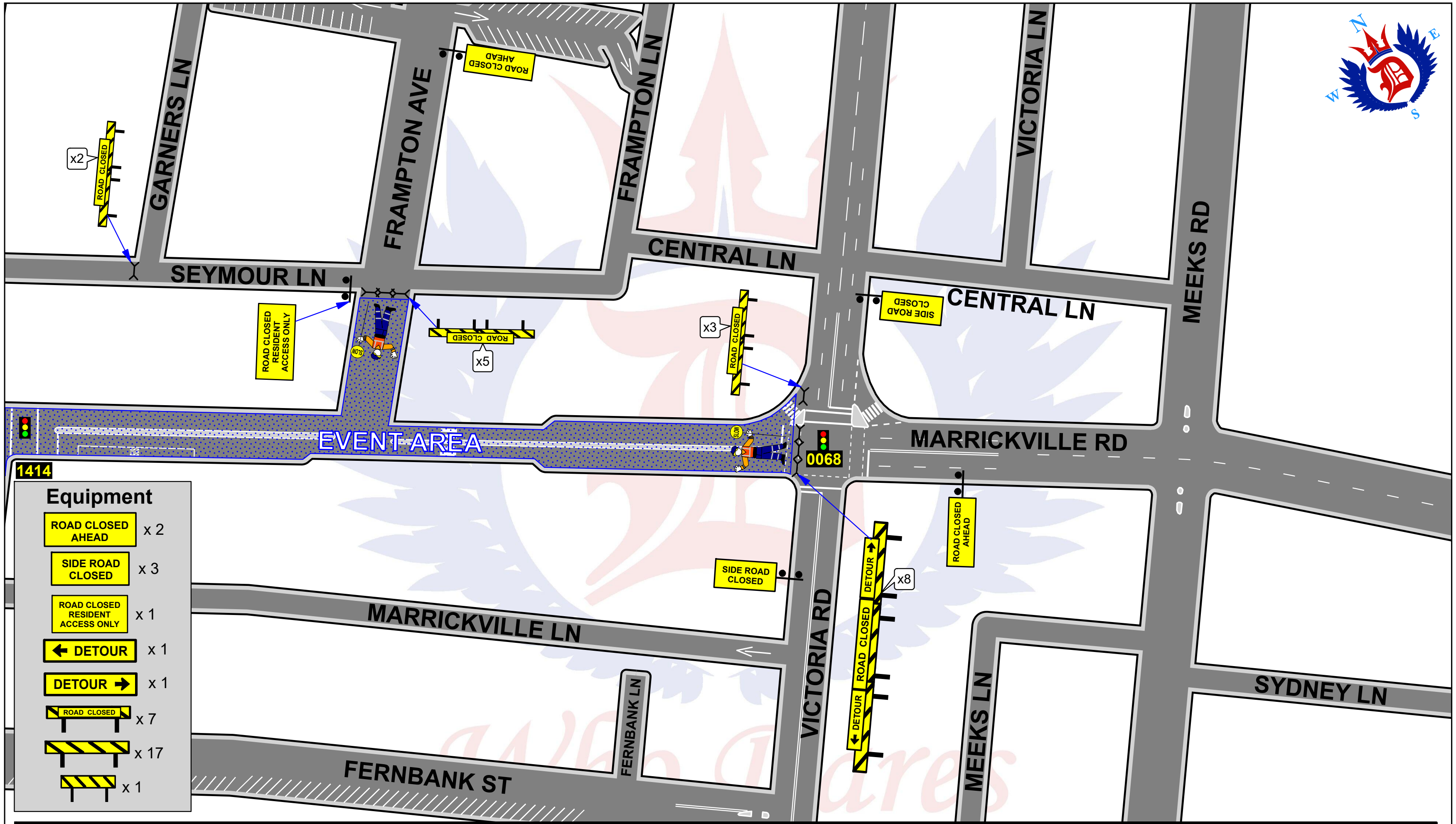
Marrickville Road & Illawarra Road
MARRICKVILLE

Revised 18 Aug 22

TGS	02C
DATE	Sat 19th Nov 2022

Drawn by: Tim Emslie
SafeWork PWZ Card No. TCT0073149
for Who Dares Pty Ltd

Signature:



AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES	Monitor Closures	Deliver Signage	2	00:30 - 09:00
INNER WEST COUNCIL				

MARRICKVILLE MUSIC FESTIVAL

Marrickville Road & Victoria Road
MARRICKVILLE

Revised 18 Aug 22

TGS	03A
DATE	Sat 19th Nov 2022

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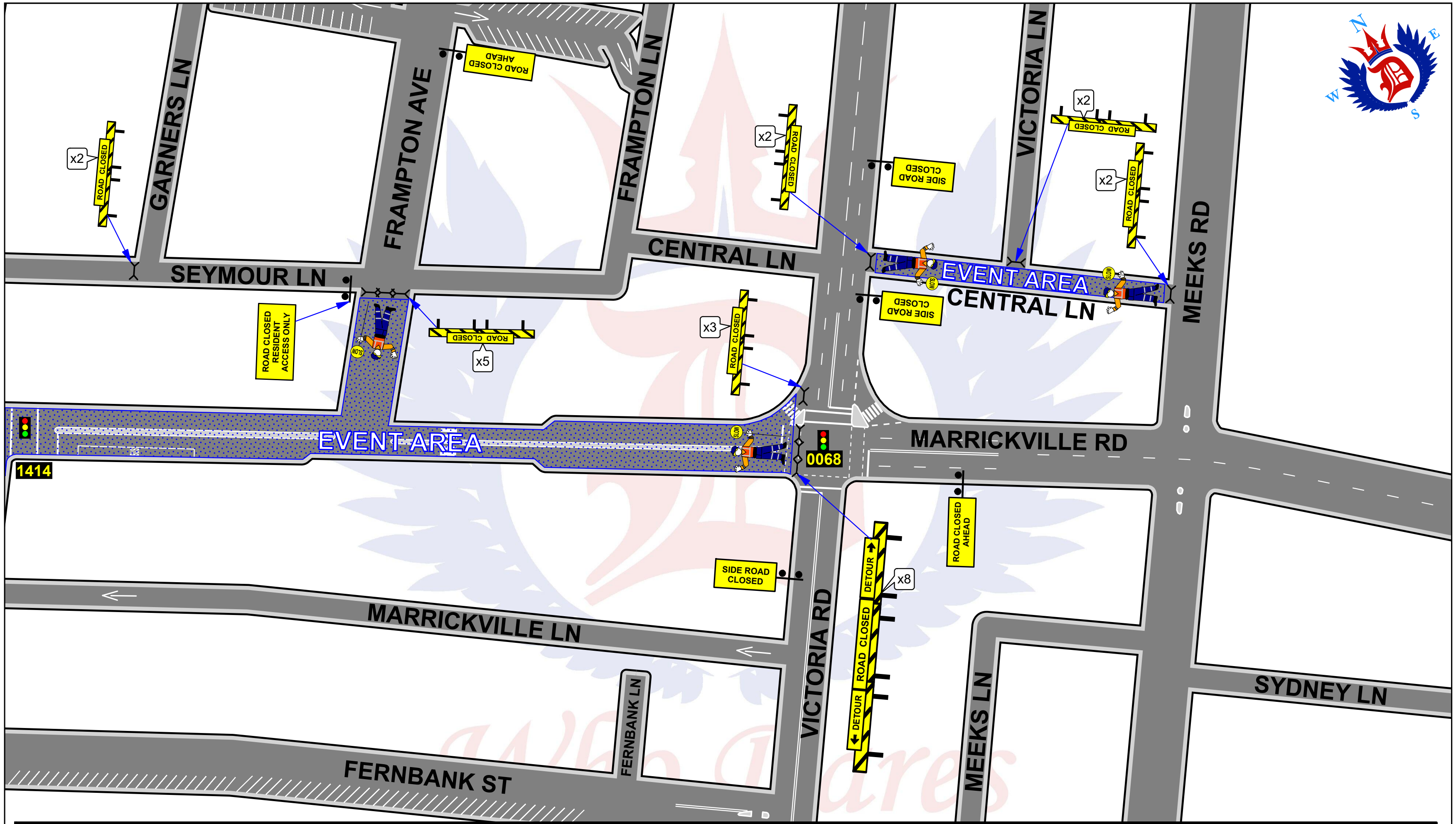

AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES	Monitor Closures	Deliver Signage	4	09:00 - 11:00
INNER WEST COUNCIL				

MARRICKVILLE MUSIC FESTIVAL

Marrickville Road & Victoria Road
MARRICKVILLE

Revised 18 Aug 22

TGS	03B
DATE	Sat 19th Nov 2022

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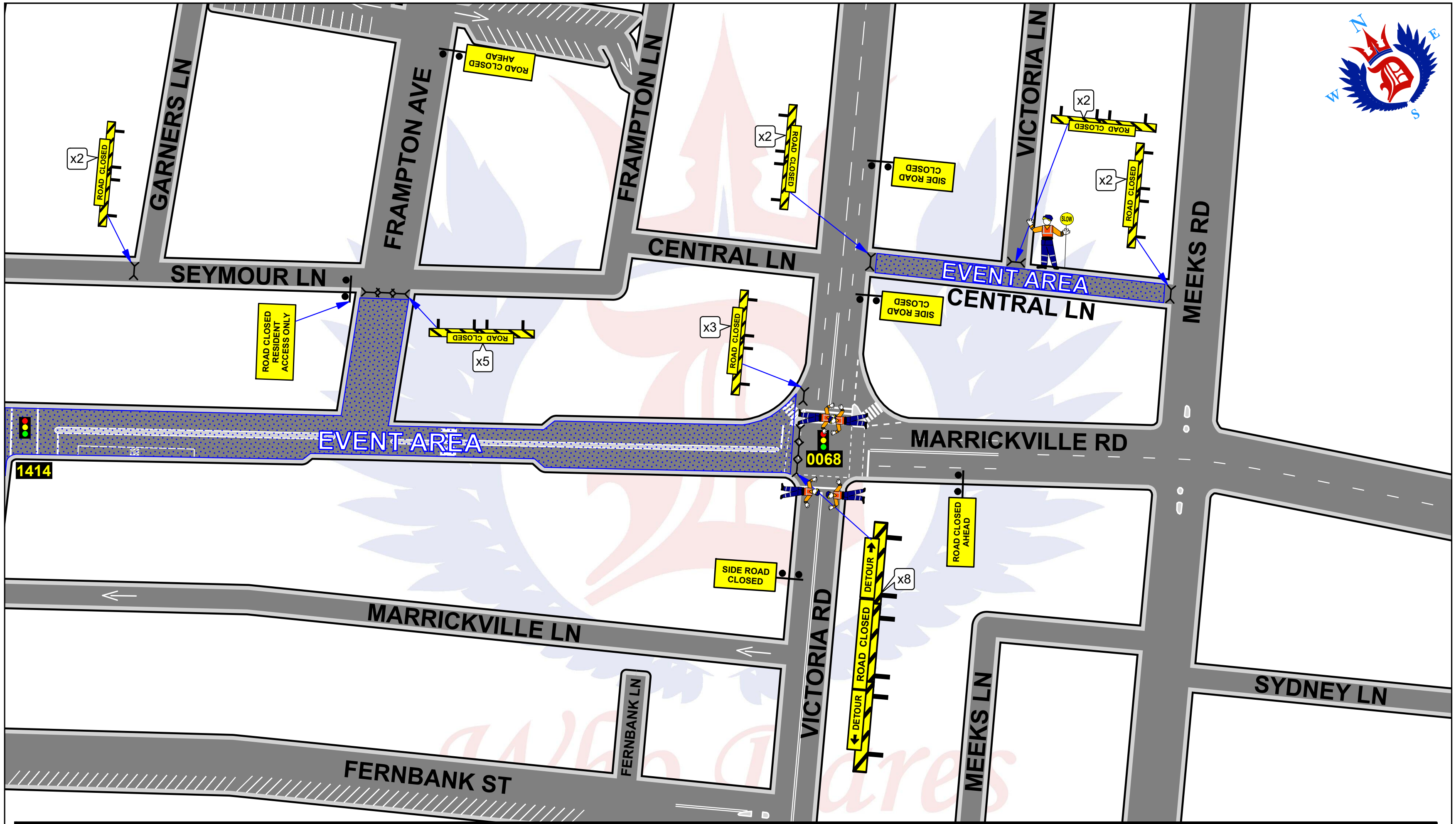

AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES	Monitor Closures	Pedestrian Management	5	11:00 - 16:00
INNER WEST COUNCIL				

MARRICKVILLE MUSIC FESTIVAL

Marrickville Road & Victoria Road
MARRICKVILLE

Revised 18 Aug 22

TGS	03C
DATE	Sat 19th Nov 2022

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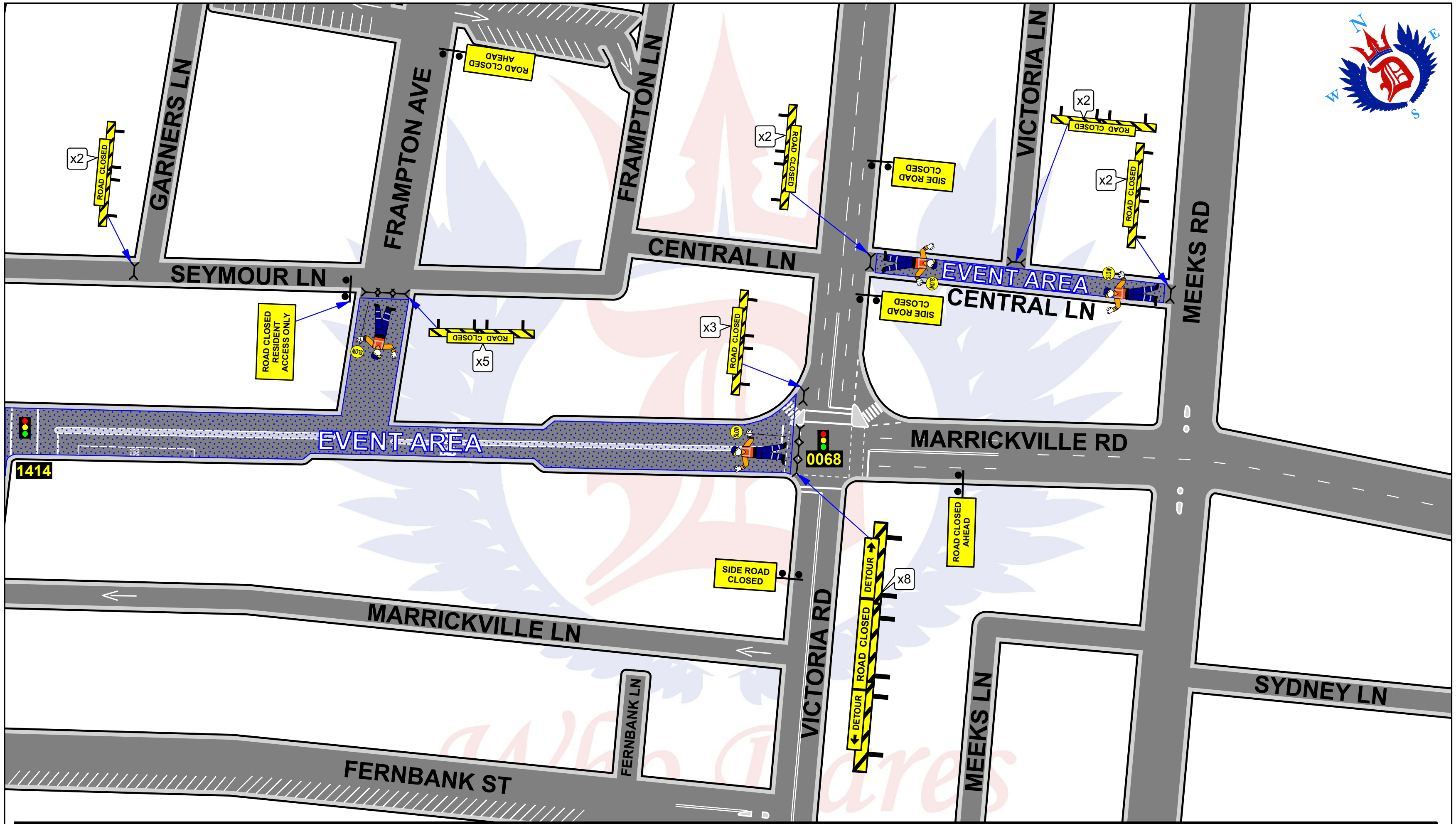


AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES	Monitor Closures	Deliver Signage	4	16:00 - 18:00
INNER WEST COUNCIL				

MARRICKVILLE MUSIC FESTIVAL

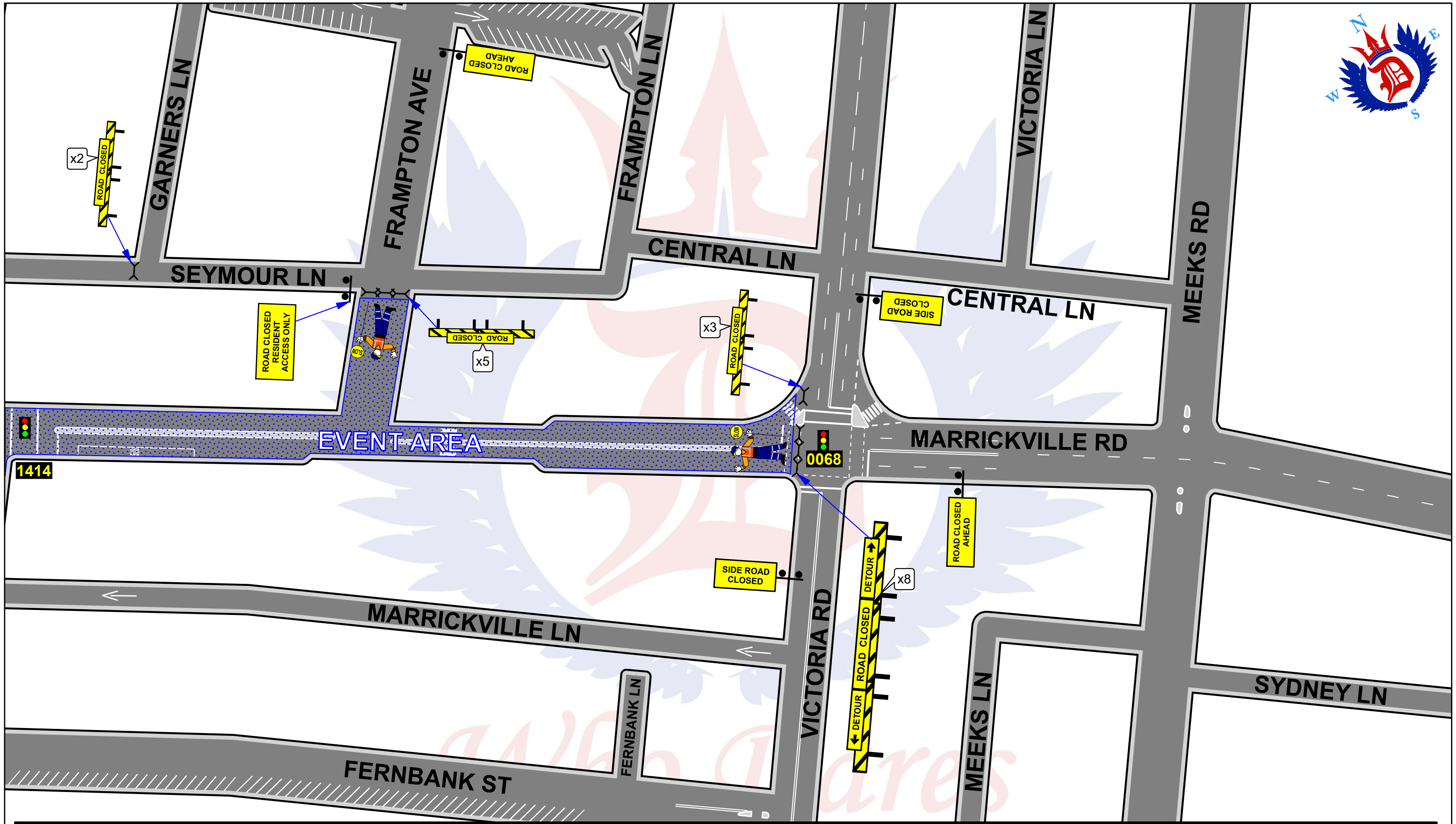
Marrickville Road & Victoria Road
MARRICKVILLE

Revised 18 Aug 22

TGS	03D
DATE	Sat 19th Nov 2022

Drawn by: Tim Emslie
SafeWork PWZ Card No. TCT0073149
for Who Dares Pty Ltd

Signature:



AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES	Monitor Closures	Deliver Signage	2	18:00 - 24:00
INNER WEST COUNCIL				

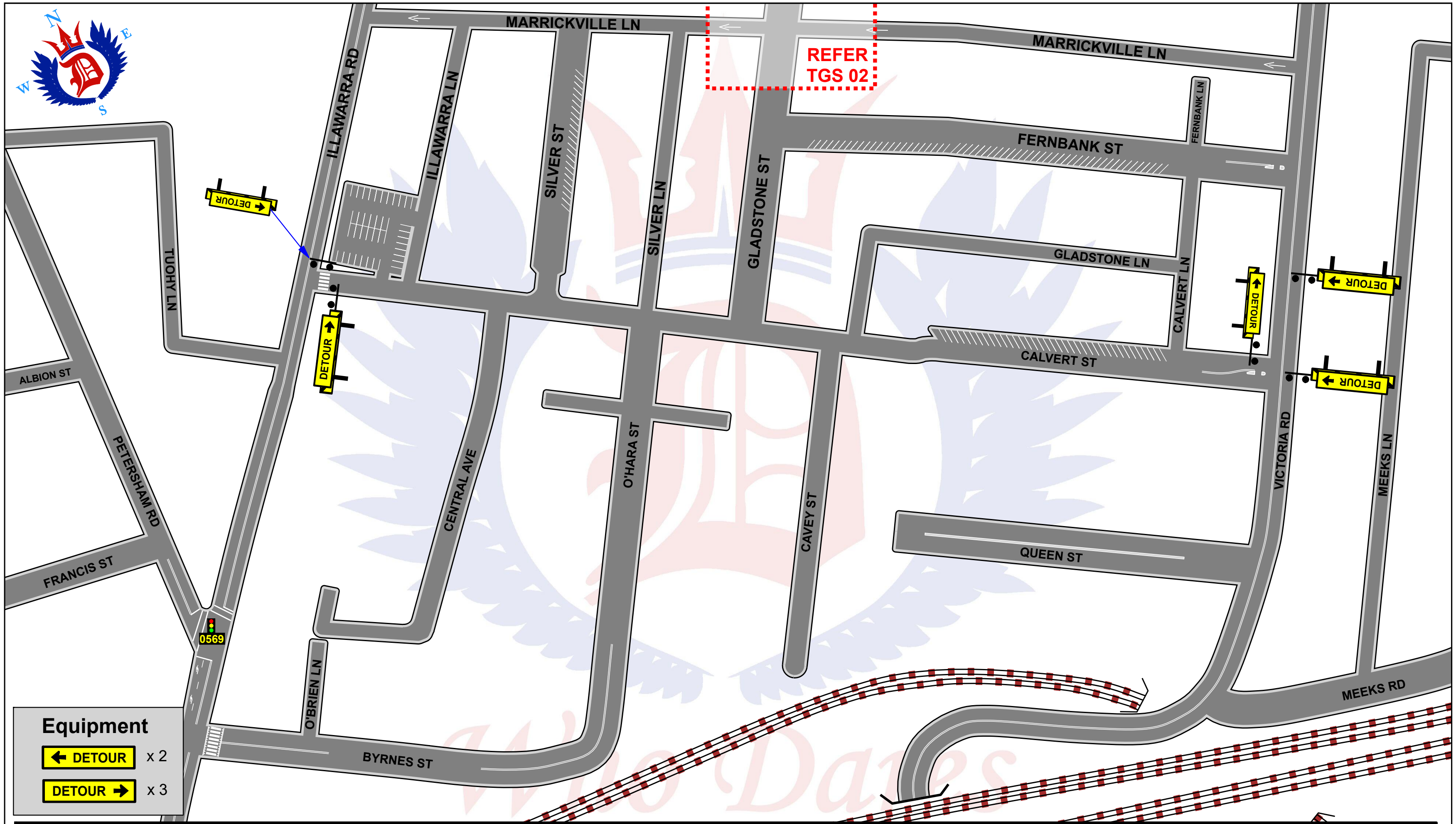
MARRICKVILLE MUSIC FESTIVAL
Marrickville Road & Victoria Road
MARRICKVILLE

Revised 18 Aug 22

TGS	03E
DATE	Sat 19th Nov 2022

Drawn by: Tim Emslie
SafeWork PWZ Card No. TCT0073149
for Who Dares Pty Ltd

Signature:



AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES	Monitor Closures	Deliver Signage	N/A	00:30 - 24:00
INNER WEST COUNCIL				

MARRICKVILLE MUSIC FESTIVAL

Calvert St, Illawarra Road &
Victoria Road
MARRICKVILLE

Revised 18 Aug 22

TGS	04
DATE	Sat 19th Nov 2022

Drawn by: Tim Emslie
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for Who Dares Pty Ltd

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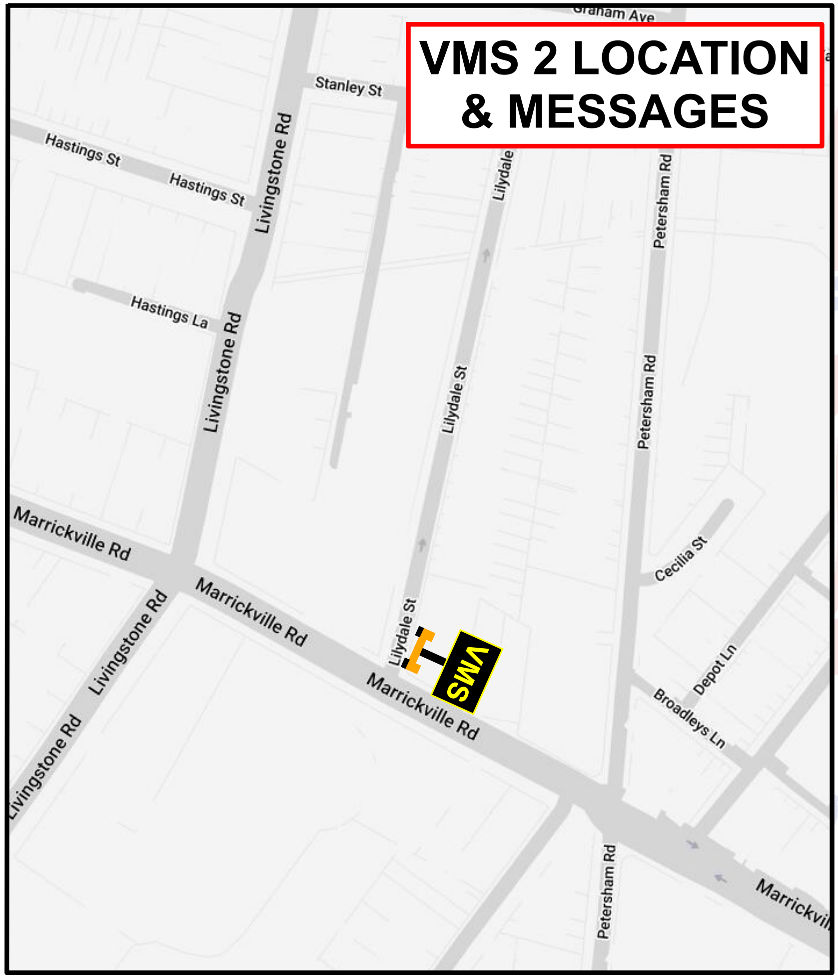
VMS 2 LOCATION & MESSAGES



PRIOR TO EVENT
From Thu 17th Nov till
00:30 on Sat 19th Nov 22

SCREEN 1	SPECIAL EVENT SAT 19 NOV
SCREEN 2	MARRICKVILLE ROAD CLOSED

EVENT DAYS
From 00:30 on Sat 19th Nov till
24:00 on Sat 19th Nov 22

SCREEN 1	SPECIAL EVENT SAT 19 NOV
SCREEN 2	MARRICKVILLE ROAD CLOSED AHEAD
SCREEN 2	FOLLOW SIGNPOSED DETOUR

AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES				
INNER WEST COUNCIL	Install VMS Boards			

MARRICKVILLE MUSIC FESTIVAL
Marrickville Road & Lilydale Street
MARRICKVILLE

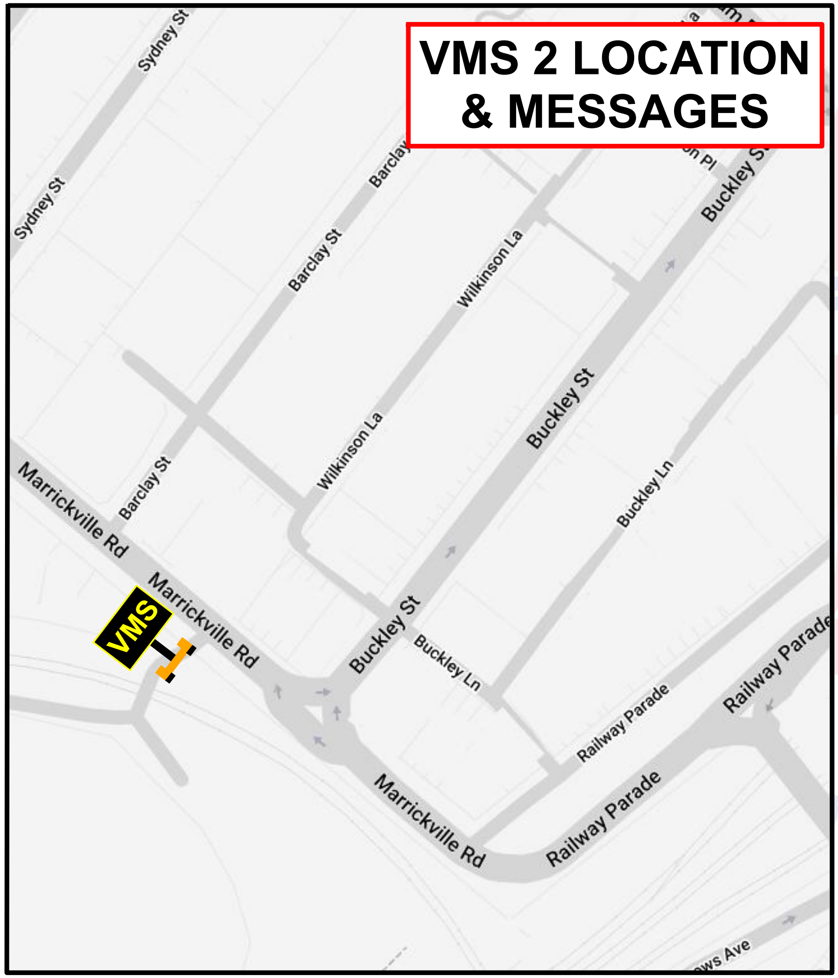
Revised 18 Aug 22

TGS	05
DATE	Sat 19th Nov 2022

Drawn by: Tim Emslie
SafeWork PWZ Card No. TCT0073149
for Who Dares Pty Ltd

Signature:

VMS 2 LOCATION & MESSAGES



PRIOR TO EVENT
From Thu 17th Nov till
00:30 on Sat 19th Nov 22

SCREEN 1	SPECIAL EVENT SAT 19 NOV
SCREEN 2	MARRICKVILLE ROAD CLOSED

EVENT DAYS
From 00:30 on Sat 19th Nov till
24:00 on Sat 19th Nov 22

SCREEN 1	SPECIAL EVENT SAT 19 NOV
SCREEN 2	MARRICKVILLE ROAD CLOSED AHEAD
SCREEN 2	FOLLOW SIGNPOSED DETOUR

AGENCY	PRIMARY TASK	SECONDARY TASK	STAFF ON-SITE	TIME
TMC				
POLICE				
WHO DARES				
INNER WEST COUNCIL	Install VMS Boards			

MARRICKVILLE MUSIC FESTIVAL

Marrickville Road between
Buckley Street & Sydney Street
MARRICKVILLE

Revised 18 Aug 22

TGS	06
DATE	Sat 19th Nov 2022

Drawn by: Tim Emslie
SafeWork PWZ Card No. TCT0073149
for Who Dares Pty Ltd

Signature:

Item No: **LTC0922(1) Item 4**

Subject: **RICHARDSONS CRESCENT, TEMPE – PEDESTRIAN SAFETY IMPROVEMENT WORKS – UPGRADE OF THE EXISTING AT-GRADE PEDESTRIAN CROSSING TO A RAISED PEDESTRIAN CROSSING - DESIGN PLAN 10212 (MIDJUBURI - MARRICKVILLE WARD/ SUMMER HILL ELECTORATE/ INNER WEST PAC)**

Prepared By: Jennifer Adams - Engineer – Traffic and Parking Services

Authorised By: Sunny Jo - Acting Traffic and Transport Manager

SUMMARY

Council has finalised a design plan for pedestrian safety improvement works in Richardsons Crescent, Tempe adjacent to Mackey Park. The proposed works will include raising the existing at-grade pedestrian zebra crossing and integrate with existing kerb extensions to improve pedestrian safety at this locality.

RECOMMENDATION

That the detailed design plan for the raising of the existing at-grade pedestrian crossing and new adjacent kerb ramps and associated signs and line markings in Richardsons Crescent, Tempe adjacent to Mackey Park (as per Design Plan No.10212) be APPROVED.

BACKGROUND

A report on this matter was presented to the September 2019 Local Traffic Committee (LTC) meeting proposing a pedestrian (zebra) crossing along Richardsons Crescent, Marrickville. This proposal was recommended for approval by the Traffic Committee and subsequently approved by Council. A further report was submitted to the 6 April 2020 LTC meeting detailing the Design Plan (10116) for the proposed zebra pedestrian crossing located on the western leg of Richardsons Crescent between Carrington Road and the Richardson Crescent roundabout (at the existing blistered section along Richardsons Crescent).

Council is now planning to implement further pedestrian safety improvement works in Richardsons Crescent, Tempe (adjacent to Mackey Park) by raising the existing at-grade pedestrian zebra crossing to improve pedestrian safety. This report details the Design Plan for those improvement works.

FINANCIAL IMPLICATIONS

The project is listed on Council's Traffic Facilities Capital Works budget for 2022/2023 and funding of $25,000 has been allocated to this project. Project number is 302929.

OTHER STAFF COMMENTS

The following upgrade works are proposed and are illustrated on the attached Plan (No. 10212). The proposed works will improve pedestrian safety and addresses concerns about pedestrian and driver behaviour in the area.

Specifically, the proposed scope of works includes the following:

- Installing new Raised Pedestrian Crossing.
- Modifying the existing landscaped kerb blister islands to accommodate the new raised crossing;

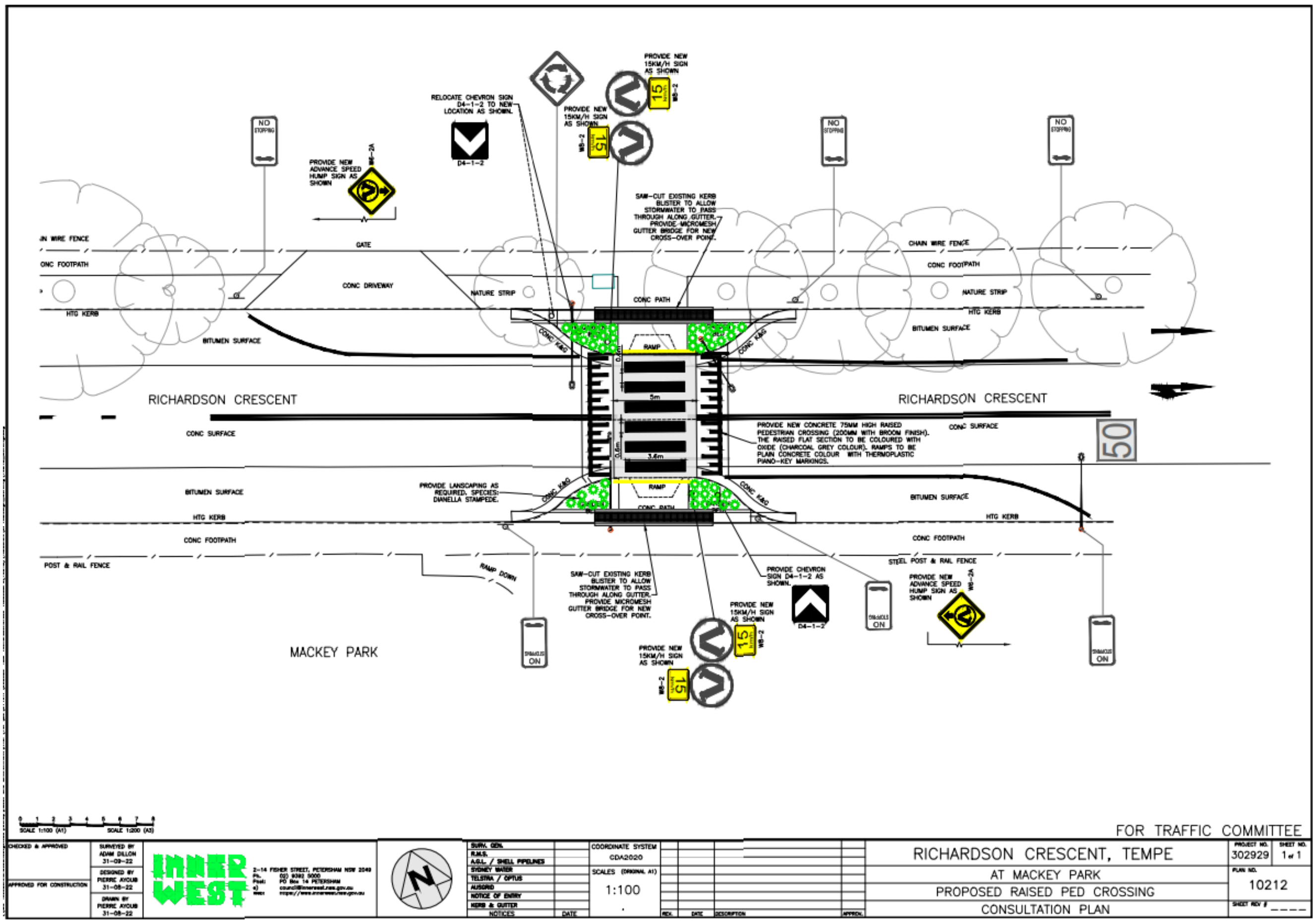
- Reconstructing some of the concrete footpath on both sides of the proposed pedestrian crossing; and
- Installing associated pavement line marking and signage as detailed.

Parking Changes

This proposal does not change any of the existing parking arrangements in Richardsons Crescent. Therefore, there will be “no loss” of any parking spaces resulting from the proposed works.

Streetlighting

The existing flood lighting at the location is deemed adequate for the new raised pedestrian crossing. Therefore, there will be no changes to the existing street lighting due to the proposed works.



PUBLIC CONSULTATION

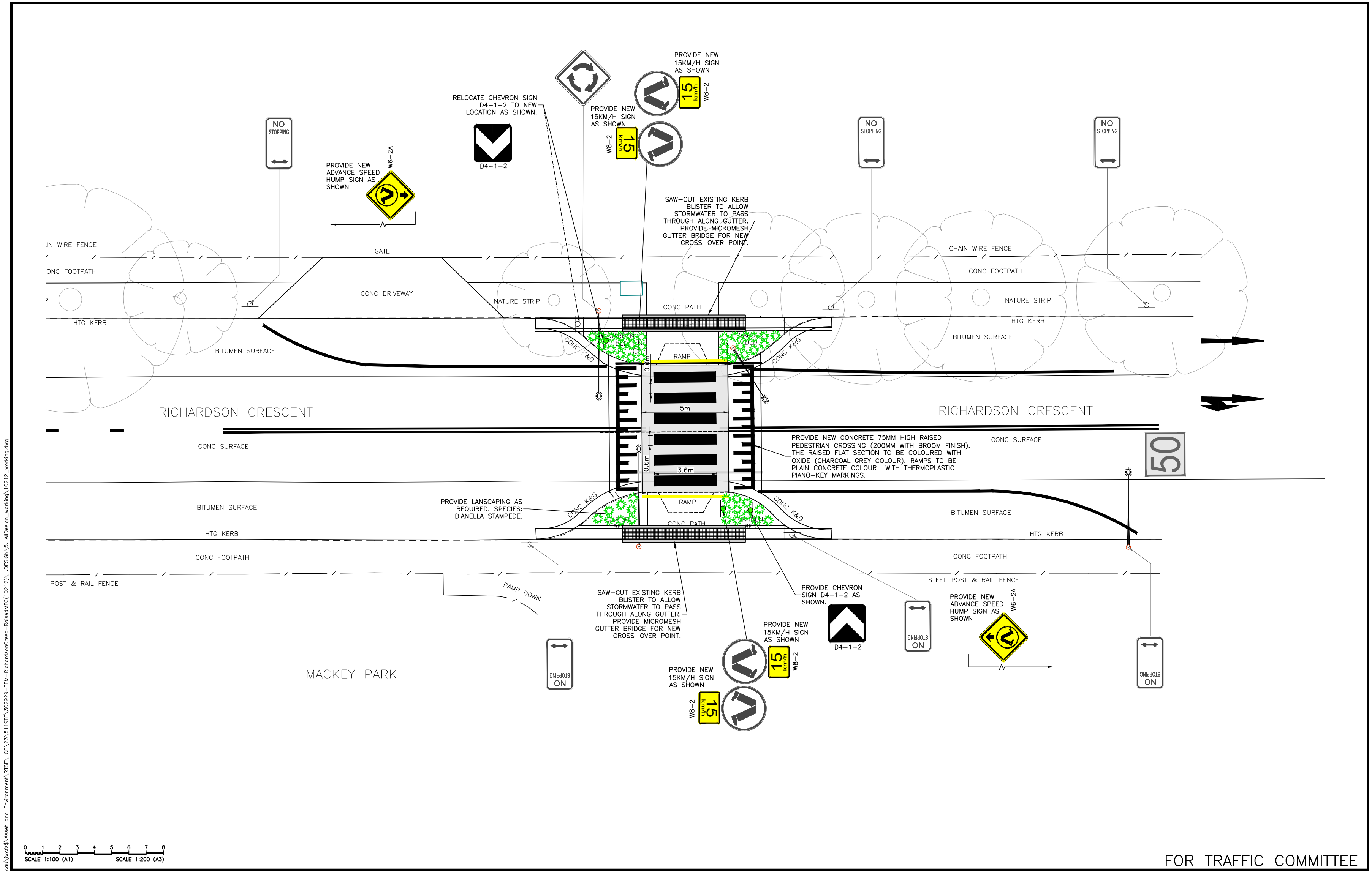
Consultation is not considered necessary at the design stage for this project due to these works being an upgrade only of the existing at-grade pedestrian crossing to a raised pedestrian crossing.

Locality Plan

Photos

ATTACHMENTS

1.⇩ Richardson Crescent Tempe - Concept Plan



FOR TRAFFIC COMMITTEE

CHECKED & APPROVED	SURVEYED BY ADAM DILLON 31–09–22		
	DESIGNED BY PIERRE AYOUB 31–08–22		
APPROVED FOR CONSTRUCTION	DRAWN BY PIERRE AYOUB 31–08–22		

INNER WEST
2–14 FISHER STREET, PETERSHAM NSW 2049
Ph. 02) 9392 5000
Post: PO Box 14 PETERSHAM
e) council@innerwest.nsw.gov.au
Web: https://www.innerwest.nsw.gov.au

N

NOTICES	DATE
SURV. GEN.	
R.M.S.	
A.G.L. / SHELL PIPELINES	
SYDNEY WATER	
TELSTRA / OPTUS	
AUSGRID	
NOTICE OF ENTRY	
KERB & GUTTER	

COORDINATE SYSTEM
GDA2020
SCALES (ORIGINAL A1)
1:100

REV.	DATE	DESCRIPTION	APPROV.

RICHARDSON CRESCENT, TEMPE
AT MACKEY PARK
PROPOSED RAISED PED CROSSING
CONSULTATION PLAN

PROJECT NO. 302929
SHEET NO. 1 of 1
PLAN NO. 10212
SHEET REV # ––––

Item No: **LTC0922(1) Item 5**

Subject: **TEMPE SOUTH FINAL LOCAL AREA TRAFFIC MANAGEMENT (LATM) STUDY (MIDJUBURI-MARRICKVILLE WARD/HEFFRON/ELECTORATE/INNER WEST PAC)**

Prepared By: Sunny Jo - Acting Traffic and Transport Manager

Authorised By: Sunny Jo - Acting Traffic and Transport Manager

SUMMARY

Following the completion of the re-exhibition of the Tempe South Local Area Traffic Management (LATM) study, a review of submissions has been completed and finalized for consideration and adoption.

Public Re-exhibition of the revised LATM study was required as the three traffic proposals suggested by the community required the feedback from impacted residents. The consultation commenced on 11 August and finished on 8 September 2022, with community feedback and adopted LATM as outlined in Attachment 1.

It is important to note that the Sydney Eastern City Planning Panel (SECPP) at its meeting on 1 September 2022 approved the MOD/2021/0376 application by Bunnings. Amongst other changes the application was to modify the conditions of consent at 750 Princes Highway, Tempe so that the LATM be adopted by the Panel, and the LATM (excluding attachments) being a stamped document not requiring approval from Council’s Local Traffic Committee.

The results of the public re-exhibition indicate good support levels, in light of the SECPP determination, the outcomes of the survey and recommendations for the three proposal are tabled below:

Proposal	Option 1	Option 2	No Change/ Undecided	Recommendation
No Entry into Union Street from Smith Street restriction, left and right only restriction to Princes Highway at Smith Street.	Yes 92 74.8%	No 28 22.8%	Undecided 3 2.4%	Noted that TfNSW has supported this restriction. Already included in adopted LATM, no further changes are required.
Road closure of Brooklyn Street	Full Closure 14 11.4%	Partial Exit Only 62 53.9%	No Change 39 33.9%	Whilst this proposal is not included in the adopted LATM, the report acknowledges the impact of the No Entry proposal, and traffic conditions will be monitored following the opening of the Bunnings development. The response to this proposal is to be noted for review of LATM organised by Council 12 months following the issue of an Occupation Certificate.
Union Street traffic options	Speed Humps 31 29.5%	10km/h Shared Zone 73 69.5%	Undecided 1 1.0%	Already included in adopted LATM, subject to TfNSW approval. No further changes to LATM are required.

RECOMMENDATION

That:

1. **The adoption of the Tempe South Local Area Traffic Management (LATM) Study by Bitzios Consulting dated 6 July 2021 and proposed treatments in Attachment 2 be noted;**
2. **It be noted that Transport for NSW has provided support for the No Entry into Union Street from Smith Street restriction, left and right only restriction to Princes Highway at Smith Street, and this has been included in the adopted LATM;**
3. **10km/h Shared Zone be supported for Union Street, between Princes Highway and School Lane subject to Transport for NSW approval, and this has been included in the adopted LATM;**
4. **Detailed design of the recommended treatments in Attachment 1 be reported back to the Traffic Committee prior to construction;**
5. **After a 12 month period following the issue of an Occupation Certificate for the Bunnings Development at 728-750 Princess Highway, a LATM review be undertaken by Council and reported back to the Traffic Committee, having noted the results of the re-exhibition; and**
6. **The road closure at Brooklyn Street be included for consideration at the 12 month review of the LATM.**

BACKGROUND

Details of the background, development and key events have been listed in the former traffic committee report on 20 June 2022.

FINANCIAL IMPLICATIONS

Nil

PUBLIC CONSULTATION

The consultation commenced on 11 August and finished on 8 September 2022, with community feedback and revised final recommendations as outlined in Attachment 1. In total 1,134 letters outlining the proposal, an information sheet outlining the three proposals, and a link to Council's YourSay website, inviting to participate to the online surveys were distributed.

A total of 123 contributors made comments or preferences through the YourSay website prior to the closing date.

As requested at the previous Local Traffic Committee, an access plan for the Bunnings Site was provided in the public exhibition, diagrammatically outlining the vehicular ingress and egress from the site.

OTHER STAFF COMMENTS

As the initial public exhibition was completed in January 2021, most of the proposals listed under the study was adopted and only three (3) additional items were required to be consulted to the community.

Proposal	Option 1	Option 2	No Change/ Undecided
No Entry into Union Street from Smith Street restriction, left and right only restriction to Princes Highway at Smith Street.	Yes 92 74.8%	No 28 22.8%	Undecided 3 2.4%
Road closure of Brooklyn Street	Full Closure 14 11.4%	Partial Exit Only 62 53.9%	No Change 39 33.9%
Union Street traffic options	Speed Humps 31 29.5%	10km/h Shared Zone 73 69.5%	Undecided 1 1.0%

Soft Closure Proposal 'No Entry from Smith to Union'

YourSay survey has revealed a 75.4% support for the No Entry restriction from Smith Street to Union Street at Princes Highway by signage. As the proposed soft closure would deny vehicle movements across Princes Highway, a further examination revealed that out of 28 objections, 18 submissions were from local streets south-east of Princes Highway. A summary of the comments from the objections are tabled below:

Soft Closure No Entry from Smith Street to Union Street at Princes Highway Summary of Objections	
Comment	Officer response
The restriction ignores and prejudices those living on the east side of the Princes Highway. This is impractical for a range of reasons, including getting my children to the school and local amenities on the other side.	Acknowledges that this is the main disadvantage of this proposal.
The proposal will promote exiting traffic to turn left out of the driveway and divert traffic onto South Street and local roads, which is not desired.	Council will ensure that the kerb blister island in Smith Street adjacent to the Bunnings driveway will be designed and built in a way to deter physical left turns out of the Bunnings site into Smith Street.
This will flood traffic to Holbeach Avenue, making it a rat run and already suffering queues going back to the car park.	Refer to above comment.
Although a right turn only restriction is in place at the Smith Street driveway, a physical barrier is greatly needed and cannot be restricted by signage alone.	Refer to above comment.

Transport for NSW has recently provided support for the Soft Closure No Entry restriction from Smith Street to Union Street at Princes Highway by signage.

Brooklyn Street closure

The survey results has revealed a 53.9% support for the partial closure option (exit only) and 12.2% support for full road closure option at Brooklyn Street. The rationale for the Brooklyn Street closure was to mitigate traffic diversions arising from the no entry restriction from Smith Street to Union Street, and through laneways which may be a potential rat run.

Whilst there is good support for the closures, the range of objections are summarised in the table below:

Brooklyn Street Road Closure Proposal Summary of Objections	
Comment	Officer response
Proposal will restrict truck access to the rear laneway for business located in Princes Highway. Currently trucks access the laneway through Brooklyn Street and cannot make the turn from Union Street due to the constrained intersection. Truck exit movements are also not possible through Foreman Street as the road is too narrow.	Consideration of truck movements is to be considered in detail during the design stage of the shared zone in Union Street, including the intersection of Foreman Street and Brooklyn Lane.
Foreman Street is extremely narrow and additional traffic will result at Princes Highway during the peak hours.	Noted, as the right turn movement will be prohibited from Foreman Street to Princes Highway, queuing and delays is not expected to be significant.
This proposal will push traffic from the wide Brooklyn Street to the narrow Foreman Street.	See above response.
This will be an annoying detour for locals.	Noted and this traffic should be monitored and included in the LATM review to be undertaken in the future.

Union Street Traffic Options

YourSay survey results revealed a 69.5% support for the 10km/h Shared Zone option, which indicate a strong community support and preference to further reduce vehicle speeds in Union Street. This option was to be implemented together with the ‘No Entry’ option, intended to retain the local traffic movements for the area.

There was a high level of additional comments suggesting for the 10km/h Shared Zone to be extended for the full length of the street. Unfortunately Transport for NSW’s guidelines for Shared Zones does not allow it to be implemented together within a school zone. A 10km/h Shared Zone cannot overlap with the 40km/h School Zone, and such arrangements will require the removal of the school zone, flashing 40 signs, 40 patches, and dragons teeth markings. Traffic and parking infringements, including demerit points on a school zone will no longer be applicable.

It is noted that the provision of the Shared Zone will be subject to approval from Transport for NSW, and as such an application will be submitted for consideration during the upcoming detailed design stage.

It is important to note that Sydney Eastern City Planning Panel (SECPP) at its meeting on 1 September 2022 approved the MOD/2021/0376 application by Bunnings. Amongst other changes the application was to modify the conditions of consent at 750 Princes Highway, Tempe so that the LATM be adopted by the Panel, and the LATM (excluding attachments) being a stamped document not requiring approval from Council’s Local Traffic Committee.

As the Final LATM report by Bitzios Consulting dated 6 July 2021 has been adopted, the changes recommended by officers from this re-exhibition will be noted for the LATM review following 12 months after the issue of an occupation certificate as required in Condition 112(a) and (b):

> *a) The LATM works described in Condition No.1 of this Determination being implemented to the satisfaction of the Director Infrastructure Services prior to the issue of an Occupation Certificate and are to be carried out by the applicant at the applicant’s expense.*
>
> *b) After a period of 12 months from the Issue of an Occupation Certificate, the applicant is to fund a review (undertaken by Council) of the LATM scheme measures as part of Part a) of this condition. Any implemented LATM devices that are deemed not to be required are to be removed by the applicant at the applicant’s expense and to the satisfaction of Inner West Local Traffic Committee. In addition any new LATM*

measures deemed necessary shall also be constructed by the applicant and at the applicant's expense.

CONCLUSION

The implications of the above SECPP determination results in the three proposals to be finalised as outlined in the following table. Whilst the Brooklyn Street closure has not been included in the adopted LATM, traffic conditions will be monitored by Council staff upon the opening of the Bunnings development and the LATM review planned to commence after 12 months. The review will consider other measures that may not be effective or require removal and adjustments to the traffic management to ensure it achieves the intended purpose of the scheme.

Proposal	Recommendation
No Entry into Union Street from Smith Street restriction, left and right only restriction to Princes Highway at Smith Street.	Noted that TfNSW has supported this restriction. Already included in adopted LATM, no further changes are required.
Road closure of Brooklyn Street	Whilst this proposal is not included in the adopted LATM, the report acknowledges the impact of the No Entry proposal, and traffic conditions will be monitored following the opening of the Bunnings development. The response to this proposal is to be noted for review of LATM organised by Council 12 months following the issue of an Occupation Certificate.
Union Street traffic options	Already included in adopted LATM, subject to TfNSW approval. No further changes to LATM are required.

ATTACHMENTS

1.⇩ Tempe South LATM Adopted Treatments

Tempe South Local Area Traffic Management Study

Adopted Treatments - September 2022

Street	Treatment	Location	Estimated Cost[1]
Smith Street	Road Narrowing & Contrasting Pavement On road and off-road bicycle transitions Extension of shared path and angled on-ramp for cyclists Widened footpath on the western side of Smith Street between Princes Highway and Bunnings access	Between Princess Highway and Wood Street	$135,058
Holbeach Avenue	Speed cushions & road narrowing	Adjacent to No.14 Holbeach Avenue	$17,090
Stanley Street	Flat top road humps	Adjacent to No.14 Stanley Street and No.32 Stanley Street	$85,841
Wentworth Street	Wentworth Street Flat top road humps	Adjacent to No.6 Wentworth Street, approximately 20m south of Princess Highway	$91,211
Union Street	10km/h Shared Zone, with contrasting pavement threshold No Entry from Smith Street to Union Street, Left and Right only to Princes Highway from Smith Street	Between Princess Highway and School Lane	$20,934
Edwin Street	Flat top road hump	Adjacent to No.23 Edwin Street	$45,170
Tramway Street	Contrasting pavement threshold and flat top road hump	Approximately 30m south of Unwins Bridge Road	$81,170
Barden, Fanning, Hart and Station Streets	Contrasting pavement thresholds	Approximately 10m south of Princess Highway	$90,000
		Total	$564,474

1. Estimated costs include 10% contingency and 10% design costs

Street	Treatment	Location	
Smith Street	Road Narrowing & Contrasting Pavement	Between Princess Highway and Wood Street	
Holbeach Avenue	Speed cushions & road narrowing	Adjacent to No.14 Holbeach Avenue	
Stanley Street	Flat top road hump	Adjacent to No.14 Stanley Street and No.32 Stanley Street	
Wentworth Street	Wentworth Street Flat top road hump	Adjacent to No.6 Wentworth Street, approximately 20m south of Princess Highway	
Union Street	Shared zone, with contrasting pavement threshold Soft road closure 'Left and right only' at 'No Entry to Union Road'	Between Princess Highway and School Lane	
Edwin Street	Flat top road hump	Adjacent to No.23 Edwin Street	
Tramway Street	Contrasting pavement threshold and flat top road hump	Approximately 30m south of Unwins Bridge Road	
Barden, Fanning, Hart and Station Streets	Contrasting pavement threshold	Approximately 10m south of Princess Highway	
Brooklyn Street	Partial road closure (No entry, exit only at Princess Highway)	At Princess Highway	

2.

Item No: **LTC0922(1) Item 6**

Subject: **ENGLAND AVENUE, MARRICKVILLE – PROPOSED NEW RAIN GARDEN AND KERB EXTENSION - DESIGN PLAN 10167 (MIDJUBURI-MARRICKVILLE WARD / NEWTOWN ELECTORATE/INNER WEST PAC)**

Prepared By: Jennifer Adams - Engineer – Traffic and Parking Services

Authorised By: Sunny Jo - Acting Traffic and Transport Manager

SUMMARY

Council has finalised a design plan for the installation of a rain garden and kerb extensions in England Avenue, Marrickville at its intersection with Addison Road. The purpose of the proposal is to improve the quality of stormwater drainage from England Avenue as well as improve safety and accessibility for pedestrians crossing England Avenue near Addison Road. It is recommended that the proposed detailed design plan be approved.

RECOMMENDATION

That the detailed design plan for the proposed new rain garden and kerb extensions on England Avenue at Addison Road, Marrickville and associated signs and line markings (as per Plan No.10167) be approved.

BACKGROUND

Raingardens, also known as biofiltration or bioretention beds, are gardens beds that use plants and soils to capture, filter and clean stormwater. Raingardens are commonly located near buildings, roads and other impermeable surfaces. They capture runoff and remove pollutants before the stormwater enters waterways.

In 2020 it was identified in Asset Planning Prioritisation Criteria that a rain garden could potentially be installed in England Avenue, Marrickville at its junction with Addison Road. Later a Project Control Group was set up and met to discuss the option. Traffic Section, at the time, noted that the location would potentially incur possible loss of kerbside parking in a highly ultised area and therefore did not fully support the concept of a raingarden at the subject location. The proposal progressed and a design plan for the installation of a Raingarden at England Avenue, was prepared and sent out for public consultation in August 2022. This report details the results of the public consultation associated with the design plan.

FINANCIAL IMPLICATIONS

Budget funding of $140,000 is allocated to this project under Stormwater Reserve (Stormwater Levy). These works are part of Stormwater Upgrade Capital Works expected to be built in the 2022/23 financial year, subject to outcome of this community engagement, final approvals, and budget allocation.

OTHER STAFF COMMENTS

England Avenue is a local residential road running north-south between Newington Road and Addison Road, Marrickville. England Avenue caries a traffic volume of approximately 850 vehicles per day. It provides one traffic lane in each direction, in addition to kerbside parking. On-street parking spaces are unrestricted and generally highly utilised during the day due to overspill parking associated with local sporting activities and commercial uses as well as Newington College. Overspill parking is especially an issue on weekends with Addison Road markets located nearby.

Street Name	England Avenue
Section	between Addison Road and North Street
Carriageway Width (m)	12
Carriageway Type	Two-way
Classification	Local
Reported Crash History **(July 2016 – June 2021)**	One injury crash on Addison Road at England Avenue – RUM 13 (right near) – car coming south out of England Avenue was impacted by car travelling east along Addison Road
Parking Arrangements	parking on both sides

The Plan

The following works are proposed as part of the rain garden construction and are illustrated on the attached Consultation Plan (England Avenue, Marrickville - Plan No.10167):

- construct a rain garden on the western side of England Avenue (near Addison Road) - comprising an integrated kerb extension with a new kerb ramp, water inlet structure, drainage system, filter media, mulch and landscaping;
- adjust the existing storm water drainage pit in England Avenue within the proposed new rain garden;
- construct a new kerb extension with new kerb ramp on the eastern side of England Avenue (near Addison Road) and relocate the existing stormwater drainage pit to accommodate the new kerb extension;
- reconstruct some damaged sections of concrete footpath with new concrete footpath;
- extending some grass verge areas (where shown on plans);
- resurface the road with new asphalt (where shown on plans);
- relocate the existing car share parking space from the western side of England Avenue to the eastern side of England Avenue;
- replace the existing *No Parking* sign with new *No Stopping* sign on the eastern side of England Avenue (near Addison Road)

A swept path analysis was undertaken using an 8.8m service vehicle and it is deemed acceptable. Turning path diagrams are shown at the end of this report.

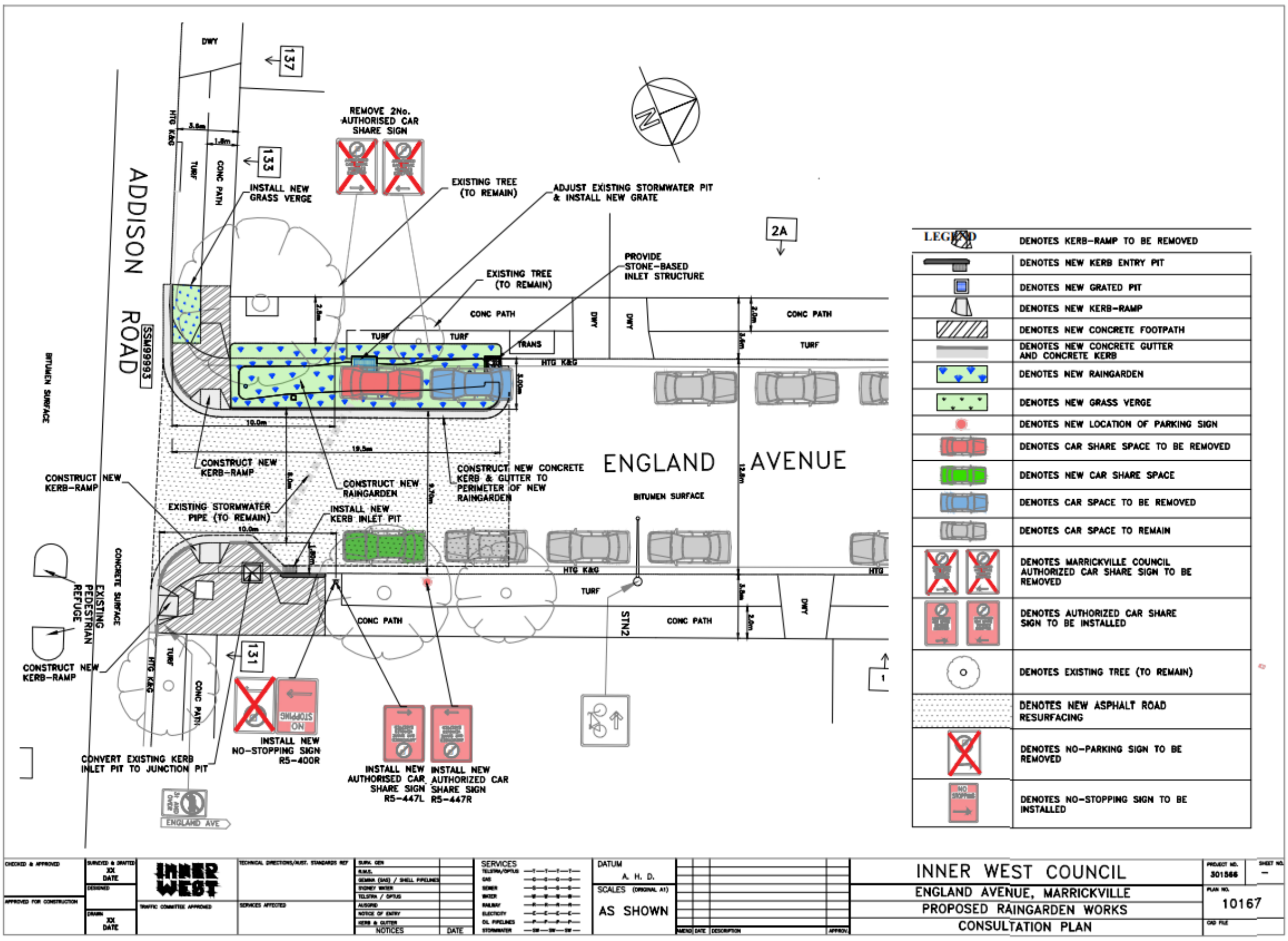
Parking Changes

To accommodate the new rain garden, Council proposes the relocate the existing (1) Car Share parking space from the western side of England Avenue to the eastern side of England Avenue. As well as remove 1 existing on-street parking space on the western side of England Avenue.

Therefore, the proposal **will** result in the loss of two (2) legal full time on-street parking spaces in England Avenue. It is noted that under the Road Rules, motorists are not permitted to stop or park their vehicle within ten (10) metres of an intersection without traffic signals.

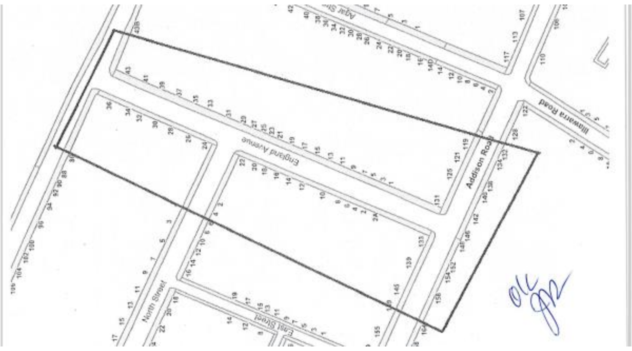
Streetlighting

This existing street lighting at the location is deemed adequate for the new Raingarden. Therefore, no changes are proposed to the existing street lighting due to the works.



PUBLIC CONSULTATION

A notification letter regarding the proposed design plan to implement a new kerb extension with associated signs and line marking as well as a copy of the detailed design plans was sent out on 19 August 2022 to the owners and occupiers of the surrounding properties. A total of 98 letters were distributed. The closing date for submissions ended on 2 September 2022. There were three (3) responses one supporting the project the other two objecting to the project.

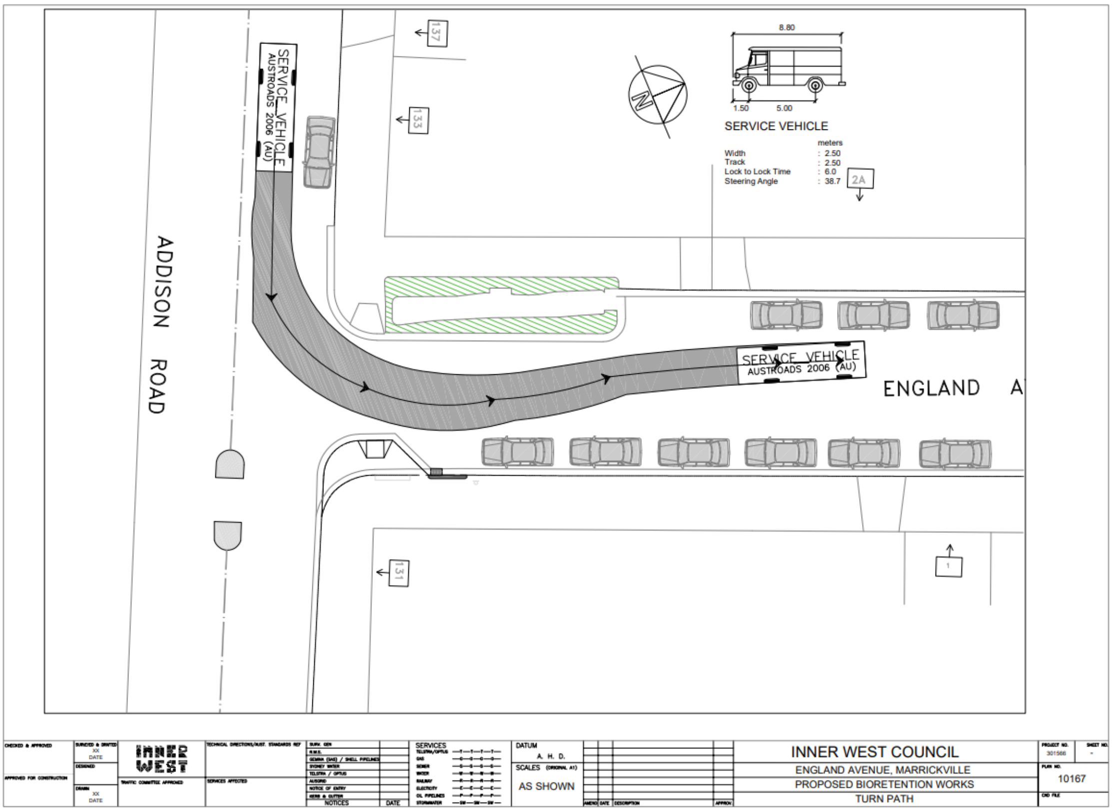


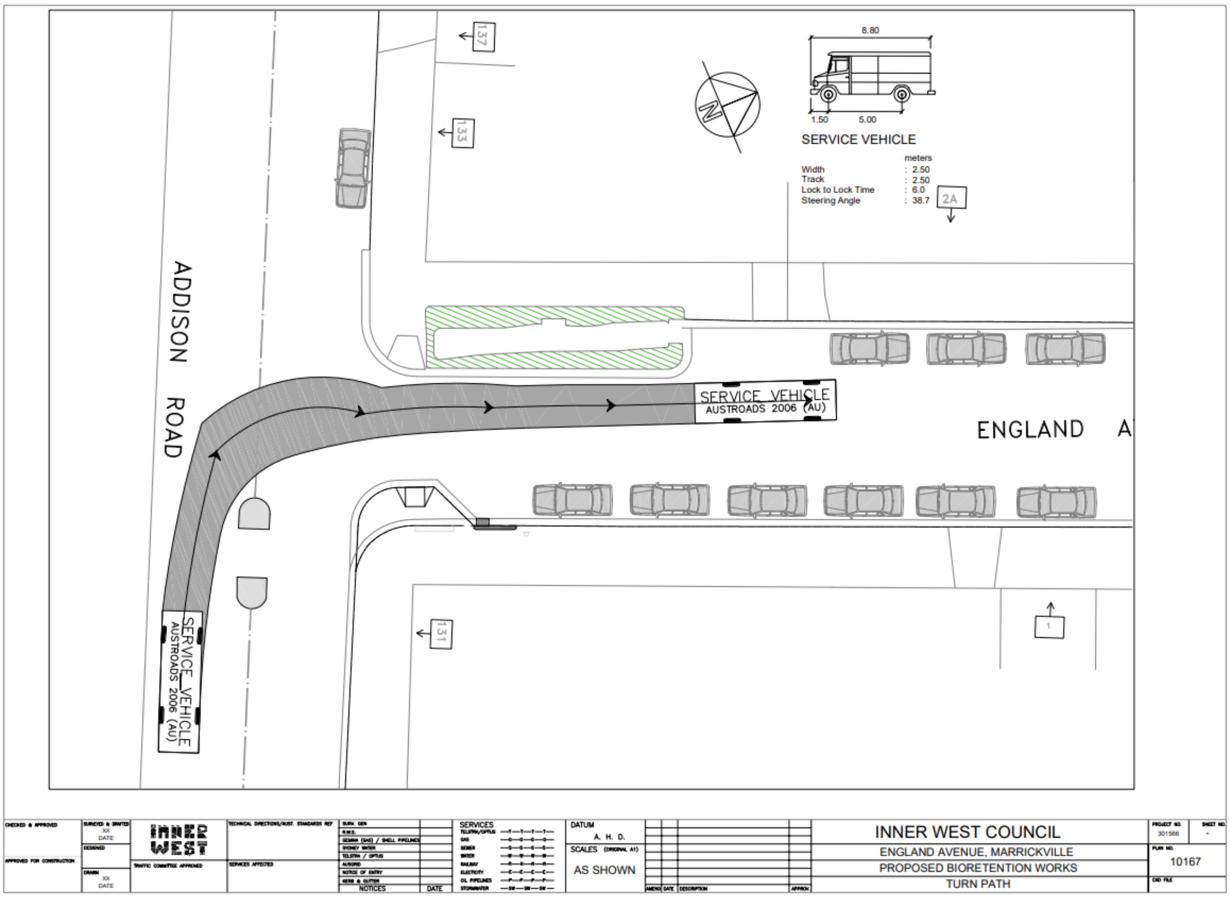
Resident's Comments	Officer's response
Support. Resident noted it was good to keep car share space. Request made to extend the resurfacing of the road for the whole length of England Avenue.	Support noted. Resident has been notified that resurfacing of England Avenue is listed as part of Council's current three-year rolling program of work.
Objection. Agree that the stormwater needs to be fixed however object as the garden bed proposal would remove 4 parking spaces. We are already facing parking challenges with the increase of commerce in the area plus Sunday markets and the sporting activities at Henson Oval and Newington College. . Concerns raised that the raingarden will become a rubbish dumping area.	Objection noted. It is noted that the proposal results in the loss of two legal on-street parking spaces (not four). Loss of parking is a result of the statutory 10 metre No Stopping restrictions rule at intersections without traffic signals (Road Rule 170). Council's Stanmore Parking Study revealed that England Avenue had an 85% or higher occupancy, for three or more hours (both consecutive and non-consecutive) in the Study's surveys. It is acknowledged that parking utilization is high in England Avenue. Concerns are noted and if this occurs it will require periodic clean up by Council as needed.
Objection. Removal of on-street parking an issue (up to 4-5 spaces). In this area, England Ave is relied upon heavily for parking by residents as well as visitors: 1. On Sundays the street is where the majority of market goers park between 8am and 3pm. It is near impossible as a resident to find parking on the street (or North Street or Newington Street) between these hours. 2. On Saturdays it is often used for Newington school sports day parking by school families and is near impossible to find parking for the entire day 3. On Weekdays it is used by the many people who work on Addison Road, residents who live on Addison Road as well	Objection noted. The proposal results in the loss of two legal on-street parking spaces (not four). Loss of parking is a result of the statutory 10 metre No Stopping restrictions rule at intersections without traffic signals (Road Rule 170). Council's Stanmore Parking Study revealed that England Avenue had an 85% or higher occupancy, for three or more hours (both consecutive and non-consecutive) in the Study's surveys. It is acknowledged that parking utilization is high in England Avenue.

as Newington School students. Concerns with narrowed intersection.	Council has re-checked the turn movements for vehicles into and out of England Avenue and has found the space provided in the narrowed intersection is sufficient to comply with the required standards. The provision of additional No Stopping signs may also be considered by Council to better control parking near the intersection to improve sight distance.

CONCLUSION

The 3% return rate for the consultation is considered very low and despite the loss of two on-street parking spaces in a critical parking location it is recommended that the proposed detailed design plan be approved. The purpose of the proposal is to improve the quality of stormwater drainage from England Avenue as well as improve safety and accessibility for pedestrians crossing England Avenue near Addison Road, Marrickville.

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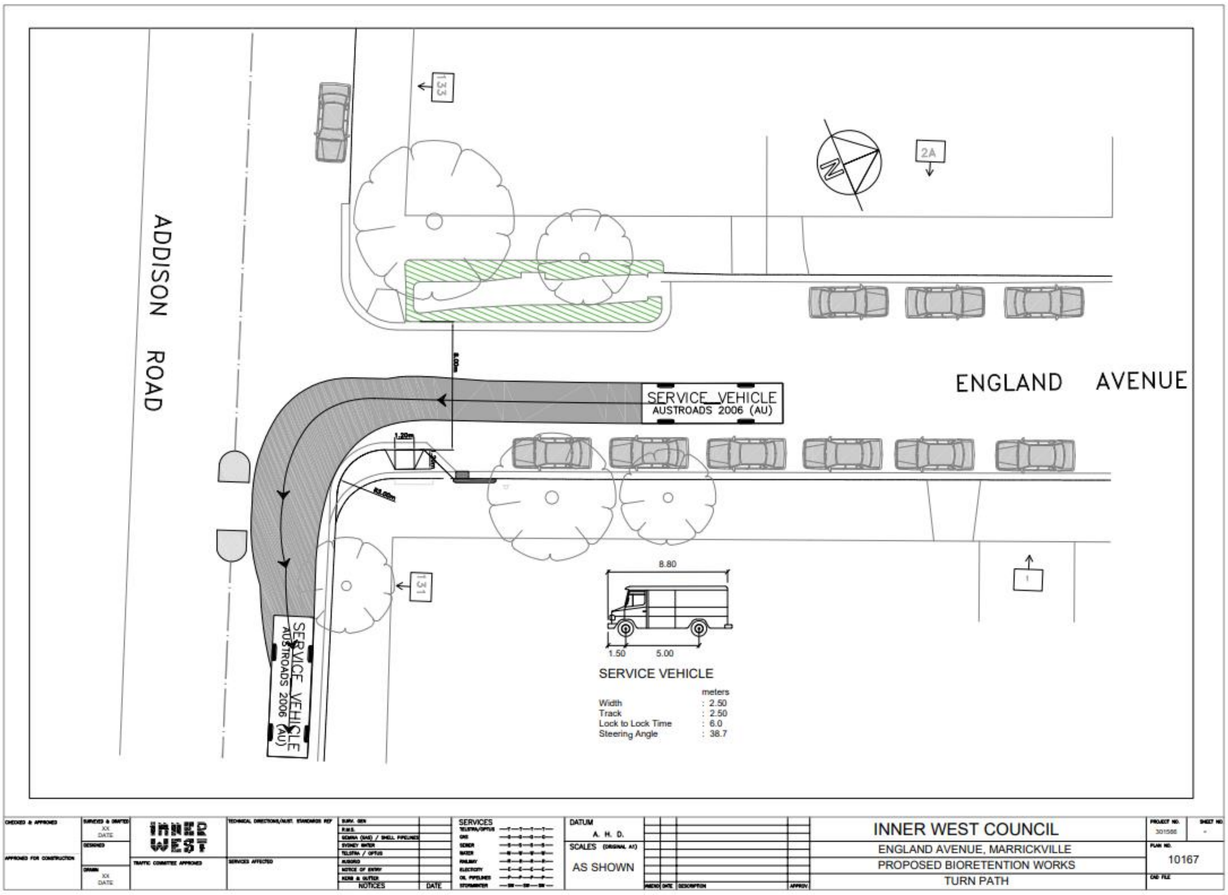
PROPOSED BIORETENTION WORKS
TURN PATH
PROJECT NO.
301566
SHEET NO.
-
PLAN NO.
10167
CAD FILE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ENGLAND AVENUE, MARRICKVILLE
PROPOSED BIORETENTION WORKS
TURN PATH
PROJECT NO.
301566
SHEET NO.
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PLAN NO.
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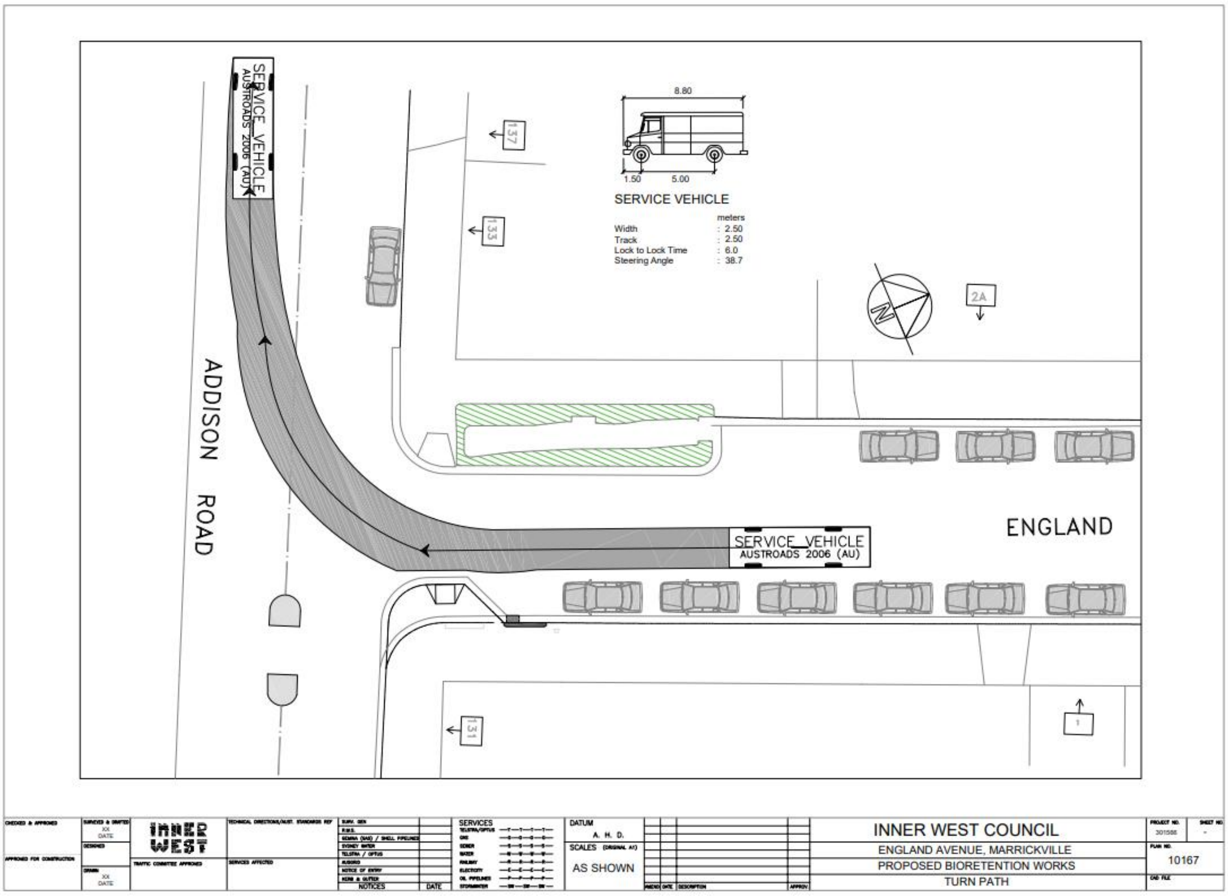
CAD FILE



ATTACHMENTS

Nil.

Item No: **LTC0922(1) Item 7**

Subject: **VICTORIA STREET, ASHFIELD- PROPOSED IN-LANE BUS STOP PLATFROM ADJANCENT TO 20 VICTORIA STREET (ALLMAN PARK) - DJARRAWUNANG-ASHFIELD WARD/SUMMER HILL ELECTORATE/BURWOOD PAC**

Prepared By: Boris Muha - Engineer – Traffic and Parking Services

Authorised By: Sunny Jo - Acting Traffic and Transport Manager

SUMMARY

Council is planning to install an in-lane bus stop platform adjacent to 20 Victoria Street, Ashfield (ALLMAN PARK). The proposal is to provide a bus stop facility to extend out and allow ease of safe travel and passenger embarkment/dis embarkment between the footpath and buses out on the travel lane.

The proposal is in up-grade to the existing Bus Stop at this location where buses are prevented from properly and safely pulling up to the kerb due to (mature grown) trees located in short span distance within the Bus Stop. The proposed platform is also designed in compliance to the Disability Standards for Accessible Public Transport (DSAPT) in line with the Disability Discrimination Act (DDA).

RECOMMENDATION

That the design plan (Design Plan No.10214) for the proposed new concrete in-lane bus stop platform (with associated tactile, seating and handrails), new concrete ramps, new landscaped verged garden, existing concrete kerb and footpath reconstruction, and associated new signs and line markings in front of 20 Victoria Street, Ashfield be APPROVED.

BACKGROUND

As part of the 2022/2023 Traffic Facilities Works Program Council proposes to install a new concrete in-lane Bus stop platform outside ALLMAN PARK (20 Victoria Street) to allow buses to come right up to the platform and allow passengers (including those elderly and mobility impaired) to properly and safely board and alight upon the buses.

The NSW Government initiated a DSAPT guideline program in 2002 that all Council’s over a period of time improve Bus Stop facilities for boarding point access upon buses. Many of the Bus stops in the Local Government Area have been modified to comply (as far as possible) to these guidelines.

The above Bus stop was listed in this case to construct a platform to overcome the problem of access between the palm trees and comply to DSAPT/DDA requirements.

Victoria Street in the vicinity of Allman Park is a local road carrying an estimated volume of upto 8,000 vehicles per day. The road is approximately 12.8m wide kerb to kerb, and parking is provided to both sides with various trees lining along the shoulders. The area is a 50 kph speed limit. A marked centre line in the area between Norton Street and Arthur Street, assists to control traffic in the area. No recorded accidents are identified in this vicinity of Victoria Street.

FINANCIAL IMPLICATIONS

Funding of $50,000 has been allocated to this project for construction in the 2022/23 Capital Works Program.

OTHER STAFF COMMENTS

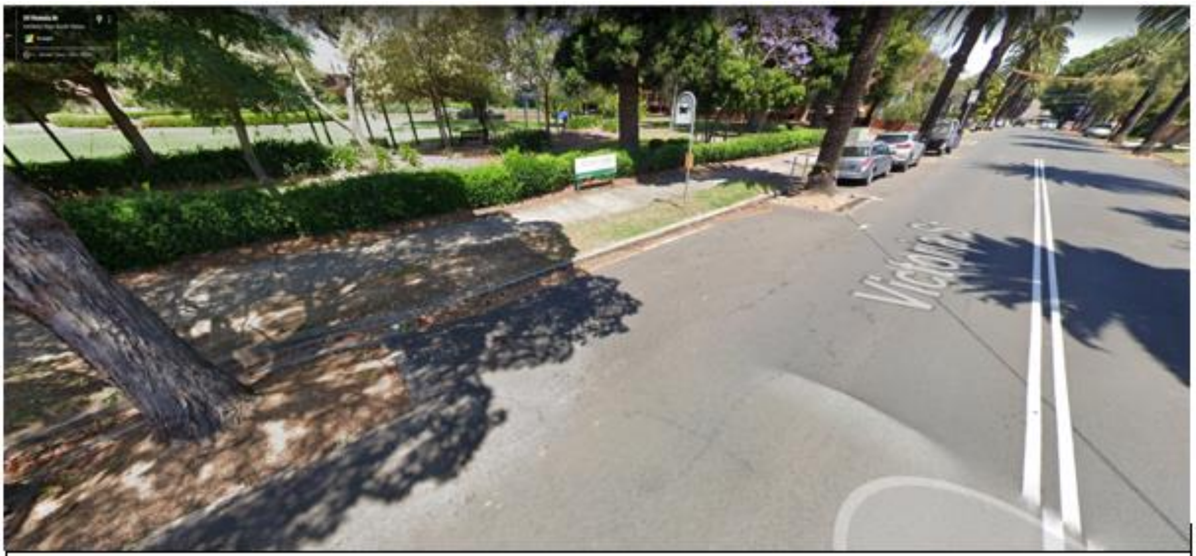
Additional information is provided as follows:

- The platform has been amended to extend to 10.6m in length rather than the original proposal under consultation of 9.0m from advice from Transit Systems (public Bus operator) to comply to recent requirements under bus wayfinding and boarding point access to the front of the bus.
- No parking is lost as a result of the original or amended proposed platform as the work is within the confines of the existing bus zone between the existing trees. See locality-consultation and street view diagrams of existing Bus Stop below and **Attachment No.1** for the Design plan No.10214.
- Buses would be currently and mainly dropping off and picking up passengers from the travel lane.
- The Bus Stop serves the Bus route 406 to and from Five Dock to Hurlstone Park. The bus only pulls up for a short period of time and currently and mainly sits out in the travel lane to pick up and set down passengers owing to the presence of the trees. The bus service is approximately every 30 minutes and is not considered of high regular frequency to account for any major delay or queuing of vehicles back of the bus stop.
- In-lane bus stops are not uncommon within the Sydney Region. Similar in-lane bus stop platforms have been constructed in Victoria Street to both sides outside of the Cardinal Freeman Village. These are short length front door only constructed platforms developed to provide new bus stops and minimise loss of parking in the area. It should also be noted that Fredrick Street, near John Street, Ashfield has a bus stop located in a narrow section of roadway (approximately 4.3m wide) with the roadway being constrained to essentially one southbound lane (ie median island at location of bus stop narrows southbound lane to one trafficable lane). Fredrick Street carries an estimated 25,000 vpd and bus services along Fredrick Street are more frequent.

  The proposed length of platform at this location is within an existing length of Bus Stop and would account for both front and rear door access for quicker entry/exit and lower waiting time for the bus at the stop.

- The Bus stop services Allman Park and the surrounding area. The upgrade in providing a platform is considered of beneficial safety to the community.

Locality and consultation area plan.



Existing Bus Stop outside Allman Park, Ashfield.

PUBLIC CONSULTATION

A letter outlining the above proposal was distributed to the directly affected properties (79 properties) in Victoria Street, Ashfield. (1) response was received from Transit Systems as summarized below.

Resident/Stack holder Comments	Officer Response.
Transit Systems Concern is raised that the original proposal of a 9.0m length platform does not account for a minimum of 1.57m free space to the left hand side of the of the bus stop flagpole for passengers to read the timetable and stand (including those in wheelchair and motor scooters) in view of the approaching buses under current DSAPT/DDA requirements.	The design plan has been amended to increase the platform to 10.6 metres to include a 1.6m free space area to the left hand side of the Bus Stop flagpole. An initial proposed landscaped kerb blister to the rear of the platform is removed to cater for rear door access.

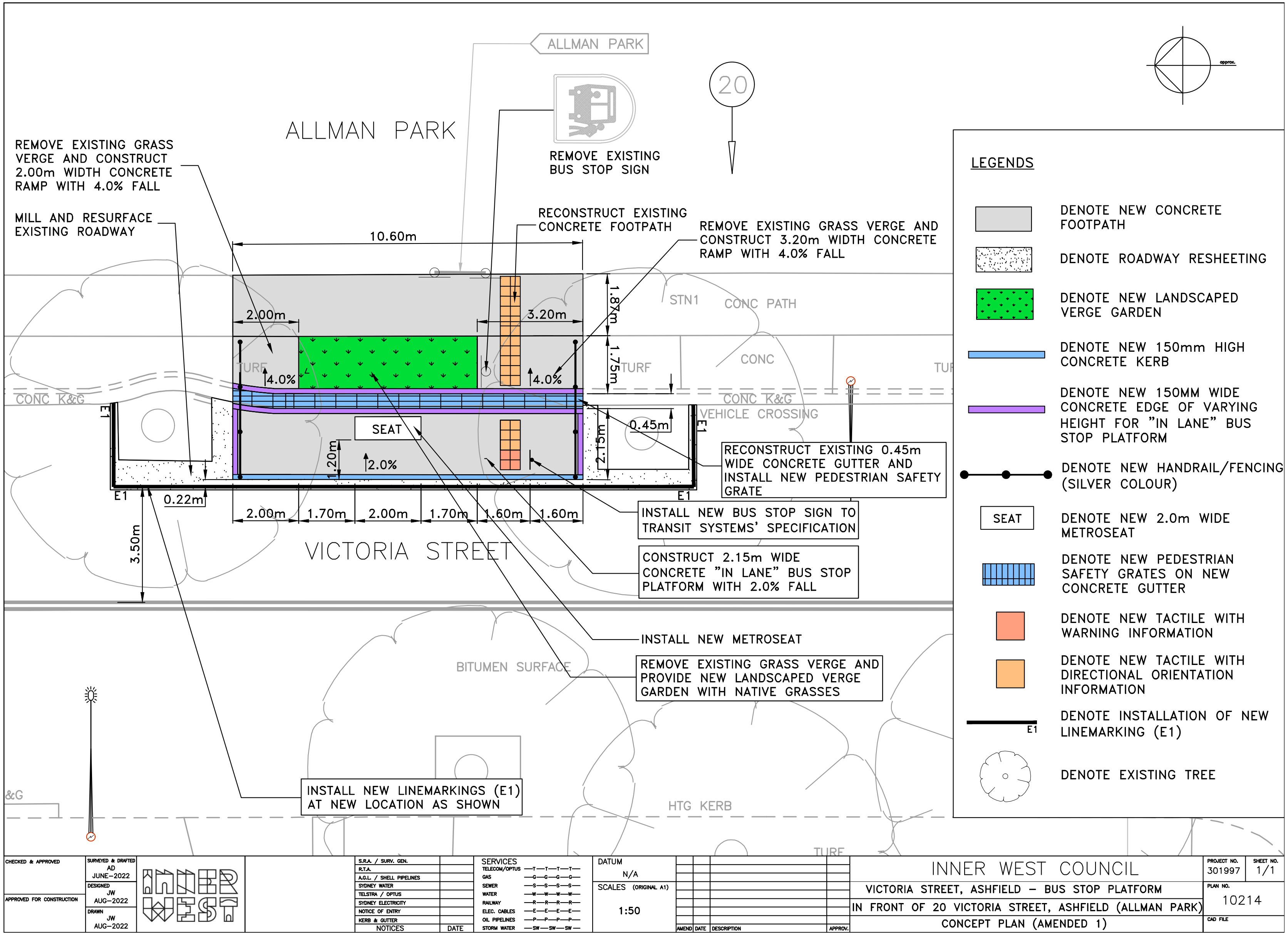
CONCLUSION

In view of the above, it is recommended that a new concrete in-lane bus stop platform (with associated tactile, seating and handrails), new concrete ramps, new landscaped verged garden, existing concrete kerb and footpath reconstruction, and associated new signs and line markings be constructed in front of 20 Victoria Street, Ashfield.

The platform is to provide a bus stop facility extension (between trees) that allows ease of safe travel and passenger embarkment/dis embarkment between the footpath and buses out on the travel lane and is also designed in compliance to the Disability Standards for Accessible Public Transport (DSAPT) in line with the Disability Discrimination Act (DDA).

ATTACHMENTS

1.⇩ Proposed plan of in-lane bus stop platform (Plan 10214) adjacent to 20 Victoria Street (ALLMAN PARK)



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DATUM N/A
SCALES (ORIGINAL A1) 1:50
INNER WEST COUNCIL
VICTORIA STREET, ASHFIELD – BUS STOP PLATFORM
IN FRONT OF 20 VICTORIA STREET, ASHFIELD (ALLMAN PARK)
CONCEPT PLAN (AMENDED 1)
PROJECT NO. 301997
SHEET NO. 1/1
PLAN NO. 10214

Item No: **LTC0922(1) Item 8**

Subject: **ALBERT STREET AT JAMES STREET, PETERSHAM – PROPOSED TRAFFIC CALMING (DESIGN PLAN NO.10220) (DAMUN – STANMORE WARD / SUMMER HILL ELECTORATE / INNER WEST PAC)**

Prepared By: Robert Ristevski - Engineer Traffic and Parking Services (South)

Authorised By: Sunny Jo - Acting Traffic and Transport Manager

SUMMARY

A design plan has been finalised for the proposed traffic calming improvement in Albert Street, Petersham, at its intersection with James Street. The proposal includes the construction of a raised concrete threshold, a new detached concrete kerb blister with low level planting and improvements works to the existing footpath and kerb ramps. It is anticipated that this proposal will improve pedestrian and motorist safety by ultimately reducing the overall vehicular speeds within the area.

RECOMMENDATION

That the design plan for the proposed raised concrete threshold, detached concrete kerb blister with low level planting and improvement works to the existing footpath and kerb ramps in Albert Street at James Street, Petersham (Design Plan No.10220), be APPROVED.

BACKGROUND

A recent Local Area Traffic Management (LATM) scheme undertaken for Petersham identified Albert Street as a location that required traffic calming measures to address concerns of pedestrian safety. Subsequently, Council is now planning to improve the overall safety in Albert Street, at its intersection with James Street, by constructing a raised concrete threshold, a new detached concrete kerb blister that will incorporate some low-level plantings and undertake improvement works to the existing footpath and kerb ramps. It is expected that these proposed works will have a positive impact in improving the issues of pedestrian safety.

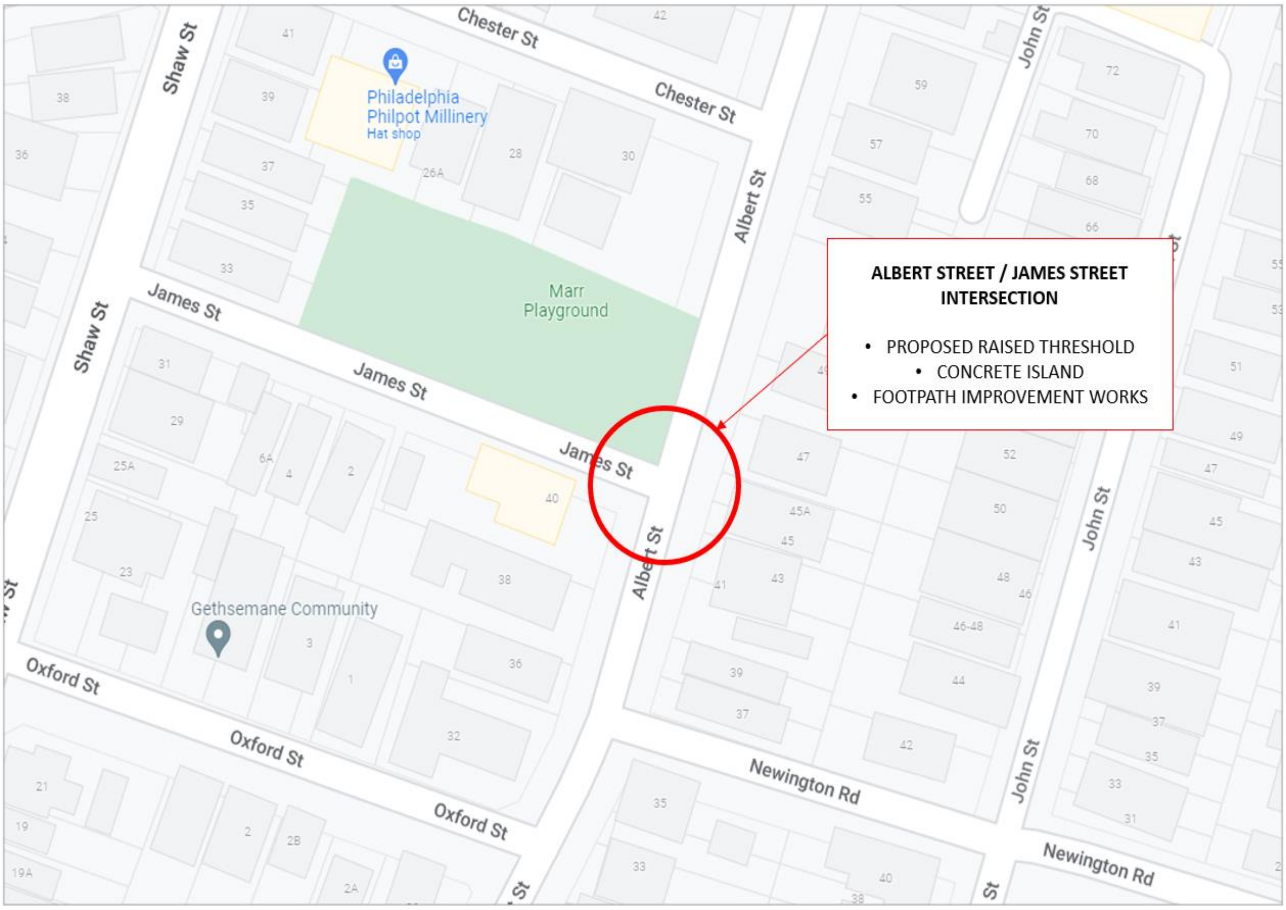
The design plan has been finalised for the proposed works together with the consultation and are presented in this report for consideration.

FINANCIAL IMPLICATIONS

Funding of $250,000 has been allocated by Council for these proposed works as part of the 2022/23 Traffic Facilities Capital Works program.

OTHER STAFF COMMENTS

Site Location & Road Network



LOCALITY MAP

Street Name	**Albert Street**
Section	Intersection with James Street
Carriageway Width (m) kerb to kerb	12.2m
Carriageway Type	Two-way, one travel lane each direction, kerbside parking both sides
Classification	Local
Speed limit (km/h)	50
85th Percentile Speed (km/h)	50.4
Vehicles Per Day (vpd)	1225
Reported Crash History (July 2015 – June 2020)	No recorded crashes
Heavy Vehicle Volume (%)	3.4
Parking Arrangements	Unrestricted parking except for the following: ‘2P 8am to 10pm Mon to Fri and 8.30am to 12.30pm Saturday” just south of Stanmore Road to Chester Street

TRAFFIC & ROAD DATA

Design Plans

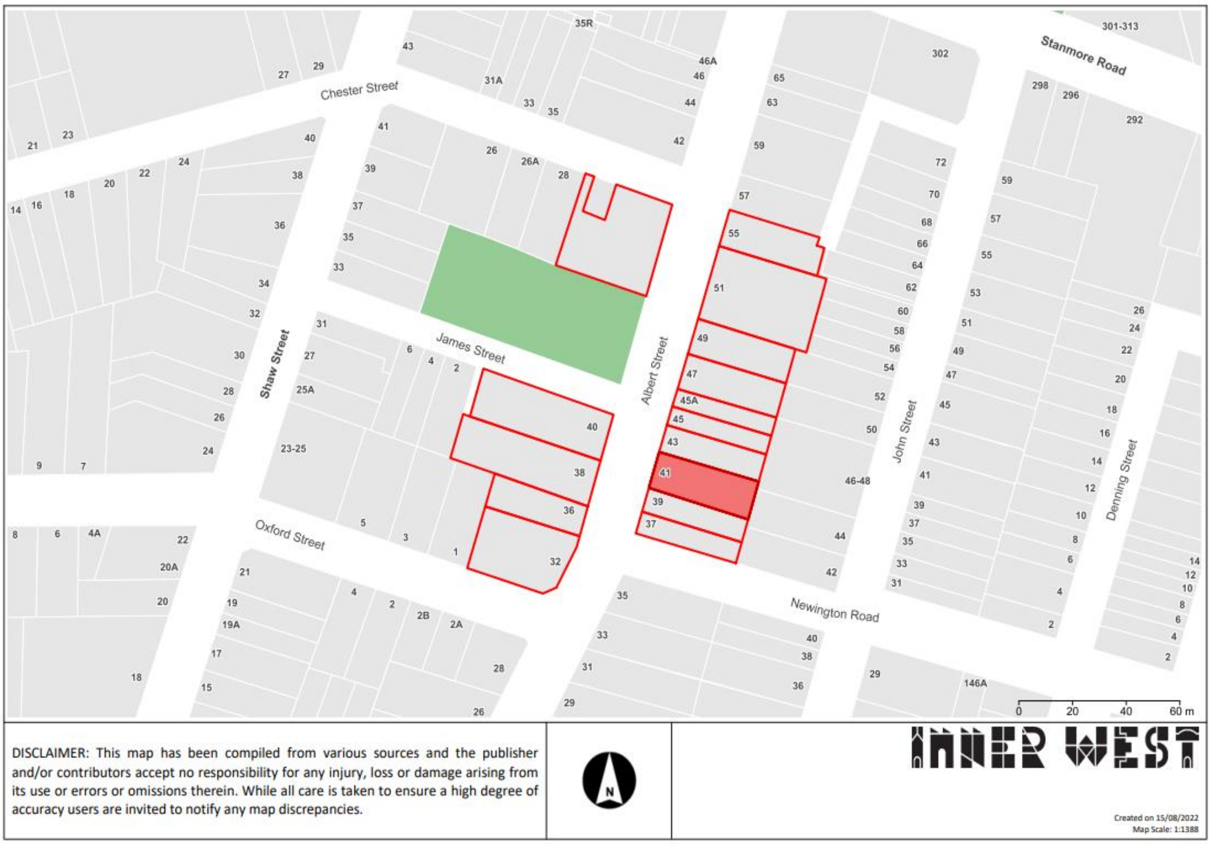
The proposed scope of works includes the following:

- Construction of a new raised concrete threshold in Albert Street, just north of James Street
- Construction of a new detached concrete kerb blister with low level landscaping and passive irrigation
- Reconstruction of damaged sections of concrete footpath with new concrete footpath
- Adjustment of some existing No Stopping signage
- Installation of all associated pavement line marking and signage as required under the current Australian Standards.

Please refer to the attached design plan at the end of this report (Plan No.10220) which illustrates the above proposed works. It should be noted that the proposed traffic calming works will result in **no loss of parking** spaces and all current vehicular access to the nearby properties will be retained.

PUBLIC CONSULTATION

Consultation was undertaken between 22 August 2022 and 6 September 2022. A total of 18 letters that included a copy of the design plan were sent to the residents in Albert Street directly impacted by the proposal (see consultation map below). Two (2) responses were received which are also detailed below.



DISCLAIMER: This map has been compiled from various sources and the publisher and/or contributors accept no responsibility for any injury, loss or damage arising from its use or errors or omissions therein. While all care is taken to ensure a high degree of accuracy users are invited to notify any map discrepancies.

CONSULTATION MAP

Resident' Comments	Officer's Reply
1) Parking difficulties: *Our road has a decent camber to it, leaning into deeper than regular gutters, which tend to make passenger disembarking difficult for standard vehicles. We often drop off passengers before parking, or pull out before they get in. A speed hump here will accentuate this issue dramatically, parking on large speed humps is unnerving to begin with, this will make it inappropriate for normal vehicles.*	*1) Parking difficulties:* *Your comments regarding parking difficulties are noted, this option of a standalone threshold was designed to maintain parking within the street. The other alternative is a physical kerb blister island.*
2) Less parking: *We're unsure when laws changed up to a 10m clear area from corners, regardless of the rules, that spot always has a car parked within 10m (as with most corners around here). With the massive increase of apartments going up, and more to come, plus the townhouses coming to 51-53 Albert St, there'll be more cars and insufficient parking.*	*2) Less parking:* *No parking spots have been lost as part of the proposal, in fact, cars are able to park closer to the intersection due to the kerb extensions. Under the road rules, cars are not permitted to park closer than 10m from an intersection, even without No Stopping signs*
3) Traffic through James St: *If you've been around this intersection, you'd know that James St. is a narrow shortcut used to avoid congestion at the Stanmore Rd / Shaw St intersection, leading escaping drivers to drive faster than they ought to through both Albert and James St. Removal of the fence at the park's exit to stop pedestrian's running out is ludicrous! James St is more of a culprit for pedestrian injury. From my understanding that is why the fence was put in, a child was hit running across James St, not Albert St.*	*3) Traffic through James St:* *Following advice from the design consultant, it was explained why the fence was proposed to be removed. The new proposal will form a kerb between the footpath and road (much like a typical footpath / road interface arrangement. The fence will become more of an obstruction and reduce accessibility to less abled pedestrians as well as parents with prams. Additionally, there is a fence at the top of the stairs separating the park from the stairs. The fence will be recommended to be removed.*
4) Pedestrian safety crossing Albert St: *To install the garden at the park side to deter pedestrians is far from useful. There ALREADY IS a small garden installed here, not grass nor open gutter, plus there's a deep gutter where no child nor adult are crossing the road here, doubly so if a car is parked there! It's just too awkward. Stating that this wider garden strip is helping the attempted cause is nullified.*	*4) Pedestrian safety crossing Albert St:* *Installing tall and thick landscaping is an acceptable way to deter pedestrians crossing at this point. The other alternative is a physical kerb blister island. This option was chosen to prevent loss of parking.*
5) Extra noise: *Street noise is an undesirable added factor to plane noise here, but it's a street and*	*5) Extra noise:* *Raised thresholds do not help lower noise from vehicles, however as they lower vehicle speeds, they contribute to road safety especially for vulnerable road users such as pedestrians and bicycle riders.* <u>*Council Officer's Response to Residents' Alternate Solutions*</u> *Your alternate solutions are noted, though it should be noted that a pedestrian crossing requires meeting certain warrants for implementation. Also, this will significantly reduce the parking in the street due to*

we're fine with it, but we're not convinced speed humps lower noise since there'll be breaking of trucks, re-acceleration of vehicles, and gearing down noise. If cars do travel at speed through Albert St, one hump on a wide street won't change that too much. Optionally a speed hump at the entrances to alert people this is a quiet street may work, so that they don't accelerate to begin with. *<u>Residents' Alternate Solutions</u>* *1) Larger signs at street entrances and visual awareness:* *Large signs to inform all vehicular entrants to the 2 streets that there's children about, and possibly lower speed limits signs to give ample indication of pedestrian activity will be useful. Possibly a "Local Traffic Only" sign to make the area feel quiet and increase caution. Driving up the hill northbound on Albert St, it's very unclear there's a park there due to its raised nature and dense trees in James St. People turning into James may not recognise there's a park, nor will they be affected by this speed hump.* *2) Pedestrian Crossing and Stop sign at James St:* *A pedestrian crossing across James St, and the signage that comes with it, plus a Stop or Give Way sign as it enters Albert St will do plenty to slow drivers down in and out of this tiny street. Keeping the fence at the park's exit will help pedestrian's slow down. In addition, if this pedestrian crossing was atop a small version of the proposed speed hump (but without the proposed raised path), cars and pedestrians would both require going up an incline to cross it (since the path is flat to the road here).* *3) Lower speed limit:* *The absence of speed limit signs here indicates the limit as 50kmh. Any reminder of this or a lower limit of 40 will help push the notion that this area is pedestrian prone.*	*mandatory No Stopping zones associated with this treatment. I will forward your comments on to the traffic section for consideration.*
1. How is one speed hump in Albert Street going to slow down traffic and make it safe for pedestrians?	- *Providing a speed calming device at the mid-block section of Albert St will require motorists to slow down on the approach in turn causing overall vehicle speed to*

	decrease.
2. *Why was the previous plan for three speed humps in the street scrapped?*	• *As part of the Newington LATM Strategy, two options were considered within Albert St. Option 1 was for the introduction of three raised thresholds in order to keep vehicle speeds under 40km/h and Option 2 was for one raised threshold and to maintain a vehicle speed of 50km/h. Option 1 was considered excessive given the nature of Albert Street therefore Option 2 was preferred.*
3. *The road is used as a shortcut for traffic from Stanmore Rd and Addison Rd.*	• *Noted. In some cases, the introduction of speed calming treatments will discourage motorists from using the street. It is anticipated that the overall volume of traffic could decrease in Albert St.*
4. *The proposed speed hump is located down the street. Vehicles coming from Stanmore Rd are already speeding having to suddenly brake and slow down. This will cause more issues and accidents than its attempting to stop.*	• *The proposal will include the installation of advance warning signage that should assist motorists in being aware and cautious of the approaching raised threshold.*
5. *Signpost Speed Hump Ahead is required.*	• *Advanced warning signage will be installed as per current Australian Standards.*
6. *Will the street lighting be upgraded to better visibility? The current lighting is inadequate.*	• *The existing street lighting will not be upgraded and is considered adequate. The presence of the streetlight was one reason this location was preferred. A post construction street lighting audit can be undertaken if the raised threshold is approved.*
7. *No Giveaway or Stop sign at the T-intersection with James St. Its my option that a sign is required.*	• *At present there is no warrant to install a giveaway or stop treatment at the t-intersection of Albert St and James St. This will be forwarded to Council Traffic & Transport team for consideration.*
8. *If the speed hump goes ahead, will it have an impact on the car parking space in front of my house?*	• *There will be no impact on the car parking space outside your property. Please note that this proposal will result in loss of parking.*
9. *I do not agree with plants being placed where the grass is now. Dogs defecate there and with planting it will be harder to clean.*	• *The plantings will act as barrier to stop pedestrians from accessing the raised threshold or confusing it for a pedestrian crossing. Plants are preferred over a metal fence as it aligns with Councils current Urban Forest Policy.*
10. *One speed hump will have no impact on speeding in the street. Trucks use the street and ignore the 3-Tonne signage. No Council Rangers have been seen enforcing this.*	• *Raised thresholds have been proven to slow down vehicles. In terms of trucks using the street and ignoring the 3-Tonne Road Limit, this issue will be passed on to Council*
11. *The 50km/h signage must be upgraded so it can be seen by drivers.*	
12. *Another issue is that the street needs to be resident parking only. This will have a bearing on the use of the street.*	

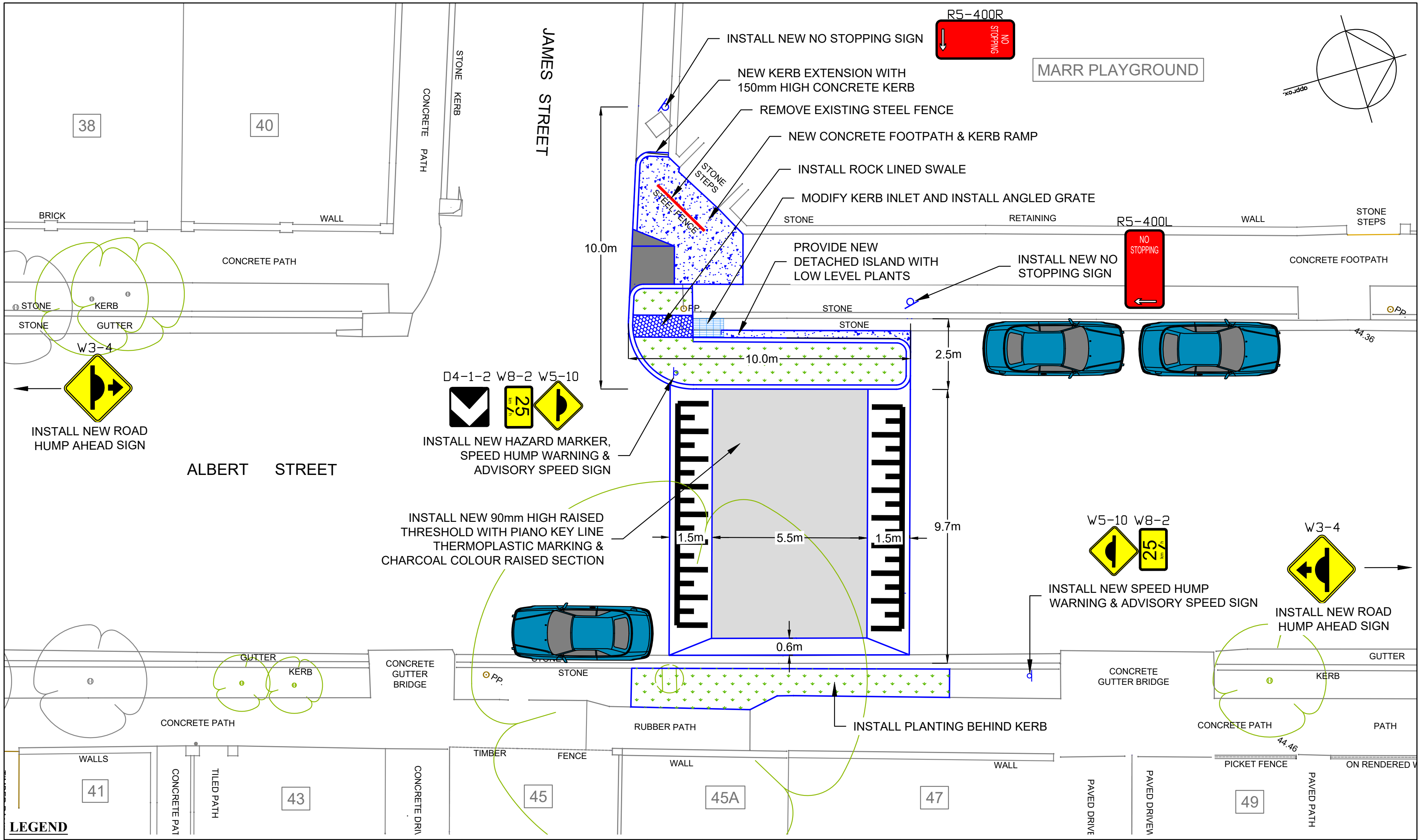
	Rangers for inclusion in their daily patrols. • *50km/h signage is no longer required on local roads. Nevertheless, this request will be forwarded to Transport for NSW for review and action.* • *Installing resident only parking in Albert St is a separate matter to this proposal. I suggest you contact Councils Traffic & Transport team directly to initiate investigation into this matter.*

CONCLUSION

It is recommended that the design plan (Plan No.10220 – see attachment below) of the proposed traffic calming measures in Albert Street, Petersham, at its intersection with James Street, be approved in order to improve pedestrian and motorist safety by reducing the overall vehicular speeds within the area.

ATTACHMENTS

1.⇩ Albert Street, Petersham - Threshold Design Plan (Plan No.10220)



LEGEND

◆	DENOTES (W3-4) ROAD HUMP AHEAD SIGN	▨	DENOTES NEW FOOTPATH (TYPE F1)	25	DENOTES (W8-2) ADVISORY SPEED SIGN	▨	DENOTES NEW KERB RAMP	—	DENOTES E1 LINE MARKING (WHITE LINE 150mm WIDE)	🟦	DENOTES CAR SPACE TO RETAIN
🟥	DENOTES NEW NO STOPPING SIGN (R5-400)	🟩	DENOTES NEW LANDSCAPE ISLAND	❯	DENOTES (D4-1-2A) UNIDIRECTIONAL HAZARD MARKER	◆	DENOTES (W5-10) SPEED HUMP WARNING	○	TREE TO RETAIN	🟥	DENOTES CAR SPACE TO BE REMOVED (NO NET LOSS OF ON-STREET PARKING SPACES)

CHECKED & APPROVED

APPROVED FOR CONSTRUCTION

SURVEYED & DRAFTED
SURV
SURV-DATE

DESIGNED
DESIGNED
DESIGNED-DATE

DRAWN
DRAWN
DRAWN-DATE

SERVICES AFFECTED

NOTICES	DATE
S.R.A. / SURV. GEN.	
R.T.A.	
A.G.L. / SHELL PIPELINES	
SYDNEY WATER	
TELSTRA / OPTUS	
SYDNEY ELECTRICITY	
NOTICE OF ENTRY	
KERB & GUTTER	

SERVICES

TELECOM/OPTUS	—T—T—T—T—
GAS	—G—G—G—G—
SEWER	—S—S—S—S—
WATER	—W—W—W—W—
RAILWAY	—R—R—R—R—
ELEC. CABLES	—E—E—E—E—
OIL PIPELINES	—P—P—P—P—
STORM WATER	—SW—SW—SW—

DATUM
A. H. D.

SCALES(ORIGINAL A1)
1:125

AMEND	DATE	DESCRIPTION	APPROV.
3	15/08/22	CONCEPT DESIGN REVISED	PT
2	03/08/22	CONCEPT DESIGN REVISED	PT
1	01/07/22	CONCEPT DESIGN	PT

INNER WEST COUNCIL
ALBERT ST & JAMES ST, PETERSHAM
PROPOSED RAISED THRESHOLD
COMMUNITY CONSULTATION

PROJECT NO. 302460
SHEET NO. 1
PLAN NO. 10220
CAD FILE CADFILE

Item No: **LTC0922(1) Item 9**

Subject: **VICTORIA STREET, ASHFIELD-PROPOSED IN-LANE BUS STOP PLATFORM ADJACENT TO 90 VICTORIA STREET - DJARRAWUNANG-ASHFIELD WARD/SUMMER HILL ELECTORATE/BURWOOD PAC**

Prepared By: Boris Muha - Engineer – Traffic and Parking Services

Authorised By: Sunny Jo - Acting Traffic and Transport Manager

SUMMARY

Council is planning to install an in-lane bus stop platform adjacent to 90 Victoria Street, Ashfield. The proposal is to provide a bus stop facility to extend out and allow ease of safe travel and passenger embarkment/dis embarkment between the footpath and buses out on the travel lane.

The proposal is in upgrade to the existing Bus Stop at this location where buses are prevented from properly and safely pulling up to the kerb due to (mature grown) trees located in short span distance within the Bus Stop. The proposed platform is also designed in compliance to the Disability Standards for Accessible Public Transport (DSAPT) in line with the Disability Discrimination Act (DDA).

RECOMMENDATION

That the design plan (Design Plan No.10215-A) for the proposed new concrete in-lane bus stop platform (with associated tactile, seating and handrails), new concrete ramps, new grassed verge area, existing concrete kerb and footpath reconstruction, and associated new signs and line markings in front of 90 Victoria Street, Ashfield be APPROVED.

BACKGROUND

As part of the 2022/2023 Traffic Facilities Works Program Council proposes to install a new concrete in-lane Bus stop platform outside 90 Victoria Street to allow buses to come right up to the platform and allow passengers (including those elderly and mobility impaired) to properly and safely board and alight from the bus.

The NSW Government initiated a DSAPT guideline program in 2002 that all Council’s over a period of time improve Bus Stop facilities for boarding point access upon buses. Many of the Bus stops in the Local Government Area have been modified to comply (as far as possible) to these guidelines.

The above Bus stop was listed in this case to construct a platform to overcome the problem of access between the palm trees and comply to DSAPT/DDA requirements.

Victoria Street in the vicinity of no. 90 Victoria Street is a local road carrying an estimated traffic volume of upto 3,500 vehicles per day (vpd). The road is approximately 12.8m wide kerb to kerb, and parking is provided to both sides with various trees lining along the shoulders. The area is a 50 kph speed limit. No recorded accidents are identified in this vicinity of Victoria Street.

FINANCIAL IMPLICATIONS

Funding of $50,000 has been allocated to this project for construction in the 2022/23 Capital Works Program.

OTHER STAFF COMMENTS

Additional information is provided as follows:

- The platform has been amended to extend to 12.3m in length rather than the original proposal under consultation of 9.0m from advice from Transit Systems (public Bus operator) to comply to recent requirements under bus wayfinding and boarding point access to the front of the bus, and concerns as raised by a resident of 90 Victoria Street for waste bin storage capacity and management of the bins upon the footway. See below comments under **Public Consultation.**
- No parking is lost as a result of the original or amended proposed platform as the work is within the confines of the existing bus zone between the existing trees. See locality-consultation and street view diagrams of existing Bus Stop below and **Attachment No.1** for the Design plan No.10215-A.
- The Bus Stop serves the Bus route 406 to and from Five Dock to Hurlstone Park. The bus only pulls up for a short period of time and currently and mainly sits out in the travel lane to pick up and set down passengers owing to the presence of the trees. The bus service is approximately every 30 minutes and is not considered of high regular frequency to account for any major delay or queuing of vehicles back of the bus stop.
- Buses would be currently and mainly dropping off and picking up passengers for the travel lane.
- In-lane bus stops are not uncommon within the Sydney Region. Similar in-lane bus stop platforms have been constructed in Victoria Street to both sides outside of the Cardinal Freeman Village. These are short length front door only constructed platforms developed to provide new bus stops and minimise loss of parking in the area. It should also be noted that Fredrick Street, near John Street, Ashfield has a bus stop located in a narrow section of roadway (approximately 4.3m wide) with the roadway being constrained to essentially one southbound lane (ie median island at location of bus stop narrows southbound lane to one trafficable lane). Fredrick Street carries an estimated 25,000 vpd and bus services along Fredrick Street are more frequent.

  The proposed length of platform at this location is within an existing length of Bus Stop and would account for both front and rear door access for quicker entry/exit and lower waiting time for the bus at the stop.

- The Bus stop services the Sydney Private Hospital (opposite) and the surrounding area. The upgrade in providing a platform is considered of beneficial safety to the community.

Proposed in-lane Bus Stop platform.

Consultation Area

Locality and Consultation Area diagram.

Existing Bus stop outside No. 90 Victoria Street, Ashfield.

PUBLIC CONSULTATION

A letter outlining the above proposal was distributed to the directly affected properties (77 properties) in Victoria Street, Ashfield. Two (2) response was received, one from Transit Systems one from resident of 90 Victoria Street. Key comments with response are provided below.

Resident/Stack holder Comments	Officer Response
Transit Systems Concern is raised that the original proposal of a 9.0m length platform does not account for a minimum of 1.57m free space to the left hand side of the of the bus stop flagpole for passengers to read the timetable and stand (including those in wheelchair and motor scooters) in view of the approaching buses under current DSAPT/DDA requirements.	The design plan has been amended to increase the platform to 12.3 metres to include a 1.6m free space area to the left hand side of the Bus Stop flagpole and added area for bin storage upon the platform (see resident comments below). An initial proposed landscaped kerb blister to the rear of the platform is removed to cater for rear door access/bin storage.

Resident -90 Victoria Street • Concerns are raised on the design of the above-mentioned proposal and how the following would be managed as Victoria Street is extremely active, carrying a constant flow/volume of traffic servicing residents, emergency services (Police & Fire), a private hospital, multiple age care facilities & schools (both primary & secondary schools). These services create added pressure on a residential street and impact how the local traffic performs. **Concern # 1 - The extent of the proposed platform design** At present when a bus stops it pulls into the kerb allowing for the flow of traffic to continue unobstructed, while safely picking up & dropping off passengers. Building the proposed platform will result in the bus obstructing the traffic flow impacting a large percentage of users & creating a safety risk for both traffic & pedestrians. **Concern #2 – Resident waste disposal** With the street services parking is a premium. While cars do not park at the designated Bus stop, they will occupy the surrounding zones. This reduces the availability of safe waste disposal zone for residents. Building the platform as proposed will impact the weekly council waste pick-up point forcing residents to place waste bins on the road obstructing vehicles' path of travel. • Feels that a new design approach is required for this location. Changing the street landscape to the extent of the proposed design will have an adverse effect on the surrounding area, intensify traffic jams & potentially impact safety.	• The Bus stop is essential in place and well established over the years to service the Sydney Private Hospital and surrounding area. • The platform provides an upgrade facility for the ease and safety for passengers to board and alight buses already servicing the area. • Buses are 12.5metres in length and do not have lead in and departure distances in between the trees to properly and safely come close and parallel to the kerb. If pulling into the kerb it is viewed that the bus might angle in slightly but still mainly sit out in the travel lane. Drivers can have the problem of viewing traffic at the back if the bus sits out on an angle. The bus can pull straight out from an extended platform rather than merge into the travel lane. • Vehicles would slow or stop while the bus is picking up and dropping off passengers or may overtake to the opposing side of the road with caution at this particular location. Volumes are considered lower at this area of Victoria Street. The bus service is not considered of high regular frequency to account for any major delay or queuing of vehicles back of the bus stop. • Platforms do exist at newly formed bus stops on both sides of the road outside the area of the Cardinal Freeman Village built mainly to cater for the residents of that village. No problems are known with the operation off those in-lane bus stop platforms. 'Pedestrian' warning signs can be added in the area if anticipating pedestrians crossing over from the platforms. • It is acknowledged that numerous coloured waste bins for the unit premises of 90 Victoria Road at the onetime line up to the back of the kerb and rear of the Bus Stop. This is the case with a lot of other bus stops. Bins can be made to be stored upon the platform provided they do not interfere with the rear and particularly the essential front door access to the bus. The platform has been amended per the plan to extend to 12.3 metres and allow grass verge (instead of landscape) to be made to footway to assist in providing bin storage capacity and the rolling of bins back upon the footway. • A road shoulder area to the north of approximately 2.5 -3.0metres will also be

	painted and hatched out to provide clearance for bin storage. There is no loss of parking as a result of this, as only one vehicle parks within the confines of the tree and driveway to the north **(see amended plan Annexure 1.)** • The above bin storage measures and management would ensure that bins are not strewn to the front of the platform on the road to cause danger to buses and traffic. Council Waste Service Management has been made aware of this. • The platform is designed to blend in and form as an extension to the footway. • An in -lane bus stop platform (footway way extension) is considered the only feasible way to allow the bus stop to be upgraded to DSAPT/DDA compliance and have the bus pull up properly and safely close and parallel to kerb, between two short span spaced palm trees which Council would not perceive to remove.

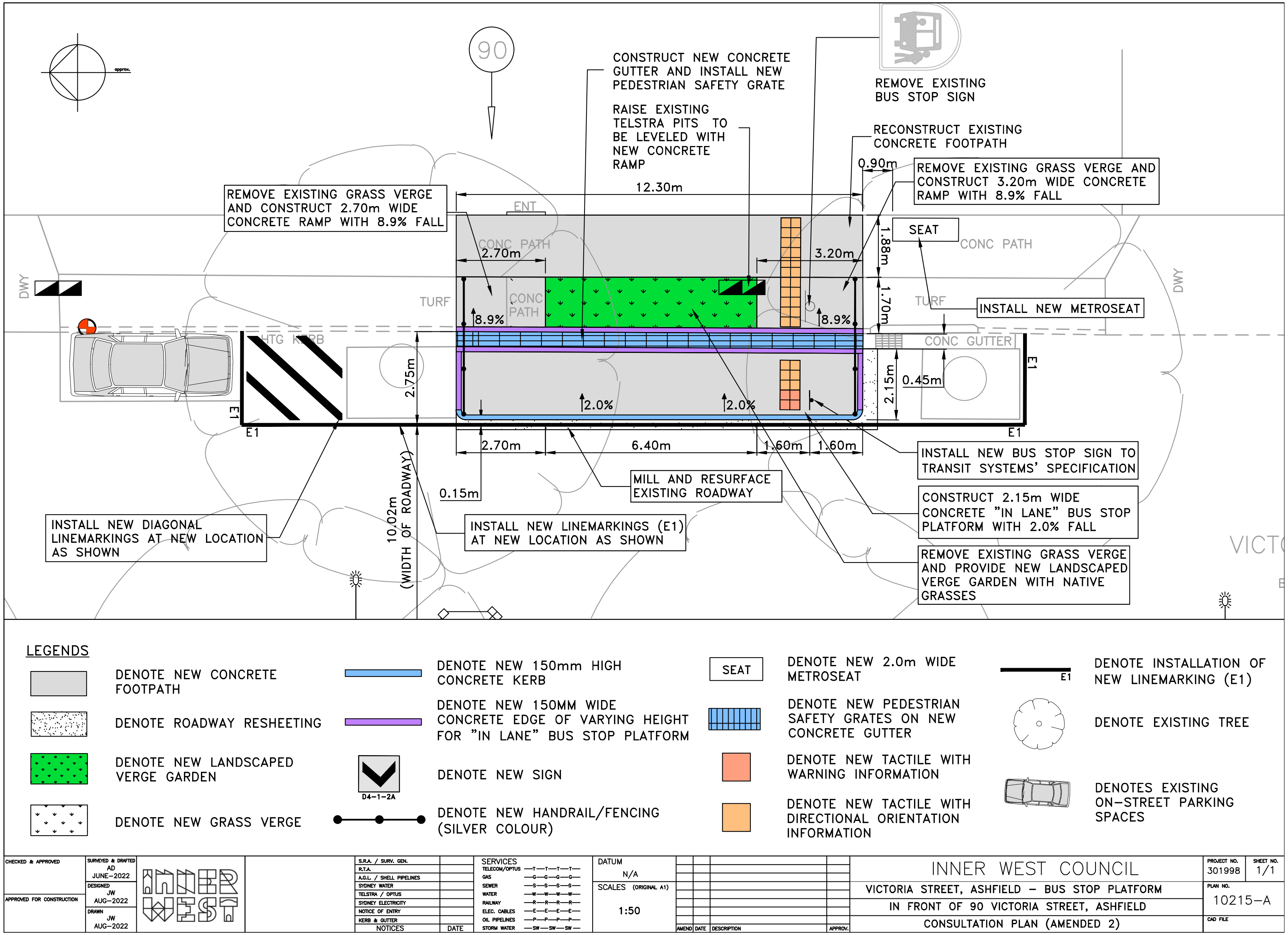
CONCLUSION

In view of the above, it is recommended that a new concrete in-lane bus stop platform (with associated tactile, seating and handrails), new concrete ramps, new grass verged area, existing concrete kerb and footpath reconstruction, and associated new signs and line markings be constructed in front of 90 Victoria Street, Ashfield.

The platform is to provide a bus stop facility extension (between trees) that allows ease of safe travel and passenger embarkment/dis embarkment between the footpath and buses out on the travel lane and is also designed in compliance to the Disability Standards for Accessible Public Transport (DSAPT) in line with the Disability Discrimination Act (DDA).

ATTACHMENTS

1.⇩ Amended proposed plan of in-lane Bus Stop platform adjacent to 90 Victoria Street, Ashfield.


90
CONSTRUCT NEW CONCRETE GUTTER AND INSTALL NEW PEDESTRIAN SAFETY GRATE
RAISE EXISTING TELSTRA PITS TO BE LEVELED WITH NEW CONCRETE RAMP
REMOVE EXISTING BUS STOP SIGN
RECONSTRUCT EXISTING CONCRETE FOOTPATH
0.90m
REMOVE EXISTING GRASS VERGE AND CONSTRUCT 3.20m WIDE CONCRETE RAMP WITH 8.9% FALL
12.30m
REMOVE EXISTING GRASS VERGE AND CONSTRUCT 2.70m WIDE CONCRETE RAMP WITH 8.9% FALL
ENT
CONC PATH
2.70m
3.20m
SEAT
1.88m
1.70m
CONC PATH
DWY
TURF
CONC PATH
8.9%
8.9%
TURF
INSTALL NEW METROSEAT
CONC GUTTER
HTG KERB
2.75m
2.0%
2.0%
2.15m
0.45m
E1
E1
E1
E1
2.70m
6.40m
1.60m
1.60m
INSTALL NEW BUS STOP SIGN TO TRANSIT SYSTEMS' SPECIFICATION
MILL AND RESURFACE EXISTING ROADWAY
0.15m
CONSTRUCT 2.15m WIDE CONCRETE "IN LANE" BUS STOP PLATFORM WITH 2.0% FALL
10.02m (WIDTH OF ROADWAY)
INSTALL NEW DIAGONAL LINEMARKINGS AT NEW LOCATION AS SHOWN
INSTALL NEW LINEMARKINGS (E1) AT NEW LOCATION AS SHOWN
REMOVE EXISTING GRASS VERGE AND PROVIDE NEW LANDSCAPED VERGE GARDEN WITH NATIVE GRASSES
VICT
LEGENDS
DENOTE NEW CONCRETE FOOTPATH
DENOTE ROADWAY RESHEETING
DENOTE NEW LANDSCAPED VERGE GARDEN
DENOTE NEW GRASS VERGE
DENOTE NEW 150mm HIGH CONCRETE KERB
DENOTE NEW 150MM WIDE CONCRETE EDGE OF VARYING HEIGHT FOR "IN LANE" BUS STOP PLATFORM
D4-1-2A
DENOTE NEW SIGN
DENOTE NEW HANDRAIL/FENCING (SILVER COLOUR)
SEAT
DENOTE NEW 2.0m WIDE METROSEAT
DENOTE NEW PEDESTRIAN SAFETY GRATES ON NEW CONCRETE GUTTER
DENOTE NEW TACTILE WITH WARNING INFORMATION
DENOTE NEW TACTILE WITH DIRECTIONAL ORIENTATION INFORMATION
E1
DENOTE INSTALLATION OF NEW LINEMARKING (E1)
DENOTE EXISTING TREE
DENOTES EXISTING ON-STREET PARKING SPACES
CHECKED & APPROVED
APPROVED FOR CONSTRUCTION
SURVEYED & DRAFTED
AD
JUNE-2022
DESIGNED
JW
AUG-2022
DRAWN
JW
AUG-2022
S.R.A. / SURV. GEN.
R.T.A.
A.G.L. / SHELL PIPELINES
SYDNEY WATER
TELSTRA / OPTUS
SYDNEY ELECTRICITY
NOTICE OF ENTRY
KERB & GUTTER
NOTICES
DATE
SERVICES
TELECOM/OPTUS
GAS
SEWER
WATER
RAILWAY
ELEC. CABLES
OIL PIPELINES
STORM WATER
DATUM
N/A
SCALES (ORIGINAL A1)
1:50
AMEND
DATE
DESCRIPTION
APPROV.
INNER WEST COUNCIL
VICTORIA STREET, ASHFIELD – BUS STOP PLATFORM
IN FRONT OF 90 VICTORIA STREET, ASHFIELD
CONSULTATION PLAN (AMENDED 2)
PROJECT NO.
301998
SHEET NO.
1/1
PLAN NO.
10215-A
CAD FILE

Item No: **LTC0922(1) Item 10**

Subject: **BRIGHT STREET AT MIDDLE AND NORTH STREETS, MARRICKVILLE – PROPOSED TRAFFIC CALMING (DESIGN PLAN NO.10219) (MIDJUBURI – MARRICKVILLE WARD / SUMMER HILL ELECTORATE / INNER WEST PAC)**

Prepared By: Robert Ristevski - Engineer Traffic and Parking Services (South)

Authorised By: Sunny Jo - Acting Traffic and Transport Manager

SUMMARY

Design plans have been finalised for the proposed traffic calming improvements in Bright Street, Marrickville, at its intersections with Middle and North Streets. The proposal includes the construction of two raised concrete thresholds, new kerb extensions with low level plantings and improvements works to the existing footpath and kerb ramps. It is expected that this proposal will improve pedestrian and motorist safety by reducing the overall vehicle speeds in the area.

RECOMMENDATION

That the design plans for the proposed raised concrete thresholds, kerb extensions with low level plantings and improvement works to the existing footpath and kerb ramps in Bright Street at Middle and North Streets, Marrickville (Design Plan No.10219), be APPROVED.

BACKGROUND

The Newington Local Area Traffic Management (LATM) scheme identified Bright Street as a location that required traffic calming measures to address concerns of pedestrian safety. As such, Council is now planning to improve the overall safety in Bright Street, at its intersections with Middle and North Streets, by constructing two raised concrete threshold, new kerb extensions that will incorporate some low-level plantings and undertake improvement works to the existing footpath and kerb ramps. It is expected that these proposed works will have a positive impact in improving the issues of pedestrian safety.

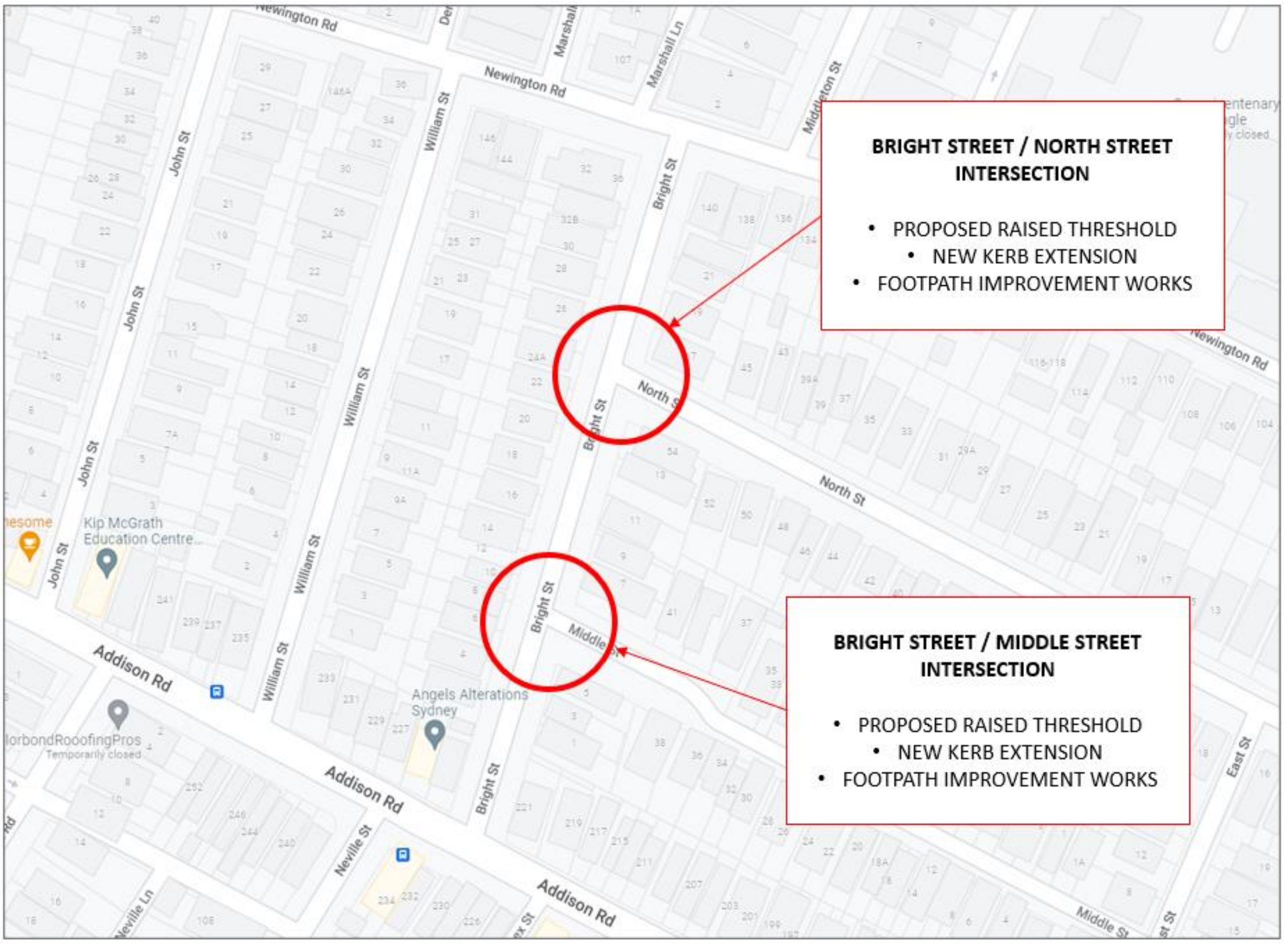
The design plans have been finalised for the proposed works together with the consultation and are presented in this report for consideration.

FINANCIAL IMPLICATIONS

Funding of $250,000 has been allocated by Council for these proposed works as part of the 2022/23 Traffic Facilities Capital Works program.

OTHER STAFF COMMENTS

Site Location & Road Network



LOCALITY MAP

Street Name	**Bright Street**
Section	Between Newington Road and Addison Road
Carriageway Width (m) kerb to kerb	12.0m
Carriageway Type	Two-way, one travel lane each direction, kerbside parking both sides
Classification	Local
Speed limit (km/h)	50
85th Percentile Speed (km/h)	57.6
Vehicles Per Day (vpd)	857
Reported Crash History (July 2015 – June 2020)	1 recorded crash, 2019, Bright Street at Middle Street intersection, Rum Code 21 (Right Through), Night-time
Heavy Vehicle Volume (%)	13.5
Parking Arrangements	Unrestricted parking

TRAFFIC & ROAD DATA

Design Plans

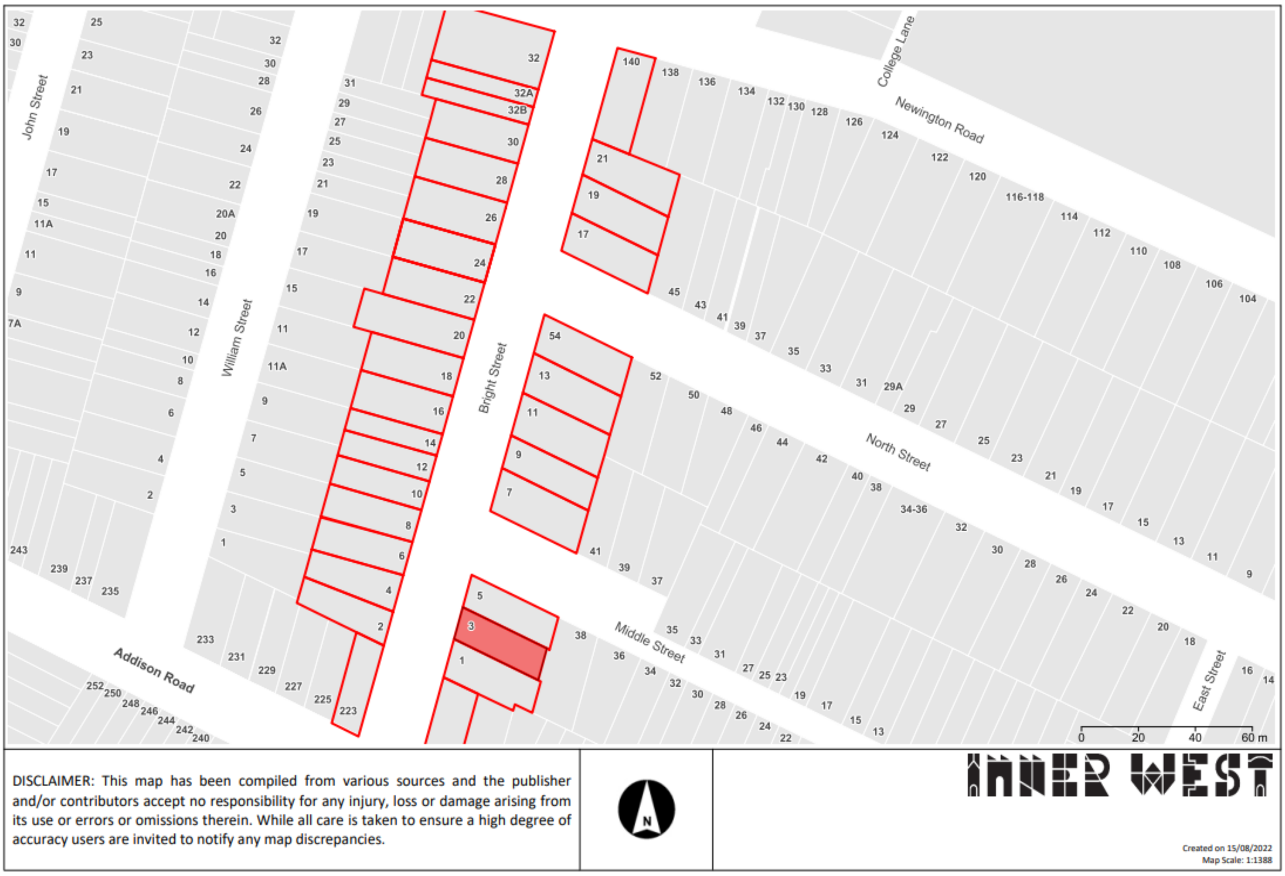
The proposed scope of works includes the following:

- Construction of two new raised concrete thresholds in Bright Street at Middle and North Streets
- Construction of kerb extensions with low level landscaping and passive irrigation
- Reconstruction of damaged sections of concrete footpath with new concrete footpath
- Adjustment of existing No Stopping signage
- Installation of all associated pavement line marking and signage as required under the current Australian Standards.

Please refer to the attached design plans at the end of this report (Plan No.10219) which illustrates the above proposed works. It should be noted that the proposed traffic calming works will result in **no loss of parking** spaces and all current vehicular access to the nearby properties will be retained.

PUBLIC CONSULTATION

Consultation was undertaken between 22nd August 2022 and 6th September 2022. A total of 40 letters that included a copy of the design plans were distributed to the residents in Bright Street directly impacted by the proposal (see consultation map below). Three responses were received which are also detailed below.



DISCLAIMER: This map has been compiled from various sources and the publisher and/or contributors accept no responsibility for any injury, loss or damage arising from its use or errors or omissions therein. While all care is taken to ensure a high degree of accuracy users are invited to notify any map discrepancies.

Created on 15/08/2022
Map Scale: 1:1388

CONSULTATION MAP

Resident' Comments	Officer's Reply
1. *You mention no reduction of parking, but that's just simply not true looking at the plans, with the introduction of multiple no stopping signs. There are already enough issues with parking on the street with students from Newington parking on the street during the week. This will not improve the situation. And no, I am not interested in either 1 – increasing parking density with rear or front to kerb type solution, or 2 – adding parking zoning. I am interested in keeping the street AS IS.* 2. *The plan proposes to add additional landscaping to be maintained, which will create increased maintenance costs that I am not interested in paying. It's also challenging enough to have the council section of lawn mowed frequently enough in summer, I am not interested in other features of the street falling into dis-repair.* 3. *I don't believe there is enough traffic that travels on Bright Street throughout the day to warrant this. Have you done a traffic volume survey of the street? It's a very quiet street almost all of the time. But implementing raisings will also increase the noise of the few cars that do travel along our street, which is fairly peaceful (besides the planes).* 4. *Pedestrian traffic actually very rarely crosses the road. Most pedestrians stay on the side they started on. I am sceptical of the cost/benefit analysis of supposedly increasing 'safety' on the road. Have there been pedestrian / motor vehicle incidents, that prompted these works to be planned? And to a high enough frequency to warrant this? I doubt it.* 5. *Alternative suggestions of where to spend my rates:* • *Addison road needs a LOT more work. The road quality is terrible along significant portions of it.* • *Addison road needs more crossings – especially close to Park St. Every morning and afternoon, I see primary school children trying to cross*	*• The proposal does not reduce parking but in fact increases parking spaces, as the kerb extensions allow you to park closer to the intersection.* *• The landscaping is required to provide a barrier to prevent pedestrians from crossing the raised thresholds. Council also chooses low maintenance plants* *• Newington LATM undertaken in 2018 captured traffic speeds in Bright Street, which was 57.6km/h (85th percentile) 857 vehicles/day. The LATM study found that this was considerably higher compared to other streets in the area.* *• Raised thresholds do not help pedestrians in crossing the road however as they lower vehicle speeds, they contribute to road safety especially for vulnerable road users such as pedestrians and bicycle riders.* *• Addison Road was also considered in the Newington LATM study. At the time of the study, the road was subject to a bicycle route design (local route 16). An upgrade of road safety is proposed with kerb extensions at the six existing pedestrian refuges (including Park Rd) to increase pedestrian crossing safety by physically decreasing the travel lane for cars. These treatments are to be reviewed in concert with new works proposed for a bicycle facility along the road.* *• The assets renewal suggestions in Marshall Street and Newington Road have been forwarded to the assets planning section*

Addison Road, and there is not a crossing there, only island refuges, which are NOT appropriate for primary school children. • *Marshall St is also in a terrible state. There are a LOT of potholes, and the intersection it has with Stanmore Road is also full of potholes, but also seems to have a water drainage problem (which is probably a significant factor in causing the potholes). Considering that intersection is also a challenging one to turn right at, having a consistently unsafe surface is dangerous.* • *Sections of Newington Road are also falling into disrepair with potholes, some of which seem to have been caused by the various raisings installed. Bright Street is a very smooth surfaced road currently, I am also concerned that adding raisings will also degrade the bitumen faster than leaving it as is.*	
• *As #10 Bright Street is opposite Middle Street and is at the T-section of Middle Street, the driveway access for #10 Bright Street would be unfairly impacted and the driveway access and exit to #10 Bright Street would be obstructed.* • *Proposal will cause an unsafe and dangerous hazard to the residents of #10, with blind spots and additional traffic, through the proposed design plans of Plan No. 10219.* • *Concerns are also raised around the large tree structure in front of #7 Bright Street, in a narrow garden bed, and how this Plan No. 10219 will increase the risk factor of this tree and its instability.* • *Concerns are raised over the inclusion of bicycle logos. The road is too steep for this.*	*• Driveway Access to No. 10 being impeded, I can advise the driveway access to this property will not be impacted by the proposal. Council officers have checked vehicle turning movements to confirm the driveway is unaffected by proposed works.* *• Regarding blind spots and additional traffic being created by the proposal: Council considers the proposed design to be appropriate for the location and will not affect sight lines for pedestrians and traffic in Bright Street. The provision of speed control devices in Bright Street will reduce the speeds of vehicles and may also reduce the amount of traffic using Bright Street.* *• Regarding the existing tree opposite No.7, I advise the proposal will not affect the existing street tree being referred to nor its stability.* *• Bicycles are permitted to ride in any street regardless of the bicycle logo. The symbol is to alert drivers of potential riders*
• *The plans propose a raised threshold directly in front of 6 Bright Street. Will we lose the ability to park our car out the front of our house where the*	*• You will not lose the ability to park outside your residence. You will still be able to park over the threshold.*

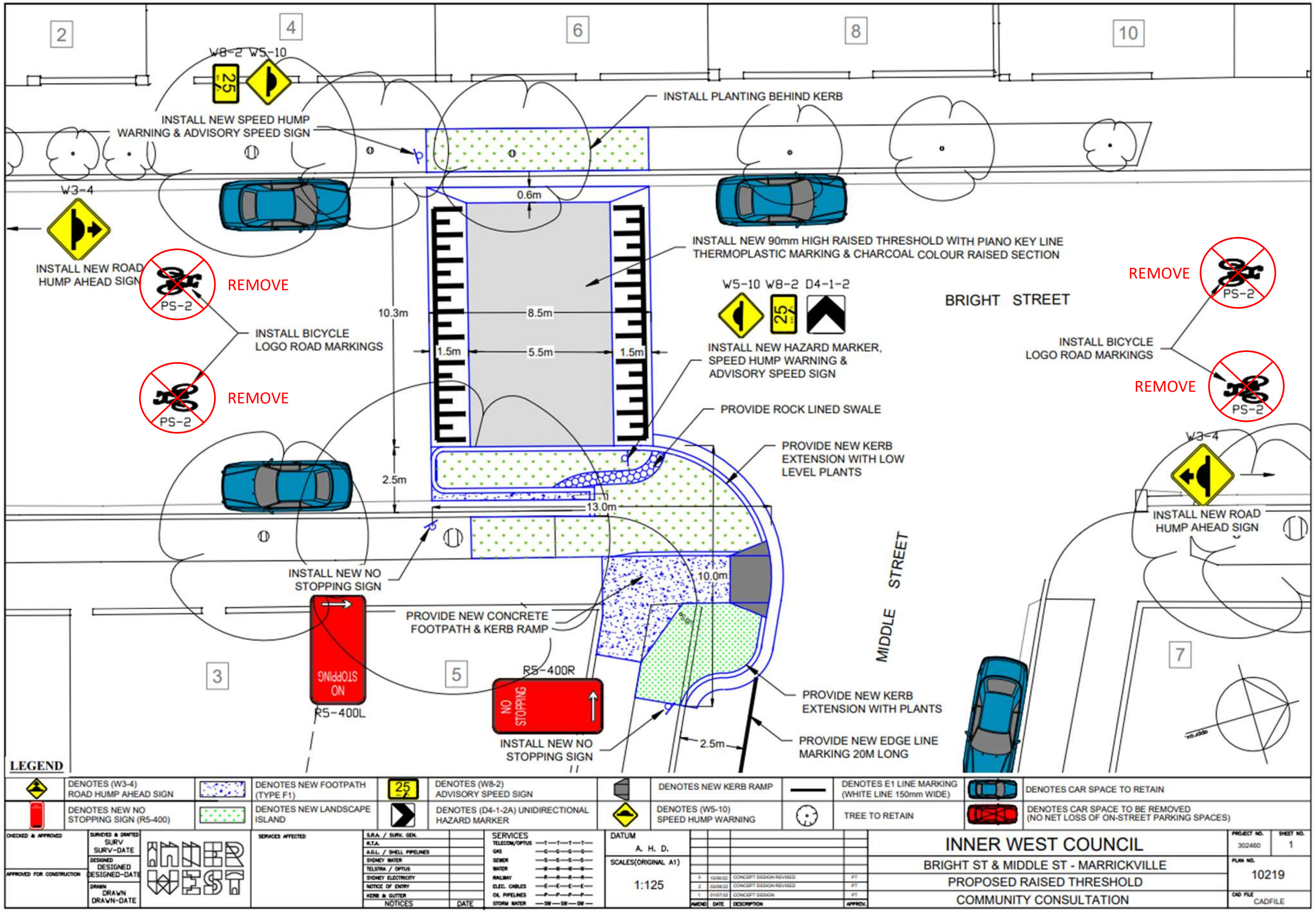
raised threshold is placed? • *The plans also propose landscaping on the nature strip in front of 6 Bright Street. Will the tree currently in the nature strip be retained? Will we still be able to walk through the nature strip from the road to our front gate, or will we need to walk around the area – high or lower on the street?*	*• There is landscaping proposed in this short stretch, which will unfortunately require you to walk around* *• Please note that the proposed on-road bicycle symbols will no longer be installed due to concerns raised by a local resident. Given that there are currently no bicycle symbols along Bright Street, removing these from the proposal will have no adverse effects.*

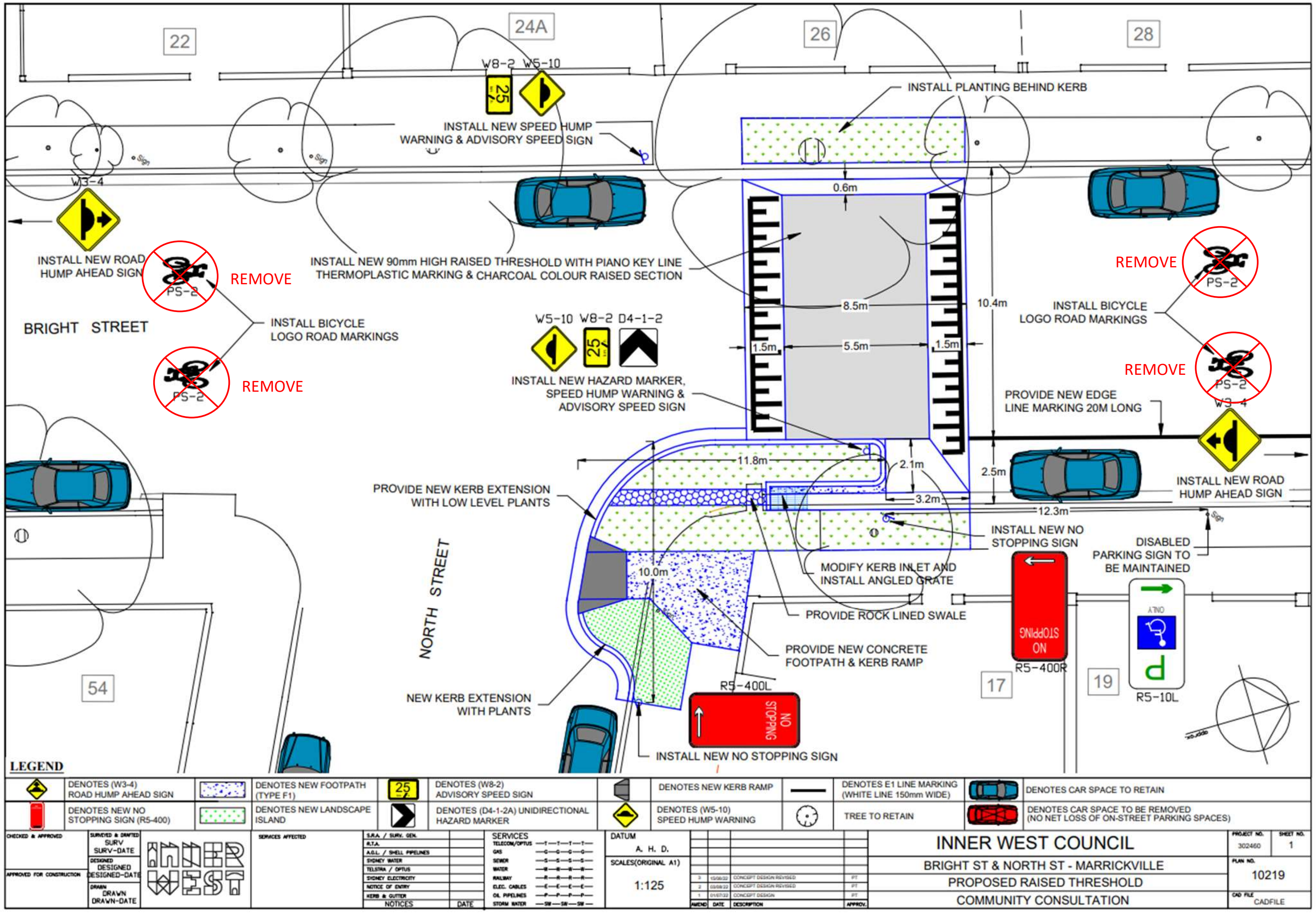
CONCLUSION

It is recommended that the design plan (Plan No.10220 – see attachment below) of the proposed traffic calming measures in Albert Street, Petersham, at its intersection with James Street, be approved in order to improve pedestrian and motorist safety by reducing the overall vehicular speeds within the area.

ATTACHMENTS

1.⇩ Bright Street, Marrickville - Threshold Design Plan (Plan No.10219)


2
4
6
8
10
W8-2 W5-10
INSTALL PLANTING BEHIND KERB
INSTALL NEW SPEED HUMP WARNING & ADVISORY SPEED SIGN
W3-4
0.6m
INSTALL NEW ROAD HUMP AHEAD SIGN
REMOVE
PS-2
INSTALL NEW 90mm HIGH RAISED THRESHOLD WITH PIANO KEY LINE THERMOPLASTIC MARKING & CHARCOAL COLOUR RAISED SECTION
W5-10 W8-2 D4-1-2
BRIGHT STREET
10.3m
8.5m
INSTALL BICYCLE LOGO ROAD MARKINGS
1.5m
5.5m
1.5m
INSTALL NEW HAZARD MARKER, SPEED HUMP WARNING & ADVISORY SPEED SIGN
PROVIDE ROCK LINED SWALE
PROVIDE NEW KERB EXTENSION WITH LOW LEVEL PLANTS
W3-4
2.5m
13.0m
INSTALL NEW ROAD HUMP AHEAD SIGN
INSTALL NEW NO STOPPING SIGN
10.0m
MIDDLE STREET
PROVIDE NEW CONCRETE FOOTPATH & KERB RAMP
NO STOPPING
R5-400R
R5-400L
3
5
7
PROVIDE NEW KERB EXTENSION WITH PLANTS
INSTALL NEW NO STOPPING SIGN
2.5m
PROVIDE NEW EDGE LINE MARKING 20M LONG
LEGEND
DENOTES (W3-4) ROAD HUMP AHEAD SIGN
DENOTES NEW NO STOPPING SIGN (R5-400)
DENOTES NEW FOOTPATH (TYPE F1)
DENOTES NEW LANDSCAPE ISLAND
DENOTES (W8-2) ADVISORY SPEED SIGN
DENOTES (D4-1-2A) UNIDIRECTIONAL HAZARD MARKER
DENOTES NEW KERB RAMP
DENOTES (W5-10) SPEED HUMP WARNING
DENOTES E1 LINE MARKING (WHITE LINE 150mm WIDE)
TREE TO RETAIN
DENOTES CAR SPACE TO RETAIN
DENOTES CAR SPACE TO BE REMOVED (NO NET LOSS OF ON-STREET PARKING SPACES)
CHECKED & APPROVED
APPROVED FOR CONSTRUCTION
SURVEYED & DRAFTED SURV SURV-DATE
DESIGNED DESIGNED DESIGNED-DATE
DRAWN DRAWN DRAWN-DATE
INNER WEST
SERVICES AFFECTED
S.R.A. / SURV. GEN.
R.T.A.
A.G.L. / SHELL PIPELINES
SYDNEY WATER
TELSTRA / OPTUS
SYDNEY ELECTRICITY
NOTICE OF ENTRY
KERB & GUTTER
NOTICES
DATE
SERVICES
TELECOM/OPTUS
GAS
SEWER
WATER
RAILWAY
ELEC. CABLES
OIL PIPELINES
STORM WATER
DATUM
A. H. D.
SCALES(ORIGINAL A1)
1:125
3 15/08/22 CONCEPT DESIGN REVISED PT
2 03/08/22 CONCEPT DESIGN REVISED PT
1 01/07/22 CONCEPT DESIGN PT
AMEND DATE DESCRIPTION APPROV.
INNER WEST COUNCIL
BRIGHT ST & MIDDLE ST - MARRICKVILLE
PROPOSED RAISED THRESHOLD
COMMUNITY CONSULTATION
PROJECT NO. 302460
SHEET NO. 1
PLAN NO. 10219
CAD FILE CADFILE


22
24A
26
28
W8-2 W5-10
25
INSTALL PLANTING BEHIND KERB
INSTALL NEW SPEED HUMP WARNING & ADVISORY SPEED SIGN
W3-4
0.6m
INSTALL NEW ROAD HUMP AHEAD SIGN
PS-2
REMOVE
INSTALL NEW 90mm HIGH RAISED THRESHOLD WITH PIANO KEY LINE THERMOPLASTIC MARKING & CHARCOAL COLOUR RAISED SECTION
BRIGHT STREET
INSTALL BICYCLE LOGO ROAD MARKINGS
W5-10 W8-2 D4-1-2
8.5m
10.4m
1.5m
5.5m
INSTALL NEW HAZARD MARKER, SPEED HUMP WARNING & ADVISORY SPEED SIGN
PROVIDE NEW EDGE LINE MARKING 20M LONG
W3-4
11.8m
2.1m
2.5m
3.2m
12.3m
PROVIDE NEW KERB EXTENSION WITH LOW LEVEL PLANTS
INSTALL NEW NO STOPPING SIGN
DISABLED PARKING SIGN TO BE MAINTAINED
NORTH STREET
10.0m
MODIFY KERB INLET AND INSTALL ANGLED GRATE
PROVIDE ROCK LINED SWALE
PROVIDE NEW CONCRETE FOOTPATH & KERB RAMP
NO STOPPING
R5-400R
R5-10L
54
17
19
R5-400L
NEW KERB EXTENSION WITH PLANTS
INSTALL NEW NO STOPPING SIGN
LEGEND
DENOTES (W3-4) ROAD HUMP AHEAD SIGN
DENOTES NEW NO STOPPING SIGN (R5-400)
DENOTES NEW FOOTPATH (TYPE F1)
DENOTES NEW LANDSCAPE ISLAND
DENOTES (W8-2) ADVISORY SPEED SIGN
DENOTES (D4-1-2A) UNIDIRECTIONAL HAZARD MARKER
DENOTES NEW KERB RAMP
DENOTES (W5-10) SPEED HUMP WARNING
DENOTES E1 LINE MARKING (WHITE LINE 150mm WIDE)
TREE TO RETAIN
DENOTES CAR SPACE TO RETAIN
DENOTES CAR SPACE TO BE REMOVED (NO NET LOSS OF ON-STREET PARKING SPACES)
CHECKED & APPROVED
APPROVED FOR CONSTRUCTION
SURVEYED & DRAFTED SURV SURV-DATE
DESIGNED DESIGNED DESIGNED-DATE
DRAWN DRAWN DRAWN-DATE
SERVICES AFFECTED
S.R.A. / SURV. GEN.
R.T.A.
A.G.L. / SHELL PIPELINES
SYDNEY WATER
TELSTRA / OPTUS
SYDNEY ELECTRICITY
NOTICE OF ENTRY
KERB & GUTTER
NOTICES
DATE
SERVICES
TELECOM/OPTUS
GAS
SEWER
WATER
RAILWAY
ELEC. CABLES
OIL PIPELINES
STORM WATER
DATUM
A. H. D.
SCALES(ORIGINAL A1)
1:125
3 15/08/22 CONCEPT DESIGN REVISED PT
2 03/08/22 CONCEPT DESIGN REVISED PT
1 01/07/22 CONCEPT DESIGN PT
AMEND DATE DESCRIPTION APPROV.
INNER WEST COUNCIL
BRIGHT ST & NORTH ST - MARRICKVILLE
PROPOSED RAISED THRESHOLD
COMMUNITY CONSULTATION
PROJECT NO. 302460
SHEET NO. 1
PLAN NO. 10219
CAD FILE CADFILE

Item No: **LTC0922(1) Item 11**

Subject: **BIRCHGROVE PUBLIC SCHOOL - PROPOSED 'NO STOPPING' AND 'NO PARKING 8.00AM-9.30AM; 2.30OM-3.30PM' RESTRICTIONS (BALUDARRI - BALMAIN WARD/ BALMAIN ELECTORATE/ LEICHHARDT PAC)**

Prepared By: Vinoth Srinivasan - Engineer - Traffic and Parking Services

Authorised By: Sunny Jo - Acting Traffic and Transport Manager

SUMMARY

Council has received a request from Birchgrove Public school to extend the existing ‘No Parking 8.00am-9.30am, 2.30pm-3.30pm School Days’ restriction by one car space to accommodate additional pickup and setdown demand in Birchgrove Road, Birchgrove. Birchgrove Public school has also raised safety concerns regarding the leaning tree east of marked pedestrian crossing at the start of the pickup and setdown zone and subsequently being an obstruction to vehicles in the drop off and pickup zone.

RECOMMENDATION

That:

1. **Existing 5.3m length ‘No Stopping’ zone on the north side of Birchgrove Road, east of the pedestrian crossing be extended 9.4m;**
2. **Existing 17.7m ‘No Parking 8.00am-9.30am, 2.30pm-3.30pm’ zone be relocated by 4.1m to the east and lengthened to 23.7m;**
3. **Existing 6m ‘Mobility Parking’ zone be relocated by 10.1m to the east;**
4. **Kerb islands with gutter grate bridge from the driveway of No.76A Birchgrove Road, to the eastern end of the revised No Stopping zone, excluding the Pedestrian Crossing be included in Council’s future Capital Works Program with an estimated cost of $80,000; and**
5. **A short length kerb island and associated line marking be installed on the north side of Birchgrove Road approximately 8m east of the pedestrian crossing to protect the leaning tree.**

BACKGROUND & OTHER STAFF COMMENTS

Council has received a request from Birchgrove Public school to extend the existing ‘No Parking 8.00am-9.30am 2.30pm-3.30pm School Days’ restriction by one car space to accommodate additional pickup and setdown demand in Birchgrove Road, Birchgrove.

Birchgrove Public school has also raised safety concerns regarding the established tree east of marked pedestrian crossing at the start of the pickup and setdown zone that is leaning into the road and subsequently being an obstruction in the parking lane.

An on-site investigation during peak morning period shows that:

- The subject tree will only impact the parking lane when vehicles are maneuvering into and out of the first legal pickup and setdown space.
- The subject tree has been in place for many years does not impact the vehicles travelling on the through traffic lane and is not considered a safety issue.

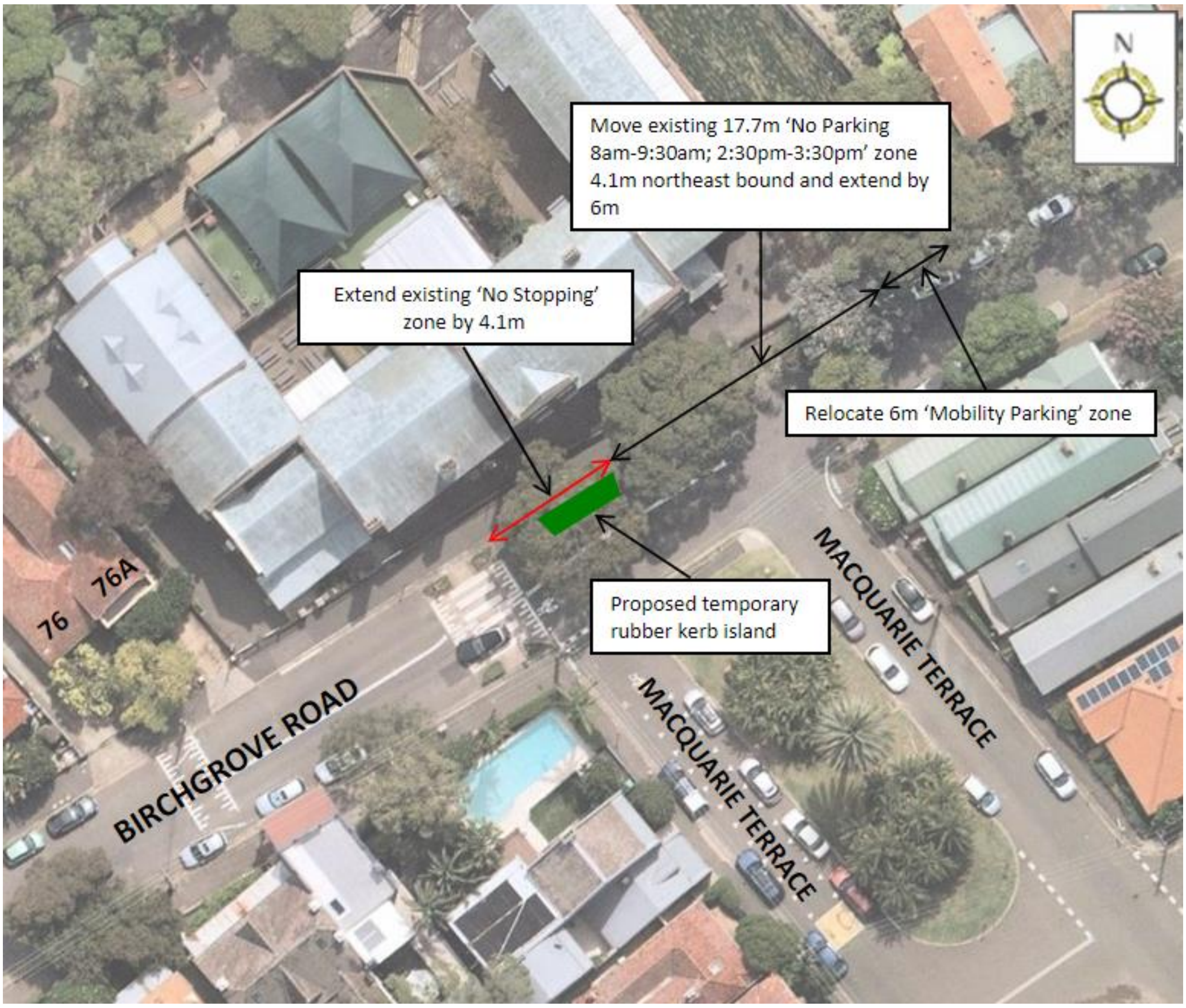
- There is a high pedestrian volume in the footpath with some parents walking off the footpath where installing kerb extensions could provide more foot traffic space during the peak period.

To address the school’s request, it is proposed to extend the existing ‘No Parking 8.00am-9.30pm 2.30pm-3.30pm School Days’ on the northern side of Birchgrove Road by 6m to allow for an extra vehicle.

In order to prevent a maneuvering vehicle from hitting the subject tree, Council is proposing to design and install kerb islands with gutter bridges in a future Captial Works Program, with an estimated cost of $80,000. In the interim a temporary small kerb island with associated signage is proposed to be installed to prevent vehicles reversing into the tree as shown in the enclosed plans.

Interim measures:

1. Extend existing 5.3 metre ‘No Stopping’ zone by 4.1 metres northeast bound clear of the existing tree.
2. Install a rubber kerb island and associated line marked to protect the tree.



<u>Proposed measures to be listed for consideration in a Council's Future Capital Works Program:</u>

1. Kerb islands with gutter grate bridge on both sides of the existing marked pedestrian crossing; from the property driveway of No.76A Birchgrove Road to the eastern end of the revised 'No Stopping' zone, excluding the Pedestrian Crossing, at an estimated project cost of $80,000.

FINANCIAL IMPLICATIONS

The construction of the proposed kerb extensions will be listed for consideration in a forward capital works program.

PUBLIC CONSULTATION

A letter outlining the proposal for the extension of the existing drop-off/pick-up zone was mailed out to 15 properties in Birchgrove Road and Macquarie Terrace, Birchgrove requesting residents' views regarding the proposal. No responses were received.

ATTACHMENTS

Nil.

Item No: **LTC0922(1) Item 12**

Subject: **NORTON STREET ITALIAN FESTA 2022- TEMPORARY ROAD CLOSURES (GULGDAYA - LEICHHARDT WARD/ BALMAIN ELECOTORATE/ LEICHHARDT PAC)**

Prepared By: Vinoth Srinivasan - Engineer - Traffic and Parking Services

Authorised By: Sunny Jo - Acting Traffic and Transport Manager

SUMMARY

The proposed event, the Norton Street Italian Festa, is a street festival held annually celebrating the traditional Italian culture that is considered an essential part of the Leichhardt community.

This report outlines the proposed closure for the Norton Street Italian Festa.

RECOMMENDATION

That the road closure application for the 'Norton Street Italian Festa 2022' on Sunday, 30 October 2022 be supported subject to the following conditions:

a) **The road closures be restricted to occur between 3:00am and 9:00pm on Sunday, 30 October 2022 at the following locations:**
   - **Norton Street from Marion Street to William Street.**
   - **Marlborough Street from Norton Street to Cromwell Street.**
   - **Short Street from Norton Street to Balmain Road.**
   - **Carlisle Street from Norton Street to Cromwell Street.**
   - **Allen Street from Derbyshire Road to James Street.**
   - **Arthur Street from Allen Street to Short Street.**
   - **Lou Street from Allen Street to Marion Street.**
   - **Derbyshire Road at William Street.**
   - **Macauley Street from Norton Street to Cromwell Street (eastbound lanes only).**
   - **Wetherill Street from Norton Street to Balmain Road (eastbound lanes only).**

b) **Approval from Transport for NSW for the TMP and TCP and to install a 'Special Event Clearway' restriction in Norton Street be obtained prior to the event;**

c) **Wetherill Street (Norton Street – Balmain Road) and Macauley Street (Cromwell Street – Norton Street) function as two-way roads when Norton Street is closed to provide access for residents;**

d) **A three (3) metre unencumbered passage be available for emergency vehicles through the closed section of Norton Street at all times;**

e) **Approval to conduct a public assembly be obtained from the NSW Police prior to the event. A copy of the NSW Police approval must be forwarded to Council's Traffic Section prior to the event;**

f) **The occupation of the road carriageway must not occur until the road has been formally closed;**

g) **All affected residents and businesses, including the NSW Police Local Area**

Commander, Fire & Rescue NSW, NSW Ambulance Services and the Leichhardt Bus Depot be notified in writing, by the organiser, of the proposed temporary road closure at least 2 weeks in advance of the closure with the applicant making reasonable provision for stakeholders; and

h) Install temporary 'Bus Zones' to accommodate two buses on both sides of William Street between Norton Street and James Street.

BACKGROUND & OTHER STAFF COMMENTS

A request for approval to conduct the Norton Street Italian Festa 2022 on Sunday, 30 October 2022 between 10:00am and 5:00pm has been received from the organiser of the event; Impact Exhibitions.

This annual event involves the temporary closure of Norton Street between Marion Street and William Street, including associated side streets.

Road Closures

To facilitate the event, it is proposed to close the following roads between 3:00am and 9:00pm on Sunday, 30 October 2022:

- Norton Street from Marion Street to William Street
- Marlborough Street from Norton Street to Cromwell Street
- Short Street from Norton Street to Balmain Road
- Carlisle Street from Norton Street to Cromwell Street
- Allen Street from Derbyshire Road to James Street
- Arthur Street from Allen Street to Short Street
- Lou Street from Allen Street to Marion Street
- Derbyshire Road at William Street
- Macauley Street from Norton Street to Cromwell Street (eastbound lanes only)
- Wetherill Street from Norton Street to Balmain Road (eastbound lanes only)

Other Arrangements

Macaulay Street from Norton Street to Cromwell Street and Wetherill Street from Norton Street to Balmain Road are to function as temporary two-way roads to provide access for residents.

Public Transport

For the duration of the road closures, bus services will be diverted down Flood Street and Balmain Road, similar to previous years. As previously requested by the STA/Transit Systems representative, barricades will need to be placed around the south-eastern corner of the Flood Street/William Street intersection to prevent vehicles parking in the 10m 'No Stopping' zones. This arrangement will facilitate the buses diverted via Flood Street.

In accordance with Council's policy on bicycle users, the organiser has been advised to provide free bicycle valet parking to the public at the venue and include the availability of this service in promoting this event.

FINANCIAL IMPLICATIONS

All cost will be covered by the event organiser.

PUBLIC CONSULTATION

As in previous years, all affected businesses, residents and other occupants will be notified of the road closures, activities, parking changes and changes to public transport arrangements. The notification will be distributed at least two weeks prior to the commencement of the event. The proposed information, distribution area and distribution period will be reviewed and approved by Inner West Council's Traffic Section one week prior to distribution.

The proposed temporary full road closures were advertised on Council's website in accordance with the Roads Act 1993 for a period of 28 days from 29 July 2022 to 26 August 2022. No comments were received.

ATTACHMENTS

Nil.