
Colston Budd Rogers & Kafes Pty Ltd

as Trustee for C & B Unit Trust
ABN 27 623 918 759

Our Ref: JH/11441/jj

Transport Planning
Traffic Studies
Parking Studies

20 August, 2021

Woolworths Limited
PO Box 8000
BAULKHAM HILLS NSW 2153

Attention: Michael Rumble
Email: mrumble@woolworths.com.au

Dear Sir,

**RE: PROPOSED WAREHOUSE AND CUSTOMER FULFILMENT CENTRE,
74 EDINBURGH ROAD, MARRICKVILLE (SSD-10468)**

1. As requested, we are writing regarding traffic matters raised in submissions in relation to the above development. We have previously prepared a report¹ which was submitted with the development application.
2. Submissions to the development application have been made by Transport for NSW, Inner West Council, the Department of Planning, Industry and Environment and the public.
3. There has also been a series of meetings, discussions and correspondence between the applicant, DPIE and TfNSW with regards to the matters raised. These included subsequent responses on 17 December 2020 and 11 February, 10 March, 30 April, 23 June and 27 July 2021, to matters raised by TfNSW. This letter provides responses to each matter raised and the agreed mitigation measures being provided in association with the proposed development.

TfNSW letter – 18 November 2020

4. Matters raised in the TfNSW letter of 18 November 2020 are discussed below.

Comment:

TfNSW notes that the subject site has development consent for a home improvement centre (DA 2015/00168) of approximately 13,350sqm which was granted development consent by the Sydney East Joint Regional Planning Panel on 23 October 2015. The

¹ Traffic and Access Report for Proposed Warehouse, Distribution Centre and Office Development, 74 Edinburgh Road, Marrickville, October 2020.

Suite 1801/Tower A, Zenith Centre, 821 Pacific Highway, Chatswood NSW 2067

P.O. Box 5186 West Chatswood NSW 1515 Tel: (02) 9411 2411

Directors - Geoff Budd - Stan Kafes - Tim Rogers - Joshua Hollis ACN 002 334 296

EMAIL: cbrk@cbrk.com.au

current application seeks to maintain similar vehicular access arrangements, however the network conditions have changed during this period.

Recommendation:

This arrangement involves the modification of an existing Traffic Control Site (TCS) at Edinburgh Road / Smidmore Street, which requires TfNSW to provide approval under Section 87 of the Roads Act 1993. Whilst this was done previously under DA 2015/00168, as the conditions of the network have changed (including recent redevelopments such as Marrickville Metro Shopping Centre), TfNSW requires:

- Electronic copy of the SIDRA modelling data, which includes current and future use of the intersection layout; and
 - Swept path analysis for the turning movements proposed with the largest size vehicle with all movements at the proposed additional leg of the intersection.
5. An electronic copy of the SIDRA modelling is included with this letter. Swept paths are also attached as Figure 1.
 6. We note that the SIDRA modelling has taken into account the redeveloped shopping centre, as was required in association with the approved Masters Home Improvement Centre development.

TfNSW will need to review the modelling and swept paths to provide 'in principle' agreement and approval under Section 87 of the Roads Act 1993. If 'in-principle' approval is agreed by TfNSW, formal approval under Section 87 of the Roads Act 1993, will be required.

Comment:

Limited details regarding changes to TCS phasing at the intersection of Smidmore Street / Edinburgh Road have been provided.

Recommendation:

A revised TIA, as part of the Response to Submissions (RtS), should be provided within inclusion of SIDRA modelling of the subject signalised intersection, specifically in relation to concerns regarding vehicle queuing along Edinburgh Road between Smidmore Street and Sydney Steel Road. The report should identify effects of the signal phasing and proposal signal capacity the aforementioned leg of the intersection up to the roundabout including operation in the analysis. An electronic copy of the findings should be submitted to TfNSW for review and verification as part of the RtS.

7. Electronic copies of the SIDRA analysis are provided in association with this letter. A copy of the draft signal plan is also attached to this letter.

TfNSW advises that 'in-principle' support is given to the right hand movement and creation of diamond phase is supported, subject to being supported by the modelling and capacity to be accommodated.

8. These matters are noted. At the most recent meeting on 30 July, TfNSW officers noted that no further information was required and that approval-in-principle would be given for the modifications sought at the Edinburgh Road/Smidmore Road/site access traffic signals.

Comment:

Section 3.20 states that "Deliveries to the customer fulfilment centre will be made by semi-trailers up to 20 metres long". TfNSW questions the suitability of the local road network to accommodate for such vehicles.

Recommendation:

The proponent is to clarify on the maximum size vehicle to be utilised by the site and the route path proposed, to ensure that it can be accommodated on the network. It should be noted that Bedwin Road Bridge has limited structural capacity which should be considered as part of the response and proposed changes to any of the existing freight routes.

9. With regards to this matter, we note that:
- the site currently has semi-trailers accessing it;
 - the site is in a major industrial area which currently caters for these vehicles;
 - the shopping centre across the road has access by semi-trailers; and
 - the site has approval for access by semi-trailers in association with the Masters Home Improvement Centre.
10. Roads which would be used by semi-trailers to access the development would include Bedwin Road, Victoria Road, Edinburgh Road and Sydney Steel Road. We are unaware of any structural constraints with regards to Bedwin Road. However, access to and from the site by all vehicles would be subject to existing restrictions. No changes are proposed in this regard.

Comment:

No reason is provided in Section 3.18 of the TIA as to why there is proposed separate access for emergency vehicles via Edinburgh Road.

Recommendation:

The proponent is to clarify the reasoning and management details of this separated access arrangement.

11. The BCA requires perimeter building access for emergency vehicles. It is not proposed to share this access with general traffic.

Comment:

The TIA has limited detail regarding the use of point-to-point vehicles to the site, particularly for online orders that may be collected by third parties (other than the customer).

Recommendation:

The proponent is to clarify how point-to-point vehicles will operate to the site and provide details on how they will be managed.

12. As noted in our report, vehicles operating to and from the site will include:

- deliveries to customers' homes from online orders (paragraphs 3.2, 3.18, 3.20, 3.24);
- deliveries to replenish the customer fulfilment centre (paragraphs 3.3, 3.18, 3.20);
- employees (paragraphs 3.3, 3.16, 3.18); and
- customers or others picking up online orders directly (paragraphs 3.2, 3.22, 3.23). These vehicles will use the pick-up facility located on the ground floor.

Comment:

TfNSW has reviewed the internal swept paths for the site and notes that the semi-trailer movement (Sheet 9 in the TIA) is only illustrating the end docking space being utilised. For the other seven loading dock spaces to be utilised, TfNSW believes that the movements may encroach on the car parking spaces.

Recommendation:

The proponent is to review the swept path of all semi-trailer movements to ensure that the vehicles can operate without impacting the proposed car parking areas.

13. The western-most dock was included as this is the most constrained in terms of manoeuvring area. Semi-trailers will be able to access all docks, as shown in the attached Figure 1.

Comment:

The TIA has limited analysis on the use of bicycles for deliveries and whether the proponent has considered this mode of transport for its operations, third party deliveries and / or customer pick-ups.

Recommendation:

The proponent is to review the use of bicycles for deliveries and whether it should be incorporated into the design of the site.

14. It is not proposed to use bicycles for deliveries. Appropriate bicycle parking is proposed for the site for employees and visitors.

Comment:

Section 3.15 indicates that end of trip facilities will be provided, however provides no detail as to the number and whether it will be sufficient to encourage active transport to the site.

Recommendation:

Clarification on the proposed number of end-of-trip facilities is required to ensure that there is adequate provision to support and encourage active transport.

15. Six showers and some 40 lockers are proposed.

TfNSW letter – 28 January 2021

16. Subsequently, TfNSW raised further matters in a letter of 28 January 2021. These matters are discussed below.

- *Pedestrian protection should be included in the SIDRA model;*
- *SIDRA model includes the traffic generation from the recently completed Marrickville Metro Shopping Centre redevelopment;*
- *The proponent details the methodology of calibration and how the SIDRA base model accurately reflects the existing network conditions; and*
- *Signal timing phase splits and cycle lengths should be confirmed with scats.traffic.signal.data@transport.nsw.gov.au.*

17. With regards to the first bullet point, the SIDRA modelling includes traffic being held at the start of each pedestrian phase.

18. With regards to the second bullet point, the SIDRA modelling includes traffic from the shopping centre extensions for the afternoon peak hour. During the morning peak hour, shopping centre traffic flows would not significantly change.

19. With traffic from the shopping centre extensions, the intersection of Edinburgh Road with Smidmore Street and the proposed site access would operate with average delays of less than 35 seconds per vehicle during peak periods. This represents level of service C, a satisfactory level of service.

20. Regarding the third bullet point, our report submitted with the application notes that the intersection of Edinburgh Road/Smidmore Street operates with average delays of less than 28 seconds per vehicle during peak periods. This

represents level of service B, a good level of service. This accords with site observations made during site inspections in several peak periods. Traffic queues were consistent with those reported in the SIDRA model.

21. However, we also note that future conditions at this intersection will change with the introduction of a fourth signalised approach. It is expected that parameters for the operation of the intersection would change, as appropriate, to optimise its performance with the additional approach.
22. With regards to the fourth bullet point, cycle times were measured on site and included in the SIDRA model. However, we note that signalised intersections can operate within a range of cycle times, depending on traffic demands. The SIDRA model includes this flexibility.
23. A copy of the SIDRA model, including the changes noted above, is provided with this letter.

In addition to the above, TfNSW is concerned regarding the complexity of the proposed signalised intersection to include additional phases that would result in queues extending back towards Edinburgh Road / Sydney Steel Road. As such, TfNSW the proposed right turn movement from the west is to be prohibited to mitigate impacts on the surrounding road network and the site would be able to access from the western approach via a roundabout past the site.

24. The intersection is expected to operate with diamond phasing on Edinburgh Road and conventional phasing on Smidmore Street and the site access. This is typical of many intersections across Sydney. We do not agree that the arrangement is unusually complex.
25. With regards to queuing on Edinburgh Road, the amended SIDRA model shows that queues on Edinburgh Road, between the site access and the roundabout at Sydney Steel Road, would be up to some 70 to 80 metres during peak periods. The distance between the intersections is some 80 metres which will accommodate these queues.
26. We note that restricting the right hand turn from Edinburgh Road into the site:
 - would increase the number of vehicles queuing on Edinburgh Road westbound between Smidmore Street and Sydney Steel Road, as traffic from the east would need to use the Sydney Steel Road roundabout to turn around;

- would not be desirable from a development perspective. Providing for right turn access to the site from Edinburgh Road is a significant reason for providing signalised access to the site;
- is not required for capacity or queuing reasons. As noted above, the intersection would operate at a satisfactory level of service (level of service C) during peak periods. Queues on Edinburgh Road will be accommodated; and
- is not consistent with previous TfNSW advice for this site (TfNSW letter of 18 November 2020) or for the approved development in 2015.

Consideration should also be given to constructing a central median between the leg of Edinburgh Road / Smidmore Street and Edinburgh Road / Sydney Steel Road for improved safety and efficiency outcomes.

27. A median in Edinburgh Road was a measure previously required in association with the redevelopment of the shopping centre opposite. The requirement for this measure is not related to the proposed distribution centre. The draft signal plan (copy attached to this letter) includes the median and notes that if required, it will be constructed in the future by others.

Email received 1 March

28. A request for additional information was received by email on 1 March. These matters are discussed below.
- *In Section 3.28 of the Traffic Impact Assessment (TIA) report, it mentions that the proposed development would generate 270 veh/hr during peak periods however, the additional traffic volumes proposed into and out of the development doesn't seem to meet this additional demand. Please clarify.*
29. Additional development traffic flows are shown in Figures 2 and 3 of our previous report. The 270 vehicles per hour comprises:
- AM peak hour:
 - 130 vehicles entering (comprising 20, 50 and 20 vehicles turning left, right and travelling straight through into the new signalised access, plus 25 and 15 vehicles turning left and right into Sydney Steel Road; plus
 - 140 vehicles exiting (comprising 15, 10 and 15 turning left, through and right from the new signalised access, plus 50 and 50 vehicles turning left and right from Sydney Steel Road;

- PM peak hour:
 - 120 vehicles entering (comprising 30, 30 and 10 vehicles turning left, right and travelling straight through into the new signalised access, plus 25 and 25 vehicles turning left and right into Sydney Steel Road; plus
 - 150 vehicles exiting (comprising 50, 20 and 50 turning left, through and right from the new signalised access, plus 15 and 15 vehicles turning left and right from Sydney Steel Road.
- *A network model is required if modelling 2 or more sites that will be interacting with each other.*

30. The SIDRA file provided in association with this letter is a network model.

- *Pedestrian protection is not included in the SIDRA model. Please amend SIDRA model to include extended pedestrian protection for all approaches.*
- *SIDRA is under calculating pedestrian crossing distance due to incorrect lane widths. Pedestrian crossings should be approximately 19m and 5m. Lane widths can be adjusted or crossing distance inputted manually.*
- *Please review the traffic volume inputs. – e.g. traffic volume input for Edinburgh Rd (PM Existing) does not reflect the ones shown in Figure 3. Model used 675 whereas Figure 3 shows 355.*
- *While the 100 seconds cycle length reflects current site operations, after calibration please test model for the 120sec cycle time.*
- *In general, Network Operations has no objections to the proposed phasing. The proposed TCS design plan will be reviewed further in detail later during the formal design review stage.*
- *Additional general advises for the amended model are:*
 - *Minimum walk times should be 6s.*
 - *P1 clearance 1 + 2 time should be 10s.*
 - *P2 clearance 1 + 2 time should be 16s.*
 - *3s late start for B phase.*

31. The SIDRA model includes these measures.

- *Yellow times should be 5s (A), 5s (B), 4s (C), 5s (D).*
- *Red times should be 2s (A), 4s (B), 5s (C), 2s (D).*

32. We note that these yellow and red times do not reflect either the current arrangements at the intersection or the arrangements at many other signalised intersections in Sydney. Typically, yellow and red times are four and two seconds respectively. However, the SIDRA model includes these yellow and red times.
- *Max green A 40, B 20, C 20, D 15secs*
33. As noted above, the SIDRA model includes 120 second cycle times which provides for these maximum green times. It is expected that parameters for the operation of the intersection would be flexible, as appropriate, to optimise its performance within this cycle length.
- *Approach cruise and exit speeds should be adjusted accordingly (considering 40km/h school zone).*
34. There is no school zone in the vicinity of the site.
- *Also there are a number of discrepancies with the SIDRA modelling layout compared to existing site conditions and proposed TCS design plan. Please clarify / consider the following:*
 - *Layout shows 190m on departure side of Edinburgh Rd (western leg). There is currently an existing bus stop and parking approximately 100m west of this intersection.*
35. For most of the time, the bus stop is not occupied and will have little effect on the operation of the intersection.
- *Layout shows 190m kerb side lane on the western approach to Edinburgh Rd. There is currently a concrete traffic calming device, parking and bus stop approximately 70m west of the intersection.*
 - *Layout shows 65m kerb side lane on eastern approach of Edinburgh Road. Proposed TCS design plan shows approx. 40m.*
 - *Layout shows kerb side lane is 30m long with continuous right turn bay. Proposed TCS design plan shows right turn bay is 53m long and continuous kerb side lane.*
 - *Layout shows 65m on departure side of Edinburgh Rd (eastern leg). Proposed TCS design plan shows 50m on departure side.*
 - *Layout shows dedicate right turn bay on Site Access. Proposed TCS design plan shows shared through and right lane.*

36. The SIDRA model includes these changes.
- *The approach distance between Old Illawarra and Driscoll Place should be 120m?*
37. This comment does not relate to this project.
- *Once the above are considered /clarified and SIDRA modelling amended, are the proposed right turn bays sufficient to accommodate the projected traffic volumes?*
38. The proposed right turn bays turning into Smidmore Street and the site are some 50 metres long. The queue lengths estimated by SIDRA are some two to three vehicles which will therefore be accommodated.
- *In regards to the TCS design plan file name “VV3769_XA_R3” – the right turn bay arrangement will cause significant confusion to motorists and is a major safety concern particularly when a vehicle wants to turn right into the driveway and the vehicles behind wants to turn at the signals. This would cause frequent lane changing with a very short distance, resulting in potential increase in side swipes and rear ends. This proposed right turn bay layout would require two separate right turn bays and within a short distance of less than 50m, it is not possible and is considered unsafe and extremely inefficient.*
39. This matter relates to whether or not a median is provided in Edinburgh Road which is addressed above in paragraph 27.
- *As previously advised, TfNSW is concerned regarding the complexity of the proposed signalised intersection to include additional phases that would result in queues extending back towards Edinburgh Road / Sydney Steel Road. As such, TfNSW the proposed right turn movement from the west is to be prohibited to mitigate impacts on the surrounding road network and the site would be able to access from the western approach via a roundabout past the site.*
40. At the most recent meeting on 30 July, TfNSW officers noted that no further information was required and that approval-in-principle would be given for the modifications sought at the Edinburgh Road/Smidmore Road/site access traffic signals.
- *Consideration should also be given to constructing a central median between the leg of Edinburgh Road / Smidmore Street and Edinburgh Road / Sydney Steel Road for improved safety and efficiency outcomes.*
41. This matter is addressed above in paragraph 27.
- Email of 19 March
42. Further matters raised in the TfNSW email of 19 March are discussed below.

- *In Section 3.28 of the Traffic Impact Assessment (TIA) report, it mentions that the proposed development would generate 270 veh/hr during peak periods however, the additional traffic volumes proposed into and out of the development doesn't seem to meet this additional demand. Please clarify.
Confirmed that 270veh/hr modelled (combined the traffic volumes entering and exiting the two access points on Edinburgh Rd – Smidmore St and Sydney Steel Rd and it meets the forecasted 270veh/h). Clarification on how trips were distributed during peak periods as typically, there are more vehicles entering than exiting during the AM peak.*
43. There are more vehicles exiting during the morning peak for the following reasons:
- the online fulfilment facility will not have shift changes during the morning on-road peak hour. A shift change will occur earlier, around 5:00 or 6:00 am;
 - during the morning peak period, small delivery trucks will be exiting the facility, and returning in the early afternoon; and
 - the office component and other industrial warehouse will have a greater proportion of inbound traffic (employees) during the morning peak hour. However, these are smaller components of the development. Overall, during the morning peak hour, there will be slightly more outbound traffic than inbound.
- *Pedestrian protection is not included in the SIDRA model. Please amend SIDRA model to include extended pedestrian protection for all approaches.
Typically, minimum pedestrian protection provided is 6 secs. I note that the concept traffic signal design plan indicates that extended ped protection is provided for both crossings across Edinburgh Rd and the crossing across Smidmore St. SIDRA modelling is to be amended to reflect the existing pedestrian protection provided (can be obtained through SCATS) and the proposed pedestrian protection as shown in the TSD plan provided for the Edinburgh Rd/Smidmore St intersection*
44. Times measured on site were some five seconds. We have included six seconds in the SIDRA modelling.
- *Also there are a number of discrepancies with the SIDRA modelling layout compared to existing site conditions and proposed TCS design plan. Please clarify / consider the following:*
 - *Layout shows 65m kerb side lane on eastern approach of Edinburgh Rd. Proposed TCS design plan shows approx.. 40m. – Could you please check TCS 3769 bay lengths. It appears they are the wrong way around.*
 - *Layout shows 65m on departure side of Edinburgh Rd (eastern leg). Proposed TCS design shows 50m on departure side – Could you please check TCS 3769 bay lengths. It appears they are the wrong way around.*

45. The SIDRA modelling includes these amendments.

- *Once the above are considered / clarified and SIDRA modelling amended, are the proposed right turn bays sufficient to accommodate the projected traffic volumes? – Needs to be checked against 100%ile queue, following amendments of the SIDRA model.*

46. The proposed right turn bays turning into Smidmore Street and the site are some 50 metres long. The queue lengths estimated by SIDRA are some two to three vehicles which will therefore be accommodated.

- *In regards to the TCS design plan file name “VV3769_XA_R3” – the right turn bay arrangement will cause significant confusion to motorists and is a major safety concern particularly when a vehicle wants to turn right into the driveway and the vehicles behind wants to turn at the signals. This would cause frequent lane changing with a very short distance, resulting in potential increase in side swipes and rear ends. This proposed right turn bay layout would require two separate right turn bays and within a short distance of less than 50m, it is not possible and is considered unsafe and extremely inefficient. The safety concerns outlined above have not been addressed.*
- *Consideration should also be given to constructing a central median between the leg of Edinburgh Road / Sidmore Street and Edinburgh Road / Sydney Steel Road for improved safety and efficiency outcomes.
TfNSW highlighting needs for extension of the concrete median particularly at Edinburgh Rd/Smidmore St intersection to address safety concerns for the right turn bay movements.*

47. This matter is discussed above in paragraph 27.

- *Concerns raised are related to the close proximity of the roundabout at the intersection of Edinburgh Rd/Sydney Steel Rd to the existing traffic signals Edinburgh Road and Smidmore St” Marrickville (TCS 3769).
The roundabout is approximately 80m from the existing signal and this may cause the roundabout to effect the safe operation of the signals, due to the queuing of traffic from the roundabout, as minor movement tend to control the roundabout.
Please note that this was previously raised by TfNSW at the meeting with developer and Council.*

48. The roundabout at Edinburgh Road/Sydney Steel Road is not proposed by Woolworths in association with the subject development. It has previously been approved in association with the Marrickville Metro extensions.

- *Discrepancy in phasing between the proposed TCS design plan and SIDRA model for Edinburgh and Smidmore St intersection. Note that proposed TCS design plan has 5 phases whereas SIDRA model shows 7 phases. **Please clarify.***
- *Based on the phasing provided in the TCS design plan, the site in future will operate the following phase sequence: A, D, E, A. **Please amend modelling to reflect this.***

49. The amended SIDRA modelling includes this phasing.

- *No details have been provided regarding the methodology of calibration and how the SIDRA base model accurately reflects the existing network conditions. A review of the SIDRA model shows default values have been adopted for saturation flow which may be acceptable. However, no evidence has been provided in their report of site observation inputs, which is required for calibration purposes, so it can be assumed that the base case saturation flows may not reflect the existing situation at the site. There are several input parameters, performance measures and calibration requirements described in the SIDRA user Guide, Section 2.6.2 – 2.6.4 which are to be followed. The SIDRA analysis report should be structured to TfNSW's Traffic Modelling Guidelines, and the SIDRA User Guidelines should be referred to for calibration methods.*

50. Calibration of the SIDRA model has been undertaken based on recorded phase and cycle times measured on the site. However, we note that signalised intersections can operate within a range of cycle times, depending on traffic demands. The SIDRA model includes this flexibility. The SIDRA outputs accord with site observations made during several site inspections.

51. Adjustments to the measured phase and cycle times include those requested by TfNSW in previous correspondence, and those noted above.

The development should be able to operate without affecting the intersection's Level of Service (LoS). Assuming the analysis provided has been calibrated, the impacts shown in the SIDRA model at the intersection of Edinburgh Road and Smidmore Street has worsened from LoS A to LoS B in the AM peak and from LoS B to LoS C in the PM peak. The applicant should be aware that a deterioration to the LoS is not acceptable and that further works are required to maintain the existing level of service.

52. We do not agree that this is an appropriate test to pass, for the following reasons:

- an additional signalised approach is being introduced at the intersection;
- additional capacity and turning lanes are proposed on Edinburgh Road;
- the intersection would operate at a satisfactory level of service with the proposed changes; and

- this is not the test applied to the previously approved development on the site, which included a very similar intersection arrangement.
- *As previously advised, the proposed right turn movement from the west is to be prohibited to mitigate impacts on the surrounding network. The site can instead be accessed from the western approach via a roundabout past the site.*

53. We note that restricting the right hand turn from Edinburgh Road into the site:

- would increase the number of vehicles queuing on Edinburgh Road westbound between Smidmore Street and Sydney Steel Road, as traffic from the east would need to use the Sydney Steel Road roundabout to turn around;
- would not be desirable from a development perspective. Providing for right turn access to the site from Edinburgh Road is a significant reason for providing signalised access to the site;
- is not required for capacity or queuing reasons. As noted above, the intersection would operate at a satisfactory level of service (level of service C) during peak periods; and
- is not consistent with previous TfNSW advice for this site (TfNSW letter of 18 November 2020) or for the approved development in 2015.

It has been noted that the SIDRA model has the right turn modelled as a filter movement with one adjacent through-lane, and a short length left and through lane. In the event that the eastbound right turn queues out of the bay and left turning vehicles are stationary to give way to pedestrians, the through movement fails to operate. This compromises the effective and ongoing operation and function of Edinburgh Road (SR 2072) as a Classified Secondary road.

54. The proposed right turn bays turning into Smidmore Street and the site are some 50 metres long. The queue lengths estimated by SIDRA are some two to three vehicles which will readily be accommodated. We note that Edinburgh Road is not a classified road.

The distribution of trips to the proposed development is based on assumptions, with the generations based on surveys of quite different centres in different areas. Whilst this is current practice, at locations that could trigger congestion or potential rear-end accidents, the analysis results should be used with caution. A worse case analysis approach should be adopted where the right turn should not be allowed to filter across pedestrians.

55. The SIDRA analysis includes right turns on Edinburgh Road occurring only in the diamond phase (i.e. they do not filter).
- *We note from your recent correspondence that prohibiting the right turn from the west is not desirable from a development perspective. However, your SIDRA results indicate the right and left turns are critical movements, which further highlights TfNSW's concerns regarding potential blockages at this intersection. The prohibition of the right turn movement from the west is essential to be in line with TfNSW's requirements.
We anticipate that further works would be required to maintain the current Level of Service at the intersection of Edinburgh Road and Smidmore Street.*
56. We note that critical movements do not imply a problem. The critical movements are those which determine the phase and cycle lengths. Critical movements occur at all signalised intersections, regardless of the allowable turning movements.
57. For the subject intersection, the degree of saturation for this right turn is some 0.43, indicating significant spare capacity and no unusual issues.
- *In regard to the central median between the leg of Edinburgh Road/Smidmore Street and Edinburgh Road/Sydney Steel Road, this should be included in the traffic signal plan.*
58. This matter is discussed above in paragraph 27.
- *Swept paths for left-turn movements should accommodate an 8.8m service vehicle from the kerb lane. It is not clear what vehicle type has been tested for the left turn into the site access.*
59. The design vehicle turning into this car park access is the B99 car. Trucks are not proposed to use this access point. Trucks will use the other access points to the site on Sydney Steel Road.

Email of 25 May

Item 3. *TfNSW accepts the response for differences in AM and PM peak arrivals. Please supply an updated SIDRA model to reflect minimum pedestrian and other corrections specified in Items 4,5, and 6.*

60. An amended SIDRA model is included with this letter.

Item 7. *The issue of the median in Edinburgh Road between Smidmore Street and Sydney Steel Road relates to the Marrickville Metro.*

However, the current arrangement poses a potential safety risk and will be monitored for 6 months following the operation of the Metro Shopping Centre.

Please be aware that following the trial period the road network will change and TfNSW must consider / assess cumulative effects of two developments in question.

Due to safety concerns, Please ensure provision is made in your design for a median in Edinburgh Road between Smidmore Street and Sydney Steel Road and amended modelling includes this option.

61. This matter is discussed in paragraph 27. In accordance with advice from DPIE, we note that if and when this median is required, it will be funded and constructed by others.

Item 9. *Please be aware that TfNSW must consider / assess cumulative effects of two developments in question and insure safety is not compromised.*

The roundabout will be monitored with the Metro Shopping Centre development.

62. This matter is noted.

Item 11, 12. *The SIDRA model is to be provided and reviewed in line with SIDRA under guidelines for acceptance.*

63. An amended SIDRA model is included with this letter.

Item 13, 14. *Maintaining the same Level of Service for developments is a principle of TfNSW to manage the network. It is expected that the proponent provides mitigation measures to maintain a similar level of service. The banning of the right turn from the west was an obvious measure to enhance the efficiency of the intersection at Edinburgh Road and Smidmore Road. Banning this right turn reduces delays at this intersection, which would also provide a direct benefit to the Woolworths Site for vehicles to and from the development. We note your comment that “this would increase the number of vehicles queueing on Edinburgh Road westbound...” Any negative delay to the network should be demonstrated with your SIDRA model is this measure is not appropriate.*

64. It is understood from discussions with TfNSW officers that removing the right turn into the site from Edinburgh Road was a suggestion by TfNSW that could be given consideration.

65. We have assessed the travel time for vehicles entering the development from the north-west for the following scenarios:

- with the right turn as proposed; and
- without the right turn, requiring these vehicles to travel to the roundabout at Sydney Steel Road, undertake a u-turn and enter the site via a left turn from Edinburgh Road.

66. During the morning peak period, the travel time for vehicles (without the right turn) would be some 68 seconds, which is similar to a 66 second delay for vehicles turning right into the site at the traffic signals.
67. During the afternoon period, the travel time for vehicles (without the right turn) would be some 127 seconds, which is considerably longer than a 60 second delay for vehicles turning right into the site at the traffic signals.
68. Therefore, there would be no advantage to vehicles entering the site by removing the right turn movement. There would be significantly longer travel times for vehicles during the afternoon, if the right turn into the site was not provided. We also note that TfNSW has previously raised concerns regarding queues extending along Edinburgh Road towards Sydney Steel Road. If the right turn into the site was not provided, these queues would be greater.

Email of 14 July

1. *The time referred to in the applicant's analysis appears to be the movement delay at the right turn bay and some other calculation for the alternative, and not a travel time comparison.*
2. *Furthermore, as the overall intersection delay increases with a right turn movement directly into the site, it is only reasonable to assume that the approach delays to the intersection would also be affected.*
3. *The summation of movement delays at the intersection as presented in the latest SIDRA file does not include the upstream impacts to all traffic that might be affected, which may include those vehicles that enter the site.*

SIDRA user guide Section 7 describes the methodology for assessing the performance along a path of travel in a specific direction between two points in a network. This feature should be used to assess whether or not a right turn into the site would improve travel to the site.

4. *A route performance analysis was also undertaken by TfNSW using the applicant's geometry and phasing to include a larger network for the purpose of calculating travel time in Edinburgh Road between Fitzroy and Sydney Streets. The results show that with a right turn phase into the site (Scenario 1) the right turn movement has an average of 193 seconds travel time compared to banning the right turn into the site of 90 seconds for the AM peak. The PM with a right turn (Scenario 1) is also worse with a travel time of 195 seconds compared with 137 seconds.*
69. It is understood from discussions with TfNSW officers that removing the right turn into the site from Edinburgh Road was a suggestion by TfNSW that could be given consideration.
70. With regards to the proposed signalised access, it is desirable to provide the right turn into the site, for the following reasons:

- the site has previously been approved with a signalised intersection, including the right turn, for a higher traffic generating development (Masters Home Improvement centre and industrial development);
 - the signalised intersection will operate at a satisfactory level of service (level of service C) during peak periods’
 - the proposed development will operate 24 hours per day for seven days a week; and
 - outside morning and afternoon peak periods, the signalised intersection will operate at better levels of service (level of service B/C, with lesser delays).
71. As noted above, at the most recent meeting on 30 July, TfNSW officers noted that no further information was required and that approval-in-principle would be given for the modifications sought at the Edinburgh Road/Smidmore Road/site access traffic signals.

Inner West Council

72. Matters raised in the Inner West Council letter of 7 December 2020 are discussed below.

The following considerations with regard to traffic should be taken into account in the detailed assessment of the development:

- i. *Vehicular access and associated vehicle standing areas shall be designed in accordance with Australian Standard AS 2890.1-2004, AS2890.2-2002, AS2890.6- and Part 2.10 of Marrickville Development Control Plan 2011.*
73. We agree that the internal layout should be designed in accordance with Australian Standards. We have checked the design and it generally satisfies the standard. An appropriate condition of consent could be included requiring compliance with Australian Standards.
- ii. *The Traffic and Access Report has not adequately assessed the effect of cumulative traffic impacts from the adjacent developments. Table 3.1 of the report submitted only applies the proposed development traffic to the existing traffic. No additional future traffic from other developments has been included. The proposal should incorporate traffic generation from the current “Part 3A” redevelopment project of the Marrickville Metro in their calculations. An amended traffic report incorporating a revised traffic assessment incorporating future traffic from other developments should be submitted.*
74. As noted above, the proposed amended signalised intersection at Edinburgh Road/Smidmore Street, including signalised access to the site (as shown in the

attached draft signal plan), has been designed to take account of the Marrickville Metro extensions. The SIDRA modelling includes traffic from the Marrickville Metro extensions. A copy of the SIDRA modelling is included with this letter.

iii. *The Traffic Signals design shall be amended to include bicycle lanterns;*

75. This matter would be addressed at the detailed design stage for the intersections works.

iv. *Although an off-road shared pedestrian/ cycle path has been shown on the plans it is not clear if it has been designed to be a minimum width of 3 metres; and*

v. *Road widening in Sydney Steel Road should be provided and be detailed on the plans to allow for the shared pedestrian/ cycle path is per the previous proposal below.*

76. These matters are being addressed by other study team members.

DPIE

77. Matters raised in the department's letter of 8 December 2020 are discussed below.

1. *The Department notes a number of submissions received from the public have raised concerns regarding heavy vehicles accessing/leaving the site via the north-western section of Edinburgh Road.*

Please consider restricting truck movements from turning left out of Sydney Steel Road onto Edinburgh Road to avoid impacting upon the residential area to the north-west. Such a restriction could be proposed through the implementation of a Driver Code of Conduct during construction and operation.

78. It is not proposed to limit truck routes to or from the site, because:

- the number of vehicles delivering to the customer fulfilment centre will be relatively low, at some 15 per day;
 - trucks to and from the site already use this route;
 - Edinburgh Road is intended to serve sites in the industrial area, including the subject site and the adjacent shopping centre.
2. *The Department notes a number of submissions received from the public have raised concerns in relation to the proposed emergency access point and potential impacts to the adjacent residential area during its use. The Response to Submissions (RTS) report must provide further details regarding:*
- *the justification for a separate emergency access point*

Colston Budd Rogers & Kafes Pty Ltd

- *the situations and/or scenarios which would trigger the use of the emergency access point*
- *how access via the north-western driveway would be managed and/or restricted at all other times.*

79. The BCA requires perimeter building access for emergency vehicles. It would be used in emergencies such as a fire, by emergency vehicles such as fire trucks or ambulances.

80. We trust the above provides the information you require. Finally, if you should have any queries, please do not hesitate to contact us.

Yours faithfully,

COLSTON BUDD ROGERS & KAFES PTY LTD



J Hollis
Director



NOTE:
 SKETCH PLAN ONLY. PROPERTY BOUNDARIES,
 UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO
 SURVEY AND FINAL DESIGN. TRAFFIC MEASURES
 PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND
 ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS.

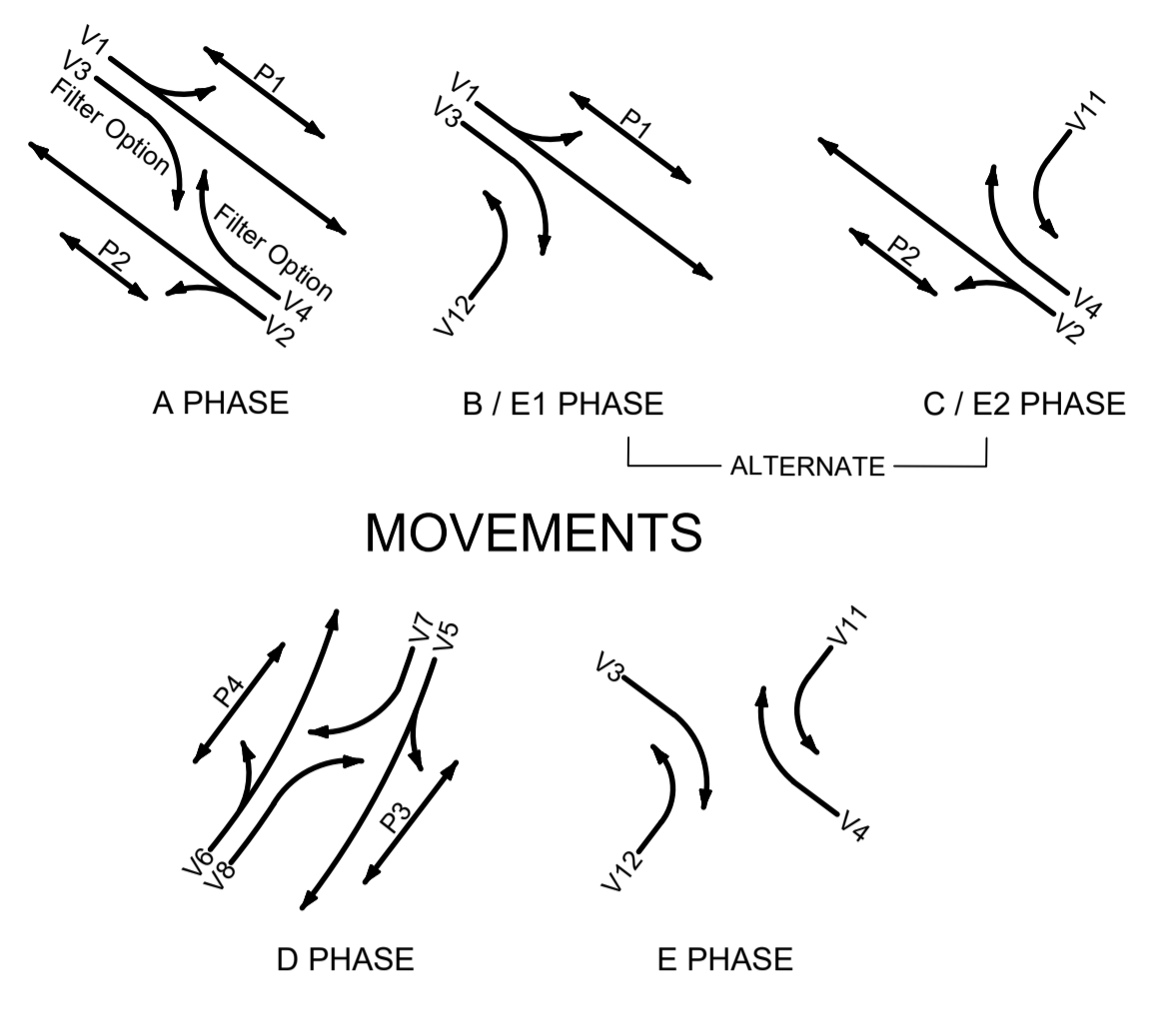
— Swept Path of Vehicle Body
 — Swept Path of Clearance to Vehicle Body

**20.0m ARTICULATED
 VEHICLE SWEEP PATHS**

TCS 3769

DRAWN BY CADD
DO NOT AMEND MANUALLY

DATE IN SERVICE : 28/05/2004

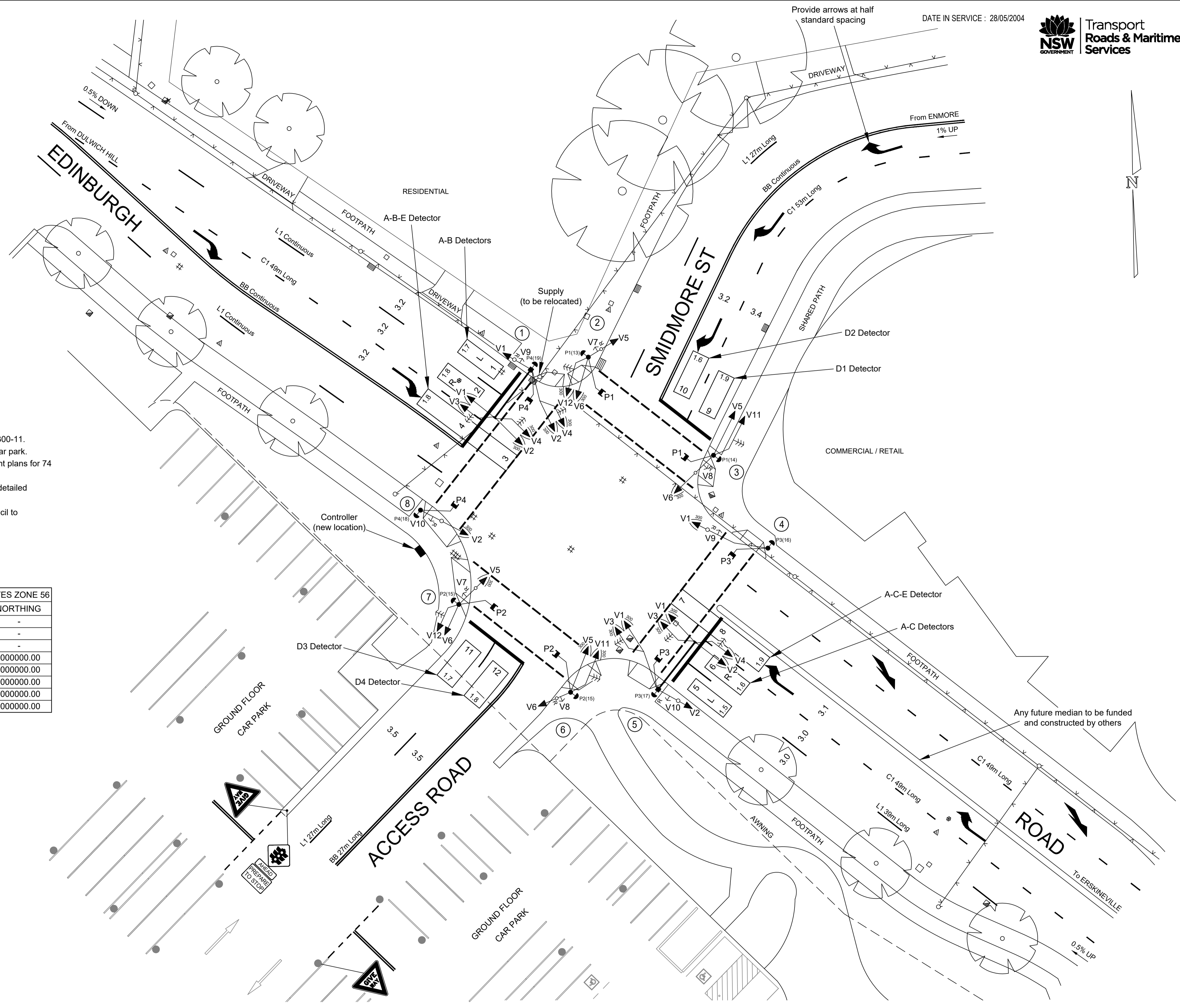


NOTES

- This site is SCATS linked.
- Special STOP Sign (R1-4) placed on Post 3 and 7.
- Audio-tactile push buttons are provided on Posts 1, 2, 3, 4, 5, 6, 7 and 8.
- Kerb ramps to be constructed in accordance with RMS Standard (Road) Drawing No.R0300-11.
- V6, V8 and V12 lanterns on Post 6 and 7 mounted at a height to provide vision into the car park.
- Refer to Plan No.10437 by Nettleton Tribe Partnership Pty Ltd for associated development plans for 74 Edinburgh Road, Marrickville.
- Position of relocated power supply to be confirmed by Level 2/3 Service Provider during detailed design stage.
- Trees on approach to the intersection are to be regularly inspected and trimmed by Council to minimise lantern obstruction.

POSTS

POST	TYPE	LENGTH	OFFSET	REMARKS	MGA CO-ORDINATES ZONE 56	
					EASTING	NORTHING
1	9	-	0.6	EXISTING Mast Arm(6mOutreach)	-	-
2	2	4.1	1.0	EXISTING	-	-
3	2	4.1	0.8	EXISTING	-	-
4	2	4.1	1.0	NEW	000000.00	00000000.00
5	9	-	1.0	NEW Mast Arm(6mOutreach)	000000.00	00000000.00
6	2	4.1	1.0	NEW	000000.00	00000000.00
7	2	4.1	1.0	NEW	000000.00	00000000.00
8	2	4.1	1.0	NEW	000000.00	00000000.00



PRELIMINARY PLAN

PREPARED IN ACCORDANCE WITH SECTION 3.5 OF THE TRAFFIC SIGNAL DESIGN MANUAL
SIGNAL GROUP PHASE CHART, DETECTOR SPECIFICATION, DETECTOR DIMENSIONS / NUMBERING, POST CO-ORDINATES TO BE SHOWN ON DETAILED TCS DESIGN

PUBLIC UTILITY LEGEND	REFERENCE PLANS	U.B.D. Ref.	Map 17 L6
HYDRANT	SYMBOLS/ABRVS	V.D003-6	I.S.G. E: 315 760
STOP VALVE	STD POSN CMPT	V.D001-5	CO-ORDS N: 1 245 750
GAS VALVE	INSTL STOP DET	VC005-17	DESIGNED: LISA TULAU
SEWER MANHOLE	VEH GROUP OP	TS-TN-019	CHECKED: TERRY LAWRENCE
COMMS PIT	DET LOGIC OP	TS-TN-020	LISA TULAU
ELECT LIGHT POLE	PED MVT OP	TS-TN-021	SITE CHECKED
POWER POLE			TERRY LAWRENCE
STAY POLE			RECOMMENDED
TELEPHONE BOX	SURVEYOR: LTS Lockleys		DATE: 14.5.20
COMMS PILLAR			

DESIGN APPROVAL	RMS RECOMMENDATION	RMS ACCEPTANCE
APPROVED	ROAD DESIGN ENGINEERING	ACCEPTED
POSITION: DIRECTOR	NAME: _____	NAME: _____
DATE: 21.6.21	POSITION: _____	POSITION: _____
DESIGN PREPARED BY	DATE: _____	DATE: _____
TRANSPORT AND URBAN PLANNING PL	NETWORK OPERATIONS	ACCEPTED BY
	NAME: _____	SECTION: _____
	POSITION: _____	
	DATE: _____	

ROADS AND MARITIME SERVICES

INNER WEST COUNCIL AREA
TRAFFIC SIGNALS AT EDINBURGH ROAD
AND SMIDMORE STREET,
MARRICKVILLE

DESIGN LAYOUT

EXISTING	PROPOSED
<input type="checkbox"/>	<input checked="" type="checkbox"/>
CADD FILE: VV3769_-A.dgn	ISSUE: A
SCALE: 5 0 (1:200) 5 10	SUPERSEDES SHEET/ISSUE: 1/C
FILE: SF0000/000000	TCS No. 3769
REG No. DS0000/000000	SHEET: -