

EASTERN CREEK BUSINESS HUB  
STAGE 1 DA – PROPOSED RETAIL  
CENTRE FOR LOT 2 – TRAFFIC  
REPORT

SEPTEMBER 2017

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ATTACHMENT A – TRUCK TURNING PATHS

## I. INTRODUCTION

I.1. This report has been prepared to support State Significant Development Application SSD 8588 for the detailed design and construction of a convenience retail shopping centre, medical centre, gym and associated car parking on Lot 2, Rooty Hill Road South, Eastern Creek. The assessment undertaken in this report has been prepared to address the following Secretary's Environmental Assessment Requirements (SEARS - dated 26 July 2017) and the relevant conditions of consent under Concept Approval SSD 5175. The traffic matters set out in the SEARS are summarised below:

- estimate of daily and peak hour traffic generation of proposed development
- an assessment of impact of development traffic on the adjacent intersections;
- review of pedestrian, cycling and public transport accessibility;
- assessment of parking provision;
- assessment of servicing of the proposed development; and
- assessment of construction impacts

I.2. Lot 2 forms part of the Eastern Creek Business Hub which is located on a parcel of land located between Rooty Hill Road South, the M7 Motorway and the Great Western Highway as shown in Figure 1. The site has development consent for a concept plan which includes 52,800m<sup>2</sup> GFA within three lots, comprising:

- 14,000m<sup>2</sup> large format retail (such as hardware/building supplies) on Lot 1.
  - 9,500m<sup>2</sup> retail centre (including a 3,500m<sup>2</sup> – 4,000m<sup>2</sup> supermarket plus 5,500m<sup>2</sup> – 6,000m<sup>2</sup> specialty retail) on Lot 2; and
  - 29,300m<sup>2</sup> bulky goods on Lot 3;
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- 1.3. The main vehicular access to the site is approved from Rooty Hill Road South, via a new signalised intersection at Cable Place (with a left turn deceleration lane on Rooty Hill Road South into the site). This intersection would provide access to the site via a new internal access road. An upgrade to the intersection of Great Western Highway/Rooty Hill Road South/Wallgrove Road is required in association with the development
- 1.4. Access to the development is also approved north of Cable Place, via a left turn entry from Rooty Hill Road South into Lot 2. A deceleration lane is required on Rooty Hill Road South for vehicles entering the development at this access. A median is required in Rooty Hill Road South, along the site frontage. There would be breaks in the median at the residential streets opposite the site.
- 1.5. The proposed development on Lot 2 comprises:
- 3,794m<sup>2</sup> supermarket;
  - 5,435m<sup>2</sup> other retail (including medical centre, 541 m<sup>2</sup> and gym, 392m<sup>2</sup>);
  - child care centre (some 50 places); and
  - modifications to access arrangements.
- 1.6. The modifications to access arrangements include:
- a second access to Lot 2 from the new internal access road some 100 metres east of Rooty Hill Road South. All movements would be permitted at this access until development of Lot 3 (when this access would become left in/left out); and
  - provision of separate left in/left out driveways to Rooty Hill Road South to provide access to/from the service area (replacing the existing car park entry)
  - deletion of the left turn entry into Lot 2 from Rooty Hill Road South; and
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- its replacement with service vehicle access (left in/left out) via Beggs Road.

I.6 We assessed the traffic/parking effects of a s75W for the concept plan relating to modifications on Lot 2 (letter dated 24 February 2017). The s75w application is currently being considered by the authorities. In summary the assessment found that:

- i. *the concept approval includes 52,800m<sup>2</sup>, including 9,500m<sup>2</sup> retail on lot 2;*
  - ii. *the proposed modifications on lot 2 amend the internal layout, separate customer and service vehicle access and provide a second car park access to Lot 2 via the new internal access road;*
  - iii. *a series of road works has been approved on Rooty Hill Road South and Great Western Highway in association with the concept plan;*
  - iv. *left in/left out service vehicle access is proposed on Rooty Hill Road South and will have minimal impact on traffic flow along Rooty Hill Road South;*
  - v. *a minimum of 399 parking spaces will be provided which satisfies the requirement of the Design Guidelines;*
  - vi. *access and servicing arrangements, subject to detailed design, are appropriate;*
  - vii. *the road works previously approved will be appropriate to cater for the amended retail development, as the scale of development is the same;*
  - viii. *the child care centre would have a low additional traffic generation, equivalent to less than one vehicle every three minutes at peak times;*
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- ix. such a low generation would not have noticeable effects on the operation of the surrounding road network, compared to the approved development.*

- 1.7 In response to concerns raised by RMS and Council the access to Lot 2 off Rooty Hill Road South was deleted and replaced with service vehicle access to Lot 2 from Rooty Hill Road South (left in/left out) via Beggs Road. Council, TfNSW and RMS have provided comments to the proposed modifications to the concept approval. These are addressed in Chapter 2.
- 1.8 The scale of development for the Stage I DA is consistent with that approved for Lot 2 in the Concept Approval for the Eastern Creek Business Hub. The overall traffic effects of development in concept approval has been assessed and appropriate traffic measures agreed with the authorities (new traffic signal controlled access on Rooty Hill Road South at Cable Place and an upgrade to the intersection of Great Western Highway/Rooty Hill Road South/Wallgrove Road). As the Stage I DA does not materially change the traffic impacts compared to the concept approval, this report addresses local impacts of the Stage I DA (parking, access, service arrangements and car park layout).
- 1.9 The findings of the traffic assessment are set down in Chapter 2.
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## 2. TRAFFIC ASSESSMENT

2.1. The addendum traffic assessment is set down through the following sections:

- ❑ site location and road network;
- ❑ road network;
- ❑ proposed development;
- ❑ public transport;
- ❑ parking provision;
- ❑ access, internal circulation and service arrangements;
- ❑ traffic effects;
- ❑ response to matter raised by authorities; and
- ❑ summary.

### Site Location and Road Network

2.2. The site is located north of the Great Western Highway at Eastern Creek as shown in Figure 1. It is bounded by Church Street to the north, Great Western Highway to the south, the M7 Motorway to the east and Rooty Hill Road South to the west. Beggs Road is an unformed road connecting from Rooty Hill Road South eastward into the site. Belmore Road is another unformed road connecting north into the site from Great Western Highway. The site is currently generally undeveloped

2.3. The M7 Motorway is a major road in Sydney's arterial road network. It has north-facing ramps with the Great Western Highway, adjacent to the site. The intersections of the M7 ramps with Great Western Highway are controlled by traffic signals

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- 2.4. Great Western Highway is another major road in Sydney's Road network, connecting Sydney with areas to the west. It has a signalised intersection with Rooty Hill Road South, adjacent to the site.
- 2.5. Rooty Hill Road South connects Rooty Hill in the north with Great Western Highway. It provides a four lane undivided carriageway with two traffic lanes in each direction. As noted above, it has a signalised intersection with Great Western Highway. Wallgrove Road forms a fourth (southern) approach to the intersection
- 2.6. Garrett North of the site, Rooty Hill Road South connects to Francis Road and Eastern Road at a signalised intersection. Opposite the site, on the western side of Rooty Hill Road South, there are a number of residential streets, including Minchinbury Street, Penfold Street, Cawarra Street and Cable Place which intersect Rooty Hill Road South at unsignalised.

#### Proposed Development

- 2.7. The Stage I DA proposes the following development on Lot 2:
- 3,794m<sup>2</sup> supermarket;
  - 5,435m<sup>2</sup> other retail (including medical centre, 541 m<sup>2</sup> and gym, 392m<sup>2</sup>);
  - child care centre (some 50 places);
  - provision of 432 parking spaces in at-grade car park;
  - car park access from the internal access road at two locations (eastern and south boundaries of Lot 2); and
  - service vehicle access from Rooty Hill Road South (left in/left out) via Beggs Road.
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### Public Transport

- 2.8. Busways operates the 723 and 738 services along Rooty Hill Road South past the site. Bus stops are located on Rooty Hill Road along the frontage of the site, just north of Cable Place. The 723 and 728 services connect Mount Druitt Station with Blacktown Station and operate at 30 minute intervals in the weekday AM/PM peak periods and 60 minute intervals at other times. The 723 service operates on weekdays only while the 728 service operates seven days a week.
- 2.9. Access to the bus stops from Lot 2 will be provided via a pedestrian path that connects to Rooty Hill Road South adjacent to the bus stop on Rooty Hill Road South (eastern side). Access to the bus stop on the western side of Rooty Hill Road South will be provided at the traffic signals at Cable Place.
- 2.10. Within the Lot 2 at-grade car park, provision is made for the set down/pick up of passengers (four kiss and ride spaces) including two spaces designated for taxi set down/pick up. These spaces could also be used for mini-buses to set down/pick up passengers such as operated by community groups or aged care facilities.
- 2.11. The site will be accessible by active transport (walking and cycling) with a pedestrian/cyclist connection to/from Lot 2 to the existing infrastructure on Rooty Hill Road South located north of Cable Place. Within the site, bicycle parking will be provided for visitors (in racks) and staff (secure location) with change facilities provided for staff. As part of staff induction it is suggested that information be provided on how the site is accessible by means other than car (bus, walk and cycle).
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2.12. The site provides opportunities to for people to travel to the site by means other than car. Thus the proposed development is consistent with government objectives and the planning principles of:

- (a) improving accessibility to employment and services by walking, cycling, and public transport;
- (b) improving the choice of transport and reducing dependence solely on cars for travel purposes;
- (c) moderating growth in the demand for travel and the distances travelled, especially by car; and
- (d) supporting the efficient and viable operation of public transport services.

2.13. In response to the modifications to the approved concept, Council suggested provision of a pedestrian fence along the Rooty Hill Road South frontage of the site to stop pedestrians crossing the road. This is not supported as:

- there will be safe pedestrian access provided across Rooty Hill Road South at the Cable Place traffic signals;
- the existing bus stop on the eastern side of Rooty Hill Road South (just north of Cable Place) would provide a gap in any pedestrian fence; and
- RMS required a 900mm wide median to be constructed in Rooty Hill Road South along the frontage of the site to address pedestrian access across Rooty Hill Road South.

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### Parking

2.14. The Eastern Creek Business Hub Design Guidelines suggest a rate of 1 space 25m<sup>2</sup> GFA for retail development. The Design Guidelines do not include parking rates for a child care centre, gym or medical centre. For the gym and medical centre, the retail rate has been applied reflecting dual use of the car park and that peak parking demand for the gym occurs outside peak retail parking demand. For the childcare centre the parking rates in Blacktown DCP 2015 have been adopted (one space per employee, plus one space per six children or part thereof). Applying these rates (based on 10 employees for the child care centre), the development would require 389 parking spaces, including 370 spaces for the retail uses plus 19 spaces for the child care centre. The proposed provision of 432 spaces (including four set down/pick up and eight disabled spaces) satisfies this requirement. The 19 child care parking spaces will be designated as set out below:

- 9 set down/pick up spaces – ‘childcare parking only 7.00am to 9.00 am and 4.00pm to 6.00pm’; and
- 10 staff parking spaces.

2.15. With respect to parking requirements for possible fast food outlets on the pad site, these may be different to the retail rate. Hence it is suggested that RMS guidelines be used to determine parking requirements for possible fast food outlets on the pad sites as RMS guidelines are based on surveys of similar facilities.

### Access, Internal Circulation and Servicing

2.16. Access to the site is proposed largely as approved in the concept plan. As previously noted, a new signalised intersection is approved on Rooty Hill Road South at Cable Place. This intersection will be upgraded as per the concept plan,

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prior to completion of development on Lot 2. Also prior to the completion of the development of Lot 2, the internal access road will be constructed from Rooty Hill Road South to the northern boundary of Lot 2 (Beggs Road).

2.17. As part of the modification to the approved concept plan, the following changes are proposed to access to Lot 2:

- a second (southern) access off the internal access road is proposed. This access would be located some 100 metres east of Rooty Hill Road South. Until the development of Lot 3, this southern access would provide for all movements and be the primary access to the site. Once development on Lot 3 occurs, the southern access to Lot 2 would be limited to left in/left out (due to its proximity to the intersection with Rooty Hill Road South);
- deletion of the left in access to Lot from Rooty Hill Road; and
- provision of separate service vehicle access from Rooty Hill Road South (via Beggs Road). Beggs Road will be constructed to intersect Rooty Hill Road South at 70 degrees (as required by Council engineering standards).

2.18. The provision of separate service vehicle access from Rooty Hill Road (via Beggs Road) will separate service vehicle traffic from customer traffic.

2.19. In its response to the modifications to the approved concept plan, Council and RMS provided the following comments on the proposed Beggs Road service access:

*Council*

1. *Council will accept loading docks access to the proposed development of Beggs Road provided:*

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- a. *Beggs Road is widened to an industrial road standard;*
  - b. *A turning head to the industrial standard is constructed at the end of Beggs Road.*
  - c. *Beggs Road is realigned at a right angle (90 degree) where it meets with Rooty Hill Road South*
2. *Realignment of Beggs Road may require a deceleration lane on Rooty Hill Road South for heavy vehicles to turn into Beggs Road from the kerb side lane.*

#### RMS

*Access to Beggs Road be restricted to left in/left out with a median constructed along Rooty Hill Road South between Minchinbury Street and Penfold Street. In the median cannot be constructed an alternative treatment is to be proposed to RMS. Beggs Road is to service Lot 2 only.*

- 2.20. To provide service access to Lot 2, Beggs Road will be constructed with a 13 metre wide carriageway and turning head provided to allow a 12.5 metre long rigid truck (HRV) to undertake a three point turn within Beggs Road. Beggs Road will be realigned to intersect Rooty Hill Road South at 70 degrees. This alignment satisfies the intersection design criteria in Council's engineering guidelines. Based on this design, a 19 metre truck can turn left off Rooty Hill Road South into Beggs Road from the kerbside lane. Turning movements at the intersection of Beggs Road/Rooty Hill Road South will be limited to left in/left out by the median suggested by RMS. Truck turning paths are provided in Attachment A.
  - 2.21. The above design of Beggs Road satisfies Council requirements 1a and 1b. Council requirements 1c and 2 are not required as:
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- the realignment of Beggs Road to intersect at 70 degrees with Rooty Hill Road South complies with Council's engineering standards; and
- a truck can turn from the kerbside lane into Beggs Road.

- 2.22. Customer parking is located within an at-grade car park on the southern part of Lot 2 with two connections to the access road. Within the customer parking areas, spaces will be a minimum of 5.4 metres long by 2.6 metres wide with 6.6 metre wide circulation aisles. Spaces with adjacent obstructions will be 0.3 metres wider. Small car spaces will be 2.3 metres wide and disabled spaces will be 2.4 metres wide, with a 2.4 metre wide adjacent area for wheelchairs. Motor cycle spaces will be 1.2 metres wide by 2.5 metres long. These dimensions are considered appropriate, being in accordance with AS 2890.1:2004 and AS2890.6-2009. Access ramps connecting the car park to the access road will be designed to comply with the requirements of AS2890.1-2004 with respect to width and grade. Each ramp will provide for separate entry and exit lanes with a maximum grade of 1:8, with flatter grades (1:20) for at least the first six metres from the access road.
- 2.23. The service area for the shopping centre is located on the western side of Lot 2 with access to Rooty Hill Road (via Beggs Road). The service area will be separate from the customer car park. The service area provides parking for at least four service vehicles (19 metre truck for the supermarket and 12.5 metre trucks for the specialty shops). The service area will be designed to comply with AS2890.2-2002 with regards to turning areas, aisle widths and grades and allow a 19 metre long articulated truck to enter and depart the site in a forward direction.
- 2.24. Overall, subject to detailed design, the proposed access arrangements, internal circulation and service arrangements are appropriate and will be designed to comply with the requirements of AS2890.1-2004, AS2890.2-2002 and AS2890.6-

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2009. The matters raised by Council with respect to Beggs Road have been addressed.

### Traffic Effects

- 2.25. As previously discussed, the road works required in association with the approved concept plan are based on a development which includes 9,500m<sup>2</sup> retail on Lot 2 (including a supermarket of 3,500m<sup>2</sup> to 4,000m<sup>2</sup>). The proposed scale of development on Lot 2 is similar to the approved concept plan. The agreed road works (traffic signal controlled intersection at Cable Place and an upgrade to the intersection of Great Western Highway/Rooty Hill Road South/Wallgrove Road) are therefore appropriate to cater for the proposed amended retail development.
- 2.26. The RMS guidelines indicate that child care centres generate 0.35 to 0.4 vehicles per hour per child two-way during weekday morning and afternoon peak hours. With some 50 children proposed, the child care centre would have a generation of some 15 to 20 vehicles per hour two-way.
- 2.27. A proportion of places at the centre would likely be occupied by children of employees in the retail development on lot 2 and future surrounding development on lots 1 and 3. This would reduce the external traffic generation of the child care centre to some 10 to 15 vehicles per hour two-way.
- 2.28. This is low generation, equivalent to less than one vehicle every four to six minutes at peak times. Such a low generation would not have noticeable effects on the operation of the surrounding road network, compared to the approved development.
- 2.29. TfNSW and RMS in the response to the modification to the concept approval requested an updated traffic assessment that included:
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- a) estimate of daily and peak hour traffic generation of proposed development;
- b) an assessment of impact of development traffic on the adjacent intersections;
- c) review of pedestrian, cycling and public transport accessibility;
- d) assessment of parking provision;
- e) assessment of servicing of the proposed development; and
- f) assessment of construction impacts

2.30. Items c), d) and e) have been addressed in this report. Item f) would be addressed through a condition of consent. As the proposed Stage 1 DA for Lot 2 is similar (with respect to traffic) to that assessed in the approved concept plan and appropriate traffic mitigation measures have been agreed with RMS, items a) and b) have therefore been addressed in the approved concept plan.

#### Response to Matters raised by Authorities

2.31. In response to the proposed modifications to the concept approval, Council, RMS and TfNSW have raised a number of traffic matters. The matters raised by TfNSW and RMS are consistent with the traffic matters set out in the SEARS. Where relevant these have been addressed in the report as set out below:

- parking provision – Council. This has been addressed in the section on parking provision;
- proposed service vehicle access to Rooty Hill Road South (via Beggs Road) – Council/RMS. This has been addressed in the section on Access, Internal Circulation and Servicing;
- pedestrian, cyclist and public transport accessibility (including pedestrian fence on Rooty Hill Road South) – RMS/TfNSW/Council. This has been addressed in section on public transport;
- updated traffic assessment – RMS/TfNSW. As noted in the section on Traffic Effects, the traffic effects of the Stage 1 DA on Lot 2 are similar to that

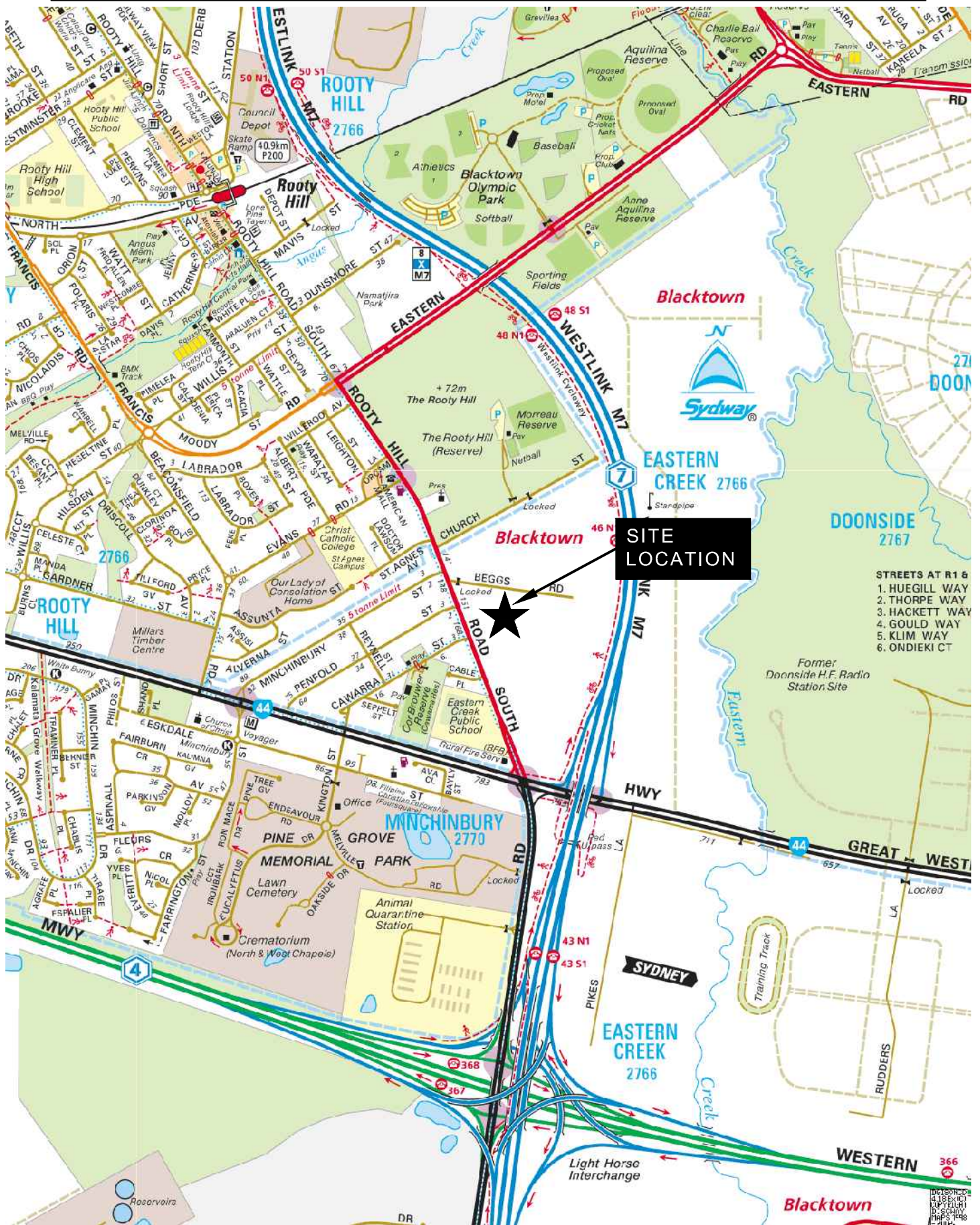


assessed in the approved concept plan (for which mitigation measures have been agreed), and have therefore been addressed in the concept plan.

### Summary

2.32. In summary, the key findings of the traffic assessment for the proposed Stage I DA for Lot 2 in the Eastern Creek Business Hub are:

- i) the concept approval includes 52,800m<sup>2</sup>, including 9,500m<sup>2</sup> retail on lot 2;
  - ii) the site is accessible by bus services and active transport (walking and cycling);
  - iii) the proposed parking provision is appropriate;
  - iv) access arrangements and internal circulation, subject to detailed design, are appropriate;
  - v) service arrangements are appropriate, being separate from the customer car park and providing for trucks to enter and depart the site in a forward direction;
  - vi) a series of road works has been approved on Rooty Hill Road South and Great Western Highway in association with the concept plan the traffic effects;
  - vii) the road works previously approved will be appropriate to cater for the Stage I DA on Lot 2, as the scale of development is the same;
  - viii) the matters raised in SEARS (RMS/TfNSW) and by Council have been addressed.
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## Location Plan

<https://goo.gl/maps/JmLBCmXbJtG2>

*Colston Budd Rogers & Kafes Pty Ltd*

DRAWN BY CBRK Pty Ltd hs      Ref: 10582      08.09.2017

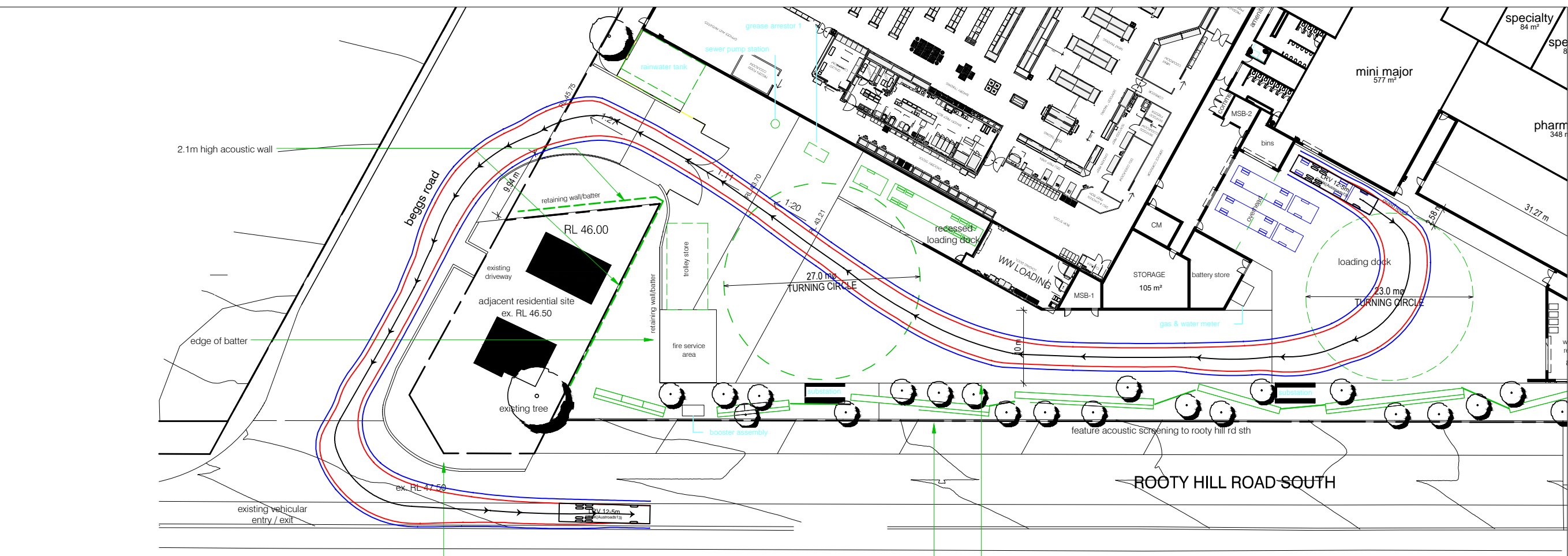
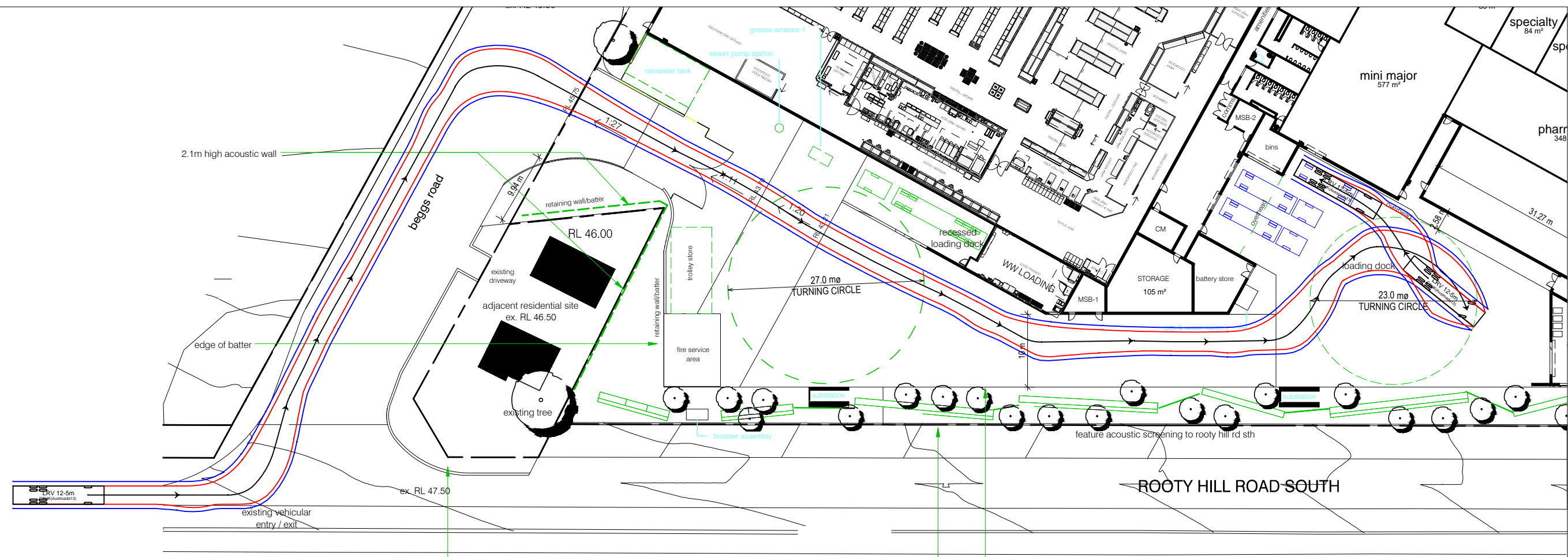
### Figure 1

ATTACHMENT A

TRICK TURNING PATHS





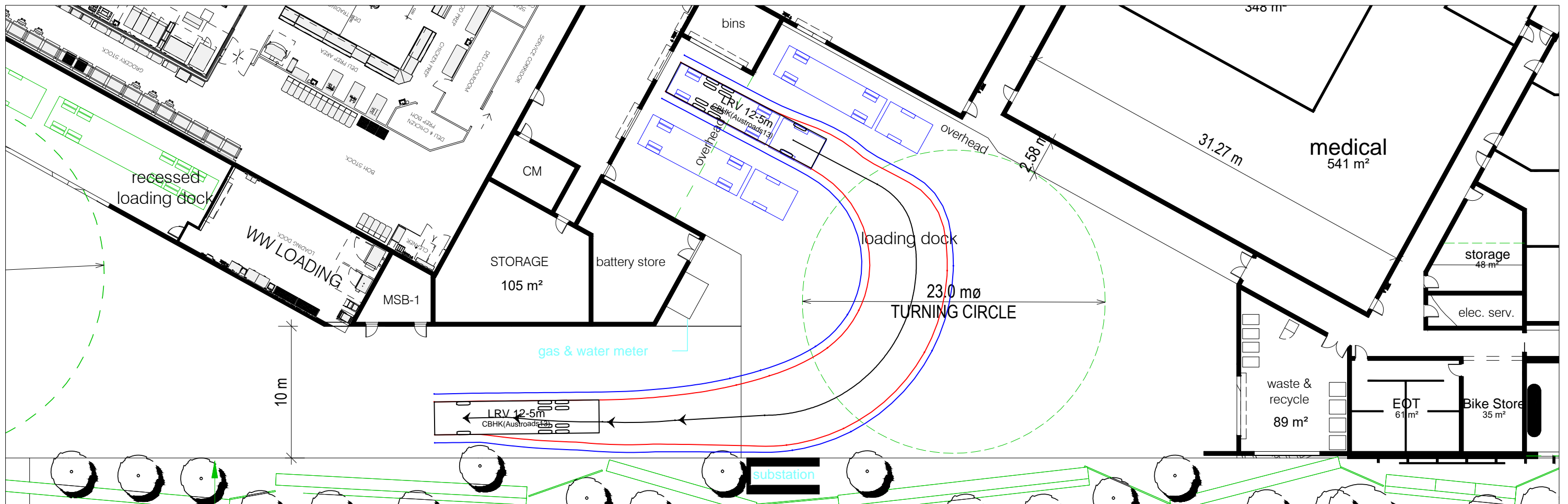
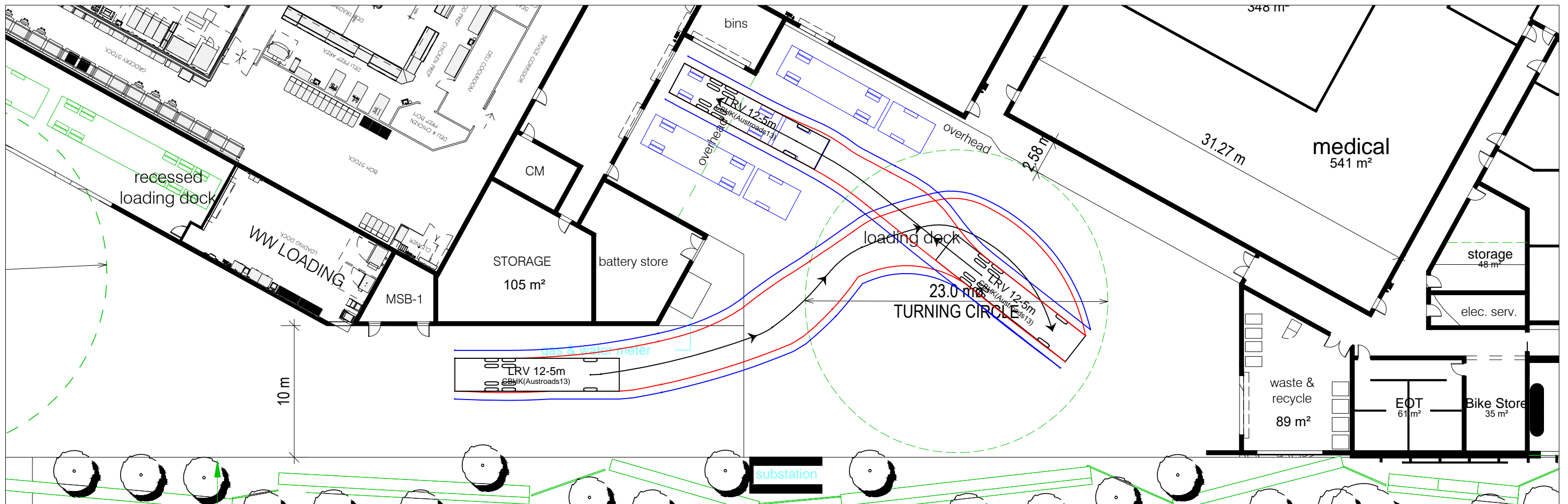


**NOTE:**  
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 SURVEY AND FINAL DESIGN. TRAFFIC MEASURES  
 PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND  
 ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS.

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

**12.5m LARGE RIGID VEHICLE  
 SWEEP PATHS**

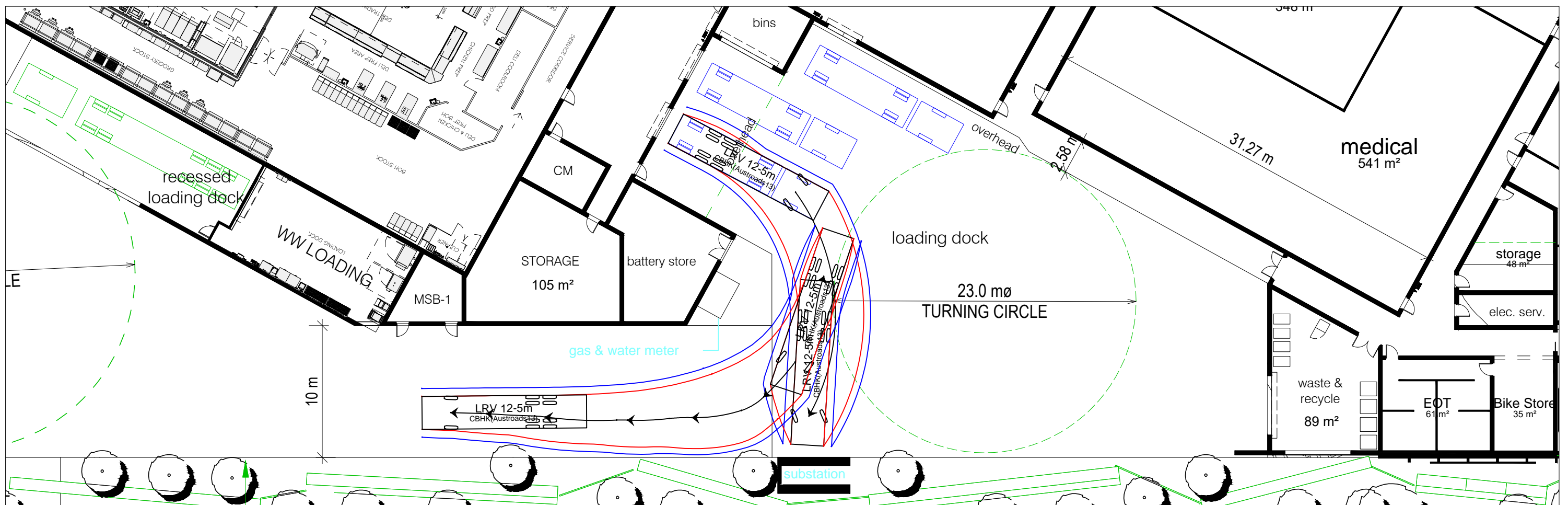
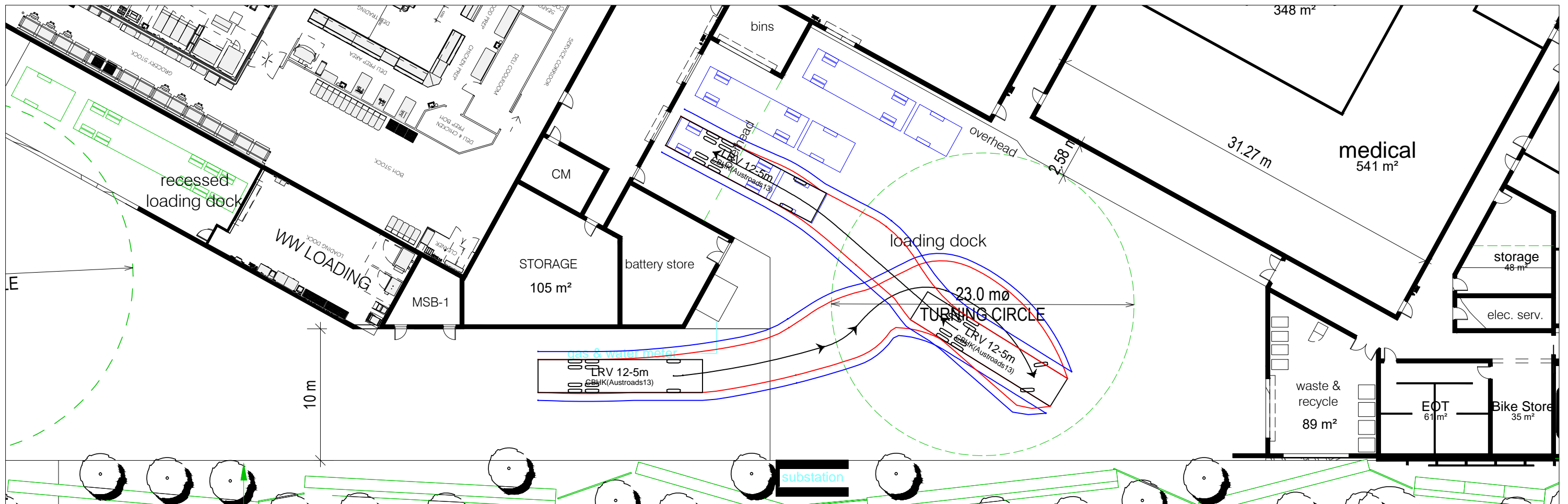




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**12.5m LARGE RIGID VEHICLE  
 SWEEP PATHS**

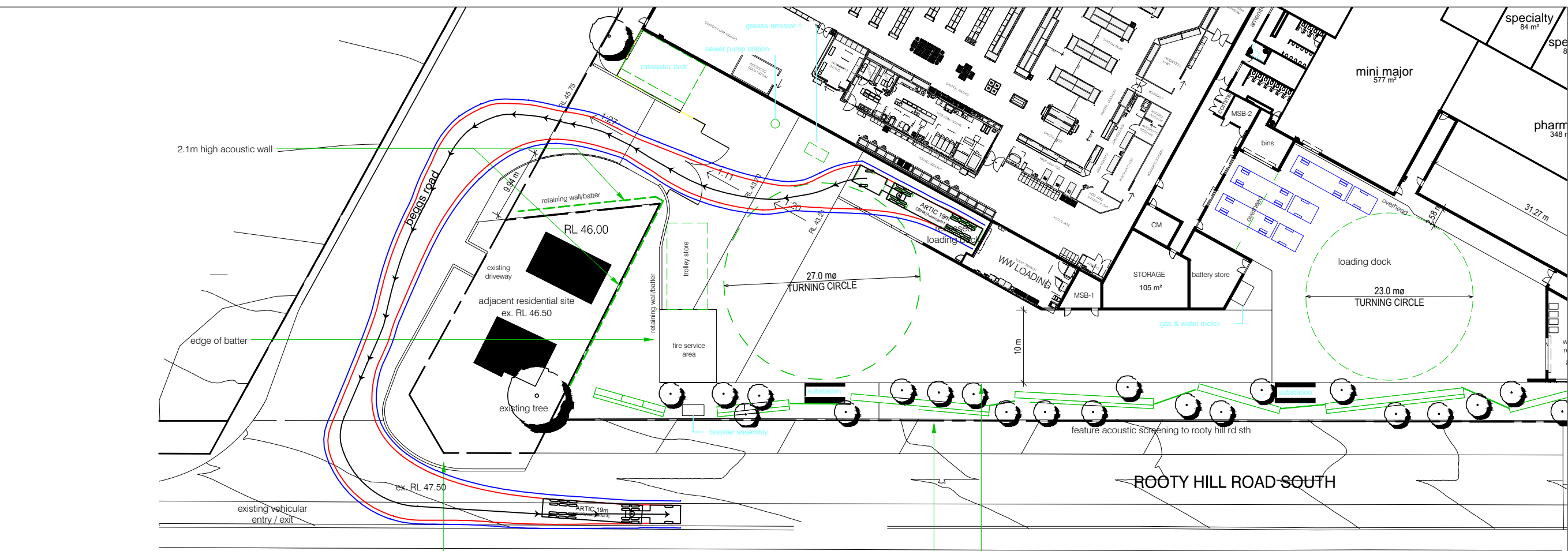
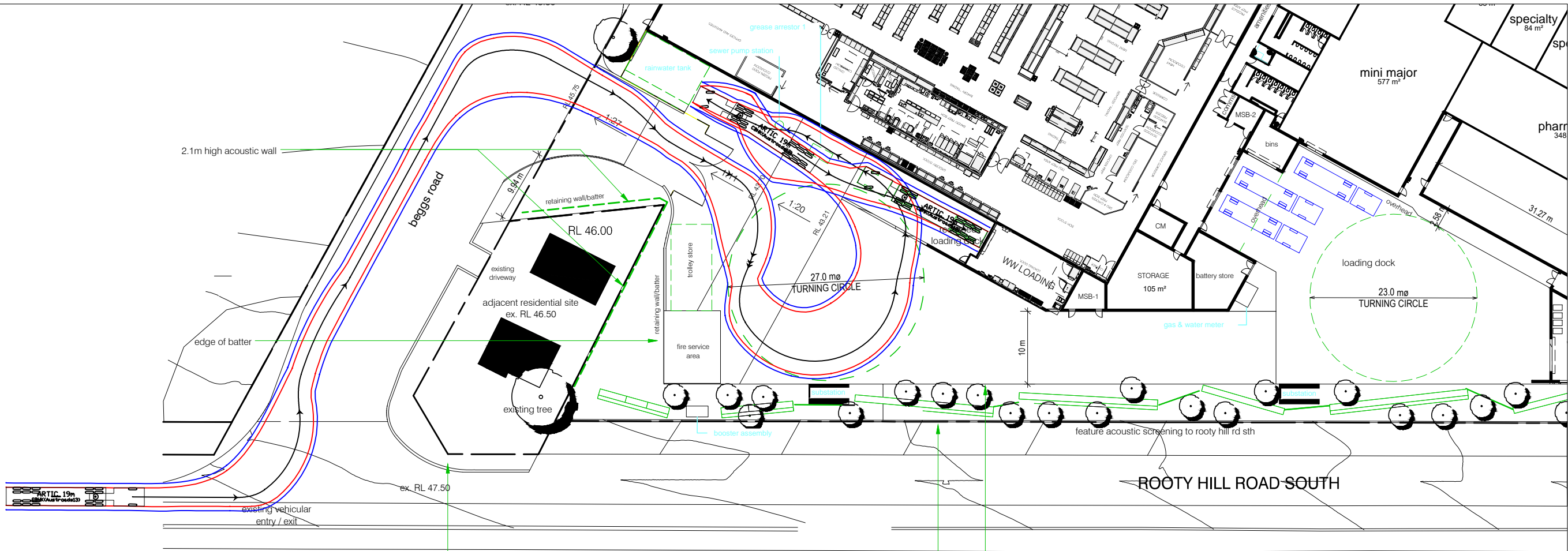


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**12.5m LARGE RIGID VEHICLE  
 SWEEP PATHS**





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

## 19.0m ARTICULATED VEHICLE SWEEP PATHS



