PROPOSED WAREHOUSE AND DISTRIBUTION FACILITY
133-145 LENORE DRIVE, ERSKINE PARK

Assessment of Traffic and Parking Implications

Revision B

February 2013

Reference 0815

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1. INTRODUCTION

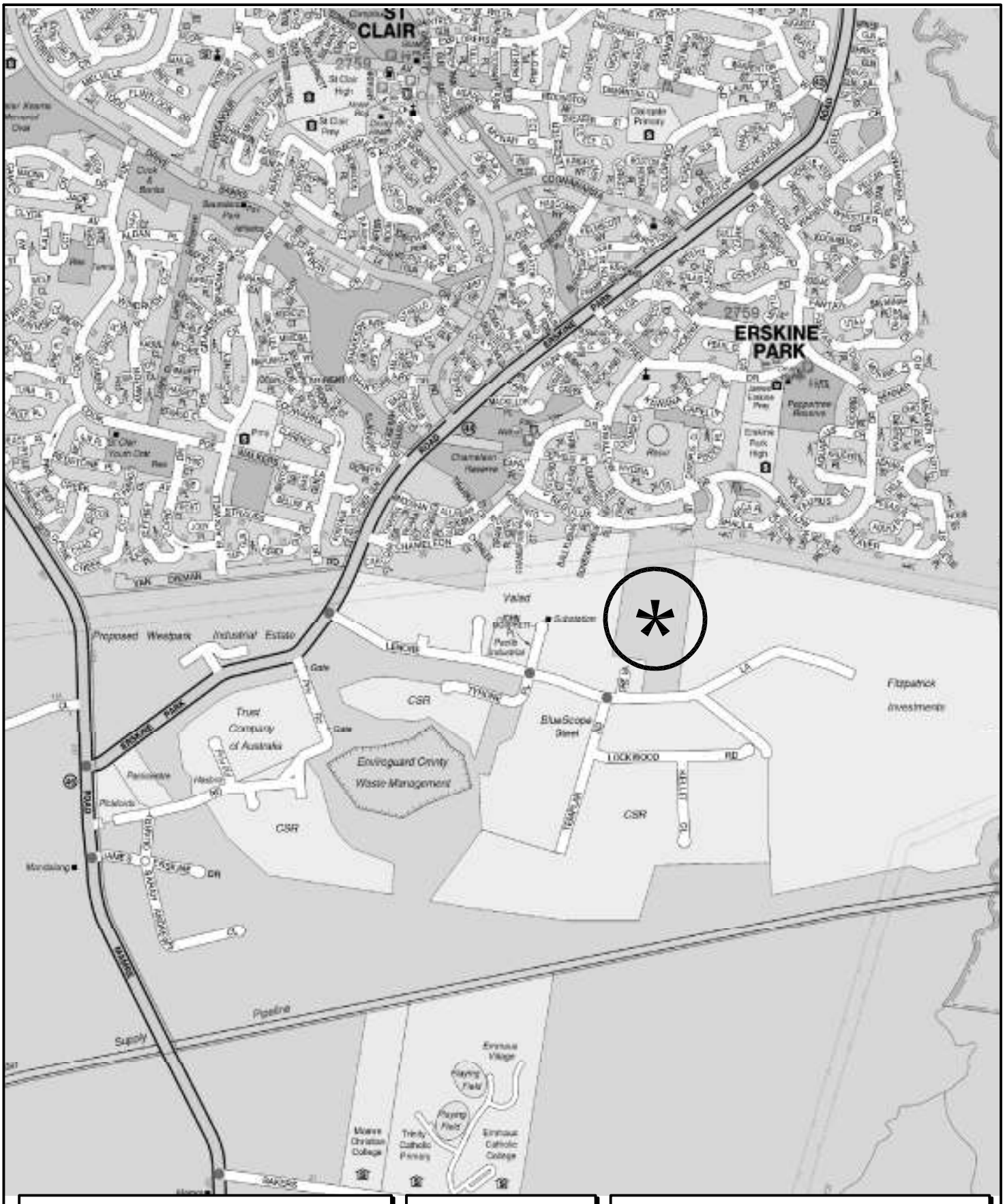
This report has been prepared to accompany a Section 75W Application to the Department of Planning and Infrastructure in relation to a previously approved industrial development on Lot 62, Lenore Drive, Erskine Park (Figure 1).

The development site is located within the Erskine Park Employment Area (EPEA), which encompasses a range of existing and future industrial uses on former grazing land in the area extending between Mamre Road and Ropes Creek. The precinct is located with convenient access to the developing arterial road system and this is acting to encourage the establishment of large warehouse and industrial facilities.

The site occupies an area of some 13.5ha and development consent (MP08-0016) has been granted for construction of three buildings involving a total floor area of 58,836m^2 with printing, warehousing and distribution uses.

It is now proposed to modify the approved development scheme to provide a warehouse and distribution facility with a total floorarea of 53,357m^2 for the Super Retail Group comprising:

Warehouse 1 (as approved)	3,655m^2
Warehouse 2	41,000m^2
Mezzanine	5,000m^2
Dangerous Goods Store	1,920m^2
Battery Recharge	805m^2
Office	977m^2



LEGEND

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LOCATION

FIG 1

The purpose of this report is to:

* describe the site, the approved development and the revised development scheme

* describe the road network serving the site and the prevailing traffic conditions

* assess the adequacy of the proposed parking provision

* assess the potential traffic implications

* assess the suitability of the proposed vehicle access, internal circulation and servicing arrangements.

2. PROPOSED DEVELOPMENT SCHEME

2.1 SITE AND CONTEXT

The development site (Figure 2) is located on the northern side of Lenore Drive to the east of Mamre Road in the central northern sector of the Erskine Park Employment Area. The largely rectangular shaped site, which occupies a total area of some 13.5ha, rises to the north and has been cleared and levelled. The adjoining lands involve a range of industrial uses including large warehouse and production facilities while the Erskine Park and St Clair residential areas extend to the north.

2.2 APPROVED DEVELOPMENT

Major Project Approval (MP 08-0016) was granted for the staged construction of three buildings involving a total floor area of 58,836m^2 GFA with 24/7 operation. The approved development scheme comprised:

Building 1 - warehousing and ancillary office 3,655m^2.

Building 2 - printing, warehousing and distribution 42,120m^2

Building 3 – warehousing and distribution 13,061m^2

Parking – 272 spaces

Warehouse 1 involved 24 parking spaces with vehicle access (for the carpark) access on Lenore Drive. The other vehicle access involved a combined ingress/egress connection to Lenore Drive at the eastern boundary for cars and trucks.

LEGEND

SITE

FIG 2

2.3 PROPOSED DEVELOPMENT

It is proposed to modify the approved development scheme retaining Warehouse 1 as previously approved with construction of a single large warehouse building occupying the central part of the site with loading docks along the northern and eastern sides..

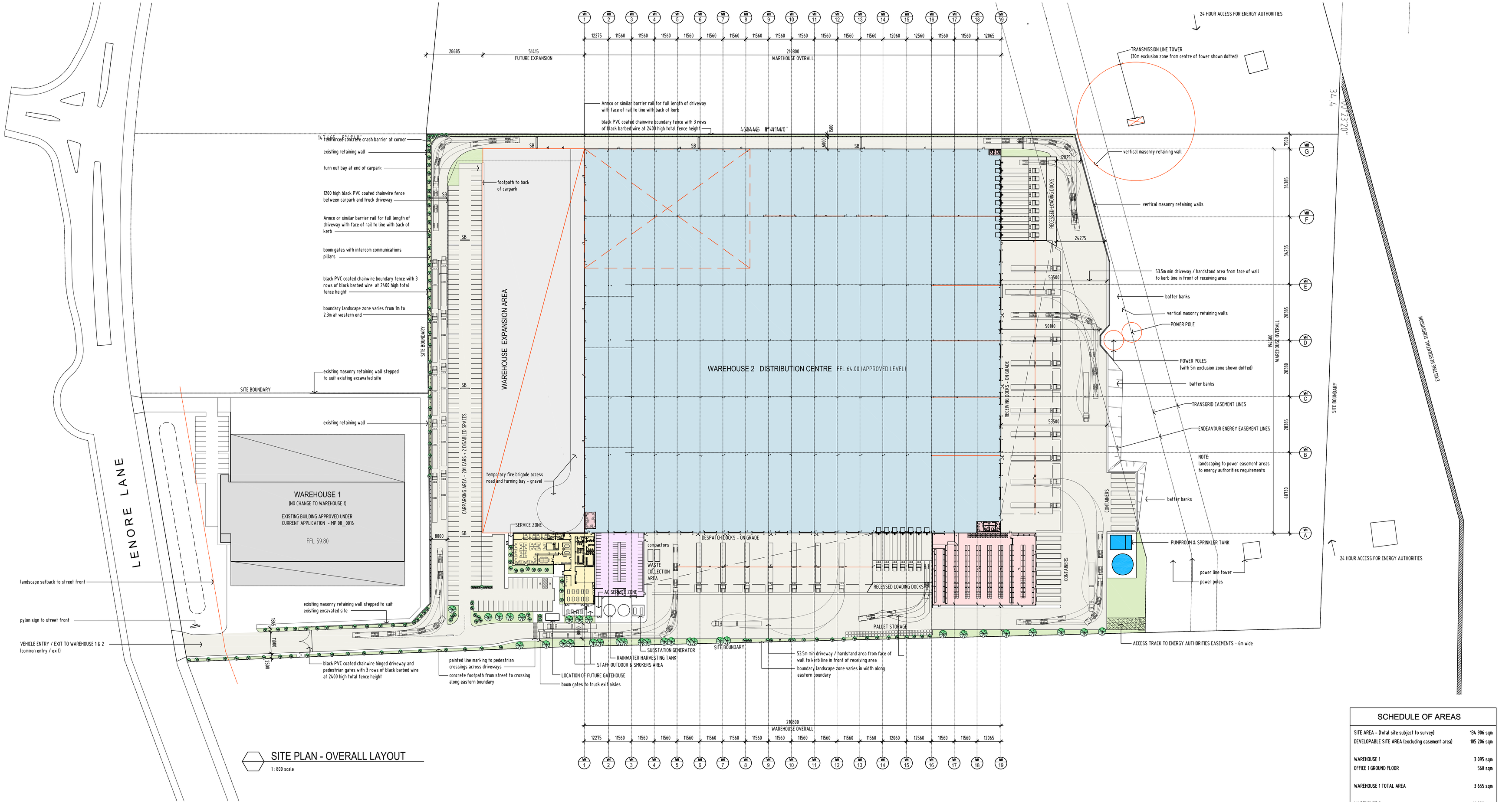
The revised development scheme will comprise:

Warehouse 1	3,655m^2
Warehouse 2	41,000 m^2
Mezzanine	5,000m^2
Dangerous Goods Store	1,920m^2
Battery Recharge	805m^2
Office	977m^2
Total	**53,357m^2**
Parking	227 spaces
Bicycle Parking	10 spaces

There is planning provision for a future extension of the warehouse by 10,000m^2 on the southern side with envisaged completion in 2019. The assessed workforce/shift details are as follows:

	2014	**2019 (with expansion)**
Warehouse		
6.00am-2.30pm	64	72
2.30pm-11.00pm	35	40
Office		
6.00am-2.30pm	10	10
8.00am-2.30pm	21	21

The proposal will retain provision for 24/7 operation and the previously approved vehicle access arrangements will be retained.



SITE PLAN - OVERALL LAYOUT

1 : 800 scale

ACCESS TRACK SECTION

1 : 100 scale

SCHEDULE OF AREAS

SITE AREA - (total site subject to survey)			134 906 sqm
DEVELOPABLE SITE AREA (excluding easement area)			105 206 sqm
WAREHOUSE 1			3 095 sqm
OFFICE 1 GROUND FLOOR			560 sqm
WAREHOUSE 1 TOTAL AREA			3 655 sqm
WAREHOUSE 2			41 000 sqm
BATTERY CAHRGE ROOM			805 sqm
DANGEROUS GOODS STORE			1 920 sqm
OFFICE 2			977 sqm
WAREHOUSE MEZZANINE (FUTURE)			5 000 sqm
WAREHOUSE 2 TOTAL AREA			49 702 sqm
TOTAL BUILDING AREA (GFA)			53 357 sqm
WAREHOUSE 2 EXPANSION AREA			10 000 sqm
CARPARKING AREAS	WH1	WH1	TOTAL SPACES
CARPARKING REQUIRED (rta guidelines wh 1/300 & office 1/300)	13	179	179 spaces
CARPARKING PROVIDED	WH1	WH1	TOTAL SPACES
	24	203	227 spaces
AWNING AREAS			9 481 sqm
WAREHOUSE 1			2 877 sqm
WAREHOUSE 2			6 604 sqm
SITE COVERAGE (based on building footprint of 62 838 sqm incl. awnings)			46.6%

Notes

DO NOT SCALE OF DRAWING - DIMENSIONS & LEVELS TO BE VERIFIED PRIOR TO COMMENCEMENT OF WORK WITH FIGURED DIMENSIONS IN PREFERENCE TO SCALED DIMENSIONS.
MATERIALS & WORKMANSHIP TO BE IN STRICT ACCORDANCE WITH ALL RELEVANT S.A.A. STANDARDS, BCA AND LOCAL AUTHORITIES REQUIREMENTS.

0 5 10 40 80m

Revisions

D	01/02/13	retaining walls updated to be clear of power pole exclusion zones
E	05/02/13	retaining wall and batter altered along easement line
F	06/02/13	access track to energy authorities easements added to north east corner of hardstand

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Project

Super Retail Group
Passionate about our people | our products | our performance

PROPOSED WAREHOUSE DISTRIBUTION & OFFICE FACILITIES

SUPER RETAIL GROUP
LOT 62 / 133 - 145 LENORE LANE, ERSKINE PARK, NSW.
SECTION 75 S APPLICATION TO MODIFY EXISTING DEVELOPMENT CONSENT - MP 08_0016

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AXIS ARCHITECTURAL Pty Ltd - ABN 18 086 853 376
Nominated Architect - David McDonald NSW ARB No. 7997

Project north

Drawing title: SITE PLAN

Date	Scale	Drawn	Project number	Drawing number	Issue
Nov 2012	1800 @1 sheet	AA	120303	DA - 002	F

Details of the development scheme are provided on the plans prepared by Axis Architectural which accompany the Development Application and are reproduced in part overleaf.

3. ROAD NETWORK AND TRAFFIC CONDITIONS

3.1 ROAD NETWORK

The road network serving the area in the vicinity of the site (Figure 3) comprises:

- the *M4 Motorway* - a State Road and arterial route linking between Concord and Penrith

- *the Great Western Highway* - a State Road and arterial road route which provides a connection between the City and the Blue Mountains crossing

- *Mamre* Road - a State Road and sub-arterial route linking between the Great Western Highway and Elizabeth Drive

- *Erskine Park Road* - a State Road and collector route connecting between the M4 and Mamre Road continuing northward along Roper Road and Carlisle Avenue (Regional Road)

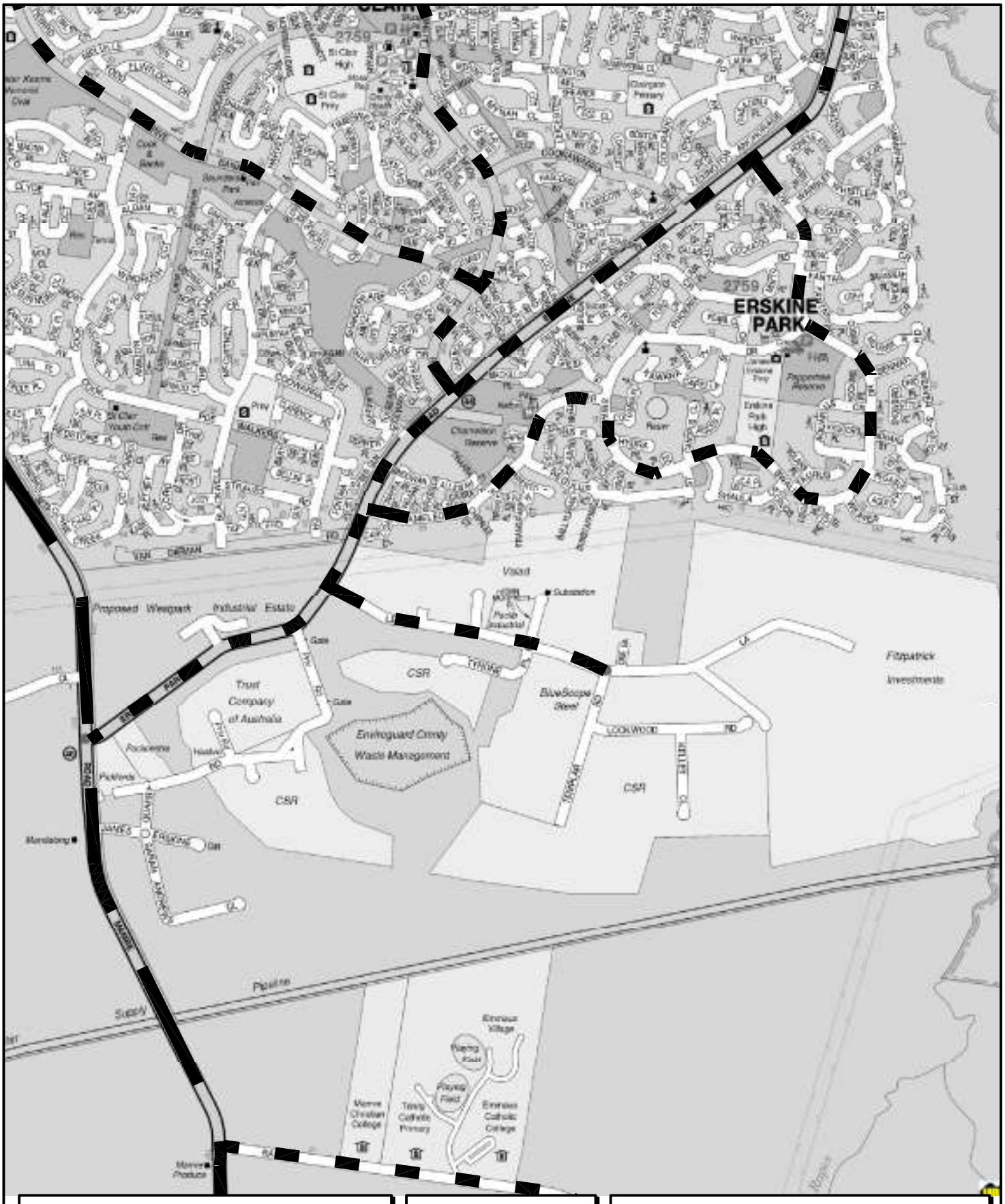
- *Lenore Drive* – a collector road route connecting to Erskine Park Road, which is proposed to be extended to connect with the M7

- *Tyrone Place, Templar Road and Lockwood Road* – Local access roads

3.2 TRAFFIC CONTROLS

The existing traffic controls which have been applied to the road system serving the site (Figure 4) comprise:

- the traffic signals on Mamre Road and the M4 ramp and Banks Drive intersections



LEGEND

- ARTERIAL
- SUB-ARTERIAL
- COLLECTOR

N

ROAD NETWORK

FIG 3

- the traffic signals on Erskine Park Road at the Lenore Drive intersection

- the traffic signals on Lenore Drive at the Tyrone Place and Templar Road intersections

- the 80 kmph speed restriction on Mamre Road, 70 kmph restriction on Erskine Park Road and 60 kmph restriction on Lenore Drive

- the 'seagull' island treatments on Lenore Drive at the two western most access intersections

- the "U turn" facility on Lenore Drive just to the east of Templar Road

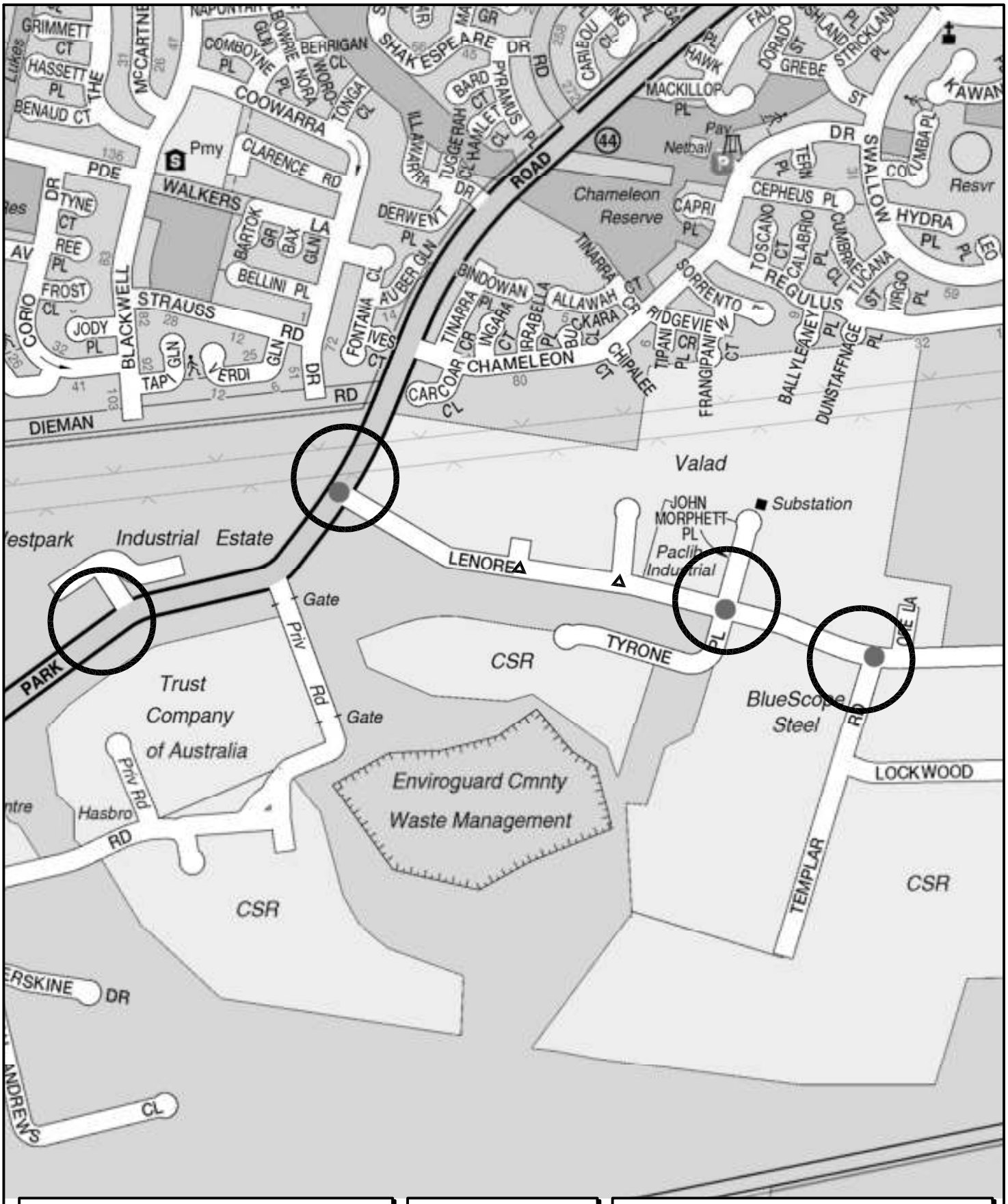
3.3 TRAFFIC CONDITIONS

An indication of the traffic conditions on the road system serving the site is provided by data published by the RTA. The data published by the RTA is expressed in terms of Annual Average Daily Traffic (AADT) and the most recent recorded volumes are provided in the following:

	AADT
Location	**2002**
Mamre Road at water pipeline	12,446
Erskine Park Road south of M4 Motorway	25,724

3.4 PUBLIC TRANSPORT

Public transport services in the vicinity of the site are provided by the 'Busways' bus routes 772, 774 and 835. The route 835 service runs along Mamre Road and Erskine Park Road past the site on a 5 days a week basis. Linkings to Penrith Railway Station while Routes 772 and 774 provide connection to Mount Druitt Railway Station. It would be expected that additional bus services will be introduced as further development occurs in the Erskine Park Industrial Zone.



LEGEND

- TRAFFIC SIGNAL CONTROL
- ROUNDABOUT
- RESTRICTED TURNING MOVEMENT
- SEAGULL ISLAND

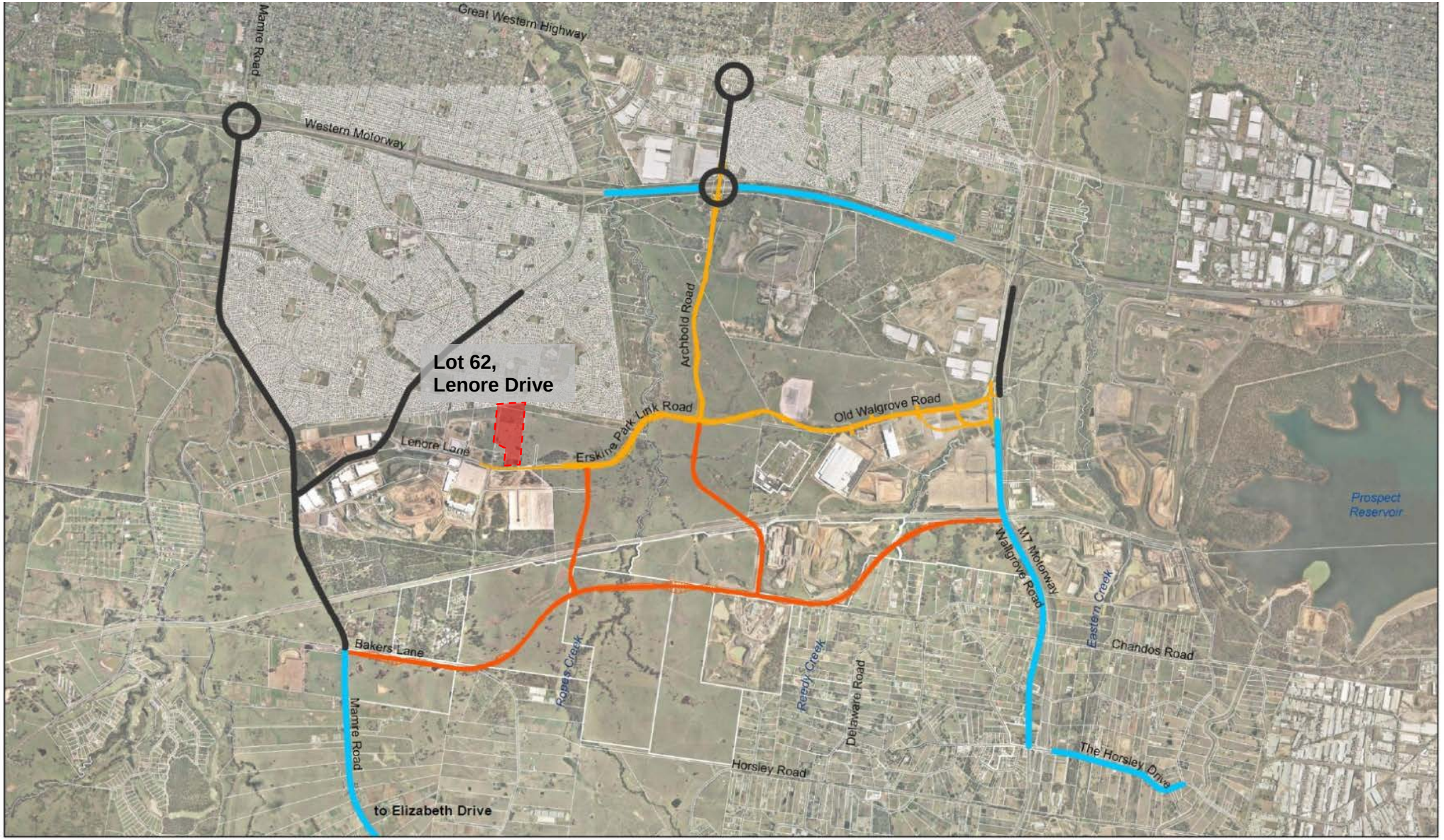
TRAFFIC CONTROLS

FIG 4

3.5 FUTURE CIRCUMSTANCES

Planning for the development of the Erskine Park and Eastern Creek Employment Lands includes significant development of the access road system. Details of these proposals are provided on the diagram overleaf which have the principal features of the Erskine Park Link Road (EPLR) and the Southern Link Road (SLR).

Work is proceeding on the Erskine Park Link Road which when completed will provide a connection between Lenore Drive and the M7. The western north-south link between EPLR and SLR will connect to Lockwood Road and enable vehicles travelling westwards along EPLR to access the subject site via Lockwood Road and Templar Road.



Southern Link Road Network - Preferred Alignment

Erskine Park Link Road

Watercourse

Road Upgrade Requirements (Source: Erskine Park Link Road Transport Assessment)

Road Upgrade Requirements (Source: Southern Link Road Network Strategic Transport Assessment)

SOUTHERN LINK ROAD NETWORK

EXTERNAL ROAD NETWORK IMPROVEMENTS

Source: MapData (2009), Penrith City Council (2010), Fairfield City Council (2010)

0 0.5 1 km

MAR 2010

60159054

4. TRAFFIC

An indication of the potential traffic generation of the proposed warehouse development is provided by the RMS Development Guidelines and the Traffic Study* which was undertaken for the Erskine Park Link Road. The RMS peak traffic generation criteria for 'warehouse' use is 0.5 vtph per 100m^2 while the EPLR study adopted a generation rate for the Penrith LGA of 5 vtph per developable hectare indicating an outcome for the proposed development as follows:

	Approved	**Proposed**
RMS (0.5 vtph/100m^2)	295 vtph	242 vtph
P.B (5 vtph/ha)	67.5 vtph	67.5 vtph

There is a significant difference between these indications however a more accurate assessment of the proposed SRG development is provided by the projected staff and truck movement details for the completed development (with expansion) as follows:

REPRESENTATIVE PEAK
TRAFFIC MOVEMENTS FOR 2020

5-6am	80 cars	IN	-	OUT
	3 trucks	IN	4 trucks	OUT
7-8am	20 cars	IN	-	OUT
	13 trucks	IN	12 trucks	OUT
2-3pm	38 cars	IN	80 cars	OUT
	14 trucks	IN	17 trucks	OUT

* *Erskine Park Link Road*
Concept Approval, Transport and traffic Working Paper
Parsons Brinckerhoff for RTA July 2010

4-5pm	-	IN	-	OUT
	-	IN	6 trucks	OUT
11pm-Midnight	-	IN	38 cars	OUT
	3 trucks	IN	4 trucks	OUT

Morning Peak Period includes 7-8am (but not 5-6am)

Afternoon Peak Period includes 4-5pm (but not 2-3pm)

Thus the total traffic generation in relation to the on-street peak traffic periods on completion of the development in 2020 will be:

	AM	**PM**
IN	33	-
OUT	12	6
TOTAL	45	6

By comparison the projected vehicle movements for the previously approved development were as follows:

	AM		**PM**	
	IN	**OUT**	**IN**	**OUT**
On-Street Peak	94	5	5	24

The projected traffic of the completed SRG development will therefore be significantly less than that projected for the previously approved development scheme and that undertaken for the planning for EPEA and for the EPLR. It is apparent that there will not be any adverse traffic implications with the revised development scheme and the projected truck movements is entirely compatible with the projections made for the Preliminary Hazard Analysis.

5. PARKING

Penrith City Council's DCP for Erskine Park Employment Area specifies the following:

Warehouse	-	1 space per 100m² NLA
Office	-	1 space per 40m^2 NLA

Application of this criteria to the proposed development scheme would indicate

Warehouse 51,820m^2	-	518 spaces
Office 1,537m^2	-	38 spaces
Total		**556 spaces**

Councils DCP criteria is quite onerous particularly when compared to the RMS Development Guidelines of 1 space per 300m^2 for Warehouse and ancillary office as follows:

53,357m^2 – @ 1 per 300m^2
178 spaces

However the identified maximum daytime workforce in the proposed development will be:

	At One Time	**At Changeover**
Warehouse	72 persons	112 persons
Office	31 persons	31 persons
Total	**103 persons**	**143 persons**

It is not desirable to construct more 'hard stand' area for parking than is necessary and it is quite apparent that the proposed workforce will not require anything like the number of parking spaces indicated by the DCP. It is therefore proposed to provide a total of 225 parking spaces including 2 disabled spaces and 24 spaces adjacent to Warehouse and it is apparent that this will be quite adequate for the intended use and will be compliant with the RMS criteria.

6. ACCESS, INTERNAL CIRCULATION AND SERVICING

Access

The proposed vehicle access for the site development will reflect the existing consent and will comprise:

* a 6.0m ingress/egress driveway at the western boundary on the Lenore Lane frontage suitable for the Warehouse 1 carpark

* a 11.0 metre wide ingress/egress driveway for cars and truck located at the eastern boundary on the Lenore Lane frontage

The design of the driveways will accord with AS 2890.1 and 2, being located where good sight distances will be available, and will accommodate all vehicles requiring to access the site including B Double vehicles. All vehicles will be able to be entirely within the site before stopping and will be able to enter and depart in a forward direction. The car and truck turning paths showing the satisfactory provision for access movements are provided in Appendix B.

Internal Circulation

The design of the internal arrangements including truck manoeuvring, carpark aisles/bays etc have been designed in accordance with AS 2890.1 and AS 2890.2 and directional signs and roadmarking will be provided to guide heavy vehicles, staff and visitors to the appropriate site locations. The car and truck turning paths showing the satisfactory provision for circulation movements are provided in Appendix B.

Servicing

There will only be a relatively minor level of servicing required for the development. Refuse removal will be undertaken by contract vehicles while the expansive truck and carparking areas will adequately provide for all service vehicles.

7. CONSTRUCTION TRAFFIC

The issue of construction traffic impact will be relatively minor and will be the subject of a normal Consent Condition requirement for Construction Certificate (when there will be a greater awareness of the nature and timing of the actual construction process). Also because the earthworks are already largely completed, this normal significant part of the process does not need to be addressed.

The construction activity will occur over a 12 month period with vehicles using the driveway on Lenore Drive which is well away from any intersection. Truck movements will vary throughout the construction process with some peaking during the 'concrete pour' activities.

The deliveries would most likely occur consistently over a 10 hour period each day and thus the truck movements will represent.

	Trips Per Hour
Average	5
Peak	10

On this peak projection basis the operational performance of the access intersections will be quite satisfactory.

The proposed construction process for the subject site will only represent a very minor part of the activity for the total development which will occur in the Erskine Park Industrial Area. This assessment has concluded that:

* there will be no unsatisfactory traffic capacity or safety implications

* the truck movements will be appropriate to the status of the road used

* the activity will occur over a relatively short timeframe and will be along roads already used for significant truck movements.

8. CONCLUSION

The traffic and parking assessment undertaken in relation to the proposed SRG warehouse and distribution development at Lenore Drive in Erskine Park which is subject of the S75W Application has concluded that:

* the traffic generation of the proposed development will be consistent with the planning for development for the area

* the traffic generation of the proposed development will not present any adverse traffic implications

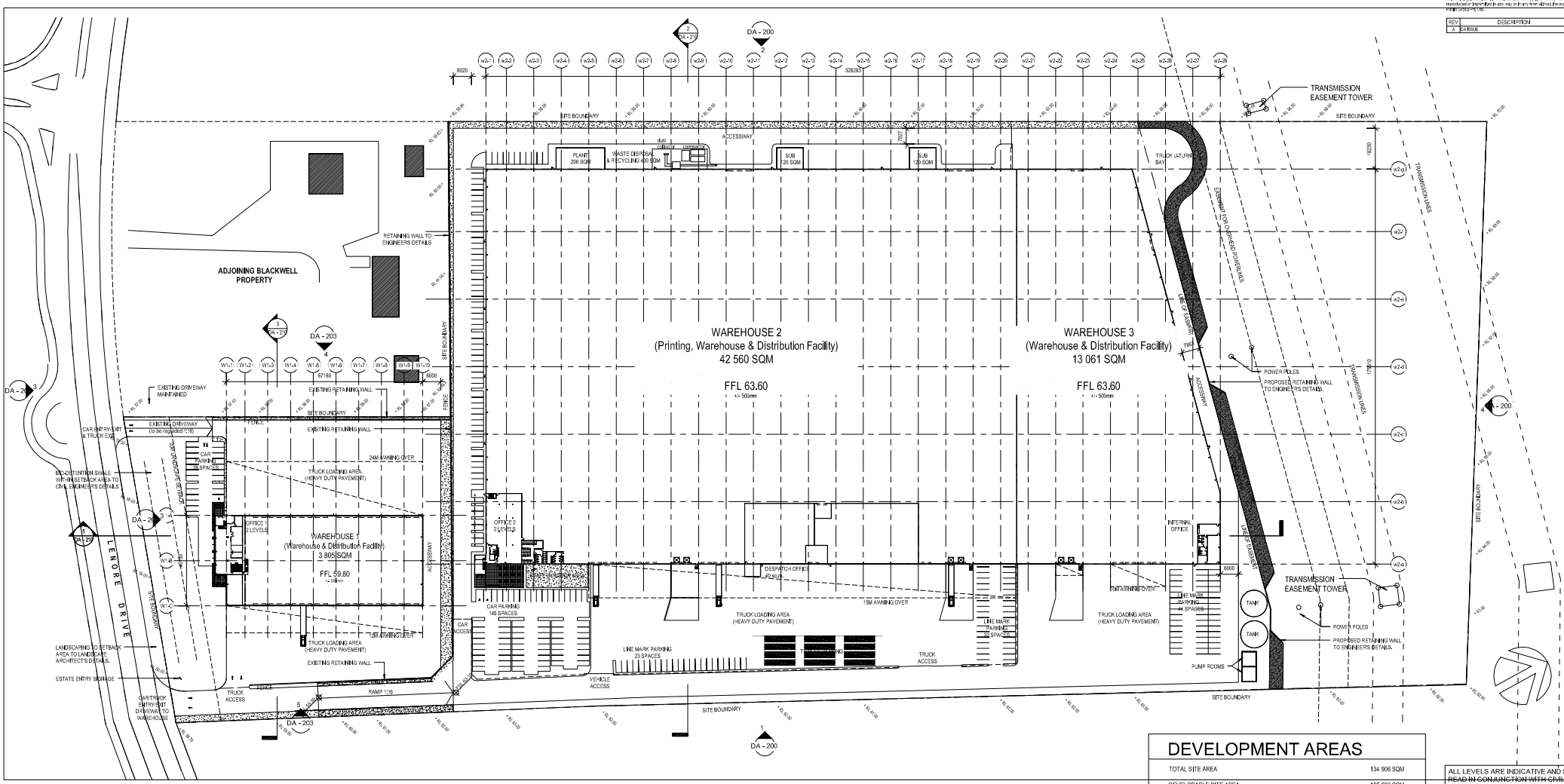
* the proposed parking provision will satisfy the demands of the proposed facilities

* the proposed access, internal circulation and parking arrangements will be appropriate to current design standards.

APPENDIX A

APPROVED DEVELOPMENT SCHEME

REV	DESCRIPTION	DATE	Issued
A	DA ISSUE	06.04.09	RDS



1 Site Plan
1 : 750

DEVELOPMENT AREAS

TOTAL SITE AREA	134 906 SQM
DEVELOPABLE SITE AREA (excluding easment area)	105 206 SQM
WAREHOUSE 1	3 214 SQM
OFFICE 1 (2 levels)	591 SQM
OFFICE 1 ENTRY (ground floor)	30 SQM
WAREHOUSE 1 TOTAL AREA	3 835 SQM
WAREHOUSE 2	40 880 SQM
PLANT ROOMS AND SUBSTATIONS	440 SQM
OFFICE 2 (2 levels)	1 200 SQM
DESPATCH OFFICE	40 SQM
WAREHOUSE 2 TOTAL AREA	42 560 SQM
WAREHOUSE 3	12 888 SQM
INTERNAL OFFICE 3	173 SQM
WAREHOUSE 3 TOTAL AREA	13 061 SQM
TOTAL BUILDING AREA (GFA)	59 456 SQM

	W1	W2	W3	TOTAL SPACES
CARPARKING REQUIRED (RTA GUIDELINES w/h1/300 office 1/300)	13	142	44	199 SPACES
CARPARKING PROVIDED	28	200	44	272 SPACES

AWNING AREA APPROX	6 294 SQM
SITE COVERAGE (based on building footprint of 64 790 sqm Incl. awning).	46%

ALL LEVELS ARE INDICATIVE AND SHOULD BE READ IN CONJUNCTION WITH CIVIL ENGINEER'S DRAWINGS. ALL LEVELS ARE TO BE +/- 500MM

PACLIB INDUSTRIAL P/L
LEVEL 4
67 EPPING ROAD
NORTH RYDE
NSW 2113
PHONE (02) 9857 2200
FAX (02) 9857 2300

PROJECT
MAJOR PROJECT APPLICATION FOR PRINTING,WAREHOUSE & DISTRIBUTION FACILITY

ADDRESS
LOT 62 DP 1000695
LENORE DRIVE,
ERSKINE PARK EMPLOYMENT AREA

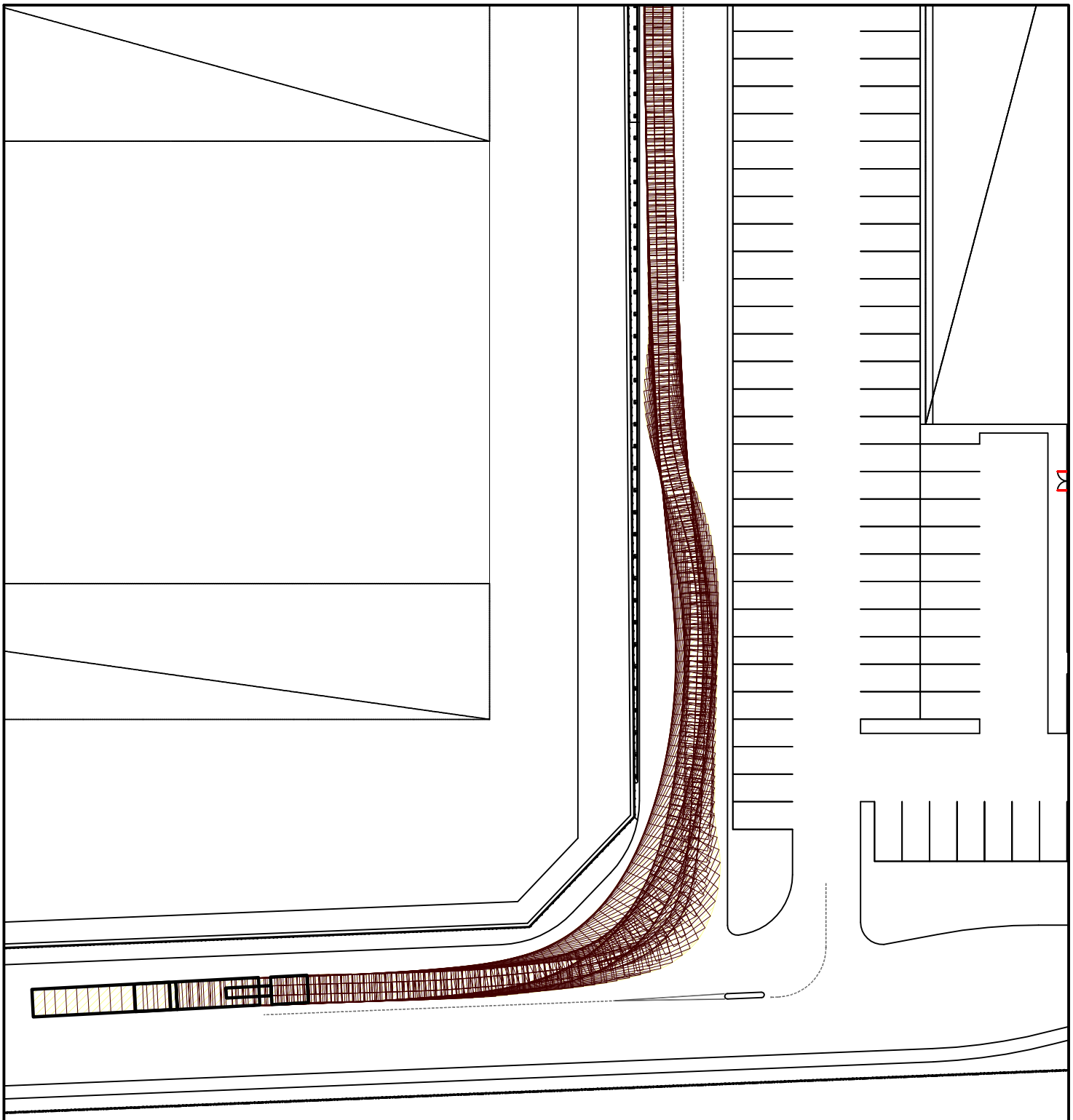
DRAWING TITLE
SITE PLAN

SCALE	As indicated @ B1
DRAWN	RDS
CHECKED	KHL
DATE	6/04/2009 9:28:32 AM
JOB NUMBER	080225

DRAWING NUMBER DA - 201 ISSUE A

APPENDIX B

SWEPT PATH ANALYSIS



LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V9.21 in conjunction with AutoCAD 2012. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

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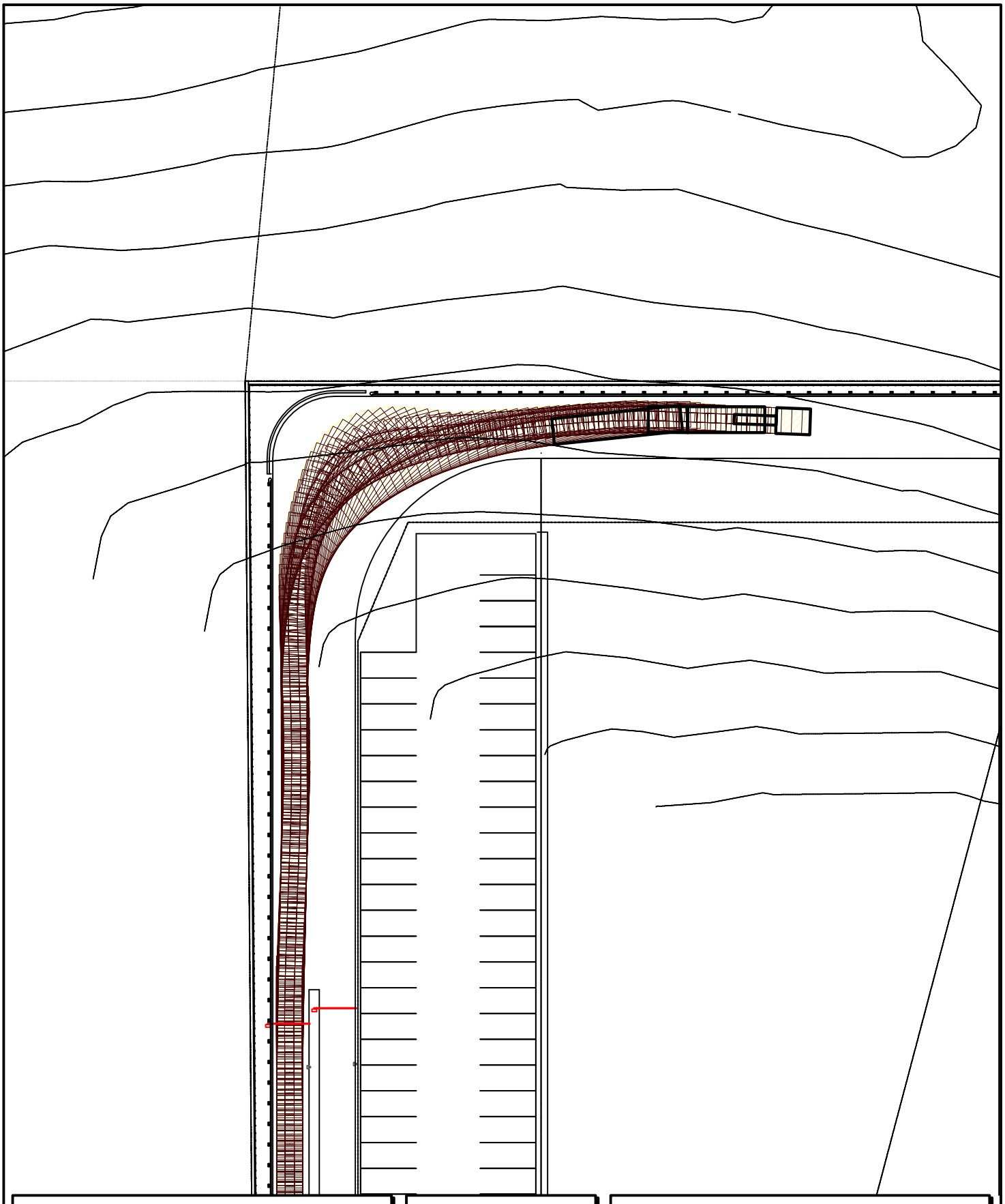
SWEPT PATH ANALYSIS OF A 25m ARTICULATED VEHICLE ENTERING THE SITE

SP 1



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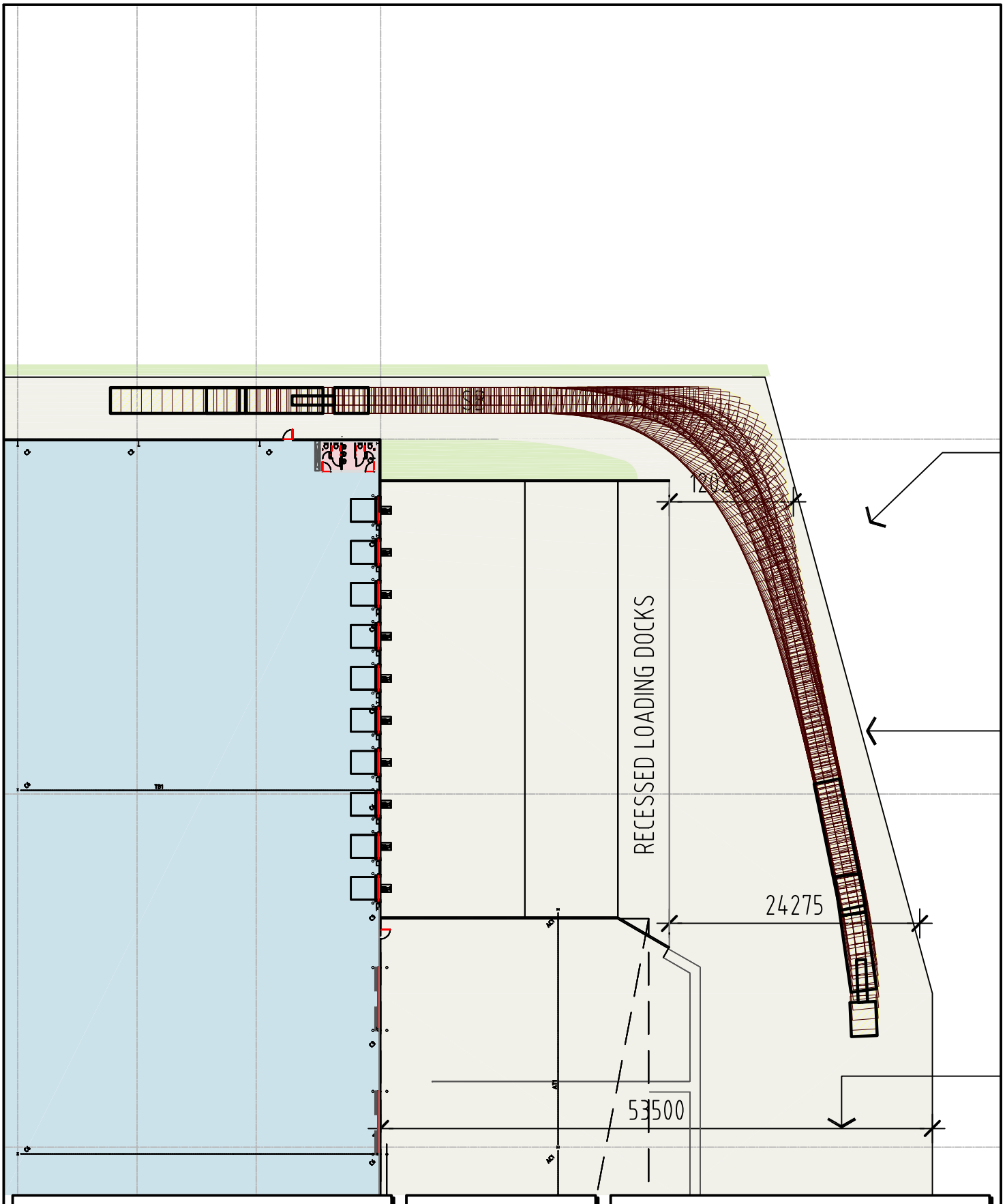
SWEPT PATH ANALYSIS OF A 25m ARTICULATED VEHICLE ENTERING THE SITE

SP 2



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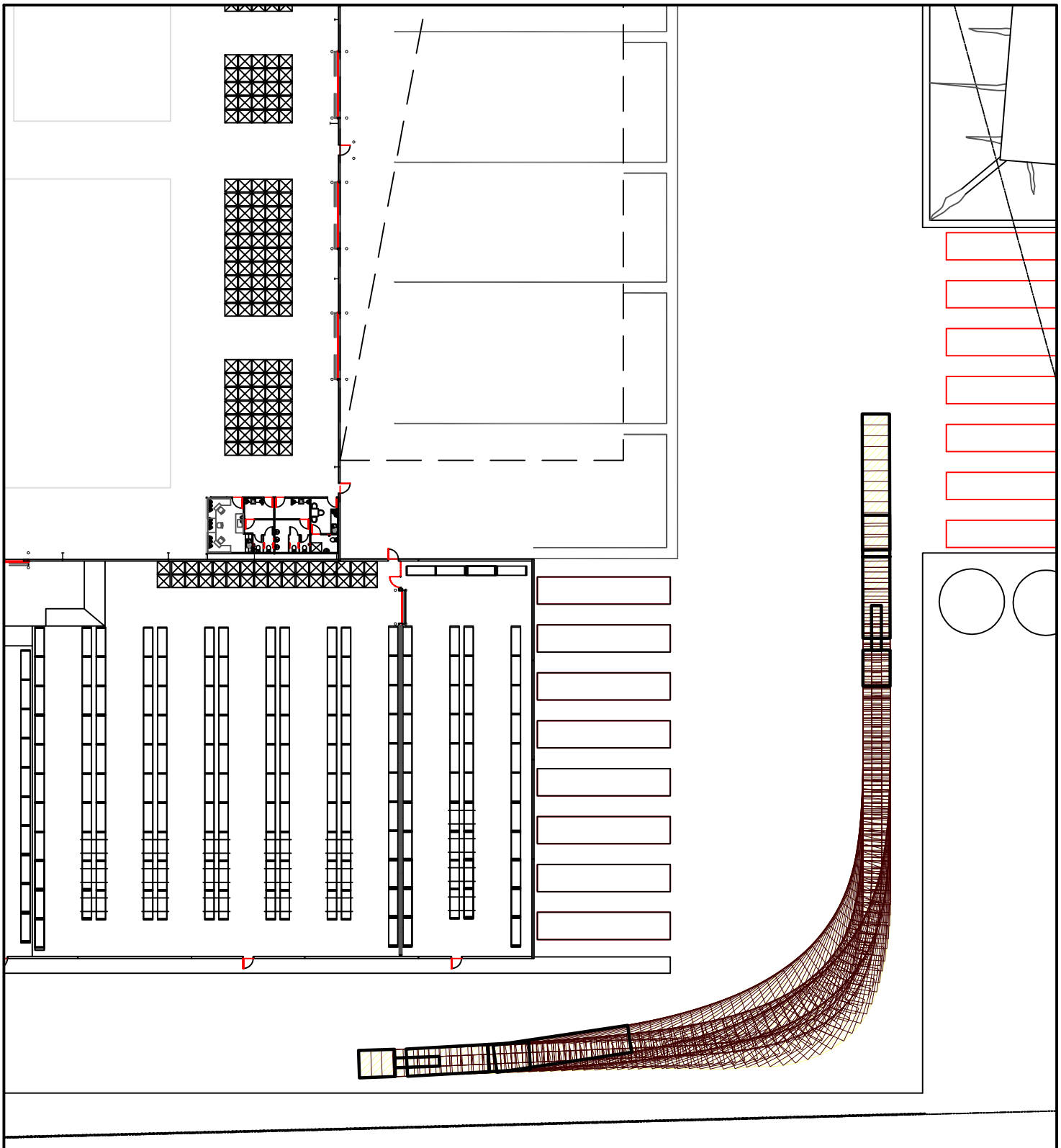
SWEPT PATH ANALYSIS OF A 25m ARTICULATED VEHICLE ENTERING THE SITE

SP 3



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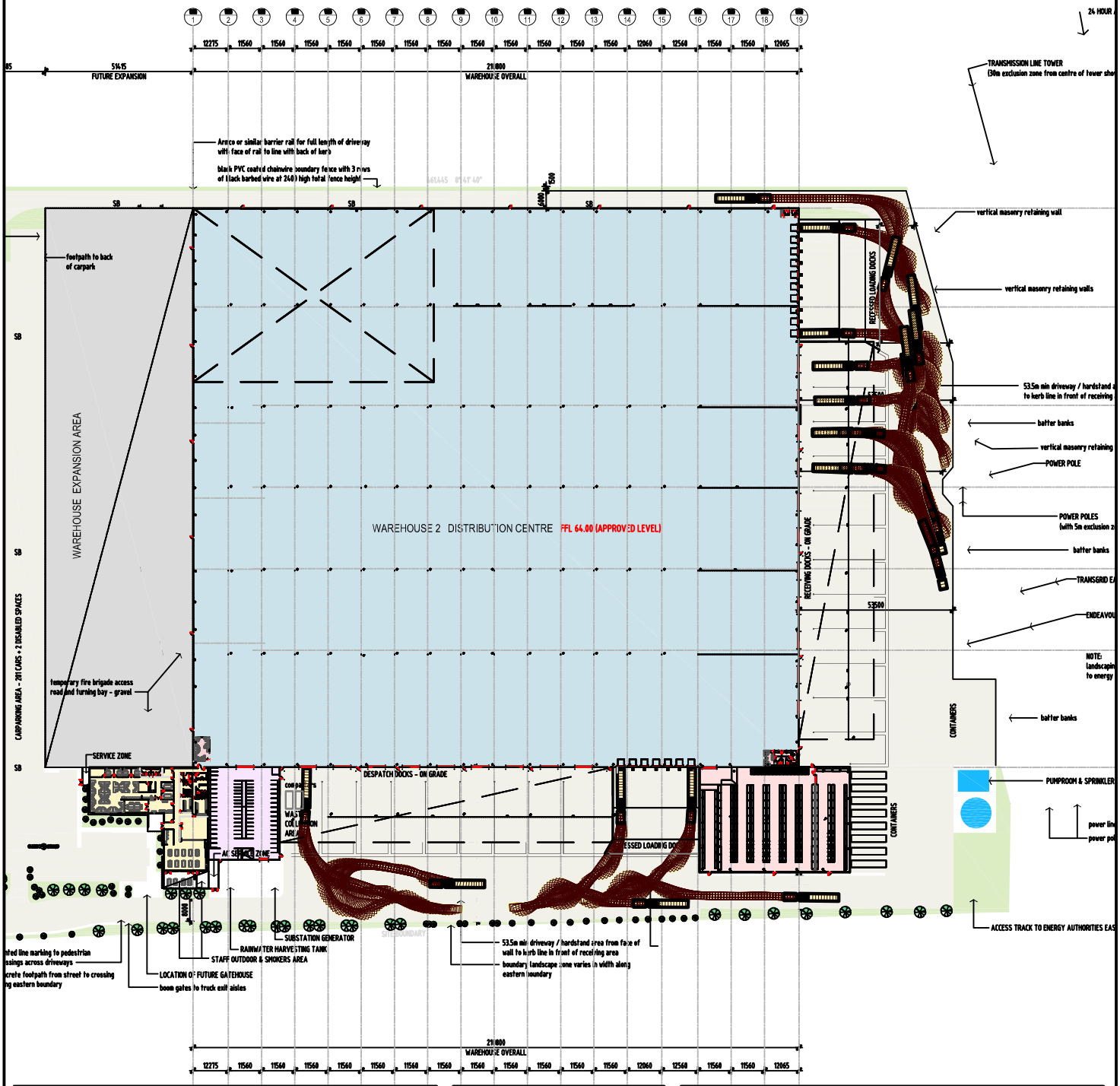
SWEPT PATH ANALYSIS OF A 25m ARTICULATED VEHICLE EXITING THE SITE

SP 4



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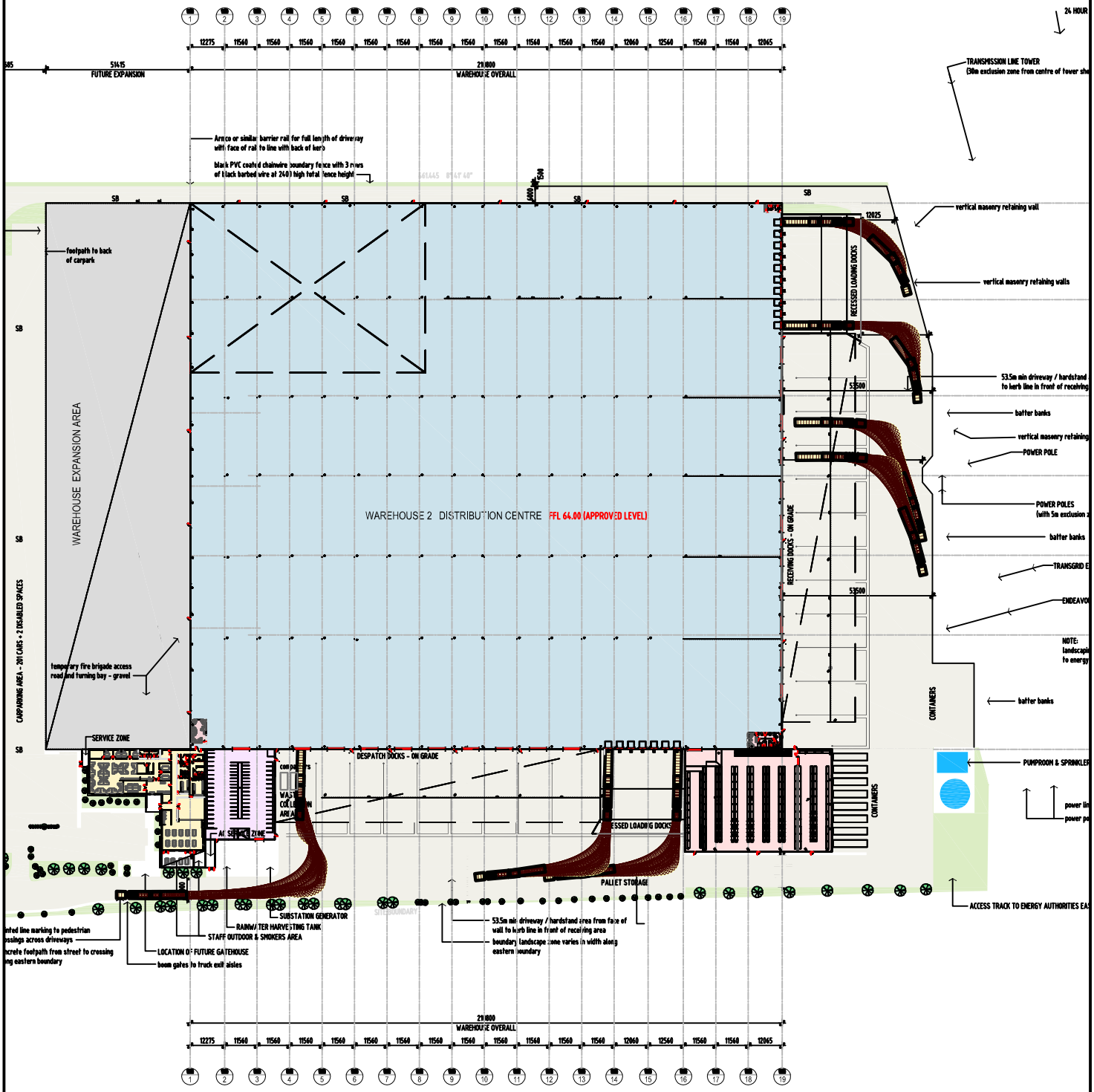
SWEPT PATH ANALYSIS OF ARTICULATED VEHICLES ENTERING LOADING DOCKS

SP 5



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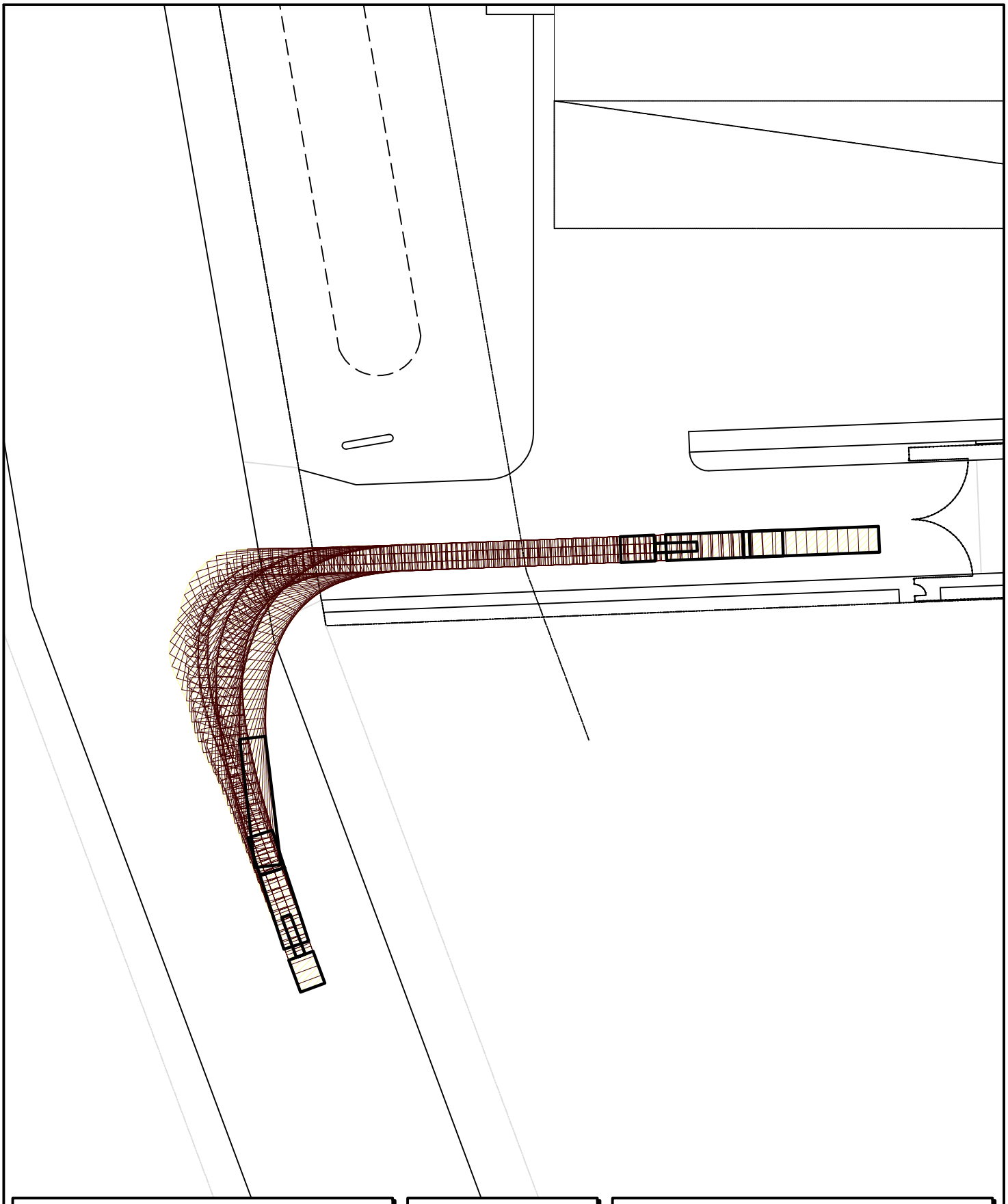
SWEPT PATH ANALYSIS OF A 25m ARTICULATED VEHICLE EXITING THE SITE

SP 6



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N

SWEPT PATH ANALYSIS OF A 25m ARTICULATED VEHICLE EXITING THE SITE

SP 7