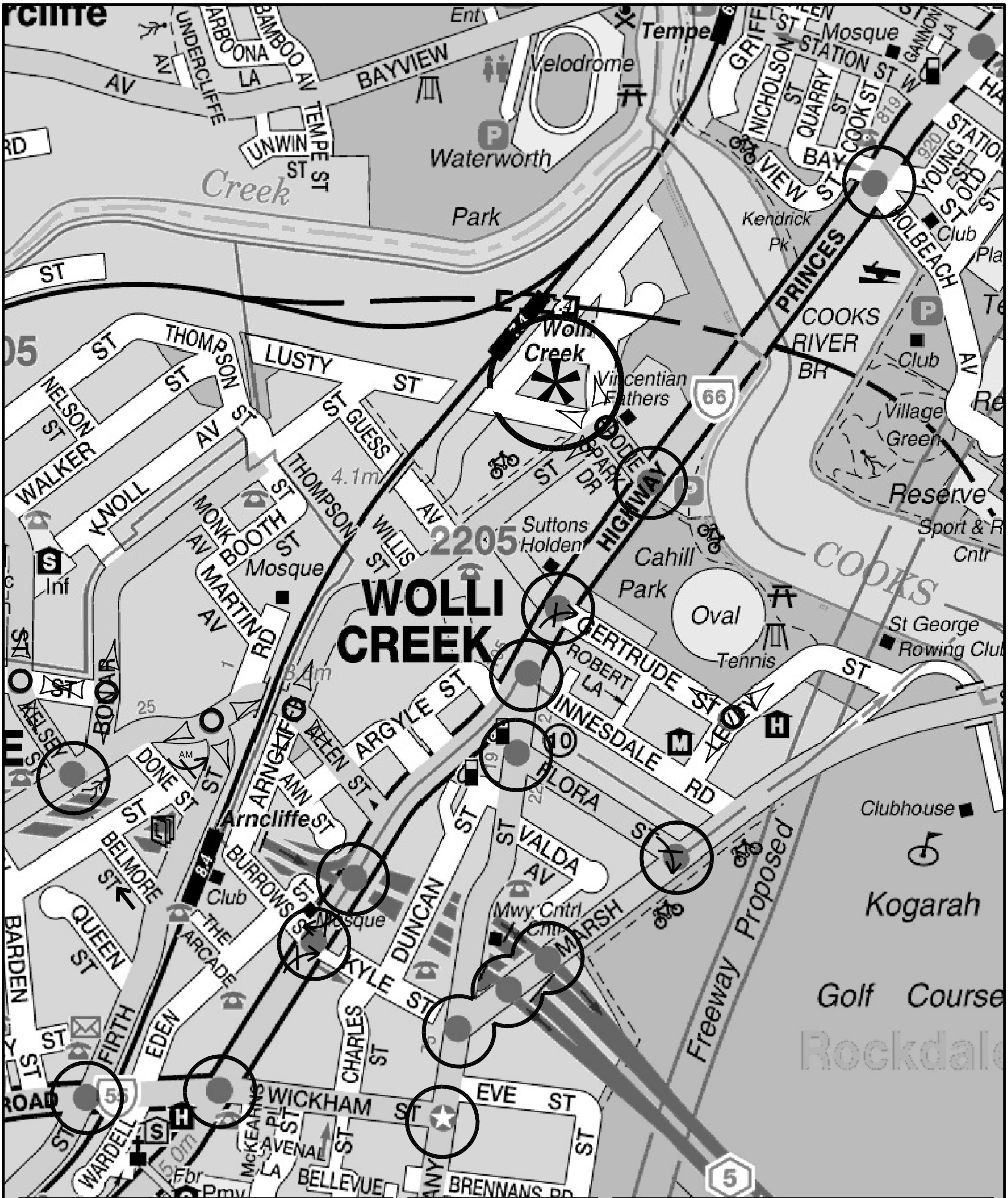

Legend

- Traffic signal control
- Roundabout
- Restricted turning movement

Traffic Controls

Fig 4

The data provided by the RTA is expressed in terms of Annual Average Daily Traffic (AADT) and the latest recordings in the vicinity of the site are provided in the following:

	AADT
Princes Highway south of Allen Street	37,901
Forest Road west of Princes Highway	20,186
Wollongong Road east of Wolli Creek Road	7,535

Traffic surveys have been undertaken at intersections in the vicinity of the site during retail peak weekday afternoon and Saturday midday periods. The results of those surveys are provided in Appendix A and summarised in the following:

		AM	**PM**
Princes Highway	Northbound	4186	1,315
	Left-turn	56	214
	Southbound	1048	2,935
	Right-turn	89	556
Brodie Spark Drive	Right-turn	146	90
	Left-turn	509	163
Brodie Spark Drive	Westbound	31	208
	Right-turn	2	8
	Left-turn	107	523
	Southbound	-	2
	Right-turn	-	2
	Left-turn	6	2
Arncliffe Street	Northbound	4	2
	Right-turn	596	174
	Left-turn	17	19
Magdalene Terrace	Eastbound	205	67
	Right-turn	3	13
	Left-turn	1	1

The operational performance of these intersections under the prevailing peak traffic demands has been assessed using the SIDRA program. The results of that assessment indicating a satisfactory situation are provided in the following while criteria for interpretation of the modelling output is provided overleaf:

	AM			PM		
	LOS	**DS**	**AVD**	**LOS**	**DS**	**AVD**
Princes Highway/Brodie Spark	C	0.86	24.3	C	0.88	27.4
Brodie Spark/Arncliffe	A	0.35	9.2	A	0.20	6.8

3.4 TRANSPORT SERVICES

The area is well served by the public transport services comprising:

* the Wolli Creek Railway Station which accesses the East Hills, Illawarra and New Southern rail lines

* the State Transit Route 348 bus service which runs between Wolli Creek Railway Station and Bondi Junction with a 30 minute frequency between 7.00am and 7.00pm Monday - Friday

* the State Transit Route 473 bus service which runs along Wollongong Road, Bonar Street/Loftus Street connecting between Campsie, Arncliffe and Rockdale railway stations

* the State Transit Route 422 service which runs along the Highway connecting between Kogarah, Rockdale and the Sydney CBD via Newtown.

Criteria for Interpreting Results of SIDRA Analysis

1. Level of Service (LOS)

LOS	Traffic Signals and Roundabouts	Give Way and Stop Signs
'A'	Good	Good
'B'	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
'C'	Satisfactory	Satisfactory but accident study required
'D'	Operating near capacity	Near capacity and Accident Study required
'E'	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode
'F'	Unsatisfactory and requires additional capacity	Unsatisfactory and requires other control mode

2. Average Vehicle Delay (AVD)

The AVD provides a measure of the operational performance of an intersection as indicated on the table below which relates AVD to LOS. The AVD's listed in the table should be taken as a guide only as longer delays could be tolerated in some locations (ie inner city conditions) and on some roads (ie minor side street intersecting with a major arterial route).

Level of Service	Average Delay per Vehicle (secs/veh)	TRAFFIC SIGNALS, ROUNDABOUTS	Give Way and Stop Signs
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode

3. Degree of Saturation (DS)

The DS is another measure of the operational performance of individual intersections.

For intersections controlled by **traffic signals**[2] both queue length and delay increase rapidly as DS approaches 1, and it is usual to attempt to keep DS to less than 0.9. Values of DS in the order of 0.7 generally represent satisfactory intersection operation. When DS exceeds 0.9 queues can be anticipated.

For intersections controlled by a **roundabout or GIVE WAY or STOP signs**, satisfactory intersection operation is indicated by a DS of 0.8 or less.

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[2] *the values of DS for intersections under traffic signal control are only valid for cycle length of 120 secs*

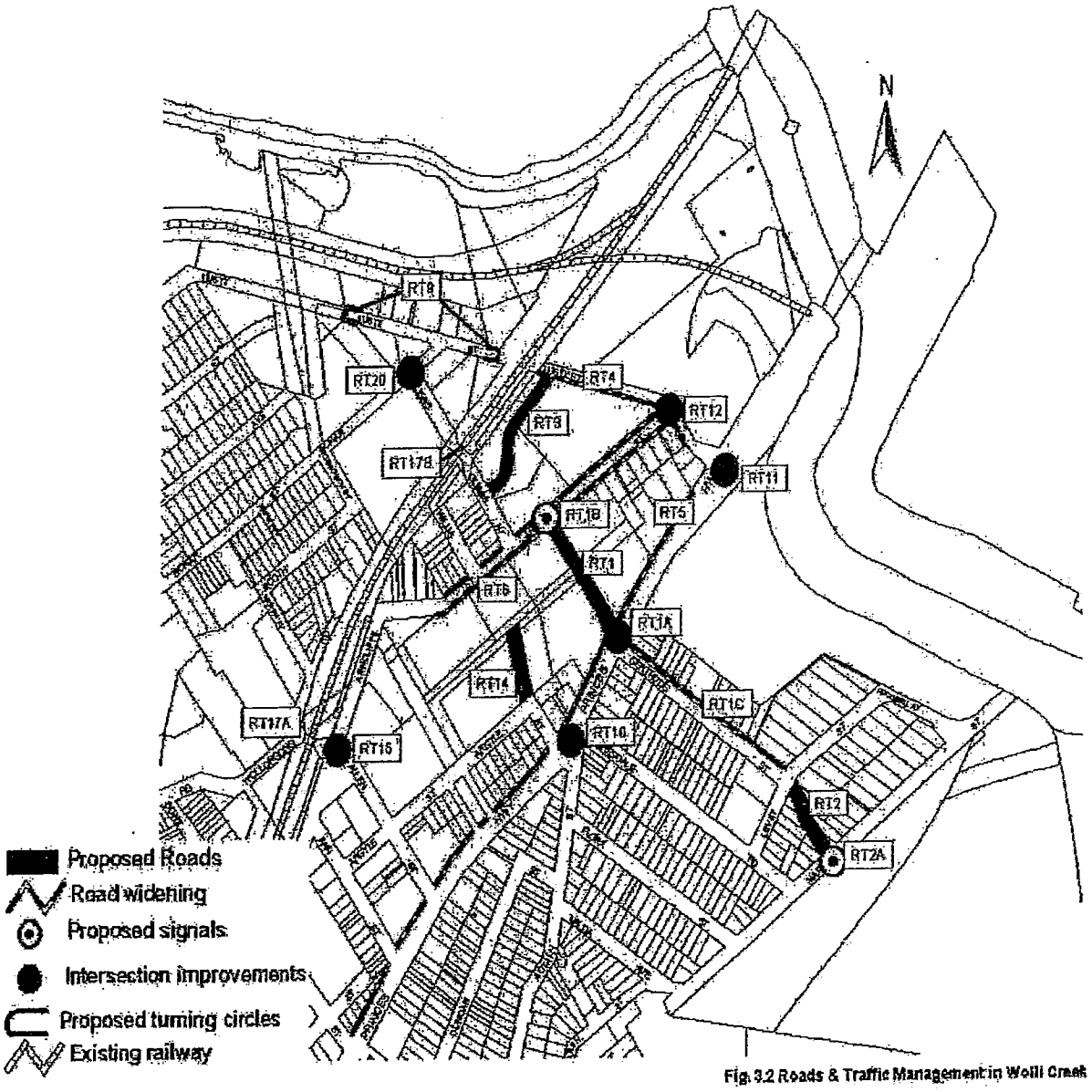

Fig. 3.2 Roads & Traffic Management in Wolli Creek

3.5 FUTURE CIRCUMSTANCES

The prescribed upgrading of the road network and traffic controls to suitably accommodate the ultimate redevelopment of WCRA are identified in the diagram overleaf and the schedule in Appendix A reproduced from DCP № 62 which applies to the broader Wolli Creek area (excluding Discovery Point).

A number of these elements, particularly the construction of Magdalene Terrace and part of Brodie Spark Drive, have already been completed however major elements which are unlikely to be achieved for many years (due to reliance on redevelopment of sites) include:

- construction of Gertrude Street between Princes Highway and Arncliffe Street

- construction of a new access road parallel to and between the Highway and Arncliffe Street

- widening of the Highway and Arncliffe Street.

4. ROAD NETWORK AND VEHICLE ACCESS

The road network for the Stage 1 development comprises:

* construction of Spark Lane between Magdalene Terrace and Discovery Point Place

* construction of Discovery Point Place between Brodie Spark Drive and Spark Lane

* modification of the existing section of Brodie Spark Drive (remove median island) and extension to the north just over the railway line.

The nature of the proposed access road system reflects contemporary urban design principles with road widths which have been adopted in the submitted Concept Plan and the parameters dictated by the site circumstances. Particular guiding elements are:

* provisions for an amenable pedestrian environment with connectivity, convenient road crossings, low vehicle speeds and 'vehicle free' corridors

* provisions for bus access, circulation and interchange of passengers

* provisions for cyclists

* provisions for kerb side parking including kiss'n'ride, taxi and service vehicles.

The proposed road widths are entirely compliant with the specified requirements of the State Transit Authority and contemporary design guidelines including AMCORD.

The access road system provides for not so much a 'hierarchy' of roads but an amalgam of elements relevant to the nature, needs and opportunities for each road.

Much of Brodie Spark Drive already exists and this will be extended with generally the same width however the central median island will be deleted to:

* provide for bicycle lanes each side
* facilitate bus and service vehicle movements.

There will be one wide travel lane in each direction with sections of indented kerbside parking.

Discovery Point Place will be framed around the principal dictates of the bus interchange and the pedestrian crossing movements and will comprise:

* Western Section
  - 3.0 metre wide bus stop lane
  - 3.1 metre wide eastbound lane
  - 3.1 metre wide westbound lane
  - 7.3 metre wide indented parking

* Eastern Section
  - 6.5 metre wide roadway

Brodie Spark Drive will comprise:

- 2.1 metre wide parking bays
- 1.2 metre wide bicycle lanes
- 6.2 metre wide roadway.

Spark Lane will largely provide a access/service function with a 6.4 m wide two-way roadway with no kerbside parking.

Vehicle access for the integrated basement carpark areas will be located along Spark Lane and these accesses, including the use by service vehicles, will therefore avoid any conflict with significant pedestrian or cyclist movements.

Details of the proposed road network under the concept are provided in Appendix B. There is a temporary bus interchange and emergency vehicle facility on the site at present and this will be relocated in order for excavation and construction to be undertaken. When the work is completed there will be a new bus interchange facility located on Discovery Point Place adjacent to the railway station. During the work process the bus stop will be located onto a widened section of Brodie Spark Drive adjacent to the railway station with 'turn around' and emergency vehicle access provided on a temporary cul-de-sac off Brodie Spark Drive just to the north.

Detailed discussion and correspondence have been undertaken with the STA in relation to both the proposed permanent and temporary provisions for buses and details of this action are provided in Appendix C. This includes the STA concurrence while details of the turning path assessment for buses is provided in Appendix D.

5. PARKING

The proposed parking provision for residential apartments under the Concept Plan is as follows:

	Average Across Completed Development	
	Minimum	**Maximum**
Studio/One-bed	- 0 space	1.0 space
Two-bed	- 1.0 space	2.0 spaces
Three-bed+	- 2.0 spaces	2.0 spaces
Visitors	1 space per 20 apartments (retail carpark and on-street)	
Bicycles	- 1 space per 15 apartments	
Motorbikes	- 1 space per 15 apartments	

The Concept Plan proposes that there will be an overall upper limit 'cap' on the provision of parking spaces across the total Discovery Point site (including the existing developed stages) of 2,240 spaces.

The provision for retail parking follows normal criteria for a village centre as the relatively small floorspace will not be an 'external attractor' providing largely for residents, workers and public transport passengers. The total retail floorspace shown in the Concept Plan would have 125 spaces which equates to some 1 space per 35m^2.

The proposed parking provision for the Stage 1 development is compared in the following with the Concept Plan criteria:

	Minimum	**Maximum**	**Proposed**
56 x one-bedroom	@ 0 0 spaces	@ 1.0 56 spaces	28 spaces
65 x two-bedroom	@1.0 65 spaces	@ 2.0 130 spaces	65 spaces
10 x three-bedroom	@ 2.0 20 spaces	@ 2.0 20 spaces	20 spaces
Total	**85 spaces**	**206 spaces**	**113 spaces**
Retail 2,197m^2	@ 1 per 35m^2 63 spaces	63	126 spaces
Visitor 130 apts	@ 1 per 20 apts 7 spaces	7	7 spaces
Total	**155 spaces**	**276 spaces**	**246 spaces**

The proposed parking provision will comprise:

* Residents 113 spaces in basement carpark (plus 1 carwash space)
* Retail 126 spaces in basement carpark
* Visitors 7 spaces shared in retail carpark plus

The residential and retail parking areas will include accessible/disabled spaces in accordance with the assessment provided in the Accessibility Report as follows:

* 3 spaces for retail/visitor
* 3 spaces for residents.

It is apparent that the proposed Stage 1 parking provision will accord with the principles established in the Concept Plan and the cumulative parking provision to date will comprise:

	Building	**Parking**
Completed/Under Construction	Greenbank	147
	Verge	88
	Vine	88
	Total	**343 spaces**
Stage 1		246 spaces
	Total	**589 spaces**

6. TRAFFIC

Previous planning processes incorporating development schemes for the Discovery Point site have been accompanied by various traffic generation assessments as follows:

	AM	PM
1998 (MWT) Medium scenario	2,305 vtph	2,585 vtph
2000 (Stapleton)	1,589 vtph	1,589 vtph
2004 (Project Planning)	1,450 vtph	1,910 vtph
2006 (TTPA)	1,400 vtph	1,680 vtph
2010 (Concept Plan)	997 vtph	997 vtph

The overall Concept Plan represents a significant change to the development outcome for Discovery Point with:

* reduced retail and commercial floorspace and carparking
* increased residential apartments
* reduced parking provisions consistent with sustainable development outcomes.

The Concept Plan traffic assessment concluded that the traffic generation outcome would be significantly less than that of the previous Masterplan traffic assessments. This projected outcome is only some 58 - 69% of that projected for the earlier Masterplan and therefore the implications for all of the access intersections are significantly better. It follows that the traffic generation outcome of the Concept Plan do not require any facilitating road/intersection upgrade works.

Stage 1 Traffic Generation

The traffic generation of the proposed Stage 1 development will comprise:

130 apartments @ 0.29vtph	38 vtph
Retail 126 parking spaces	
@ 0.4vtph per space AM	50 vtph
@ 2 vtph per space PM	25 vtph
Kiss'n'ride, taxis, service	10 vtph
Total	**73 vtph AM**
	98 vtph PM

It is apparent that the projected traffic generation of the proposed Stage 1 development will be entirely compatible with the outcome projected in the Concept Plan assessment.

7. PEDESTRIANS, CYCLISTS AND PUBLIC TRANSPORT

Pedestrians

The proposed development will make provision for pedestrians with:

- a 'vehicle free' pedestrian corridor connecting north-south to the station between Buildings 1B and 1C
- reduced road crossing widths at intersections and along Discovery Point Place adjacent to the bus/rail interchange
- 'vehicle free' plaza areas including neighbourhood park to the south of Building 1B
- streetscaped footways along the Brodie Spark Drive and Discovery Point Place frontages with numerous 'set back' widenings
- a high level of surveillance, lighting and urban design/landscaping
- limited vehicle accesses, particularly on streets traversed by pedestrians and cyclists
- covered walkways to/from the station.

Cyclists

The proposed development will make provision for cyclists with:

- the bicycle lanes along Brodie Spark Drive allowing for connection to shared footway facilities on the internal network

- basement bike parking for residents

- bicycle racks for staff and shoppers.

Public Transport

The proposed development will make provision for public transport services with:

- provision to satisfactorily maintain access, standing and interchange for bus services during the construction process as indicated on the diagram overleaf

- provision for taxis and 'kiss'n'ride' vehicles to stand on the southern side of Discovery Point Place

- provision for buses to suitably access via Magdalene Terrace, Spark Lane and Discovery Point Place and depart via Brodie Spark Drive with the completed development as indicated on the turning paths provided in Appendix E

- provision of appropriate segregated standing (2 spaces) on Discovery Point Place adjacent to the station access including appropriate shelter, lighting and other facilities

- provision of footways and internal links to facilitate travel to/from the convenient bus and rail services

- reducing the need for nearby residents to travel by car in order to shop for essential needs (ie residents will be more inclined to travel to/from work by public transport when they are not reliant on car travel in order to shop as part of the work trips).

The proposed final and temporary arrangements relevant to the STA have received formal convenience (Appendix C).

Check all dimensions and site conditions prior to commencement of any work, the purchase or ordering of any materials, fittings, plant, services or equipment and the preparation of shop drawings and or the fabrication of any components.

Do not scale drawings - refer to figured dimensions only. Any discrepancies shall immediately be referred to the architect for clarification.

LEGEND:

- 1B
- 2B
- RESIDENTIAL FOYER
- CORE

BUILDING 11 CARPARK OVER

Proposed Bus Turning Circle

RL. +2.00

Proposed Carpark Roof

RL. +4.80

Brodie Spark Drive

RL. +6.50

G.06
2B
89 m²

G.05
2B
86 m²

G.03
1B
66 m²

G.02
1B
53 m²

G.01
2B
76 m²

RL. +2.00

Gradient 1:16

RL. +2.44

Gradient 1:9

RL. +4.00

Gradient 1:9

RL. +5.96

RL. +6.39

Gradient 1:16

RL. +6.40

EARTH BUND

1 DA6.02

2 DA6.11

3 DA6.11

1 DA6.11

6 DA6.12

05 DA6.12

04 DA6.12

01 DA6.12

03 DA6.12

02 DA6.12

1 DA6.02

1 DA2.01 Detailed Site Plan - Ground Floor

1 : 200

PRELIMINARY

Revision	Date	Description	Initial	Checked
2	03.12.10	Issued for Information	APW	DT
1	19.11.10	Issued for Information	JK	DT

Discovery Point

Discovery Point, Wolli Creek Stage 1

Ground Floor Plan

Status	PRELIMINARY		
Scale	1 : 200	@ A1	
Drawn	Author	Checked	Checker
Project No.	S11191A		
Plot Date	3/12/2010 1:02:22 PM		
Plot File	C:\TEMP\Arch-BS-DP6-101110_KUJ.rvt		
Drawing no.	DA2.01	Revision	2

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PRELIMINARY

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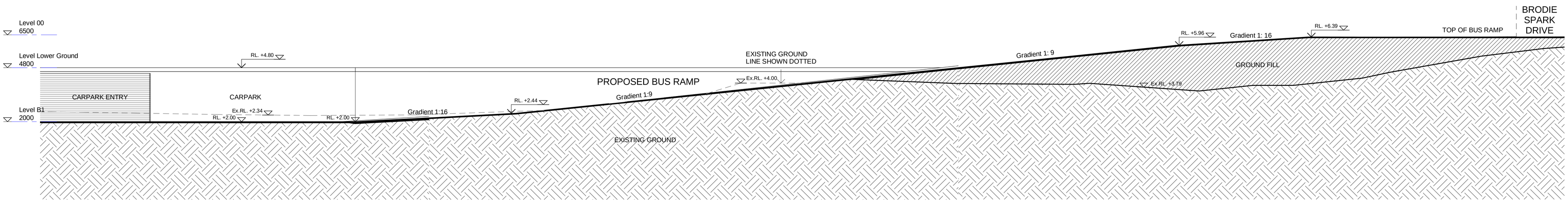
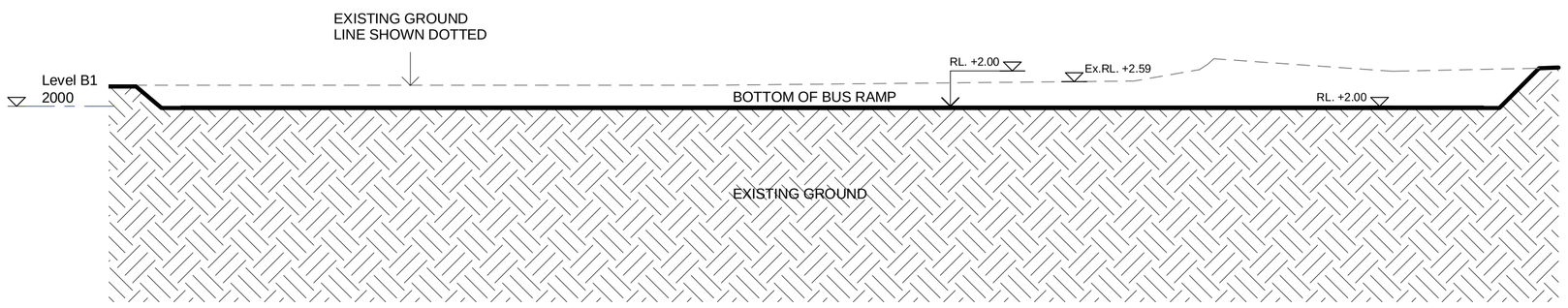
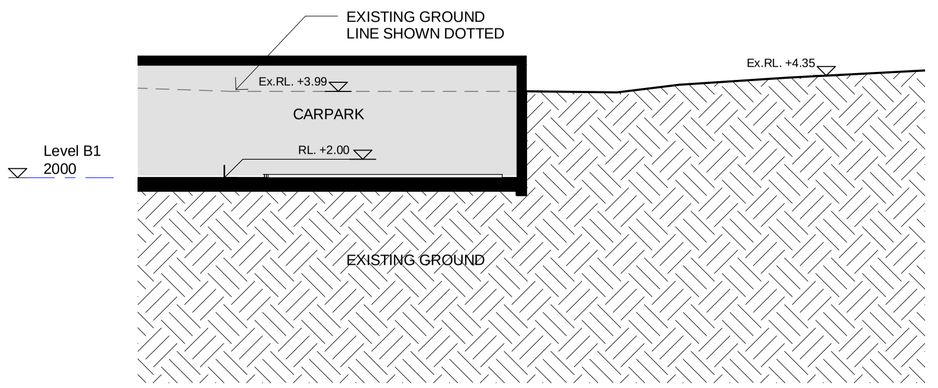


1 DA6.11 — Ramp Long Section
1 : 100



2 DA6.11 — Ramp Bottom Section
1 : 100



3 DA6.11 — Carpark Section
1 : 100

GROUND CONDITION LEGEND

- EXTENT OF EXCUVATION
- EXTENT OF GROUND FILL
- EXISTING GROUND

PRELIMINARY

Revision	Date	Description	Initial	Checked
1	03.12.10	Issued for Information	APW	DT

Discovery Point

Discovery Point, Wolli Creek Stage 1

Temp Bus Ramp Long Sections

Status	PRELIMINARY
Scale	1 : 100 @ A1
Drawn	Author
Checked	Checker
Project No.	S11191A
Plot Date	3/12/2010 1:02:37 PM
Plot File	C:\TEMP\Arch-BS-DP6-101110_KUJ.rvt
Drawing no.	DA6.11
Revision	1

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LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2000. 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.

N

SWEPT PATH ANALYSIS OF A 12.5m BUS

SP 5

8. ACCESS, INTERNAL CIRCULATION AND SERVICING

Access

Vehicle access for Stage 1 will be contained to the Spark Lane frontage and will comprise:

- a 5.5 metre wide combined ingress/egress driveway for the basement carpark located at the southern side of Building 1B

- separate ingress and egress driveways for the retail loading dock.

Spark Lane will be relatively straight and level at this location and there will be satisfactory sight distances available. The proposed driveways will comply with the AS 2890.1 and 2 design criteria and will satisfactorily accommodate all vehicles requiring access.

Internal Circulation

The internal circulation arrangements have been designed to accord with the AS 2890.1 and 6 criteria including ramps, aisles, bays, height clearance, grades and manoeuvring. Provision is made for interconnection through the integrated basement level with the other buildings for residents.

Servicing

A segregated retail loading dock will be provided on the western side with access on Spark Lane. This dock will be adequate to accommodate MRV's as well as refuse removal. Details of a turning path assessment indicating satisfactory access and manoeuvring provision are reproduced in Appendix E confirming that access will be undertaken on a forward direction at all times.

There will also be some LOADING ZONE provision on Brodie Spark Drive for deliveries to retail specialty shops.

9. RELEVANT EPI'S, POLICIES AND GUIDELINES AND AUTHORITY'S ISSUES

This section of the report addresses relevant environmental planning instruments, policies and guidelines and Authority issues in accordance with the DGR's.

We understand that the Minister for Planning is not bound by the provision of an environmental planning instrument, other than a State Environmental Planning Policy in determining an application for a major project (Section 75R(3). In the giving of approval for a Concept Plan the Minister may take into account (but is not required to) the provisions of any environmental planning instrument that would apply but for the application of Section 75R.

∗ **Metropolitan Transport Plan 2010 (February 2010)**

Planning Objectives	Strategies	Compliance
- Effectively link Sydney's landuse planning with its transport network - Create a working, connected sustainable City - Improve quality of life boost the economy and help face future challenges - Integrate with the Metropolitan Strategy providing an effective framework for housing and employment growth and development in Metropolitan Sydney	- Provide 70% of new housing in established areas - Diversity with a variety of renewed neighbourhoods - Ample transport connections - Contain congestion - Concentrate development and supporting transport services in centres - Make better use of existing infrastructure	✓ ✓ ✓ ✓ ✓ ✓

∗ Integrating Landuse and Transport Policy Package (August 2001)

Planning Objectives	Strategies	Compliance
- Reducing the growth of VKT	- Concentrate centres	✓
- Improving air quality and reducing green house emissions	- Mix uses in centres	✓
	- Align centres with corridors	✓
- Building more compact cities	- Link public transport with landuse	✓
- Promoting economic development and creating jobs	- Connect streets	✓
- Focus on the movement or people and good rather than vehicles	- Improve pedestrian access	✓
	- Improve cycle access	✓
- Focus on maximising accessibility	- Manage parking supply	✓
	- Improve road management	✓
	- Good urban design	✓

* Planning Guidelines for Walking and Cycling (December 2004)

Planning Objectives	Strategies	Compliance
- The Walking and Cycling City - Accessible centres	- Improve walkability and cycleability across the City	✓
- Walking and cycling catchments - Regional walking and cycling networks	- Emphasise urban redevelopment and renewal over urban expansion	✓
- Mixed use neighbourhoods - Local walking and cycling networks - Security and safety	- Create accessible centres by increasing density and landuse mix	✓
- Parks and open space - Building and site design	- Ensure walking and cycling and use of public transport is more direct and convenient than use of cars	✓
	- Create quality public spaces	✓
	- Provide bicycle parking at public transport stops	✓
	- Locate centres near passenger transport stops	✓
	- Integrate local walking and cycling networks into neighbourhood scale designs	✓
	- Encourage active uses at street level	✓
	- Minimise the number of driveways crossing footpaths	✓
	- Design intersections to be visibly and physically tight to slow traffic and reduce pedestrian crossing distances	✓

∗ Nature and extent of any non-compliance with relevant environmental planning instruments, plans and guidelines.

Planning Instrument	Justification
∗ DCP № 45 'Railway Precinct' Street pattern as shown on Fig 4.1 Roads designed as per Fig 4.2 Carparking will comprise 2,210 spaces 12 parking spaces should be provided for tradespeople Bicycle routes Brodie Spark cross section Mount Olympus cross section Spark Lane cross section	The Concept Plan will replace the existing Masterplan as it relates to the remaining development area of the site. Consequently the proposal will differ in part from the road network, parking and other traffic aspects of the DCP. The proposal however, remains consistent in general terms and carparking will be limited to a maximum of 2,240 spaces.
∗ Parking and Loading Code Small/medium dwelling 1 space Large dwelling 2 spaces Visitor 1 space per 4 dwellings (no visitor parking required if commercial component of on-site parking available for visitors after hours) Retail 1 space per 25m^2 Offices 1 space per 40m^2	The Concept Plan and Stage 1 proposals are consistent with this criteria.

∗ **<u>Authority's Issues</u>**

Roads and Traffic Authority (letter of 12.3.10)

- <u>Compliance with Government Strategies</u>

  The Concept Plan (and therefore Stage 1) is compliant with government strategies as detailed in the foregoing. In particular by co-locating urban development with existing transport services and encouraging walking, cycling and use of public transport.

- Traffic Impact and Need for Road Improvements

  The projected traffic generation of development under the Concept Plan (and therefore Stage 1) will be significantly less than development under the existing approved Masterplan and its associated infrastructure works. It is apparent therefore that there is no need for accommodating road upgrade works on the external access road system.

- Design Compliance of Accesses and Parking to Relevant Australian Standards

  The design of access and parking elements will be compliant with the relevant standards.

- Quantum of Carparking

  The proposed carparking provision will be compliant with the requirement of sustainable development which minimises reliance on private motor vehicle travel and generally compliant with appropriate codes and the Concept Plan sets a maximum of 2,240 spaces.

- Details of Service Vehicle Movements

  Details are provided in this report.

- Traffic Management Plan for Construction

  Note as a requirement for Project Applications.

* Sydney Buses

- Potential Traffic Impact on the Road Network

  The traffic impact of Stage 1 will be less than that of development under the existing approved Masterplan as assessed in this report.

- Ability for Buses to Use the Road Network

  Demonstrated in this report.

- Improve the Existing Road Network

  The existing arrangements for buses are only temporary. The median island on Brodie Sparks Drive will be removed and the circulation and standing of buses will be facilitated under the implementation of the overall Concept Plan.

- Impact of Development Staging

  Addressed in the assessment and will be satisfactory.

- Bus Terminus Location

  There will be one terminus location adjacent to the station entrance with a simple one-way clockwise bus circulation for approach and departure.

- Accommodate Future Growth

  The proposed terminus complies with the DCP requirement for 2 standing spaces.

- Construction Traffic Management Plan

  Not required for the Project Application.

∗ Transport and Infrastructure

- Policies, Planning Instruments and Development Guidelines

  Addressed in the foregoing.

- Transport and Accessibility Impact

  Addressed in this report with a reduced level of traffic generation by the nature/quantum of the uses and the constraint on parking provision.

  More than adequate capacity is available on the existing rail and bus services and the Concept Plan and therefore for Stage 1 is entirely consistent with the NSW State Plan.

- Access to Bus Services along Princes Highway

  There are no bus services along the highway persé as the bus service enters the site from the highway interchanges at the Railway Station and departs back to the highway. Hence it is entirely accessible.

- Provisions for Bicycles

  Connections are/will be available to the surrounding bicycle network while storage/facilities for cyclists will be provided in the Stage 1 development.

- Reduced Parking Provision

  The proposed parking provision reflects contemporary planning principles and the high public transport accessibility.

10. CONCLUSION

Assessment of the proposed Stage 1 development scheme concludes that:

- it will comply with Rockdale Council's objectives of a 50% mode split to other transport modes for work related trips and precludes commuter parking

- it will comply with the objective of providing sufficient parking to adequately service the development while at the same time managing the supply of parking to discourage excessive private car usage

- as part of the Overall Concept Plan it will comply with the objective of providing for and facilitating pedestrian and cyclist movements and end of trip facilities

- it will not have any adverse traffic implications and will in fact have a traffic generation outcome which is significantly less than that with development under the former Masterplan

- it will have suitable and appropriate vehicle access, internal circulation and servicing arrangements

- it will provide vehicle free pedestrian corridors

- it will suitably provide for bus access and interchange with the railway including temporary arrangements during construction

- it will be consistent with the Concept Plan assessment, the Director General's Requirements and Statement of Commitments for the Concept Plan

- it will be compliant with the relevant Australian Standards AS 2890.1, 2, 3 and 6.

APPENDIX A

S96 ROAD AND TRAFFIC WORKS

TABLE A s94 funded roads, traffic management and parking facilities

Ref. No.	Location	Description of proposed works
RT1	New link road from Princes Highway (opposite Gertrude Street) to Arncliffe Street	Land acquisition and road construction
RT1A	Intersection improvements at Princes Highway and Gertrude Street	Amplify traffic signals
RT1B	Intersection improvements at Gertrude Street (west extension) and Arncliffe Street	Install traffic signals
RT1C	Widening of Gertrude Street, northern side between Princes Highway and Levey Street	Land acquisition and road construction
RT2	New link road from Levey Street (opposite Gertrude Street) to Marsh Street	Land acquisition and road construction
RT2A	Intersection improvements at Gertrude Street (east extension) and Marsh Street	Install traffic signals
RT3	New link road from Lusty Street to Guess Avenue	Land acquisition and road construction
RT4	Widening and reconstruction of Lusty Street, west of Arncliffe Street	Land acquisition on southern side and road construction
RT5	Widening of Brodie Spark Drive between Lusty Street and Princes Highway	Land acquisition on both sides and road construction
RT6	Widening of Arncliffe Street between Lusty Street and SWSOOS	Land acquisition on both sides and road construction
RT9	Improvements to Lusty Street on west side of the Illawarra Railway Line	Construct turning bays at west and east ends
RT10 -	Widening of Princes Highway, west side between Burrows Street and Brodie Spark Drive	Land acquisition and road construction
RT11	Intersection improvements at Princes Highway and Brodie Spark Drive	Widening of east side of highway, reconstruct intersection to include turning lanes and installation of traffic signals
RT12	Intersection improvements at Lusty Street, Arncliffe Street and Brodie Spark Drive	Installation of roundabout
RT13	Upgrading of intersection at Princes Highway, West Botany Street and future link road (RT14)	Modify intersection for improved traffic facilities
RT14	Future link road from Princes Highway (opposite West Botany Street) to new mid-block access road	Land acquisition and road construction
RT15	Intersection improvements at Arncliffe Street, Allen Street and Wollongong Road	Modify intersection for improved traffic facilities
RT16	Other traffic management facilities in the area	Includes supplementary management devices and signage
RT17A	Safety improvements to Wollongong Road railway underpass	Reduction of road width, construction of new footpath and straighten/realign intersection
RT17B	Safety improvements to Guess Avenue railway underpass	Construct new pavement, kerb and gutter and footpath, provide signage
RT18	Traffic management facilities in Wollongong Road system	Includes management devices and signage
RT19	On street parking management facilities on roads within and adjacent to area	Signage
RT20	Intersection improvements at Bonar Street and Guess Avenue	Construct median islands and roundabout
PT1	Public transport improvements on roads within area	Bus shelters and signage, bus lanes within carriageways

APPENDIX B

ROAD NETWORK DETAILS

FOR APPROVAL

Notes:

1. Awnings, sun control devices, telecommunication devices, architectural design features and the like are permitted to encroach beyond the building envelopes.

2. Where approved building separation distances are below RFDC 'Rules of thumb', suitable design measures to ensure privacy (e.g. dwelling orientation, privacy screens, hi-light windows and the like) must be demonstrated in detailed project applications

Revision	Date	Description	Initial	Checked
E	18.04.11	Bldg 7, 8, 10, 14 massing amended	MA	MA
D	23.02.11	Podium RL amended	JK	MA
C	14.12.10	Podium RL amended	JK	MA
B	10.12.10	Building separation increased generally	JK	MA
A	16.06.10	FOR APPROVAL	AV	MA

Discovery Point, Wolli Creek
Stage 1

Proposed Building Envelopes

Scale	1:500 @ A1 1:1000 @ A3
Drawn	APW
Checked	MA
Project No.	S11191
Status	PLANNING
Plot Date	18/4/2011 12:00:46 PM
Drawing No.	DA3-001
Revision	E

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APPENDIX C

STA CORRESPONDENCE

TRANSPORT AND TRAFFIC PLANNING ASSOCIATES

A division of Monvale Pty Ltd ACN 060 653 125
ABN 44 060 653 125

14 December 2010
Ref 10178

Mr Brian Mander
Manager Traffic and Services Planning
Sydney Buses
Level 1, 24 Cleveland Street
STRAWBERRY HILLS 2012

(Email: brian_mander@sta.nsw.gov.au
cc: CPope@australand.com.au
kkrason@australand.com.au
dtordoff@batessmart.com)

Dear Brian

Discovery Point Development
Wolli Creek

Thank you for the attendance of your offices at the recent meeting to discuss design issues relating to buses within the subject development.

As a consequence of the decisions at that meeting, I attach details of :

* the permanent bus stop arrangement proposed for Discovery Point Place
* the temporary bus stop arrangement proposed for Brodie Spark Drive
* the final road system with bus turning paths overlaid
* the temporary bus turnaround facility
* road cross sections.

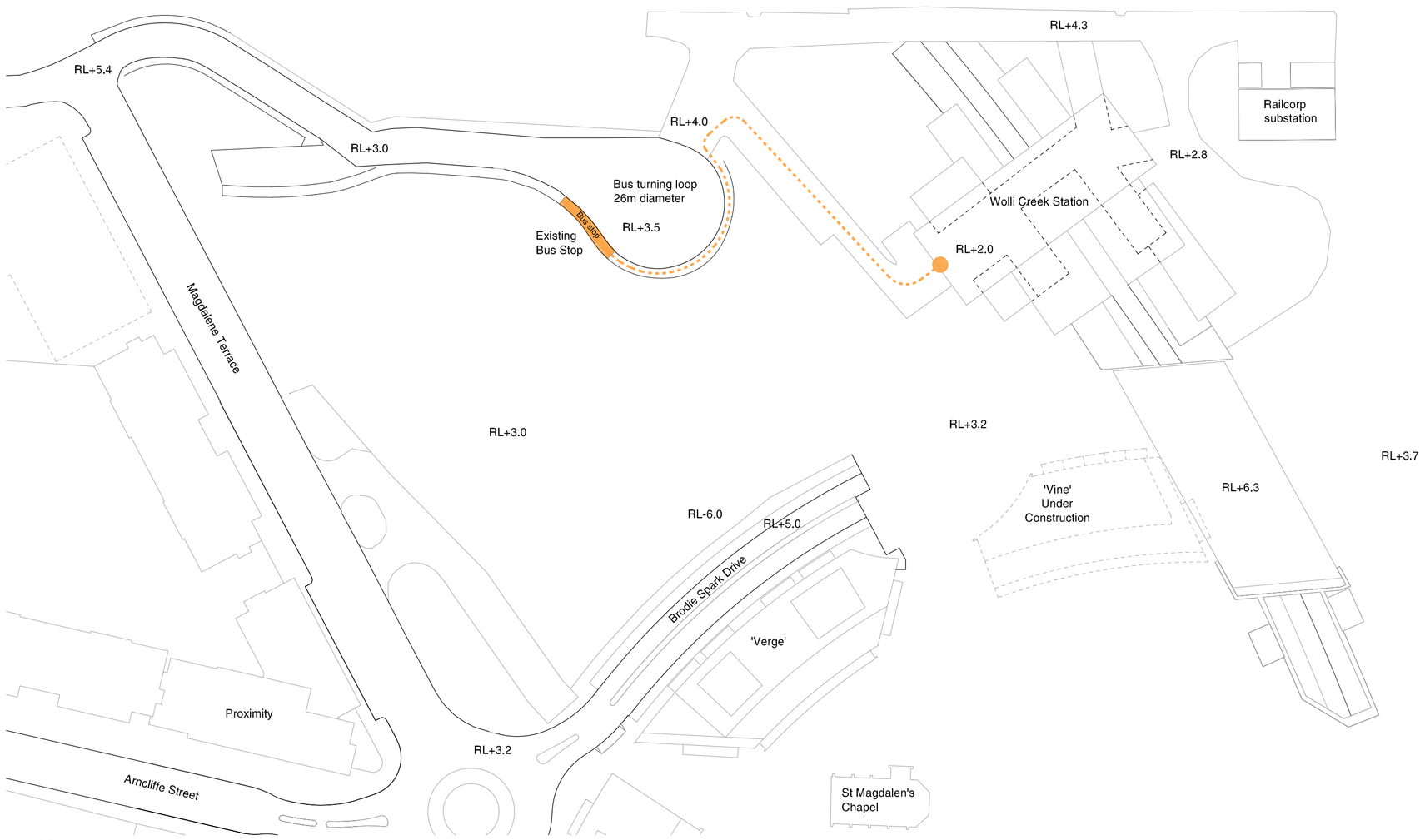
During the period in which the temporary bus stop will be operational there will be very little traffic flow on this section of Brodie Spark Drive. If it occurs that a second bus arrives and is forced to stand out of the bay this will not have any adverse traffic implications.

Suite 502 Level 5 282 Victoria Avenue PO Box 1160 Chatswood NSW 2067 ph (02) 9411 5660 Fax (02) 9904 6622
Email ttpa@ttpa.com.au

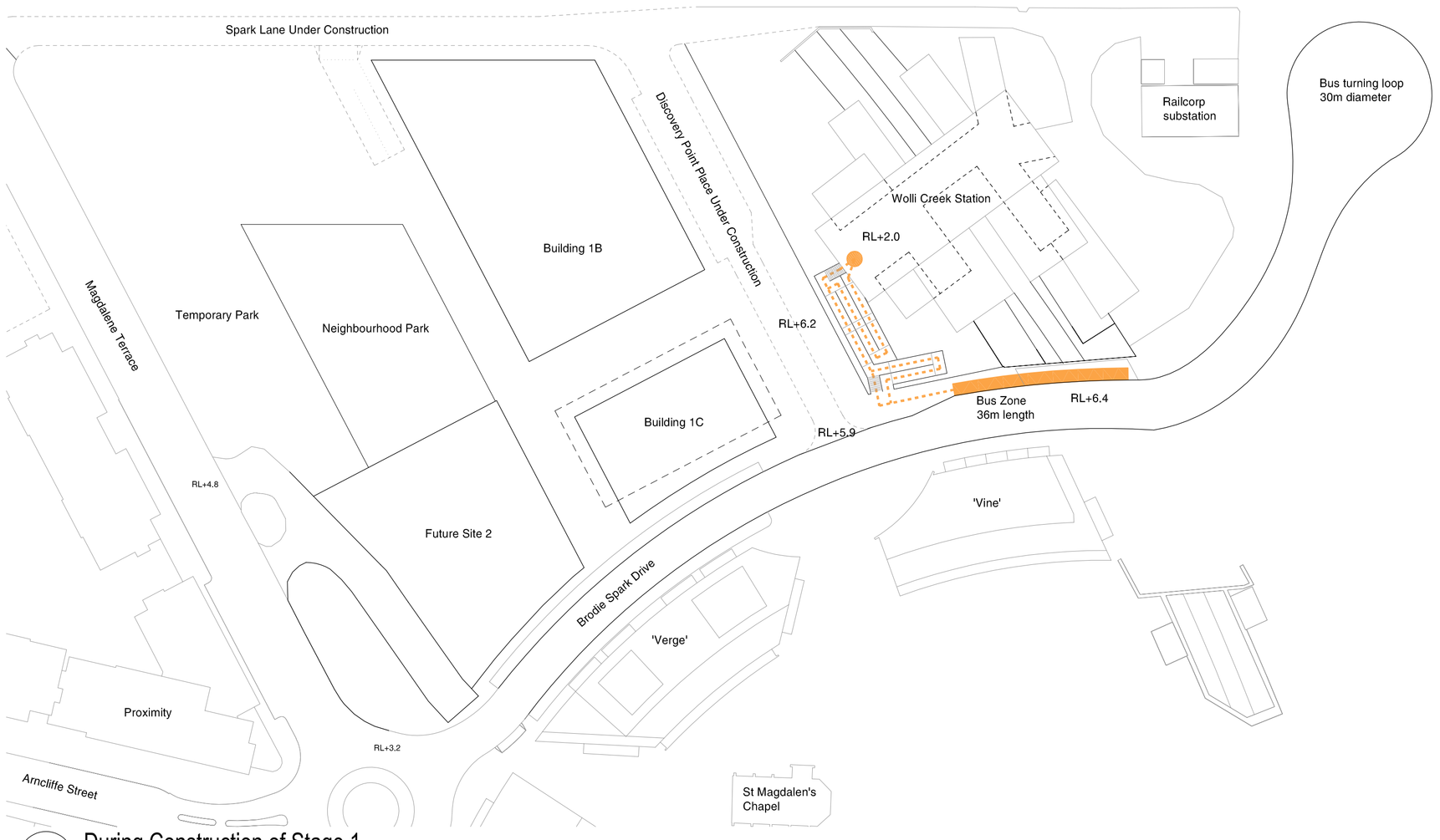
It would be appreciated if you could respond to these proposals at an early opportunity to facilitate the Department of Planning resolution in relation to the Concept Plan Application.

Yours faithfully

Ross Nettle
Director
Transport and Traffic Planning Associates



1 DA7-003 **Existing Condition**
PLAN 1:750



3 DA7-003 **During Construction of Stage 1**
PLAN 1:750

4 DA7-003 **Condition after Completion of South Precinct**
PLAN 1:750

FOR INFORMATION
NOT FOR APPROVAL

Discovery Point

Key:

- Road
- New building
- Bus Zone
- Pedestrian Route from Bus Stop to Station
- Station Entry

Revision	Date	Description	Initial	Checked
C	14.12.10	Temporary Stair/ramp amended	AW	MA
B	10.12.10	Interim stage deleted as permanent bus loop is built in the first stage.	APW	MA
A	16.06.10	FOR INFORMATION ONLY	APW	MA

Discovery Point, Wolli Creek Stage 1

Bus Access Staging Diagrams

Scale	1:750
Drawn	AW
Checked	MA
Project No.	S11191
Status	PLANNING
Plot Date	14/12/2010 2:31:01 PM
Plot File	S:\11100-11199\s11191_australand_wollicreek\00_main\cad\plot ... ...s\DA\DA7-003.dwg
Drawing No.	DA7-003
Revision	C

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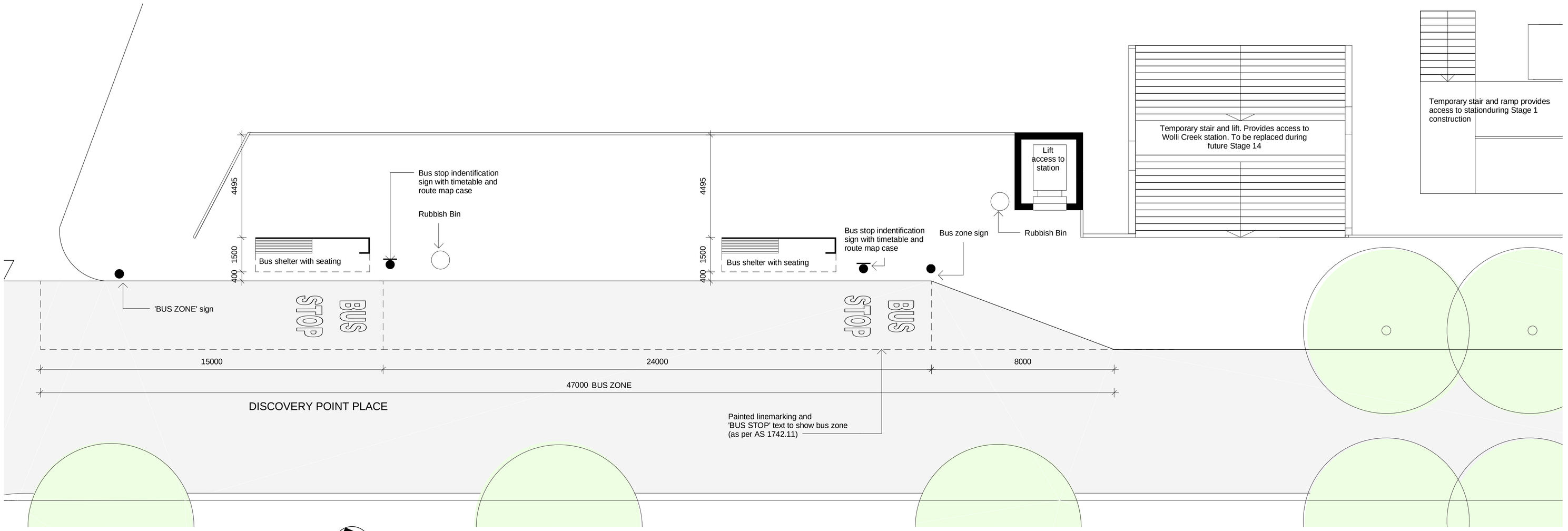
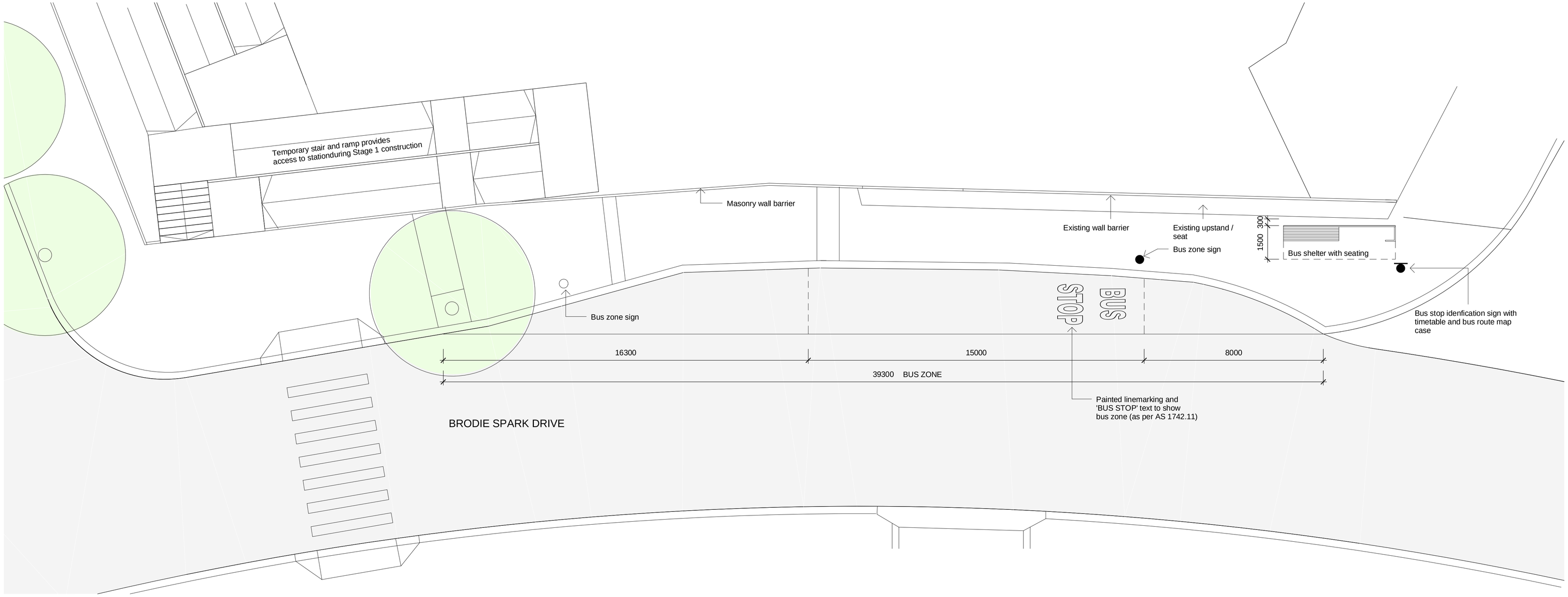


1 DA3.100 Permanent Bus Stop
1 : 100



2 DA3.100 Temporary Bus Stop
1 : 100

THIS DRAWING HAS BEEN PREPARED IN ACCORDANCE WITH DISCOVERY POINT CONCEPT PLAN URBAN DESIGN GUIDELINES

Check all dimensions and site conditions prior to commencement of any work, the purchase or ordering of any materials, fittings, plant, services or equipment and the preparation of shop drawings and or the fabrication of any components.

Do not scale drawings - refer to figured dimensions only. Any discrepancies shall immediately be referred to the architect for clarification.

Revision	Date	Description	Initial	Checked
B	17.06.11	Project Application	SA	MA
A	07.02.11	Project Application	AW	MA

Discovery Point

Discovery Point, Wolli Creek Stage 1

Permanent & Temporary Bus Stops

Status	PLANNING
Scale	1 : 100 @ A1 1:200 @A3
Drawn	ST
Checked	MA
Project No.	S11191A
Plot Date	17/06/2011 4:47:49 PM
Plot File	
Drawing no.	DA3.100
Revision	B

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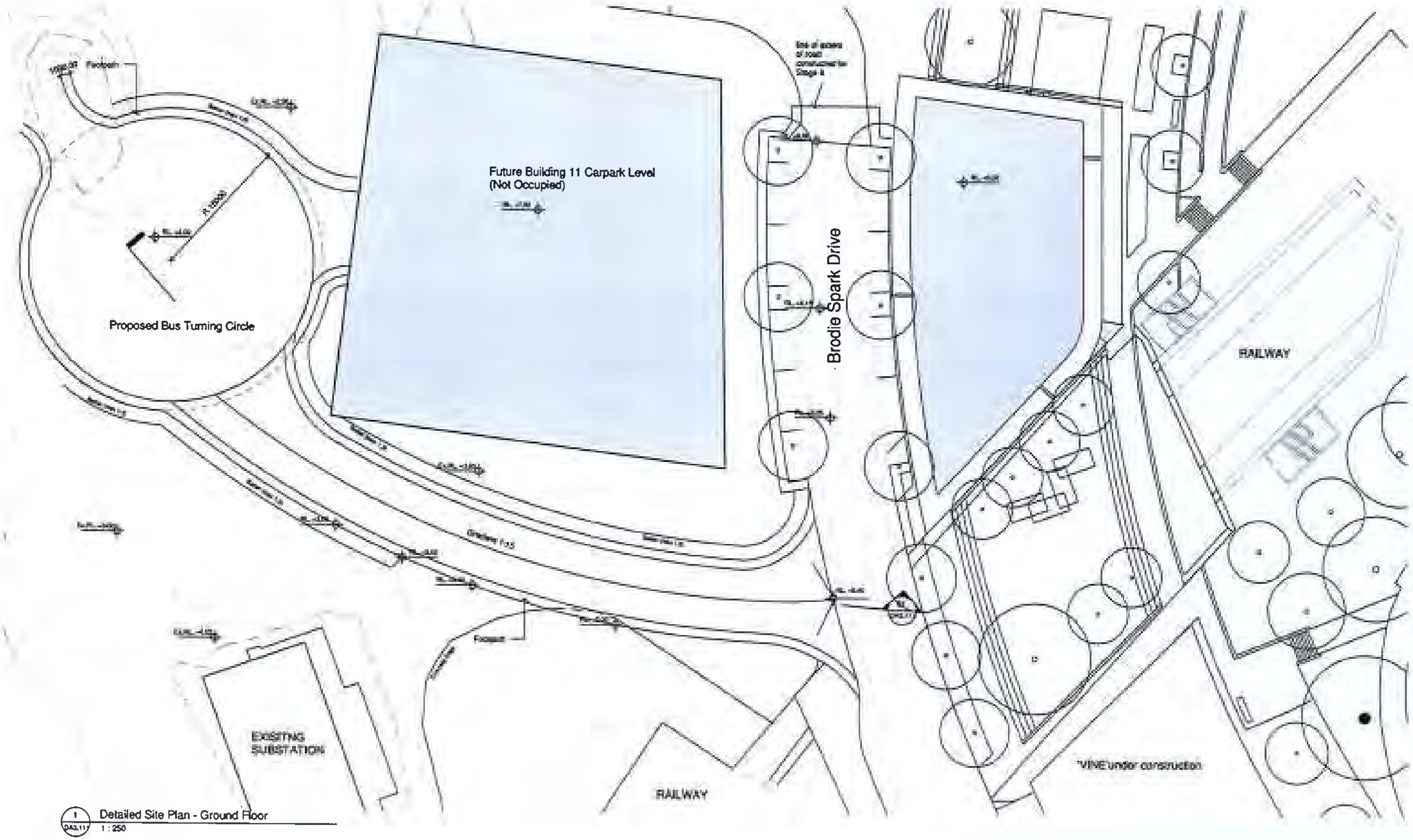
Long Section 1 : 100



Detailed Site Plan - Ground Floor 1 : 250

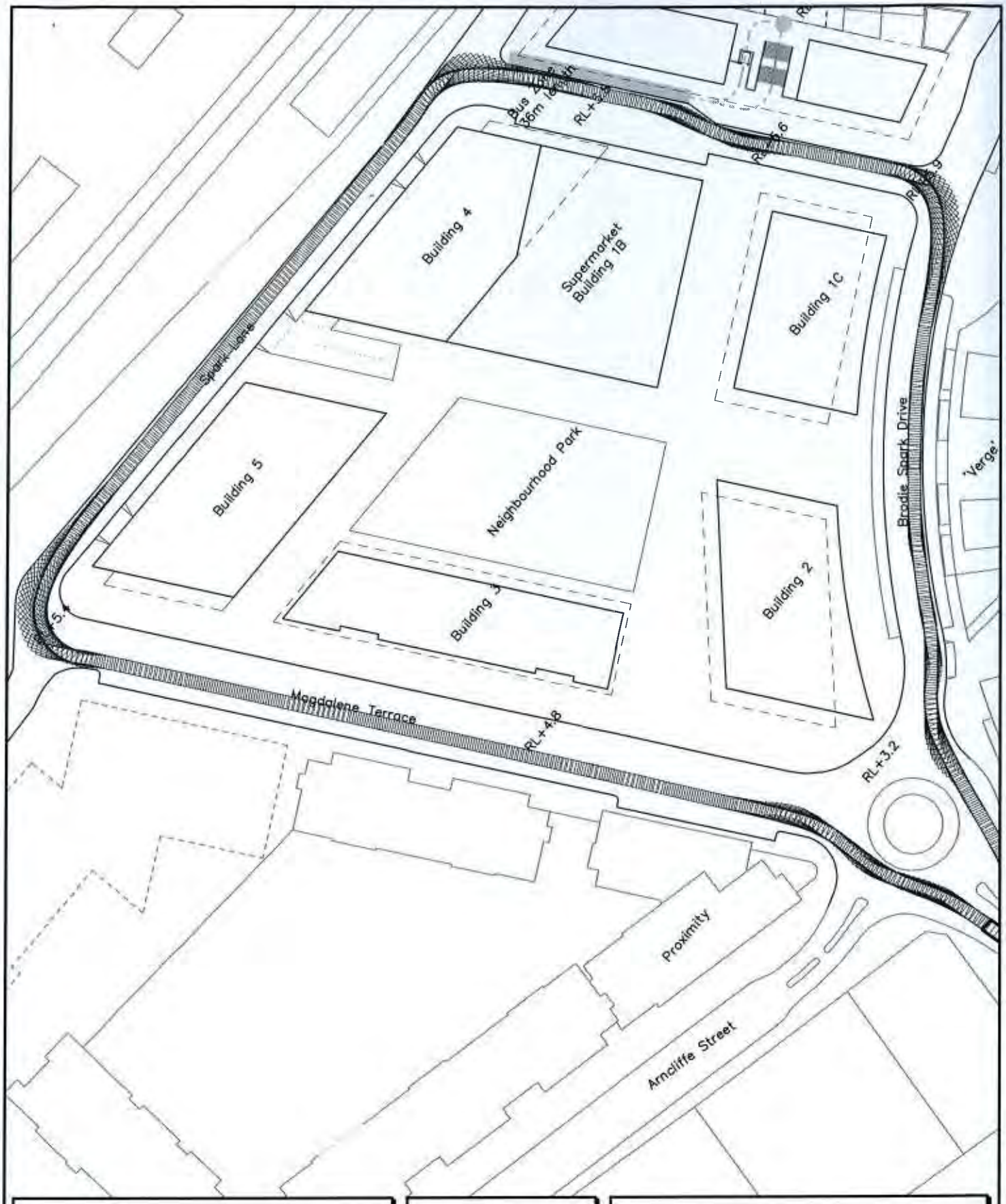
Discovery Point

Discovery Point, Wolli Creek
Stage 6

Propose Bus Turning Circle

DA3.111 1

BATESSMART



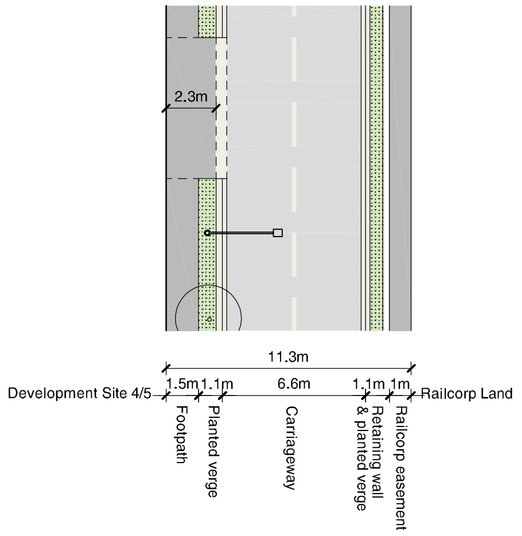
LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2000. 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.

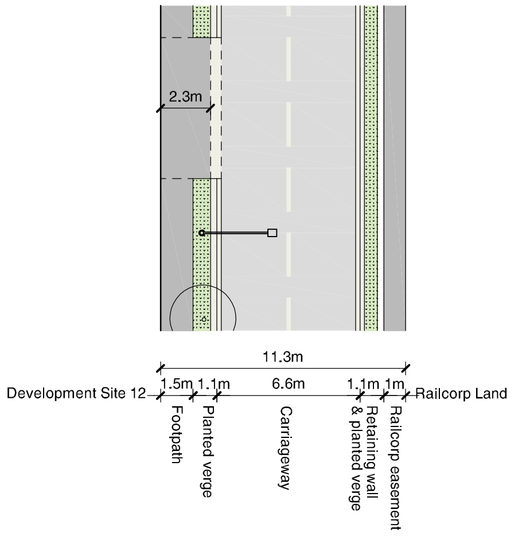
N

SWEPT PATH ANALYSIS OF A 12.5m RIGID VEHICLE

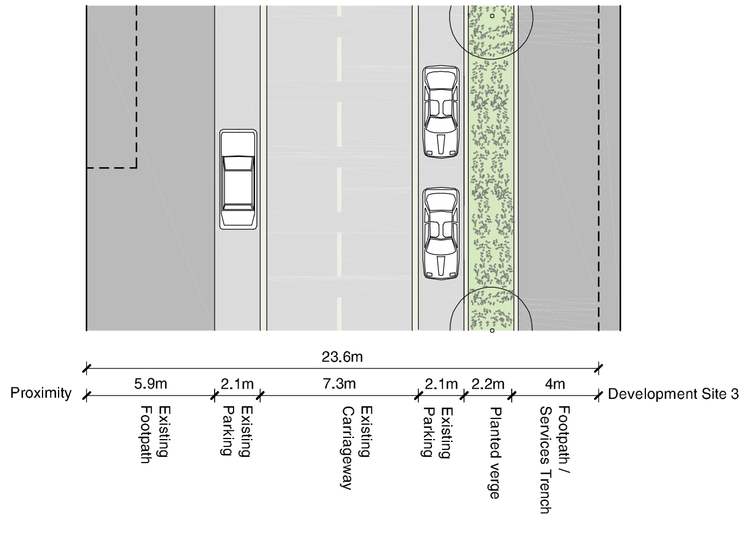
SP 1



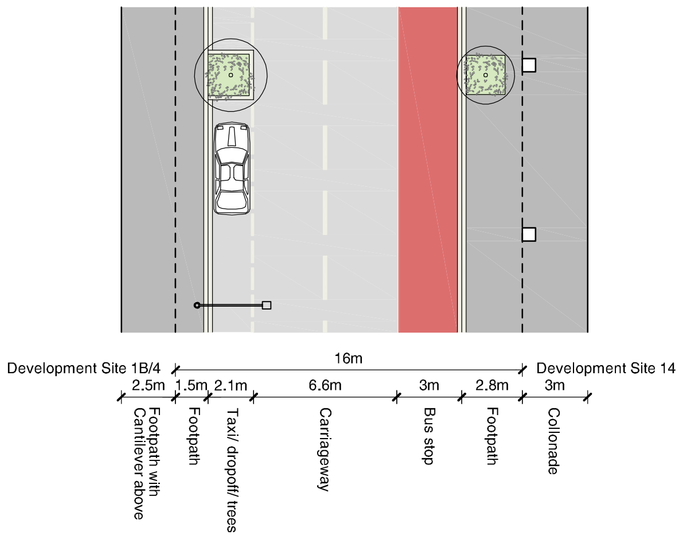
1 DA3.101 **SPARK LANE SOUTH**
PART PLAN



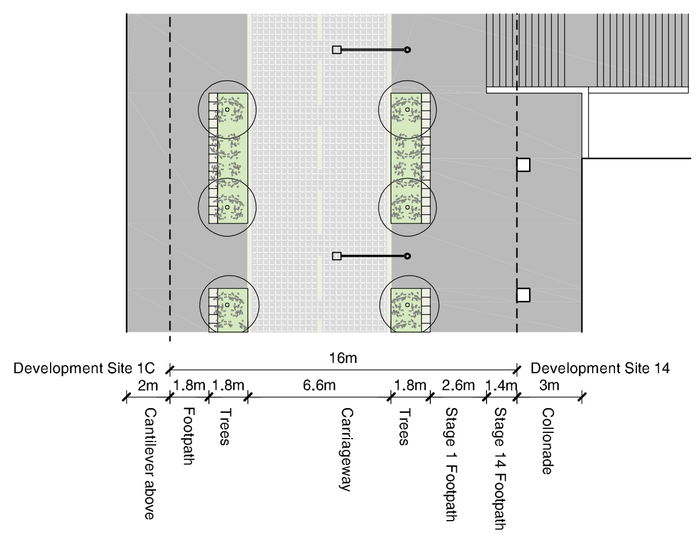
2 DA3.101 **SPARK LANE NORTH**
PART PLAN



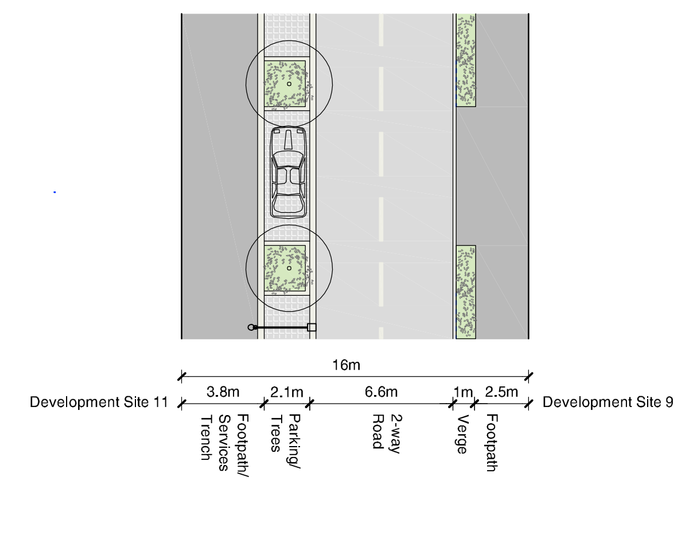
3 DA3.101 **MAGDALENE TERRACE**
PART PLAN



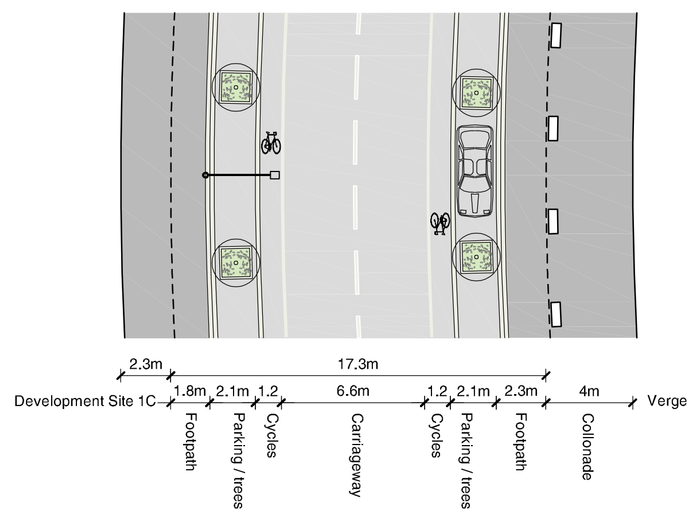
4 DA3.101 **DISCOVERY POINT PLACE (WEST)**
PART PLAN



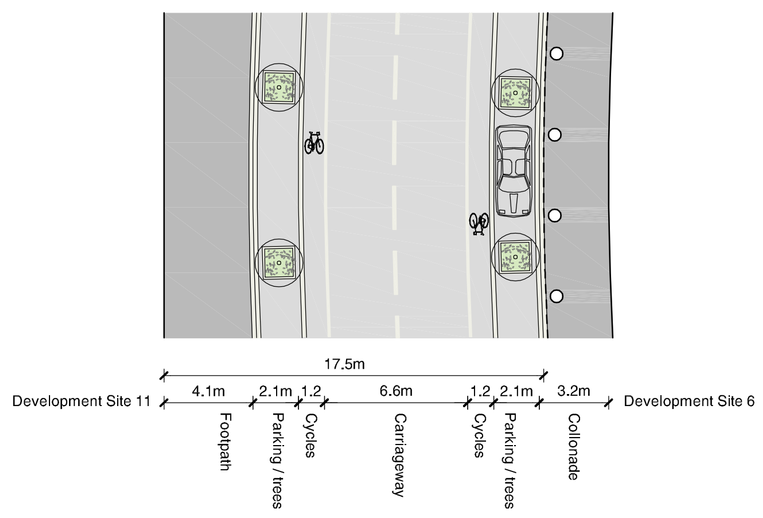
5 DA3.101 **DISCOVERY POINT PLACE (EAST)**
PART PLAN



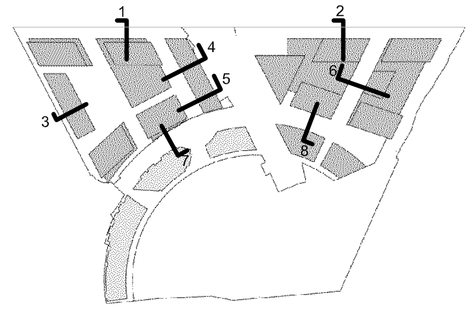
6 DA3.101 **CHISHOLM STREET**
PART PLAN



7 DA3.101 **BRODIE SPARK DRIVE SOUTH**
PART PLAN



8 DA3.101 **BRODIE SPARK DRIVE NORTH**
PART PLAN



Revision	Date	Description	Initial	Checked
E	17.06.11	Spark Lane verge amended	MA	MP
D	08.06.11	Street widths amended	MA	MP
C	14.12.10	Magdalene Tce setout amended	MA	DT
B	10.12.10	Planted verge added to Magdalene Tce; Spark Lane widened.	JK	MA
A	16.06.10	FOR APPROVAL	APW	MA

Discovery Point, Wolli Creek
Concept Plan
Street Setout

FOR APPROVAL

Scale	1:200 @ A1 1:400 @ A3
Drawn	APW
Checked	MA
Project No.	S11191
Status	PLANNING
Plot Date	18/6/2011 12:53:18 PM
Plot File	S:\11100-11199\s11191_australand_wollicreek\00_main\cad\plot ... -- \[DA\DA3-101.dwg
Drawing No.	DA3-101
Revision	E

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Sandra King

From: Robert_Rosadi@sta.nsw.gov.au
Sent: Tuesday, 25 January 2011 9:03 AM
To: ttpa@ttpa.com.au
Cc: Eric_Graham@sta.nsw.gov.au; Ian_Brocklehurst@sta.nsw.gov.au; Brian_Mander@sta.nsw.gov.au
Subject: ATTN: Sandra King - Wolli Creek
Attachments: MANDER 14 12 10 LTR.pdf; MANDER 24 1 11 LTR.pdf

Dear Sandra,

Thank you for forwarding the documents for review. State Transit has no objections to the proposed temporary arrangements and the final arrangements. It would be appreciated if you could advise of a proposed commencement date so we can advise our operational staff and customers of the change in route.

Thanks,

Robert Rosadi
Senior Traffic Engineer
State Transit

P: 02 9245 5614 | F: 02 9245 5611
www.statetransit.info
----- Forwarded by Robert Rosadi/StrawberryHills/STA on 25/01/2011 08:58 AM -----

Brian Mander/Kingsgrove/STA
24/01/2011 03:03 PM

To Robert Rosadi/StrawberryHills/STA@STA, Ian Brocklehurst/StrawberryHills/STA@STA
cc
Subject Fw: Wolli Creek

Gents

what was discussed and is it covered in the request?

regards brian
----- Forwarded by Brian Mander/Kingsgrove/STA on 24/01/2011 03:01 PM -----

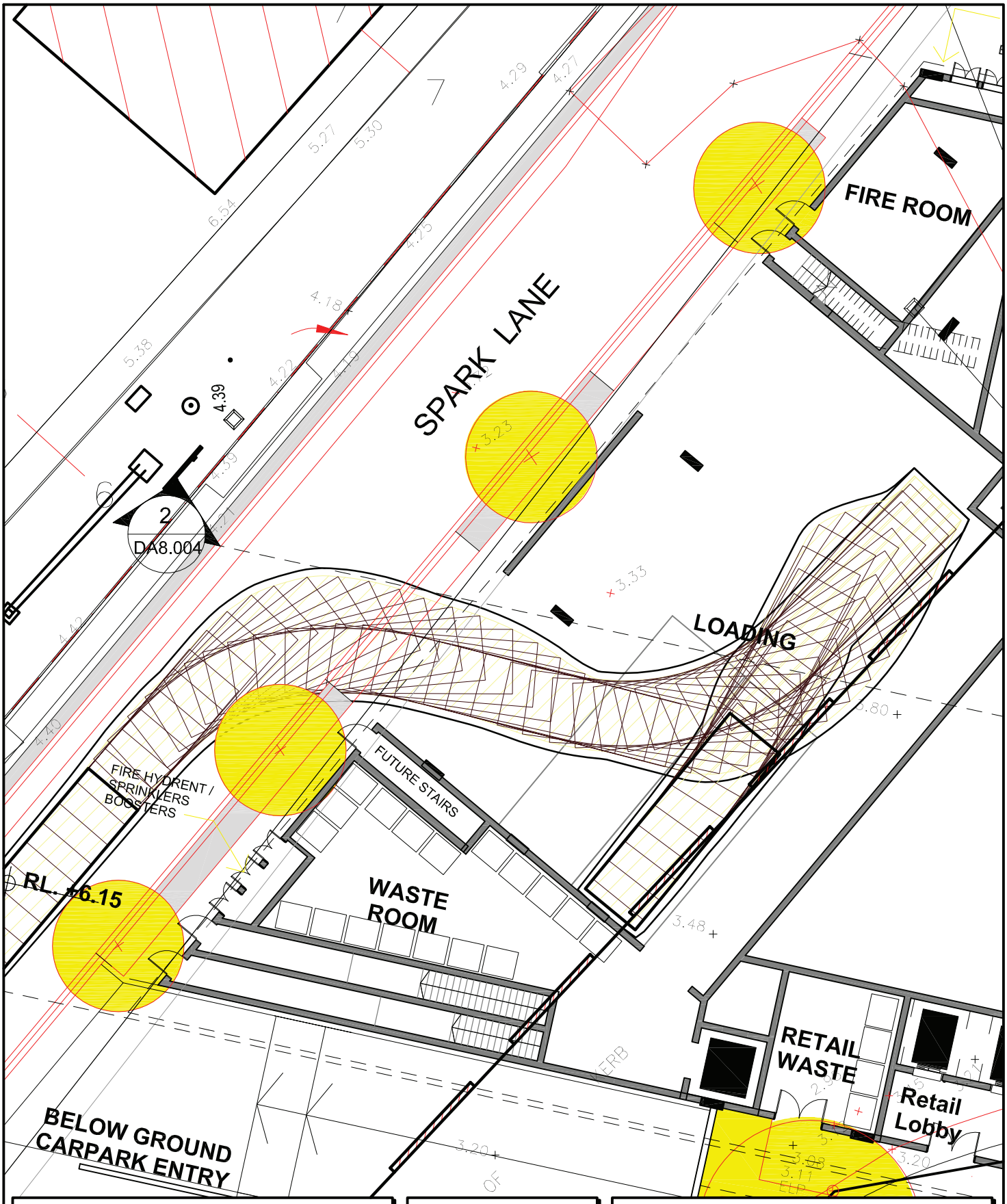
"Sandra King" <ttpa@ttpa.com.au>
24/01/2011 11:44 AM

To <Brian_mander@sta.nsw.gov.au>
cc "Christopher Pope" <CPope@australand.com.au>, "Kara Krason" <kkrason@australand.com.au>
Subject Wolli Creek

Regards
Ross Nettle
Director

APPENDIX D

TURNING PATH ASSESSMENT



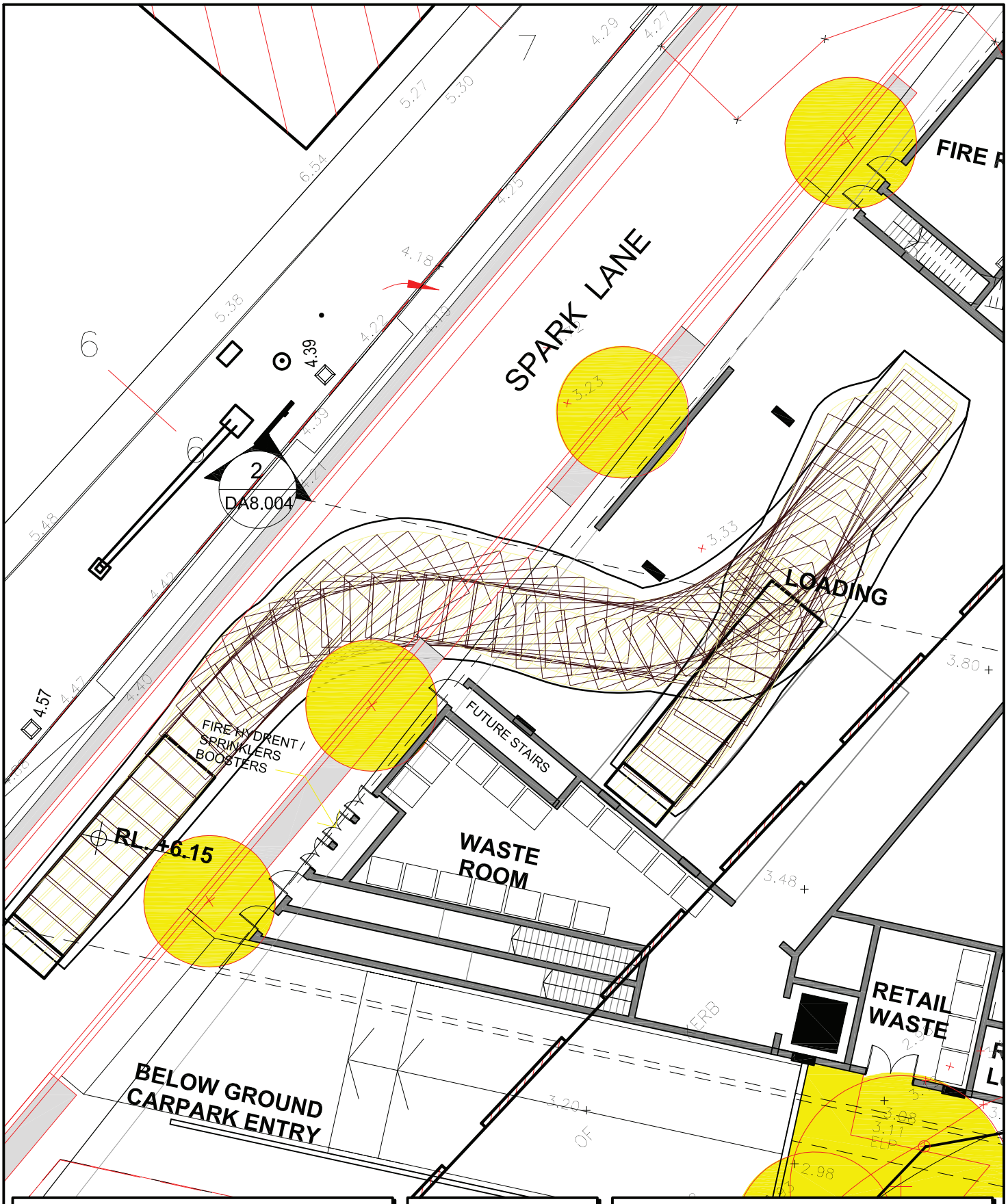
LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2000. 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.

N

SWEPT PATH ANALYSIS OF AN 8.8m RIGID VEHICLE ENTERING THE SITE

SP 1



LEGEND

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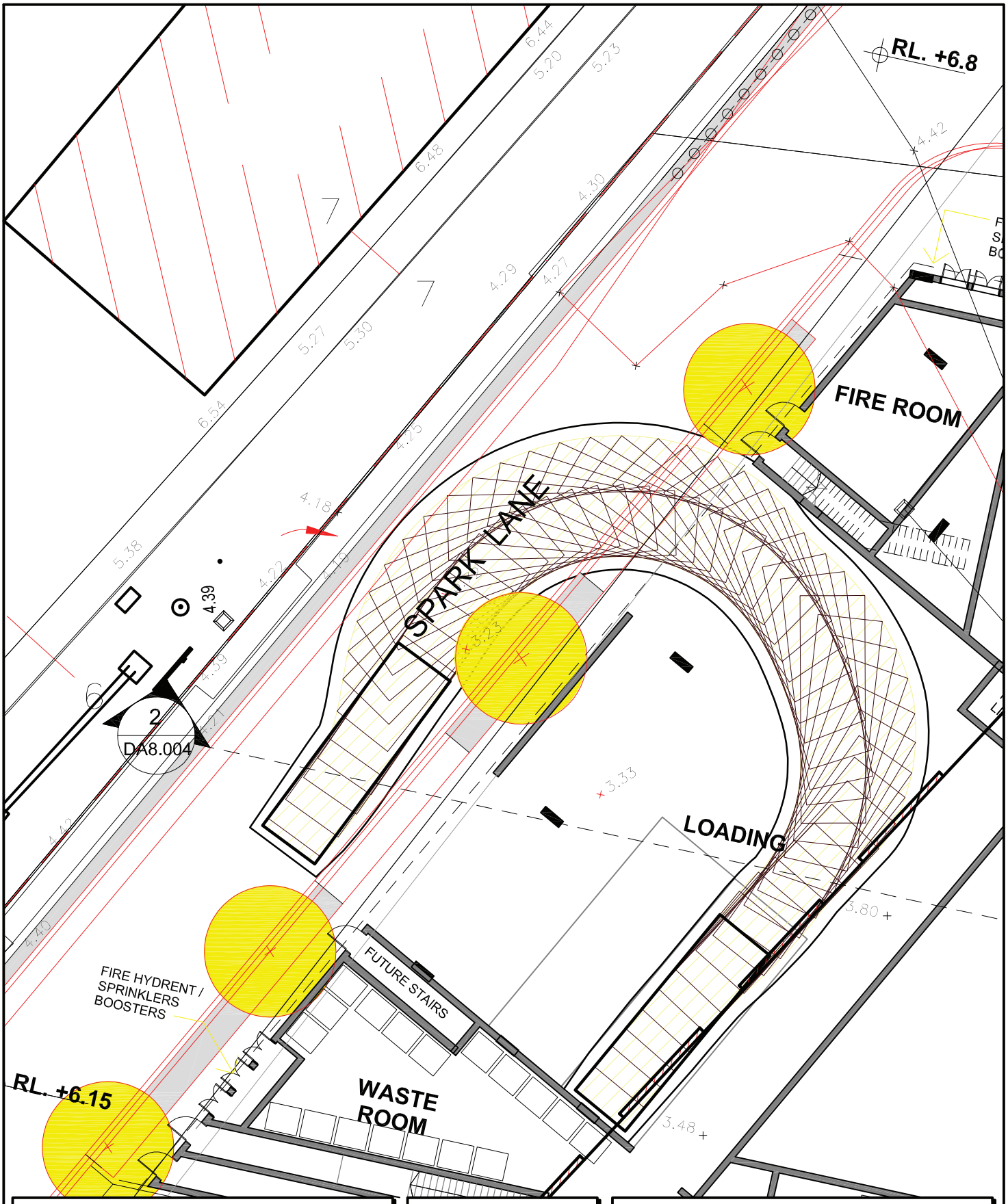
N

SWEPT PATH ANALYSIS OF A 10.2m REFUSE VEHICLE ENTERING THE SITE

SP 3



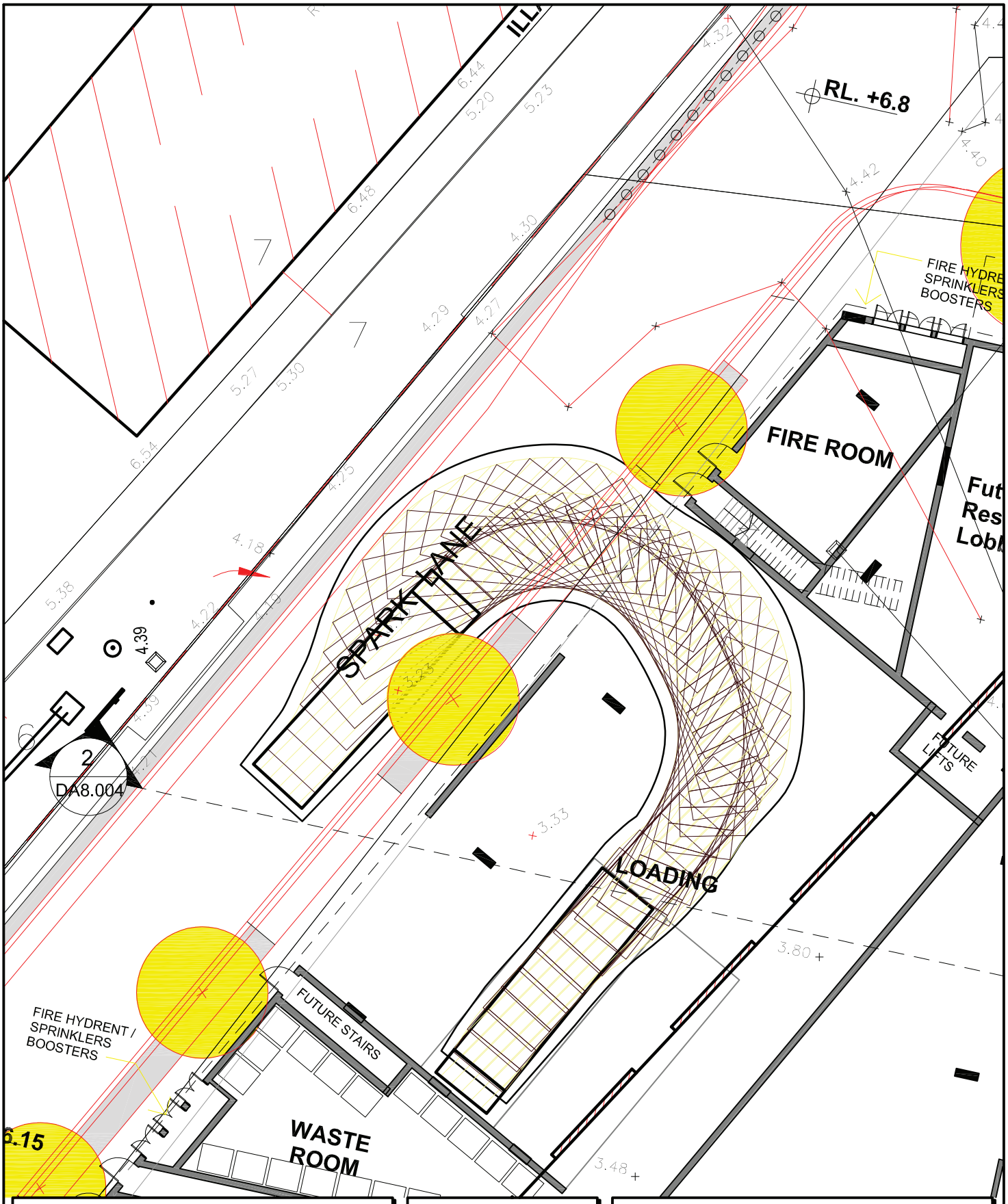
LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2000. 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.

N

SWEPT PATH ANALYSIS OF AN 8.8m RIGID VEHICLE EXITING THE SITE

SP 2



LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2000. 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.

SWEPT PATH ANALYSIS OF A 10.2m REFUSE VEHICLE EXITING THE SITE

SP 4