CIVIL ENGINEERING ASSESSMENT

Marrickville Metro Shopping Centre

Stage 1B

YN210026 - 10 - 0109

Prepared for AMP Capital Investors

October 2017

Cardno (NSW/ACT) Pty Ltd
ABN 95 001 145 035

Level 9

The Forum
203 Pacific Highway
St. Leonards NSW 2065

Phone: +61 2 9496 7700
Fax: +61 2 9439 5170

www.cardno.com.au

Document Control – 10-0109

Version	Status	Date	Author		Reviewer	
11	Draft Issue	18/08/17	Adrian Lu	AGL	Garry Neville	GJN
12	Final Issue	25/09/17	Adrian Lu	AGL	Garry Neville	GJN
13	Final Issue	26/09/17	Adrian Lu	AGL	Garry Neville	GJN
14	Final Issue	11/10/17	Adrian Lu	AGL	Garry Neville	GJN
15	Final Issue	25/10/17	Adrian Lu	AGL	Garry Neville	GJN

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1 Background

This report has been prepared on behalf of AMP Capital Investors to accompany an application to modify the existing Concept Plan Approval under Section 75W of the *Environmental Planning & Assessment Act 1979*. This application seeks to modify the existing Major Project Approval No. 09_0191, relating to the Stage 1 development of the Marrickville Metro Shopping Centre.

Concept Plan Approval was granted on 19 March 2012 for:

> *"…use of the existing building for retail premises and business premises, and expand the Marrickville Metro Shopping Centre including a first floor addition to the existing building at 34 Victoria Road, a new 2 level retail building at 13-55 Edinburgh Road and two levels of rooftop parking above each building."*

The proposed modifications involve the redevelopment of the existing industrial land south of Smidmore Street (13-55 Edinburgh Road) to create a two level free-standing retail addition to the shopping centre with two levels of car parking.

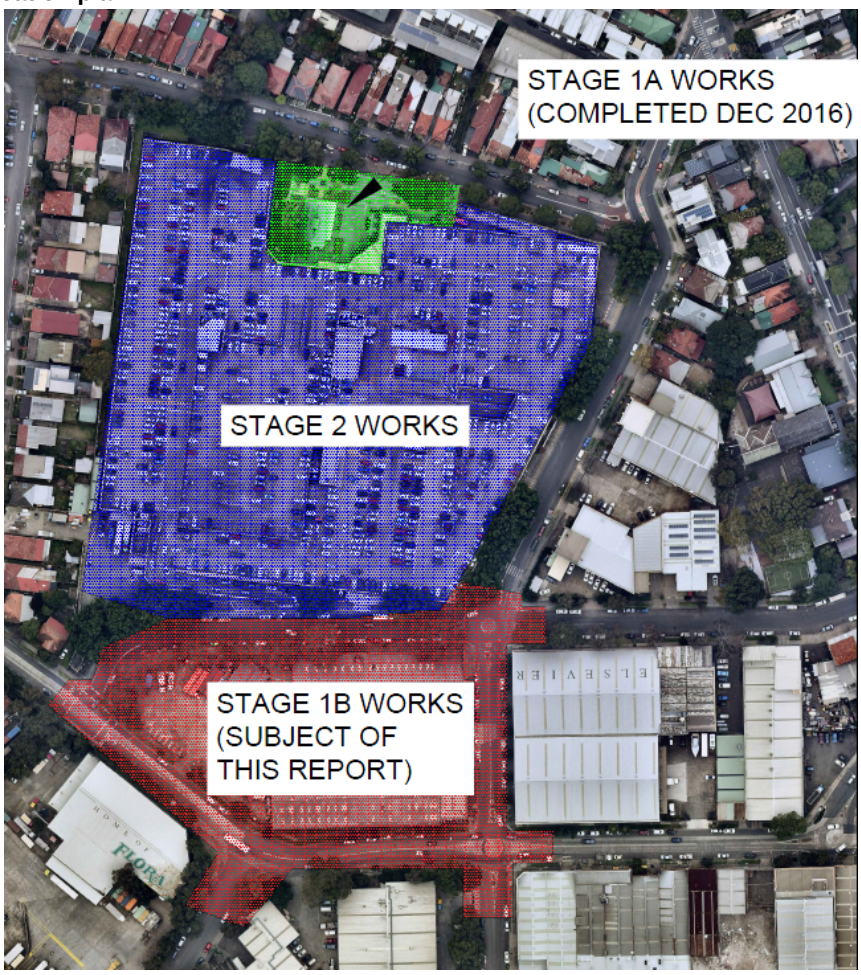
The proposed modifications seek to refine the approved design, enhancing its design quality both internally and externally and its relationship with the public domain.

1.1 Introduction

The existing Marrickville Metro Shopping Centre is located at 34 Victoria Road, Marrickville and fronts Victoria Road to the north, Murray Street to the east, Smidmore Street to the south and single storey residential dwellings to the west. The shopping centre is predominantly a single level retail building and comprises major tenants being Kmart, Woolworths and Aldi as well as a range of speciality stores. Car parking is located at the roof top level with existing vehicular ramp access via Smidmore Street and Murray Street. The site location is shown below in Figure 1-1. Stage 1A of development under the Major Project Approval No. 09_0191 was completed in December 2016. Stage 1A included upgrades to the entry plaza at the Victoria Road frontage of the existing centre. This report relates to Stage 1B of the development of a new multi-level shopping centre on 13-55 Edinburgh Road. 13-55 Edinburgh Road (Lot 1 DP 612551) is located to the south of Smidmore Street and is bounded by Edinburgh Road and Murray Street. This site is currently used as a warehouse with associated ground level car parking.

The shopping centre is located within an established residential and industrial precinct surrounded by small lot residential housing to the north and west, and predominantly industrial land comprising larger allotments and larger scale buildings to the south and east.

Figure 1-1 – Location plan



The proposed modifications associated with this Section 75W application are:

- Increase in building height to accommodate increased parking by an additional dedicated car park level.
- Enhancement of public domain, particularly at Smidmore Street
- Changes to traffic management on Smidmore Street. A one way westbound arrangement is proposed between Murray Street and the existing shopping centre vehicular entry/egress. All eastbound traffic on Smidmore Street will be directed towards to existing shopping centre.
- Introduction of a vehicular entry to the proposed Stage 1b shopping centre from Edinburgh Road.

Stage 2 of the proposed development under the Major Project Approval No. 09_0191 includes an extension of the retail floor area at the first floor above the existing shopping centre building with further additional roof top parking.

AMP Capital Investors (AMPCI) are the owners of the Marrickville Metro Shopping Centre and the land to the immediate south at 13-55 Edinburgh Road, Marrickville.

Cardno (NSW/ACT) has been engaged by AMPCI to prepare a civil engineering report to accompany an application to modify the existing Concept Plan Approval under Section 75W of the Environmental Planning & Assessment Act 1979 for the proposed redevelopment of the Marrickville Metro Shopping Centre.

In addition to the retail and parking space, the proposal will create a new streetscape in Smidmore Street and will be complimentary to an enhanced public space fronting Victoria Road, which was completed as part of Stage 1A. The proposal will include works to the public domain in order to improve the pedestrian, cycling and public transport connections to and from the site and enhance pedestrian and patron safety.

1.2 Construction Staging Details

Owing to the scale of the project and the need to undertake the development whilst maintaining a safe and functional retail centre, it is proposed that construction will occur over at least two discrete stages.

Stage 1B will involve the redevelopment of the industrial site at 13-55 Edinburgh Road to accommodate the new two level retail centre including car parking above. This work will also incorporate the following:

- Streetscape improvements including level adjustments to Smidmore Street along the development frontage and traffic flow amendments;
- Refurbishment of the existing shopping centre building fronting the northern side of Smidmore Street;
- Upgrades to Edinburgh Road including the construction of a roundabout at the intersection of Sydney Steel Street and linemarking to facilitate right turn entry ;
- Construction of the proposed bus terminal in Edinburgh Road;
- Construction of the proposed roundabout at the intersection of Edinburgh Road and Railway Parade;
- Minor amendments to other intersections surrounding 13-55 Edinburgh Road.

The previously proposed Stage 1B works also included the upgrade to the intersection of Bedwin Road, May Street, Campbell Street and Unwins Bridge Road. However, these works are understood to be no longer required owning to regional traffic augmentations currently underway associated with Westconnex.

Stage 2 will involve the first floor level retail extension over the existing shopping centre building with the proposed additional car parking at roof top level.

2 Civil Engineering

2.1 Introduction

This Civil Engineering Assessment has been prepared to identify and provide a framework detailing measures relating to the detailed design phase including:

- Erosion and sediment controls during construction activities;
- Bulk earthworks associated with the reshaping of the site;
- Vehicular access to carpark and loading dock facilities;
- Vehicular and pedestrian access to public transport facilities, and
- Infrastructure development, including road and intersection upgrades to the perimeter of the development site.

2.2 Erosion and Sediment Control

The objectives of the erosion and sediment controls proposed for the development site are to ensure:

- Adequate erosion and sediment control measures are implemented prior to the commencement of construction and are maintained during the construction stage; and
- Developed site run-off is appropriately treated in accordance with the requirements of Marrickville Council and the NSW Department of Environment and Heritage (OEH) requirements.

As part of the works, erosion and sedimentation controls shall be constructed generally in accordance with the drawings, Council requirements and the NSW Department of Housing Manual, “Managing Urban Stormwater - Soils & Construction” 2004 prior to any earthworks commencing on site. Concept erosion and sediment controls are detailed on drawing SK002 in Appendix A.

Erosion and sediment controls to minimise potential water quality impacts are discussed below.

2.2.1 Sediment Basin

It is recommended that a sediment basin be designed as required in accordance with the NSW Department of Housing Manual, “Managing Urban Stormwater - Soils & Construction” 2004 to control potential sediment and surface flows from the development area south of Smidmore Street during earthwork operations. The sediment basin should be located to coincide with low points at the outlet end of temporary drainage paths and at sag points along Edinburgh Road.

Initial calculations have been based on proposed undeveloped catchments and available geotechnical information regarding soil types.

The sediment basin as indicated on drawing SK002 in Appendix A would need to be maintained on site throughout the bulk of the construction works ensuring that it operates effectively in accordance with NSW Department of Housing Manual, "Managing Urban Stormwater - Soils & Construction" 2004. The water in the sediment basin shall be lowered by pumping to maintain the minimum storage volume at the lower level of the settling zone identified by pegs to clearly show the level at which design storage capacity is available.

Water pumped from the sediment basin could be utilised to irrigate areas of hydromulch and for dust control or discharged to the existing drainage network once testing has been undertaken to ensure it meets the requirements specified by Marrickville Council and the OEH.

A weir designed in accordance with Section 6 of the NSW Department of Housing Manual, "Managing Urban Stormwater - Soils & Construction" 2004 would need to be provided at to control overland flows for rainfall events in excess of the design criteria. Sediment basin sizing and calculation shall form part of the detailed design phase.

2.2.2 Construction Measures

Prior to any earthworks commencing on site, all erosion and sediment control measures will need to be implemented generally in accordance with the above specifications. These measures shall include:

- Installation of a perimeter wind and security fence;
- Installation of a suitable site construction entrance;
- Installation of a sediment basin;
- Installation of sediment fencing around disturbed areas including any topsoil stockpiles;
- Installation of silt arrestors to collect site runoff and retain suspended particles; and
- Placement of straw bales around and along proposed catch drains and stormwater drainage pits.

2.3 Bulk Earthworks

2.3.1 General

It is anticipated that there will be filling of the site in preparation for approximately 6000m^3 of fill required to be imported to site in order to raise levels to provide adequate freeboard to the 100 year ARI flood event.

2.3.2 Construction Sequence

The sequence of work for the bulk earthworks will generally include:

- Provision of erosion and sediment control measures typically as outlined above in Section 2.2;
- Clearing of vegetation and demolition of proposed structures from the proposed development site;
- Inspection of exposed natural material to ensure conformity with design assumptions;
- Import and placement of fill in compliance with Douglas Partners geotechnical engineer's recommendations.

2.3.3 Tree Removal and Protection

Trees to remain shall be protected to ensure no damage to the tree including the trunk and root structure. Trees to be removed as a consequence of earthwork levels and road alignments shall be marked on site and approval obtained prior to removal.

2.4 Roadworks

2.4.1 General

An analysis of proposed road network upgrades to the perimeter of the development has been undertaken based on concept architectural documentation. Refer to drawing SK001 in Appendix B for an overall layout of the proposed road network upgrades to the perimeter of the development.

2.4.2 Road and Intersection Upgrades

Road and intersection upgrades are proposed at the following locations to facilitate increased traffic and pedestrian volumes and to provide a functional connection from the proposed development to public transport and taxi facilities.

2.4.2.1 Edinburgh Road and Smidmore Street Intersection

The Smidmore Street westbound link from Murray Street to Edinburgh Road will be maintained. All eastbound traffic on Smidmore Street is proposed to be diverted into the existing Marrickville Metro shopping centre. Additional signage on Edinburgh Road is proposed to notify drivers of the changed traffic conditions. Refer to drawing SK010 in Appendix B for signage details.

Some minor amendments would be required to the intersection geometry to allow 14.5m long buses to access Edinburgh Road from Smidmore Street. The location of the existing access ramps to the roof top car parking and loading dock in the western section of Smidmore Road will be maintained, with a reconfiguration to the car parking ramp at Smidmore Street. The base of the ramp will be regraded, with the upper section of ramp retained. Horizontal and vertical geometry shall be checked to meet the requirements of AS2890.1 (2004). Refer to drawing SK009 in Appendix B for details.

2.4.2.2 Smidmore Streetscape

Levels are proposed to be raised on Smidmore Street to provide an accessible pedestrian crossing between the northern and southern shopping centre entrances and to enhance the public domain space between the two centres. A one way westbound arrangement is proposed between Murray Street and the existing shopping centre vehicular entry/egress. A roundabout at the existing shopping centre vehicular entry/egress point is proposed to facilitate U-turns for eastbound vehicles who do not wish to enter the existing shopping centre carpark. Refer to drawing SK001 in Appendix B for details

2.4.2.3 Edinburgh Road Carpark Entry and Exit

It is proposed to provide vehicular entry and exit points to roof top parking from Edinburgh Road between the Smidmore Street/ Edinburgh Road traffic signals and the proposed intersection works at Sydney Steel Road. It will have a minimum lane configuration consisting of two westbound lanes (3.3m and 3.0m) and two eastbound lanes of similar widths in accordance with the traffic engineer's recommendations (The Transport Planning Partnership). Level adjustments are required to provide a cross fall suitable for trafficable lanes.

The east bound kerb side lane will terminate to form one lane into the proposed roundabout. Refer to drawing SK001 and SK007 in Appendix B for details.

2.4.2.4 Edinburgh Road and Sydney Steel Road Intersection

It is proposed to construct a roundabout at the intersection of Edinburgh Road and Sydney Steel Street to allow a 12.5m rigid bus and emergency vehicles to undertake a U turn. That said, 14.5m buses movements are completed via left-turn circulation around the entire retail site. The roundabout will allow movement of 19.0m long semi-trailers eastbound and westbound along Edinburgh Road. This will also allow 12.5m and 14.5m long rigid buses to access the bus terminal from the west. The proposed bus terminus is located on the northern side of Edinburgh Road between Sydney Steel Street and Murray Street. The northern kerb alignment will require relocation to ensure adequate carriageway width to accommodate bus layover and turning movements entering and departing the terminus. A minor boundary adjustment is proposed along with the kerb relocation to maintain pedestrian footpath accessibility. Refer to drawing SK001 in Appendix B for additional details.

The roundabout shall generally meet the requirements of Austroad's Guide to Road Design, Part 4B: Roundabouts (2015). The centre island shall be designed as a mountable island to allow 19.0m articulated vehicle to travel both east and west along Edinburgh Road. U turns for vehicles larger than the 12.5m rigid vehicles shall not be permitted.

Service adjustments will be required to facilitate these works. Refer to drawing SK003-005 in Appendix B for the 14.5m bus, 12.5m rigid buses, 19.0m semi-trailer movements and emergency vehicle movements.

2.4.2.5 Smidmore Street and Murray Street Intersection

The existing roundabout at Smidmore Street and Murray Street will be retained in its current form. It is proposed to adjust the kerb alignment to provide adequate carriageway width for a 14.5m bus turning from Murray Street (northbound) left into Smidmore Street (westbound) to continue their left-turn circulation movements. A minor boundary adjustment is proposed along with the kerb relocation to maintain pedestrian footpath accessibility. Refer to drawing SK001 and SK009 in Appendix B for details.

2.4.2.6 Edinburgh Road and Murray Street Intersection

The existing roundabout at Edinburgh Road and Murray Street will require modification to the north-western kerb return to allow a 14.5m bus to turn left from Edinburgh Road (westbound) into Murray Street (northbound) to continue their left-turn circulation movements. This turning movement would need to be accommodated due to the relocation of the bus terminus from Smidmore Street to Edinburgh Road. Refer to drawing SK008 in Appendix B for details.

2.5 Carpark Access and Loading Docks

2.5.1 General

A review of turning path movements and car park access ramp gradients has been undertaken based on concept architectural documentation.

2.5.1.1 Smidmore Street Carpark Access Ramp

Access to the existing rooftop carpark will be retained, with the existing ramp being reconfigured. A trafficable roundabout is proposed to control carpark entry/exit, eastbound U-turns, westbound traffic through Smidmore Street and service vehicle access to loading docks. Refer to drawing SK006 in Appendix B for details.

2.5.1.2 Edinburgh Road Carpark Access Ramp

It is proposed to provide a left and right in entry point to the new Stage 1B shopping centre from Edinburgh Road. There will be a right turn median lane on Edinburgh Road to facilitate these movements. That said, right turn movement exiting the carpark onto Edinburgh Road will not be permitted in accordance with the traffic engineer's recommendations (The Transport Planning Partnership). This is supplemented by a left turn and a U-turn movement at the proposed roundabout at the intersection of Edinburgh Road and Sydney Steel Road. Refer to drawing SK001 and SK007 in Appendix B for details.

2.5.1.3 Murray Street (South) Loading Dock

The proposed loading dock facility is located near the intersection of Murray Street and Edinburgh Road. Access to the facility will be provided from Murray Street with access from both north and south bound vehicles.

Given the constraints of the local road and intersection geometry, it has been assumed that all service vehicles larger than the Austroads 8.8m long rigid vehicle will approach this loading dock from the east along Edinburgh Road. Entry to this loading dock is thus limited to the northbound approach along Murray Street. Likewise, large service vehicles exiting this loading dock will be limited to travelling southbound along Murray Street, and then westbound along Edinburgh Road.

All entry and exit movements shall be in a forward direction via a proposed vehicular crossing. Initial analysis of ramp levels indicate that manoeuvring and loading areas will meet the requirements of AS2890.2 (2002) however; this will be confirmed in the detailed design phase. Refer to drawing SK008 in Appendix B.

2.5.1.4 Existing Major Tenant, Smidmore Street Loading Dock

It is proposed to maintain the existing loading dock facility located in the south western corner of the existing shopping centre. No amendments are being considered to this loading dock facility. Existing loading docks will continue to maintain access for their previously nominated design vehicle in accordance with AS2890.2 (2002).

Given the constraints of the local road and intersection geometry, it has been assumed that all service vehicles larger than the Austroads 8.8m long rigid service vehicle will approach

this loading dock from the east along Edinburgh Road. Entry to this loading dock is thus limited to the eastbound approach along Smidmore Street. Likewise, large service vehicles exiting this loading dock will be limited to travelling westbound along Smidmore Street, and then westbound along Edinburgh Road. Refer to drawing SK001 and SK006 in Appendix B.

Bus Terminus

A bus terminus is proposed along the northern kerbline of Edinburgh Road, between Sydney Steel Road and Murray Street. The terminus will be required to accommodate three buses at any one time.

This terminus will service the Sydney Buses routes 308, 352 and 355. Refer drawing SK001 in Appendix B.

2.6 Services

2.6.1 General

A services search has been undertaken and based on documentation provided by the relevant service providers, it is evident that the majority of service providers have assets located within the road network surrounding the development. The proposed works associated with intersection and road upgrades could affect services however, this will be subject to detailed design.

The location of proposed street trees and associated landscape elements may also affect existing services and further investigation by test pits excavated by hand within the existing footways is recommended to determine the full extent of possible service relocations or adjustments.

2.6.2 Water supply services

2.6.2.1 Existing Water Supply Services

The approximate location and size of existing potable water mains have been obtained from Sydney Water Corporation documentation. This information indicates the following services are present in the surrounding road network;

- 150mm DICL main is located on the northern verge of Smidmore Street;
- 150mm CICL main is located in the northern verge of Edinburgh Road; and
- 150mm CICL main is located in the eastern verge of Murray Street.

2.6.2.2 Proposed Water Supply Services and adjustments

Proposed potable water connection opportunities exist in both Smidmore Street and Edinburgh Road.

It is anticipated that the existing water main in Smidmore Street and Murray Street can remain, with minor adjustments to service fittings to match proposed footpath levels. The water main within Edinburgh Road will require relocation to suit proposed kerb alignments and levels.

Proposed water supply services, connections and adjustments have been investigated by Cardno's Sydney Water Accredited Water Servicing Coordinators (WSC) and are discussed in a separate report.

2.6.3 Sewer services

2.6.3.1 Existing Sewer Services

The approximate location and size of the existing sewer infrastructure has been obtained from Sydney Water Corporation documentation. This information indicates the following services are present within and surrounding road network;

- 300mm sewer main is located within the existing shopping centre site, located along the Murray Street boundary;
- 300mm sewer main in located with Smidmore Street from Murray Street joining into a 300mm sewer main traversing the proposed development site south of Smidmore Street;
- Varying size sewer mains also exist with Edinburgh Road, Victoria Road and Edgeware Road.

The exact location and depth of the sewer mains will need to be confirmed prior to formalising the proposed connection point.

Proposed sewer services, connections and adjustments have been investigated by Cardno's Sydney Water Accredited Water Servicing Coordinators (WSC) and are discussed in a separate report.

2.6.4 Electricity supply services

2.6.4.1 Existing Electricity Infrastructure

Based on the current existing electrical documentation, electrical services are present in Murray Street, Smidmore Street and Edinburgh Road. Both aerial and underground services are present.

2.6.4.2 Proposed Electricity Connection and adjustments

It is proposed to provide an electrical substation within the development site, located along the southern boundary, accessible from Edinburgh Road.

It is noted that existing services within Edinburgh Road will require adjustments to facilitate proposed kerb alignments and level adjustments. Services within the carriageway at the intersection of Sydney Steel Street and Railway Parade will require further investigation to determine if any rectification and protection works are required.

2.6.5 Telecommunications services

2.6.5.1 Existing Infrastructure

The approximate location of major communication network connections and optic fibre services has been determined from drawings provided by the relevant service authorities. Conduits containing these cables area located within the verges around the site, with access chambers at the intersection of Murray Street and Smidmore Street and Murray Street and Edinburgh Road.

2.6.5.2 Proposed telecommunications connection and adjustments

It is expected that road works associated with the development will affect telecommunication services; however the extent is subject to further investigation and detailed design. Liaison with telecommunications services providers will be required as more detailed design of the development proceeds.

It is noted that existing Optus pits and services within Edinburgh Road along with the Telstra pit (containing Optical Fibre) on the corner of Murray Street and Edinburgh Road will require adjustments to facilitate proposed kerb alignments.

2.6.6 Gas supply services

2.6.6.1 Existing Gas Infrastructure

The approximate location of natural gas supply mains has been determined from drawings provided by AGL.

Gas mains for distributing gas to consumers at normal supply pressure run along the northern verge of Edinburgh Road and the western verge of Murray Street.

2.6.6.2 Proposed Gas Connection and adjustments

Opportunities for connection to the gas supply exist along the full length of the Murray Street and Edinburgh Street frontage.

Liaison with gas providers will be required as the project advances into the detailed design phase and the demand requirements have been determined.

It is noted that existing services within Edinburgh Road will require adjustments to facilitate proposed kerb alignments.

2.6.7 Stormwater Management Plan

The proposed stormwater management plan remains consistent with the existing Section 75W approval to modify Major Project no. 09_0191. As per the existing approval, the main elements of the stormwater management plan are provision of an OSD system and connection of the internal stormwater system (designed to Council and Australian Standards) to the downstream end of the Sydney Water culvert adjacent to Edinburgh Road. This report is not intended to discuss the flood modelling and sizing of OSD system as these items are addressed in a separate hydrology report has been prepared by HydroStorm Consulting.

2.6.7.1 Flood Modelling

Inground stormwater drainage is present within the surrounding road network and through the proposed development site. HydroStorm Consulting addresses existing and proposed stormwater drainage systems and OSD requirements, along with existing and future flood modelling. Connection of the internal stormwater system will be made to the existing Sydney Water culvert as outlined in the Hydrostorm Consulting flood report. It is noted that existing stormwater drainage pit locations within Edinburgh Road, Smidmore Street and at the proposed Railway Parade roundabout will require minor adjustments to facilitate proposed kerb alignments.

HydroStorm Consulting notes that OSD is not required in principle due to similar levels of imperviousness compared to current site conditions. However, Sydney Water outlined a requirement for OSD provision to benefit downstream areas. Refer to the Sydney Water letter attached to the Hydrostorm Consulting flood report for OSD parameters in Appendix C.

2.6.7.2 Water Quality

Water quality areas on the Site have been modelled and designed in accordance with Marrickville Council's WSUD Reference Guideline, May 2011; and in accordance with, Draft

Handbook Part 4: MUSIC Modelling Guide, June 2013. Water quality assessment has been undertaken using MUSIC computer software.

The water quality treatment train will consists of:

1. Gross Pollutant Traps

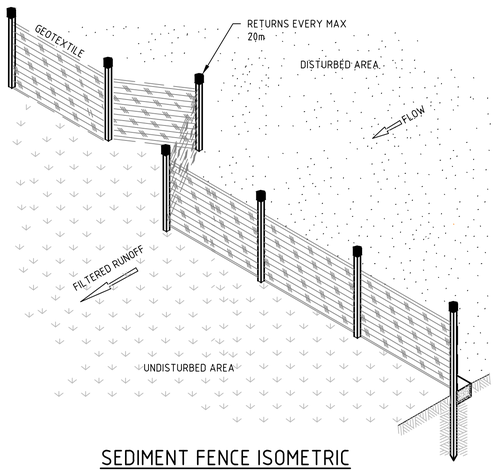
   Proprietary gross pollutant traps (GPTs) units will be installed prior to stormwater discharge to the existing Sydney Water Culvert. For modelling purposes, CDS units and their removal efficiencies have been modelled.

2. StormFilter (Stormwater 360 Proprietary Product – or similar)

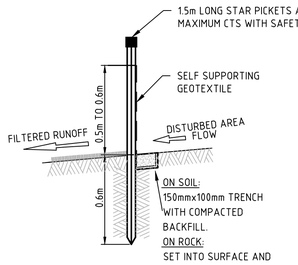
   Proprietary products are proposed as a substitution for a bio-retention system due to the lack of previous area in the concept architectural plan. The WSUD solution to be sized to treat the similar flows and achieve the specific reduction targets.

Appendix A

Concept Erosion and Sediment Control Plan



SEDIMENT FENCE ISOMETRIC
NOT TO SCALE



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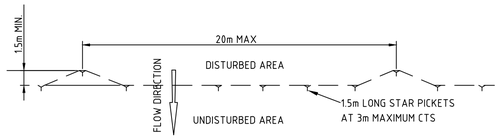

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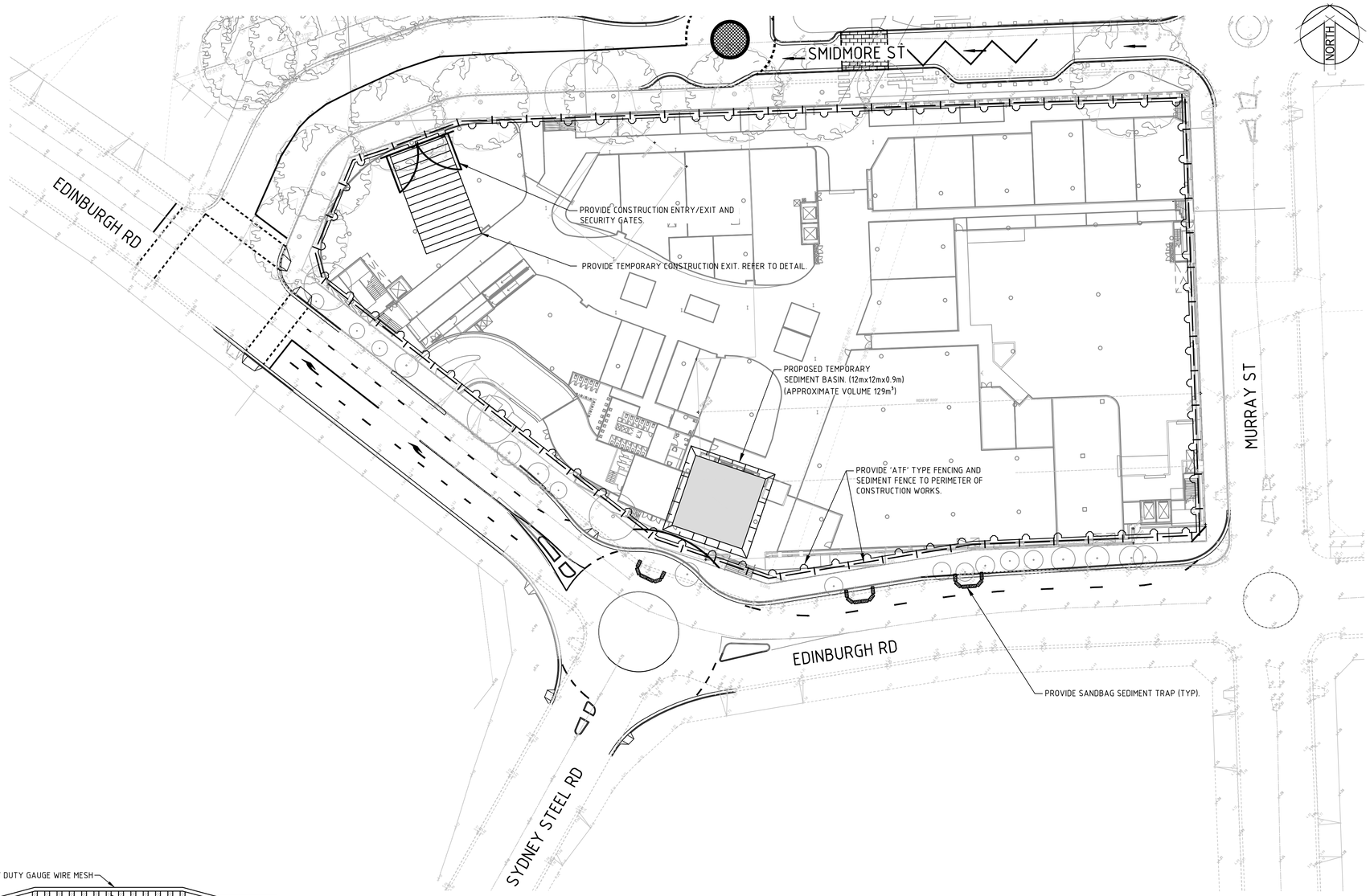
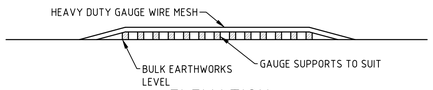
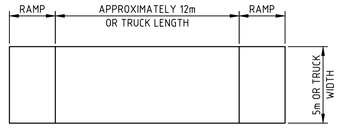




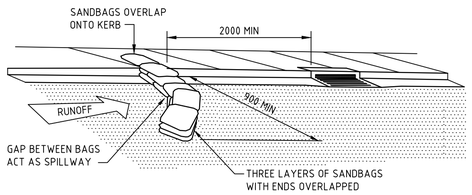
ELEVATION



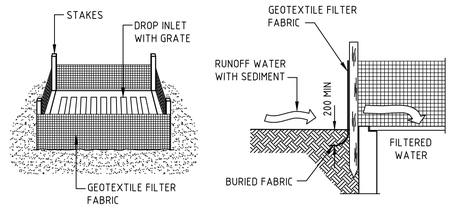
PLAN

TEMPORARY CONSTRUCTION EXIT (SHAKE DOWN DETAIL)
NOT TO SCALE

THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. THIS MAY REQUIRE REPAIR AND OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.



SEDIMENT TRAP FOR KERB INLET (ON GRADE - SANDBAG)
NOT TO SCALE



SEDIMENT TRAP FOR DROP INLET (GEOTEXTILE FILTER FABRIC)
NOT TO SCALE

TEMPORARY SEDIMENT BASIN 1 CALCULATION

Vsetting zone = $10.Cv.A.R^{2/3}$
= 10 x 0.5 x 0.9 x 19
= 86m³

Vsediment zone = 50% x Vsetting zone
= 43m³

Total Volume Required = Vsetting zone + Vsediment zone
= 129m³

REFER TO LANDCOM BLUEBOOK SECTION 6

0 10 20 30 40m
SCALE 1:400 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	11/10/2017	REISSUED FOR INFORMATION	AGL	GJN	GJN
2	26/09/2017	ISSUED FOR INFORMATION	AGL	GJN	GJN
1	25/09/2017	ISSUED FOR INFORMATION	AGL	GJN	GJN

Cardno (NSW/ACT) Pty Ltd | ABN 95 001 145 035
Level 9, The Forum, 203 Pacific Highway
St. Leonards, NSW 2065
Tel: 02 9496 7700 Fax: 02 9439 5170
Web: www.cardno.com.au

Drawn	JHL	Date 25/09/2017
Checked	AGL	Date 25/09/2017
Designed	AGL	Date 25/09/2017
Verified	GJN	Date 25/09/2017
Approved	GJN	25/09/2017

Client: AMP CAPITAL INVESTORS LIMITED
Project: MARRICKVILLE METRO SHOPPING CENTRE STAGE 1B
Title: SEDIMENT & EROSION CONTROL PLAN

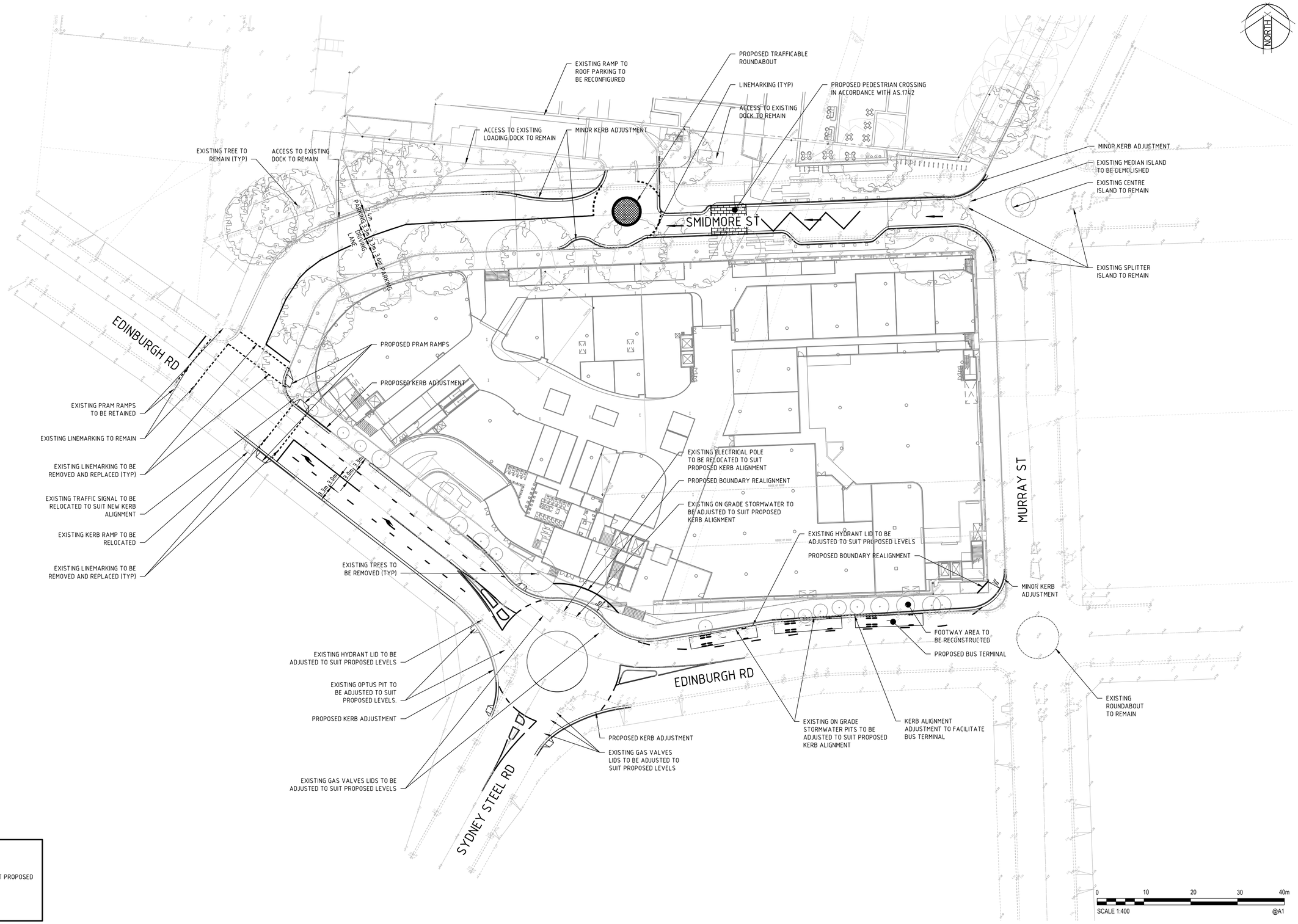
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	DATE	Scale	Size
AHD	25/09/2017	1:400	A1

Drawing Number: 80216045-SK002
Revision: 3

Appendix B

Concept Roadworks and Intersection Plans



NOTES

1. ALL EXISTING SIGNAGE TO BE RELOCATED TO SUIT PROPOSED KERB ALIGNMENT.
2. REDUNDANT EXISTING KERBS TO BE REMOVED.

Rev.	Date	Description	Des.	Verif.	Appd.
3	11/10/2017	REISSUED FOR INFORMATION	AGL	GJN	GJN
2	26/09/2017	ISSUED FOR INFORMATION	AGL	GJN	GJN
1	25/09/2017	ISSUED FOR INFORMATION	AGL	GJN	GJN

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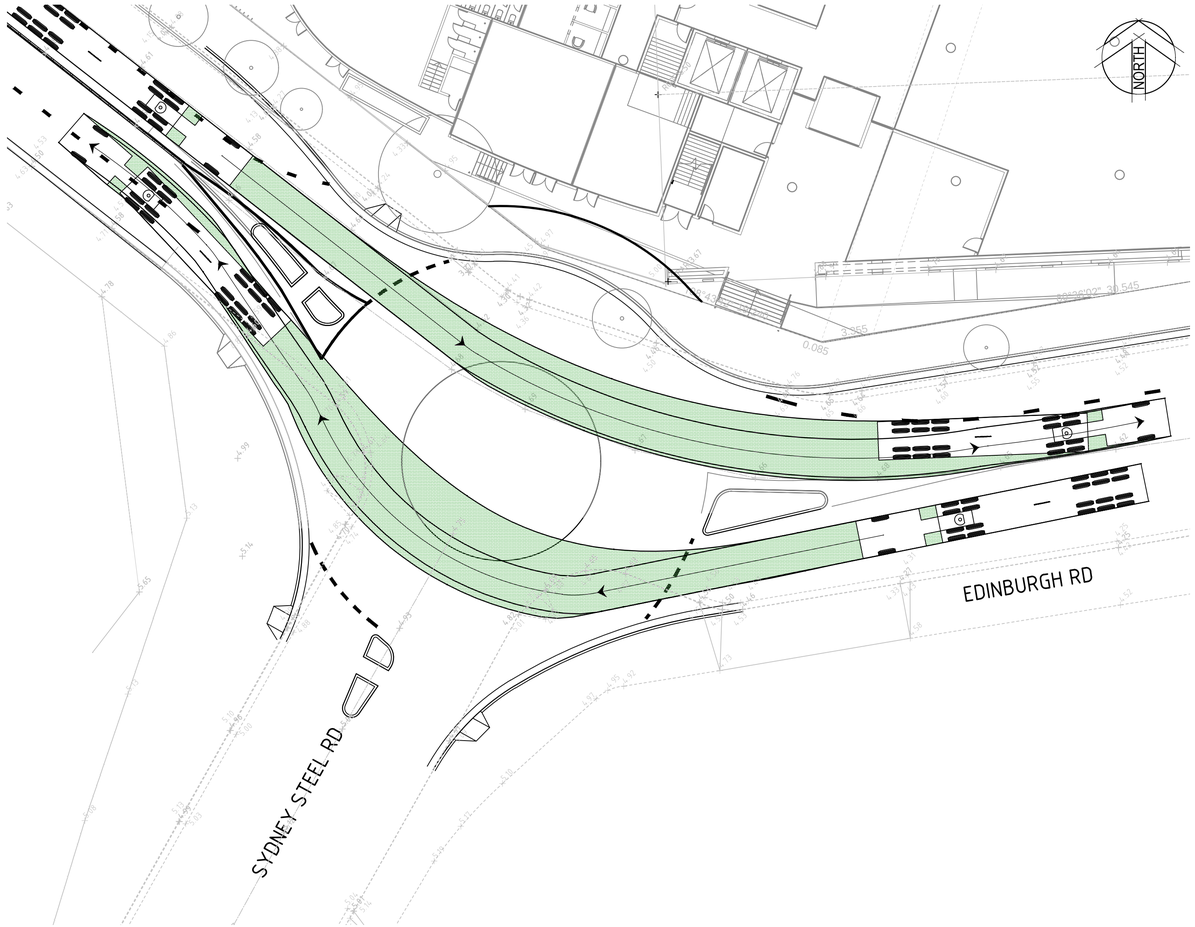
Drawn	JHL	Date 25/09/2017
Checked	AGL	Date 25/09/2017
Designed	AGL	Date 25/09/2017
Verified	GJN	Date 25/09/2017
Approved	GJN	25/09/2017

Client: AMP CAPITAL INVESTORS LIMITED
Project: MARRICKVILLE METRO SHOPPING CENTRE STAGE 1B
Title: GENERAL ARRANGEMENT PLAN

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

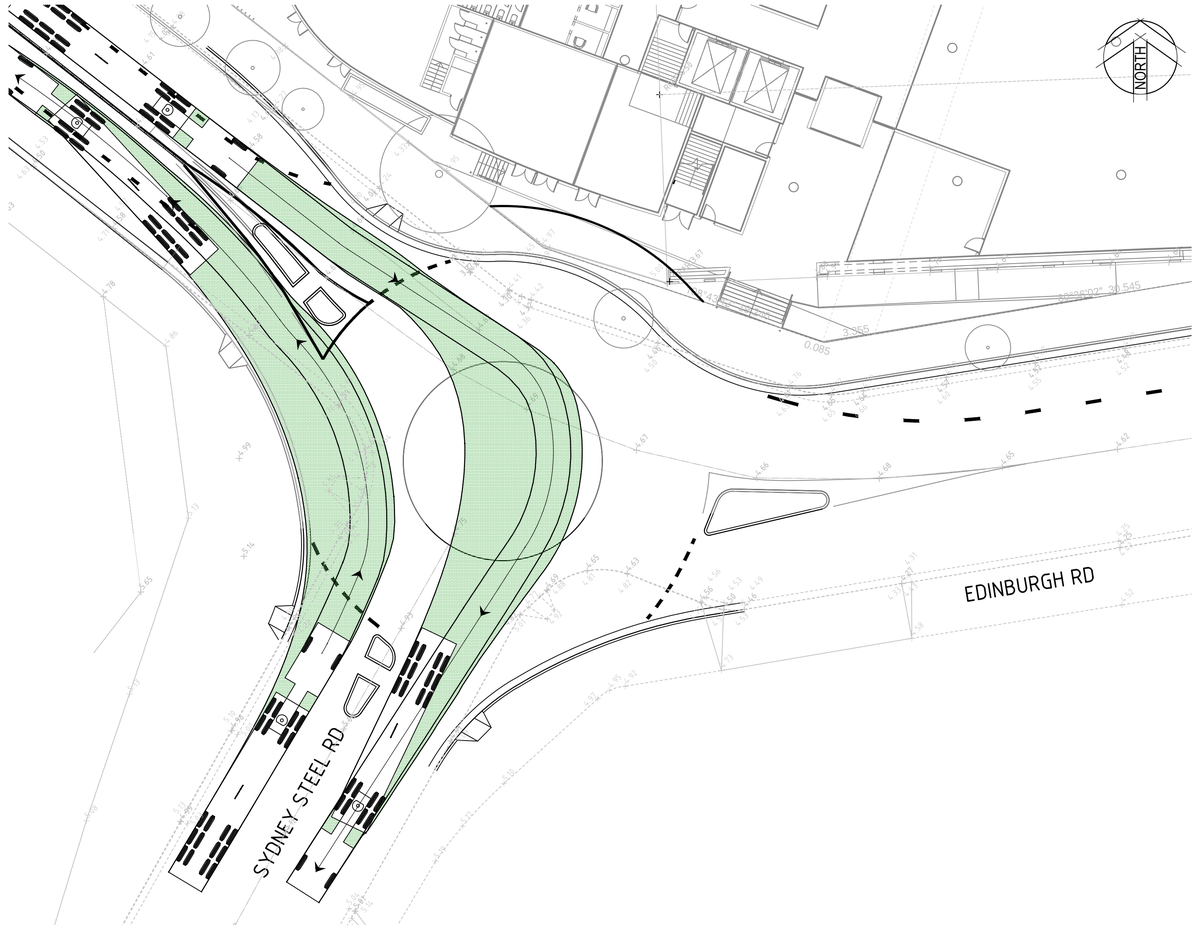
DATUM	DATE	Scale	Size
AHD	25/09/2017	1:400	A1

Drawing Number: 80216045-SK001
Revision: 3



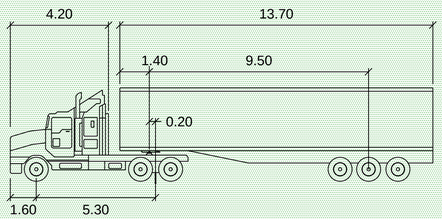
EDINBURGH ROAD AND SYDNEY STEEL ROAD INTERSECTION – 19m SEMI-TRAILER

SCALE 1:200



EDINBURGH ROAD AND SYDNEY STEEL ROAD INTERSECTION – 19m SEMI-TRAILER

SCALE 1:200



PM S 19M

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

VEHICLE PROFILE

0 5 10 15 20m

SCALE 1:200 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	11/10/2017	REISSUED FOR INFORMATION	AGL	GJN	GJN
2	26/09/2017	ISSUED FOR INFORMATION	AGL	GJN	GJN
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Drawn	JHL	Date 25/09/2017
Checked	AGL	Date 25/09/2017
Designed	AGL	Date 25/09/2017
Verified	GJN	Date 25/09/2017
Approved	GJN	25/09/2017

Client: AMP CAPITAL INVESTORS LIMITED

Project: MARRICKVILLE METRO SHOPPING CENTRE
STAGE 1B

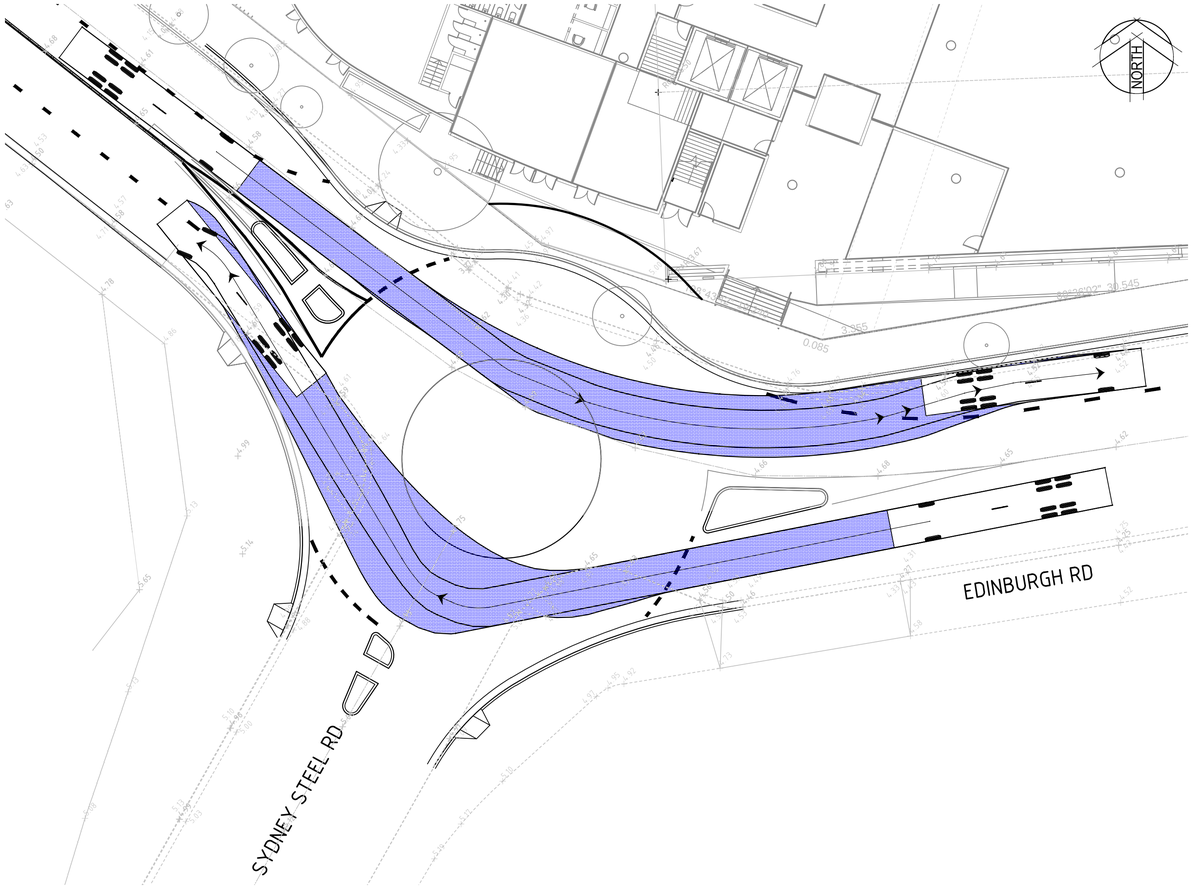
Title: TURNING PATH PLAN
EDINBURGH ROAD AND SYDNEY STEEL ROAD
PLAN 1 OF 3

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	DATE	Scale	Size
AHD	25/09/2017	1:200	A1

Drawing Number: 80216045-SK003

Revision: 3

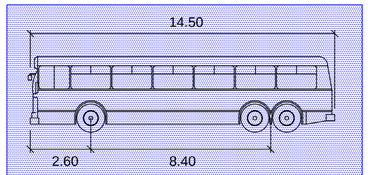


EDINBURGH ROAD AND SYDNEY STEEL ROAD INTERSECTION – 14.5m LONG RIGID BUS

SCALE 1:200

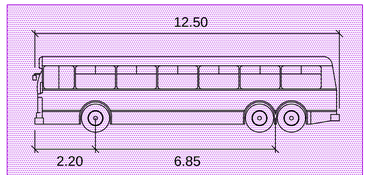
EDINBURGH ROAD AND SYDNEY STEEL ROAD INTERSECTION – U-TURN – 12.5m BUS

SCALE 1:200



LONG RIGID BUS meters

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 46.4



BUS meters

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

VEHICLE PROFILE

0 5 10 15 20m

SCALE 1:200 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	11/10/2017	REISSUED FOR INFORMATION	AGL	GJN	GJN
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Drawn	JHL	Date 25/09/2017
Checked	AGL	Date 25/09/2017
Designed	AGL	Date 25/09/2017
Verified	GJN	Date 25/09/2017
Approved	GJN	25/09/2017

Client: AMP CAPITAL INVESTORS LIMITED

Project: MARRICKVILLE METRO SHOPPING CENTRE
STAGE 1B

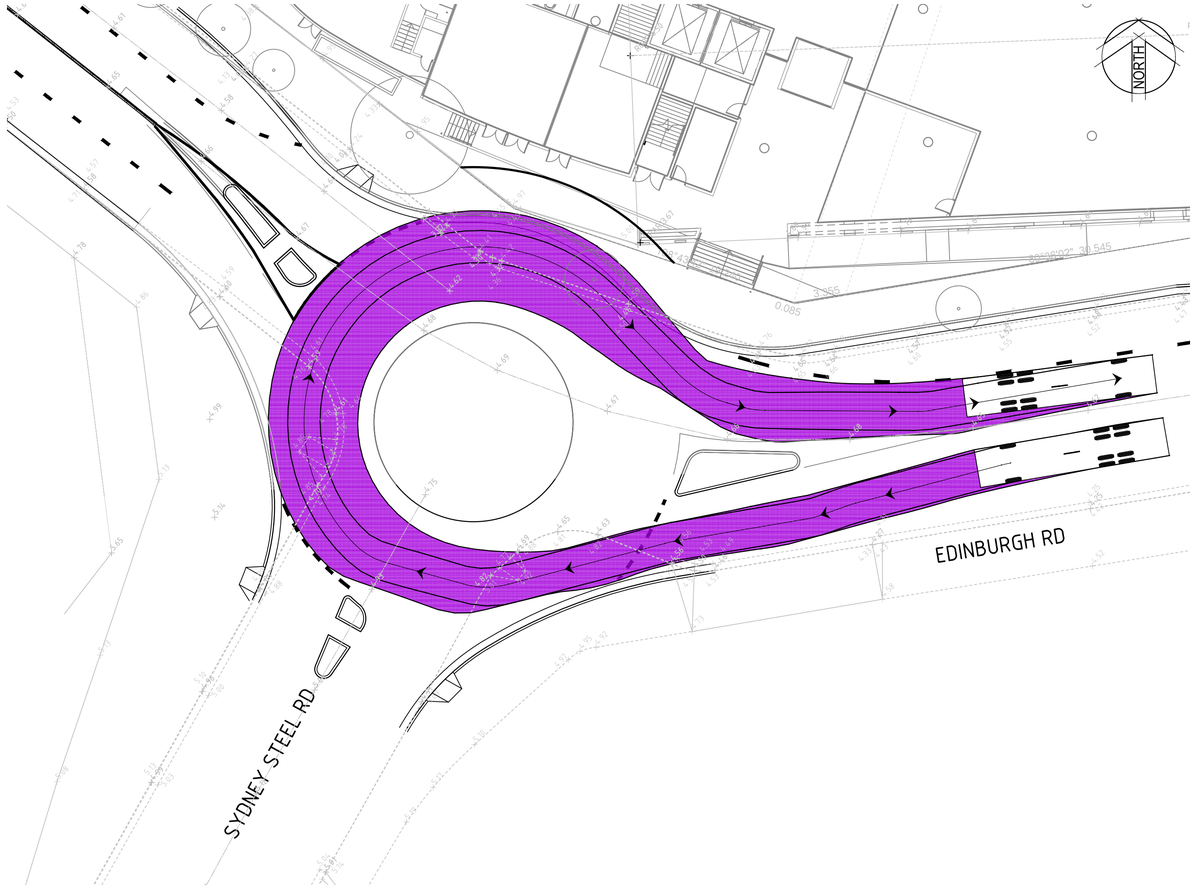
Title: TURNING PATH PLAN
EDINBURGH ROAD AND SYDNEY STEEL ROAD
PLAN 2 OF 3

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	DATE	Scale	Size
AHD	25/09/2017	1:200	A1

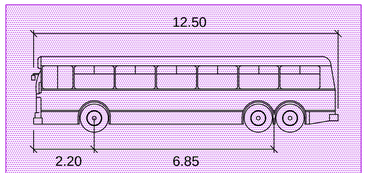
Drawing Number: 80216045-SK004

Revision: 3



EDINBURGH ROAD AND SYDNEY STEEL ROAD INTERSECTION - U-TURN - 12.5m BUS

SCALE 1:200



BUS	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

VEHICLE PROFILE

EDINBURGH ROAD AND SYDNEY STEEL ROAD INTERSECTION - U-TURN - 12.5m BUS

SCALE 1:200

0 5 10 15 20m

SCALE 1:200 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	11/10/2017	REISSUED FOR INFORMATION	AGL	GJN	GJN
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		Date
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Verified	GJN	25/09/2017
Approved	GJN	25/09/2017

Client: AMP CAPITAL INVESTORS LIMITED

Project: MARRICKVILLE METRO SHOPPING CENTRE
STAGE 1B

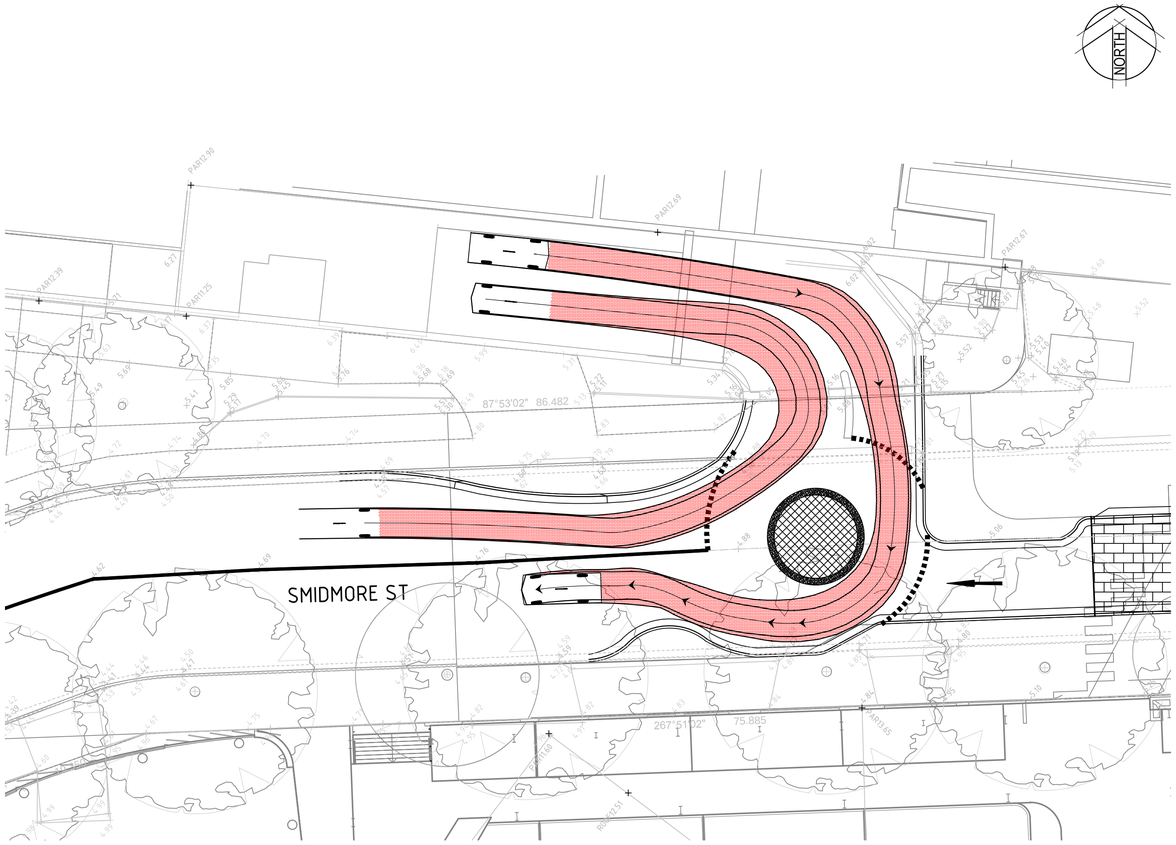
Title: TURNING PATH PLAN
EDINBURGH ROAD AND SYDNEY STEEL ROAD
PLAN 3 OF 3

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	DATE	Scale	Size
AHD	25/09/2017	1:200	A1

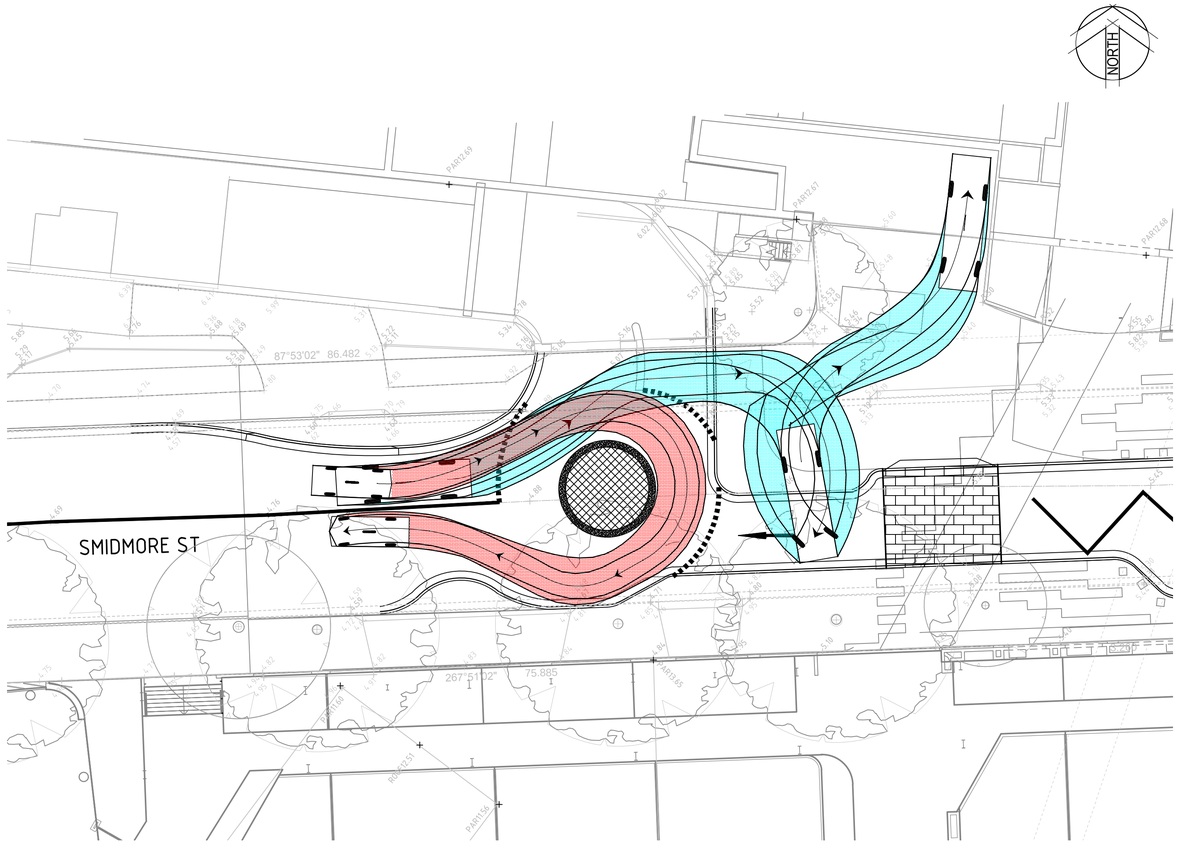
Drawing Number: 80216045-SK005

Revision: 3



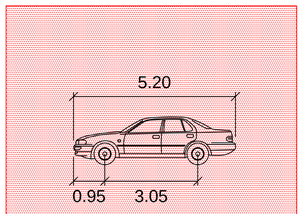
SMIDMORE STREET ROOF TOP CARPARK ENTRY AND EXIT - 5.2m PASSENGER VEHICLE

SCALE 1:200



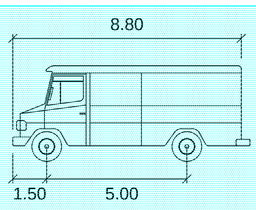
SMIDMORE STREET U-TURN - 5.2m PASSENGER VEHICLE
SMIDMORE STREET LOADING DOCK ACCESS - 8.8m SERVICE VEHICLE

SCALE 1:200



PASSENGER-CAR

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.6



SERVICE VEHICLE

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 38.7

VEHICLE PROFILE

0 5 10 15 20m

SCALE 1:200 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	11/10/2017	REISSUED FOR INFORMATION	AGL	GJN	GJN
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1	25/09/2017	ISSUED FOR INFORMATION	AGL	GJN	GJN

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		Date
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Verified	GJN	25/09/2017
Approved	GJN	25/09/2017

Client: AMP CAPITAL INVESTORS LIMITED

Project: MARRICKVILLE METRO SHOPPING CENTRE
STAGE 1B

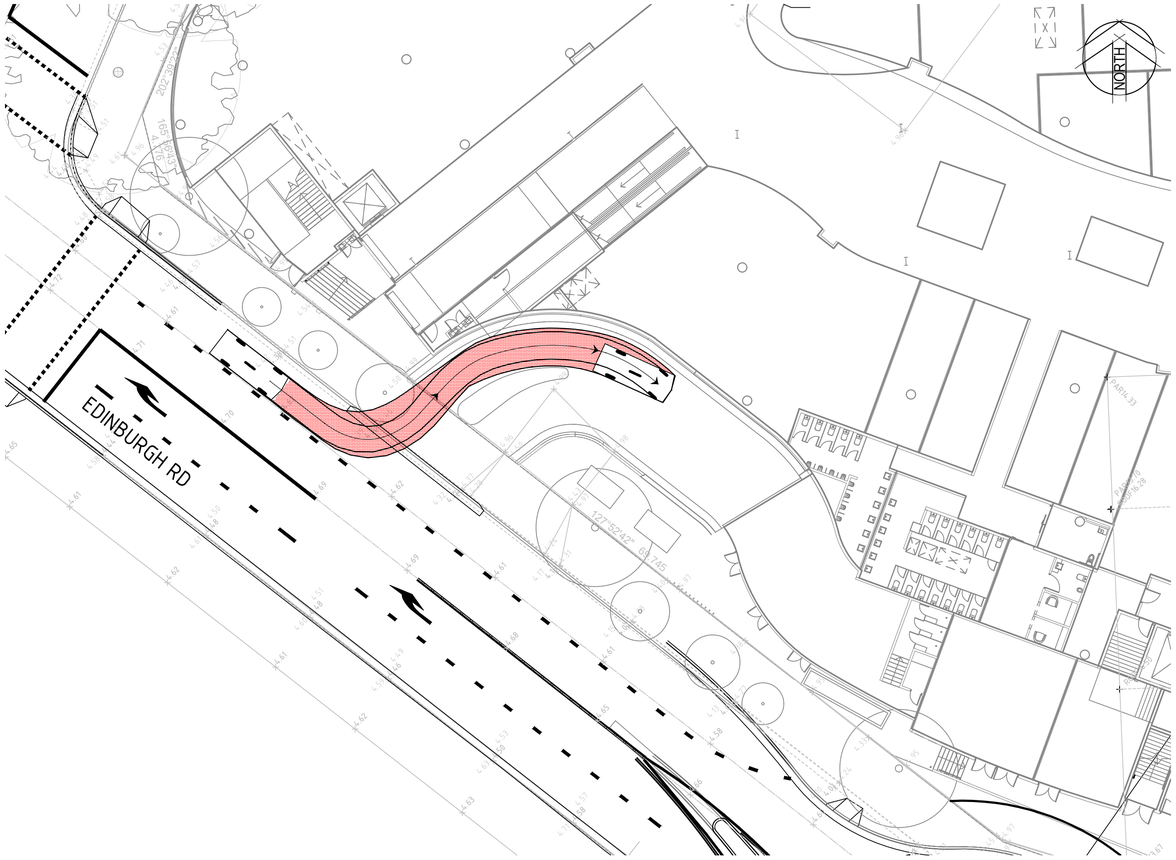
Title: TURNING PATH PLAN
SMIDMORE STREET
CARPARK ENTRY AND EXIT/U-TURN

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

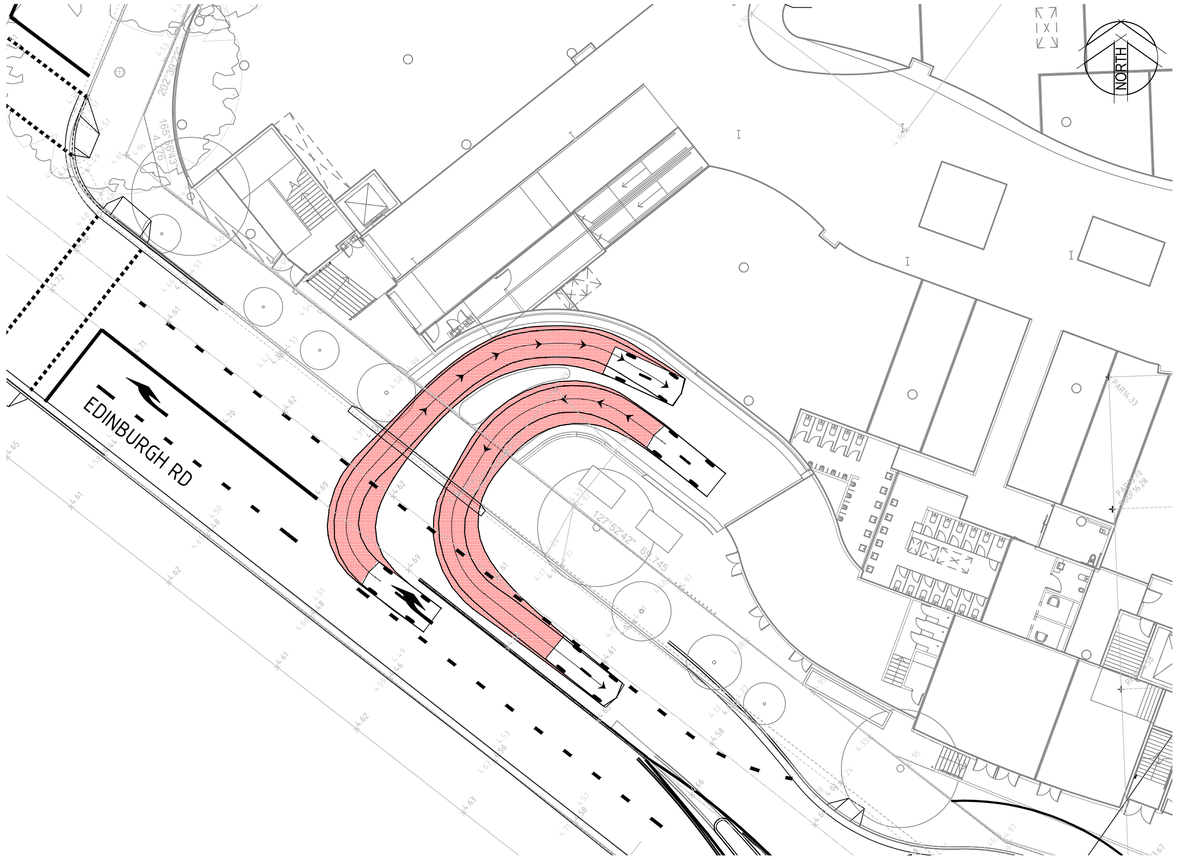
DATUM	DATE	Scale	Size
AHD	25/09/2017	1:200	A1

Drawing Number: 80216045-SK006

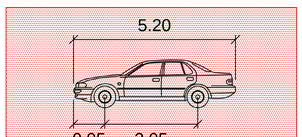
Revision: 3



EDINBURGH ROAD CARPARK ENTRY - 5.2m PASSENGER VEHICLE
SCALE 1:200



EDINBURGH ROAD CARPARK ENTRY AND EXIT - 5.2m PASSENGER VEHICLE
SCALE 1:200



PASSENGER-CAR

		meters
Width	:	1.94
Track	:	1.84
Lock to Lock Time	:	6.0
Steering Angle	:	33.6

VEHICLE PROFILE

0 5 10 15 20m
SCALE 1:200 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	11/10/2017	REISSUED FOR INFORMATION	AGL	GJN	GJN
2	26/09/2017	ISSUED FOR INFORMATION	AGL	GJN	GJN
1	25/09/2017	ISSUED FOR INFORMATION	AGL	GJN	GJN

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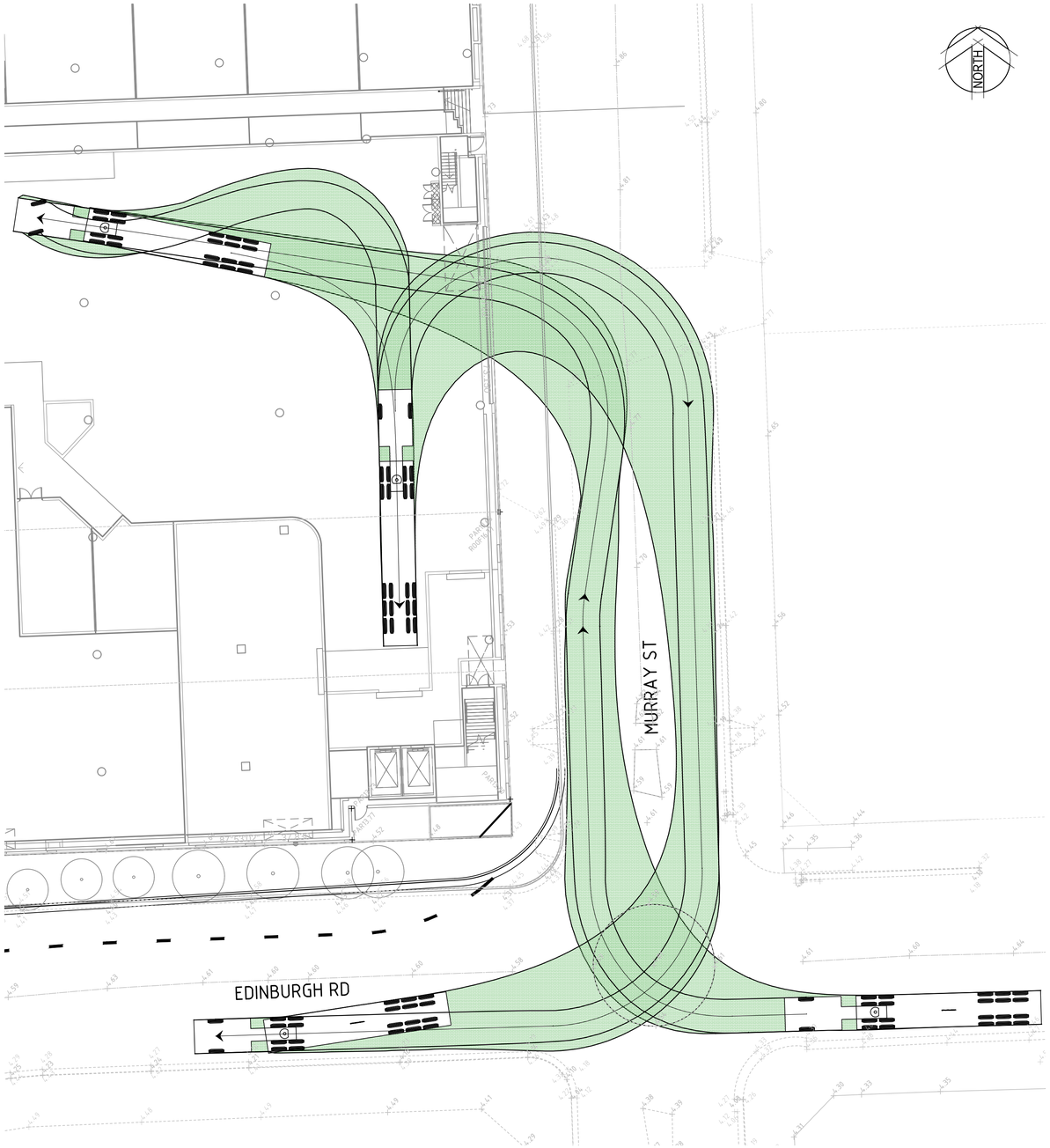
Drawn	JHL	Date 25/09/2017
Checked	AGL	Date 25/09/2017
Designed	AGL	Date 25/09/2017
Verified	GJN	Date 25/09/2017
Approved	GJN	25/09/2017

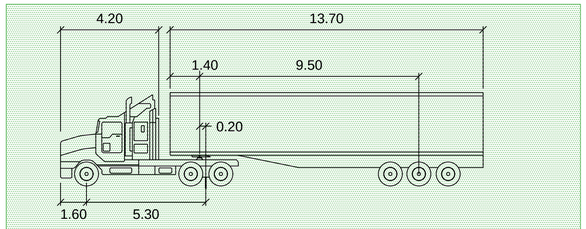
Client: AMP CAPITAL INVESTORS LIMITED
Project: MARRICKVILLE METRO SHOPPING CENTRE STAGE 1B
Title: TURNING PATH PLAN EDINBURGH ROAD CARPARK ENTRY AND EXIT

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	DATE	Scale	Size
AHD	25/09/2017	1:200	A1

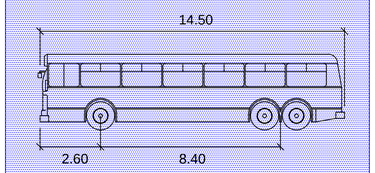
Drawing Number: 80216045-SK007
Revision: 3





PM S 19M

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



LONG RIGID BUS meters

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 46.4

VEHICLE PROFILE

EDINBURGH ROAD AND MURRAY STREET INTERSECTION – LOADING DOCK ACCESS – 19.0m SEMI-TRAILER
SCALE 1:200

EDINBURGH ROAD AND MURRAY STREET INTERSECTION – BUS CIRCULATION – 14.5m LONG RIGID BUS
SCALE 1:200

0 5 10 15 20m
SCALE 1:200 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	11/10/2017	REISSUED FOR INFORMATION	AGL	GJN	GJN
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1	25/09/2017	ISSUED FOR INFORMATION	AGL	GJN	GJN

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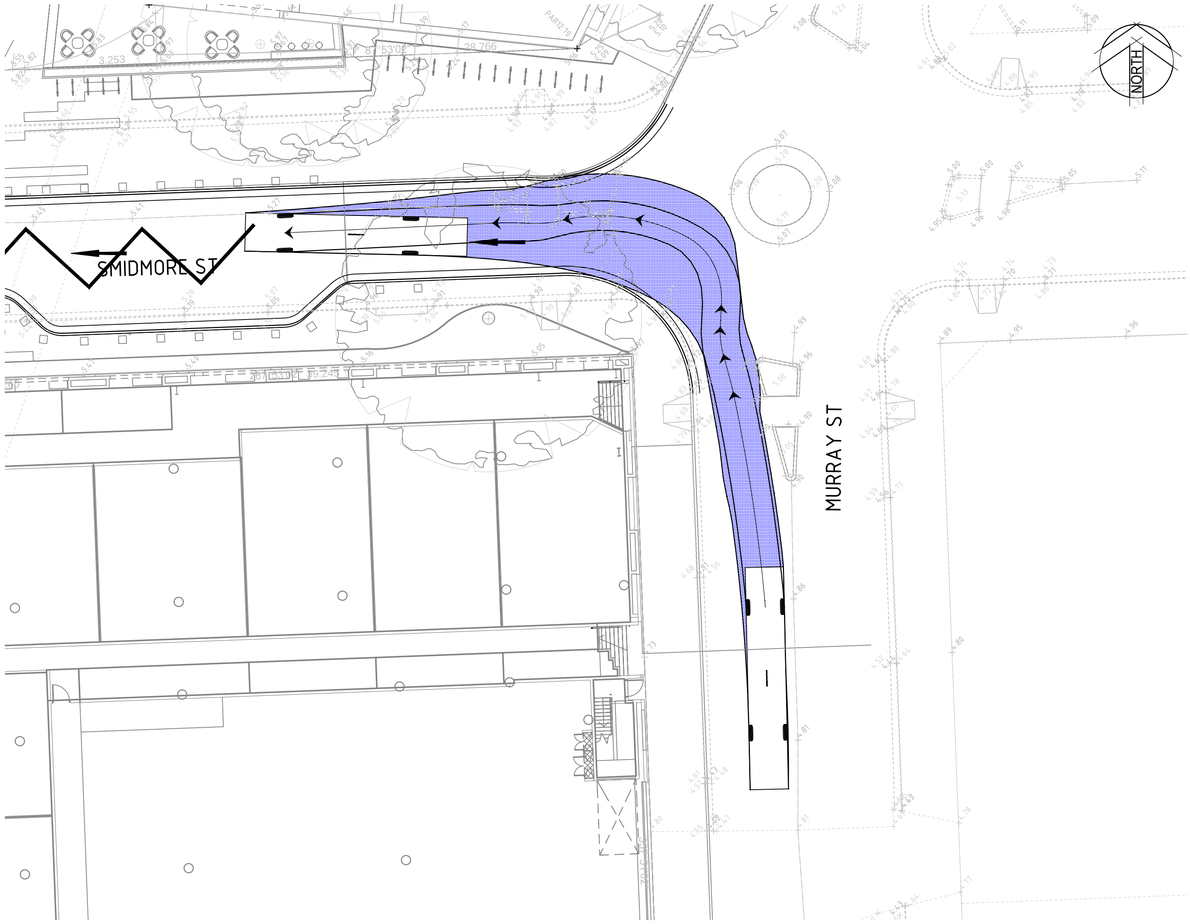
Drawn	JHL	Date 25/09/2017
Checked	AGL	Date 25/09/2017
Designed	AGL	Date 25/09/2017
Verified	GJN	Date 25/09/2017
Approved	GJN	25/09/2017

Client: AMP CAPITAL INVESTORS LIMITED
Project: MARRICKVILLE METRO SHOPPING CENTRE STAGE 1B
Title: TURNING PATH PLAN EDINBURGH ROAD AND MURRAY STREET

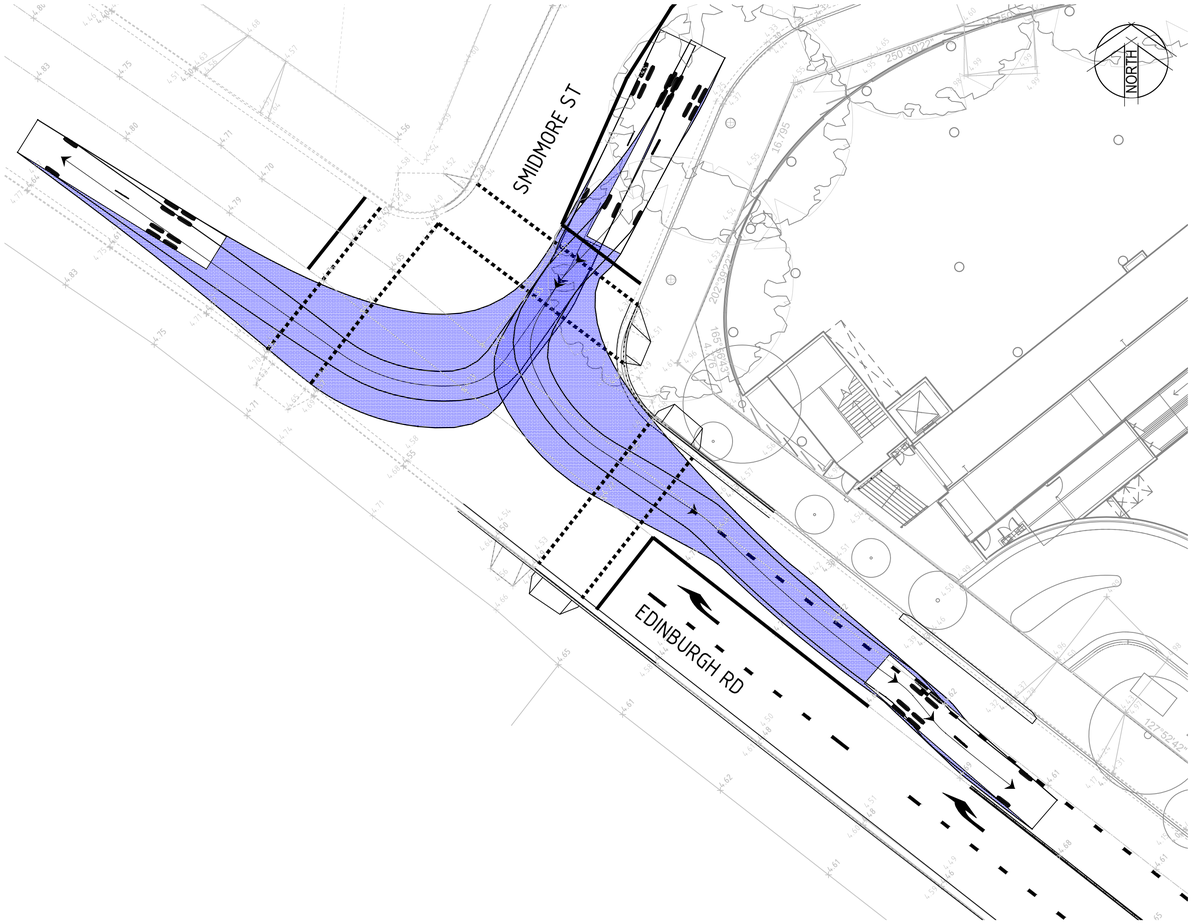
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	DATE	Scale	Size
AHD	25/09/2017	1:200	A1

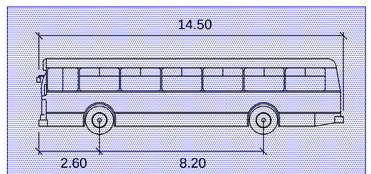
Drawing Number: 80216045-SK008
Revision: 3



SMIDMORE STREET AND MURRAY STREET INTERSECTION – BUS CIRCULATION – 14.5m LONG RIGID BUS
SCALE 1:200



EDINBURGH ROAD AND SMIDMORE STREET INTERSECTION – BUS CIRCULATION – 14.5m LONG RIGID BUS
SCALE 1:200



BUS2
meters

Width	:	2.50
Track	:	2.50
Lock to Lock Time	:	6.0
Steering Angle	:	44.3

VEHICLE PROFILE

0 5 10 15 20m
SCALE 1:200 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	11/10/2017	REISSUED FOR INFORMATION	AGL	GJN	GJN
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1	25/09/2017	ISSUED FOR INFORMATION	AGL	GJN	GJN

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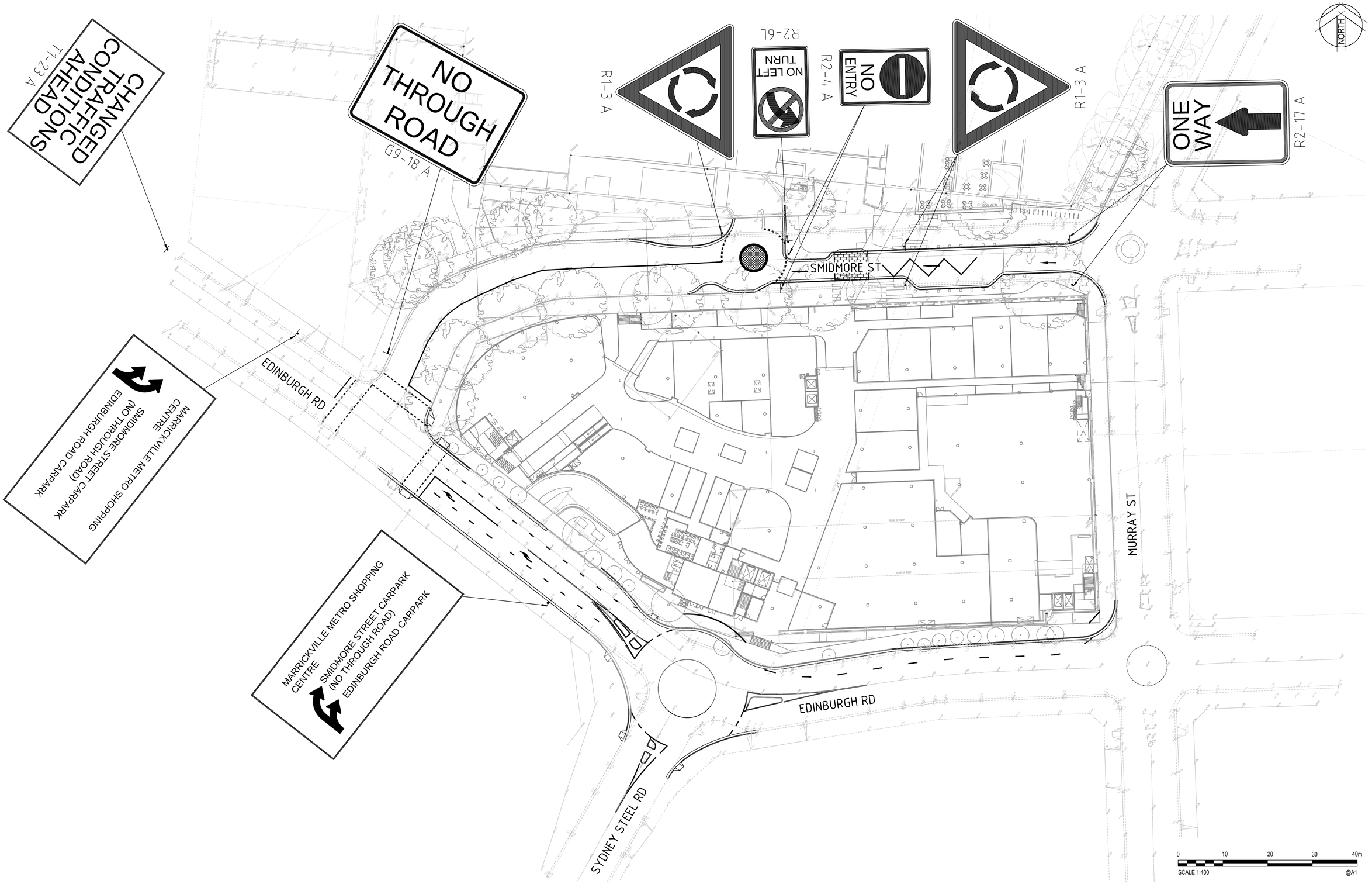
Designed	AGL	Date 25/09/2017
Verified	GJN	Date 25/09/2017
Approved	GJN	25/09/2017

Client: AMP CAPITAL INVESTORS LIMITED
Project: MARRICKVILLE METRO SHOPPING CENTRE STAGE 1B
Title: TURNING PATH PLAN SMIDMORE STREET AND MURRAY STREET; EDIBURGH ROAD AND SMIDMORE STREET

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	DATE	Scale	Size
AHD	25/09/2017	1:200	A1

Drawing Number: 80216045-SK009
Revision: 3



Rev.	Date	Description	Des.	Verif.	Appd.
3	11/10/2017	REISSUED FOR INFORMATION	AGL	GJN	GJN
2	26/09/2017	ISSUED FOR INFORMATION	AGL	GJN	GJN
1	25/09/2017	ISSUED FOR INFORMATION	AGL	GJN	GJN

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Drawn	JHL	Date 25/09/2017
Checked	AGL	Date 25/09/2017
Designed	AGL	Date 25/09/2017
Verified	GJN	Date 25/09/2017
Approved	GJN	25/09/2017

Client: AMP CAPITAL INVESTORS LIMITED

Project: MARRICKVILLE METRO SHOPPING CENTRE STAGE 1B

Title: PROPOSED SMIDMORE TRAFFIC REDIRECTION SIGNAGE PLAN

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

DATUM	DATE	Scale	Size
AHD	25/09/2017	1:400	A1

Drawing Number: 80216045-SK010

Revision: 3

Appendix C

Sydney Water OSD Requirements

Sydney WATER

Telephone: 8849 4459
Fax: 8849 4228
Officer: John Hyde
Our Ref.: 2010/01126F

13 October 2010

Golder Associates Pty Ltd
PO Box 1302
Crows Nest NSW 1585

Attention: Mr Rehman Habib

Dear Sir,

ON SITE DETENTION REQUIREMENTS
13 – 55 Edinburgh Road, Marrickville

With reference to your email dated 8 October 2010 regarding the above subject.

The requirements are to apply for a year from the date of this letter after which the requirements will be updated on reapplication.

1. An application fee of $375.90 is payable to Sydney Water.
2. On-Site Detention of stormwater will be required for stormwater discharge. A maximum permitted site discharge (P.S.D.) of 318 litres/sec and a minimum on site storage of 173 cubic meters is required for storage of the excess flow from a 100 year A.R.I. design storm (Total Site Area 9,000 square meters).
3. Hydraulic calculations and plans showing on-site storage are to be submitted for final approval prior to commencement of any drainage works.
4. Applicant should approach Council for their stormwater requirements including any floodway requirements.
5. Any structure within the zone of influence of stormwater channel require Sydney Water approval and should comply with "General Requirements for Building Adjacent to Stormwater Channel".
6. Any landscaping work within the zone of influence of the channel should consider the structural condition of the stormwater channel. If the stormwater channel is damaged as part of your proposed development work or landscaping work, then it is your responsible to repair the channel at your cost.
7. No machinery should be used within the zone of influence of stormwater channel which could affect the structural integrity of the stormwater channel.

Sydney Water Corporation ABN 49 776 225 038
1 Smith St Parramatta 2150 | PO Box 399 Parramatta 2124 | DX 14 Sydney | T 13 20 92 | www.sydneywater.com.au
Delivering essential and sustainable water services for the benefit of the community

Note: Upon completion of the work, the applicant is to submit a certified report from an appropriately qualified engineer or registered surveyor indicating that the OSD structure has been installed as per submitted plan.

If you have any questions about this Notice, you may contact the officer specified at the top of this notice.

Yours sincerely

Jeyadevan

for John Hyde
Development Services Representative

Jeya Jeyadevan.

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