

CIVIL ENGINEERING ASSESSMENT

Marrickville Metro Shopping Centre

YN210026 - 10 - 0109

Prepared for AMP Capital Investors

December 2012



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	
1	Draft	10/05/10	Michael Hodges	MKH		
2	Final	15/05/10	Michael Hodges	MKH	Chris Gantt	CWG
3	Final	21/05/10	Michael Hodges	MKH	Chris Gantt	CWG
4	Layout amended	15/10/10	Rob Lenferna	RPL	Michael Hodges	MKH
5	Final	22/10/10	Rob Lenferna	RPL	Michael Hodges	MKH
6	Layouts updated	04/11/10	Rob Lenferna	RPL	Michael Hodges	MKH
7	For Approvals	05/11/10	Rob Lenferna	RPL	Michael Hodges	MKH
8	For Approvals	08/11/10	Rob Lenferna	RPL	Michael Hodges	MKH
9	Layouts updated	14/12/12	Michael Hodges	MKH	Rob Lenferna	RPL
10	For Approvals	17/12/12	Michael Hodges	MKH	Rob Lenferna	RPL

"© 2012 Cardno (NSW/ACT) Pty Ltd All Rights Reserved. Copyright in the whole and every part of this document belongs to Cardno (NSW) Pty Ltd and may not be used, sold, transferred, copied or reproduced in whole or in part in any manner or form or in or on any media to any person without the prior written consent of Cardno (NSW) Pty Ltd."

Table of Contents

1	Background	6
1.1	Introduction.....	6
1.2	Construction Staging Details	8
2	Civil Engineering.....	9
2.1	Introduction.....	9
2.2	Erosion and Sediment Control	9
2.2.1	Sediment Basin	9
2.2.2	Construction Measures	10
2.3	Bulk Earthworks	10
2.3.1	General.....	10
2.3.2	Construction Sequence	10
2.3.3	Tree Removal and Protection	11
2.4	Roadworks	12
2.4.1	General.....	12
2.4.2	Road and Intersection Upgrades	12
2.5	Carpark Access and Loading Docks	14
2.5.1	General.....	14
2.6	Bus Terminus	15
2.7	Services.....	16
2.7.1	General.....	16
2.7.2	Water supply services	16
2.7.3	Sewerage services	16
2.7.4	Electricity supply services	17
2.7.5	Telecommunications services	17
2.7.6	Gas supply services	18
2.7.7	Stormwater drainage	18
3	Conclusion.....	19
4	References	20
4.1	Infrastructure and Hydrology	20

4.2	Architectural Documentation	20
4.3	Landscape Documentation	20

List of Figures

Figure 1-1 – Location plan	7
----------------------------------	---

Appendices

Appendix A Concept Erosion and Sediment Control Plan

Appendix B Concept Roadworks and Intersection Plans

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 relate only to Stage 1 of the project involving 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 roof top 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. There is no proposed increase in floor area arising from the proposed modifications and vehicle egress locations will remain unaltered. While the building design and façade composition will be amended, the overall height of the approved development will be marginally reduced in scale.

1.1 Introduction

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.

The land at 13-55 Edinburgh Road 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



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 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.

AMPCI proposes to upgrade and expand Marrickville Metro Shopping Centre to accommodate additional retail floor space, improved facilities and services, as well as enhance convenience and accessibility for the community.

The proposal has four key elements:

- An extension of retail floor area at first floor level above the existing shopping centre building with further additional roof top parking;

- Redevelopment of the existing industrial land south of Smidmore Street (13-55 Edinburgh Road) to create a two level retail addition to the shopping centre with car parking above;
- The retention of Smidmore Street between Edinburgh Road and Murray Street; and
- Road network and intersection upgrades to the perimeter of the development site.

The additional retail floor area will primarily accommodate a discount department store, supermarket, mini major and specialty retail space. The development will incorporate additional car parking as well as improved vehicle access and loading facilities.

The proposal will create a new streetscape in Smidmore Street and will be complimentary to an enhanced public space fronting Victoria Road. 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 1 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 incorporate the following:

- Streetscape improvements including level adjustments to Smidmore Street along the development frontage;
- 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;
- Construction of the proposed bus terminal in Edinburgh Road; and
- Construction of the proposed roundabout at the intersection of Edinburgh Road and Railway Parade.

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 and reconfiguration of the lower Smidmore Street ramp.

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 SK-050 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 SK-050 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 minimal excavation or filling of the site in preparation for the construction of the proposed building based on the current proposal to construct the structure as suspended. In the event that filling is required to achieve a building platform, it is anticipated that approximately 6,000m³ would be required.

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;
- Stripping and removing from site topsoil;
- Inspection of exposed natural material to ensure conformity with design assumptions;

- Placement of cut to fill and imported material in layers not greater than 250mm in thickness and compacted to not less than 95% SMDD, subject to construction methodology and geotechnical investigations.

2.3.3 Tree Removal and Protection

Trees to remain shall be protected to ensure no damage to the tree including the trunk. 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. The ultimate configuration and extent of kerb alignments is subject to detailed survey and service locations along with a traffic analysis to determine possible queue lengths based on traffic generation forecasts resulting from the proposed development. Refer to drawing SK-000 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 link from Edinburgh Road to Murray Street will be maintained. 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). Level adjustments are proposed to provide accessible pedestrian travel paths between the northern and southern centre entrances. Refer to drawing SK-000 and SK000a in Appendix B for details.

Loading dock access will continue to service 19.0m semi-trailers in accordance with AS2890.2 (2002).

2.4.2.2 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 traffic signals and the proposed intersection works at Sydney Steel Road. Due to the proximity of the entry and exit driveway it is recommended the access driveway be limited to left in/left out movements by introducing a central median within Edinburgh Road. The northern kerb will require relocation to ensure a minimum lane configuration consisting of two westbound lanes (3.3m and 3.0m) and two east bound lanes (3.3m and 3.0m) separated by a 0.6m central median. 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. To discourage pedestrian movements in this location a safety fence meeting the Roads and Traffic Authority requirements could be installed. Refer to drawing SK001 and SK-002a in Appendix B for details.

2.4.2.3 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 12.5 rigid bus and emergency vehicles to undertake a U turn. 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.

The roundabout shall generally meet the requirements of Austroad's Guide to Road Design, Part 4B: Roundabouts published in 2009. 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 12.5 rigid vehicles shall not be permitted.

Service adjustments will be required to facilitate these works. Refer to drawing SK-001 in Appendix B for the 14.5 bus movements from Smidmore Street, SK-002b for the 19.0m semi-trailer movements and SK-002c for the 12.5m rigid buses and emergency vehicle movements.

2.4.2.4 Smidmore Street and Murray Street Intersection

The existing roundabout at Smidmore Street and Murray Street will be retained in its current format. It is proposed to adjust the kerb alignment to provide adequate carriageway width for a 14.5m bus turning from Murray Street (north bound) left into Smidmore Street (west bound). Refer to drawing SK-002d in Appendix B for details.

2.4.2.5 Edinburgh Road and Murray Street Intersection

The existing roundabout at Edinburgh Road and Murray Street will require a minor modification to the north-western kerb return to allow a 14.5m bus to turn left from Edinburgh Road into Murray Street. 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 SK-002a 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 rooftop carpark will be retained, with the existing ramp being reconfigured. Entry to the ramp from Smidmore Street will be left-in only and controlled by “No Right Turn” signage. A median island in Smidmore Street will further reinforce the banning of the right turn movement. Refer to drawing SK-000a in Appendix B for details.

2.5.1.2 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 SK-002b in Appendix B.

2.5.1.3 New Consolidated Murray Street Majors and Specialty Loading Dock

In numerous locations along Murray Street there are existing loading docks associated with the Aldi store, fruit and vegetable and miscellaneous specialty shops. It is proposed to replace these facilities with a single consolidated dock facility.

All entry and exit movements for the consolidated loading dock facility shall be in a forward direction via a proposed vehicular crossing. 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 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.

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 SK-004a in Appendix B for 19.0m semi trailer movements entering the loading dock and SK-004b for 19.0m semi trailer movements exiting the loading dock.

2.5.1.4 Murray Street Carpark Access Ramp

The existing ramp to the rooftop carpark will be retained. Refer to drawing SK-004a in Appendix B for 5.2m car movements entering the access ramp and SK-004b for 5.2m car movements exiting the access ramp.

2.5.1.5 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. Refer drawing SK-001 in Appendix B.

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 northbound approach along Smidmore Street. Likewise, large service vehicles exiting this loading dock will be limited to travelling southbound along Smidmore Street, and then westbound along Edinburgh Road.

2.6 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 SK-009 in Appendix B.

2.7 Services

2.7.1 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.

2.7.2 Water supply services

2.7.2.1 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.

2.7.2.2 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 Golder Associates and are discussed in the Infrastructure and Hydrology Study.

2.7.3 Sewerage services

2.7.3.1 Existing Sewerage Services

The approximate location and size of the existing sewerage 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 is 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 Golder Associates and are discussed in the Infrastructure and Hydrology Study.

2.7.4 Electricity supply services

2.7.4.1 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.

2.7.4.2 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.

2.7.5 Telecommunications services

2.7.5.1 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 are 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.

No evidence of PowerTel, AAPT, Ucomm or other telecommunication providers were present at the time this report was prepared.

2.7.5.2 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.

2.7.6 Gas supply services

2.7.6.1 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.

2.7.6.2 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.

2.7.7 Stormwater drainage

Inground stormwater drainage is present within the surrounding road network and through the proposed development site. This report is not intended to discuss stormwater drainage and it is understood a separate Infrastructure and Hydrology report has been prepared by Golder Associates addressing existing and proposed stormwater drainage systems and requirements, along with existing and future flood modelling.

It is noted that existing stormwater drainage pit locations within Edinburgh Road, Smidmore Street and at the proposed Railway Parade roundabout will require adjustments to facilitate proposed kerb alignments.

3 Conclusion

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.

AMPCI proposes to upgrade and expand Marrickville Metro Shopping Centre to accommodate additional retail floor space, improved facilities and services, as well as enhance convenience and accessibility for the community.

Based on available architectural, landscape, traffic and service information, an assessment of the civil engineering aspects of the proposed development has been undertaken. Proposed car park and loading dock facilities have been assessed to determine compliance with the necessary Australian Standards. Intersection and road network upgrades have been identified to accommodate potential increased traffic likely to be generated by the proposed shopping centre extension. These recommendations have been assessed to determine the possible impacts on services and also to determine whether adequate lane widths and turning facilities are provided to accommodate service vehicles.

Based on initial assessments and subject to further design and consultation with the relevant authorities and stakeholders, the proposed works within and surrounding the development site will provide the necessary facilities to improve accessibility and safety within the surrounding road network along with a safe environment for vehicular and pedestrian access within the development.

4 References

4.1 Infrastructure and Hydrology

Proposed Extension of Marrickville Metro, Infrastructure and hydrology Study, prepared by Golder Associates (October 2010).

4.2 Architectural Documentation

Drg No.	Title
160496 - EA106 (Issue 01)	Ground Floor Plan
160496 - EA107 (Issue 01)	Level 1 Floor Plan
160496 - EA108 (Issue 01)	Level 2 Floor Plan
160496 - EA109 (Issue 01)	Level 2A Floor Plan
160496 - EA110 (Issue 01)	Roof Plan
160496 - EA111 (Issue 01)	South and North Elevations
160496 - EA112 (Issue 01)	West and East Elevations
160496 - EA113 (Issue 01)	Long Sections
160496 - EA114 (Issue 01)	Short Sections
160496 - EA115 (Issue 01)	Shadows

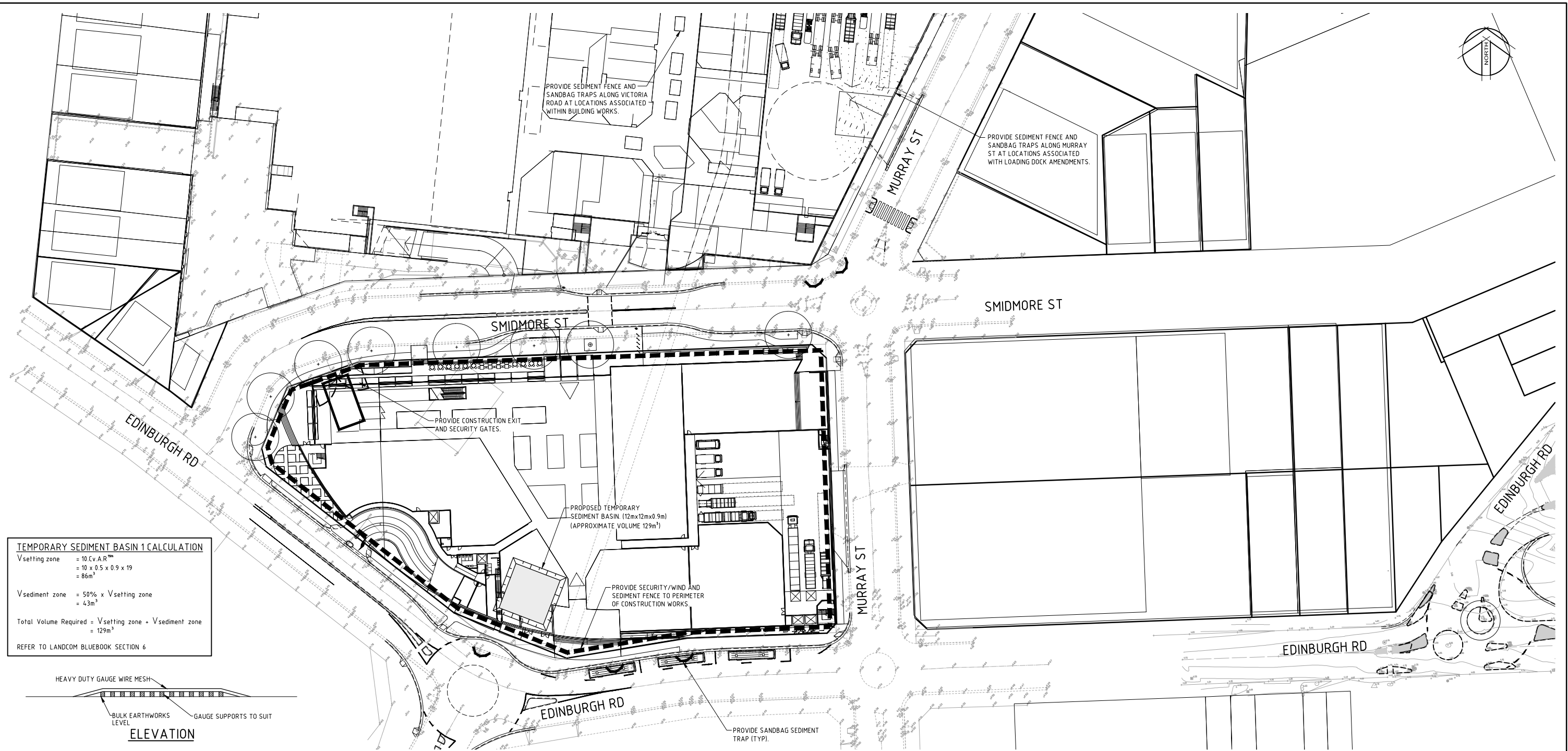
4.3 Landscape Documentation

Drg No.	Title
SS12-2547-000 (Issue B)	Cover sheet
SS12-2547-001 (Issue B)	Landscape Design Statement
SS12-2547-002 (Issue B)	Landscape Character Plan
SS12-2547-010 (Issue B)	Tree Removal Plan
SS12-2547-100 (Issue B)	Landscape Masterplan
SS12-2547-101 (Issue B)	Landscape Plan
SS12-2547-102 (Issue B)	Landscape Plan
SS12-2547-C100 (Issue B)	Colour Landscape Masterplan

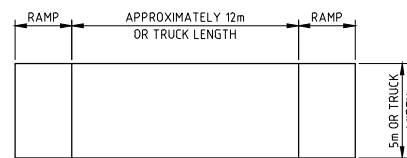
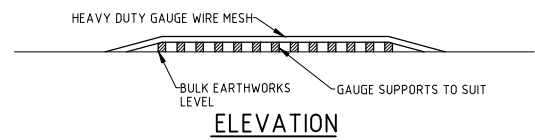
Appendix A

Concept Erosion and Sediment Control Plan

XREF's: X-BHL-A1-Logo: CH4331C1.m, X210026-SiteWorks, X-BHL-A1-SHT: X210026-Erosion and Sediment; pit_sur_Sediment; SEDTRAP; con_exit; temp_Basin Calc Table; EA006.m; AMPM_ModelGround_105_9_Ground_Floor.m; X210026-SiteWorks_Alternate Sydney Steel Rd Roundabout; SS12-2547_100_DRAFT_071212.m
CAD FILE: G:\210026 - Marrickville Metro Shopping Centre\Drawings\Civil\DA\Sketches\210026-SK-050 (K)-SEDIMENT AND EROSION PLAN.dwg
DATE PLOTTED: 11 December 2012 3:59 PM BY: DAVID BALL (SYDNEY)



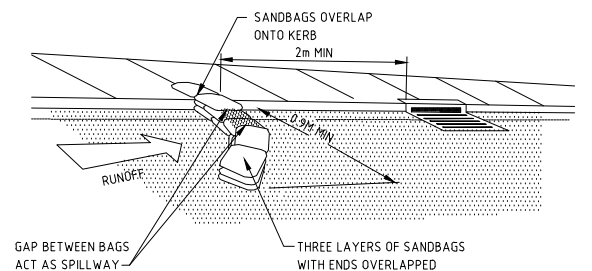
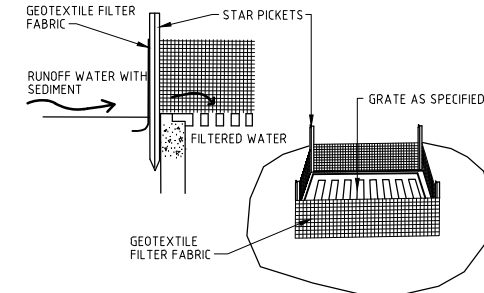
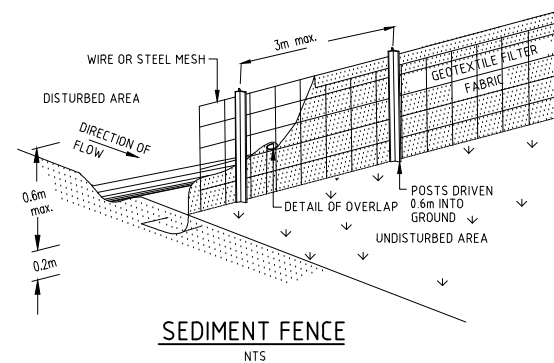
TEMPORARY SEDIMENT BASIN 1 CALCULATION	
V _{setting zone}	= 10 C _v A R ²
	= 10 x 0.5 x 0.9 x 19
	= 86m ³
V _{sediment zone}	= 50% x V _{setting zone}
	= 43m ³
Total Volume Required = V _{setting zone} + V _{sediment zone}	= 129m ³
REFER TO LANDCOM BLUEBOOK SECTION 6	



TEMPORARY CONSTRUCTION EXIT (WASH DOWN DETAIL)

SCALE 1:200

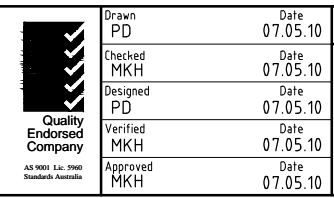
THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. THIS MAY REQUIRE REPAIR AND OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.



Rev	Date	Description	Drawn	Appr.
K	11.12.12	RE-ISSUE	DB	MKH
J	07.12.12	REVISED SYDNEY STEEL RD ROUNDABOUT	DB	MKH
H	06.12.12	UPDATED SITE LAYOUT	DB	MKH
G	08.11.10	ISSUE FOR APPROVALS	MKH	MKH
F	04.11.10	REVISED ARCHITECTURAL	PD	RPL
E	25.10.10	UPDATED LAYOUT	RDM	MKH
D	15.10.10	REVISED ARCHITECTURAL	RPL	MKH
C	21.05.10	REISSUED FOR INFORMATION	MDH	MKH
B	15.05.10	REISSUED FOR INFORMATION	PD	MKH



© Cardno Ltd 2011
All Rights Reserved.
This document is produced by Cardno Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



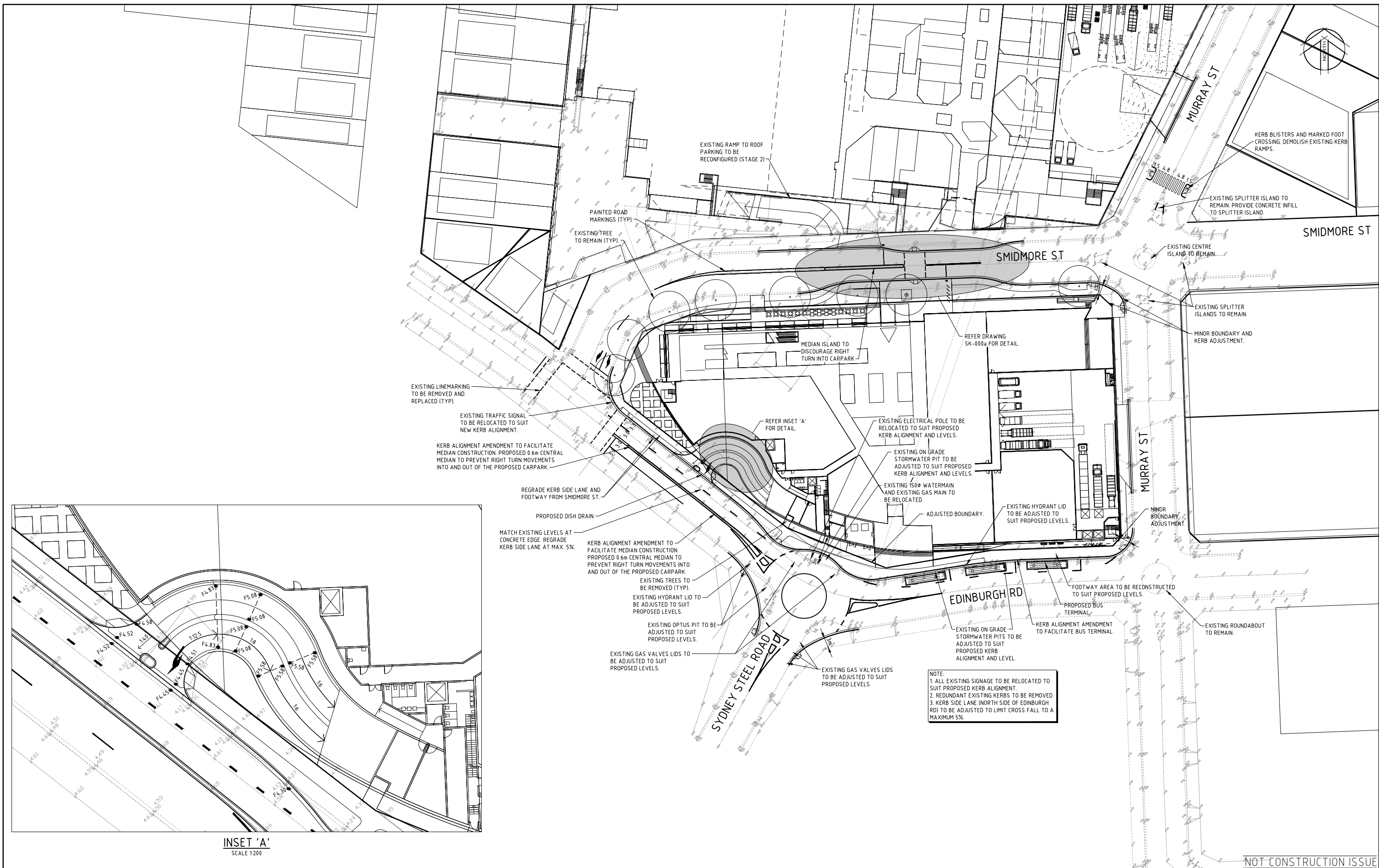
Drawn	PD	Date	07.05.10	Client	AMP Capital Investors Limited
Checked	MKH	Date	07.05.10	Lend Lease	Marrickville Metro Shopping Centre
Designed	PD	Date	07.05.10	-SEDIMENT AND EROSION PLAN	
Verified	MKH	Date	07.05.10		
Approved	MKH	Date	07.05.10		

FOR INFORMATION			
Date	MAY '10'	Datum	AHD
Scale	1:500	Size	A1
Drawing Number	210026-SK-050	Revision	K

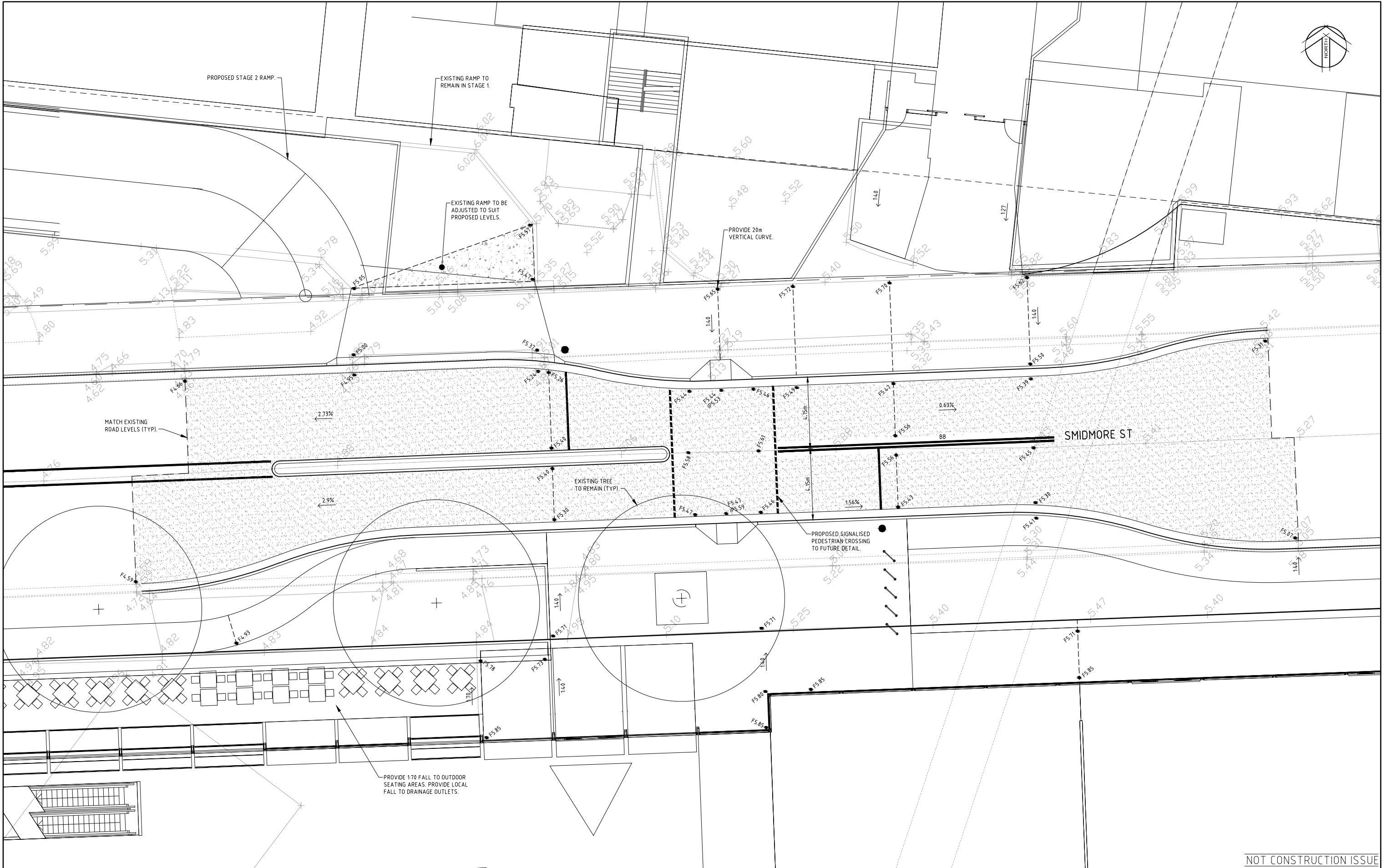
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm ON A1 ORIGINAL

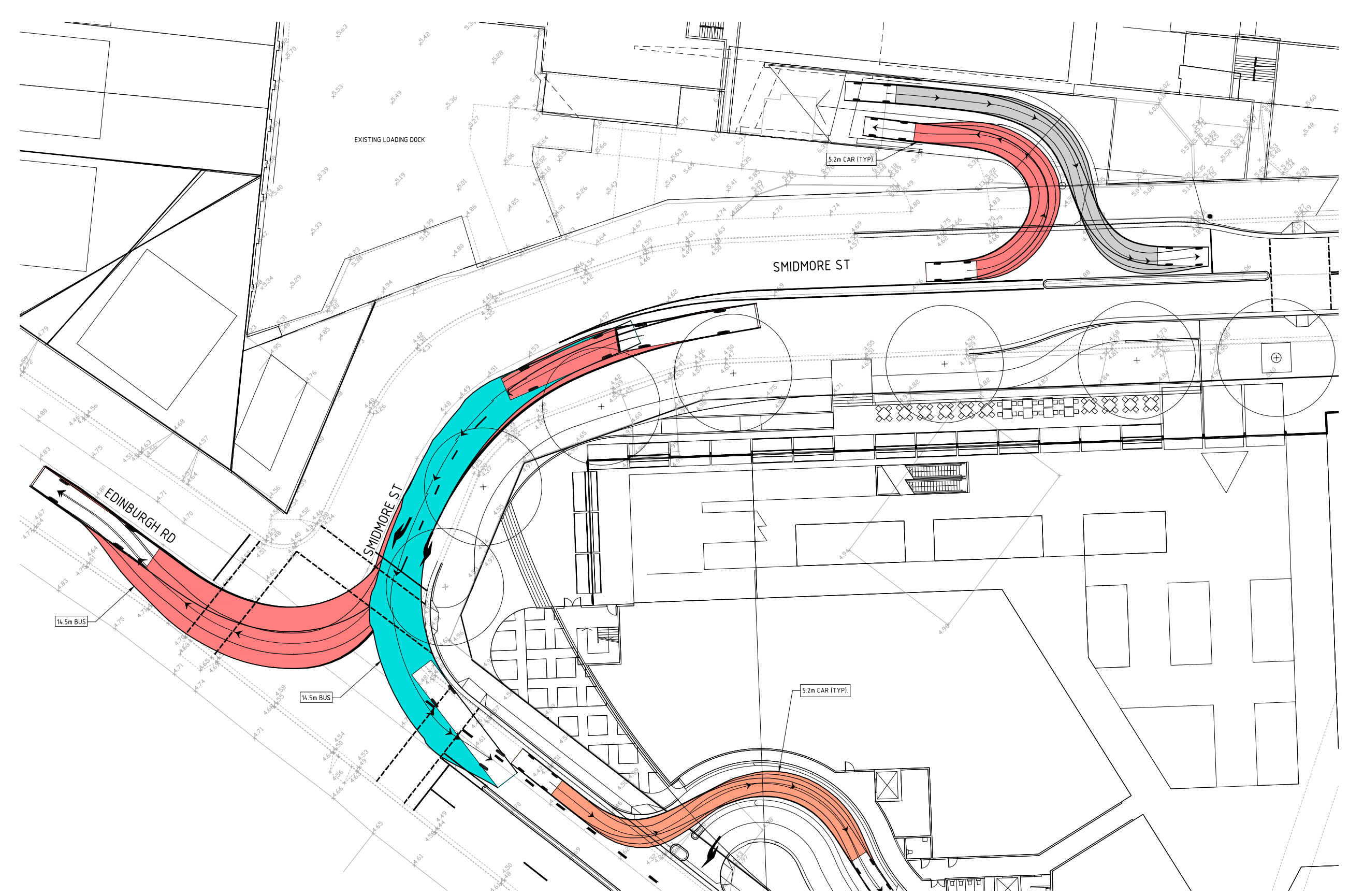
Appendix B

Concept Roadworks and Intersection Plans



--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--





REFER TO SK002 FOR CONTINUATION

NOT CONSTRUCTION ISSUE

Rev	Date	Description	Drawn	Appr.
G	11.12.12	RE-ISSUE	DB	MKH
F	06.12.12	UPDATED SITE LAYOUT	DB	MKH
E	08.11.10	ISSUE FOR APPROVALS	MKH	MKH
D	04.11.10	REVISED ARCHITECTURAL	RDM	MKH
C	25.10.10	UPDATED LAYOUT	RDM	MKH
B	18.10.10	UPDATED SITE LAYOUT	RDM	MKH
A	07.05.10	ISSUED FOR INFORMATION	PD	MKH



© Cardno Ltd 2011
All Rights Reserved.
This document is produced by Cardno Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



Drawn	PD	Date	07.05.10
Checked	MKH	Date	07.05.10
Designed	PD	Date	07.05.10
Verified	MKH	Date	07.05.10
Approved	MKH	Date	07.05.10

Client	AMP Capital Investors Limited
Lend Lease	Marrickville Metro Shopping Centre
-EDINBURGH ROAD AND SMIDMORE ST ENTRY AND EXIT	

FOR INFORMATION			
Date	MAY '10'	Datum	AHD
Scale	1:200	Size	A1
Drawing Number	210026-SK-001	Revision	G

XREF's: X-BHL-A1-Logo: CH4331C1_m_X210026-SiteWorks; X-BHL-A1-SHT: EA006_m_210026-TURNING PATHS; AMPM_ModelGround_105_9_Ground_Floor_m_X210026-SiteWorks; Alternate Sydney Steel Rd Roundabout; SS12-2547_100_DRAFT_071212_m
CAD FILE: G:\210026 - Marrickville Metro Shopping Centre\Drawings\Civil\OA\Sketches\210026-SK-002a\H1-EDINBURGH ROAD AND SYDNEY STEEL ROAD ROUNDABOUT.dwg
DATE PLOTTED: 11 December 2012 3:54 PM BY: DAVID BALL (SYDNEY)



H	11.12.12	RE-ISSUE	DB	MKH
G	07.12.12	REVISED SYDNEY STEEL RD ROUNDABOUT	DB	MKH
F	06.12.12	UPDATED SITE LAYOUT	DB	MKH
E	08.11.10	ISSUE FOR APPROVALS	MKH	MKH
D	04.11.10	REVISED ARCHITECTURAL	RDM	MKH
C	25.10.10	UPDATED LAYOUT	RDM	MKH
B	18.10.10	UPDATED SITE LAYOUT	RDM	MKH
A	07.05.10	ISSUED FOR INFORMATION	PD	MKH
Rev	Date	Description	Drawn	Appr.



© Cardno Ltd 2011
All Rights Reserved.
This document is produced by Cardno Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



Drawn	PD	Date	07.05.10
Checked	MKH	Date	07.05.10
Designed	PD	Date	07.05.10
Verified	MKH	Date	07.05.10
Approved	MKH	Date	07.05.10

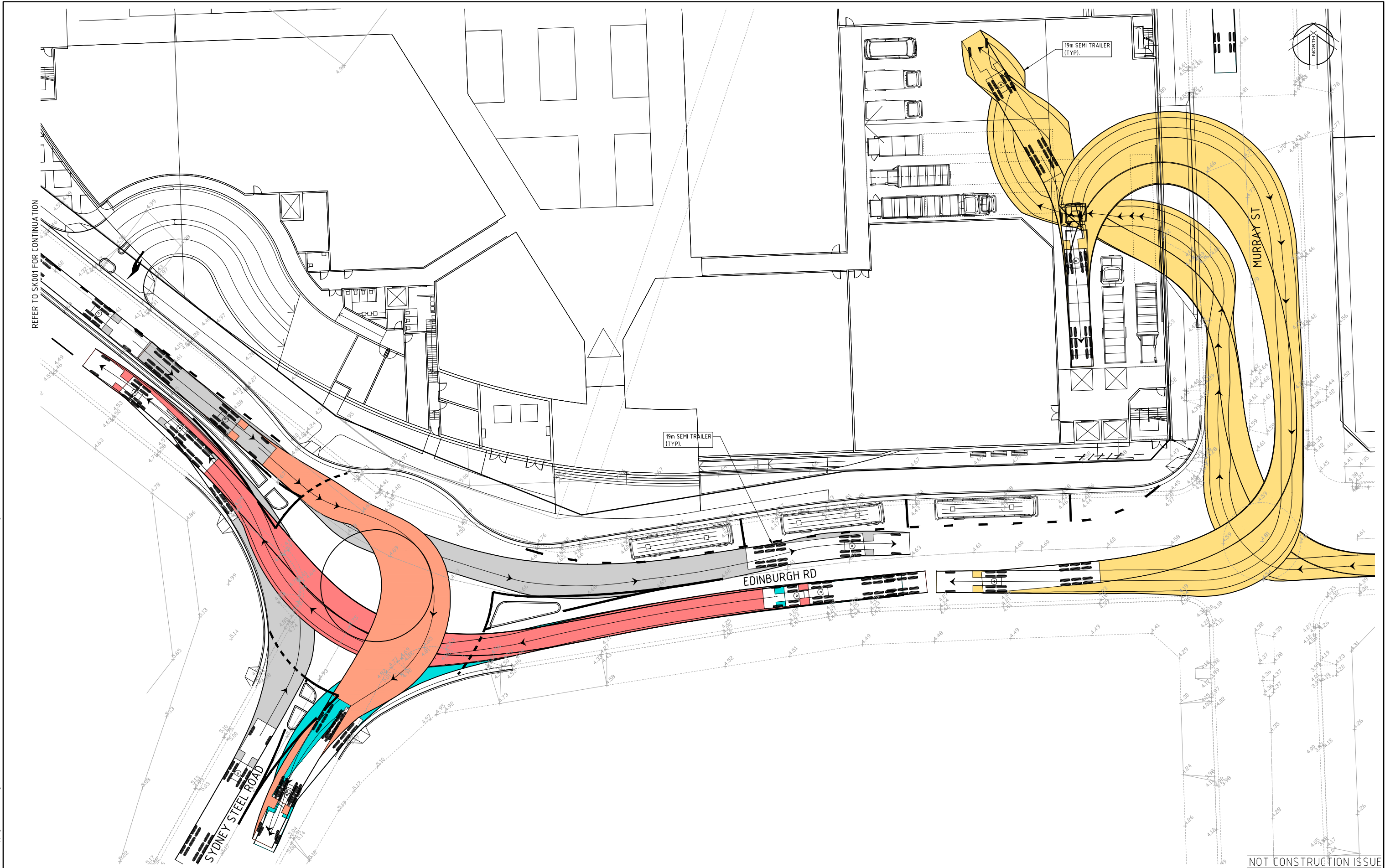
Client: AMP Capital Investors Limited
Lend Lease
Marrickville Metro Shopping Centre
-EDINBURGH ROAD AND SYDNEY STEEL ROAD ROUNDABOUT



Status	FOR INFORMATION			
Date	MAY '10'	Datum	AHD	Scale
Drawing Number	210026-SK-002a			Revision
				H

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm ON A1 ORIGINAL

XREF's: X-BHL-A1-Logo: CH4331C1_m_X210026-SiteWorks; X-BHL-A1-SHT: EA006_m_210026-TURNING PA THS: AMPM_ModelGround_105_9_Ground_Floor_m_X210026-SiteWorks; Alternate Sydney Steel Rd Roundabout; SS12-254.7_100_DRAFT_07.12.12_m
CAD FILE: G:\210026 - Marrickville Metro Shopping Centre\Drawings\Civil\DA\Sketches\210026-SK-002b(H)-EDINBURGH ROAD AND SYDNEY STEEL ROAD ROUNDABOUT.dwg

DATE PLOTTED: 11 December 2012 3:55 PM BY: DAVID BALL (SYDNEY)



H 11.12.12 RE-ISSUE DB MKH				<p>© Cardno Ltd 2011 All Rights Reserved.</p> <p>This document is produced by Cardno Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.</p>	 <p>ABN: 95 001 145 935 Level 9, The Forum, 203 Pacific Highway St Leonards NSW Australia 2065 Phone (+61 2) 9496 7718 Fax (+61 2) 9439 5178 Email: Sydney@Cardno.com.au Web: www.cardno.com.au</p>	 <p>AS 9001:2000 Standard Australia</p>	Drawn RDM Date 18.10.10	Client AMP Capital Investors Limited	Status FOR INFORMATION
G 07.12.12 REVISED SYDNEY STEEL RD ROUNDABOUT DB MKH	Checked MKH Date 18.10.10								
F 06.12.12 UPDATED SITE LAYOUT DB MKH	Designed RDM Date 18.10.10								
E 08.11.10 ISSUE FOR APPROVALS MKH MKH	Verified MKH Date 07.05.10								
D 08.11.10 ISSUE FOR APPROVALS MKH MKH	Approved MKH Date 07.05.10								
C 04.11.10 REVISED ARCHITECTURAL RDM MKH									
B 25.10.10 UPDATED SITE LAYOUT RDM MKH	Rev Date Description Drawn Appr							Date MAY '10' Datum AHD Scale 1:200 Size A1	
A 18.10.10 UPDATED SITE LAYOUT RDM MKH								Revision H	

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm ON A1 ORIGINAL

XREF's: X-BHL-A1-Logo: CH4331C1_m_X210026-SiteWorks; X-BHL-A1-SHT: EA006_m_210026-TURNING PATHS; AMPM_ModelGround_105_9_Ground_Floor_m_X210026-SiteWorks; Alternate Sydney Steel Rd Roundabout; SS12-254.7_100_DRAFT_07.12.12_m
CAD FILE: G:\210026 - Marrickville Metro Shopping Centre\Drawings\Civil\DA\Sketches\210026-SK-002(H)-EDINBURGH ROAD AND SYDNEY STEEL ROAD ROUNDABOUT.dwg
DATE PLOTTED: 11 December 2012 3:55 PM BY: DAVID BALL (SYDNEY)



NOT CONSTRUCTION ISSUE

Rev	Date	Description	Drawn	Appr.
H	11.12.12	RE-ISSUE	DB	MKH
G	10.12.12	12.5m BUS TURNING PATH ADDED	DB	MKH
F	07.12.12	REVISED SYDNEY STEEL RD ROUNDABOUT	DB	MKH
E	06.12.12	UPDATED SITE LAYOUT	DB	MKH
D	08.11.10	ISSUE FOR APPROVALS	MKH	MKH
C	04.11.10	REVISED ARCHITECTURAL	RDM	MKH
B	25.10.10	UPDATED SITE LAYOUT	RDM	MKH
A	18.10.10	UPDATED SITE LAYOUT	RDM	MKH



© Cardno Ltd 2011
All Rights Reserved.
This document is produced by Cardno Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



Drawn	RDM	Date	18.10.10
Checked	MKH	Date	18.10.10
Designed	RDM	Date	18.10.10
Verified	MKH	Date	07.05.10
Approved	MKH	Date	07.05.10

Client: AMP Capital Investors Limited
Lend Lease
Marrickville Metro Shopping Centre
-EDINBURGH ROAD AND SYDNEY STEEL ROAD ROUNDABOUT

FOR INFORMATION			
Date	MAY '10'	Datum	AHD
Scale	1:200	Size	A1
Drawing Number	210026-SK-002c		Revision
			H

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm ON A1 ORIGINAL



Status				FOR INFORMATION	
Date	MAY '10'	Datum	AHD	Scale	1:200
Drawing Number				Revision	
210026-SK-002d				C	

C	11.12.12	RE-ISSUE		DB	MKH
B	06.12.12	UPDATED SITE LAYOUT		DB	MKH
A	18.10.10	UPDATED SITE LAYOUT		RDM	MKH
Rev	Date	Description		Drawn	Appr.



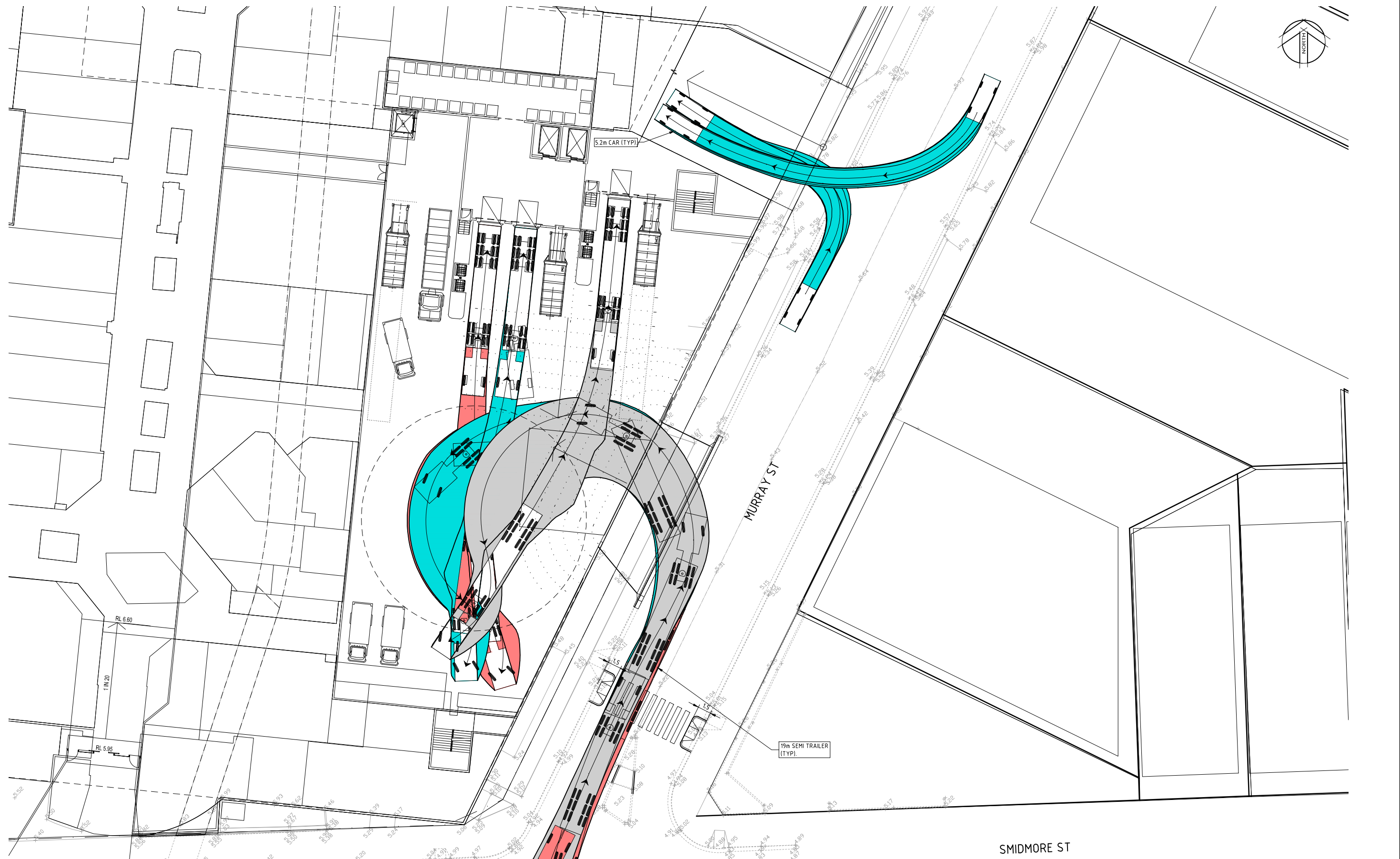
© Cardno Ltd 2011
All Rights Reserved.

This document is produced by Cardno Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



Drawn	Date
RDM	18.10.10
Checked	Date
MKH	18.10.10
Designed	Date
RDM	18.10.10
Verified	Date
MKH	07.05.10
Approved	Date
MKH	07.05.10

Client	AMP Capital Investors Limited
	Lend Lease
	Marrickville Metro Shopping Centre
	-SMIDMORE STREET ROUNDABOUT



SMIDMORE ST

[illegible]

© Cardno Ltd 2011
All Rights Reserved.

This document is produced by Cardno Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



ABN: 95 001 145 035
Level 9, The Forum, 203 Pacific Highway
St Leonards NSW Australia 2065
Phone (+61 2) 9496 7700 Fax (+61 2) 9439 5170
Email: Sydney@cardno.com.au Web: www.cardno.com.au



Drawn PD	Date 07.05.10
Checked MKH	Date 07.05.10
Designed PD	Date 07.05.10
Verified MKH	Date 07.05.10
Approved MKH	Date 07.05.10

Client	AMP Capital Investors Limited
	Lend Lease
	Marrickville Metro Shopping Centre
	-MURRAY STREET AND SMIDMORE STREET INTERSECTION - IN

Status				FOR INFORMATION	
Date	Datum	Scale	Size		
MAY '10'	AHD	NTS	A1		
Drawing Number			Revision		
210026-SK-004a			E		

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 mm ON A1 ORIGINAL

XREF's: X-BHL-A1-Logo: CH4331C1_m; X210026-SiteWorks; X-BHL-A1-SHT; 210026-TURNING PATHS; EA06_m; AMPM_ModelGround_105_9_Ground_Floor_m; S512-254_7_100_DRAFT_071212_m
CAD FILE: G:\210026 - Marrickville Metro Shopping Centre\Drawings\Civil\DA\Sketches\210026-SK-004\HDL-MURRAY STREET AND SMIDMORE STREET INTERSECTION - OUT.dwg
DATE PLOTTED: 11 December 2012 3:57 PM BY: DAVID BALL (SYDNEY)



NOT CONSTRUCTION ISSUE

Rev	Date	Description	Drawn	Appr.
D	08.11.10	ISSUE FOR APPROVALS	MKH	MKH
C	04.11.10	REVISED ARCHITECTURAL	RDM	MKH
B	25.10.10	UPDATED SITE LAYOUT	RDM	MKH
A	15.10.10	ISSUED FOR INFORMATION	RDM	MKH



© Cardno Ltd 2011
All Rights Reserved.
This document is produced by Cardno Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

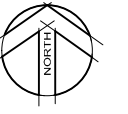


Drawn	RDM	Date	15.10.10
Checked	MKH	Date	15.10.10
Designed	RDM	Date	15.10.10
Verified	MKH	Date	15.10.10
Approved	MKH	Date	15.10.10

Client **AMP Capital Investors Limited**
Lend Lease
Marrickville Metro Shopping Centre
-MURRAY STREET AND SMIDMORE STREET INTERSECTION - OUT

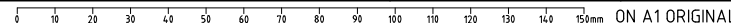
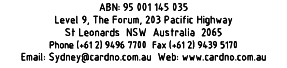
Status							
FOR INFORMATION							
Date	MAY '10'	Datum	AHD	Scale	NTS	Size	A1
Drawing Number						Revision	D
210026-SK-004b							

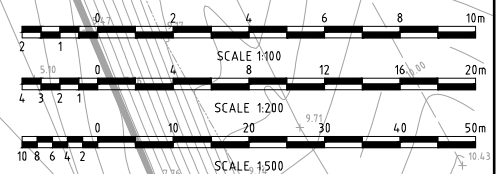
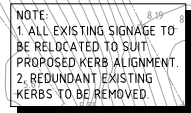
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm ON A1 ORIGINAL



Status			
FOR INFORMATION			
Date	Datum	Scale	Size
OCT '10'	AHD	1:200	A1
Drawing Number			Revision
210026-SK-009			F

Client	AMP Capital Investors Limited
	Lend Lease Marrickville Metro Shopping Centre -EDINBURGH ROAD BUS TERMINAL





NOT CONSTRUCTION ISSUE

B	10.05.11	PRELIMINARY LONGSECTION AND TURNING PATH ADDED		JB	MKH
A	05.05.11	ISSUED FOR INFORMATION		PD	MKH
Rev	Date	Description	Drawn	Appr.	



© Cardno Ltd 2011
All Rights Reserved.

This document is produced by Cardno Ltd solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Ltd does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



Drawn PD	Date 05.05.11
Checked MKH	Date 05.05.11
Designed PD	Date 05.05.11
Verified MKH	Date 05.05.11
Approved MKH	Date 05.05.11

Client	AMP Capital Investors Limited
	Lend Lease
	Marrickville Metro Shopping Centre
	-EDINBURGH ROAD AND RAILWAY PARADE

Status			
FOR INFORMATION			
Date MAY '11	Datum AHD	Scale AS SHOWN	Size A1
Drawing Number 210026-SK-010			Revision B