

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

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Date: 15 February 2018



Cullen Avenue West, Eagle Farm

Site Based Stormwater Management Plan Addendum

Truck and Earthworks Equipment Auction Yard

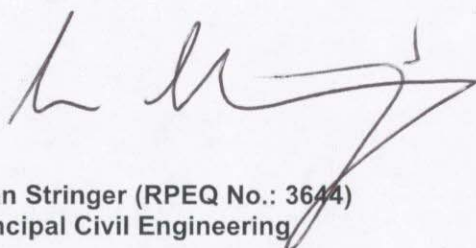


Northshore Group Pty Ltd

Document No.: 17C052BSDC_66 Cullen Avenue - SBSMP - DV/dv
Revision: A

RPEQ Notice

This document has been reviewed and approved by the following appropriately qualified and experienced Registered Professional Engineer of Queensland (RPEQ)



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Executive Summary

Sedgman Consulting provides multidisciplinary consulting and engineering services to the building and property, mining and resources and infrastructure sectors. We provide comprehensive business solutions from initial environmental assessments, planning and approvals management, and project feasibility analyses through to detailed design and construction.

With offices in Queensland, New South Wales, Victoria and Western Australia, we deliver for clients across Australia and the Asia Pacific region.

Our comprehensive management systems are certified to ISO 9001, ISO 14001 and AS/NZS 4801 standards for quality, environmental, and health and safety management.

A key component of our successful delivery is Sedgman Consulting's integrated services model. We strive to build sustainable partnerships, providing tailored support for individual projects while delivering long-term business success for clients.

Service overview

We provide integrated solutions with experience across commercial and industrial facilities, multi-storey, residential and mixed-use developments, as well as master-planned communities.

Our diverse client base in the building and property sector includes architectural firms, property developers, government agencies, investors, builders, schools, universities and sporting and community groups.

Comprehensive consulting services include:

- Feasibility studies;
- Master plans;
- Planning and approvals management;
- Environmental assessment and management;
- Detailed design (civil, structural, building hydraulics);
- Project management; and
- Contract documentation, construction supervision and certification.

1 Introduction

1.1 Background

The following Site Based Stormwater Management Plan (SBSMP) Addendum has been prepared to support an already approved stormwater management plan for a site located at 66 Cullen Avenue West, Eagle Farm, being Lot 1093 on SL8401 and Lot 100 on RP275551, within the local authority of the Brisbane City Council (BCC) and Economic Development Queensland (EDQ). The development proposes to modify the existing temporary carpark for use as an auction yard for trucks and earthworks equipment.

1.2 Scope

This plan addresses the proposed stormwater management strategy, including:

- Pre and post development flows for various Average Recurrence Interval (ARI) design events;
- Nomination of the legal point of discharge;
- Sediment and erosion control.

1.3 Proposed Development

The proposal is for modification of the existing temporary carpark facility into an auction yard for trucks and earthworks equipment. The development will also include a 2000m² warehouse to be used as a showroom. The proposal includes the discontinuation of the site as a temporary carpark.

Refer to Appendix A for the proposed development layout.

1.4 Site Description

1.4.1 Location

Street Address: 66 Cullen Avenue West, Eagle Farm
RP Description: Lot 1093 on SL8401 and Lot 100 on RP275551
Total Site Area: 6.03Ha
Proposed Use: Auction Yard
Local Authority: Economic Development Queensland (EDQ)

Refer to Figure 1.1 for the site location.

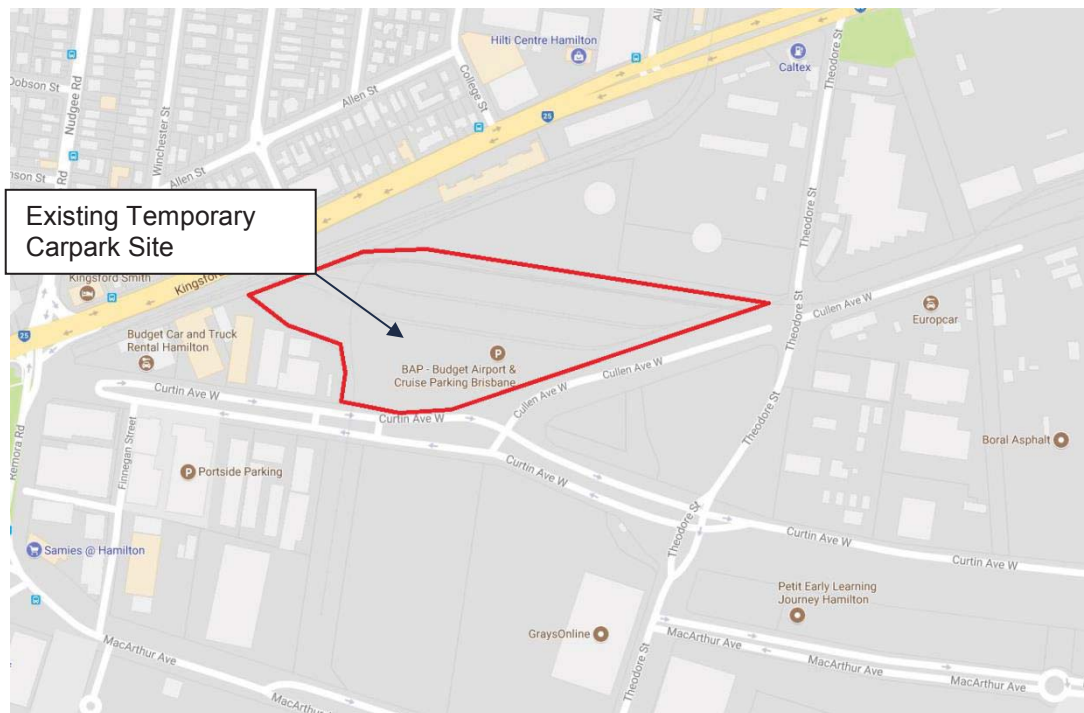


Figure 1.1 Site Location (Source: Google Maps)



Figure 1.2 Site Location - Aerial (Source: Nearmap)

1.4.2 Topography

The development site is currently a Temporary carpark with bitumen pavement hardstand surrounds. There is an existing tidal drainage swale traversing through the southern half of the site and an existing drainage channel along the northern boundary. The development site grades generally from a ridge in the middle of the site to these drainage locations with the site reaching a maximum RL of approximately 5.4m, and a minimum RL of approximately 1.1m.

Refer to Figure 1.2 for existing aerial view.

Refer to Appendix B for the topographic survey of the site.

1.4.3 Existing Drainage System

Stormwater runoff from the site is currently directed to existing field inlet pits which ultimately drain to the drainage easements described above. The major flows from site are directed to the drainage easements via overland flow. The drainage easement drains via a tidal movement, mangrove channel to the Brisbane River approximately 1.5km to the east.

2 Stormwater Quantity

2.1 Hydrologic Objectives

Hydrologic objectives for the site have been set in accordance with specification of Economic Development Queensland and the Queensland Urban Drainage Manual (QUDM), including but not limited to:

- Post-development flows, up to and including the 100 year ARI
- No adverse impact on adjoining or downstream properties;
- Legal point of discharge;
- Major System Design standard 100 year ARI; and
- Minor System Design standard 10 year ARI.

2.2 Pre-development Hydrology

The hydrology of the site has been assessed using the Rational Method, in accordance with QUDM. The various input parameters required for the pre-developed calculations are summarised below with detailed calculations in Appendix D:

- IFD Data: Bureau of Meteorology
- Total Catchment Area: .03 Ha
- Development Category: Commercial and industrial
- Fraction Impervious (f_i): 1.0
- 10 Year Co-efficient of runoff (C_{10}): 0.88
- Frequency Factors (F_y): QUDM
- Time of Concentration (T_c): 5.0 minutes

Table 2.1 Pre-development Peak Discharge Summary

Catch Name	Catch Area (Ha)	Impervious Area (Ha)	Q2 (m^3/s)	Q10 (m^3/s)	Q20 (m^3/s)	Q50 (m^3/s)	Q100 (m^3/s)
Site Total	6.03	6.03	1.910	3.165	3.807	4.813	5.345

2.2.1 Post-development Hydrology

The hydrology of the post developed site has been assessed using the Rational Method, in accordance with QUDM. The various input parameters required for the post calculations are summarised below with detailed calculations in Appendix D:

- IFD Data: Bureau of Meteorology
- Total Catchment Area: 6.03 Ha
- Development Category: Commercial and industrial
- Fraction Impervious (f_i): 1.0
- 10 Year Co-efficient of runoff (C_{10}): 0.88
- Frequency Factors (F_y): QUDM
- Time of Concentration (T_c): 5.0 minutes

Table 2.2 Post-development Peak Discharge Summary

Catch Name	Catch Area (Ha)	Impervious Area (Ha)	Q2 (m^3/s)	Q10 (m^3/s)	Q20 (m^3/s)	Q50 (m^3/s)	Q100 (m^3/s)
Site Total	6.03	6.03	1.910	3.165	3.807	4.813	5.345

A comparison of Tables 2.1 and 2.2 shows no increase in peak discharge from the subject site in the post-developed scenario. Therefore we believe that the implementation of stormwater detention devices is unwarranted and conclude that no formal mitigation measures are required for the post-developed scenario.

2.3 Legal Point of Discharge

The Legal Point of Discharge for the site has been taken as the existing tidal flow drainage channel to the south and north as detailed in section 1. This is considered to be in accordance with the processes set out by Economic Development Queensland.

3 Water Quality Objectives

3.1 Relevant Water Quality Objectives

The subject site is located within a tidal flow area and as such it is expected that the salt water will provide some water quality assistance to the discharge from site. The site is proposed to be only used as a temporary vehicle auction facility. The site is to be maintained in its current hydrological condition which does not include water quality devices. Due to this it is believed the provision of Stormwater Quality Improvement devices, either bio-retention basin or proprietary devices, are **not** warranted, and therefore have not been proposed.

Although formal quality improvement devices have been deemed unnecessary for the development is proposed to provide best management stormwater quality methods to the post developed site.

3.1.1 Pollutant Identification - Construction Phase

The following table identifies the pollutants which are to be controlled and mitigation strategies employed in order to achieve the water quality objectives during the construction phase for the proposed development.

Table 3.1 Pollutant identification and Mitigation Strategies during Construction

Target Pollutants	Target Pollutant Examples	Mitigation Strategies
Litter	Paper, construction packaging, food packaging, cement bags, off-cuts	Education through site inductions, provision of refuse bins and regular removal of collected refuse
Sediment	Unprotected exposed soils and stockpiles during earthworks and building	Sediment and Erosion Controls. Refer Section 4, below
Hydrocarbons	Fuel and oils spills, leaks from construction equipment	Provision of a vehicle storage area for contractors.
Toxic Materials	Cement slurry, asphalt prime, solvents, cleaning agents, wash waters (eg. From tile works)	Provision of onsite wash facilities which do not allow runoff to enter Council's stormwater system
pH altering substances	Acid Sulphate Soils (ASS), cement slurry and wash waters	If Acid Sulphate Soils are detected a management plan will be required. Provision of onsite wash facilities which do not allow runoff to enter Council's stormwater system

3.1.2 Pollutant Identification – Operational Phase

The flowing table identifies the pollutants which will be required to be controlled and strategies employed in order to achieve the water quality objectives during the operational phase of the proposed development.

Table 3.2 Pollutant identification and Mitigation Strategies during Operation

Target Pollutants	Target Pollutant Examples	Mitigation Strategies
Litter	Paper, construction packaging, food packaging, cement bags, off-cuts	Education of owners and body corporate, provision of refuse bins and regular removal of refuse
Sediment	Unprotected exposed soils and stockpiles during construction	Provision of grassed buffer strips and landscaped areas
Nutrients	Nitrogen and Phosphates	Provision of grassed buffer strips and landscaped areas
Pathogens	Faecal coliforms, bacteria and viruses	Provision of a reticulated sewerage system and education in the proper removal of such waste (pets)
Heavy Metals	Associated with fine sediments	Provision of grassed buffer strips and landscaped areas
Surfactants	Detergents from car washing	Provision of a car wash area on site with appropriate drainage (if required)
Thermal Pollution	Heat produced from metal or concrete surfaces	Architectural features which reduce thermal pollution (covered concrete areas) (if required)

3.2 Summary

With the introduction of the above strategies for the construction and operational phases of the development it is believed water quality objectives will be achieved for the site. Due to this, the development has been deemed to satisfy the Economic Development Queensland's specifications for Water Quality.

4 Erosion and Sediment Management

The objective of Erosion and Sediment Management is to limit soil erosion and control sediment discharge from the proposed development by using suitable control devices during the four (4) primary phases, Pre-development, Bulk Earthworks, Construction and the Post-development.

Typical erosion and sediment control measures that will be incorporated into these development phases are highlighted in Section 4.2 and 4.3 respectively.

4.1 Erosion and Sediment Management during Development Phases

4.1.1 Pre-development

Prior to construction commencing, the following sediment and erosion control measures will be implemented to minimise disturbance and ensure water quality is maintained.

- Designation of transport routes to ensure minimal vegetation disturbance. Transport routes will have construction exits in accordance with IEAust Guidelines;
- Maximise vegetated open space areas to reduce soil disturbance and provide filter strip treatment for runoff;
- Construction entry/exit to be installed and will comprise of a designed gravel pad or placement of hardwood logs in accordance with the IEAust Guidelines;
- Install sediment fences around the proposed bulk earthworks site (along toe of batter alignment); and
- Install dust control fences adjacent to the proposed bulk earthworks site (along property boundary).

4.1.2 Bulk Earthworks

Filling during the bulk earthworks phase is to occur so as to direct runoff towards sediment and erosion controls. The following measures will be implemented:

- Construct chutes to control runoff over earthworks batters;
- Construction of temporary bund at the top of all earthwork batters to ensure runoff is directed to chutes and away from exposed batters;
- Sediment fences will be installed at all down slope areas of material stockpile bases; and
- All batters to be top-soiled and seeded immediately upon reaching finished earthworks levels.

4.1.3 Construction

The following measures will be undertaken to mitigate water quality impacts during construction phase:

- Sediment fences to be erected at the base of all batters and stockpiles to prevent sediment transportation off site;
- Grass filter strips to be placed along all road verges;
- Re-vegetation of all disturbed areas within two weeks of completion;
- All sediment control structures to be maintained in an effective manner and inspected after each storm event. No structure is to accumulate sediment above 40% of its capacity; and

- Regular monitoring of water quality to determine the effectiveness of the sediment and erosion control measures.

4.1.4 Post-development

Once construction is completed and the development has been certified “On-Maintenance” the following strategies will be implemented to limit soil erosion and control sediment discharge leaving the site:

- A monitoring program will be established for the stormwater treatment devices as outlined in stormwater management plan;
- All monitoring activities associated with the operation of the vegetated treatment areas, including weed inundation, erosion, vegetation density, determination and inappropriate access shall be included in the general monitoring of the landscaped areas;
- The Developer will be responsible for all monitoring activities associated with the operation of the trenches/swales during the maintenance period (minimum 12-months period or as otherwise advised by Council) with the Council responsible following the maintenance period; and
- A report shall be prepared for Council submission following the maintenance period containing all erosion & sediment monitoring results and a brief description of the same (including any incidences of non-compliance and corrective actions implemented).

4.2 Erosion Controls

The time of disturbance on-site should be kept to a minimum by ensuring that construction works immediately follow the earthworks phase. Consideration to staging works should be given to minimise the area of exposed works at any given time.

Areas that may be subject to concentrated flow and that have been cleared may require turfing to ensure gully erosion does not start.

Any overburden that is not to be taken off-site should be stockpiled nearby and covered to prevent the mobilization of any particles in to the drainage system.

The remaining exposed areas of the site are to be damped down as deemed necessary by the site supervisor to prevent dust. All batters are to have mulch or erosion control mats installed immediately after achieving final level.

Dust fencing is to be installed around the perimeter of earthworks to prevent wind velocities at ground level over the site.

The site is to be landscaped and re-vegetated in accordance with the Landscape Plan immediately after completion of construction activities to minimise the risk of erosion from exposed earthworks.

4.3 Sediment Controls

With reference to the IEAust Guidelines and Current Best Practice, there are seven (7) fundamental sediment control principles that have been identified for use during construction:

- Construction Exit
- Sediment Fences
- Buffer Zones
- Sediment Basins

- Sediment Barriers
- Turfed Filter Strips
- Check Dams

4.3.1 Construction Exit

A dedicated construction exit is to be located at the sites entry and exit point for vehicles. This exit will be established to facilitate the removal of soil, mud, dust and debris from the tyres of vehicles prior to leaving the construction site. The construction exit can comprise of a gravel pad designed or placement of hardwood logs, constructed and maintained in accordance with the IEAust Guidelines. Alternatively, a vibratory grid system can be hired or constructed. The advantages of the grid system include ease of movement and they can be used for several years.

4.3.2 Sediment Fences

Sediment fencing is to be established down slope of any exposed earthworks where there is a risk of contaminated water leaving the site prior to clearing and earthworks commencing. Sediment fencing may be required at regular spacing down the disturbed grade to limit rutting caused by concentration of sheet flow. Sediment fences shall be used to protect any temporary stockpile areas on an as-needs basis. Sediment collected from sediment barriers is to be regularly removed and either taken off site as part of the earthworks phase of the proposed development or stockpiled for use during re-vegetation.

4.3.3 Buffer Zones

Buffer zones consisting of the existing grassed areas down slope of all bulk earthworks and around the existing vegetated area to the east of the site are to be fenced off. Buffer zones are corridors of vegetation that separate disturbed land from adjacent receiving environments. No vegetation is to be removed from this area whilst construction is in progress as it aids in the slowing and filtering of runoff.

4.3.4 Sediment Basins

Sediment basins are to be constructed at the location of the proposed stormwater detention basins. The sediment basins are to be constructed as early as possible, and prior to bulk earthworks. The installation of a sediment basin does not negate the use of other sediment and erosion control measures detailed in this report. Sediment basins are to be designed, constructed and maintained in accordance with the IEAust Soil Erosion and Sediment Control Guidelines for Queensland Construction Sites.

4.3.5 Sediment Barriers

Sediment barriers are to be constructed around all stormwater drainage inlet pits where contaminated water may drain to. This will aid in ensuring sediments are settled out prior to flows entering the underground stormwater drainage system. Sediment barriers are to be gravel wrapped in geotextile 'sausage' or similar.

4.3.6 Turf Filter Strips

Turf filter strips approximately 600mm wide are to be placed on the top of the fill batters and adjacent to all paved areas where possible. These will act in conjunction with the sediment fences to further treat any overland flow from the site. Turf filter strips are to be constructed and maintained in accordance with the IEAust Guidelines.

4.3.7 Check Dams

Check dams are to be installed in the road pavement and are to be maintained until adequate pavement is installed. The primary purpose of a check dam is to control flow velocity in the road boxing until road pavement is installed. A secondary purpose is to entrap sediment in a similar way to sediment barriers.

4.4 Monitoring and Maintenance

The following monitoring and maintenance procedures are to be undertaken by the site supervisor during all phases of the development:

1. Inspections of Stormwater, Sediment and Erosion Controls are to be conducted at the end of each construction day and after each rainfall event (>25mm).
2. If any validated complaints or evidence of water quality deterioration is reported downstream of the site the following actions are to be taken:
 - Locate source of water quality deterioration.
 - Construct temporary controls to prevent continuing short term deterioration.
 - Repair existing controls, modify procedures or construct additional controls to prevent further deterioration.

5 Strategy Summary and Conclusions

A stormwater management strategy has been developed to manage potential impacts due to the proposed auction yard located at 66 Cullen Avenue West, Eagle Farm. The stormwater management strategy has the following components:

- Generally maintaining the existing drainage regimes and drainage discharge locations;
- post-development storm flows discharging from the subject site;
- Implementation of typical erosion and sediment control devices during the four (4) primary phases of the proposed development.

It is considered that the development of the site, with the implementation of the stormwater management strategy developed in this report, will result in no significant worsening in drainage conditions upstream or downstream of the site.

6 References

Brisbane City Council Plan 2014

DERM (2013) State Planning Policy

Institution of Engineers, Australia (2001) "Australian Rainfall and Runoff – A guide to flood estimation".

Neville Jones & Associates (2008) "Queensland Urban Drainage Design Manual (QUDM)", Edition 2.

Healthy Waterways 'Water Sensitive Urban Design – Technical Design Guidelines for South East Queensland – Version 1, June 2006

Queensland Government. 2013,. "State Planning Policy 2013" Version 1.

XP Software (2013) "XP-RAFTS – Runoff Analysis and Flow Training Simulation Program", Version 6.

MUSIC Modelling Guidelines for South-East Queensland – December 2009

Appendix A

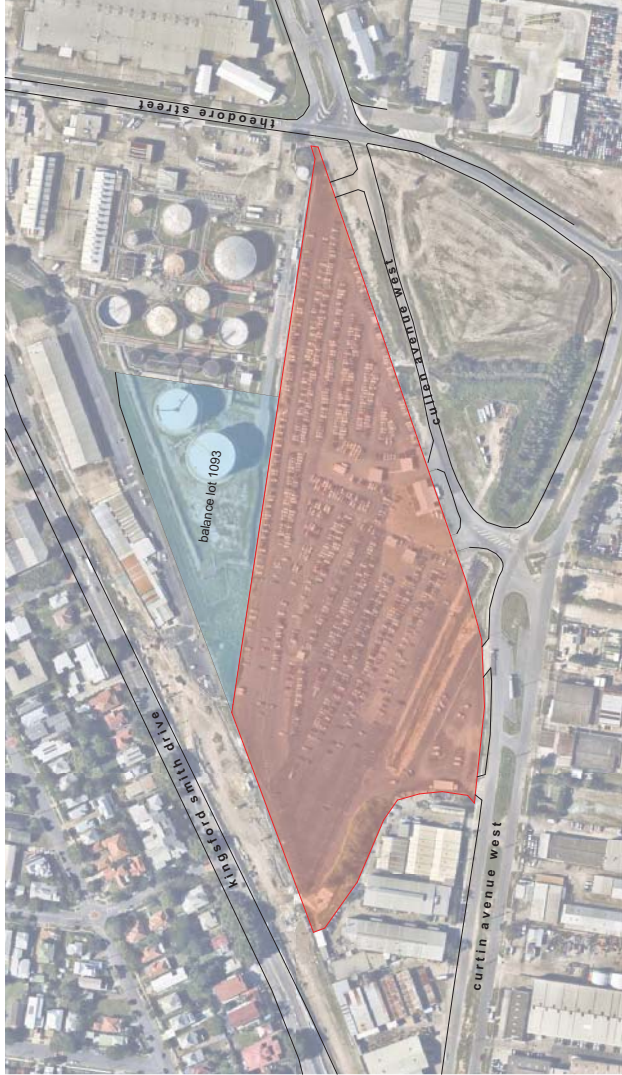
Proposed Development

proposed industrial development

66 Cullen Avenue, Eagle Farm

aerial locality plan

site of works

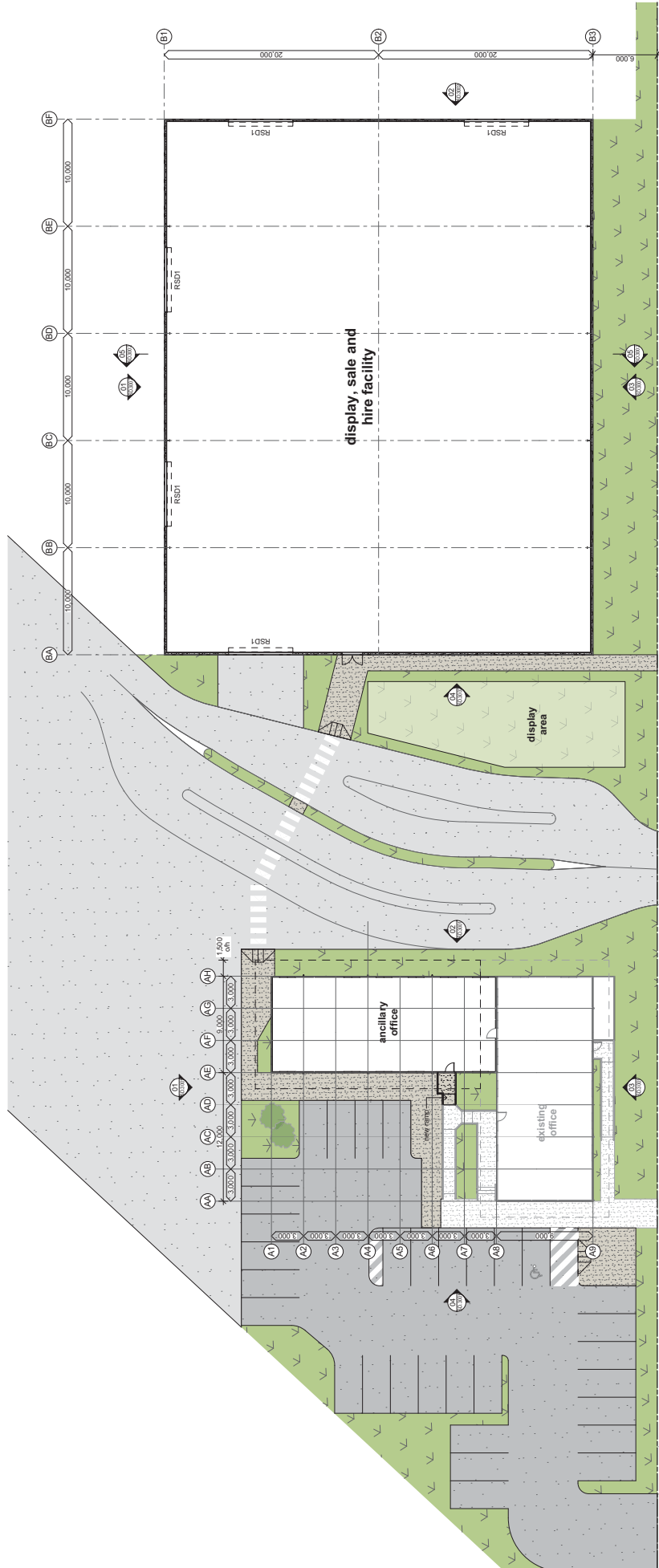


site information

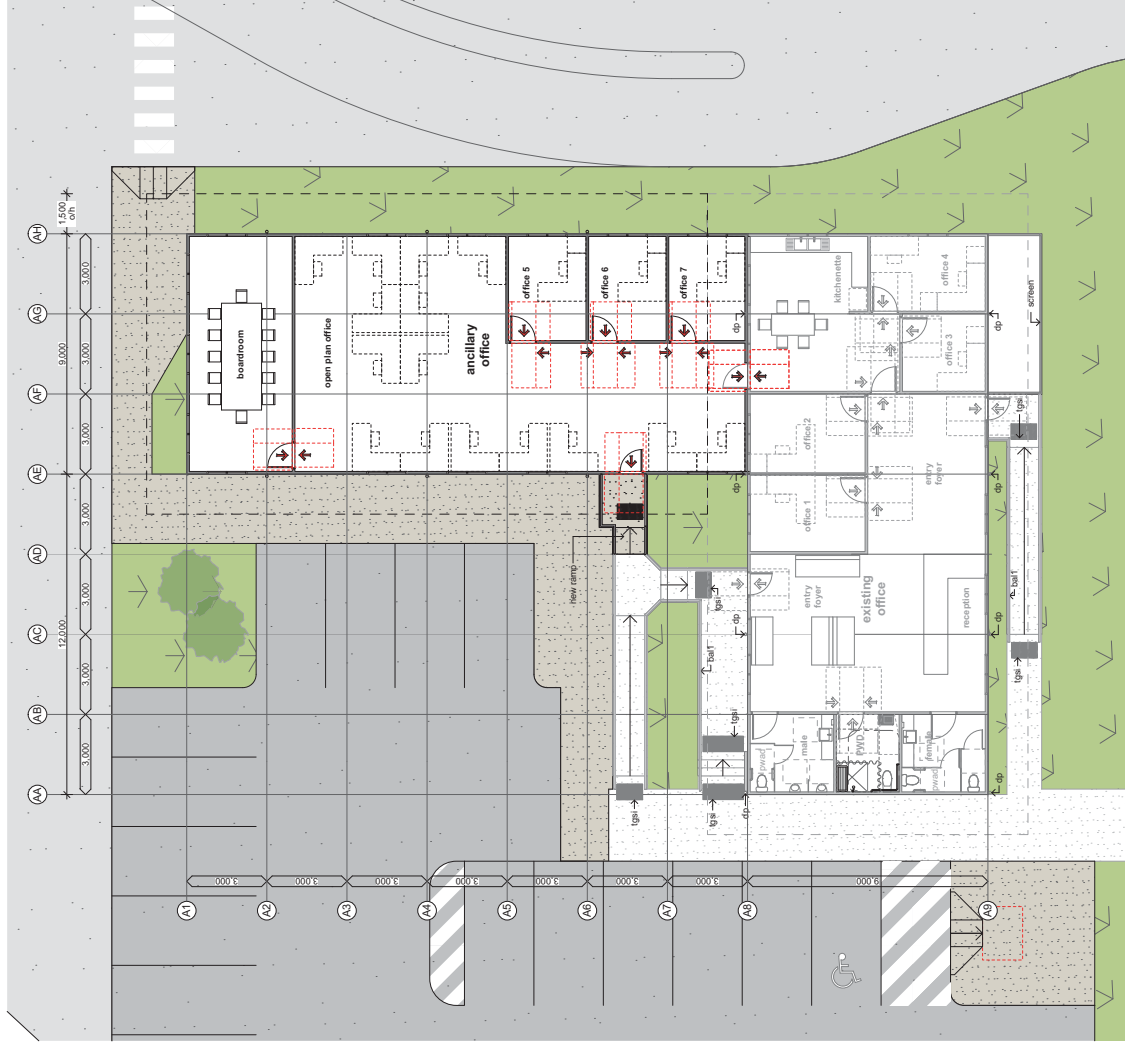
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parcel information Lot 100 on SP275551
local government area - brisbane city council
parish of foornbul
county of stanley

drawing schedule

SD.0001 cover page and drawing schedule
SD.1001 site plan
SD.1002 roof plan
SD.1003 site cover calculations
SD.2001 ground floor plan
SD.2101 office floor plan
SD.3001 elevations - office
SD.3002 elevations - display, sale and hire

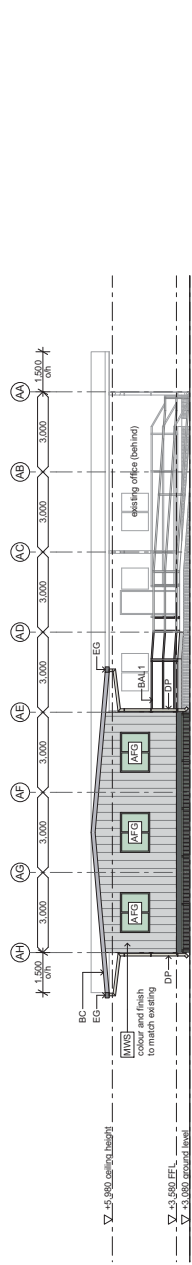


cullen avenue west

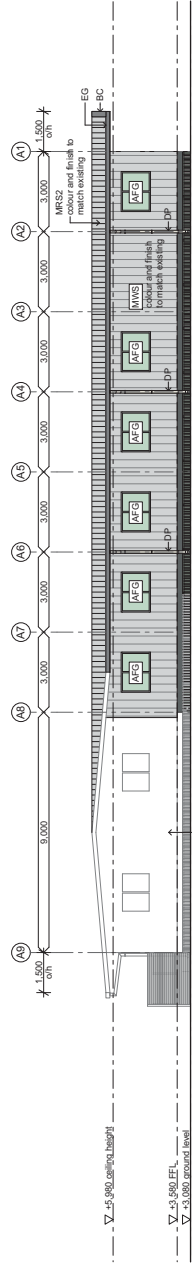


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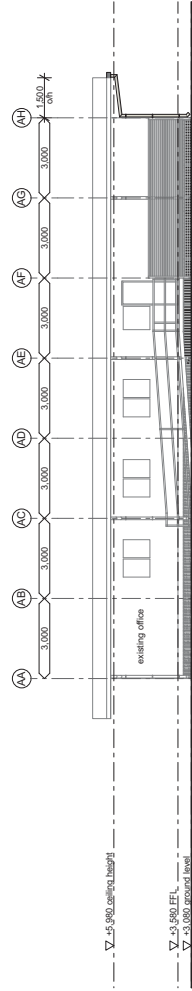
- legend**
- AFG aluminium framed glass
 - BC beige cladding
 - EG eaves gutter
 - EG eaves gutter
 - MRS metal roof sheet
 - MRS metal roof sheet
 - PCP precast concrete panel
 - TRIS translucent roof sheet
- building information**
- RSD1 6.0m wide X 6.5m high roller shutter door
- note: finishes to be advised*



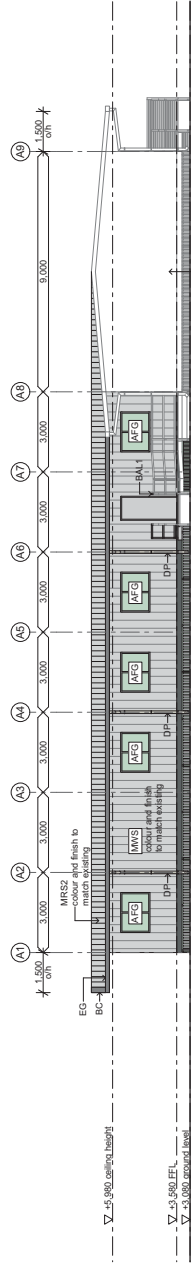
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SCALE 1:100



02 east elevation
SCALE 1:100



03 south elevation
SCALE 1:100



04 west elevation
SCALE 1:100

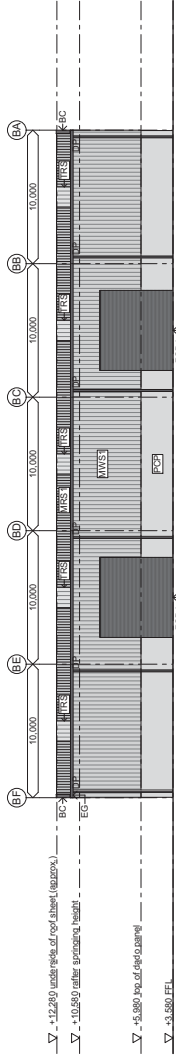
legend

AFG aluminium framed glass
BC large cladding
BC concrete
EG eaves gutter
MRS metal roof sheet
MRS translucent roof sheet
PCP precast concrete panel
TRIS translucent roof sheet

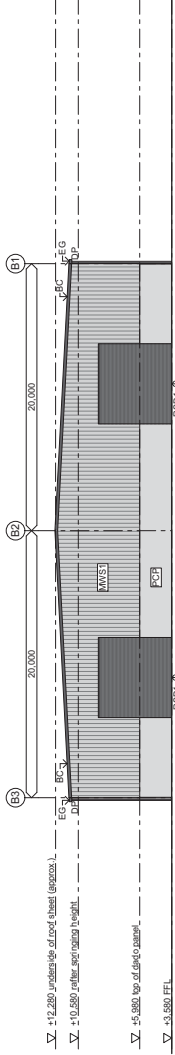
building information

RSD1 6.0m wide X 6.5m high roller shutter door

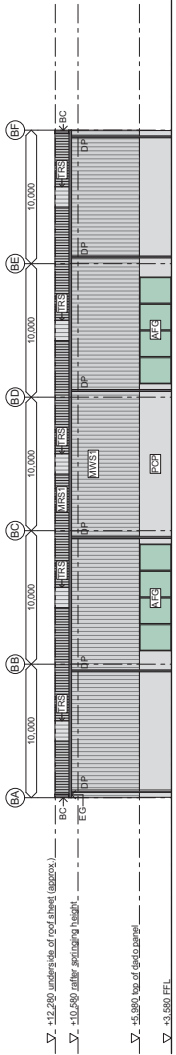
note: finishes to be advised



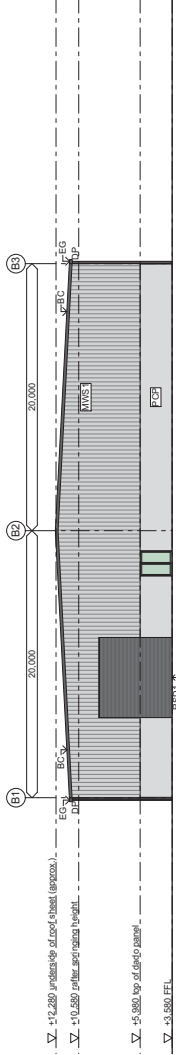
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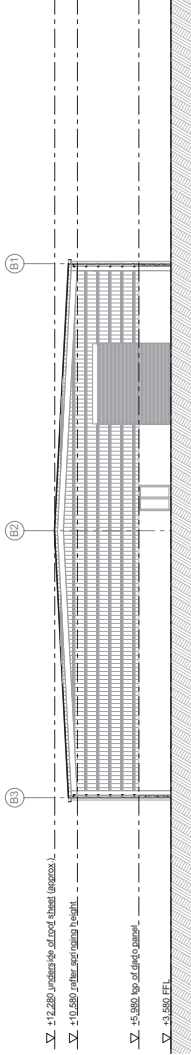
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SCALE 1:200



03 south elevation
SCALE 1:200



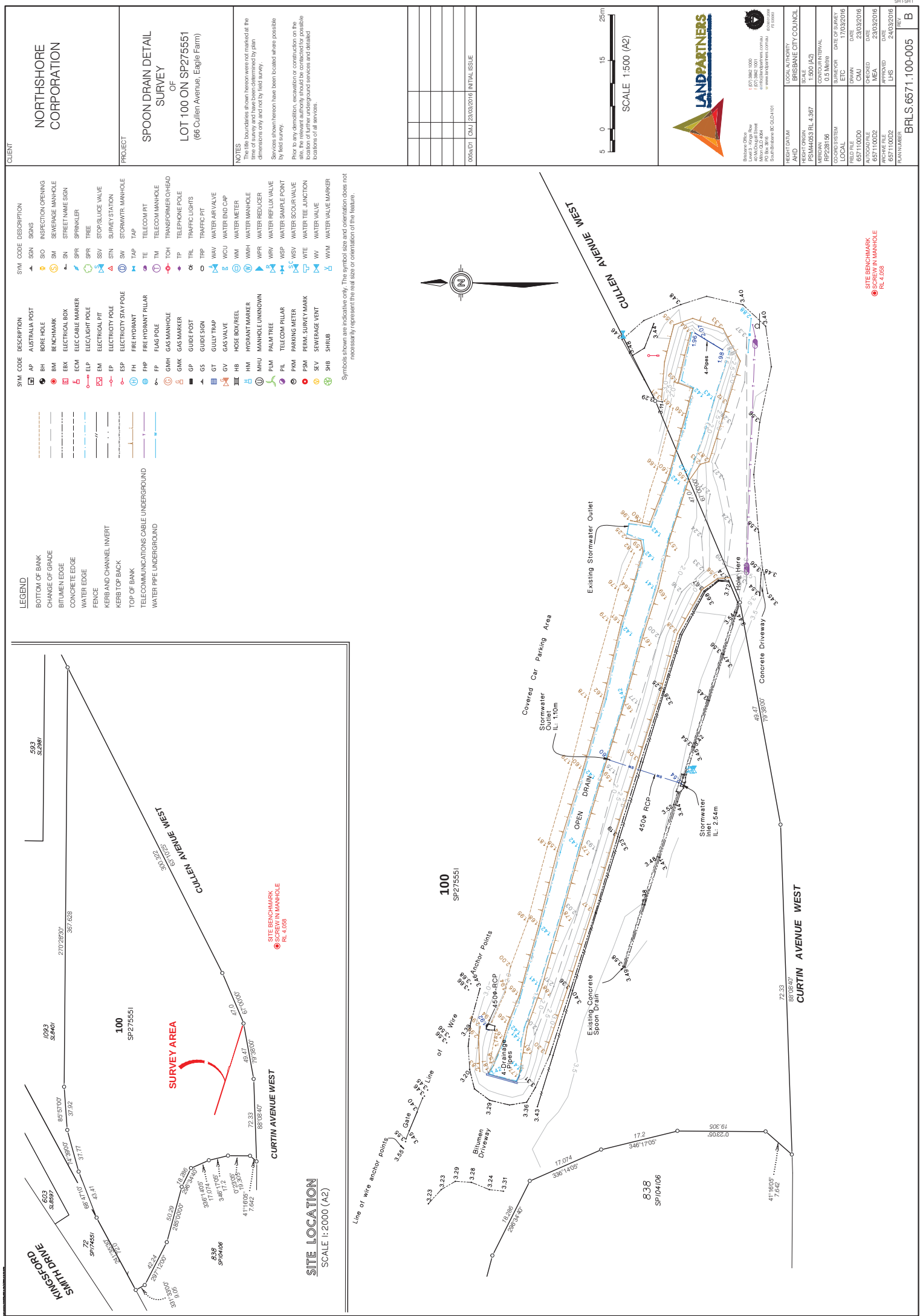
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SCALE 1:200

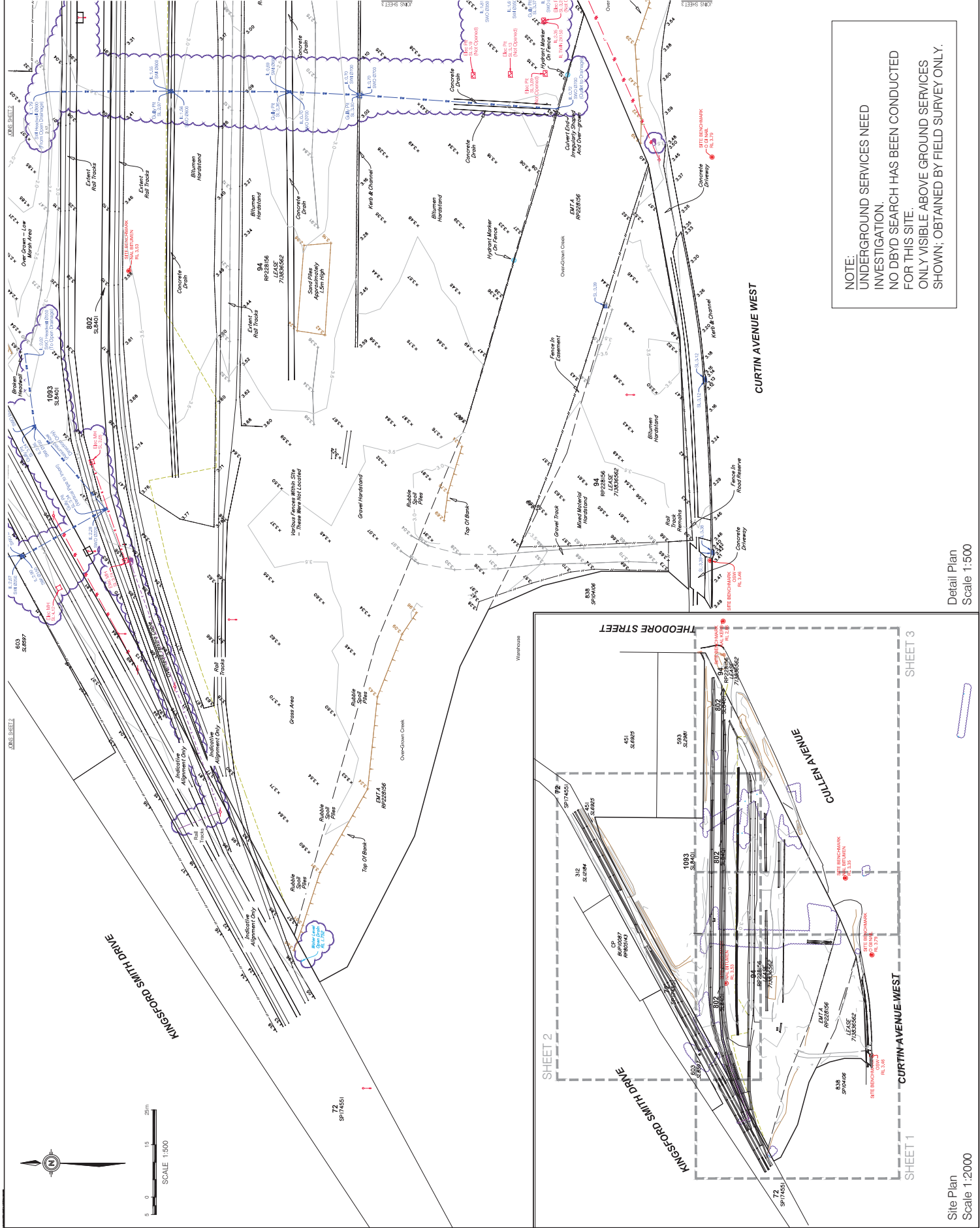


05 section
SCALE 1:200

Appendix B

Topographic Survey





NORTHSHORE
CORPORATION

PART DETAIL SURVEY
OF
Lot 72 on SP174551,
Lot 1093 on SL8401,
Lot 802 on SL8401 and
Lot 94 on RP228156

NOTES

The title boundaries shown hereon were not marked at the time of survey and have been determined by plan dimensions only and not by field survey.

Services shown hereon have been located where possible by field survey. If not able to be so located, services have been plotted from the best available information and are shown as being located within the plan. Where such records do not exist or are inadequate a note has been made hereon.

Prior to any demolition, excavation or construction on the site, the authority should be contacted for possible location of further underground services and detailed locations of all services.

[illegible]

SPIN CODE	DESCRIPTION	SPIN CODE	DESCRIPTION
1	REWORKING	300	INSPECTION OPKING
2	REWORKING	301	REWORKING MANHOLE
3	ELECTRICAL	302	REWORKING MANHOLE
4	ELECTRICAL	303	REWORKING MANHOLE
5	ELECTRICAL	304	REWORKING MANHOLE
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88	ELECTRICAL	387	REWORKING MANHOLE
89	ELECTRICAL	388	REWORKING MANHOLE
90	ELECTRICAL	389	REWORKING MANHOLE

Symbols shown are indicative only. The symbol size and orientation does not necessarily represent the real size or orientation of the feature.

CHANGE PRE LOG	
DOWN	
ELECT CABLE LOG	
ELECT CABLE LOG	
GAS PIPE	
FENCE LINE	
SEWERAGE PIPE	
TELEPHONE CABLE	
WATER PIPE	



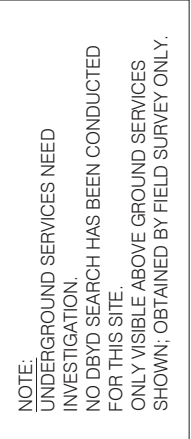
Brisbane Office
Level 3 - Kings Row 4
40 McDougal Street
Milton QLD 4064
P O Box 3916
South Brisbane BC QLD 4101

(07) 3842 1000
(07) 3842 1001
info@landpartners.com.au
www.landpartners.com.au

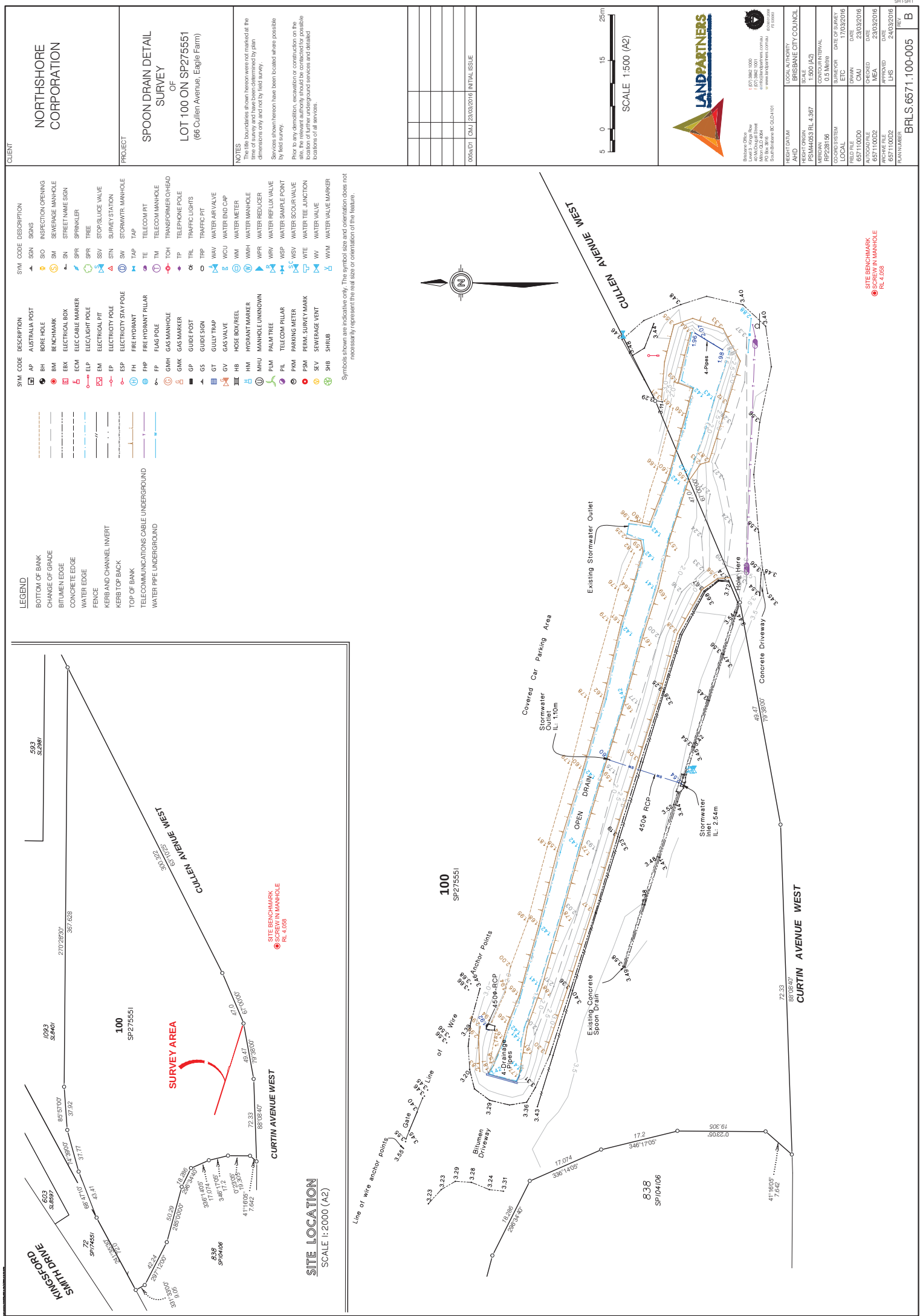
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670 53303

[illegible]

BRLS6571.100-001	A
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Tidal Water Levels Taken at
11:00am Friday 12/09/14



Appendix C

Rational Method Output

RATIONAL METHOD CALCULATIONS

Project:	66 Cullen Avenue West, Eagle Farm
Date:	12-Dec-17
Designed:	Darius vearncombe
Comments:	Pre Developed Catchment



PARAMETERS

VALUE

Catchment Name	Auction Yard
Catchment Size	6.03 ha
C10 Coefficient of Runoff	0.88

Total Time of Concentration

QUDM, Standard inlet time Section 4.06

Total time of Conentration (tc)

5.0 mins

Rational Method for Peak Catchment flow

$Q = 0.00278 \times C \times I \times A$

ARI	Rainfall Intensity (mm/h)	Rainfall Depth (mm)	Fy	Coefficient of Runoff	Discharge (m ³ /s)
3 month					0.702
1	119.11	9.93	0.80	0.70	1.405
2	152.47	12.71	0.85	0.75	1.910
5	191.70	15.97	0.95	0.84	2.684
10	214.71	17.89	1.00	0.88	3.165
20	245.98	20.50	1.05	0.92	3.807
50	287.32	23.94	1.15	1.00	4.813
100	319.10	26.59	1.20	1.00	5.345

RATIONAL METHOD CALCULATIONS

Project:	66 Cullen Avenue West, Eagle Farm
Date:	12-Dec-17
Designed:	Darius vearncombe
Comments:	Post Developed Catchment



PARAMETERS

VALUE

Catchment Name	Auction Yard
Catchment Size	6.03 ha
C10 Coefficient of Runoff	0.88

Total Time of Concentration	QUDM, Standard inlet time Section 4.06
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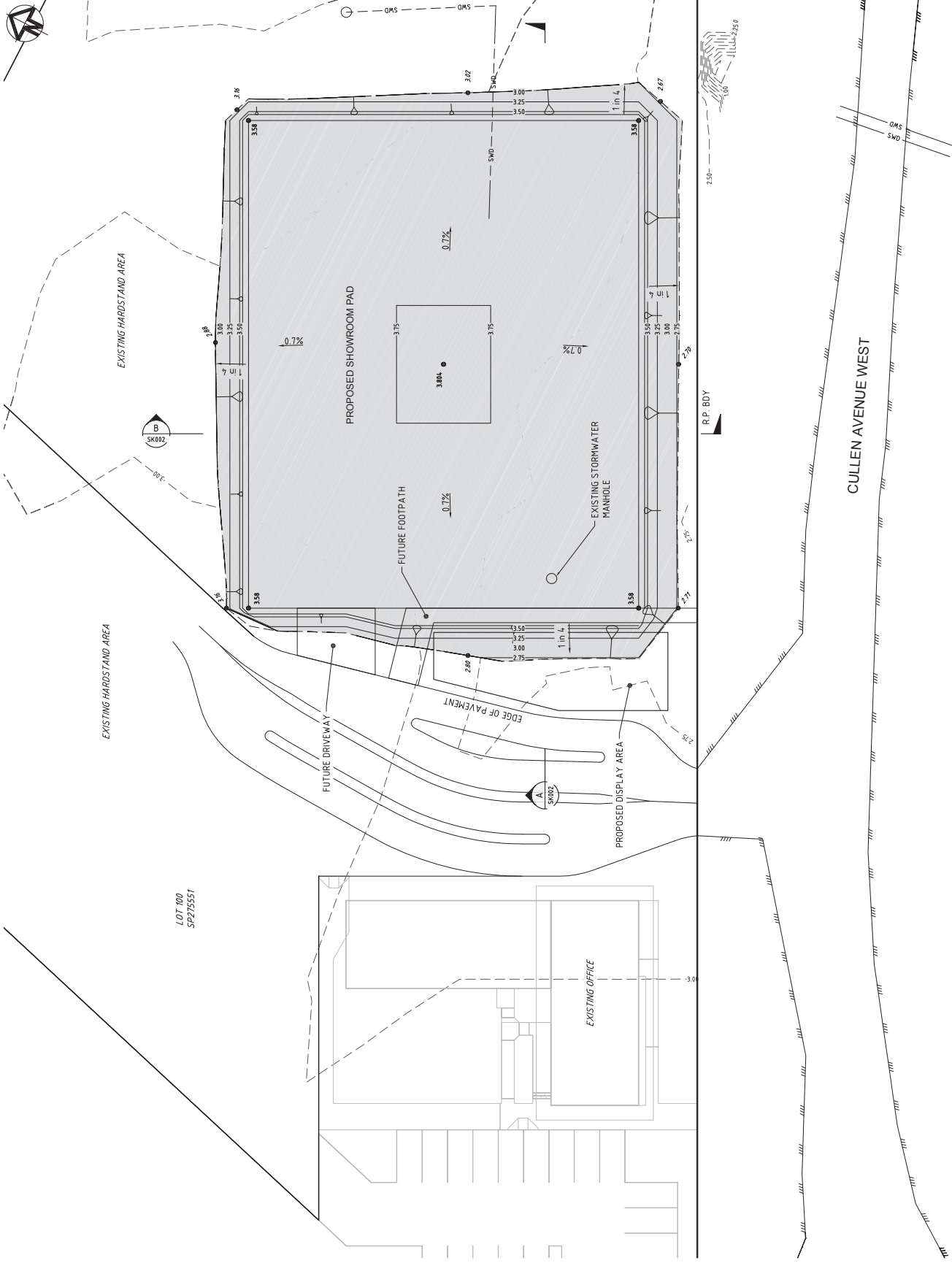
Total time of Conentration (tc)	5.0 mins
---------------------------------	----------

Rational Method for Peak Catchment flow	$Q = 0.00278 \times C \times I \times A$
--	--

ARI	Rainfall Intensity (mm/h)	Rainfall Depth (mm)	Fy	Coefficient of Runoff	Discharge (m ³ /s)
3 month					0.702
1	119.11	9.93	0.80	0.70	1.405
2	152.47	12.71	0.85	0.75	1.910
5	191.70	15.97	0.95	0.84	2.684
10	214.71	17.89	1.00	0.88	3.165
20	245.98	20.50	1.05	0.92	3.807
50	287.32	23.94	1.15	1.00	4.813
100	319.10	26.59	1.20	1.00	5.345

Appendix D

Stormwater Management Layout

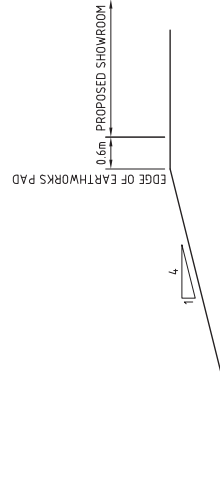
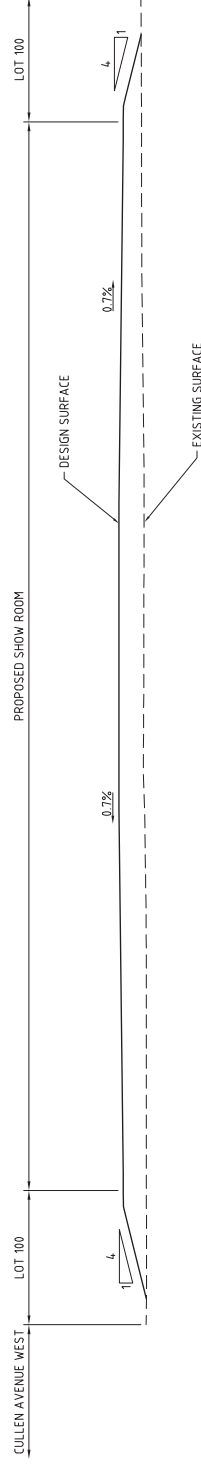
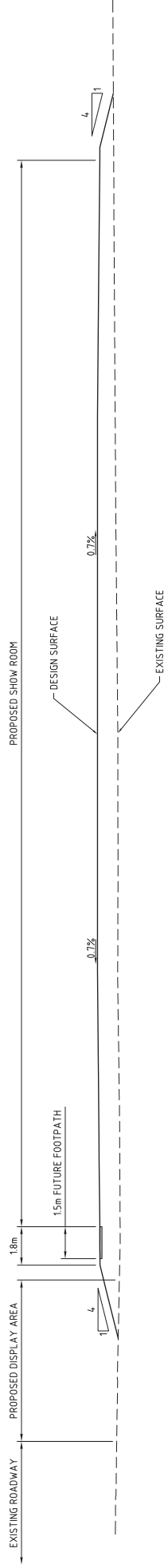


LEGEND	
	CUT
	FILL
	SETBACK LINE
	DESIGN CONTOURS (0.25m INTERVAL)
	EXISTING CONTOURS (0.25m INTERVAL)
	BOTTOM OF BATTER
	TOP OF BATTER
	EDGE OF BITUMEN
	EXISTING STORMWATER
	PROPERTY BOUNDARY
	DESIGN SURFACE SPOT HEIGHT
	EXISTING SURFACE SPOT HEIGHT

VOLUMES	
REQUIRED IMPORT	1893m ³

* VOLUME IS COMPACTED IN PLACE QUANTITY

CLIENT		PROJECT		STAGE / PHASE		FOR INFORMATION		TITLE	
NORTHSHORE CORPORATION		PROPOSED SHOWROOM 66 CULLEN AVENUE WEST EAGLE FARM		FOR INFORMATION				PRELIMINARY EARTHWORKS PLAN	
THIS DESIGN AND PLAN IS COPYRIGHT AND IS NOT TO BE USED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF YATAC CONSULTING PTY LTD		DRAWING IS NOT TO BE SCALED		ORIGINAL SHEET SIZE		A1		REVISION	
SCALE		SCALE		SCALE		SCALE		SCALE	
2 1 0 2 4 6 8 10		2 1 0 2 4 6 8 10		2 1 0 2 4 6 8 10		2 1 0 2 4 6 8 10		2 1 0 2 4 6 8 10	
A		A		A		A		A	
ORIGINAL ISSUE		ORIGINAL ISSUE		ORIGINAL ISSUE		ORIGINAL ISSUE		ORIGINAL ISSUE	
REV		REV		REV		REV		REV	
DESCRIPTION		DESCRIPTION		DESCRIPTION		DESCRIPTION		DESCRIPTION	
DATE		DATE		DATE		DATE		DATE	
J.A.		J.A.		J.A.		J.A.		J.A.	
DRAWN		DRAWN		DRAWN		DRAWN		DRAWN	
13.12.17		13.12.17		13.12.17		13.12.17		13.12.17	
DESIGN		DESIGN		DESIGN		DESIGN		DESIGN	
S.B.		S.B.		S.B.		S.B.		S.B.	
BY		BY		BY		BY		BY	
INITIAL		INITIAL		INITIAL		INITIAL		INITIAL	
APPROVED		APPROVED		APPROVED		APPROVED		APPROVED	
DRAWING NUMBER		DRAWING NUMBER		DRAWING NUMBER		DRAWING NUMBER		DRAWING NUMBER	
17C052-1-SK001		17C052-1-SK001		17C052-1-SK001		17C052-1-SK001		17C052-1-SK001	
RPEL No		RPEL No		RPEL No		RPEL No		RPEL No	
A		A		A		A		A	



TYPICAL SECTION
EDGE OF EARTHWORKS PAD
SCALE 1:50

[illegible]

PROJECT PROPOSED SHOWROOM
66 CULLEN AVENUE WEST
EAGLE FARM

STAGE / PHASE FOR INFORMATION

TITLE
PRELIMINARY EARTHWORK SECTIONS

TASK	BY	INITIAL	DATE	APPROVED	RPEC No
REVIEW	S.B.		13.12.17		
DESIGN	J.A.		13.12.17		
DRAWN	J.A.		13.12.17	17C052-1-SK001	REVISION A

Appendix E

Ebimap Extracts



Qasco
The spatial data professionals