Integrated Water Management Report

Lot 102 3 Halifax Street, Macquarie Park

Issue C

Prepared For Lachlan's Line A1 Pty Ltd

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REVISION TABLE

Revision	Date	Issue Description	Issued by	Approved by	Signed
P01	11.06.2025	Preliminary Issue	SELH	SELH	
P02	03.07.2025	Final Draft	SELH	SELH	
A	04.07.2025	Issue for SSDA	SELH	SELH	
B	27.11.2025	Revised issue for SSDA	SELH	SELH	
C	26.02.2026	Revised issue for SSDA	SELH	SELH	

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1 Executive Summary

1.1 Addressing Relevant SEARs

Item	Description	Section Reference
11. Water Management	Detail the proposed drainage design and servicing infrastructure to be incorporated as part of the development (stormwater and wastewater).	Appendix 3 Stormwater Plans
	Demonstrate how the development complies with council's drainage requirements and identify proposed stormwater treatment and water quality management measures to minimise adverse environmental impacts.	Section 4.3

1.2 Project Description

Lachlan's Line A1 Pty Ltd & Lachlan's Line B1 Pty Ltd & Lachlan's Line B2 Pty Ltd are proposing to develop the site into a residential flat building. The ground floor plan is illustrated in Figure 1.1 below. The details of the project are included in the table below.

Table 1-1 Project Details

Item	Details
Project Name	Lachlan's Line – Lot 102
Landowner(s)	Lachlan's Line A1 Pty Ltd & Lachlan's Line B1 Pty Ltd & Lachlan's Line B2 Pty Ltd
Applicant / Principal	Landmark Group
Client Representative	Angus Ngyuen – Development Manager
Site Address	3 Halifax Street, Macquarie Park
Lot & DP	Lot 102, DP 1224238
Site Area	6276 sqm
SSD Number	SSD-80675497
Proposal Description	**SSD-80675497 (Submission date 30/06/2023)** **Building A Amending DA 3 Halifax St Macquarie Park**

Item	Details
QTY Apartments	Building A – circa 438 apartments over 46 storeys
Affordable Housing	850m2 under Ryde LEP cl6.14
Parking	Approximately 427 for Building A

This document is an integrated water management plan (IWMP) report for stormwater related components associated with the proposed residential Building A development at 3 Halifax Street, Macquarie Park (Lot 102 DP 1224238).

This report describes how the proposed stormwater drainage design and servicing infrastructure will be incorporated as part of the development and how the development complies with council's drainage requirements and identify proposed stormwater treatment and water quality management measures to minimise adverse environmental impacts.

The concept stormwater drainage plans have been prepared by S&G Consultants (SGC) to comply with the following:

- Ryde Council Development Control Plan 2014 Part 8.2;
- Ryde Council "Stormwater and Floodplain Management Technical Manual";
- Section 6.7(1)(c) and (f) of the Biodiversity and Conservation SEPP (State Environmental Planning Policy); and
- Section 6.10 of the Biodiversity and Conservation SEPP (State Environmental Planning Policy).

The stormwater devices/ assets incorporated in the concept stormwater drainage design for the development are as follows:

- A 50m^3 volume rainwater tank to ensure rainwater retention and re-use as per council's guidelines;
- Minimum 186.64m^3 volume On-Site Detention (OSD) tank to ensure post-development site discharge is minimised to permissible site discharge as per Ryde council's "Stormwater and Floodplain Management Technical Manual"; and
- Stormfilter chamber consist of 7 x 690 PSorb Stormfilter cartridges or similar equivalent to comply with Ryde "Stormwater and Floodplain Management Technical Manual" Section 3.3 "WSUD CONTROL".

The development is proposed on a vacated site along Halifax Street. Lachlan's Line A1 Pty Ltd is proposing a residential development as per the architectural concept plans prepared by FJC Studio. The site plan is illustrated in Figure 1.1 below.

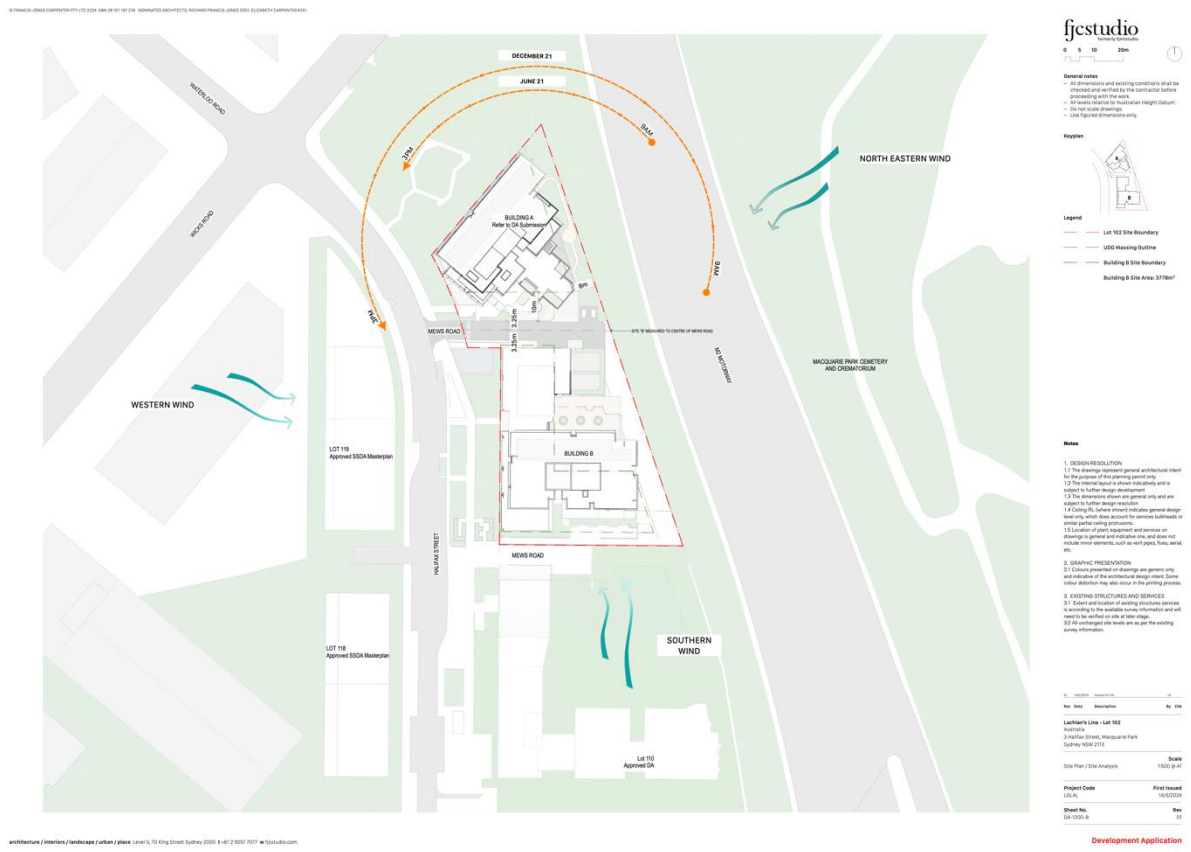


Figure 1.1 Site Plan

This report describes the stormwater quality and quantity measures proposed to address the local Council's requirements for stormwater drainage and reports on the results of a flood levels review carried out in support of the development.

In summary, the stormwater strategies adopted for the development are as follows:-

- An OSD system is provided to reduce the site discharge;
- Water quality devices are provided to meet the pollutants reduction targets; and
- Rainwater reuse tanks to irrigate the proposed landscaping.

2 Introduction

2.1 Brief

S&G Consultants Pty Ltd (SGC) have been engaged by Lachlan's Line A1 Pty Ltd (The Client) to prepare the integrated water management report in support of the proposed residential development at (Lot 102 DP 1224238) 3 Halifax Street, Macquarie Park.

The following tasks were carried out:-

- Supplied documents and previous studies were reviewed;
- A concept stormwater drainage design has been prepared including supporting calculations;
- Conceptual design drawings have been prepared; and
- This report has been compiled.

2.2 Limitations

This report is intended solely for Lachlan's Line A1 Pty Ltd as the Client of SGC and no liability will be accepted for use of the information contained in this report by other parties than this client.

This report is limited to visual observations and to the information including the referenced documents made available at the time when this report was written.

2.3 Reference Documents

The following documents have been referenced in this report:-

1. Site survey prepared by Norton Survey Partners ref. 33934 dated 12/09/2023;
2. Architectural plans prepared by FJC Studios;
3. Engineers Australia, *Australian Rainfall & Runoff* (AR&R 1999);
4. Ryde Council DCP 2014 Part 8.2; and
5. Ryde Council “Stormwater and Floodplain Management Technical Manual”.

3 Natural & Built Environment

The site is located along Halifax Street in the suburb of Macquarie Park. The land is located in the Local Government Area of Ryde Council.

The site is made of Lot 102 in DP 1224238 located along Halifax Street in the suburb of Macquarie Park. The site is surrounded by a vacated lot to the North and a site under construction to the South.

The site has an irregular shape and is characterised by a gradient with existing levels varying between RL 44.00 and RL 35.00 falling from the southeast towards northwest. The site is located at the west of M2 Motorway and the east of Halifax Street. An existing driveway provides entry to the north side of the site from Halifax Street. Refer to survey plan included in Appendix 1 for more details.

Figure 3.1 **&** Figure 3.2 show the location of the site.

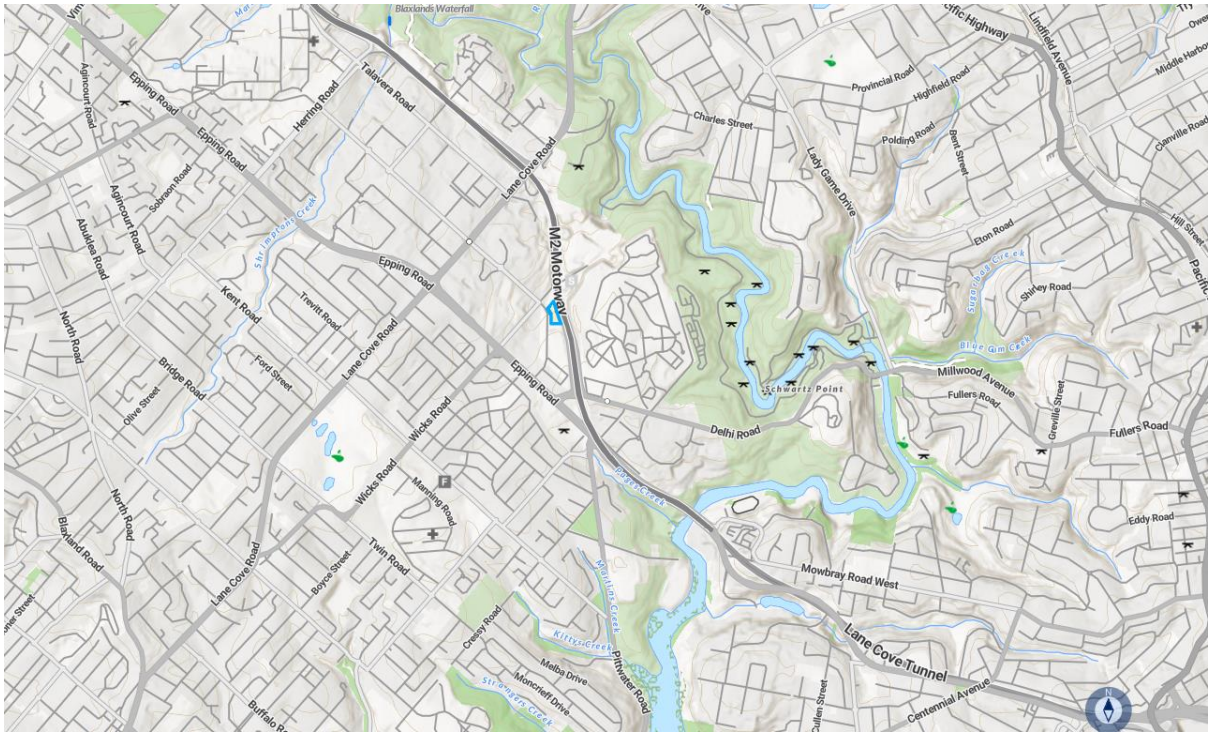


Figure 3.1 Cadastral Map

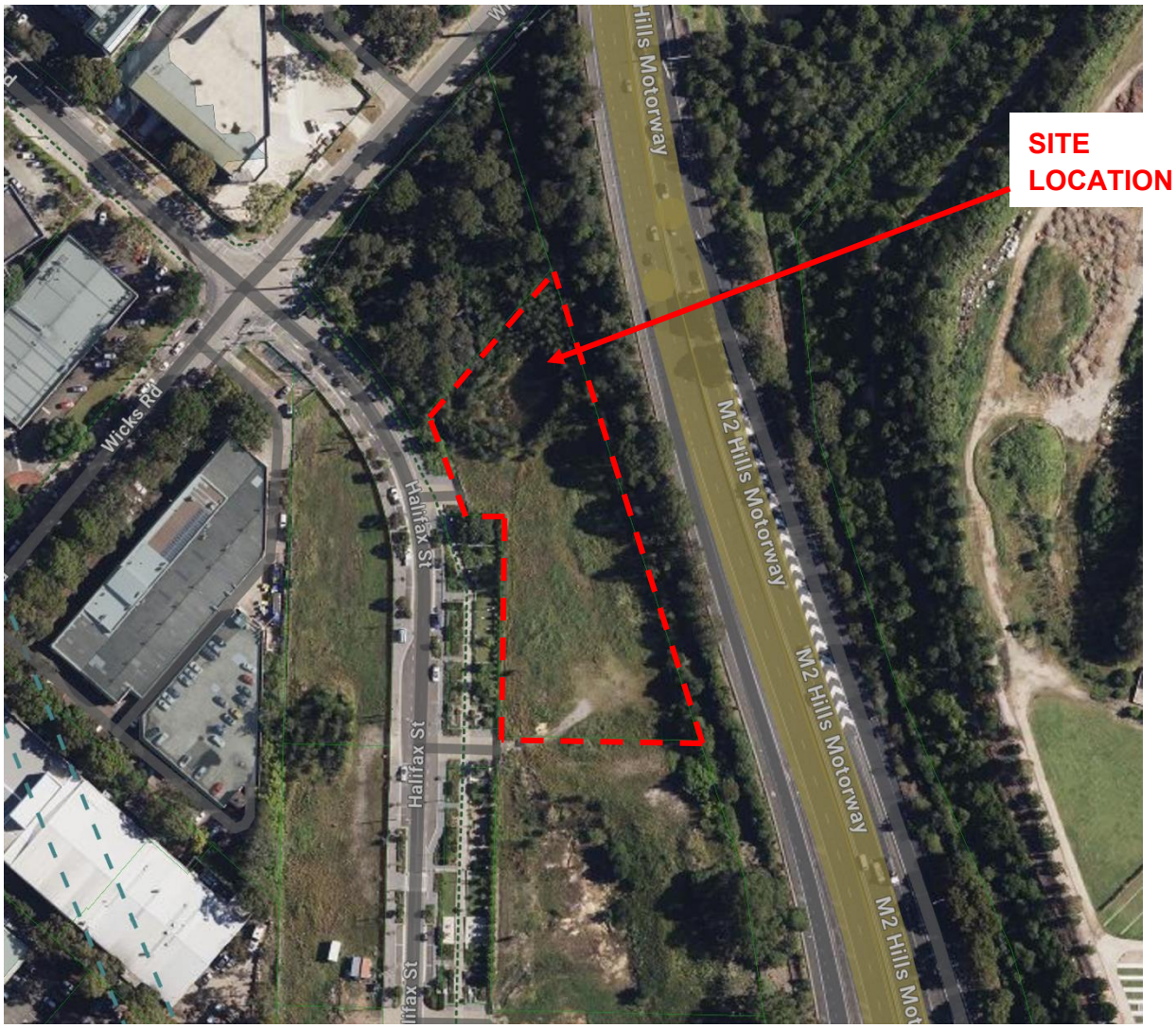


Figure 3.2 Locality Plan

The SSDA proposes site clearing and the construction of a residential flat building comprising of residential apartments (inclusive of affordable housing apartments) and basement car parking and external landscaping works.

Reference is made to the architectural plans for details.

4 Assessment Methodology

4.1 Addressing City of Ryde Council's LEP Requirements

The stormwater requirements are set out in Part 6 Clause 6.4 of Ryde Council LEP 2014 as per below.

6.4 Stormwater management

(1) The objective of this clause is to minimise the impacts of urban stormwater on land to which this clause applies and on adjoining properties, native bushland and receiving waters.

(2) This clause applies to land in—

(a) a residential, employment or mixed use zone, or

(b) Zone W4 Working Waterfront.

(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development—

(a) is designed to maximise the use of water permeable surfaces on the land having regard to the soil characteristics affecting on-site infiltration of water, and

(b) includes, if practicable, on-site stormwater retention for use as an alternative supply to mains water, groundwater or river water, and

(c) avoids any significant adverse impacts of stormwater runoff on adjoining properties, native bushland and receiving waters, or if that impact cannot be reasonably avoided, minimises and mitigates the impact.

The responses to these requirements are included below.

The proposal includes a significant amount of landscaping area that allows for infiltration of water into the ground.

A rainwater tank is proposed as an alternative water supply for irrigating the landscaping within the proposal.

The proposal includes water quality and water quantity measures that ensure that the proposal does not have any adverse impacts on the receiving stormwater infrastructure and the adjoining properties.

4.2 NSW Government's SEPP Requirements

The table below provides a response to the requirements of the SEPP.

SEPP	**Section 6.6(1)(a)-(d) and (f)** - In deciding whether to grant development consnet to development on land in a regulated catchment, the consent authority must consider the following - **(a)** whether the development will have a neutral or beneficial effect on the quality of water entering a waterway, **(b)** whether the development will have an adverse impact on water flow in a natural waterbody, **(c)** whether the development will increase the amount of stormwater run-off from a site, **(d)** whether the development will incorporate on-site stormwater retention, infiltration or reuse and **(f)** the cumulative environmental impact of the development on the regulated catchment,	An On-site Detention System has been proposed to ensure the runoff from the proposed development do not exceed the pre-development scenario.
SEPP	**Section 6.6(2)** - Development consent must not be granted to development on land in a regulated catchment unless the consent authority is satisfied the development ensures— **(a)** the effect on the quality of water entering a natural waterbody will be as close as possible to neutral or beneficial, and **(b)** the impact on water flow in a natural waterbody will be minimised.	NORBE (Neutral or Beneficial Effect on Water Quality Assessment) analysis has been carried out to ensure impact is minimised on water flow in a natural waterbody
SEPP	**Section 6.7(1)(c) and (f)** - In deciding whether to grant development consent to development on land in a regulated catchment, the consent authority must consider the following—**(c)** whether the development will minimise or avoid— **(i)** the erosion of land abutting a natural waterbody, or **(ii)** the sedimentation of a natural waterbody and **(f)** if the development site adjoins a natural waterbody—whether additional measures are required to ensure a neutral or beneficial effect on the water quality of the waterbody.	An erosion & sediment control plan has been plan has been prepared as a part of the stormwater concept plan.
SEPP	**Section 6.10** -In deciding whether to grant development consent to development on land in a regulated catchment, the consent authority must consult with the council of each adjacent or downstream local government area on which the development is likely to have an adverse environmental impact.	Stormwater plans and Stormwater management report is to be submitted to council for approval

Table 4-1 Responses to SEPP Requirements

4.3 Addressing City of Ryde Council's DCP Requirements

The Council's requirements are provided in Part 8.2 of DCP 2014 "Stormwater and Floodplain Management".

4.3.1 Rainwater Tank

A 50KL rainwater tank is proposed to supply the landscaping irrigation around the proposal. The tank collects the runoff from non-trafficable roof areas within the proposed development.

4.3.2 Water Quality

It is proposed to collect and convey the roof and the surface water from the proposed development in a new stormwater system to cater for the 100-yr ARI storm event.

The runoff from the roof areas (1000m^2) will be directed to the rainwater tank. The overflow from the tank along with the surface runoff will be directed towards stormfilter chamber. Stormfilters have the capacity to remove suspended solids, fine particles and other nutrients such as TSS, TP & TN.

WSUD Stormwater Quality Performance Targets	
Gross Pollutants	90%
Total Suspended Solids	85%
Total Phosphorus	60%
Total Nitrogen	45%

Figure 4-1 WSUD Pollution Reduction Targets (source DCP Part 8.2)

A MUSIC model has been setup to determine if the proposed measures are adequate to treat the runoff from the catchment.

The MUSIC model diagram is included below for reference. The proposed measures achieve the requirements of council as detailed in the following table:

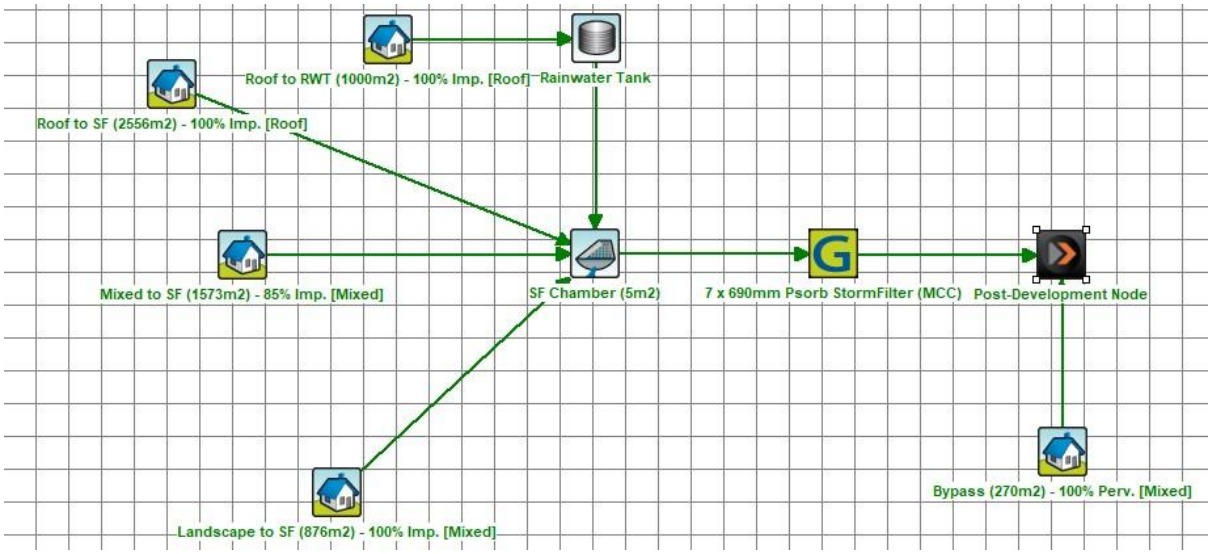


Figure 4-2 MUSIC Diagram

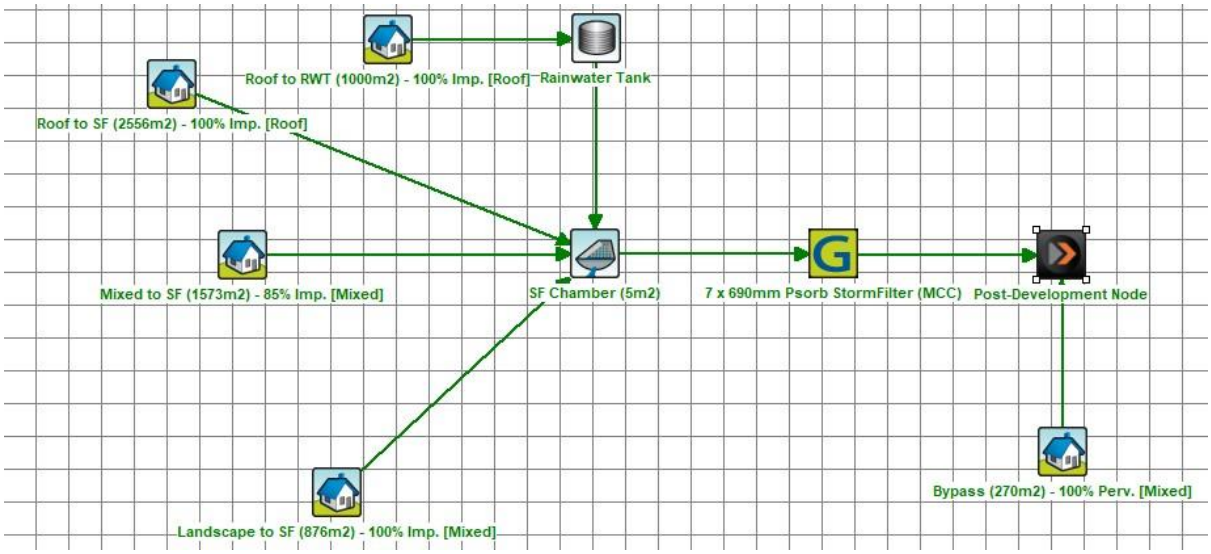


Figure 4-3 MUSIC Results

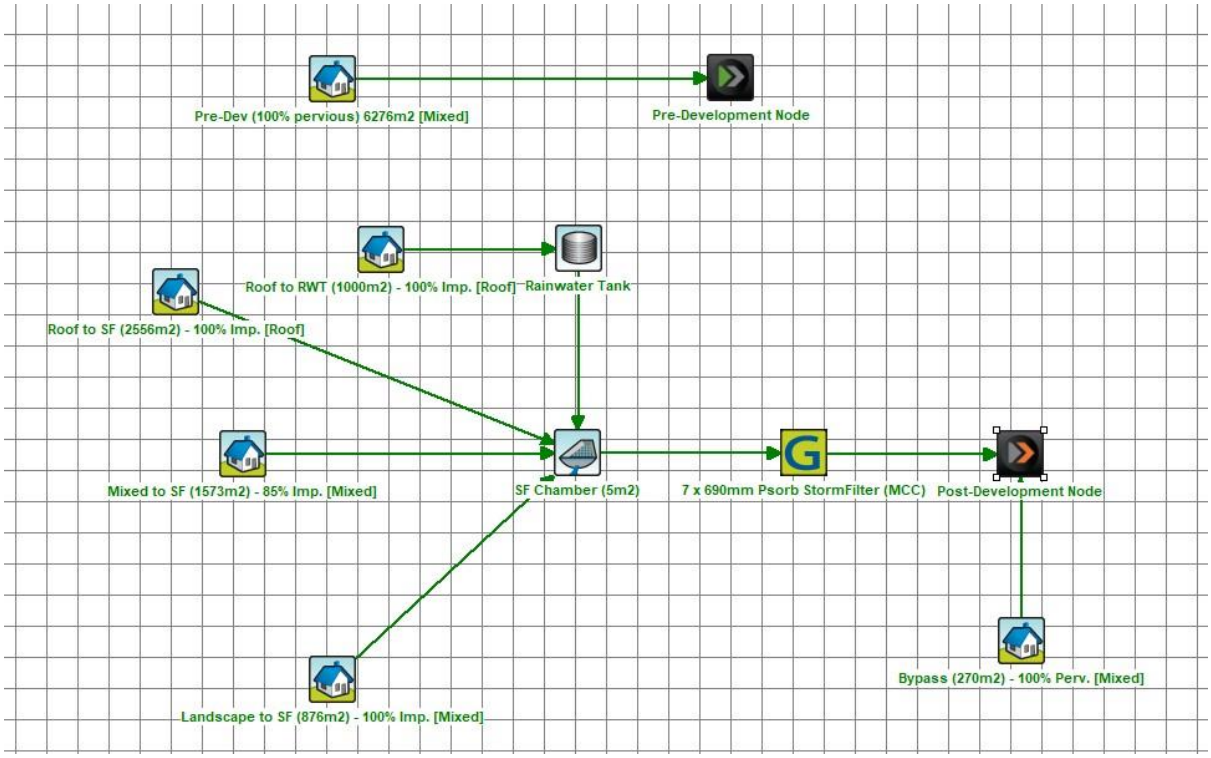
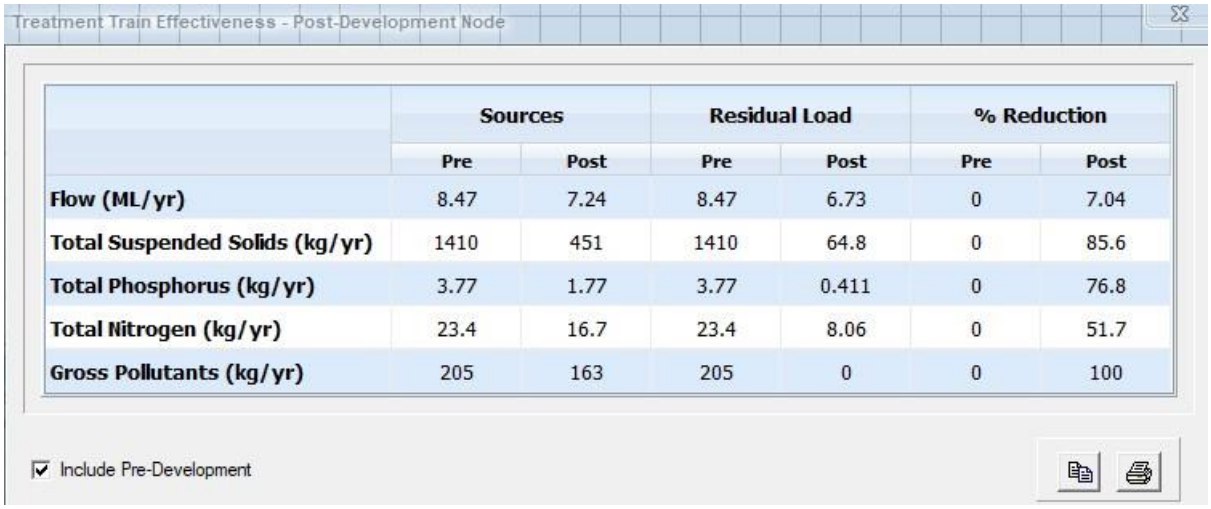


Figure 4-4 Norbe MUSIC Diagram



	Sources		Residual Load		% Reduction	
	Pre	Post	Pre	Post	Pre	Post
Flow (ML/yr)	8.47	7.24	8.47	6.73	0	7.04
Total Suspended Solids (kg/yr)	1410	451	1410	64.8	0	85.6
Total Phosphorus (kg/yr)	3.77	1.77	3.77	0.411	0	76.8
Total Nitrogen (kg/yr)	23.4	16.7	23.4	8.06	0	51.7
Gross Pollutants (kg/yr)	205	163	205	0	0	100

Figure 4-5 Pre-Development & Post-Development MUSIC Results

Pre-Development	**Source (Kg/yr)**	**Residual Load (Kg/yr)**	**% Reduction**
Flow (ML/yr)	8.47	8.47	0
Total Suspended Solids (kg/yr)	1410	1410	0
Total Phosphorus (kg/yr)	3.77	3.77	0
Total Nitrogen (kg/yr)	23.4	23.4	0
Gross Pollutants (kg/yr)	205	205	0
Post-Development	Source (Kg/yr)	Residual Load (Kg/yr)	% Reduction
Flow (ML/yr)	7.24	6.73	7
Total Suspended Solids (kg/yr)	451	64.8	85.6
Total Phosphorus (kg/yr)	1.77	0.411	76.8
Total Nitrogen (kg/yr)	16.7	8.06	51.7
Gross Pollutants (kg/yr)	163	0	100
NorBE	Pre-Development Load (Kg/yr)	Post-Development Load (Kg/yr)	Reduction
Flow (ML/yr)	8.47	6.73	20.5%
Total Suspended Solids (kg/yr)	1410	64.8	95.4%
Total Phosphorus (kg/yr)	3.77	0.411	89.1%
Total Nitrogen (kg/yr)	23.4	8.06	65.6%
Gross Pollutants (kg/yr)	205	0	100.0%

Figure 4-6 NORBE Results

4.3.3 Water Quantity / On-Site Detention

A minimum 186.64m^3 volume below ground on-site detention tank is required to meet council's on-site detention requirements. The required OSD volume has been determined using DRAINS software to reduce the peak flows to existing site conditions which is shown in Figure 4-7. The permissible site discharge from the site is 118 L/s inclusive of the bypass flows. The volume of the proposed OSD tank is 188.10 m^3. Please refer to the Stormwater plans prepared by S&G consultants for the section further information of the OSD system.

OSD REQUIREMENTS:

AREA (ha)	STORM (ARI)	PRE-DEV FLOW/PSD (m³/s)	PIPE OUTFLOW (m³/s)	WEIR OUTFLOW (m³/s)	BYPASS FLOW (m³/s)	POST-DEV FLOW (m³/s)	SSR (m³)
0.6273	5	0.118	0.074	0.000	0.005	0.079	186.64
	100	0.261	0.107	0.000	0.011	0.118	

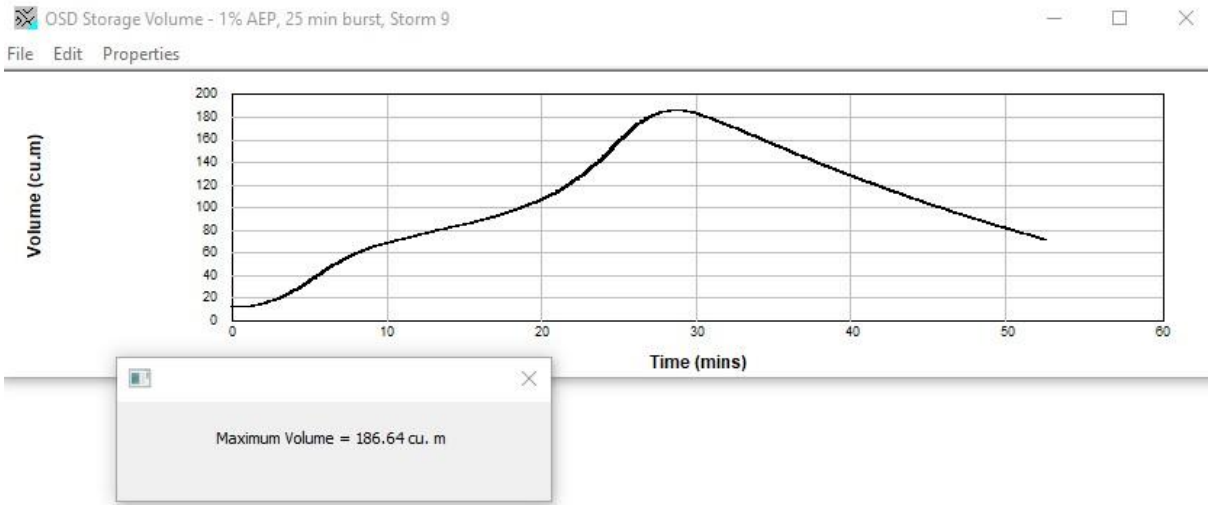


Figure 4-7 DRAINS Model Results

5 Stormwater Disposal

It is proposed that Stormwater is discharged to the existing stormwater drainage infrastructure under Halifax Street. The infrastructure was designed at subdivision stage to cater for the flows from the future developed site. The peak flow discharge is limited to the PSD (Permissible Site Discharge) and peak flows from other areas that do not drain to the OSD.

Please refer to Stormwater plans prepared by S&G Consultants P/L. Council's existing drainage infrastructures do not require upgrade.

6 Overland Flow Management

A FIRA report is prepared by S&G Consultants P/L to address the requirement of the Department of Planning. Reference is made to the report for details.

7 Soil & Water Management

7.1 Construction Stage

A Soil and Water Management Plan (SWMP) has been prepared for the DA submission. The implementation of the SWMP shall be in accordance with the guidelines of the NSW Department of Housing publication “Managing Urban Stormwater: Soils & Construction” (The Blue Book) and relative sections of the DCP.

The SWMP outlines the erosion and sediment control processes for the duration of the project. Emphasis should be placed firstly on minimising erosion then on preventing movement of sediment.

The clearing of the site leaves the land surface susceptible to increased erosion. The eroded particles can be transported off site and into natural waterways causing siltation, loss of hydraulic capacity and environmental stress. The SWMP aims to minimise the extent of erosion of the site, restrict movement of soil particles and mitigate the impacts of the works on the natural environment.

The SWMP provides for the:-

- Protection of disturbed ground through devices such as temporary vegetation, diversion banks and sediment fences;
- Early installation and progressive implementation of erosion controls;
- Early construction of permanent drainage structures, culverts, sediment basins traps and catch drains;
- Progressive revegetation of disturbed areas;
- Use of geotextile to stabilise disturbed surfaces during construction of culverts;
- Control of runoff from embankments through shaping of fill and construction of temporary windrows and batter drains;
- Implementation of erosion control measures at associated sites, including access tracks, roads, office/compound site and extraction sites;
- Progressive and continual implementation of temporary sediment controls;
- Diversion of runoff from disturbed areas to sediment control structures;
- Management of turbid water in basins after rain through flocculation or extraction and use for construction or dust suppression;

- Construction of temporary sediment traps at strategic locations;
- Routine maintenance of sediment control devices to ensure that they remain fully functional at all times;
- Removal of sediment from basins and other structures and placement in secure locations where further movement will not occur;
- Minimisation of transportation of mud and soil by vehicles onto Gordon Avenue and Hammond Lane, through the use of shakers and wash-bays;
- Provision for regular inspections of the control measures by a trained personnel to review and update control measures. Inspections should be conducted weekly and immediately after every significant storm event;
- Dust control through progressive revegetation and application of water;
- A procedure to ensure that water is not released from basins until achieving the appropriate quality standard; and
- Meeting EPA requirements & the guidelines of the Department of Housing publication “Managing Urban Stormwater: Soils & Construction” (Blue Book).

8 Maintenance Strategy

The maintenance strategy relating to the internal drainage system involves inspecting and maintaining the following structures:-

- On-Site Detention systems including the orifice plates and the mesh screens;
- Stormfilter Chamber;
- Ocean guard Baskets; and
- Rainwater tank.

The corporate body managing the development, or their contractors have the obligation to inspect and maintain these structures.

The following table indicates the minimum requirements for the inspection of the above structures and the maintenance procedures to be adopted.

Table 8-1 OSD & Ocean Guard Basket & Rainwater tank Maintenance Strategy Requirements

Item	Inspection Frequency	Inspection Check Items	Maintenance Procedures
OSD Tanks	6m	Clogging and blockage of mesh screen. Sediment depth in trap.	Leaves and debris to be removed from screen. Trap flood to be cleaned out
Ocean Guard Basket	6m	Maintenance Contractor	Follow recommended procedure set out in Ocean Protect "Operation and Maintenance Guidelines"
Rainwater Tank	6m-1yr	Clogging and blockage of tank	First flush device and tank to be cleared of any debris.

Table 8-2 Stormfilter Maintenance Strategy Requirements

Item	Inspection Frequency	Inspection Check Items	Maintenance Procedures
Inspection – Minor Maintenance	2 years and after major storms	Maintenance Contractor	Follow recommended procedure set out in Ocean Protect "Operation and Maintenance Guidelines"
Inspection – Major Maintenance	1 year (except in case of spill)	Maintenance Contractor	Follow recommended procedure set out in Ocean Protect "Operation and Maintenance Guidelines"

Inspection Frequency Key:-

1yr	one year
6m	six monthly
3m	three monthly

9 Design Statement

I, Sam Haddad of S&G Consultants P/L, confirm that this report addresses the requirement of SEAR No. 11 “Water Management” (Stormwater components only) and relevant State and local legislation, policies and guidelines including DCP of the City of Ryde Council. I further confirm that none of the information contained in the SSDA is false or misleading.

A1 Appendix 1

Survey Plan

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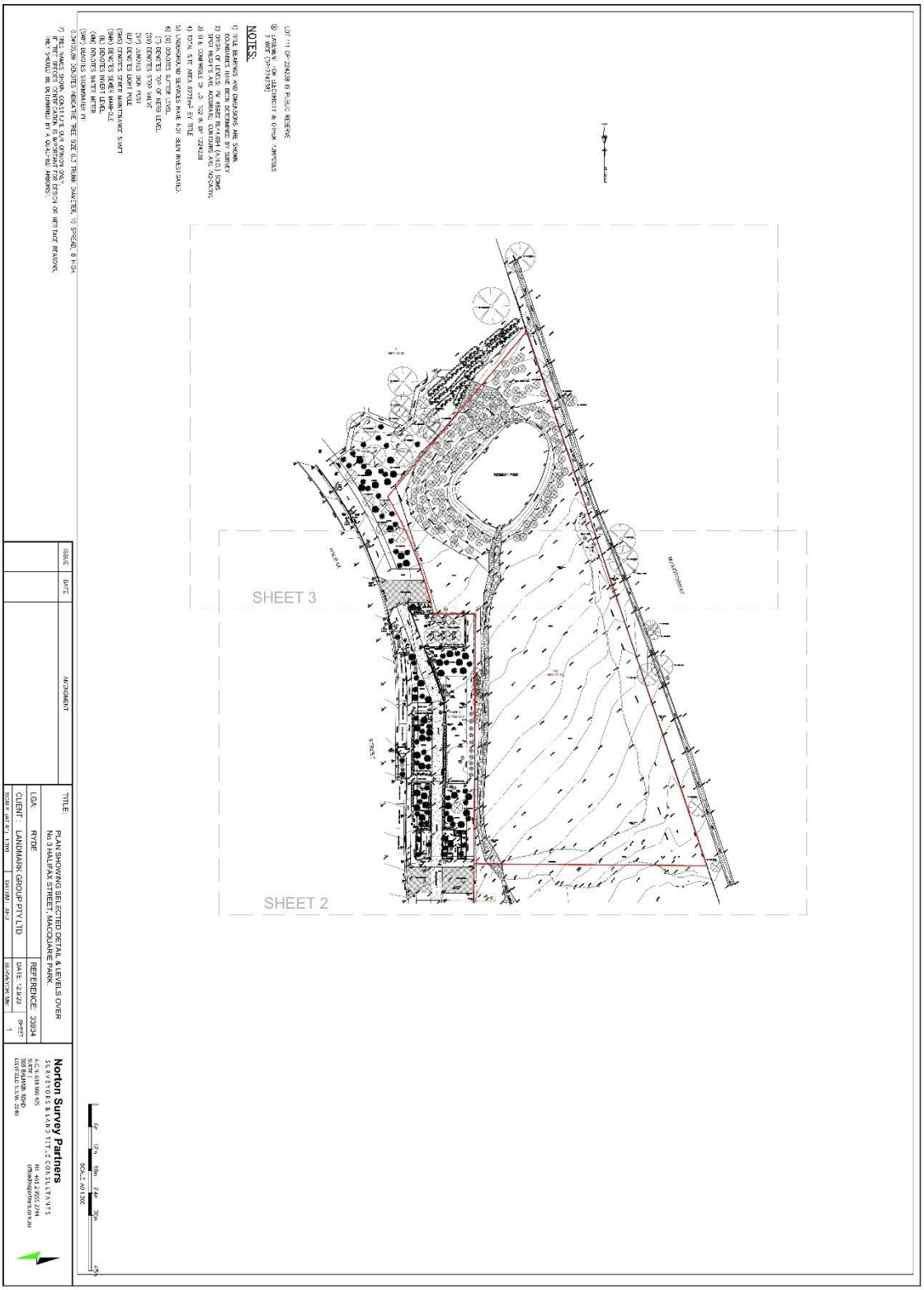
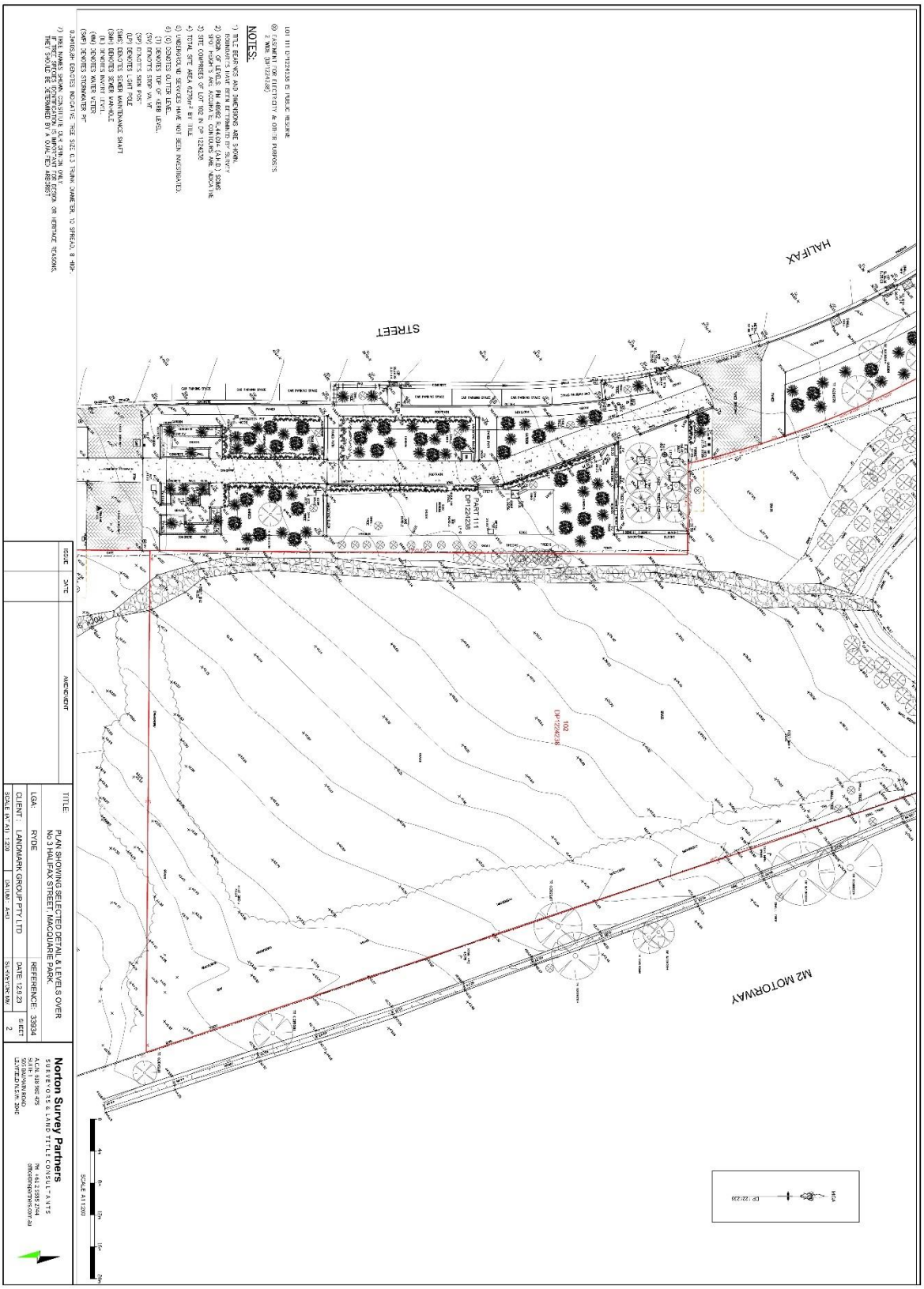

NOTES:
SHEET 3
SHEET 2
PLAN SHOWING SELECTED DETAIL & LEVELS OVER No 3 HALIFAX STREET, MACQUARIE PARK.
Norton Survey Partners
SURVEYORS & LAND TITLE CONSULTANTS


NOTES:
HALIFAX STREET
M2 MOTORWAY
PLAN SHOWING SELECTED DETAIL & LEVELS OVER
No 3 HALIFAX STREET, MACQUARIE PARK.
LGA: RYDE
CLIENT: LANDMARK GROUP PTY LTD
REFERENCE: 33934
DATE: 12.9.23
SHEET 2
Norton Survey Partners
SURVEYORS & LAND TITLE CONSULTANTS
SCALE A1 1:200
SCALE A3 1:400

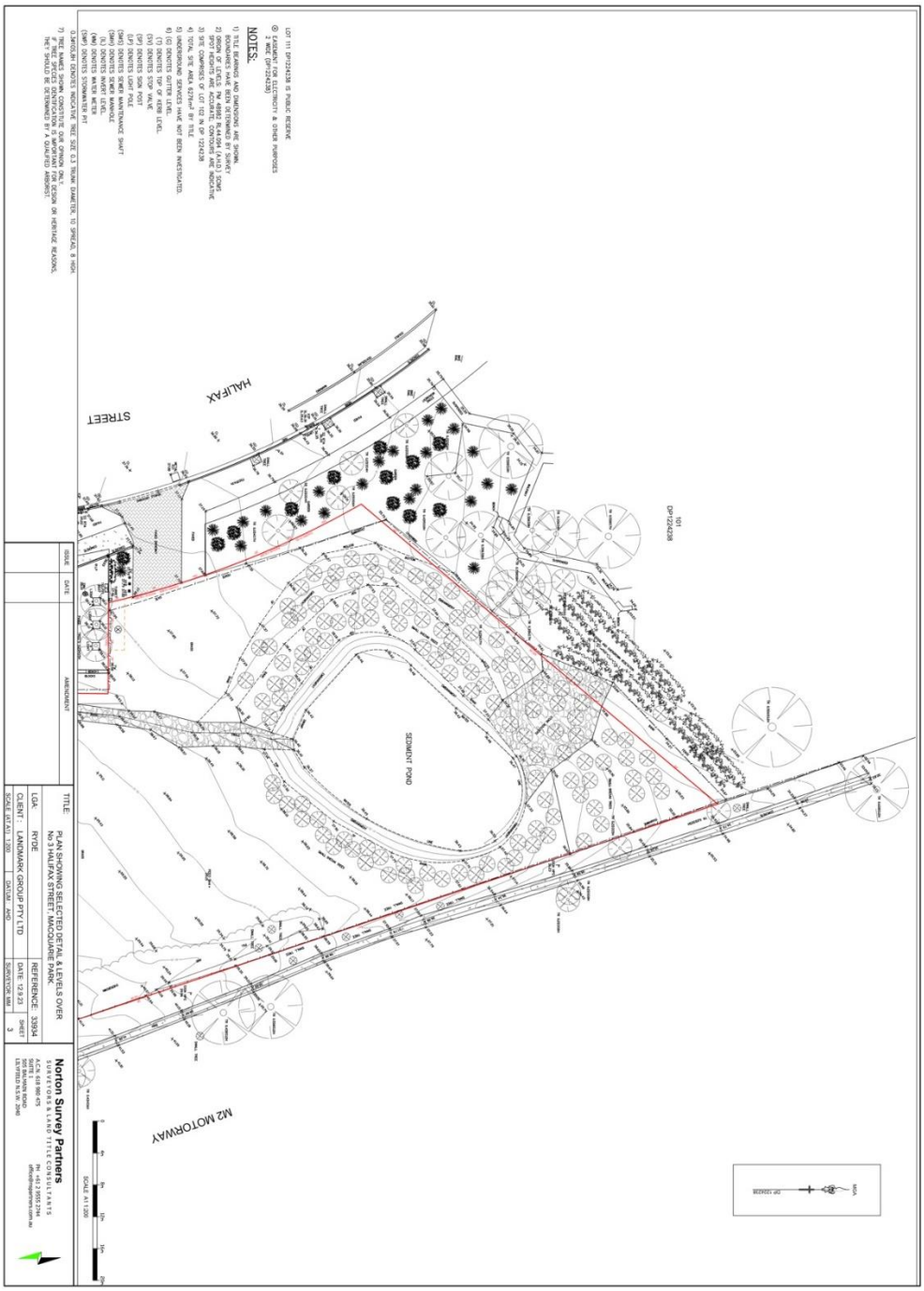


Figure A 1.1 Survey Plan

A2 Appendix 2

Architectural Plans

Figure A 2.1 Lower Ground Floor

Figure A 2.2 Upper Ground Floor

A3 Appendix 3

Stormwater Plans

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COUNCIL REF:_____

LOT 102 HALIFAX STREET
MACQUARIE PARK
STORMWATER CONCEPT DESIGN - SSDA SUBMISSION

LOCALITY PLAN
NOT TO SCALE
COPYRIGHT OF NEARMAP

DRAWING INDEX			
SHEET No.	DWG. No.	DRAWING TITLE	REV.
01	S06-SW100	COVER SHEET & DRAWING INDEX	A
02	S06-SW101	NOTES & LEGEND	A
03	S06-SW201	EROSION & SEDIMENT CONTROL PLAN & DETAILS	A
04	S06-SW301	STORMWATER DRAINAGE DESIGN MASTERPLAN PLAN	A
05	S06-SW102	STORMWATER DRAINAGE DESIGN GROUND FLOOR PLAN	A
06	S06-SW401	STORMWATER DRAINAGE DESIGN DETAILS SHEET	A
07	S06-SW501	STORMWATER DRAINAGE DESIGN MUSIC CATCHMENT PLAN & DETAILS SHEET 01 OF 02	A
08	S06-SW501	STORMWATER DRAINAGE DESIGN MUSIC CATCHMENT PLAN & DETAILS SHEET 02 OF 02	A

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ARCHITECT

fjcstudio
formerly fjmtstudio

CLIENT

Lachlan's Line A1 Pty Ltd

LGA

City of Ryde
Lifestyle and opportunity @ your doorstep

Project No. 20230192 **Drawing No.** S06-SW100 **Revision No.** A

ISSUED FOR SSDA
NOT FOR CONSTRUCTION

SITEWORKS LEGEND

- STORMWATER LINE
- STORMWATER LINE TO RAINWATER TANK
- SUBSOIL LINE
- STORMWATER RISING MAIN
- AUTHORITY SEWER LINE
- AUTHORITY WATER LINE
- AUTHORITY GAS LINE
- AUTHORITY OVERHEAD ELECTRICITY LINE
- AUTHORITY UNDERGROUND ELECTRICITY LINE
- AUTHORITY COMMS LINE
- GRATED SURFACE INLET PIT
- GRATED SURFACE INLET PIT WITH ENVIROPOD INSERT
- JUNCTION PIT
- GRATED TRENCH DRAIN
- RWO RAINWATER OUTLET
- CO CLEAR OUT POINT
- SDO DISH DRAIN OUTLET
- PO PLANTER DRAIN
- DOWNPIPE DROP
- DP DOWNPIPE
- WARNING LIGHT
- FINISH SURFACE LEVEL

ABBREVIATIONS

Ø or DIA	DIAMETER
CO	CLEAR OUT
DDO	DISH DRAIN OUTLET
DP	DOWNPIPE
e	EXISTING
FFL	FINISHED FLOOR LEVEL
GTD	GRATED TRENCH DRAIN
GSIP	GRATED SURFACE INLET PIT
IL	INVERT LEVEL
KIP	KERB INLET PIT
NGL	NATURAL GROUND LEVEL
OFP	OVERLAND FLOWPATH
OSD	ON-SITE DETENTION
RCP	REINFORCED CONCRETE PIPE
RL	REDUCED LEVEL
RWT	RAINWATER TANK
SW	STORMWATER
SWP	STORMWATER PIT
SWRM	STORMWATER RISING MAIN
SWS	STORMWATER SUMP
TOK	TOP OF KERB
TOW	TOP OF WALL
UPVC	

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GENERAL

G1. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S REQUIREMENTS, BUILDING CODE OF AUSTRALIA, NSW CODE OF PRACTICE AND THE TO THE RELEVANT SERVICE CODES.

G2. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE SUPERINTENDENT FOR DECISION BEFORE PROCEEDING WITH THE WORK.

G3. ALL DIMENSIONS SHOWN ON THE DRAWINGS ARE IN MILLIMETERS (U/N D.). DIMENSIONS SHALL NOT BE OBTAINED BY SCALING OF THESE DRAWINGS. USE FIGURED DIMENSIONS ONLY.

G4. BENCHMARKS HAVE BEEN ESTABLISHED WHERE INDICATED ON THE DRAWINGS. ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (A.H.D.). THE CONTRACTOR SHALL UNDERTAKE ALL NECESSARY SURVEY WORK TO ENSURE THAT THE WORKS ARE CONSTRUCTED TO DESIGN LINE AND LEVEL.

G5. SETTING OUT DIMENSIONS AND LEVELS SHOWN ON THE DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR.

G6. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE RELEVANT SIZE CODES AND THE BY LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES.

G7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL SAFETY FENCES, WARNING SIGNS, TRAFFIC DIVERSIONS AND THE LIKE DURING CONSTRUCTION. ALL WORKS TO COMPLY WITH WORK HEALTH AND SAFETY REQUIREMENTS AND OTHER RELEVANT AUTHORITY SAFETY REQUIREMENTS.

G8. NO TREES SHALL BE REMOVED, CUTBACK OR RELOCATED WITHOUT THE WRITTEN INSTRUCTION FROM THE SUPERINTENDENT.

G9. WHERE NEW WORKS MEET EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.

G10. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS AND THESE SPECIFICATIONS.

G11. DESIGN LEVELS GIVEN ARE TO FINISHED SURFACE LEVEL AND INCLUSIVE OF TOPSOIL. (TOPSOIL DEPTH VARIES).

G12. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A.N.Z.A.T.A. REGISTERED SURVEYOR.

G13. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOMMUNICATIONS OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.

G14. THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ON THE DRAWING HAVE BEEN PLOTTED FROM DIAGRAMS PROVIDED BY SERVICE AUTHORITIES. THIS INFORMATION HAS BEEN PREPARED SOLELY FOR THE AUTHORITIES OWN USE AND MAY NOT NECESSARILY BE UPDATED OR ACCURATE.

G15. THE POSITION OF SERVICES AS RECORDED BY THE AUTHORITY AT THE TIME OF INSTALLATION MAY NOT REFLECT CHANGES IN THE PHYSICAL ENVIRONMENT SUBSEQUENT TO INSTALLATION.

G16. S&G CONSULTANTS DOES NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THE DRAWING SHOWS MORE THAN THE PRESENCE OR ABSENCE OF SERVICES, AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

G17. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN FROM THE UTILITY SERVICES AUTHORITIES A CURRENT COPY OF UNDERGROUND SERVICES SEARCH FOR THE LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF ANY WORK AND NOTIFY ANY CONFLICT WITH THE DRAWINGS IMMEDIATELY. CLEARANCE SHALL BE OBTAINED FROM THE RELEVANT REGULATORY AUTHORITY. CONTRACTOR TO KEEP COPY OF UNDERGROUND SERVICES SEARCH ON SITE AT ALL TIMES. ANY DAMAGES TO SERVICES OR SERVICES ADJUSTMENTS SHALL BE CARRIED OUT BY THE CONTRACTOR OR RELEVANT AUTHORITY AT THE CONTRACTOR'S EXPENSE.

G18. VISIT THE SITE BEFORE SUBMITTING THE FINAL TENDER PRICE TO ASSESS ON SITE CONDITIONS. FAILURE TO DO SO WILL FORFEIT ANY CLAIM FOR NOT BEING AWARE OF CONDITIONS AFFECTING THE TENDER.

G19. THE CONTRACTOR SHALL PREPARE ACCURATE WORK AS EXECUTED DRAWINGS FOLLOWING THE COMPLETION OF ALL WORKS.

G20. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE IN PLACE & MAINTAIN TRAFFIC FACILITIES AT ALL TIMES DURING CONSTRUCTION.

G21. CONTRACTOR TO PROVIDE WORKSHOP COORDINATED DRAWINGS PRIOR TO COMMENCING WORKS ON SITE. WORKSHOP DRAWINGS TO BE REVIEWED AND APPROVED BY DESIGN ENGINEER.

STORMWATER

S1. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE AS3500.3:2003 'STORMWATER DRAINAGE'.

S2. FOR STORMWATER DRAINAGE PIPES THAT EXCEED 1:5 GRADE, REINFORCED CONCRETE ANCHOR BLOCKS SHALL BE INSTALLED. ANCHOR BLOCKS TO BE CONSTRUCTED TO SPECIFICATIONS SET OUT IN AS3600.3:2018 SECTION 8.10.

S3. EXISTING SERVICES SHOWN IN APPROXIMATE LOCATIONS ONLY. CONFIRM EXACT LOCATIONS ON SITE PRIOR TO COMMENCING WORK.

S4. COORDINATE THE INSTALLATION OF NEW SERVICES WITH ALL NEW & EXISTING SERVICES & STRUCTURAL PROVISIONS AS DETERMINED ON SITE.

S5. ALL PIPEWORK TO BE SUPPORTED IN ACCORDANCE WITH AS3500.3:2018.

S6. ALL PIPEWORK IS TO BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS AS SET DOWN IN AS3500.3:2003. ALL IN-GROUND PIPEWORK TO BE INSPECTED BY THE SUPERINTENDENT UNDER TEST CONDITIONS PRIOR TO BACKFILLING. BACKFILLING AND BEDDING TO AS3500.3:2018.

S7. PIPES SHALL BE TRUE TO GRADES SHOWN AND ALIGNED SO THAT THE CENTRE OF THE INLET PIPE INTERSECTS WITH THE CENTRE OF THE OUTLET PIPE AT THE DOWNSTREAM FACE OF THE PIT.

S8. SEAL ALL PIPES FIRMLY AND EVENLY WITH APPORTIED FILL ONLY. THICKNESS OF BEDDING LAYER SHALL BE 75mm IN SOIL AND 200mm IN ROCK.

S9. LAY AND JOINT ALL PIPES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND AS3725:2007 'DESIGN FOR INSTALLATION OF BURIED CONCRETE PIPES.

S10. ALLOW TO TEST ALL PIPES AND PITS TO LOCAL AUTHORITY'S REQUIREMENTS.

S11. EXCAVATE TRENCHES AND STOCKPILE ALL MATERIAL FOR INSPECTION WITH REGARD TO REUSE FOR TRENCH BACKFILL. REMAINING MATERIAL TO BE REMOVED FROM SITE.

S12. BACKFILL PIPES WITH APPORTIED FILL. PROVIDE 250mm SIDE SUPPORT AND 150mm OVERLAY ABOVE PIPE CROWN. TRENCH FILL ABOVE THE EMBEDMENT ZONE TO THE UNDERSIDE OF THE ROAD PAVEMENT OR THE FOOTWAY SHALL BE AS FOLLOW:

UNDER ROADWAY
TRENCH FILL MATERIAL SHALL CONSIST OF IMPORTED FILL AS SPECIFIED HEREIN OF EITHER HIGH GRADE COMPACTION SAND OR APPROVED CRUSHED ROAD GRAVEL CONFORMING TO RMS QA SPECIFICATION 3051 OR SIMILAR.

OTHER THAN ROADWAY
TRENCH MATERIAL EXCAVATED SHALL CONSIST OF SELECT FILL AS SPECIFIED HEREIN AND SHALL NOT CONTAIN MORE THAN 20% OF STONES OF SIZE BETWEEN 25mm AND 75mm AND NONE LARGER THAN 75mm. PRIOR TO USE OF THE EXCAVATED MATERIAL IT SHALL BE INSPECTED AND APPROVED BY THE SUPERVISOR.

S13. COMPACT BEDDING, EMBEDMENT AND TRENCH FILL MATERIALS AS FOLLOW:

EMBEDMENT
FOR GRANULAR FILL MATERIAL (NON-COHESIVE SOILS) e.g. COARSE AGGREGATE FILL, THE DENSITY INDEX (ID) SHALL BE NOT LESS THAN 70%.

TRENCHES
FOR GRANULAR MATERIAL (NON COHESIVE SOILS), THE DENSITY INDEX (ID) SHALL BE NOT LESS THAN 70%. FOR NON-GRANULAR FILL MATERIAL (COHESIVE SOILS), THE DRY DENSITY RATIO (RD) SHALL BE NOT LESS THAN 95%.

S14. EXISTING SERVICES
UTILITY INFORMATION SHOWN ON THE PLANS IS NOT INTENDED TO DEPICT MORE THAN THE PRESENCE OF ANY SERVICES. ACTUAL LOCATIONS SHOULD BE VERIFIED BY HAND EXCAVATION PRIOR TO CONSTRUCTION.

S15. THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL (IF REQUIRED) OF ALL EXISTING SERVICES IN AREAS AFFECTED BY THE WORKS.

S16. THE CONTRACTOR SHALL ENSURE THAT SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED AT ALL TIMES. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING WHERE REQUIRED. ONCE THE WORKS ARE COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD ALL DISTURBED AREAS.

S17. DRAINAGE PIPES
EXISTING PIPES WHICH FORM NO PART OF THE DRAINAGE SYSTEM SHALL BE REMOVED OR SEALED AS INDICATED ON THE PLANS. PIPES UP TO 300mm DIAMETER SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS (U.N.O.). ALL PIPE JUNCTIONS AND TAPERS SHALL BE UW PURPOSE MADE FITTINGS.

S18. WHERE DOWNPIPES PASS UNDER FLOOR SLABS, SEWER GRADE uPVC WITH RUBBER RING JOINTS ARE TO BE USED.

S19. MINIMUM GRADE TO DRAINAGE PIPES TO BE 1% (U.N.O.), MIN. SIZE 150mm DIAMETER (U.N.O.).

STORMWATER (CONTINUED)

S20. PIPES EQUAL TO AND LARGER THAN 375mm DIAMETER TO BE REINFORCED CONCRETE RUBBER RING JOINTED TYPE (CLASS 2) MANUFACTURED TO AS4058. (U.N.O.).

S21. PIPE INSTALLATION UNDER TRAFFICABLE AREAS SHALL BE IN ACCORDANCE WITH CONCRETE PIPE ASSOCIATION OF AUSTRALIA PUBLICATION "CONCRETE PIPE SELECTION & INSTALLATION" TYPE HS3 SUPPORT.

S22. EQUIVALENT STRENGTH FRC PIPES MAY BE USED SUBJECT TO AUTHORITY APPROVAL.

S23. MINIMUM PIPE COVER TO BE 600mm UNDER TRAFFICABLE AREAS AND 300mm ELSEWHERE (U.N.O.).

S24. CONTRACTOR TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.

S25. PROVIDE CLEANING EYES TO ALL DOWNPIPES NOT DIRECTLY CONNECTED TO PITS.

S26. STORMWATER DRAINAGE CONNECTIONS TO COUNCIL'S SYSTEM SHALL BE TO THE REQUIREMENTS AND THE SATISFACTION OF LOCAL COUNCIL.

S27. DRAINAGE PITS
PITS DEEPER THAN 1200mm TO BE FITTED WITH STEP IRONS AT 300 CENTRES TO AS1657:2013 FIXED PLATFORMS, WALKWAYS, STAIRWAYS AND LADDERS - DESIGN, CONSTRUCTION AND INSTALLATION.

S28. ALL EXPOSED EDGES TO BE REBATED WITH 20mm RADIUS, OR CHAMFERED 20mm x 20mm.

S29. PIT REINFORCEMENT - MESH SL62 LAP TO BE 300mm MIN. CLEAR COVER 40 MIN. CAST AGAINST BLINDING OR FORMWORK. CORNER RETURNS MAY BE FABRIC OR EQUIVALENT BARS.

S30. BENCHING TO BE HALF OUTGOING PIPE DEPTH. CONCRETE FOR BENCHING TO BE 20MPa MIN. MASS CONCRETE.

S31. APPROVED PRECAST PITS MAY BE USED.

S32. 150mm DIAMETER HOLE FOR SUBSOIL DRAINAGE OUTLET TO BE LOCATED 150mm ABOVE INVERT OF ALL INLET PIPES. SUBSOIL DRAINAGE TO EXTEND FOR A DISTANCE OF 5m UPSTREAM OF PIT (AT EACH INLET TRENCH) WITH THE UPSTREAM END SEALED.

S33. ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.

S34. PIT GRATE, FRAMES AND SOLID COVERS SHALL BE CLASS B NON TRAFFIC AREAS AND CLASS D IN TRAFFICABLE AREAS IN ACCORDANCE WITH AS3996.

S35. ALL GRATES SHALL BE PROVIDED WITH A LOCKING CLIP.

S36. MAGNABLEPOINT ENTRY PIPE -
STRAIGHT ENTRY - 2PT5B
SKEW ENTRY 45° - 2PS45

S37. PIT GRATING TO BE GALVANISED STEEL TYPE 'WELDLOK' OR APPROVED EQUIVALENT.

S38. SUBSOIL DRAINAGE
SUBSOIL PIPES SHALL BE LAID AT A MIN GRADE OF 0.5% (U.N.O.).

S39. ADDITIONAL SUBSOIL DRAINAGE SHALL BE LAID TO SUIT SITE CONDITIONS AND GROUNDWATER PRESENCE AS DIRECTED.

S40. SUBSOIL PIPES SHALL BE LAID BEHIND KERBS IN CUT AREAS OF THE SITE.

S41. SUBSOIL DRAINAGE SHALL CONSIST OF A SLOTTED 100mm DIAMETER PLASTIC PIPE WRAPPED IN GEOTEXTILE AND PLACED A MINIMUM OF 400mm BELOW THE SUBGRADE LEVEL AND COVERED WITH 150mm OF 20mm GRAVEL. PROVIDE A MINIMUM OF 150mm GRAVEL AROUND SUBSOIL PIPE. TRENCH TO BE LINED WITH GEOTEXTILE FABRIC TYPE BIDIM A24.

S42. GRATES TO PITS IN FOOTPATH AREAS SHALL BE HEEL SAFE COMPLYING WITH THE DISABLED ACCESS CODE.

S43. CONTRACTOR TO PROVIDE WORKSHOP COORDINATED DRAWINGS PRIOR TO COMMENCING WORKS ON SITE. WORKSHOP DRAWINGS TO BE REVIEWED AND APPROVED BY DESIGN ENGINEER.

S44. ALL EXTERNAL AREA TO HAVE A MINIMUM 1% FALL TO OUTLETS PROVIDED.

S45. PROVIDE OVERFLOWS TO ALL AREAS TO ARCHITECT'S SPECIFICATIONS.

S46. ALL RAINWATER OUTLETS TO OPEN AREAS SHALL BE SPE TRUFLO TYPE TIATROF UNLESS NOTED OTHERWISE. DO NOT INSTALL BALCONY OUTLETS OR SIMILAR IN AREAS SUBJECT TO DIRECT RAINFALL.

S47. ALL PVC PIPES TO HAVE EXPANSION JOINTS IN ACCORDANCE WITH AS/NZS3500.

S48. CONNECT ALL TUNDISHES FROM MECHANICAL A/C UNITS INTO STORMWATER ONLY IF ACCEPTABLE BY THE LOCAL COUNCIL BUILDER TO VERIFY AND OBTAIN CONSENT.

S49. ALL GRATED TRENCH DRAINS IN FRONT OF FIRE EXIT DOORS TO BE SET 150mm AWAY FROM DOOR (TYPICAL).

EROSION CONTROL

EC1. BEFORE EARTHWORKS CAN COMMENCE THE EROSION & SEDIMENT CONTROL MEASURES MUST BE IN PLACE.

EC2. DURING THE CONSTRUCTION PERIOD, THESE CONTROL MEASURES WILL NEED TO BE INSPECTED & MAINTAINED REGULARLY, ESPECIALLY AFTER STORM EVENTS, BY THE CONTRACTOR.

EC3. ALL WORK IS TO BE CARRIED OUT TO PREVENT EROSION, CONTAMINATION & SEDIMENTATION OF THE STORAGE SITE, SURROUNDING AREAS & DRAINAGE SYSTEMS.

EC4. MINIMIZE DISTURBED AREA COVERED WITH NATURAL VEGETATION. ONLY THOSE AREAS DIRECTLY REQUIRED FOR CONSTRUCTION ARE TO BE DISTURBED.

EC5. INSTALL EROSION/SEDIMENT CONTROL MEASURES PRIOR TO COMMENCEMENT OF CONSTRUCTION OR EXCAVATION OPERATIONS.

EC6. PROVIDE SILT FENCE/STRAW BAIL BARRIERS TO THE LOW SIDE OF ALL EXPOSED EARTH EXCAVATIONS. TIE SEDIMENT FENCING MATERIAL TO CYCLONE WIRE SECURITY FENCE. SEDIMENT CONTROL FABRIC SHALL BE AN APPROVED MATERIAL (E.G. VIMES PROPEX SILT STOP) STANDING 300mm ABOVE GROUND & EXTENDING 150mm BELOW GROUND.

EC7. ISOLATE EXISTING STORMWATER PITS WITH STRAW BALES OR SILT TRAPS TO FILTER ALL INCOMING FLOWS.

EC8. DO NOT STOCKPILE EXCAVATED MATERIAL ON THE ROAD WAY.

EC9. DIVERT CLEAN WATER FROM UNDISTURBED AREAS AROUND THE WORKING AREAS.

EC10. CONSTRUCTION ENTRY/EXIT SHALL BE VIA THE LOCATION NOTED ON THE DRAWING. CONTRACTOR SHALL ENSURE ALL GROSS/PUBLIC SOIL & SEDIMENT IS REMOVED PRIOR TO CONSTRUCTION TRAFFIC EXITING SITE. CONTRACTOR SHALL ENSURE ALL CONSTRUCTION TRAFFIC ENTERING AND LEAVING THE SITE DO SO IN A FORWARD DIRECTION.

EC11. TREAT THE STORMWATER RUNOFF WITH SUSPENDED SOLIDS SO THE DISCHARGE WATER QUALITY TO COUNCIL STORMWATER DRAINAGE SYSTEM HAS A MAXIMUM CONCENTRATION OF SUSPENDED SOLIDS THAT DOES NOT EXCEED 50 MILLIGRAMS PER LITRE IN ACCORDANCE WITH THE PROTECTION OF THE ENVIRONMENT OPERATION ACT (POEO 1997) AND SHALL BE APPROVED BY LOCAL COUNCIL.

EC12. ADOPT TEMPORARY MEASURES AS MAY BE NECESSARY FOR EROSION & SEDIMENT CONTROL, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

DRAINS	TEMPORARY DRAINS AND CATCH DRAINS
	SPREADER BANKS OR OTHER
STRUCTURES	TO DISPERSE CONCENTRATED RUNOFF
SILT TRAPS	CONSTRUCTION AND MAINTENANCE OF SILT TRAPS TO PREVENT DISCHARGE OF SCOURED MATERIAL TO DOWNSTREAM AREAS.

EC13. AFTER RAIN, INSPECT, CLEAN, AND REPAIR IF REQUIRED. TEMPORARY EROSION & SEDIMENT CONTROL MEASURES.

EC14. REMOVE TEMPORARY EROSION ASSESMENT CONTROL MEASURES WHEN THEY ARE NO LONGER REQUIRED.

EC15. COMPLY WITH THE REQUIREMENTS OF LANDCOM'S MANAGING URBAN STORMWATER SOIL AND CONSTRUCTION. THE BLUE BOOK' LATEST EDITION.

EC16. THE EROSION & SEDIMENT CONTROL PLAN PROVIDED IS ONLY INDICATIVE. THE CONTRACTOR SHOULD PREPARE A DETAILED ESCP SUITABLE FOR THE SPECIFIC SITE CONDITIONS.

Rev	Description	Date	By
A	ISSUED FOR APPROVAL	17.02.26	DS
P01	PRELIMINARY ISSUE	13.01.26	DS

Issue: Issue/revision sequence and revision history
1 position copy: 2 development application; 3 construction certificate; 4 tender; 5 construction; 6 other

Reference Coordination Drawing

Discipline	Drawing Title and Number	Date	Rev
ARCH			
STRUCT			
MECH			
ELEC			
HYD			
FIRE			
LANDS			
CIVIL			
SURVEY			

Quality Control

DRAWN	DATE:	
MI	17.02.26	
CHECKED	DATE:	
MH	17.02.26	
DESIGNED	DATE:	
MH	17.02.26	
VERIFIED	DATE:	
BK	17.02.26	
APPROVED	DATE:	
BK	17.02.26	

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Scales

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PROJECT
LOT 102 HALFAX STREET
MACQUARIE PARK
STORMWATER CONCEPT DESIGN

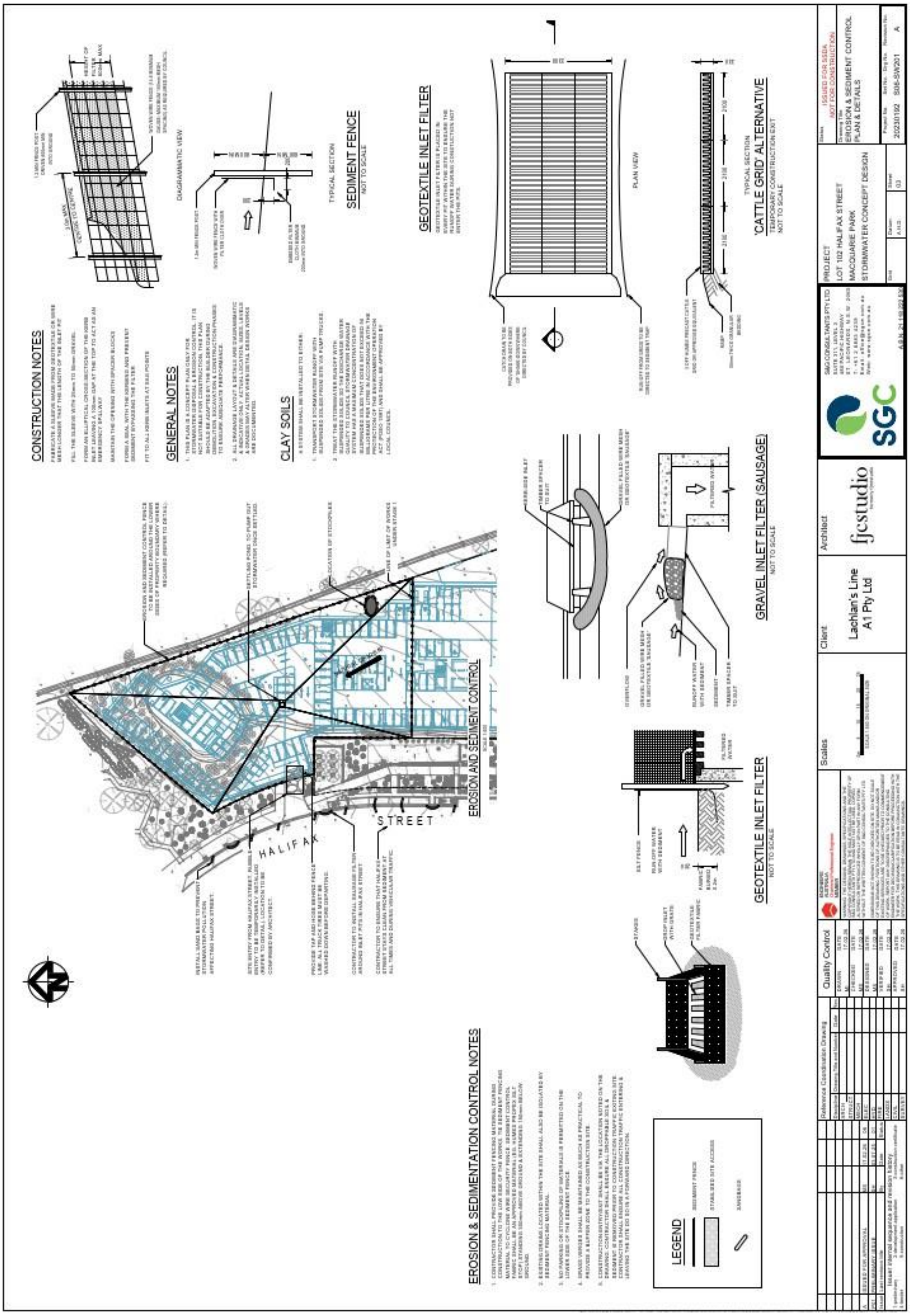
Status: ISSUED FOR SSDA
NOT FOR CONSTRUCTION

Drawing Title: NOTES & LEGEND

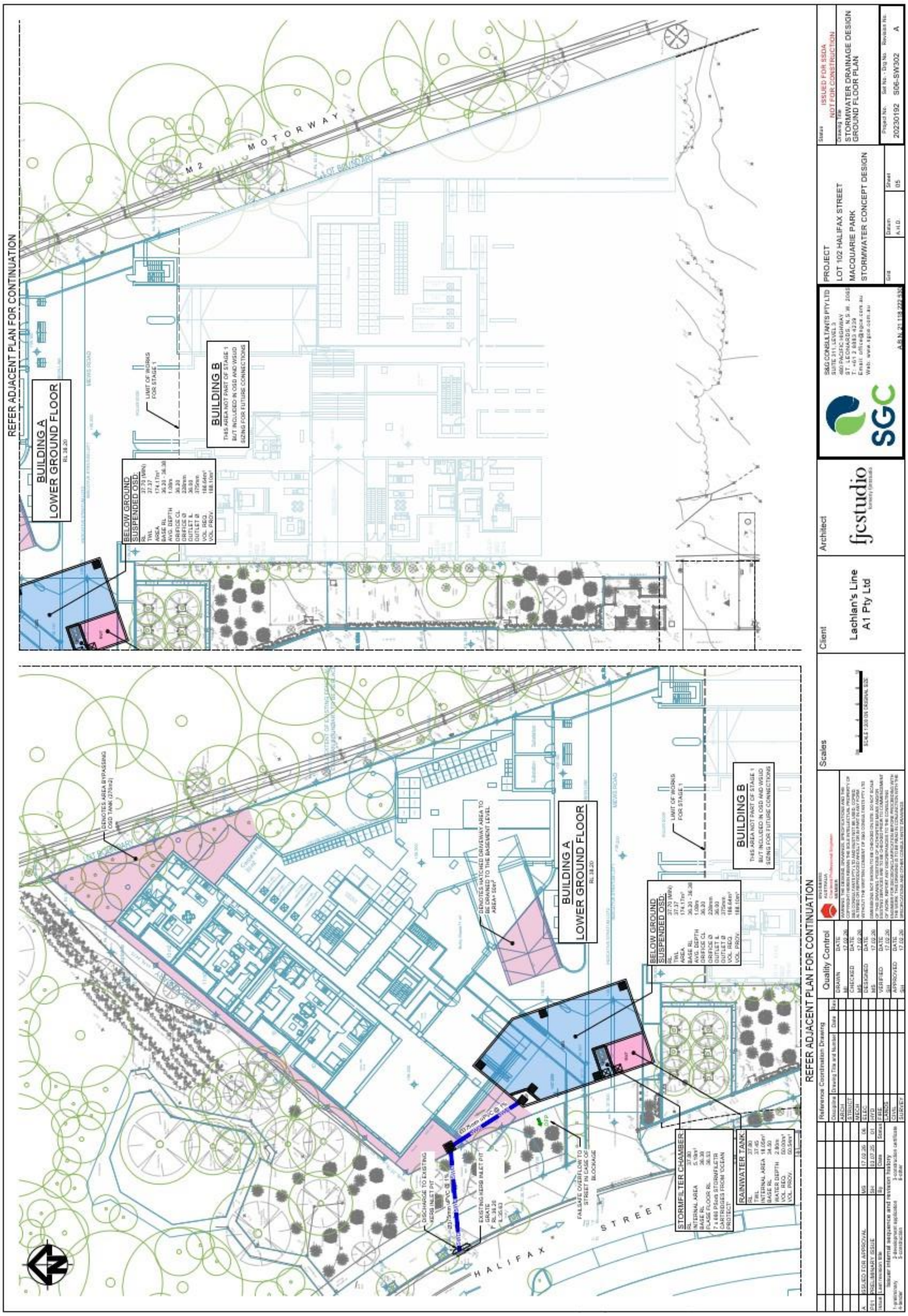
Size: A1 | Datum: A.H.D. | Sheet: 02

Project No	Sht No.	Drg No	Revision No.
20230192	S06-SW101		A

SGC


EROSION & SEDIMENTATION CONTROL NOTES
LEGEND
GEOTEXTILE INLET FILTER
NOT TO SCALE
GRAVEL INLET FILTER (SAUSAGE)
NOT TO SCALE
EROSION AND SEDIMENT CONTROL
HALIFAX
STREET
CONSTRUCTION NOTES
GENERAL NOTES
CLAY SOILS
SEDIMENT FENCE
NOT TO SCALE
GEOTEXTILE INLET FILTER
'CATTLE GRID' ALTERNATIVE
NOT TO SCALE
Lachlan's Line A1 Pty Ltd
fjcstudio
SGC
LOT 102 HALIFAX STREET
MACQUARIE PARK
STORMWATER CONCEPT DESIGN
ISSUED FOR SSDA
NOT FOR CONSTRUCTION
EROSION & SEDIMENT CONTROL PLAN & DETAILS
20230192
S08-SW201
A


REFER ADJACENT PLAN FOR CONTINUATION
BUILDING A
BASEMENT 08
BUILDING B
PUMP OUT PIT
SUBSOIL DESIGN CALCS:
PUMP-OUT PIT NOTE:
GEO-TECHNICAL NOTE:
SURFACE GRADING NOTE:
PUMP NOTE:
PROJECT
LOT 102 HALIFAX STREET
MACQUARIE PARK
STORMWATER CONCEPT DESIGN
STORMWATER DRAINAGE DESIGN
BASEMENT 08 PLAN
ISSUED FOR SSDA
NOT FOR CONSTRUCTION
Client
Lachlan's Line
A1 Pty Ltd
Architect
fjcstudio
Scales
Quality Control
Reference Coordination Drawing
REFER ADJACENT PLAN FOR CONTINUATION


REFER ADJACENT PLAN FOR CONTINUATION
BUILDING A
LOWER GROUND FLOOR
BUILDING B
THIS AREA NOT PART OF STAGE 1 BUT INCLUDED IN OSD AND WSUD SIZING FOR FUTURE CONNECTIONS
BELOW GROUND SUSPENDED OSD
STORMFILTER CHAMBER
RAINWATER TANK
M2 MOTORWAY
HALIFAX STREET
Lachlan's Line A1 Pty Ltd
fjcstudio
SGC
LOT 102 HALIFAX STREET
MACQUARIE PARK
STORMWATER CONCEPT DESIGN
ISSUED FOR SSDA
NOT FOR CONSTRUCTION
STORMWATER DRAINAGE DESIGN
GROUND FLOOR PLAN
20230192
S06-SW302
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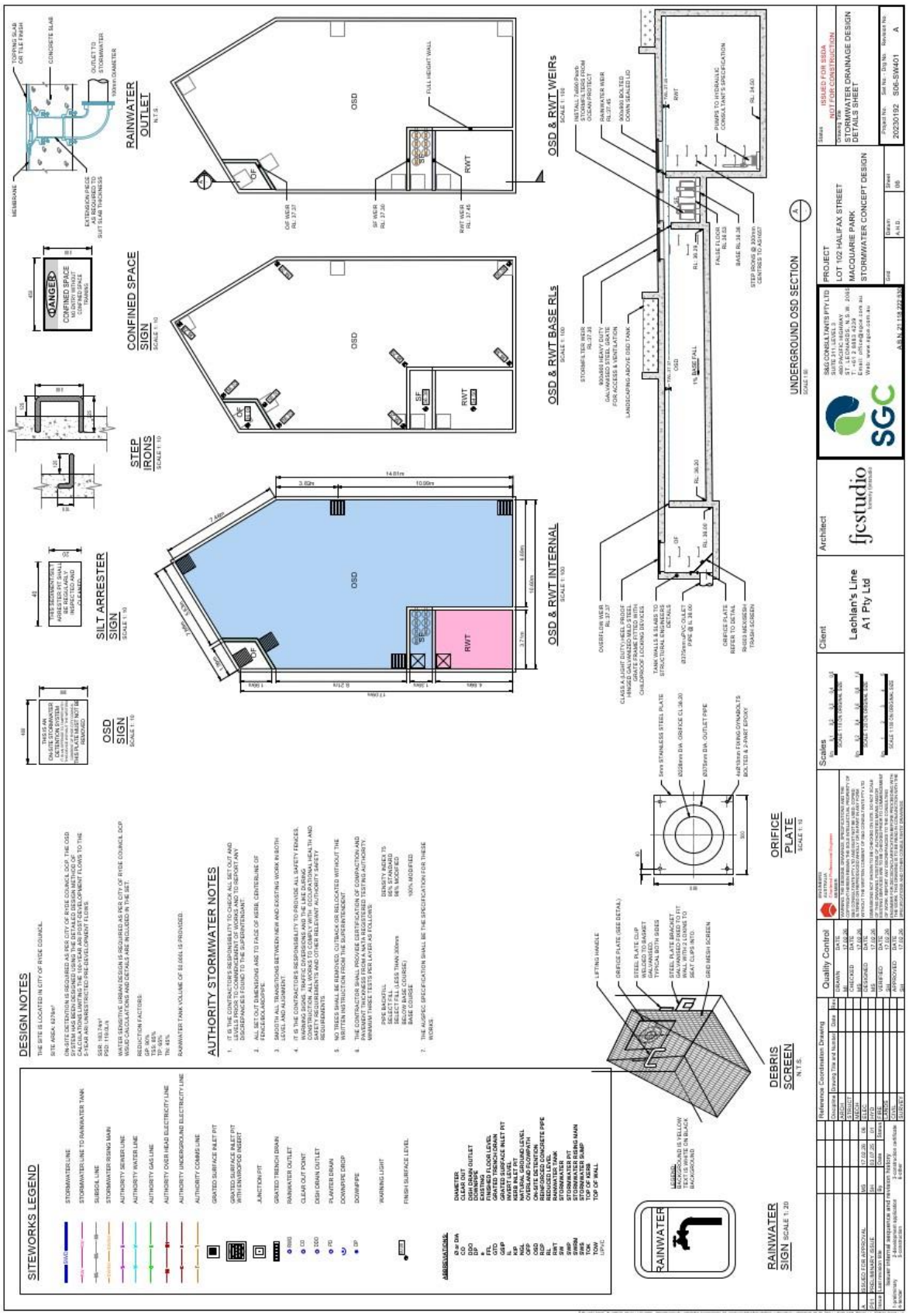
DESIGN NOTES
THE SITE IS LOCATED IN CITY OF RYDE COUNCIL.
SITE AREA: 6278m²
ON SITE DETENTION IS REQUIRED AS PER CITY OF RYDE COUNCIL DCP. THE OSD SYSTEM HAS BEEN DESIGNED USING THE DETAILED DESIGN METHOD OF CALCULATION LIMITED TO THE CATCHMENT AREA. ALL DEVELOPMENT FLOWS TO THE ON-SITE DETENTION SYSTEM BEFORE DISCHARGE TO KERB.
SSR - 183.3 l/s²
PSD - 119.0 L/s
WATER SENSITIVE URBAN DESIGN IS REQUIRED AS PER CITY OF RYDE COUNCIL DCP WSUD CALCULATIONS AND DETAILS ARE INCLUDED IN THE SET.
REDUCTION FACTORS:
GP: 90%
TS: 100%
TP: 90%
TN: 43%
RAINWATER TANK VOLUME OF 55.0KL IS PROVIDED.
AUTHORITY STORMWATER NOTES
1. IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK ALL SET OUT AND LEVELS PRIOR TO COMMENCEMENT OF WORKS AND TO REPORT ANY DISCREPANCIES FOUND TO THE SUPERINTENDANT.
2. ALL SET OUT DIMENSIONS ARE TO FACE OF KERB, CENTERLINE OF FENCE BOX UNDERPIT.
3. SMOOTH ALL TRANSITIONS BETWEEN NEW AND EXISTING WORK IN BOTH LEVEL AND ALIGNMENT.
4. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE ALL SAFETY FENCES, WARNING SIGNS, TRAFFIC DIVERSIONS AND THE LIKE DURING CONSTRUCTION. ALL WORKS TO COMPLY WITH OCCUPATIONAL HEALTH AND SAFETY REGULATIONS AND TO AND OTHER RELEVANT AUTHORITY SAFETY REQUIREMENTS
5. NO TREES SHALL BE REMOVED, CUTBACK OR RELOCATED WITHOUT THE WRITTEN INSTRUCTION FROM THE SUPERINTENDENT
6. THE CONTRACTOR SHALL PROVIDE CERTIFICATION OF COMPACTION AND PAVEMENT THICKNESS FROM A NATA REGISTERED TESTING AUTHORITY. MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES
7. THE AUSPEC SPECIFICATION SHALL BE THE SPECIFICATION FOR THESE WORKS
SITEWORKS LEGEND
STORMWATER LINE
STORMWATER LINE TO RAINWATER TANK
SUBSOIL LINE
STORMWATER RISING MAIN
AUTHORITY SEWER LINE
AUTHORITY WATER LINE
AUTHORITY GAS LINE
AUTHORITY OVER HEAD ELECTRICITY LINE
AUTHORITY UNDERGROUND ELECTRICITY LINE
AUTHORITY COMMS LINE
GRATED SURFACE INLET PIT
GRATED SURFACE INLET PIT WITH GRATED SUMP
JUNCTION PIT
GRATED TRENCH DRAIN
RAINWATER OUTLET
CLEAR OUT POINT
DISH DRAIN OUTLET
PLANTER DRAIN
DOWNPIPE DROP
DOWNPIPE
WARNING LIGHT
FINISH SURFACE LEVEL
ABBREVIATIONS:
Ø or DIA DIAMETER
CO CLEAR OUT
DDO DISH DRAIN OUTLET
EXG EXISTING
FFL FINISHED FLOOR LEVEL
GTD GRATED TRENCH DRAIN
GSIP GRATED SURFACE INLET PIT
INVERT INVERT LEVEL
KGP KERB INLET PIT
MSL MEAN SEA LEVEL
OFF OVERLAND FLOWPATH
OSD ON-SITE DETENTION
RCP REINFORCED CONCRETE PIPE
RL REDUCED LEVEL
RWT RAINWATER TANK
SW STORMWATER
SWP STORMWATER PIT
SWRM STORMWATER RING MAIN
SWS STORMWATER SUMP
TOK TOP OF KERB
TOW TOP OF WALL
UPVC UNPLASTICISED POLYVINYL CHLORIDE
RAINWATER SIGN SCALE 1: 20
LEGEND:
BACKGROUND IS YELLOW
LETTERING IS BLACK
BACKGROUND
DEBRIS SCREEN N.T.S.
LIFTING HANDLE
ORIFICE PLATE (SEE DETAIL)
STEEL PLATE CLIP WELDED TO BASKET TYPICAL BOTH SIDES
STEEL PLATE BRACKET GALVANISED FIXED TO FLOOR SLABS TO SEAT CLIPS INTO
GRID MESH SCREEN
ORIFICE PLATE SCALE 1: 10
5mm STAINLESS STEEL PLATE
Ø328mm DIA. ORIFICE CL 36.30
Ø375mm DIA. OUTLET PIPE
4x Ø10mm FIXING SYMBOLTS BOLTED & 2-PART EPOXY
SILT ARRESTER SIGN SCALE 1: 10
OSD SIGN SCALE 1: 10
STEP IRONS SCALE 1: 10
CONFINED SPACE SIGN SCALE 1: 10
RAINWATER OUTLET N.T.S.
MEMBRANE
TOPPING SLAB OR TILE FINISH
CONCRETE SLAB
OUTLET TO STORMWATER 100mm DIAMETER
EXTENSION PIECE AS REQUIRED TO SUIT SLAB THICKNESS
OSD & RWT WEIRs SCALE 1: 100
OSD & RWT BASE RLs SCALE 1: 100
OSD & RWT INTERNAL SCALE 1: 100
UNDERGROUND OSD SECTION SCALE 1:50
OSD
RWT
OF
SF
SP
OF WEIR RL 37.20
SF WEIR RL 37.30
RWT WEIR RL 37.45
OVERFLOW WEIR RL 37.20
STORMFILTER WEIR RL 37.30
900x600 HEAVY DUTY GALVANISED GRATE FOR ACCESS & VENTILATION
LANDSCAPING ABOVE OSD TANK
INSTALL 7x690 Pinch STORMFILTERS FROM OCEAN PROTECT
RAINWATER WEIR RL 37.45
WINGED BOLTED DOWN SEALED LID
CLASS A LIGHT DUTY GRATE FRAME FITTED WITH CHILDPROOF LOCKING DEVICES
TANK WALLS & SLABS TO STRUCTURAL ENGINEERS DETAILS
Ø375mm uPVC OUTLET PIPE @ IL 36.00
1% BASE FALL
ORIFICE PLATE REFER TO DETAIL
RIGID MESHSCREEN TRASH SCREEN
FALSE FLOOR RL 36.63
BASE RL 36.26
STEP IRONS @ 300mm CENTRES TO ASNZS
PUMPS TO HYDRAULIC CONSULTANT'S SPECIFICATION
RWT
OSD
SF
OF
3.62m
14.81m
10.09m
7.44m
4.68m
3.71m
16.68m
Reference Coordination Drawing
Quality Control
Scales
Client
Lachlan's Line A1 Pty Ltd
Architect
fjcstudio
SGC CONSULTANTS PTY LTD
SUITE 211, LEVEL 2
490 PACIFIC HIGHWAY
ST LEONARDS NSW 2065
T: +61 2 8883 4239
W: www.sgce.com.au
PROJECT
LOT 102 HALIFAX STREET
MACQUARIE PARK
STORMWATER CONCEPT DESIGN
STORMWATER DRAINAGE DESIGN DETAILS SHEET
Status: ISSUED FOR S96A
Drawing Status: NOT FOR CONSTRUCTION
Project No: 20230192
Set No.:
Dwg No.: S06-SW401
Revision No.: A
Sheet: 06
Drawn: A.H.D.
Date:
A - PRELIMINARY ISSUE 17.02.26 AH
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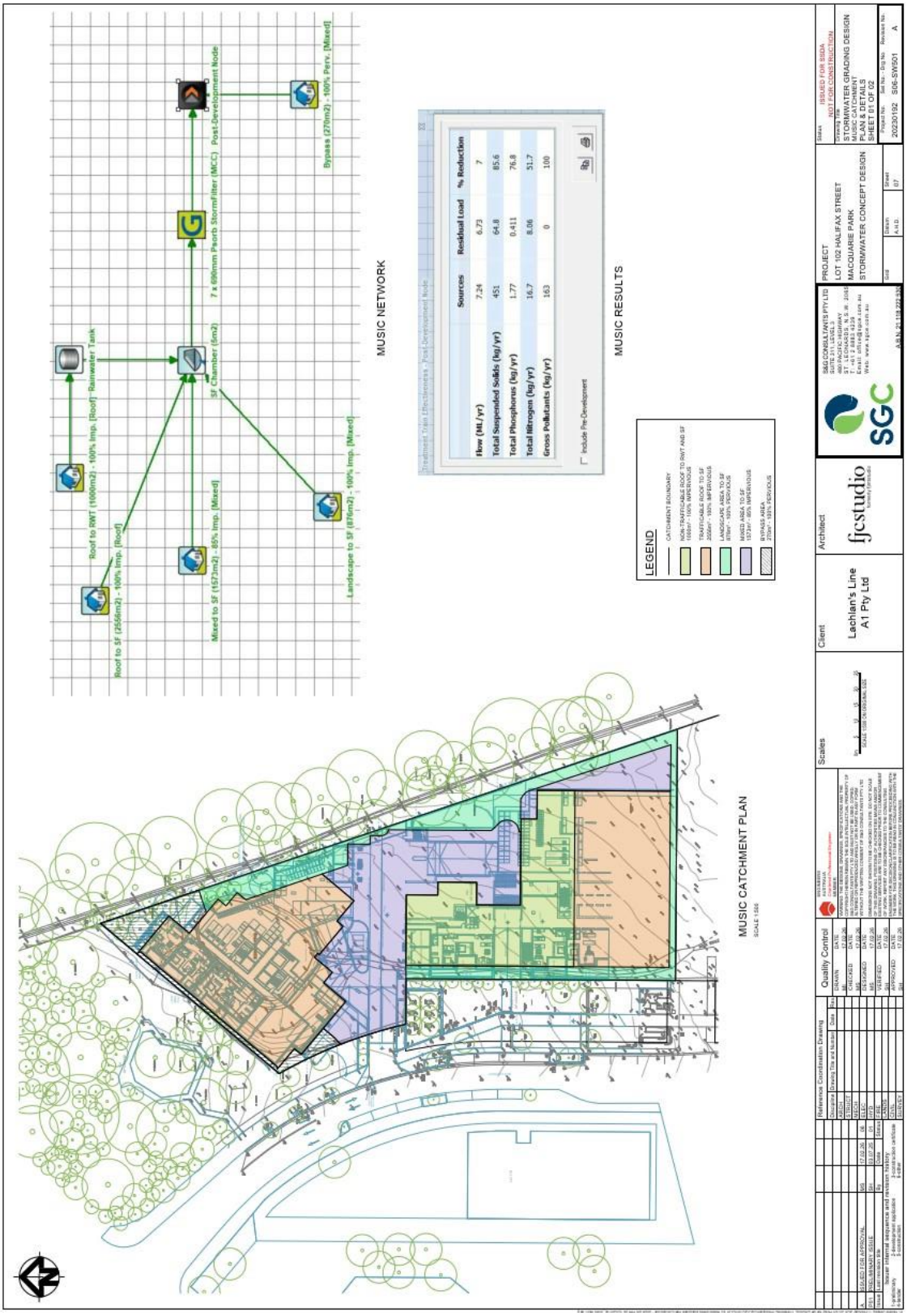
C - ISSUED FOR S96A 17.04.26 AH


MUSIC NETWORK
Roof to RWT (1600m2) - 100% Imp. [Roof]
Rainwater Tank
Roof to SF (2656m2) - 100% Imp. [Roof]
Mixed to SF (157m2) - 85% Imp. [Mixed]
SF Chamber (6m2)
7 x 690mm Pearls StormFilter (MCC)
Post Development Node
Bypass (270m2) - 100% Perv. [Mixed]
Landscape to SF (876m2) - 100% Imp. [Mixed]
MUSIC RESULTS
Treatment Train Effectiveness - Post Development Node
Sources
Residual Load
% Reduction
Flow (ML/yr) 7.24 6.73 7
Total Suspended Solids (kg/yr) 451 64.8 85.6
Total Phosphorus (kg/yr) 1.77 0.411 76.8
Total Nitrogen (kg/yr) 16.7 8.06 51.7
Gross Pollutants (kg/yr) 163 0 100
Include Pre-Development
LEGEND
CATCHMENT BOUNDARY
NON-TRAFFICABLE ROOF TO RWT AND SF
TRAFFICABLE ROOF TO SF
LANDSCAPE AREA TO SF
MIXED AREA TO SF
BYPASS AREA
MUSIC CATCHMENT PLAN
SCALE 1:500
Reference Coordination Drawing
Quality Control
Scales
Client
Lachlan's Line
A1 Pty Ltd
Architect
fjcstudio
SGC CONSULTANTS PTY LTD
SUITE 201 LEVEL 2
49 LEONARDS, N.S.W. 2065
Ph: +61 2 8883 4239
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PROJECT
LOT 102 HALIFAX STREET
AND
MACQUARIE PARK
STORMWATER CONCEPT DESIGN
Status
ISSUED FOR SSDA
NOT FOR CONSTRUCTION
STORMWATER GRADING DESIGN
MUSIC CATCHMENT
PLAN - SHEET 1 OF 5
SHEET 01 OF 02
Project No.
20230192
Dwg No.
SK6-SW501
Revision No.
A

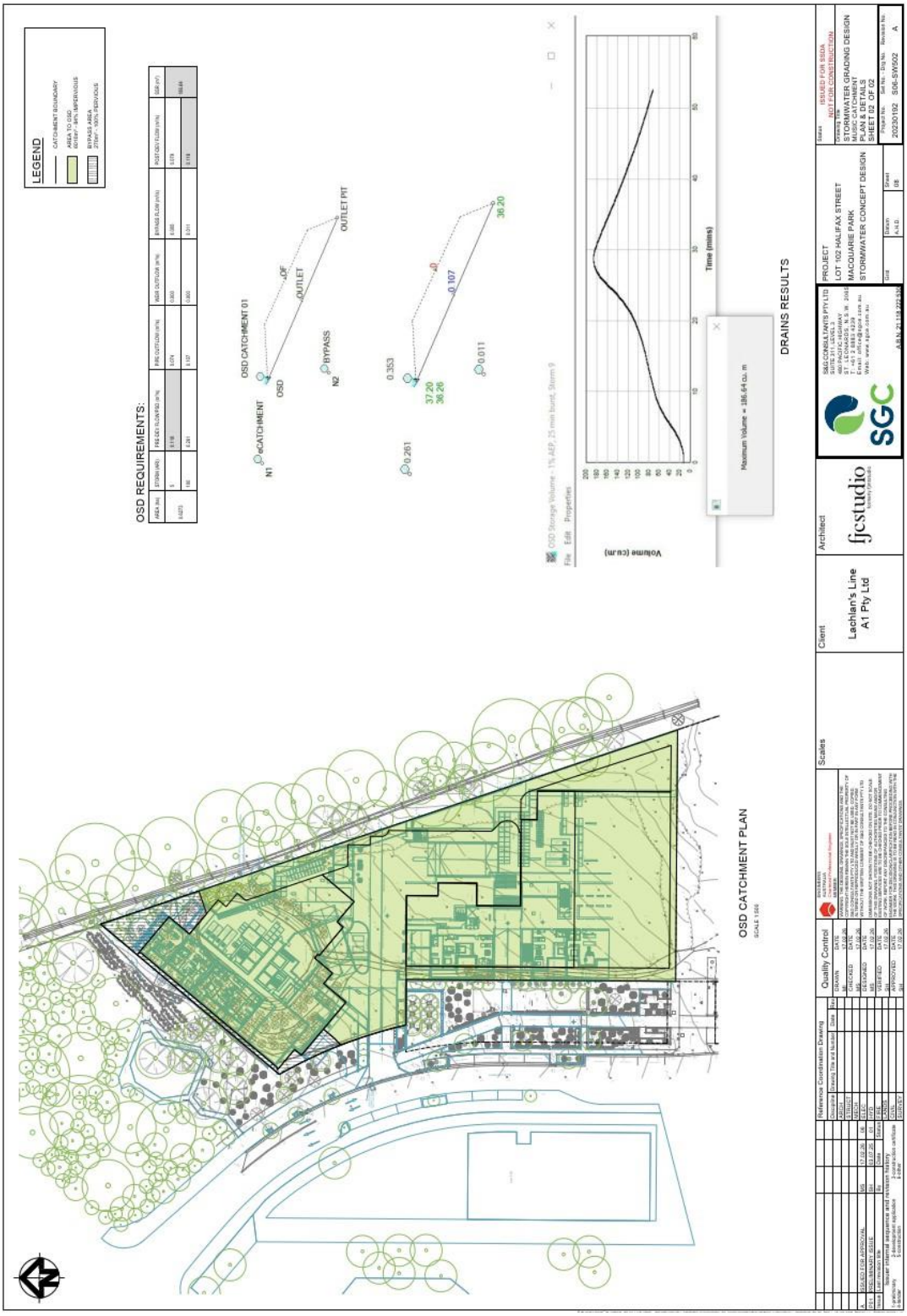

Figure A 3.1 Stormwater Plans

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