CLA CONSULTANTS
Consulting Civil/Structural Engineers, Project Managers

CIVIL ENGINEERING REPORT
44 EDISON CRESCENT YARRABILBA
PROPOSED INDUSTRIAL BUILDING

REVISION B
OUR REF: 25584

REVISION	DATE	AMENDMENTS
A	19/05/25	-
B	28/07/25	Revised Layout

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Prepared For:	**Black Diamond Building & Construction**
Prepared By:	**Richard Leonard**
Release Date	**28/07/2025**
Job Number:	**25584**
Document Name:	**Civil Engineering Report**
	44 Edison Crescent Yarrabilba
Revision:	**A**

Approved for release by

Campbell Leonard
FIEAust CPEng NPER3
RPEQ 4293
Director

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1. Introduction

This Civil Engineering Report has been in order to accompany an application for a material change of use.

The objectives of this report are to assess the following in the context of the proposed development:

- Erosion and sediment control
- Bulk Earthworks
- Vehicular Access
- Stormwater Drainage
- Sewer Connection
- Water Connection
- Electrical and telecommunications connections

2. Site Information

The site is located at 44 Edison Crescent Yarrabilba (Lot 24 SP333769). This lot was created as part of Stage 2 of Precinct 5 of the Yarrabilba Priority Development Area (PDA). The site has a frontage to Edison Crescent to the west and south. It grades generally from the north east to the south west at generally 2.0%. The area of the site is 2,168m^2 in size, and it is currently vacant.

Figure 1 Aerial Photo of Site (Copyright Qld Globe)

The proposal for the site is for the construction of a building with two tenancies, with associated car parking.

3. Engineering Assessment

3.1 Erosion and Sediment Control

During the course of the construction, the following processes are expected:

- Bulk earthworks
- Detailed earthworks to trim lot to final levels
- Construction

Management of stormwater runoff from the exposed earthwork surfaces will be based on containment, diversion and retention. At all stages of construction, current standards of building practices will be adhered to. These include:

- Placement of sediment fences
- Vehicle shakedown to prevent suspended solids being exported from site and consequently into surrounding stormwater infrastructure
- Sediment traps to field inlet pits and gullies

An Erosion and Sediment Control Plan has been prepared, refer to CLA Consultants Drawing 25584 - 002 in Figures. It will be the responsibility of the contractor to ensure that these and any other sedimentation and erosion controls are carried out.

3.2 Bulk Earthworks

The development of the site will require earthworks to level the site to provide the building pad. This process will result in a cut from the site of approximately $80m^3$. Drawing 25584 - 003 provides details of the earthworks proposed on the site.

3.3 Vehicular Access

It is proposed that access to the site for vehicles will be provided by a single crossover to Edison Crescent. These will be constructed as 'General Wide' or 'General Wide Flared' crossovers as per IPWEA standard drawing RS-051.

The service vehicle for the development is a Heavy Rigid Vehicle (HRV). A Traffic Engineering Report will be provided for assessment separately.

3.4 Stormwater Drainage

As discussed above, the subject site lies within a new subdivision. As part of the subdivision works, stormwater management has been provided within the downstream network through a series of bio-retention filters with additional ponding. As such, no treatment in terms of stormwater quantity is required within the site. It is proposed however to install SQIDEP approved Gross Pollutant Traps (Atlan Stormsacks or similar) to all field inlet pits. This will manage the release of gross pollutants and coarse sediments into the downstream infrastructure.

Stormwater from roofs and car park areas will be collected in a new internal stormwater drainage system. This system will use the existing stormwater pit on the site as the lawful point of discharge. The stormwater layout is shown on Drawing 25584 - 004, and the stormwater drainage longitudinal sections and catchment plan/calculations are shown at Drawings 25584 - 005 and 006 respectively.

3.5 Sewer Connection

The proposed sewer connection point will be the existing property connection to the south west of the site. CLA Consultants Drawing 25584 - 004 shows the location of this connection point.

3.6 Water Connection

A new private water meter assembly will be provided to the site from the existing 150mm diameter PVC-M water main which runs within the verge on the opposite side of Edison Crescent. The size and final location of this connection will be nominated by the hydraulic consultant prior to application for Plumbing and Drainage approval.

3.7 Electrical and Telecommunications Connections

The existing energex pillar boxes will be used as the connection point for the site. There is existing telstra infrastructure outside the site, this will be the connection point for communications purposes.

5. Conclusion

This report has assessed the following:

- Erosion and sediment control
- Bulk Earthworks
- Vehicular Access
- Stormwater Drainage
- Sewer Connection
- Water Connection
- Electrical and telecommunications connections

The proposed development is able to be serviced by all required infrastructure, and in accordance with the relevant local government requirements.

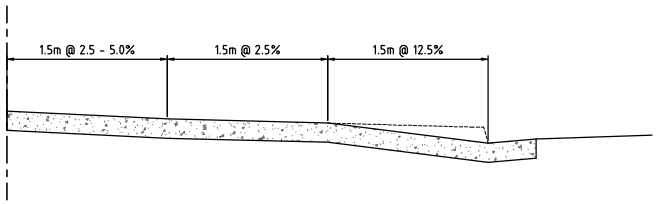
Figures

Site Survey Stewart McIntyre & Associates

CLA Consultants Drawings

25584 – 001 – Site Plan, Drawing Schedule & Notes
25584 – 002 – Erosion and Sediment Control Plan
25584 – 003 – Bulk Earthworks Plan
25584 – 004 –Grading & Drainage Plan
25584 – 005 – Stormwater Drainage Long Section
25584 – 006 – Stormwater Catchment Plan and Calculations

GENERAL NOTES:
1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH LOGAN CITY COUNCIL'S SPECIFICATIONS. CONTRACTOR TO OBTAIN AND RETAIN A COPY ON SITE DURING THE COURSE OF THE WORKS.
2. ALL NEW WORKS ARE TO MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS, AND MARRY IN A 'WORKMANLIKE' MANNER.
3. THE CONTRACTOR IS TO VERIFY THE LOCATION OF ALL SERVICES WITH EACH RELEVANT AUTHORITY. ANY DAMAGE TO SERVICES SHALL BE RECTIFIED BY THE CONTRACTOR OR THE RELEVANT AUTHORITY AT THE CONTRACTOR'S EXPENSE. SERVICES SHOWN ON THESE PLANS ARE ONLY THOSE EVIDENT AT THE TIME OF SURVEY OR AS DETERMINED FROM SERVICE DIAGRAMS. CLA CONSULTANTS CANNOT GUARANTEE THE INFORMATION SHOWN NOR ACCEPT ANY RESPONSIBILITY FOR INACCURACIES OR INCOMPLETE DATA.
4. SERVICES & ACCESSES TO THE EXISTING PROPERTIES ARE TO BE MAINTAINED IN WORKING ORDER AT ALL TIMES DURING CONSTRUCTION.
5. ADJUST EXISTING SERVICE COVERS TO SUIT NEW FINISHED LEVELS TO RELEVANT AUTHORITY REQUIREMENTS WHERE NECESSARY.
6. REINSTATE AND STABILISE ALL DISTURBED LANDSCAPED AREAS.
7. MINIMUM GRADE OF SUBSOIL SHALL BE 0.5% (1:200) FALL TO OUTLETS.
8. ALL TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES ARE TO BE CONSTRUCTED, PLACED AND MAINTAINED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS, EROSION AND SEDIMENTATION CONTROL PLAN AND LOCAL COUNCIL'S REQUIREMENTS WHERE APPLICABLE.
9. CONTRACTOR TO CHECK AND CONFIRM SITE DRAINAGE CONNECTIONS ACROSS THE VERGE PRIOR TO COMMENCEMENT OF SITE DRAINAGE WORKS.
10. PROPERTIES AFFECTED BY THE WORKS ARE TO BE NOTIFIED IN ADVANCE WHERE DISRUPTION TO EXISTING ACCESS IS LIKELY.



VEHICULAR CROSSOVER GRADING DETAILS
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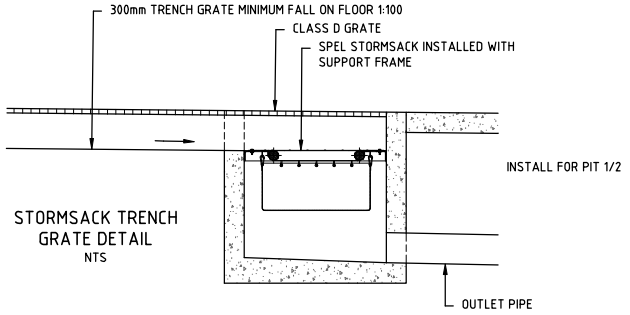

STORMSACK TRENCH GRATE DETAIL
NTS

DRAWING SCHEDULE	
NUMBER	TITLE
25584 - 001	SITE PLAN, DRAWING SCHEDULE & NOTES
25584 - 002	EROSION & SEDIMENT CONTROL PLAN
25584 - 003	BULK EARTHWORKS PLAN
25584 - 004	SITE GRADING & DRAINAGE PLAN SHEET
25584 - 005	STORMWATER DRAINAGE LONGITUDINAL SECTIONS
25584 - 006	STORMWATER CATCHMENT PLAN & CALCULATIONS

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL
Approval no: DEV2025/1650
Date: 7 August 2025
Queensland Government

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CLIENT
BLACK DIAMOND BUILDING

PROJECT
44 EDISON CRESCENT YARRABILBA

PROPERTY DESCRIPTION	LOT 24 SP333769
DESIGNED	RC LEONARD
DRAWN	RC LEONARD
REVIEWED	CB LEONARD
DATE	19 MAY 2025

APPROVED
PIEAust CPEng RPEQ 4293

REV.	DESCRIPTION	BY	DATE	APPR'D
B	REV LAYOUT	RCL	28/07/25	CBL
A	LOWER PFLS	RCL	9/07/25	CBL

NAME
SITE PLAN, DRAWING SCHEDULE & NOTES

PROJECT REF.	DRAWING NO.	REVISION
25584	001	B

Sedimentation and Erosion Control

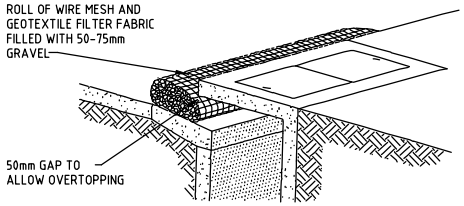
1. Sedimentation and erosion control implementation and maintenance shall be in accordance with LOGAN City Council's Development Manual as read in conjunction with the document titles "Environmental Best Management Practices". The Contractor shall make himself aware of the prevailing weather conditions and shall take all necessary precautions to secure the site at the completion of each day's work, and whenever else is considered necessary.
2. Sediment and erosion control measures shall be provided as required to prevent the movement of dust and/or silt from the site.
3. Sediment and erosion control measures shall be installed downstream of any work area prior to the commencement of work in that area.
4. Erosion and sedimentation control measures shall be installed prior to the disturbance of the site and as required during the course of the works.
5. Topsoil shall be stripped in accordance with the specification and stockpiles at locations as agreed by the superintendent and Council's designated representative.
6. All disturbed areas shall be stabilised with the provision of 75mm minimum topsoil and grass seeded, mulched, re-vegetated etc within 7 days of the completion of final allotment earthworks.
7. All sediment control measures and devices shall be inspected for structural damage after each rainfall event and at the completion of each days work. All trapped sediment shall be removed to an approved location on site for re-use on site or for subsequent removal from the site. Site disposal will only be approved when it can be established that no additional erosion can occur.
8. Sediment and erosion control measures around stockpiles shall include but not necessarily be limited to:-

a) Provision of a silt fence below the stockpile, as indicated by the natural slopes of the land,
b) Provision of grass cover if stockpile is to remain in place for more that 30 days,
c) Provision of a surface emulsion or approved equivalent to prevent wind erosion.

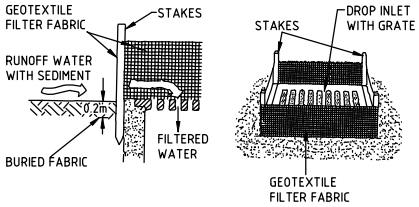
9. Place 600mm width turf at both top and toes of retaining walls and tops of new kerb.
10. Water areas of construction regularly as required to obviate potential for dust nuisance to adjoining properties and the site generally.

Construction Traffic Shakedown

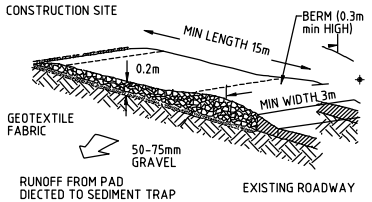
Provide construction traffic shake down device at all relevant site exit points. Clean out and maintain shake down device regularly to ensure efficient operation.



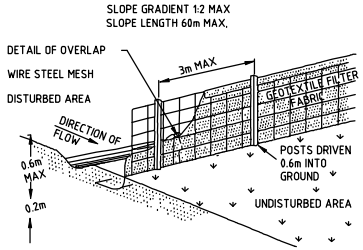
PORTABLE GRAVEL KERB SEDIMENT TRAP



INLET SEDIMENT TRAP



VEHICLE SHAKEDOWN AREA



SILT FENCE

LEGEND

SILT FENCE

VEHICLE SHAKEDOWN

INLET SEDIMENT TRAP

PLACE PORTABLE KERB SEDIMENT TRAP AS PER DETAIL AT ALL GULLY PITS AFFECTED BY SITE CONSTRUCTION WORKS

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2025/1650

Date: 7 August 2025

Queensland Government

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CLIENT
BLACK DIAMOND BUILDING

PROJECT
44 EDISON CRESCENT YARRABILBA

PROPERTY DESCRIPTION	LOT 24 SP333769
DESIGNED	RC LEONARD
DRAWN	RC LEONARD
REVIEWED	CB LEONARD
DATE	19 MAY 2025
APPROVED	PEAust CPEng RPEQ 4293

REV.	DESCRIPTION	BY	DATE	APPR'D
B	REV LAYOUT	RCL	28/07/25	CBL
A	LOWER PFLS	RCL	9/07/25	CBL

NAME
EROSION & SEDIMENT CONTROL PLAN

PROJECT REF.	DRAWING NO.	REVISION
25584	002	B

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

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Queensland Government

LEGEND	
CUT/FILL DEPTH (m)	Colour
-1.00 to -0.50	
-0.50 to 0.00	
0.00 to 0.50	
0.50 to 1.00	

EARTHWORKS SUMMARY	
TOTAL CUT	455m³
TOTAL FILL	122m³
BALANCE	333m³

NOTES:
1. CALCULATIONS BASED ON EARTHWORKS LEVEL 250mm BELOW FINISHED LEVEL

NOTES
1. ALL EARTHWORKS TO BE CARRIED OUT IN ACCORDANCE WITH AUSTRALIAN STANDARD 3798-GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.
2. EXCESS SPOIL MATERIAL SHALL BE REMOVED FROM THE SITE TO AN APPROVED LOCATION THE CONTRACTOR SHALL PROVIDE DETAILS OF THE SPOIL SITE TO THE SUPERINTENDENT FOR APPROVAL PRIOR TO THE COMMENCEMENT OF SPOIL REMOVAL OPERATIONS.
3. SEDIMENTATION AND EROSION CONTROL MEASURES TO BE INSTALLED AND APPROVED PRIOR TO THE COMMENCEMENT OF EARTHWORKS.
4. ANY FILL BATTERS STEEPER THAN 1V:4H AND GREATED THAN 1.0M IN HEIGHT REQUIRE LODGEMENT OF BUILDING APPLICATION.
5. ALL WORKS TO BE IN ACCORDANCE WITH COGC PLANNING SCHEME POLICIES.
6. THE CONTRACTOR SHALL PROVIDE LEVEL 1 CERTIFICATION OF THE FILL MATERIAL PRIOR TO THE COMMENCEMENT OF FURTHER CIVIL WORKS.
7. BATTERS TO BE TURFED/MULCHED PRIOR TO ON MAINTENANCE INSPECTION.
8. ALL EXPOSED EARTHWORKS TO BE SEEDED PRIOR TO ON MAINTENANCE INSPECTION.

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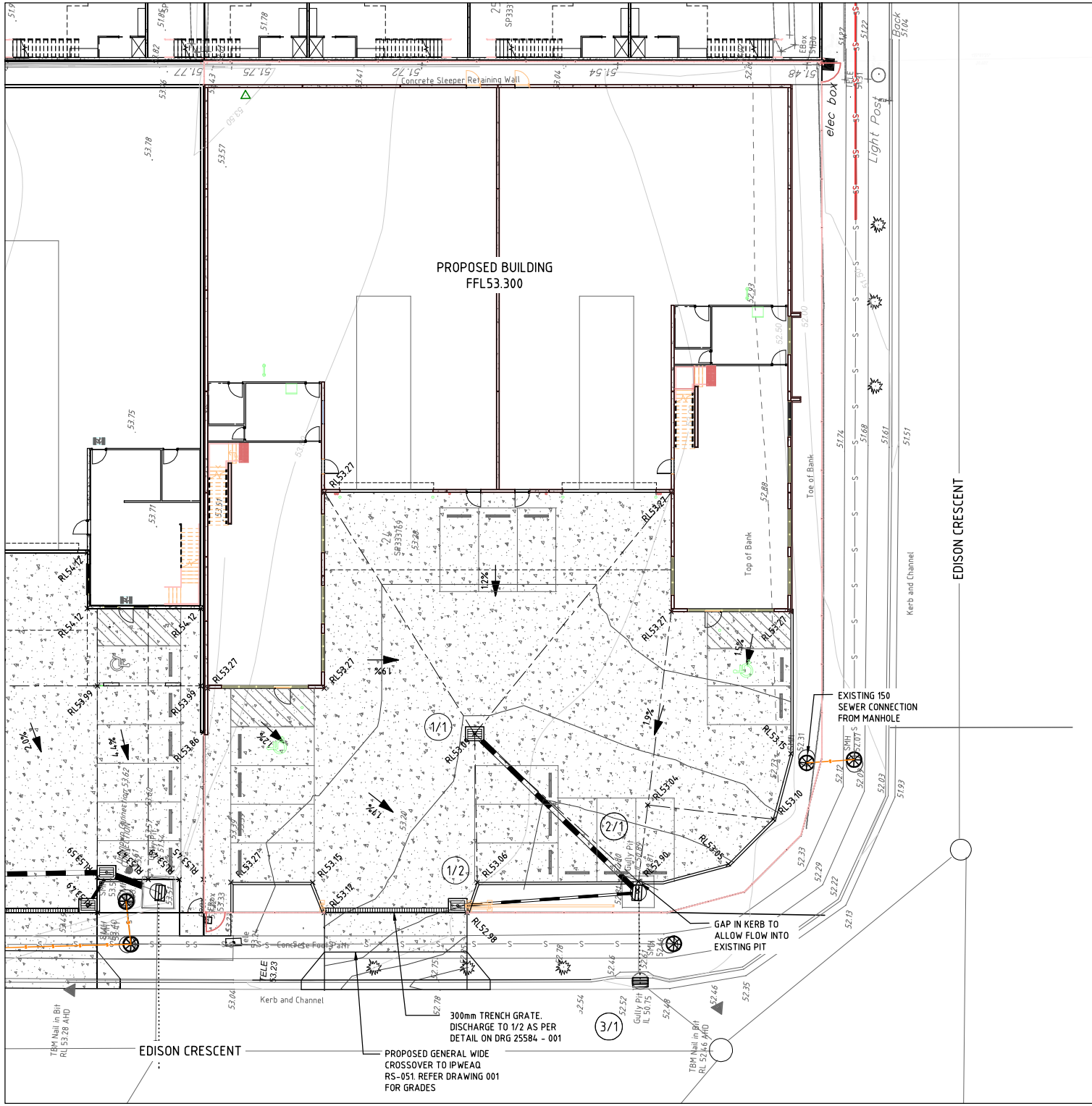
NAME
BULK EARTHWORKS PLAN

PROJECT REF.	DRAWING NO.	REVISION
25584	003	B



REPLACE ANY STREET TREES REMOVED
DUE TO VXO CONSTRUCTION

LEGEND

EXISTING LEVELS	x 12.22
PROPOSED LEVELS	+ RL12.51
PROPOSED STORMWATER	
CONTOURS - EXISTING	
CONTOURS - PROPOSED	
PROPOSED CONCRETE PAVEMENT	

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0 2 4 6 8 10m

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NAME
SITE GRADING & DRAINAGE PLAN

PROJECT REF.	DRAWING NO.	REVISION
25584	004	B

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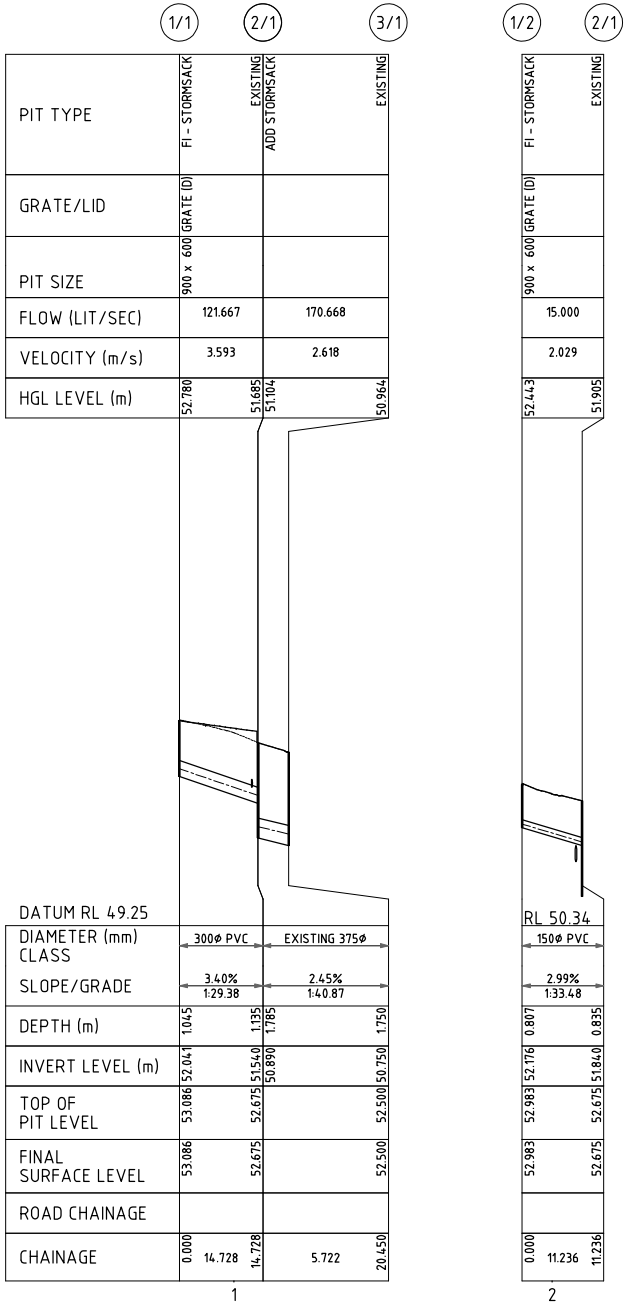

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HORIZONTAL 1:1,000 @ A3
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0 10 20 30 40 50m

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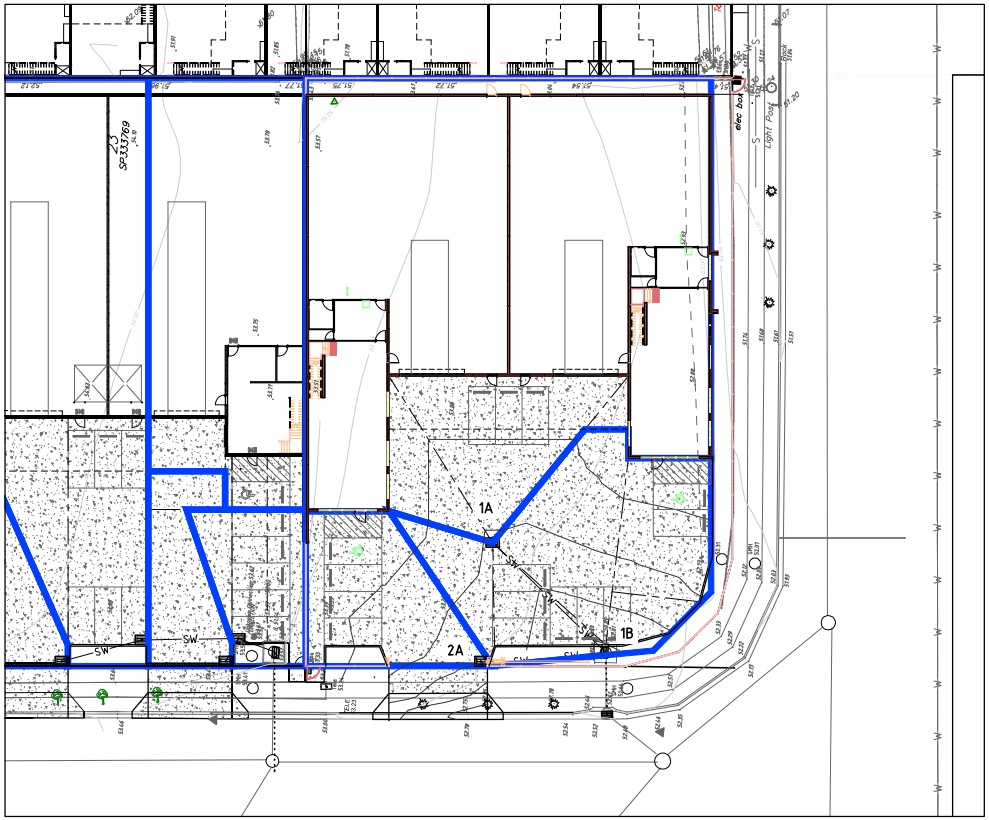
A	LOWER PFLS	RCL	9/07/25	CBL

NAME
STORMWATER DRAINAGE LONG SECTIONS

PROJECT REF.	DRAWING NO.	REVISION
25584	005	A

DRAINAGE CALCULATIONS – Return Period: 100yrs

LOCATION			TIME			SUBCATCHMENT RUNOFF						INLET DESIGN							DRAIN DESIGN														HEADLOSSES						PART FULL				DESIGN LEVELS								
	STRUCTURE No.	DRAIN SECTION	SUB-CATCHMENT TIME OF CONCENTRATION		RAINFALL INTENSITY		RUNOFF CO-EFFICIENT	SUB-CATCHMENT AREA	EQUIVALANT AREA	SUM OF EQUIVALENT AREA	SUB-CATCHMENT DISCHARGE		FLOW IN K&C (INC. BYPASS)	ROAD GRADE AT INLET	HALF ROAD CAPACITY	INLET TYPE	INLET CURVE	FLOW TO INLET	BYPASS FLOW	BYPASS STRUCTURE No.	FLOW WIDTH	FLOW DEPTH		CRITICAL TIME OF CONCENTRATION	RAINFALL INTENSITY	TOTAL (CxA)	PIPE FLOW	REACH LENGTH	PIPE GRADE	PIPE SIZE	No. OF PIPES (1 IF BLANK)	PIPE CLASS	FLOW VELOCITY	TIME OF FLOW IN REACH	CAPACITY FLOW (MANNINGS)	CAPACITY FLOW (HGL)		STRUCTURE CHART No.	VELOCITY HEAD	U/S HEADLOSS COEFFICIENT	U/S PIPE STRUCTURE HEADLOSS	LAT. HEADLOSS CO-EFFICIENT	LAT. PIPE STRUCTURE HEADLOSSES	W.S.E. CO-EFFICIENT	CHANGE IN W.S.E.	PIPE FRICTION SLOPE	PIPE FRICTION HEADLOSS (L×Sf)		PART FULL DEPTH	PART FULL VELOCITY		OBVERT LEVELS	DRAIN SECTION HGL	UPSTREAM H.G.L.	DOWNSTREAM H.G.L.	W.S.E.	SURFACE OR K&C INVERT LEVEL	STRUCTURE No.
				tc min	I mm/hr		C	A ha	CxA ha	Sum CxA ha	Q L/s		L/s	%	L/s			Qg L/s	Qb L/s		m	m		tc min	I mm/hr	Sum CxA ha	Qp L/s	L m	S %	mm			V m/s	T min	L/s	L/s			V²/2g m	Ku	hu m	KL	∑L m	Kw	hw m	Sf %	hf m		m	Vp m/s		m	m	m	m	m	m	
1A	1/1	1/12/1		5	300		1.00	0.146	0.146	0.146	122		122			FI	900x600	122		2/1		0.155		5.00	300	0.146	122	15	4	300		PVC	1.72	0.064	279	283			0.151	3.934	0.595					0.78	0.12		0.14	3.81		52.426	52.859	52.859	51.679	53.219	53.219	1/1
1B	2/1	2/13/1		5	300		1.00	0.041	0.041	0.205	34		34			FI	900x600	34				0.066		5.10	300	0.205	170	6	2	375		Class 3 RRJ	1.54	0.036	274	386			0.121	1.000	0.121					0.50	0.03		0.21	2.62		51.265	51.103	51.224	50.963	52.675	52.675	2/1
																				3/1																																
2A	1/2	1/22/1		5	300		1.00	0.018	0.018	0.018	15		15			FI	900x600	15		2/1		0.038		5.00	300	0.018	15	11	3	150		PVC	0.85	0.097	36	37			0.037	5.499	0.202					0.48	0.05		0.07	1.92		52.383	52.503	52.503	52.008	52.983	52.983	1/2



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NAME
STORMWATER CATCHMENT PLAN & CALCULATIONS

PROJECT REF.	DRAWING NO.	REVISION
25584	006	B

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