A&E Direct Consulting

We value our relationships with our clients.

194B Old Northern Road, Everton Park, QLD 4053

Stormwater Management Plan

Prepared by: A&E Direct Consulting Pty Ltd
Prepared for: 194B Old Northern Road, Everton Park QLD 4053
Date: 13 April 2026
Revision: D

Quality Assurance

TASK	NAME	SIGNATURE
Prepared by:	Eugene Chand	
Reviewed By:	Ahmed Gadalla (RPEQ: 35699)	
Approved for Issue	Ahmed Gadalla (RPEQ: 35699)	

Document control

ISSUE	DATE	ISSUE DETAILS	AUTHOR	CHECKED	APPROVED
A	28.09.2025	Issued for Approval	EC	AM	AM
B	30.03.2025	IR Response	EC	AM	AM
C	26.10.2025	IR Response	EC	AG	AG
D	13.04.2026	IR Response	EC	AG	AG

Contents

Figures

Tables

1. Abstract

This report describes the following treatment systems that are recommended for inclusion in the design for the development at 194B Old Northern Road, Everton Park, QLD 4053, described as Lot 515 on SP105444:

- Runoff from the roof, road/carpark and landscape will be collected and diverted into the detention tank.
- Stormwater quantity management via a tank 28.5m^3 of on-site stormwater detention tank located beneath the access driveway, with a minimum volume of 25.54m^3.
- Stormwater quality treated by Atlan Stormsack and Atlan cartridge filters installed within the detention tank.
- Connection of the new detention to the new gully pit on Old Northern Road.

Based on the analysis presented in this report, this system will achieve compliance with the relevant State and Local Council standards and support the approval of the proposed development.

2. Introduction

This report has been prepared to support the lodgement of a development application to approve the construction of a new residential development at 194B Old Northern Road, Everton Park, QLD 4053. The development is proposed to take place over the following parcel of land:

2.1 Existing Site

Local Government Area	Brisbane City Council
Property Address	194B Old Northern Road, Everton Park, QLD 4053
Property Description	Lot 515 on SP105444
Site Area	0.173ha

The purpose of this report is to address the management of stormwater quantity and quality, ensuring that the proposed development complies with all necessary state and local government policies. This report outlines the potential impact of the proposed development on stormwater quantity and quality, and outlines the required treatment measures to achieve all relevant objectives.

2.2 Governing Standards and Relevant Documents

The following Australian standards and documentation have been employed throughout the stormwater engineering design process:

- Queensland Urban Drainage Manual (QUDM).
- Australian Standard 3500.3 – 1998 “National Plumbing and Drainage”.
- Australian Rainfall and Runoff 2019 (ARR2019)
- Brisbane City Council Planning Scheme.

3. Property Description

3.1 Site Locality

The proposed development is situated at 194B Old Northern Road, Everton Park. The zoning of the land is "Medium Density Residential" in accordance with the current Brisbane City Council Plan. The site has street frontage to the east, which allows access to Old Northern Road. Full details of the site topography and existing features are shown on the detailed site survey included in Appendix A. A general locality plan is presented in Figure 3-1 Below:

Figure 3-1 Site Locality (Source: NearMaps)

3.2 Topography and Drainage

According to the site survey, the existing terrain elevation changes from northwest to southeast with a slope of approximately 9%. All rainfall runoff from the site travels as overland flow to the southeast site corner, then goes further into the existing gully pit and underground pipework on Old Northern Road. Runoff is then directed further west via underground pipework.

Further information on the site survey has been provided by K.J.Pile and Associates Consulting Surveyors, Contour and a detailed survey of Lot 515 on SP105444 (Ref: J:5222-09/06/2024), included as Appendix A.

3.3 Proposed Development

The proposed development is a residential development, which has 6 units with an internal road and parking lot, and the yield to be determined as part of future works. Refer also to the layout drawings in Appendix B.

Refer to Appendix B for further proposed development details prepared by A&E Direct Consulting.

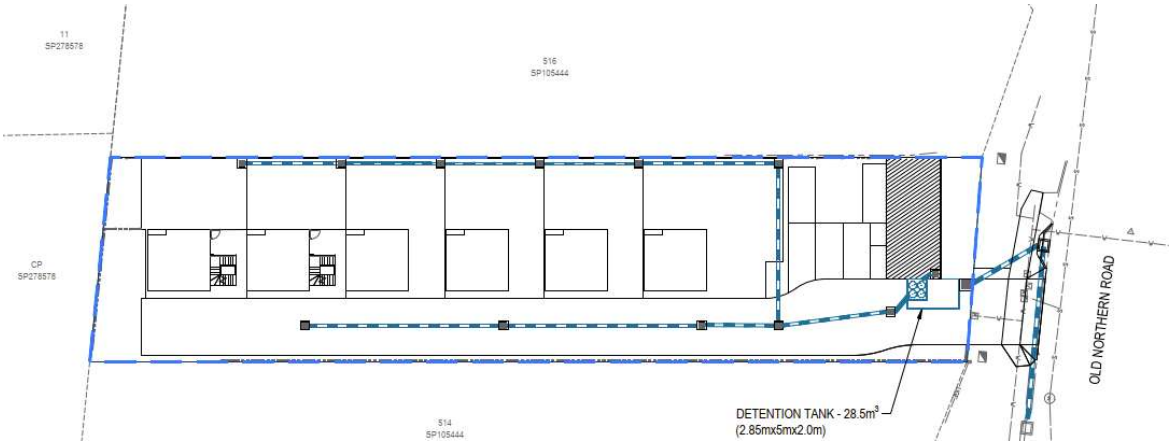


Figure 3-2 Proposed Development

4. Stormwater Quantity

This section of the report addresses peak stormwater discharge resulting from the site and identifies whether attenuation measures are necessary to ensure “no-worsening” of the peak flows from the site.

4.1 Stormwater Drainage Methodology

The methodology of the hydrologic analysis involves the use of the Rational Method for peak flow calculations. The Rational Method, as described by the Queensland Urban Drainage Manual (QUDM 2017), provides a simple means for the assessment of the peak discharge rate for design storms. Calculations have been undertaken to determine the pervious and impervious peak run-off rates with the Best Management Practices (BMPs) incorporated into the site layout for stormwater quantity control.

4.2 Site Constraints

Constraints identified for the site regarding stormwater management include:

- Development will result in an impact on the quantity of stormwater runoff generated within the site.
- Development will result in increased impervious area, and subsequently an increase in peak discharges (gross). Since all new impervious catchments are proposed to be managed independently from the overall catchment, the net result of the stormwater discharge for the development will be less than the existing state.

4.3 Design response

The design response for the stormwater management constraints has been identified as the following:

- Collect and convey site-generated runoff to the lawful point of discharge and ensure that no adverse impacts occur to neighbouring properties.
- Stormwater quantity mitigation to ensure the development does not cause an actionable nuisance on any adjacent properties.
- The design does not adversely affect upstream drainage and does not worsen the downstream condition.
- The design has adequate capacity to safely manage the peak discharge of the additional flow produced as a result of the proposed development.
- The downstream receiving drainage system has adequate capacity to safely convey the peak discharge of the additional flow resulting from the proposed development.

This Stormwater Management Plan (SWMP) has been developed to demonstrate that the design response is consistent with the Brisbane City Planning Scheme and relevant industry standards.

4.4 Data

Data used in the preparation of this report and information about the site were gathered from the following sources:

- Site survey;
- Proposed Site Layout;
- Rainfall and Meteorological Data by the Australian Bureau of Meteorology. The data has been extracted for the nearest grid cell at Latitude 27.3875 (S) and Longitude 152.9875 (E);
- Queensland Globe;
- LIDAR data for the subject site sourced from Australian Government Elevation and Depth Foundation Spatial Data (ELVIS), Date Source: 2014, DEM Data;
- Aerial Imagery by Google Satellite;

4.5 Lawful point of discharge

The analysis of the pre-development site has been conducted as a single internal catchment, with a contributing area measuring 0.173ha. Any stormwater on ground surfaces is conveyed as sheet flow through the development site towards the southeast corner boundary and is discharged to the existing LPD (for analysis in accordance with QUDM), where an existing gully pit of the Old Northern Road is nearby.

The catchment area and LPD for the development site are shown on A&E Direct Consulting Pty Ltd, Pre-Development Catchment Plan, included as Appendix C.

The post-development scenario has been analysed as a single catchment similar to the pre-development scenario and has a contributing area of 0.173ha.

Stormwater collected from the roof, carparks, driveway and ground areas will be conveyed via an internal network of pits and stormwater pipes into a detention tank. The captured flows are then discharged into the new gully pit on Old Northern Road, which is connected to the existing gully pit via a 5m 375 RCP pipe.

The post-development catchment area and LPD is detailed on A&E Direct Consulting Pty Ltd, Post Development Catchment Plan included as Appendix C, and Appendix D.

4.5.1 Coefficient of Discharge

4.5.1.1 Pre-Development

The pre-development coefficient of runoff (C year) was calculated using the fraction impervious method outlined in QUDM. According to the survey data, the internal catchment has an impervious area coverage of 0.0865 ha, resulting in a fraction impervious (fi) of 50%. With a one-hour, ten-year rainfall intensity (1I10) set at 64 mm/hr, the pre-development catchment adopts a C10 value of 0.75.

The pre-development coefficients of runoff, as presented in Table 4-1, have been selected in alignment with QUDM Table 4.5.2. These coefficients correspond to the frequency factors associated with standard Annual Exceedance Probability (AEP) design storms at 63%, 39%, 18%, 10%, 5%, 2%, and 1%. These percentages correspond to the 1, 2, 5, 10, 20, 50, and 100-year Average Recurrence Interval (ARI) storms, respectively.

Catchment	C1	C2	C5	C10	C20	C50	C100
Pre	0.60	0.64	0.71	0.75	0.79	0.86	0.90

Table 4-1 Pre-Development Coefficient of Discharge

4.5.1.2 Post-Development

The post-development coefficient of runoff (C year) was calculated using the fraction impervious method outlined in QUDM. According to the provided architectural plans, the Post catchment encompasses roughly 0.173 ha of impervious surfaces, resulting in a fraction impervious (fi) of 86%. With a one-hour, ten-year rainfall intensity (1I10) set at 64 mm/hr, the post-development catchment adopts a C10 value of 0.86.

The post-development coefficients of runoff, as presented in Table 4-2, have been selected in alignment with QUDM Table 4.5.2. These coefficients correspond to the frequency factors associated with standard Annual Exceedance Probability (AEP) design storms at 63%, 39%, 18%, 10%, 5%, 2%, and 1%. These percentages correspond to the 1, 2, 5, 10, 20, 50, and 100-year Average Recurrence Interval (ARI) storms, respectively.

Catchment	C1	C2	C5	C10	C20	C50	C100
Post	0.69	0.73	0.82	0.86	0.90	0.99	1.00

Table 4-2 Post-Development Coefficient of Discharge

4.5.2 Time of Concentration

4.5.2.1 Pre-Development

The Time of Concentration for the post-development catchments has been computed following the guidelines outlined in QUDM Table 4.6.5, Recommended maximum length of overland sheet flow, and Table 4.6.5 - Surface roughness or retardance factors.

Following the specifications in Table 4.6.4 and Table 4.6.5 of QUDM, the pre-development catchment will include a duration of 5 minutes for the roof to downpipes time plus 0.74 minutes of overland flow. The pre catchment will have a time of concentration that will incorporate 5.74 minutes as overland flow.

4.5.2.2 Post-Development

The Time of Concentration for the post-development catchments has been computed following the guidelines outlined in QUDM Table 4.6.3, specifically referring to the recommended roof drainage system travel times.

Following the specifications in Table 4.6.3 of QUDM, the Time of Concentration for the catchment will include a duration of 5 minutes for the roof to downpipes time plus 0.40 minutes of kerb flow. The post-development catchment will have a time of concentration that will incorporate 5.40 minutes.

4.5.3 Design Discharge

Pre-development peak flow rates for the selected storms have been calculated utilising design rainfall intensities sourced from the Bureau of Meteorology IFD Data.

The estimation of design peak flow rates for the pertinent site has been conducted using the Rational Method:

$$Q = 2.78 \times 10^{-3} \cdot C \cdot i \cdot A$$

The resulting pre-development peak flows for the development site are detailed in Table 4-3.

Pre development catchment								
Annual Exceedance Probability	**AEP**	63%	39%	18%	10%	5%	2%	1%
Coefficient of Runoff	**C**	0.60	0.64	0.71	0.75	0.79	0.86	0.90
Area of Catchment (ha)	**A**	0.173	0.173	0.173	0.173	0.173	0.173	0.173
Average Rainfall Intensity (mm/h)	**I**	86	109	170	196	225	262	291
Peak Flow Rate (m^3/s)	**Q**	**0.025**	**0.033**	**0.058**	**0.071**	**0.085**	**0.109**	**0.126**

Table 4-3 Estimated Pre-Development Peak Discharges – Rational Method

Post-development peak flow rates have been computed for the selected storms by utilising design rainfall intensities obtained from the Bureau of Meteorology 2016 IFD Data.

The Rational Method ($Q = 2.78 \times 10^{-3} \cdot C \cdot i \cdot A$) has been employed to estimate the necessary design peak flow rates for the respective site. The resulting post-development peak flows for the development site are outlined in Table 4-4.

Post development catchment								
Annual Exceedance Probability	**AEP**	**63%**	**39%**	**18%**	**10%**	**5%**	**2%**	**1%**
Coefficient of Runoff	**C**	0.69	0.73	0.82	0.86	0.90	0.99	1.00
Area of Catchment (ha)	**A**	0.173	0.173	0.173	0.173	0.173	0.173	0.173
Average Rainfall Intensity (mm/h)	**I**	87	110	172	199	228	266	295
Peak Flow Rate (m3/s)	**Q**	**0.029**	**0.039**	**0.068**	**0.082**	**0.099**	**0.127**	**0.142**

Table 4-4 Estimated Post-Development Peak Discharges – Rational Method

5. Stormwater Infrastructure

Hydrologic and hydraulic modelling of the site has been undertaken to establish the flow regime and peak discharge at the existing Lawful Points of Discharge (LPD). The modelling has been undertaken using the DRAINS Software for both the pre- and post-development scenarios and has been compared with the Rational Method results.

The DRAINS software has been used to simulate the flood behaviours of the flow paths and adjoining floodplain to estimate design flood discharges within the study area. The model represents the sub-catchments as a network of nodes and links. The model was used to develop hydrographs for the 1% to 63% Annual Exceedance Probability (AEP) design storm.

A comparison has been made with the results of Rational Method calculations to ensure the DRAINS model peak flow estimates for the 1% AEP event are reasonable.

5.1 DRAINS Model Setup

A calculation of the necessary detention volume to counteract any rise in total site discharge rates has been conducted using the DRAINS software program, in adherence to the Australian Rainfall and Runoff 2019 (ARR 2019) Guideline.

At the preliminary planning stage, a DRAINS model has been employed to ensure a more confident estimation of the detention volume. Given that finished site levels are preliminary but grounded in topographic site survey data, this initial calculation provides an estimate with sufficient accuracy to advance the design with confidence.

The model was formulated by simulating the layouts of the pre-development, post-development, and mitigated catchments, comparing the peak flow rates generated from each scenario. The mitigated catchment encompasses the 1% Annual Exceedance Probability (AEP) runoff from the entire site, encompassing roofs, ground areas, and driveways. This configuration ensures ample mitigation to demonstrate that there is no increase in peak flow rates exiting the site compared to the pre-development scenario.

5.2 Rainfall Losses

According to ARR 2019, the East Coast North temporary pattern zone has been applied for the study. The Initial Loss (IL) and Continuing Losses (CL) were applied to the DRAINS modelling, and once more, these values were varied for the impervious and pervious portions of the catchment. The following loss rates were adopted:

- Developed catchment IL = 1mm CL = 0mm/hr; and
- Undeveloped catchment IL = 13=mm CL = 2.2mm/hr

The DRAINS model was analysed for the standard 5 to 360-minute duration ensembles for the 1% AEP design storm event.

5.3 Rational method comparison

The peak discharges for the development site provided by the hydrologic model for the 1% AEP event have been compared against those obtained from the Rational Method calculations, as a comparison to ensure that the model is providing reasonable results.

The results of this comparison are provided in Table 5-1 and demonstrate that the hydrologic model is providing results within an acceptable range of the Rational Method calculations. It is therefore considered appropriate for use in this analysis.

Sub Catchment	ARI Design Event Peak Flow (m^3/s)		
	Rational Method	DRAINS	Different %
Pre-Development			
Pre	0.126	0.123	-2.4
Post-Development			
Post	0.142	0.132	-7.0

Table 5-1 Peak discharge Rational method vs DRAINS Model (m^3/s)

5.4 DRAINS Model Routing

The DRAINS model was built to estimate the runoff routing between sub-catchments to LPD. The stormwater pipe details and cross sections of each flow path were assumed for the SWMP.

5.4.1 Pre-Development Scenario

The Pre-Development scenario represents the site and surrounding catchment conditions in their current land use. The existing catchment parameters were presented in Table 4-1 and identified in Appendix C.

5.4.2 Post-Development Scenario

The Post-Development scenario differs, and the design surface for the project site has been incorporated into the model. The post-development catchments represent the proposed development and have been modified to reflect the proposed land use as summarised in Appendix C.

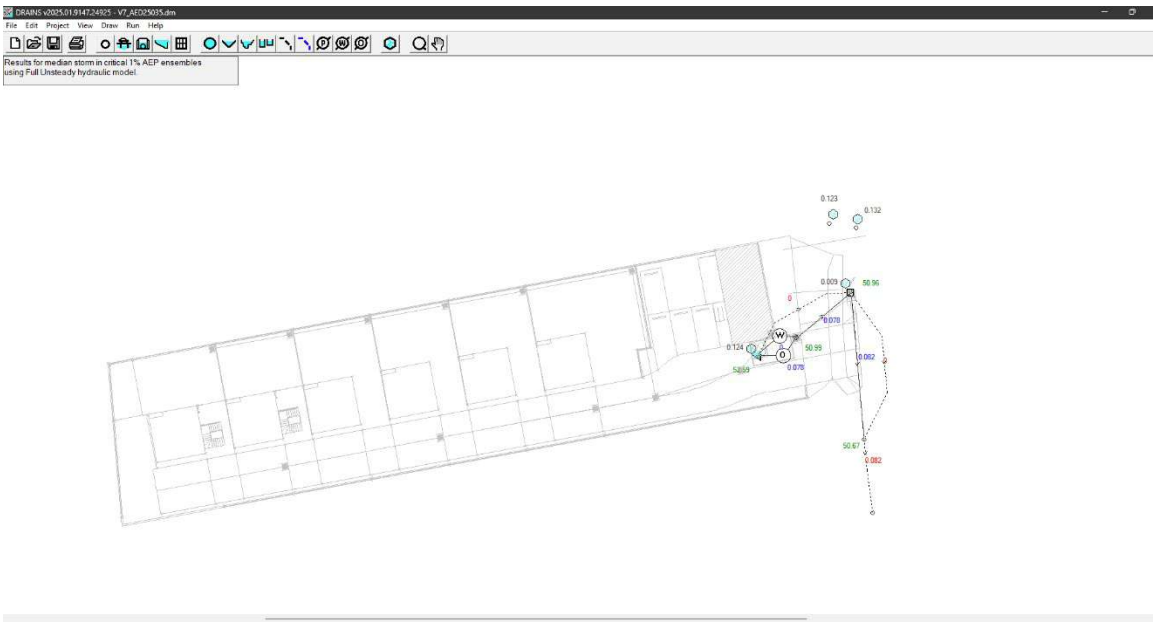


Figure 5-1 DRAINS Model Layout

5.5 Result Analysis

Based on the DRAINS hydraulic model, runoff coming from external to the site, or discharging to downstream areas, was analysed for 1%, 2%, 5%, 10%, 18%, 39% and 63.2% AEP events.

5.5.1 Discharges Change at LPD

The difference in peak flow rates between the pre-development and post-development (unmitigated) scenarios at the lawful point of discharge (LPD) has been assessed using the DRAINS model, with results summarised in Table 52.

As shown, the post-development (unmitigated) peak discharges exceed the pre-development flows across all design events due to the increase in impervious area. Accordingly, on-site detention is required to attenuate post-development flows to pre-development levels and achieve compliance with the relevant stormwater management criteria.

		LPD						
Annual Exceedance Probability	**AEP**	**63%**	**39%**	**18%**	**10%**	**5%**	**2%**	**1%**
Pre-Developed Peak Flow Rate (m^3/s)	**Q**	0.039	0.048	0.067	0.082	0.096	0.111	0.123
Post-Developed (unmitigated) Peak Flow Rate (m^3/s)	**Q**	0.043	0.055	0.072	0.086	0.1	0.118	0.132
Change in Peak Flow Rate (m^3/s)	**Q**	**+0.004**	**+0.007**	**+0.005**	**+0.004**	**+0.004**	**+0.007**	**+0.009**

Table 5-2 Anticipated Peak Site Discharge Rate – Extracted from DRAINS Model (m^3/s)

As demonstrated in Table 5-2 . Due to the increase in impervious area, the discharged peak flow rate at LPD is higher than the existing condition. On-site detention measures will be required for this LPD of the development.

5.5.2 Detention requirement

To mitigate the increase in peak discharge, an on-site detention system has been designed to limit post-development flows to at or below pre-development levels at the LPD.

The adopted detention tank parameters are summarised in Table 5-3 and have been configured to achieve the required hydraulic performance for all relevant design events.

Detention Tank Parameters	
Detention Configuration	2850mm(L) x 5000mm(W) x 2000mm(H)
Low Flow (at 0m of Storage Depth)	Orifice: Ø 170mm at 50.8 AHD Connected to pipe Ø 375 mm
Weir length (at 1.8m of Storage Depth)	0.6m at 52.6mAHD
Outflow Pipe	375mm RCP at a slope of 1%
Max depth	1.85m
Detention Volume required:	25.54 m³

Table 5-3 Adopted Detention Tank Parameters

Table 5-4 presents the comparison of peak discharge rates at the LPD for pre-development and post-development (mitigated) scenarios.

The results demonstrate that the post-development peak discharges are consistently lower than the corresponding pre-development flows across all design events, confirming that the proposed detention system effectively achieves a “no worsening” outcome.

LPD								
Annual Exceedance Probability	**AEP**	**63%**	**39%**	**18%**	**10%**	**5%**	**2%**	**1%**
Pre-Developed Peak Flow Rate (m^3/s)	**Q**	0.039	0.048	0.067	0.082	0.096	0.111	0.123
Post-Developed (mitigated) Peak Flow Rate (m^3/s)	**Q**	0.035	0.043	0.053	0.060	0.068	0.075	0.082
Change in Peak Flow Rate m^3/s)	**Q**	**-0.004**	**-0.005**	**-0.014**	**-0.022**	**-0.028**	**-0.036**	**-0.041**

Table 5-4 Qpeak at LPD – Mitigation scenario

A small portion of the site (approximately 110 m², representing around 6% of the total site area) located in the eastern area bypasses the on-site detention system.

This bypass area is minor and does not adversely affect the overall hydraulic performance of the site, as demonstrated by the mitigated peak discharge rates at the LPD presented in Table 5-4. The bypass detention area was indicated in Appendix C.

6. Stormwater Quality

6.1 Background

Land development poses a risk of increasing pollutant loads in stormwater runoff and downstream watercourses. Construction activities during the development phase could lead to notable disturbances to the existing ground, potentially causing a significant rise in sediment loads entering downstream drainage systems and watercourses. Moreover, the operational phase of the development may potentially contribute to an increase in the amounts of sediments and nutrients washing from the site.

The subsequent sections describe the construction and operational phase controls and water quality modelling of the proposed treatment train in compliance with Council guidelines.

6.2 Construction Phase

The construction phase of the site poses a significant risk of stormwater pollution primarily due to erosion and the transport of sediment off-site into the receiving environment. This heightened risk is mainly attributed to construction activities that disturb the site, leading to exposed areas of soil vulnerable to the erosive effects of the environment.

The subsequent section of this report delineates the procedures essential for minimising erosion and effectively controlling sediment during construction, adhering to the guidelines outlined in the International Erosion Control Association (IECA) Best Practice ESC Document.

6.2.1 Main Contaminant

The main contaminants have been identified for the Construction Phase of the development.

Pollutant	Potential Source	Priority
Litter	Paper, construction packaging, food packaging, cement bags and off-cuts.	High
Sediment	Unprotected exposed soils and stockpiles during earthworks and building works	High
Hydrocarbons	Fuel and oil spills, leaks from construction equipment and temporary car park areas	High
Toxic Materials	Cement slurry, asphalt primer, solvents, cleaning agents, wash waters (e.g., from tile works)	Medium
Alkaline Substances	Cement slurry and wash waters	High

Table 6-1: General Construction Pollutants

6.2.2 Erosion and Sediment Controls

Erosion and Sediment Control (ESC) devices implemented on the site will be designed and constructed following the guidelines outlined in the International Erosion Control Association (IECA) Best Practice ESC Document, and will be submitted at the detailed design stage.

6.2.2.1 Prior to Construction

- Implement a stabilised access/exit onto the local internal road to the north.
- Install sediment fences around the perimeter of the site.
- Install a sediment trap on the western part of the site.
- If necessary, install dust fencing.
- Conduct education sessions for site personnel to ensure understanding and adherence to the Erosion and Sediment Control Plan requirements.

6.2.2.2 Start of Construction

- Ensure the maintenance of construction access/exit points, sediment fencing, dust fences, and all other existing controls as needed.
- Build diversion drains to channel runoff from disturbed areas to temporary sediment traps.
- Confine construction activities to specific stages to minimise the extent of disturbance at any given time.

6.2.2.3 During Construction

- Ensure ongoing maintenance of construction access/exit, sediment fencing, dust fences, diversion drain, and all other necessary existing controls.
- Implement progressive revegetation of completed areas where applicable.
- Divert runoff from undisturbed areas around disturbed zones.
- Provide protection for drainage structures such as field inlets and gully pits.

During the construction phase, all sections with exposed soils that may lead to dust generation must undergo appropriate treatment. These treatments involve soil covering and watering. Regular cleaning of road accesses is imperative to prevent soil transmission on vehicle wheels and eliminate the accumulation of common road dirt and tire dust from delivery vehicles.

Furthermore, it is essential to establish and maintain adequate waste disposal facilities on the site to handle all types of waste materials, including litter, hydrocarbons, toxic substances, as well as acids or alkaline substances.

6.3 Operational Phase

The internal drainage system has been designed to include Stormwater Quality Improvement Devices as part of the quality management plan. The detailed design, construction and maintenance of the Atlan systems will be completed in accordance with relevant standards and guidelines, with final ownership of the Atlan system being that of the Council following transfer of the allotment.

6.4 Stormwater Quality Objectives

To protect the water quality of the downstream watercourses, the following Water Quality Objectives (WQO's) have been applied to stormwater runoff from the site in accordance with the State Planning Policy 4/10 and the Southeast Queensland Regional Plan 2009-2031 (SEQ Regional Plan) and Brisbane City Plan 2014.

The following load reduction targets must be achieved when assessing the post-development treatment train (comparison of the unmitigated developed case versus the developed mitigated case).

- 80% reduction in Total Suspended Sediment (TSS)
- 60% reduction in Total Phosphorus (TP)
- 45% reduction in Total Nitrogen (TN)
- 90% reduction in the litter (sized 5 mm or greater)

6.5 Post Development MUSIC Modelling

To evaluate the expected quantities of pollutants discharged from the site, the water quality modelling package 'Model for Urban Stormwater Improvement Conceptualisation' (MUSIC) V6.3 by eWATER has been employed. Parameters for MUSIC modelling and delineated data have been obtained from Water by Design, MUSIC Modelling Guidelines, and, whenever feasible, through online MUSIC Link data.

Rainfall data has been sourced from Rainfall Station 040214 (BRISBANE) within the date range from 1980 to 1989 and a 6 Minute Time Step, in accordance with SEQ Music Modelling Guidelines. The rainfall runoff parameters are presented in Table 6-2 as below.

PARAMETER	SOURCE NODES
Land use	Urban Residential
Rainfall threshold (mm)	1
Soil storage capacity (mm)	500
Initial storage (% capacity)	10
Field capacity (mm)	200
Infiltration capacity coefficient a	211
Infiltration capacity coefficient b	5.0
Initial depth (mm)	50
Daily recharge rate (%)	28
Daily baseflow rate (%)	27
Daily deep seepage rate (%)	0

Table 6-2: Rainfall Runoff Parameters

The adopted MUSIC catchment areas for the development site are as provided in Table 6-3

Catchment	Area (ha)	% Impervious
Roof (Residential)	0.085	100
Road (Residential)	0.085	100
Road bypass (Residential)	0.005	100
Ground (Residential)	0.019	20
Ground bypass (Residential)	0.006	20
TOTAL Site	0.173	

Table 6-3: Adopted MUSIC Catchment Areas

The pollution source node parameters were adopted as recommended by the MUSIC modelling Guideline.

LAND USE	FLOW TYPE	TSS		TP		TN	
		(LOG10 MG/L)		(LOG10 MG/L)		(LOG10 MG/L)	
		MEAN	ST. DEV.	MEAN	ST. DEV.	ST. DEV.	MEAN
Ground	Baseflow	1.00	0.34	-0.97	0.31	0.20	0.20
	Stormflow	2.18	0.39	-0.47	0.31	0.26	0.23
Road	Baseflow	1.00	0.34	-0.97	0.31	0.20	0.20
	Stormflow	2.43	0.39	-0.30	0.31	0.26	0.23
Roof	Baseflow	N/A	N/A	N/A	N/A	N/A	N/A
	Stormflow	1.30	0.39	-0.89	0.31	0.26	0.23

Table 6-4: Pollutant Export Parameters

6.6 Stormwater Quality Improvement Devices

6.6.1 ATLAN StormSack

The ATLAN StormSack is a gross pollutant trap, a treatment device designed to capture coarse sediment, trash, and vegetation matter in stormwater runoff. A minimum of twelve (12) ATLAN Stormsacks is suggested to be located within the site. When modelling, the high-flow bypass is modified in the node by adding the total number of StormSacks installed and multiplying this number by 25L/s.

Stormwater will enter the gulley pit and remove the gross pollutants before further treatment in the filter system.

6.6.2 ATLAN Filters System

The Atlan Vault devices containing four (04) Atlan cartridges (SF.30-EMC-M) will be utilised to treat stormwater runoff from the site as it is deemed more suitable for the proposed site use.

Stormwater is piped into the system from the Stormsack and will be treated before being detained or before being released to the LPD.

6.7 MUSIC Modelling Result

The quality of stormwater runoff and the impact of the proposed SQIDs were analysed using MUSIC version 6.3 in accordance with the water quality objectives from Brisbane City Plan 2014. The results are provided inTable 6-5 and the nodes demonstrated inFigure 6-1

Location	Pollutant	Inflows (kg/yr)	Outflows (kg/yr)	Reduction Achieved (%)	Water Quality Objectives (%)
Outlet	TSS	318	62.5	80.3	80
	TP	0.63	0.164	73.9	60
	TN	3.55	1.53	56.7	45
	GP	39.4	1.83	95.3	90

Table 6-5: Pollutant Export Parameters

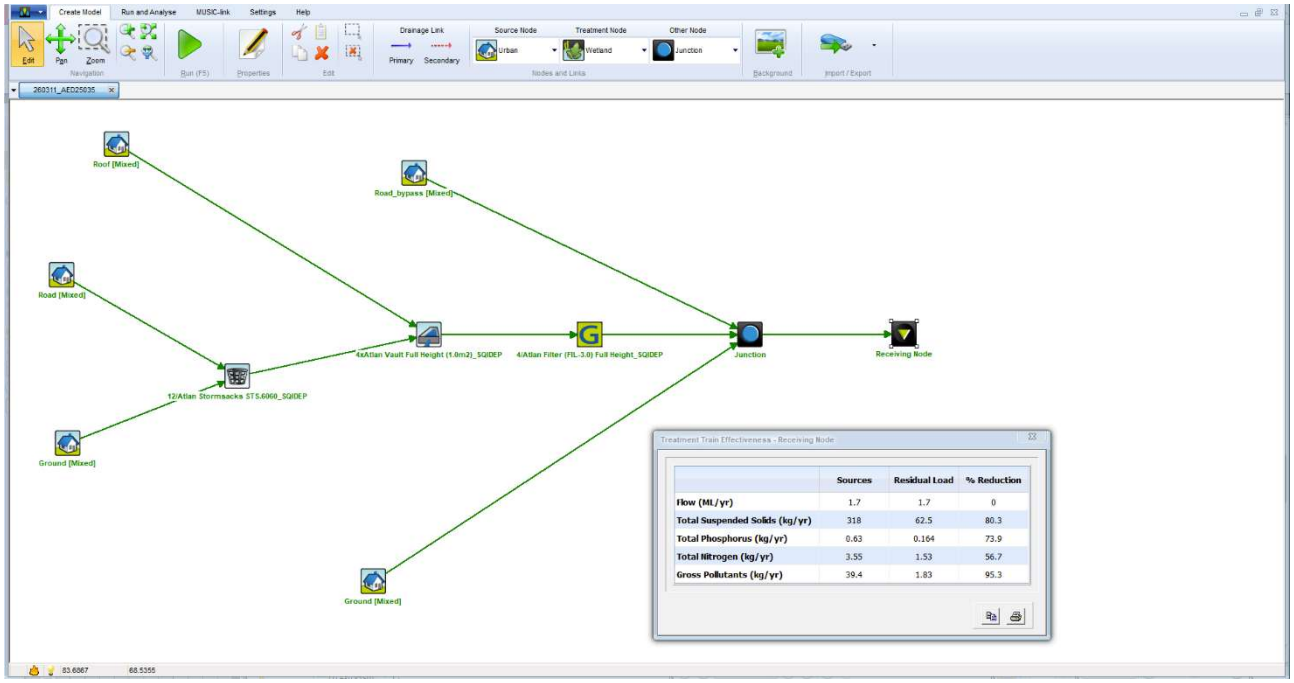


Figure 6-1 Screen Shot of Music Model Results

7. Conclusion

This report has been prepared to support the lodgement of a development application to approve the construction of a new residential development at 194B Old Northern Road, Everton Park, QLD 4053.

This report describes the following treatment systems that are recommended for the design of the development:

- Based on the stormwater design and the proposed on-site detention, the construction of the proposed development will have a negligible impact on the downstream drainage infrastructure.
- The underground detention tank infrastructure has been designed to capture runoff from the proposed dwelling units, driveways and the communal space, bin storage, the car park, and roof areas.
- Stormwater quantity will be managed via a 28.5m³ on-site stormwater detention tank located beneath the access road of the site. Minimum storage volume required is 25.54 m³ only.
- Stormwater quality treatment will be managed via four Atlan stormwater pits, and four (04) Atlan full-size cartridge filters installed within the detention tank.
- Outflow pipes from the detention tank will discharge to the existing pit at Old Northern Road.

Based on the analysis presented in this report, this system will achieve compliance with the relevant State and Local Council standards and support the approval of the proposed development.

This report recommends the approval of the development application with reference to the stormwater management systems that have been specified. The proposed stormwater network consists of sufficient capacity to convey post-development catchment flows, hence ‘no worsening’ of existing downstream council infrastructure.

Therefore, the stormwater network will not negatively impact the surrounding area, the nearby residents or businesses.

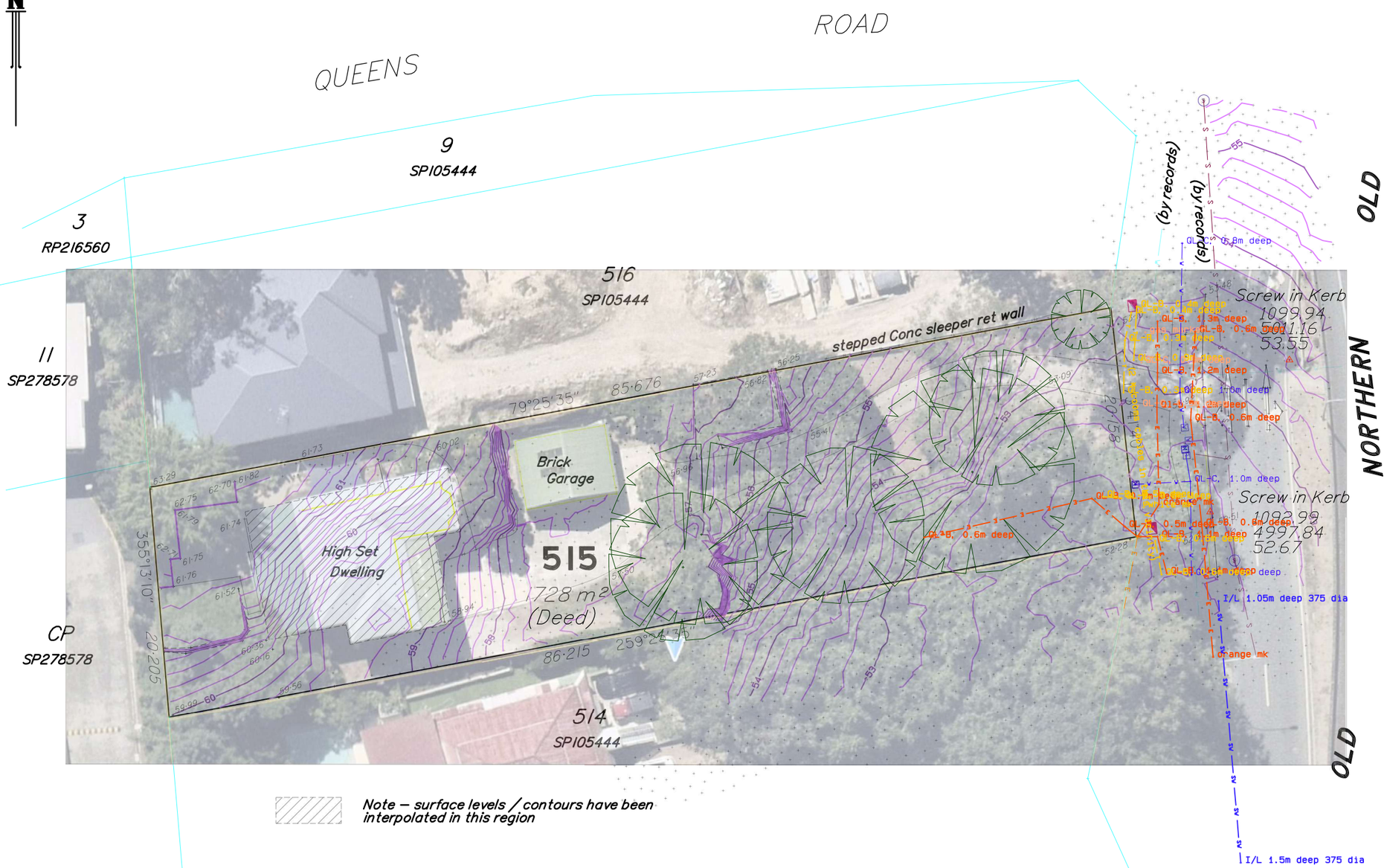
Appendix A Detail Survey

K.J.Pile and Associates Consulting Surveyors

Note – service location data added where paint marks were still visible to be used in conjunction with LSA – Utility Service Report

The title boundaries as 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 located, services have been plotted from relevant authority records and have been noted accordingly on this plan.
Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services

ACS



Note – surface levels / contours have been interpolated in this region

WARNING

This plan has been prepared from electronically generated data. The coordinates of well defined points will generally be within 20mm of their true position. The integrity of dimensions, scaled or deduced electronically for the design of structural elements should be verified in the field or with the authors.

SCALE 1 : 400 at A3 - Lengths are in metres

0 8 16 24 32 40 48 56 64m

revisions

G			
F			
E			
D			
C			
B	9/09	2024	service location data
A			

K.J.Pile and Associates
Consulting Surveyors

128 Priests Road Deception Bay
Ph (07) 3888 0947 QLD 4508
Fax (07) 3888 0982 Mobile 0417 739 842

KJP

client

Patel

drawing title

Contour and Detail Survey

legend

SW	Stormwater Manhole		Bench Mark
	Gully Trap		Station
G	Gas Valve	EP	Electric Pole
G	Gas Pit	LP	Electric Light Pole
S	Sewer Manhole		Light Pole
TR	Traffic Control Box	E	Electrical Pit
	Telecom Pit	E	Electrical Pillar
	Telecom Pillar	F	Fire Hydrant
	Traffic Lights	M	Water Meter
TR	Traffic Pit	T	Water Tap
	Sign	V	Water Valve
	Bore Hole		

SW — SW — Stormwater T — T — Telecom
S — S — Sewerage W — W — Water
GAS — GAS — Gas E — E — Electricity
UG — E — UG — E — Electricity (UG)

project

DETAIL SURVEY

Lot 515 on SP105444

194B Old Northern Road

Everton Park

designed		calculated		A3
surveyed	KJP 31/05/2023	fbk efb		file ref
drawn	KJP 9/09/2024	checked	KJP 9/09/2024	cad ref 5222_Det
vertical datum	(AHD)	horizontal datum	cadastral	
origin	GNSS	origin	SP105444	
scale	1: 400	ref no.	J:5222	amdt B

Appendix B
Proposed Development Layout
Engineering Plan Layout

DEVELOPMENT SUBDIVISION

2406003

194 OLD NORTHTHERN RD
EVERTON PARK

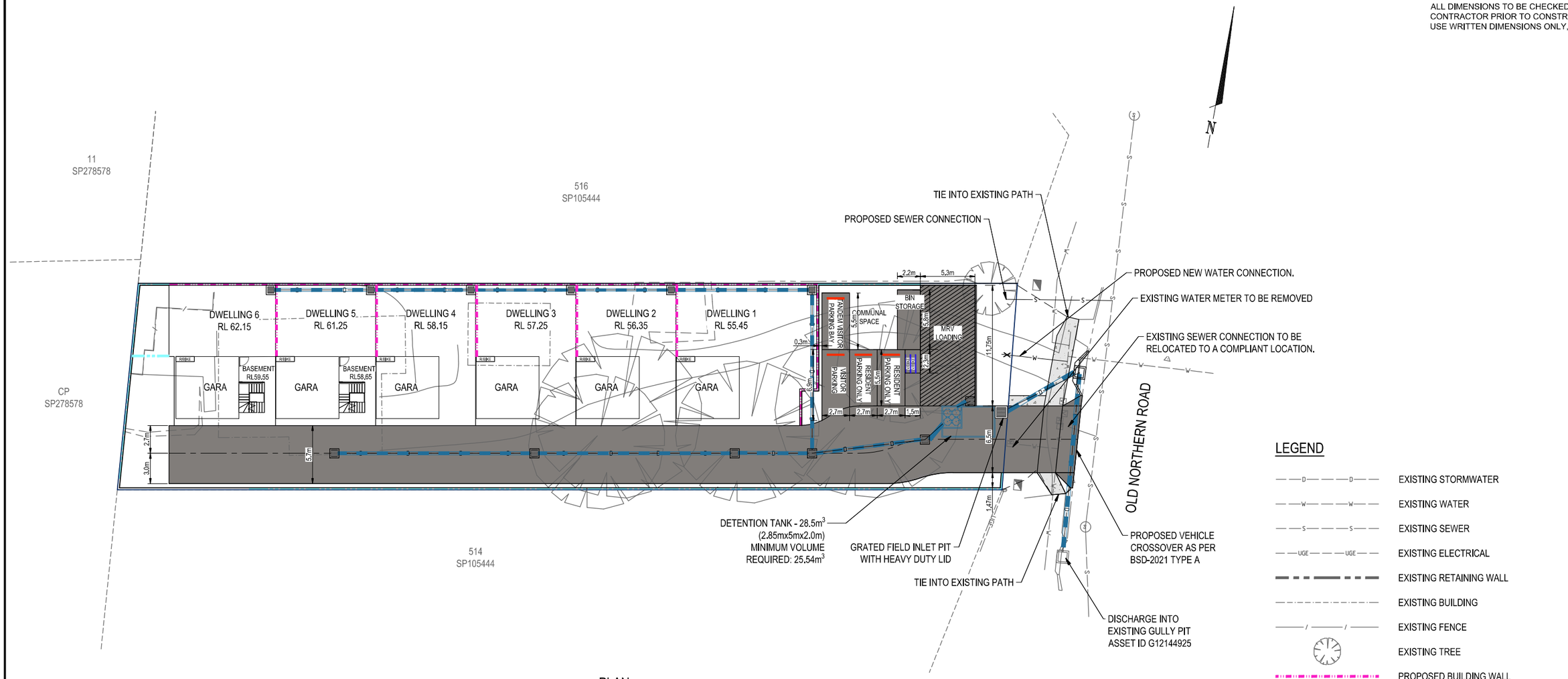
ANAYA PROPERTY PTY LTD

A&E Direct Consulting
we value our relationship with our customers

DRAWING LIST		
DWG No.	REVISION	DRAWING TITLE
2406003-000	D	COVER SHEET
2406003-010	D	OVERALL LAYOUT PLAN
2406003-020	D	CONCEPTUAL E+S LAYOUT PLAN
2406003-025	D	CONCEPTUAL E+S NOTES
2406003-030	D	EARTHWORKS LAYOUT PLAN
2406003-031	D	EARTHWORKS SECTIONS
2406003-040	D	ROADWORKS LAYOUT PLAN
2406003-042	D	LINEMARKING LAYOUT PLAN
2406003-050	D	ROADWORKS LONGITUDINAL SECTION
2406003-060	D	ROADWORKS CROSS SECTIONS
2406003-200	D	STORMWATER CATCHMENT LAYOUT PLAN
2406003-210	D	STORMWATER LAYOUT PLAN
2406003-220	D	STORMWATER LONG SECTIONS
2406003-230	D	STORMWATER CALCULATION TABLE
2406003-450	D	SERVICES LAYOUT PLAN
2406003-500	D	DETENTION TANK DETAIL
2406003-501	D	DETENTION TANK NOTES
2406003-901	D	TURNING PATH PLAN - SHEET 1 OF 2
2406003-902	D	TURNING PATH PLAN - SHEET 2 OF 2
2406003-903	D	DRIVEWAY VETICAL CHECKING

PROJECT No	MILESTONE	REVISION DATE	DRAWING No	REVISION
2406003	ISSUED FOR APPROVAL	08.04.26	000	D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



PLAN
SCALE 1:200

LEGEND

- EXISTING STORMWATER
- EXISTING WATER
- EXISTING SEWER
- EXISTING ELECTRICAL
- EXISTING RETAINING WALL
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING TREE
- PROPOSED BUILDING WALL
- PROPOSED CONCRETE SLEEPER WALL
- PROPOSED ROAD DRIVEWAY
- PROPOSED WATER
- PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED BATTER
- PROPOSED PAVEMENT (CONCRETE)
- PROPOSED FOOTPATH (CONCRETE)
- PROPOSED LINEMARKING
- PROPOSED WHEEL STOP

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
OVERALL LAYOUT PLAN

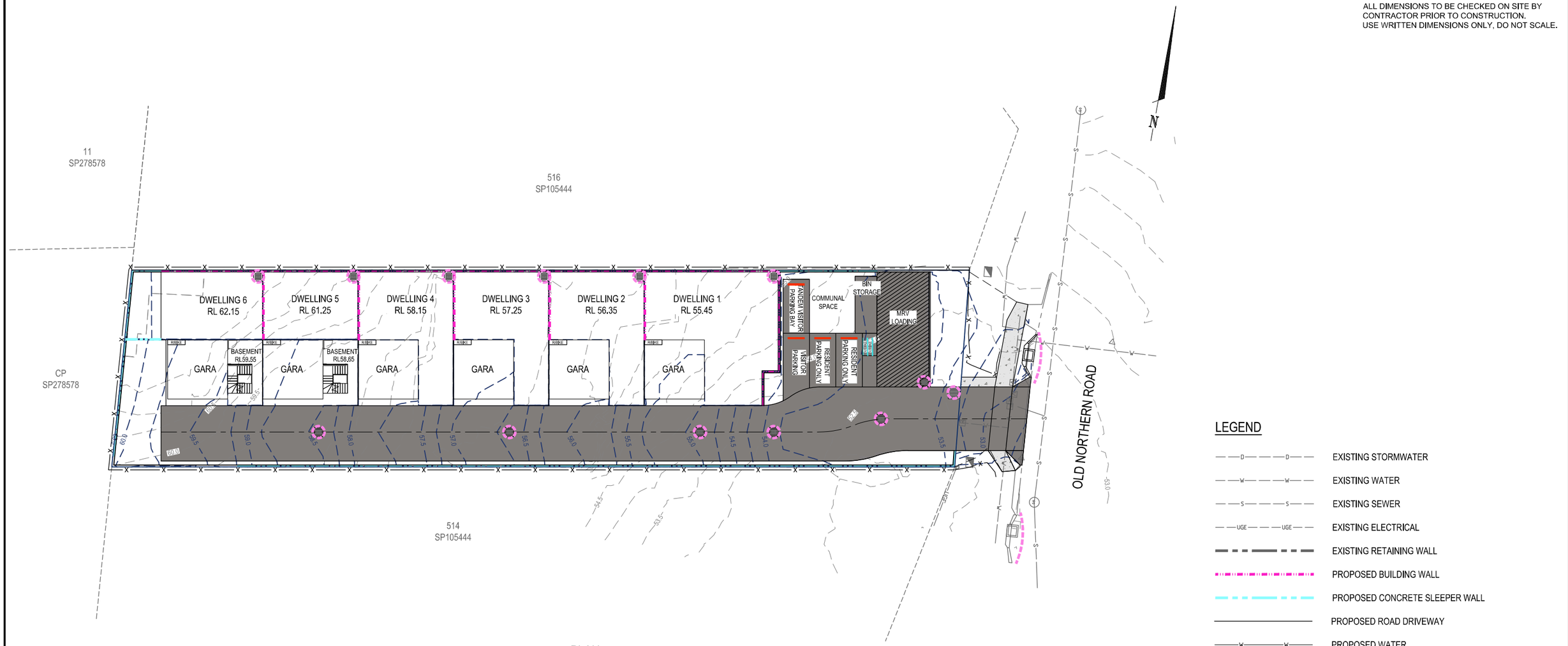
SCALE
1:200 @ A3

DATE
08.04.26

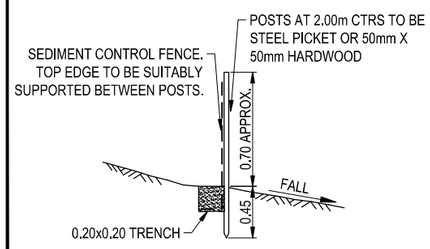
DRAWING NO.
010

REVISION
D

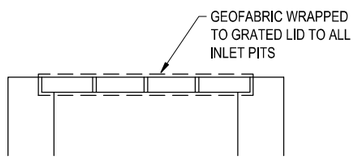
DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



PLAN
SCALE 1:200



SEDIMENT FENCE DETAIL
NOT TO SCALE



INLET GULLY DETAILS
NOT TO SCALE

LEGEND

- EXISTING STORMWATER
- EXISTING WATER
- EXISTING SEWER
- EXISTING ELECTRICAL
- EXISTING RETAINING WALL
- PROPOSED BUILDING WALL
- PROPOSED CONCRETE SLEEPER WALL
- PROPOSED ROAD DRIVEWAY
- PROPOSED WATER
- PROPOSED STORMWATER
- EXISTING CONTOUR
- DESIGN CONTOURS
- PROPOSED BATTER
- SEDIMENT FENCE (OR AS DIRECTED BY SITE SUPERINTENDENT)
- INLET PROTECTION
- PROPOSED PAVEMENT (CONCRETE)
- PROPOSED FOOTPATH (CONCRETE)

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
CONCEPTUAL E+S LAYOUT PLAN

SCALE
1:200 @ A3

DATE
08.04.26

DRAWING NO.
020

REVISION
D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

GENERAL NOTES

1. THIS DESIGN FOR EROSION AND SEDIMENT CONTROL IS CONCEPTUAL ONLY. THE CONTRACTOR SHALL MODIFY OR INSTALL ADDITIONAL/ ALTERNATIVE MEASURES DURING THE CONSTRUCTION AND MAINTENANCE PERIOD IN ORDER TO COMPLY WITH BEST PRACTICE STANDARDS IN ACCORDANCE WITH BUT NOT LIMITED TO CALIBRE CONSULTING'S SPECIFICATION 17 , THE MANUAL FOR EROSION AND SEDIMENT CONTROL (V1.2) AND ALL STATUTORY REQUIREMENTS.

2. PRESCRIBED WATER CONTAMINANTS (AS DEFINED IN THE ENVIRONMENTAL PROTECTION ACT 1994) MUST NOT BE RELEASED FROM THE SITE, OR BE LIKELY TO BE RELEASED SHOULD RAINFALL OCCUR, UNLESS ALL REASONABLE AND PRACTICABLE MEASURES ARE TAKEN TO PREVENT OR MINIMISE THE RELEASE AND CONCENTRATION OF CONTAMINATION. THESE MEASURES MUST INCLUDE AS A MINIMUM, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   - A. ENSURE NON ESSENTIAL EXPOSURE OF SOIL IS PREVENTED BY: RESTRICTING THE EXTENT OF CLEARING TO THAT NECESSARY FOR ACCESS TO, AND SAFE CONSTRUCTION OF, THE APPROVED WORKS; PROTECTING VEGETATION IN ALL OTHER AREAS OF THE SITE; AND BY MINIMISING THE DURATION OF SOIL EXPOSURE BY:
     - STAGING THE WORKS TO MINIMISE THE AREA OF SOIL EXPOSED AT ANY ONE TIME;
     - EFFECTIVELY STABILISING CLEARED AREAS PRIOR TO RAINFALL IF WORKS ARE DELAYED OR WORKS ARE NOT INTENDED TO OCCUR IMMEDIATELY. SEE E&SC ADVICE NOTE 1;
     - EFFECTIVELY STABILISING AREAS AT FINISHED LEVEL WITHOUT DELAY AND PRIOR TO RAINFALL; AND
     - EFFECTIVELY STABILISING STEEP AREAS, SUCH AS STOCKPILES, BATTERS AND EMBANKMENTS, WHICH ARE NOT BEING ACTIVELY WORKED AND PRIOR TO RAINFALL.
   - B. WHERE IT IS NOT FEASIBLE TO EFFECTIVELY STABILISE CLEARED AREAS OF EXPOSED SOIL, SUCH AS AREAS BEING ACTIVELY WORKED, IMPLEMENT A FULL SUITE OF EROSION AND SEDIMENT CONTROLS TO MAXIMISE SEDIMENT CAPTURE IN THOSE AREAS AND TO MINIMISE EROSION SUCH THAT EROSION BY ALL FORMS OTHER THAN SPLASH (RAINDROP IMPACT) EROSION AND SHEET EROSION DOES NOT OCCUR; AND
   - C. IN AREAS OF EXPOSED SOIL WHERE IT IS NOT FEASIBLE TO EITHER EFFECTIVELY STABILISE THE SURFACE OR IMPLEMENT A FULL SUITE OF EROSION AND SEDIMENT CONTROLS, FOR EXAMPLE IN THE AREAS BEING ACTIVELY WORKED AND WHERE THE IMPLEMENTATION OF SOME EROSION AND SEDIMENT CONTROLS WOULD IMPEDE CONSTRUCTION ACTIVITIES, ENSURE CONTINGENCY MEASURES ARE AVAILABLE ON SITE AND ARE IMPLEMENTED, PRIOR TO RAIN, TO MAXIMISE SEDIMENT CAPTURE AND TO MINIMISE EROSION SUCH THAT EROSION BY ALL FORMS OTHER THAN SPLASH (RAINDROP IMPACT) EROSION AND SHEET EROSION DOES NOT OCCUR
   - D. EFFECTIVELY STABILISE ALL STOCKPILES, BATTERS AND EMBANKMENTS WITHOUT DELAY. WHERE IT IS NOT FEASIBLE TO EFFECTIVELY STABILISE A STOCKPILE, BATTER OR EMBANKMENT, SUCH AS AREAS BEING ACTIVELY WORKED, ENSURE THAT SEDIMENT CONTROLS ARE INSTALLED AND SURFACE STORMWATER FLOWS ARE MANAGED SUCH THAT EROSION OF STOCKPILES, BATTERS OR EMBANKMENTS IS NOT CAUSED BY CONCENTRATED STORMWATER FLOWS.
   - E. ENSURE CLEAN STORMWATER IS DIVERTED OR MANAGED AROUND OR THROUGH THE SITE WITHOUT INCREASING THE CONCENTRATION OF TOTAL SUSPENDED SOLIDS OR OTHER CONTAMINANTS IN THE FLOW AND WITHOUT CAUSING EROSION (ON SITE OR OFF SITE). IF IT IS NOT FEASIBLE TO DIVERT ALL AREAS DISCHARGING CLEAN STORMWATER AROUND OR THROUGH THE SITE, MANAGE THE CLEAN STORMWATER RUNOFF AS FOR CONTAMINATED STORMWATER RUNOFF, AND ENSURE THAT SEDIMENT BASINS ARE SIZED TO ACCOMMODATE THE ADDITIONAL VOLUME OF RUNOFF (SEE E&SC ADVICE NOTE 2).
   - F. ENSURE SHEET FLOWS OF STORMWATER ARE MANAGED SUCH THAT SHEET AND RILL EROSION IS PREVENTED OR MINIMISED.
   - G. ENSURE THAT ALL CONCENTRATED STORMWATER FLOWS INCLUDING DRAINAGE LINES, DIVERSION DRAINS, CHANNELS AND BATTER CHUTES ARE MANAGED ONTO, THROUGH, AND AT RELEASE POINTS FROM THE SITE IN ALL RAIN EVENTS UP TO AND INCLUDING THE AVERAGE RECURRENCE INTERVAL (ARI) EVENT OF 1 IN 2 YEAR ARI WITHOUT CAUSING WATER CONTAMINATION, SHEET, RILL OR GULLY EROSION, SEDIMENTATION, OR DAMAGE TO STRUCTURES OR PROPERTY
   - H. ENSURE MEASURES HAVE BEEN IMPLEMENTED SUCH THAT THE RUNOFF FROM ALL DISTURBED AREAS FLOWS TO A SEDIMENT BASIN OR BASINS. WHERE IT IS NOT FEASIBLE TO DIVERT RUNOFF FROM DISTURBED AREAS OF THE SITE TO A SEDIMENT BASIN, IMPLEMENT COMPENSATORY EROSION AND DRAINAGE CONTROLS PRIOR TO RAINFALL TO ENSURE THAT EROSION OF THOSE AREAS DOES NOT OCCUR, INCLUDING EROSION CAUSED BY EITHER SPLASH (RAINDROP IMPACT), SHEET, RILL OR GULLY EROSION PROCESSES (SEE E&SC ADVICE NOTE 3).
   - I. ENSURE EACH SEDIMENT BASIN HAS THE CAPACITY TO TREAT FLOWS TO CURRENT BEST PRACTICE STANDARDS (SEE E&SC ADVICE NOTE 4) AND AS A MINIMUM TO CONTAIN ALL THE STORMWATER RUNOFF FROM THE 80TH PERCENTILE 5 DAY RAINFALL DEPTH AND STORE 2 MONTHS SEDIMENT FROM THE RECEIVING CATCHMENT, AS DETERMINED USING THE REVISED UNIVERSAL SOIL LOSS EQUATION.
   - J. ENSURE SEDIMENT BASINS ARE MAINTAINED WITH SUFFICIENT STORAGE CAPACITY TO CAPTURE AND TREAT THE RUNOFF FOR THE DESIGN RAINFALL DEPTH OR EVENT. WHERE SEDIMENT BASINS ARE PROPOSED TO BE OVERSIZED FOR STORAGE OF CAPTURED WATER FOR RE-USE, INSTALL SURVEY MARKERS IN EACH SUCH BASIN TO INDICATE THE LEVEL THAT WATER WITHIN THE BASIN MUST BE LOWERED TO, IN ORDER TO MEET THE STORAGE CAPACITY SPECIFIED IN THE ABOVE REQUIREMENT.
   - K. ENSURE SEDIMENT BASINS ARE DEWATERED AS SOON AS PRACTICABLE AFTER EACH RAINFALL EVENT.
   - L. ENSURE THAT DURING DEWATERING, THE CONCENTRATION OF TOTAL SUSPENDED SOLIDS (TSS) DISCHARGED DOES NOT EXCEED 50MG/L AND THAT PH IS WITHIN THE RANGE OF 6,5-8,5. THE CONCENTRATION OF TSS RELEASED BY DEWATERING MAY ONLY EXCEED 50MG/L WHERE IT CAN BE DEMONSTRATED AND SUPPORTED THROUGH DOCUMENTATION THAT:
     - FURTHER SIGNIFICANT RAINFALL IS FORECAST TO OCCUR BEFORE THE TSS CONCENTRATION IS LIKELY TO BE REDUCED TO 50MG/L ; AND
     - RELEASING A HIGHER CONCENTRATION OF TOTAL SUSPENDED SOLID WILL RESULT IN A BETTER ENVIRONMENTAL OUTCOME BY PROVIDING STORAGE FOR THE CAPTURE AND TREATMENT OF RUNOFF FROM THE IMMINENT RAINFALL AND RUNOFF; AND
     - FLOCCULENT HAS BEEN APPLIED AND THE CONCENTRATION OF TSS IN THE CAPTURED WATER HAS ALREADY SIGNIFICANTLY DECREASED.
   - M. ENSURE SEDIMENT BASINS AND ASSOCIATED STRUCTURES SUCH AS INLETS, OUTLETS AND SPILLWAYS ARE STRUCTURALLY SOUND FOR 10 YEAR ARI RAINFALL EVENT.
   - N. ENSURE ACCUMULATED SEDIMENT FROM BASINS AND OTHER CONTROLS IS REMOVED AND DISPOSED OF APPROPRIATELY WITHOUT CAUSING WATER CONTAMINATION.
   - O. ENSURE SEDIMENT DOES NOT LEAVE THE SITE ON THE TYRES OF VEHICLES.

3. THE ENVIRONMENTAL PROTECTION ACT 1994 STATES THAT A PERSON MUST NOT CARRY OUT ANY ACTIVITY THAT CAUSES, OR IS LIKELY TO CAUSE, ENVIRONMENTAL HARM UNLESS THAT PERSON TAKES ALL REASONABLE AND PRACTICAL MEASURES TO PREVENT OR MINIMISE THE HARM. ENVIRONMENTAL HARM INCLUDES ENVIRONMENTAL NUISANCE. IN REGARD PERSONS AND ENTITIES, INVOLVED IN THE CIVIL, EARTHWORKS AND CONSTRUCTION PHASES OF THIS DEVELOPMENT, ARE TO ADHERE TO THEIR 'GENERAL ENVIRONMENTAL DUTY' TO MINIMISE THE RISK OF CAUSING ENVIRONMENTAL HARM.

   ENVIRONMENTAL; HARM IS DEFINED BY THE ACT AS ANY ADVERSE AFFECT, OR POTENTIAL ADVERSE AFFECT WHETHER TEMPORARY OR PERMANENT AND OF WHATEVER MAGNITUDE, DURATION OR FREQUENCY ON AN ENVIRONMENTAL VALUE AND INCLUDES ENVIRONMENTAL NUISANCE. THEREFORE, NO PERSON SHOULD CAUSE ANY INTERFERENCE WITH THE ENVIRONMENT OR AMENITY OF THE AREA BY REASON OF THE EMISSION OF NOISE, VIBRATION, SMELL, FUMES, SMOKE, VAPOR, STEAM, SOOT, ASH, DUST, WASTE WATER, WASTE PRODUCTS, GRIT, SEDIMENT, OIL OR OTHERWISE, OR CAUSE HAZARDS LIKELY IN THE OPINION OF THE ADMINISTERING AUTHORITY TO CAUSE UNDUE DISTURBANCE OR ANNOYANCE TO PERSONS OR AFFECT PROPERTY NOT CONNECTED WITH THE USE.

4. THE CONTRACTOR IS TO TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION AND DOWNSTREAM SEDIMENTATION DURING ALL STAGES OF CONSTRUCTION INCLUDING THE MAINTENANCE PERIOD.

5. WHERE IT IS REQUIRED TO SLASH EXISTING VEGETATION EITHER PRIOR TO THE COMMENCEMENT OF WORKS, DURING THE CONSTRUCTION WORKS AND / OR DURING THE MAINTENANCE PERIOD, SAID VEGETATION SHALL BE SLASHED TO A MINIMUM HEIGHT OF 75mm TO ASSIST WITH THE RETENTION OF SOILS ON SITE (I.E. ASSIST IN THE PREVENTION OF EROSION).

6. WHERE THE EXISTING VEGETATION WITHIN THE PROPOSED LOTS AND / OR PARKLAND IS DISTURBED AS A RESULT OF THE CONSTRUCTION WORKS, SAID EARTHWORKS ARE TO BE TOPSOILED AND EFFECTIVELY STABILISED WITHIN FIVE (5) DAYS, (EARLIER IF RAIN EXPECTED) OF FINAL ALLOTMENT EARTHWORKS. AN EFFECTIVELY STABILISED SURFACE IS DEFINED AS ONE THAT DOES NOT HAVE
   - VISIBLE EVIDENCE OF SOIL LOSS CAUSED BY SHEET, RILL OR GULLY EROSION
     OR
   - LEAD TO SEDIMENTATION, OR
   - LEAD TO WATER CONTAMINATION.

7. ALL CONSTRUCTION VEHICLES ARE TO ACCESS THE SITE VIA A SINGLE POINT OF ACCESS; THE POINT OF ACCESS, TOGETHER WITH THE MEASURES TO BE IMPLEMENTED, ARE TO BE AGREED WITH COUNCIL'S DESIGNATED REPRESENTATIVE ON SITE. THE PRINCIPLE AIM OF THE MEASURE(S) TO BE IMPLEMENTED IS / ARE TO LIMIT THE TRACKING OF DELETERIOUS MATERIALS ONTO THE SURROUNDING ROAD NETWORK.

8. THE CONTRACTOR SHALL PROVIDE GULLY INLET PROTECTION TO ALL GULLY INLET STRUCTURES LOCATED, DIRECTLY DOWNSTREAM OF THE PROPOSED DEVELOPMENT WORKS.

9. APPROPRIATE PROVISIONS ARE TO BE PROVIDED TO THE INTERFACE BETWEEN THE EXISTING ROADWAY PAVEMENTS AND THE NEW ROADWORK'S CONSTRUCTION. THE PROVISIONS SHALL ADDRESS WORKPLACE HEALTH AND SAFETY CONCERNS (I.E. RESTRICTING ACCESS BY THE GENERAL PUBLIC TO THE SITE).

10. THE LOCATION OF THE CONSTRUCTION VEHICLE COMPOUND, SITE OFFICE AND THE VEHICLE SERVICING AREA SHALL BE AGREED WITH COUNCIL'S DESIGNATED REPRESENTATIVE ON SITE, PRIOR TO THE COMMENCEMENT OF WORKS.

11. CLEARED VEGETATION IS TO NOT BE BURNED ON SITE, ALL VEGETATIVE WASTE(S) SHALL BE MULCHED AND THEREAFTER RETAINED ON SITE FOR USE AS PART OF THE EROSION AND SEDIMENTATION CONTROL STRATEGY OR THE LANDSCAPING / REVEGETATION WORKS. ALL STUMPS AND / OR OTHER ORGANIC MATTER NOT SUITABLE FOR MULCHING SHALL BE DISPOSED OF AT AN APPROVED WASTE DISPOSAL FACILITY.

12. SEDIMENT FENCE AND TURFING RUNNING DOWNSLOPES SHALL HAVE REGULAR FLOW DISSIPATERS AT 45° TO SLOPE AS DIRECTED CONSISTING OF SAND BAGS OR SIMILAR AS REQUIRED.

13. DURING THE CONSTRUCTION PROCESS INCLUDING THAT PERIOD DURING WHICH THE WORKS ARE "ON MAINTENANCE' SHOULD COUNCIL'S DESIGNATED REPRESENTATIVE REQUEST ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES BE IMPLEMENTED, SAID MEASURES SHALL BE IMPLEMENTED AT THE EARLIEST TIME POSSIBLE, NOTWITHSTANDING THE ABOVE REQUIREMENT ANY MEASURES REQUESTED TO BE IMPLEMENTED BY COUNCIL'S DESIGNATED REPRESENTATIVE SHALL BE IMPLEMENTED WITHIN 24 HOURS OF THE TIME OF THE REQUEST.

14. ALL ROOFWATER / SEWER RETICULATION TRENCHES EITHER ADJACENT TO EXISTING DEVELOPMENT OR PERPENDICULAR TO THE CROSSFALL OF THE LAND ARE TO BE TOPSOILED (75mm MINIMUM) AND TURFED, FOR A MINIMUM 900mm WIDTH.

15. THE CONTRACTOR SHALL CONSTRUCT LINED CUTOFF DRAINS IN WORK AREAS SO AS TO LIMIT SLOPE LENGTHS TO A MAXIMUM OF 80M.

16. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO RELEASE OR FLOW IS PERMITTED FROM THE SITE, THROUGHOUT THE EARTHWORKS AND CONSTRUCTION PERIOD TO ANY WATER WAYS OR STORMWATER DRAINLINES LEADING TO A WATERWAY OR AREA OF NATIVE VEGETATION UNLESS THE LEVELS OF TOTAL SUSPENDED SOLIDS DOES NOT EXCEED A CONCENTRATION OF 50 MGL.

17. ALL SEDIMENT CONTROL DEVICES SHALL BE MONITORED, CLEANED AND/OR REPAIRED WHENEVER THE ACCUMULATED SEDIMENT REDUCES THE CAPACITY BY 50%.

18. ALL PERIMETER BANK/SWALE SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.

19. AT ALL TIMES THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS AND PROTECT OR STABILISE ANY DOWNSTREAM CONSTRUCTION AND GULLY INLETS.

20. CLEARING OF SITE AND STOCK PILE AREAS TO BE AS DIRECTED BY THE SUPERINTENDENT.

21. WHERE PRACTICAL THE CONTRACTOR SHALL DIVERT CLEAN WATER ENTERING THE SITE FROM EXTERNAL CATCHMENT(S) AND DIRECTED TO THE STORMWATER SYSTEM. THIS DISCHARGE POINT SHOULD BE ROCK LINED. REGULAR ROCK CHECK DAMS SHOULD BE POSITIONED ALONG THE VEGETATED DRAINAGE LINE LEADING TO THIS DISCHARGE POINT.

22. REGULAR INSPECTIONS AND MAINTENANCE OF VEHICLE WASHDOWN AREA, SITE AND STORAGE COMPOUND TO BE CARRIED OUT BY CONTRACTOR.

23. AREAS USED FOR STORAGE OF CHEMICALS USED FOR CONSTRUCTION PURPOSES SHALL HAVE STORMWATER CONTROL DEVICES ERECTED ADJACENT TO THEM (I.E. EARTH BUND AND SEDIMENT FENCES), UPON COMPLETION OF ROADWORKS WASTE PRODUCTS ARE TO BE DISPOSED OF AS PER LOCAL AUTHORITY GUIDELINES AND TEMPORARY DEVICES ARE TO BE REMOVED AND AREA REHABILITATED.

THE EROSION & SEDIMENT CONTROL PLAN IS A CONCEPT PLAN DEMONSTRATING AN APPROACH TO EROSION & SEDIMENTATION CONTROL FOR THE SITE. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE AN EROSION & SEDIMENT CONTROL DESIGN AND A COMPLETED DESIGN CERTIFICATE PRIOR TO COMMENCEMENT OF WORK. CERTIFICATION MUST BE UNDERTAKEN BY A SUITABLY QUALIFIED, EXPERIENCED PROFESSIONAL NOT DIRECTLY EMPLOYED BY THE PRINCIPAL.

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA RPEQ: 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
CONCEPTUAL E+S NOTES

SCALE
1: @ A3

DATE
08.04.26

DRAWING NO.
025

REVISION
D

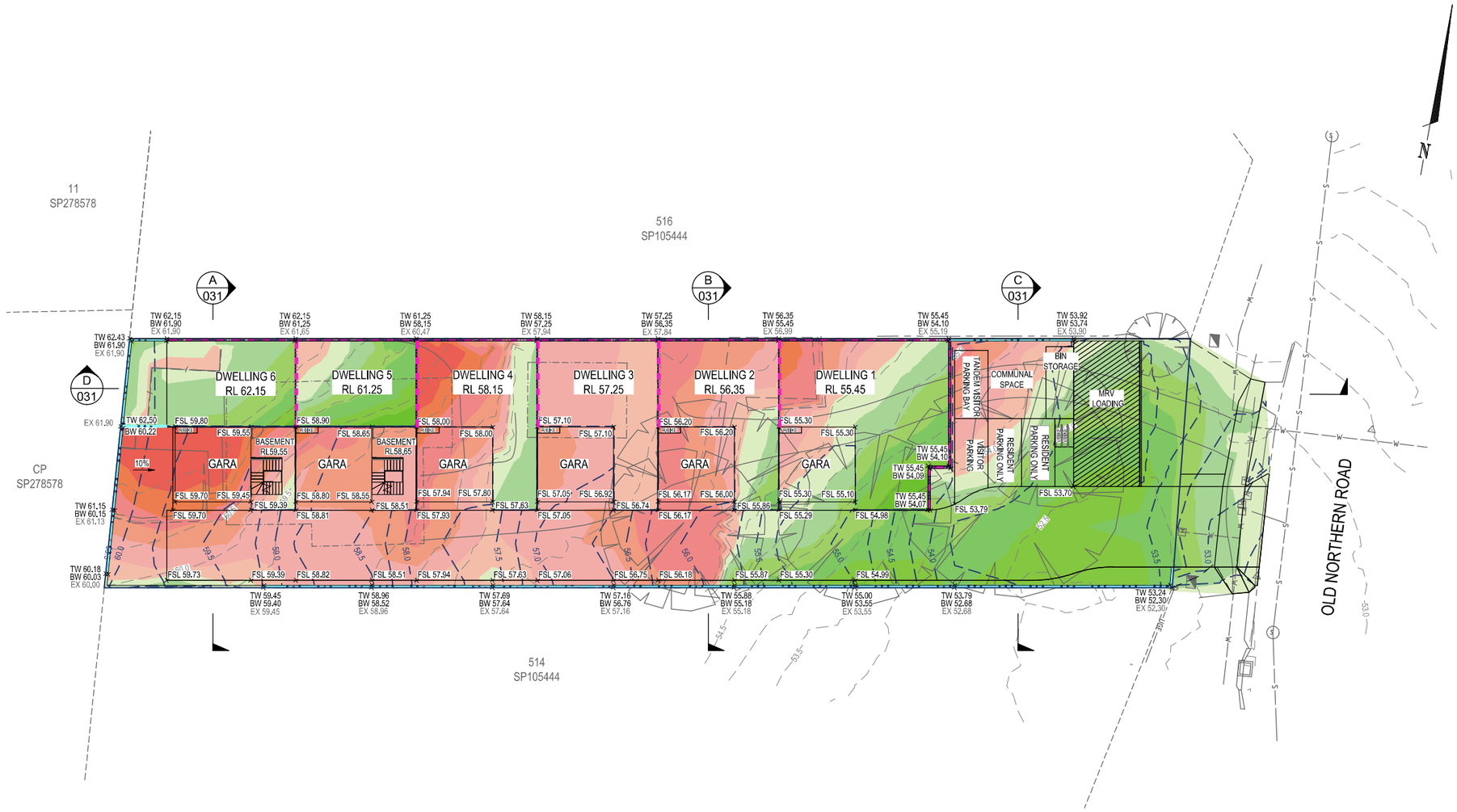
DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

EARTHWORKS VOLUMES

EARTHWORKS VOLUME FROM EXISTING SURFACE MINUS 100 TO DESIGN SURFACE
CUT: 639 m³
FILL: 634 m³
EXPORT: 5 m³

CUT FILL LEGEND

OVER 1.5 OF FILL	
1.2m - 1.5m OF FILL	
0.9m - 1.2m OF FILL	
0.6m - 0.9m OF FILL	
0.3m - 0.6m OF FILL	
0.0m - 0.3m OF FILL	
0.0m - 0.3m OF CUT	
0.3m - 0.6m OF CUT	
0.6m - 0.9m OF CUT	
0.9m - 1.2m OF CUT	
1.2m - 1.5m OF CUT	
OVER 1.5m OF CUT	



PLAN
SCALE 1:200

LEGEND

- EXISTING STORMWATER
- EXISTING WATER
- EXISTING SEWER
- EXISTING ELECTRICAL
- EXISTING RETAINING WALL
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING TREE
- PROPOSED BUILDING WALL
- PROPOSED CONCRETE SLEEPER WALL
- PROPOSED ROAD DRIVEWAY
- EXISTING CONTOUR
- DESIGN CONTOURS
- FINISHED SURFACE LEVEL
- PROPOSED BATTER

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
EARTHWORKS LAYOUT PLAN

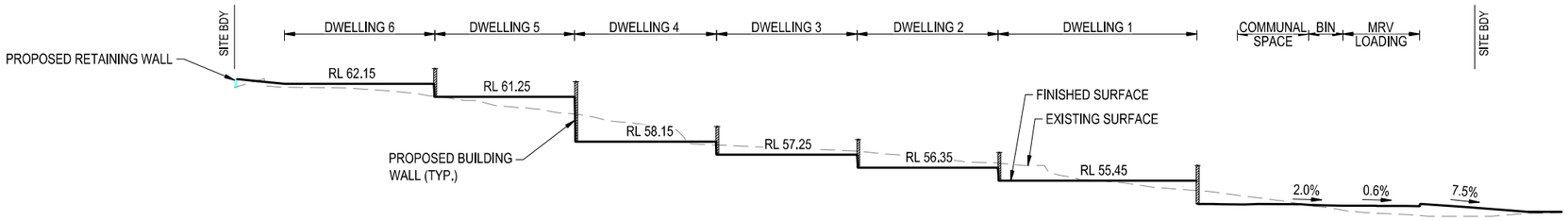
SCALE
1:200 @ A3

DATE
08.04.26

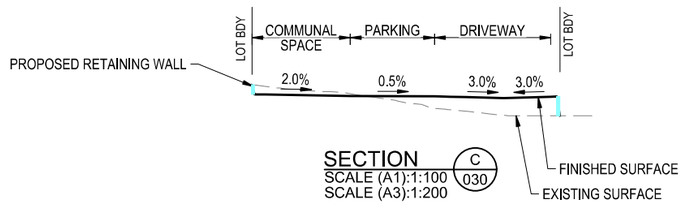
DRAWING NO.
030

REVISION
D

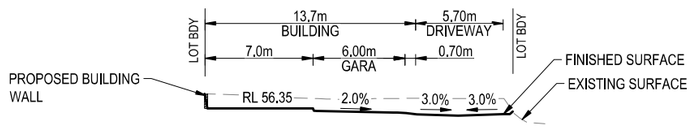
DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



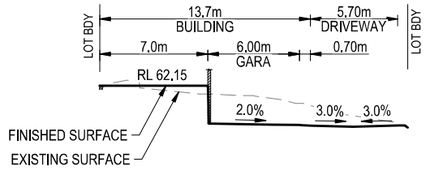
SECTION D
SCALE (A1):1:100
SCALE (A3):1:200



SECTION C
SCALE (A1):1:100
SCALE (A3):1:200



SECTION B
SCALE (A1):1:100
SCALE (A3):1:200



SECTION A
SCALE (A1):1:100
SCALE (A3):1:200

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0
SCALE 1:200 (A1) SCALE 1:400 (A3)
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
EARTHWORKS SECTIONS

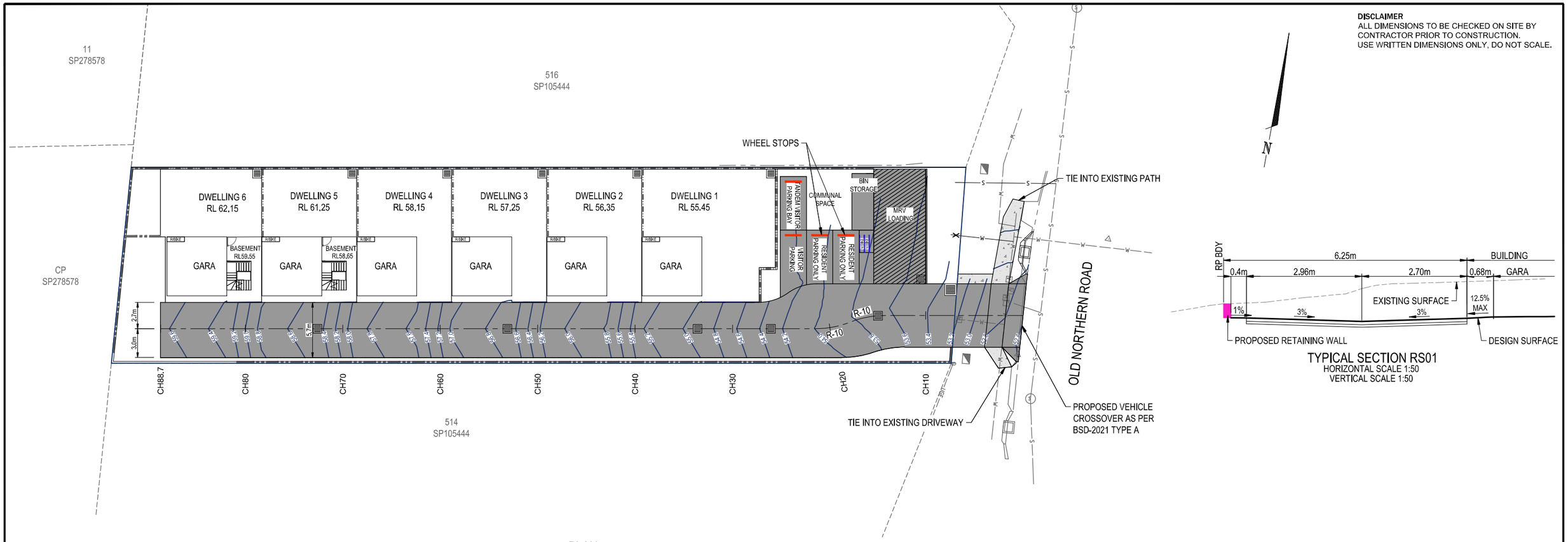
SCALE
1:200 @ A3

DATE
08.04.26

DRAWING NO.
031

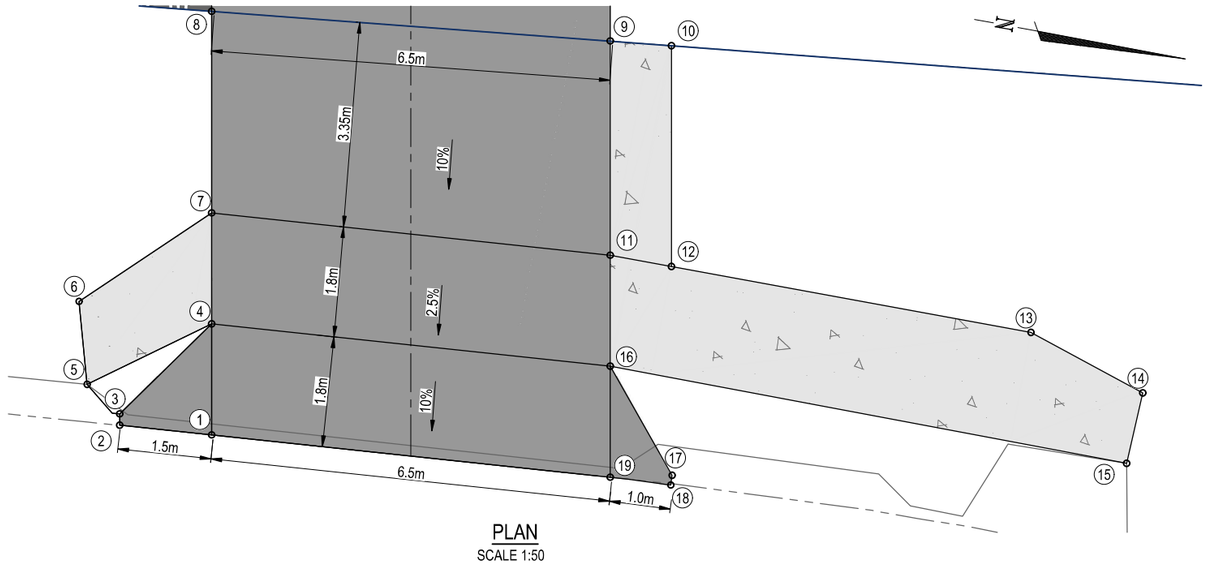
REVISION
D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



TYPICAL SECTION RS01
HORIZONTAL SCALE 1:50
VERTICAL SCALE 1:50

PLAN
SCALE 1:200



PLAN
SCALE 1:50

SETOUT TABLE

POINT	EASTING	NORTHING	LEVEL
1	498475.957	6970757.596	52.642
2	498476.078	6970756.093	52.584
3	498475.895	6970756.059	52.734
4	498474.177	6970757.264	52.844
5	498475.519	6970755.449	52.555
6	498474.213	6970755.072	52.527
7	498472.398	6970756.932	52.953
8	498469.168	6970756.329	53.381
9	498468.449	6970762.807	53.333
10	498468.342	6970763.804	53.360
11	498471.883	6970763.448	53.061
12	498471.880	6970764.465	53.093
13	498471.863	6970770.424	53.281
14	498472.496	6970772.400	53.347
15	498473.676	6970772.351	53.335
16	498473.663	6970763.780	53.025
17	498475.227	6970765.100	52.895
18	498475.387	6970765.109	52.745
19	498475.442	6970764.112	52.893

LEGEND

- EXISTING STORMWATER
- EXISTING WATER
- EXISTING SEWER
- EXISTING ELECTRICAL
- PROPOSED/EXISTING RETAINING WALL
- PROPOSED ROAD DRIVEWAY
- PROPOSED WATER
- PROPOSED STORMWATER
- PROPOSED SEWER
- DESIGN CONTOURS
- PROPOSED PAVEMENT (CONCRETE)
- PROPOSED FOOTPATH (CONCRETE)
- PROPOSED LINEMARKING
- PROPOSED WHEEL STOP

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)
0 0.25 0.5 0.75 1 1.25 1.5 1.75 2
SCALE 1:25 (A1) SCALE 1:50 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
ROADWORKS LAYOUT PLAN

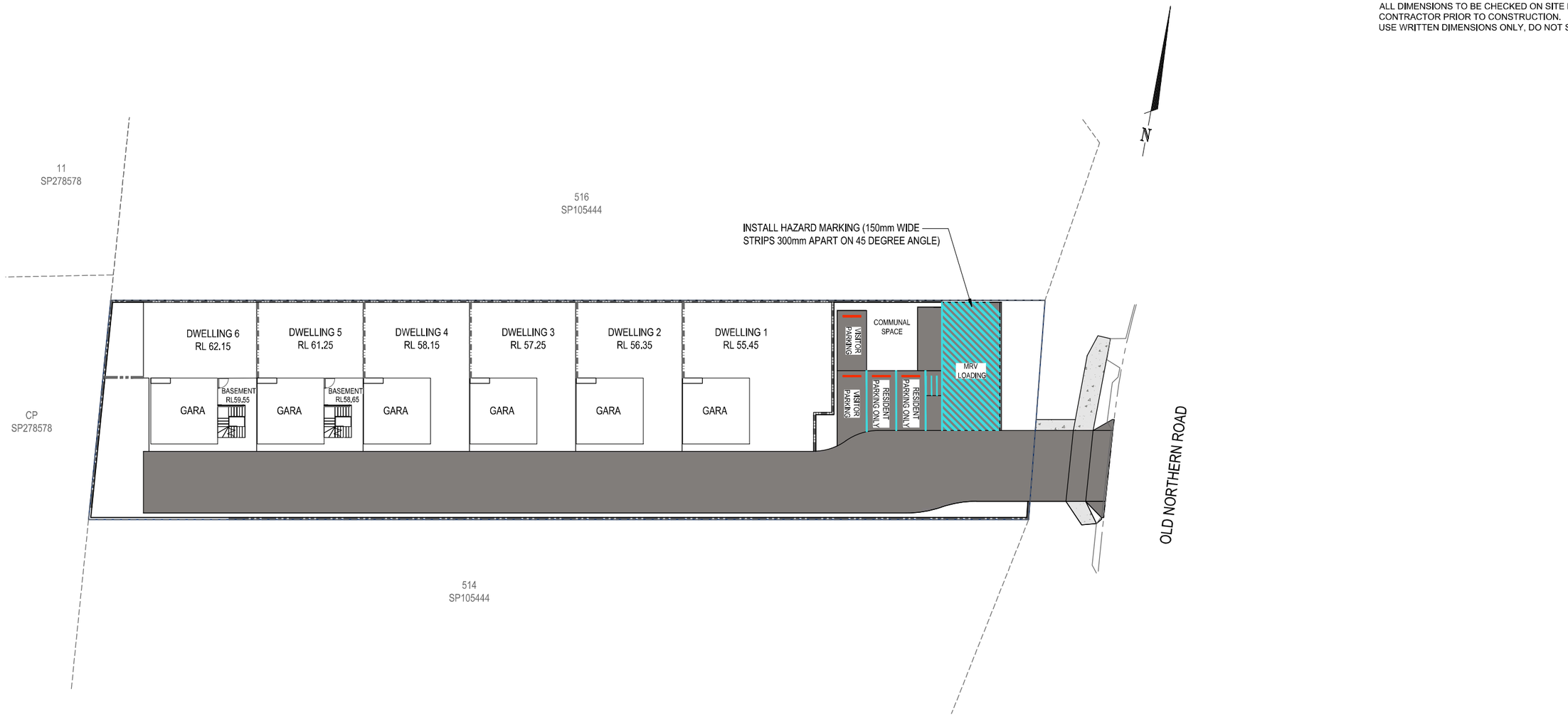
SCALE
1:200 1:50 @ A3

DATE
08.04.26

DRAWING NO.
040

REVISION
D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



PLAN
SCALE 1:200

LEGEND

PROPOSED LINEMARKING

PROPOSED WHEEL CHAIR LEGEND

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
LINEMARKING LAYOUT PLAN

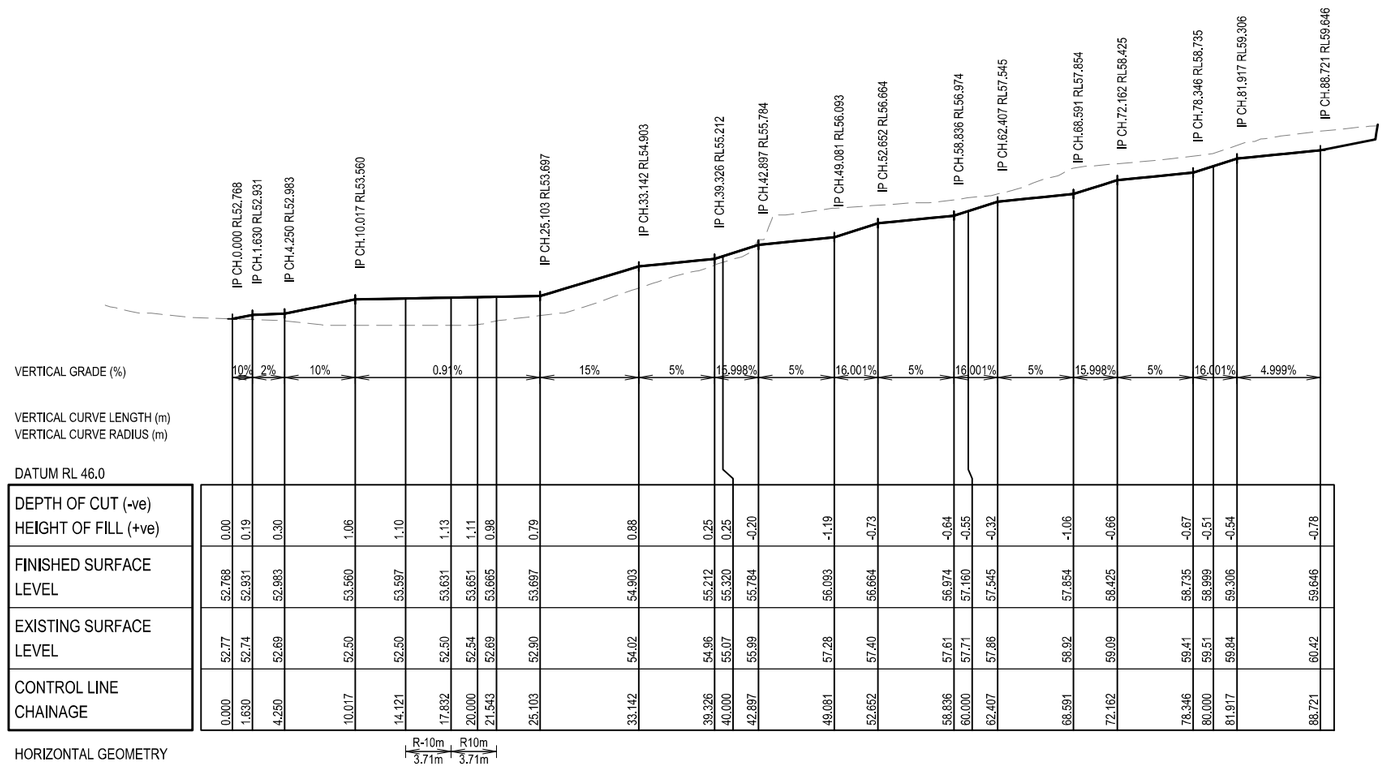
SCALE
1:200 @ A3

DATE
08.04.26

DRAWING NO.
042

REVISION
D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



LONGITUDINAL SECTION - DRIVEWAY 01

HORZ SCALE 1:250
VERT SCALE 1:125

LEGEND

DESIGN SURFACE

EXISTING SURFACE

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
1:100 1 0 1 2 3 4 5 A1
1:200 A3

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
ROADWORKS LONGITUDINAL SECTION

SCALE
1:200 @ A3

DATE
08.04.26

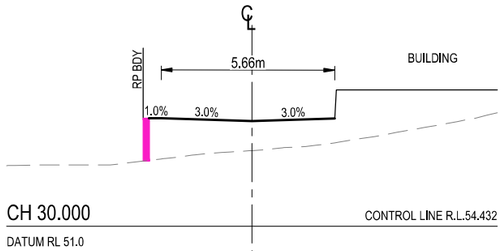
DRAWING NO.
050

REVISION
D

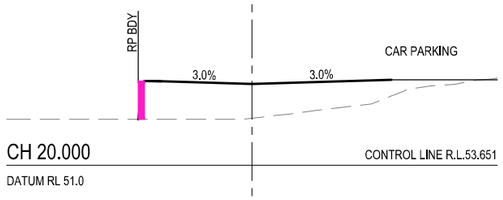
DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

LEGEND

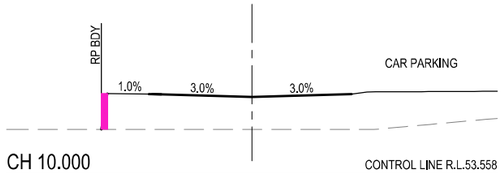
- EXISTING SURFACE LEVEL
- PROPOSED FINISHED SURFACE LEVEL
- PROPOSED RETAINING WALL



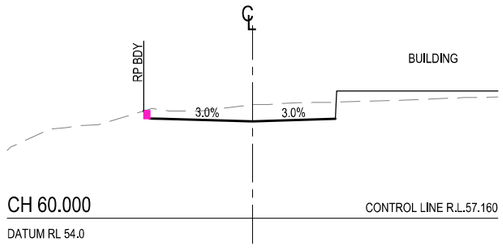
CH 30.000 — CONTROL LINE R.L.54.432
DATUM RL 51.0



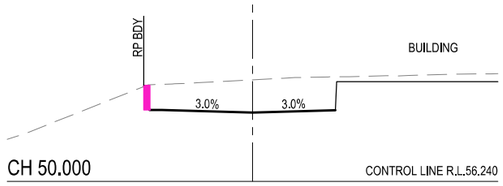
CH 20.000 — CONTROL LINE R.L.53.651
DATUM RL 51.0



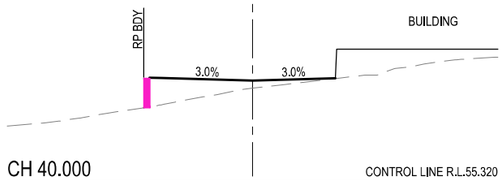
CH 10.000 — CONTROL LINE R.L.53.558
DATUM RL 51.0



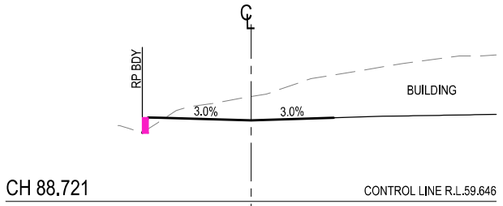
CH 60.000 — CONTROL LINE R.L.57.160
DATUM RL 54.0



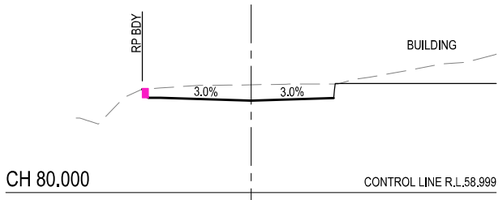
CH 50.000 — CONTROL LINE R.L.56.240
DATUM RL 54.0



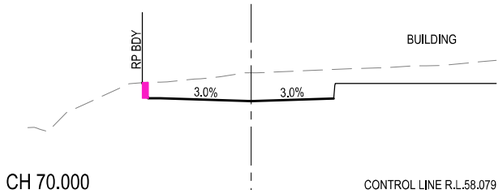
CH 40.000 — CONTROL LINE R.L.55.320
DATUM RL 52.0



CH 88.721 — CONTROL LINE R.L.59.646
DATUM RL 57.0



CH 80.000 — CONTROL LINE R.L.58.999
DATUM RL 56.0



CH 70.000 — CONTROL LINE R.L.58.079
DATUM RL 55.0

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
1:50 1 0.5 0 1 2 A1
1:100 A3

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
ROADWORKS CROSS SECTIONS

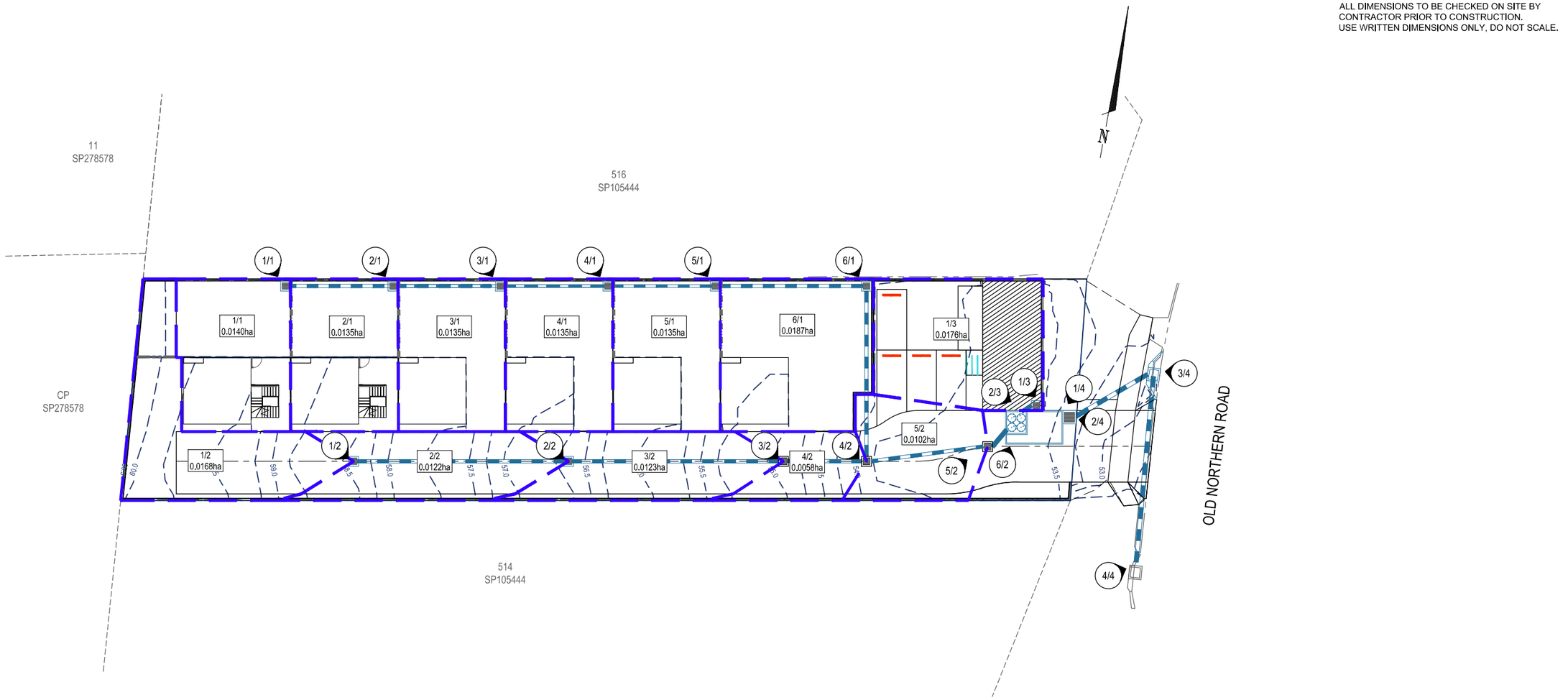
SCALE
1:100 @ A3

DATE
08.04.26

DRAWING NO.
060

REVISION
D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



PLAN
SCALE 1:200

LEGEND

- EXISTING STORMWATER
- PROPOSED/EXISTING RETAINING WALL
- PROPOSED ROAD DRIVEWAY
- PROPOSED STORMWATER
- PROPOSED STORMWATER DRAINAGE
- 1/1 PROPOSED STORMWATER STRUCTURE NUMBER
- PROPOSED 600x600 STORMWATER FIELD INLET
- PROPOSED 600x600 ATLAN STORMSACKS OR EQUIVALENT
- 10.0 DESIGN CONTOUR
- 9.60 EXISTING CONTOUR

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

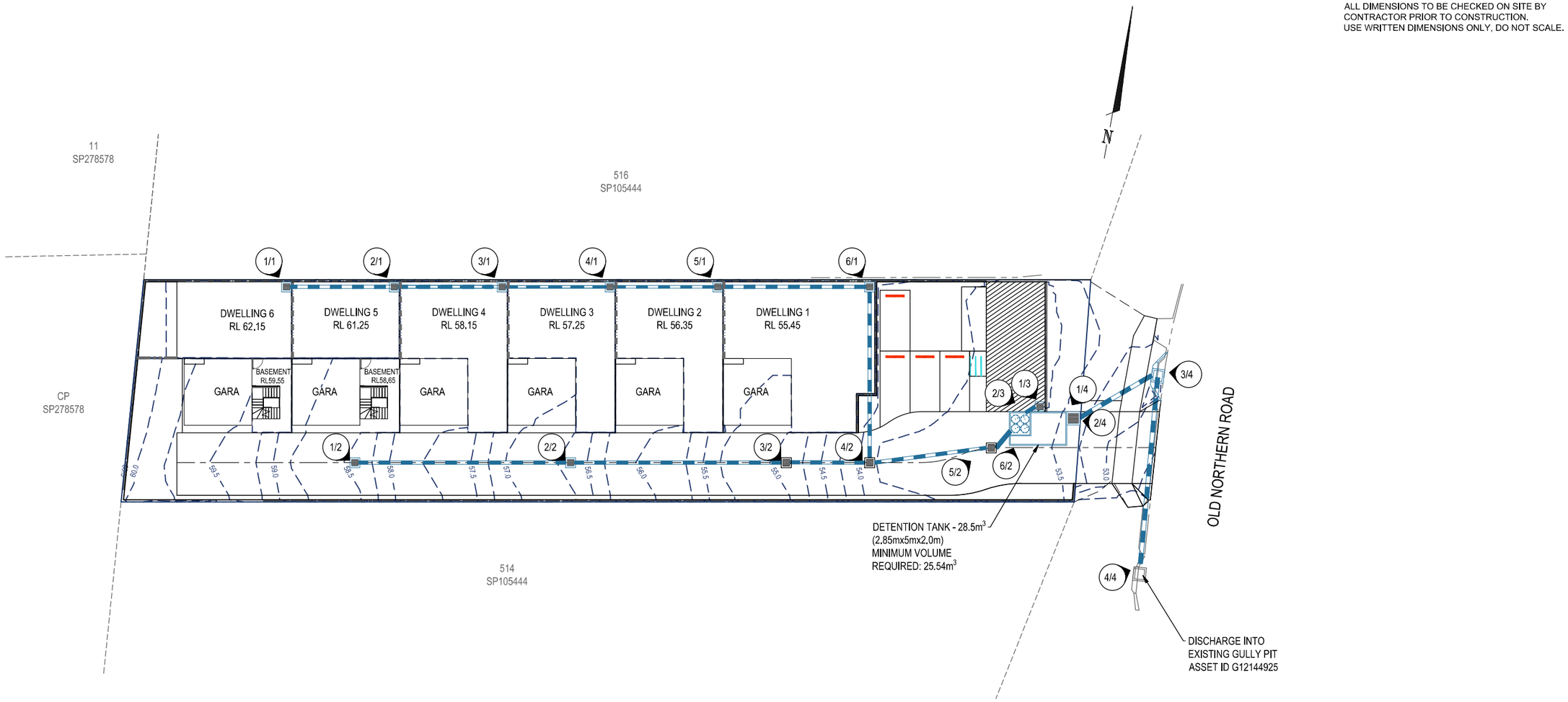
PROJECT NUMBER
2406003

DRAWING DETAILS
STORMWATER CATCHMENT
LAYOUT PLAN

SCALE	DATE
1:200 @ A3	08.04.26

DRAWING NO.	REVISION
200	D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



PLAN
SCALE 1:200

LEGEND

- EXISTING STORMWATER
- PROPOSED/EXISTING RETAINING WALL
- PROPOSED ROAD DRIVEWAY
- PROPOSED STORMWATER
- PROPOSED STORMWATER DRAINAGE
- 1/1 PROPOSED STORMWATER STRUCTURE NUMBER
- PROPOSED 600x600 STORMWATER FIELD INLET
- PROPOSED 600x600 ATLAN STORMSACKS OR EQUIVALENT
- 10,0 DESIGN CONTOUR
- 9,60 EXISTING CONTOUR

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

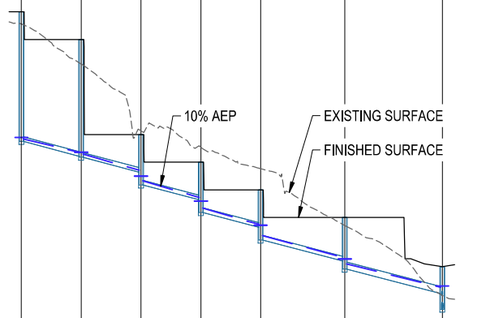
PROJECT NUMBER
2406003

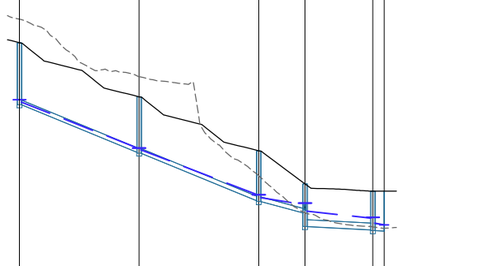
DRAWING DETAILS
STORMWATER LAYOUT PLAN

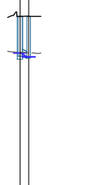
SCALE	DATE
1:200 @ A3	08.04.26

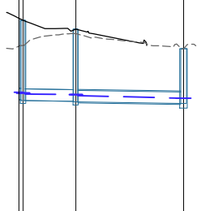
DRAWING NO.	REVISION
210	D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.









STRUCTURE NAME	1/1	2/1	3/1	4/1	5/1	6/1	4/2	1/2	2/2	3/2	4/2	5/2	6/2	1/3	2/3	1/4	2/4	3/4	4/4
STRUCTURE DESCRIPTION	FIELD INLET 600x600	FIELD INLET 600x600	FIELD INLET 600x600	FIELD INLET 600x600	FIELD INLET 600x600	FIELD INLET 600x600	FIELD INLET 600x600	FIELD INLET 600x600	FIELD INLET 600x600	FIELD INLET 600x600	FIELD INLET 600x600	FIELD INLET 600x600	TANK INLET	FIELD INLET 600x600	TANK INLET	TANK OUTLET	FIELD INLET 600x600	FIELD INLET 600x600	EXISTING
PIPE SIZE (mm)	150	150	150	150	150	225		150	150	150	225	225		225		375	375	375	
PIPE CLASS	uPVC SN10	uPVC SN10	uPVC SN10	uPVC SN10	uPVC SN10	uPVC SN10		uPVC SN10	uPVC SN10	uPVC SN10	uPVC SN10	uPVC SN10		uPVC SN10		uPVC SN10	RCP	RCP	
PIPE GRADE (%)	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%		8.00%	8.00%	5.00%	1.00%	1.00%		5.00%		0.30%	0.31%	0.31%	
PIPE SLOPE (1 in X)	20.00	20.00	20.00	20.00	20.00	20.00		12.50	12.50	20.00	100.00	100.00		20.00		333.33	325.35	326.16	
FULL PIPE VELOCITY (m/s)	0.39	0.76	1.13	1.49	1.86	1.05		0.47	0.80	1.13	1.61	1.72		0.22		0.52	0.52	0.52	
PART FULL VELOCITY (m/s)	1.70	1.81	2.00	2.13	2.19	2.41		1.88	2.18	2.00	1.61	1.72		1.54		0.91	0.91	0.91	
DATUM RL	44.0							43.0						40.0		39.0			
PIPE FLOW (Cumecs)		0.007	0.013	0.020	0.026	0.033	0.042		0.008	0.014	0.020	0.064	0.069		0.009		0.057	0.057	0.057
W.S.E. IN STRUCTURE	58.057	57.576	56.794	55.980	55.193	54.086	53.213	56.591	55.019	53.489	53.213	52.751	52.508	52.469	52.345	51.037	51.013	50.969	50.847
HYDRAULIC GRADE LEVEL	58.003	57.576	56.987	56.104	55.750	55.221	54.855	54.141	53.930	53.168	52.954	56.514	55.019	54.960	53.489	53.398	53.168	52.954	52.730	52.561	52.508	52.508	52.446	52.345	52.345	52.345	51.010	51.009	50.984	50.961	50.933	50.847	50.847
DEPTH TO INVERT	4.223	3.841	3.841	1.228	1.641	1.228	1.641	1.228	1.641	1.641	1.228	1.641	1.427	1.690	0.876	1.388	2.017	1.817	1.837	1.636	1.656	0.947	1.388	1.264	1.286	1.306	1.306	1.294	1.371	1.371	2.657	2.589	2.609	2.354	2.374	1.790	1.790
INVERT LEVEL OF DRAIN	57.927	57.439	57.409	56.922	56.509	56.022	55.609	55.122	54.709	54.023	53.760	52.964	52.452	56.431	54.870	54.850	53.289	53.270	52.883	52.452	52.341	52.318	52.300	52.300	52.300	52.300	52.370	52.300	52.300	52.300	50.797	50.794	50.774	50.748	50.728	50.674	50.674
DESIGN SURFACE LEVEL	62.150	61.250	58.150	57.250	56.350	55.450	53.840	58.448	56.687	54.926	53.840	53.604	53.606	53.664	53.671	53.454	53.384	53.102	52.464																		
SETOUT COORDINATES	E498395.741 N6970760.730	E498405.330 N6970762.520	E498414.919 N6970764.310	E498424.508 N6970766.100	E498434.097 N6970767.890	E498447.586 N6970770.408	E498450.506 N6970754.766	E498404.740 N6970746.223	E498423.917 N6970749.803	E498443.095 N6970753.383	E498450.506 N6970754.766	E498461.074 N6970756.095	E498462.663 N6970759.003	E498464.732 N6970762.571	E498463.558 N6970761.792	E498467.196 N6970761.963	E498467.884 N6970762.091	E498474.716 N6970767.278	E498476.316 N6970749.788
CHAINAGE	0.000	9.755	9.755	19.509	9.755	29.264	9.755	39.018	13.722	52.740	15.912	68.652	0.000	19.509	19.509	19.509	39.018	7.538	46.557	11.080	57.637	1.830	59.467	0.000	1.409	1.409	0.000	0.700	0.700	8.577	9.277	17.563	26.840

1 2 3 4

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
1:500 10 5 0 10 20 A1
1:1000 HORIZONTAL A3
1:50 1 0.5 0 1 2 A1
1:100 VERTICAL A3

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
STORMWATER LONG SECTIONS

SCALE
1:1000 1:100 @ A3

DATE
08.04.26

DRAWING NO.
220

REVISION
D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

LOCATION		SUB-CATCHMENT RUNOFF							INLET DESIGN										DRAIN DESIGN												HEAD LOSSES								PART FULL		DESIGN LEVELS								
				Tc	I	A	CA	Qc	Qa										Qg	Qb		Tc	I	CA	Qrat	Q	L	S			Vf=Q/A	Qcap	Vcap	Vt		Vf²/2g	Ku	hu	Kw	hw	Sf	hf	dn	Vn								
STRUCTURE No.	DRAIN SECTION	STORM EVENT	ARI EVENT	SUB-CATCHMENT TIME OF CONC.	RAINFALL INTENSITY	CO-EFFICIENT OF RUNOFF	SUB-CATCHMENT AREA	EQUIVALENT AREA	SUB-CATCHMENT DISCHARGE	FLOW IN <&C (INC. BYPASS)	HALF ROAD CAPACITY	FLOW WIDTH	FLOW DEPTH	FLOW DxV	ROAD GRADE AT INLET	INLET TYPE	INLET CURVE	FLOW INTO INLET	BYPASS FLOW	BYPASS STRUCTURE No.	CRITICAL TIME OF CONC.	RAINFALL INTENSITY	TOTAL (C x A)	PEAK FLOW	PIPE FLOW	REACH LENGTH	PIPE GRADE	PIPE SIZE	PIPE CLASS	FULL PIPE VELOCITY	CAPACITY FLOW	CAPACITY VELOCITY	TRAVEL VELOCITY	CHART(S) USED	VELOCITY HEAD	U/S HEAD LOSS COEFFICIENT	U/S HEAD LOSS	W.S.E COEFFICIENT	CHANGE IN W.S.E	PIPE FRICTION SLOPE	PIPE FRICTION HEAD LOSS	NORMAL DEPTH	NORMAL DEPTH VEL	PIPE U/S I.L	PIPE D/S I.L	PIPE U/S H.G.L	PIPE D/S H.G.L	W.S.E	GRATE LEVEL	STRUCTURE No.
			yrs	min	mm/h		ha	ha	L/s	L/s	L/s	m	m	m^2/s	%			L/s	L/s		min	mm/hr	ha	L/s	L/s	m	%	mm		m/s	L/s	m/s	m/s		m		m		m		m	%	m	m	m/s	m	m	m	m	m	m	
1/1	1/1 to 2/1	Minor	10	5	202	0.87	0.014	0.012	7	7					1	600x600		7	0		5	202	0.012	7	7	9.755	5	150	uPVC SN10	0.39	40	2.28	2	G1	0.023	3.14	0.071		0.071	0.42	0.448	0.042	1.7	57.927	57.439	58.003	57.576	58.057	62.15	1/1
	1/1 to 2/1	Major	100	5	301	1	0.014	0.014	12	12					1	600x600		12	0		5	301	0.014	12	12	9.755	5	150	uPVC SN10	0.66	40	2.28	2	G1	0.023	3.14	0.071		0.071	0.42	0.041	0.055	1.98	57.927	57.439	58.308	58.267	58.379	62.15	
2/1	2/1 to 3/1	Minor	10	5	202	0.87	0.014	0.012	7	7					1	600x600		7	0		5.08	201	0.024	13	13	9.755	5	150	uPVC SN10	0.76	34	1.93	2	T1	0.029	2.02	0.059		0.059	5.43	0.412	0.065	1.81	57.409	56.922	57.517	56.987	57.576	61.25	2/1
	2/1 to 3/1	Major	100	5	301	1	0.014	0.014	11	11					1	600x600		11	0		5.08	300	0.028	23	23	9.755	5	150	uPVC SN10	1.3	34	1.93	2	T1	0.086	1.23	0.106		0.106	2.27	0.221	0.09	2.07	57.409	56.922	58.161	57.94	58.267	61.25	
3/1	3/1 to 4/1	Minor	10	5	202	0.87	0.013	0.012	7	7					1	600x600		7	0		5.16	201	0.036	20	20	9.755	5	150	uPVC SN10	1.13	34	1.93	2	T10	0.065	1.96	0.127	2.4	0.155	5.48	0.407	0.082	2	56.509	56.022	56.638	56.104	56.794	58.15	3/1
	3/1 to 4/1	Major	100	5	301	1	0.013	0.013	11	11					1	600x600		11	0		5.16	299	0.041	34	34	9.755	5	150	uPVC SN10	1.93	34	1.93	2	T10	0.189	1.45	0.274	1.73	0.328	5	0.487	0.123	2.2	56.509	56.022	57.665	57.178	57.993	58.15	
4/1	4/1 to 5/1	Minor	10	5	202	0.87	0.014	0.012	7	7					1	600x600		7	0		5.24	200	0.047	26	26	9.755	5	150	uPVC SN10	1.49	34	1.93	2	T10	0.114	1.73	0.196	2.03	0.23	5.43	0.418	0.099	2.13	55.609	55.122	55.75	55.221	55.98	57.25	4/1
	4/1 to 5/1	Major	100	5	301	1	0.014	0.014	11	11					1	600x600		11	0		5.24	298	0.055	45	45	9.755	5	150	uPVC SN10	2.55	34	1.93	2	T10	0.234	1.46	0.342	1.77	0.414	6.17	0.602	0.15	2.55	55.609	55.122	56.836	56.234	57.25	57.25	
5/1	5/1 to 6/1	Minor	10	5	202	0.87	0.014	0.012	7	7					1	600x600		7	0		5.33	199	0.059	33	33	13.722	5	150	uPVC SN10	1.86	34	1.93	2	T10	0.176	1.58	0.278	1.92	0.338	5.2	0.646	0.118	2.19	54.709	54.023	54.855	54.141	55.193	56.35	5/1
	5/1 to 6/1	Major	100	5	301	1	0.014	0.014	11	11					1	600x600		11	0		5.24	298	0.068	56	56	13.722	5	150	uPVC SN10	3.17	34	1.93	2	T10	0.358	1.47	0.527	1.8	0.642	9.44	1.295	0.15	3.17	54.709	54.023	55.708	54.413	56.35	56.35	
6/1	6/1 to 4/2	Minor	10	5	202	0.87	0.019	0.016	9	9					1	600x600		9	0		5.36	199	0.075	42	42	15.912	5	225	uPVC SN10	1.05	100	2.53	2	T10	0.056	2.08	0.117	2.79	0.156	4.79	0.785	0.101	2.41	53.76	52.964	53.93	53.168	54.086	55.45	6/1
	6/1 to 4/2	Major	100	5	301	1	0.019	0.019	16	16					1	600x600		16	0		5.36	296	0.087	71	71	15.912	5	225	uPVC SN10	1.79	100	2.53	2	T10	0.163	1.6	0.262	2.14	0.35	2.51	0.399	0.14	2.74	53.76	52.964	54.151	53.752	54.501	55.45	
4/2		Minor	10	5	202	0.87	0.006	0.005	3	3					1	600x600		3	0														T10		1.62	0.214	1.96	0.259									53.213	53.84	4/2
		Major	100	5	301	1	0.006	0.006	5	5					1	600x600		5	0														T10		1.51	0.349	1.89	0.438									53.84	53.84	
1/2	1/2 to 2/2	Minor	10	5	202	0.87	0.017	0.015	8	8					1	600x600		8	0		5	202	0.015	8	8	19.509	8	150	uPVC SN10	0.47	43	2.44	2	G1	0.011	6.95	0.077		0.077	7.66	1.518	0.044	1.88	56.431	54.87	56.514	55.019	56.591	58.448	1/2
	1/2 to 2/2	Major	100	5	301	1	0.017	0.017	14	14					1	600x600		14	0		5	301	0.017	14	14	19.509	8	150	uPVC SN10	0.8	43	2.44	2	G1	0.032	4.75	0.154		0.154	7.22	1.428	0.059	2.18	56.431	54.87	56.541	55.133	56.695	58.448	
2/2	2/2 to 3/2	Minor	10	5	202	0.87	0.012	0.011	6	6					1	600x600		6	0		5.16	201	0.025	14	14	19.509	8	150	uPVC SN10	0.8	43	2.44	2	T1	0.032	1.83	0.059		0.059	7.54	1.491	0.059	2.18	54.85	53.289	54.96	53.489	55.019	56.687	2/2
	2/2 to 3/2	Major	100	5	301	1	0.012	0.012	10	10					1	600x600		10	0		5.16	299	0.029	24	24	19.509	8	150	uPVC SN10	1.36	43	2.44	2	T1	0.095	1.54	0.145		0.145	3.54	0.698	0.08	2.51	54.85	53.289	54.988	54.297	55.133	56.687	
3/2	3/2 to 4/2	Minor	10	5	202	0.87	0.012	0.011	6	6					1	600x600		6	0		5.33	199	0.036	20	20	7.538	5	150	uPVC SN10	1.13	34	1.93	2	T1	0.065	1.4	0.09		0.09	3.05	0.243	0.082	2	53.27	52.893	53.398	53.168	53.489	54.926	3/2
	3/2 to 4/2	Major	100	5	301	1	0.012	0.012	10	10					1	600x600		10	0		5.33	296	0.041	34	34	7.538	5	150	uPVC SN10	1.92	34	1.93	2	T1	0.189	0.9	0.171		0.171	4.97	0.375	0.123	2.2	53.27	52.893	54.126	53.752	54.297	54.926	
4/2	4/2 to 5/2	Minor	10	5	202	0.87	0.006	0.005	3	3					1	600x600		3	0		5.49	198	0.116	64	64	11.08	1	225	uPVC SN10	1.61	45	1.13	2	T10	0.132	1.62	0.214	1.96	0.259	2.03	0.225	0.225	1.61	52.452	52.341	52.954	52.73	53.213	53.84	4/2
	4/2 to 5/2	Major	100	5	301	1	0.006	0.006	5	5					1	600x600		5	0		5.41	295	0.133	109	109	11.08	1	225	uPVC SN10	2.75	45	1.13	2	T10	0.232	1.51	0.349	1.89	0.438	3.56	0.394	0.225	2.75	52.452	52.341	53.402	53.008	53.84	53.84	
5/2	5/2 to 6/2	Minor	10	5	202	0.87	0.01	0.009	5	5					1	600x600		5	0		5.5	198	0.125	69	69	1.83	1	225	uPVC SN10	1.72	45	1.13	2	T1/T3	0.152	1.11	0.168	1.25	0.19	2.09	0.042	0.225	1.72	52.318	52.3	52.561	52.509	52.751	53.604	5/2
	5/2 to 6/2	Major	100	5	301	1	0.01	0.01	9	9					1	600x600		9	0		5.5	294	0.143	117	117	1.83	1	225	uPVC SN10	2.94	45	1.13	2	T1/T5	0.442	0.81	0.559	0.95	0.412	6.89	0.125	0.225	2.94	52.318	52.3	52.649	52.323	53.061	53.604	
6/2		Minor	10												1	TANK INLET																															52.508	53.606	6/2
		Major	100												1	TANK INLET																															52.523	53.606	
1/3	1/3 to 2/3	Minor	10	5	202	0.87	0.018	0.015	9	9					1	600x600		9	0		5	202	0.015	9	9	1.409	5	225	uPVC SN10	0.22	100	2.53	2	G2	0.002	9.7	0.023		0.023	7.2	0.007	0.045	1.54	52.37	52.3	52.446	52.345	52.469	53.664	1/3
	1/3 to 2/3	Major	100	5	301	1	0.018	0.018	15	15					1	600x600		15	0		5	301	0.018	15	15	1.409	5	225	uPVC SN10	0.37	100	2.53	2	G2	0.007	9.7	0.068		0.068	7.95	0	0.058	1.8	52.37	52.3	52.47	52.358	52.538	53.664	
2/3		Minor	10												1	TANK INLET																															52.345	53.671	2/3
		Major	100												1	TANK INLET																															52.358	53.671	
1/4	1/4 to 2/4	Minor	10	0	0		0	0	0	0					1	TANK OUTLET		0	0		1	283	0	57	57	0.7	0.3	375	uPVC SN10	0.52	96	0.87	2		0.014	2	0.027		0.027	0.25	0.002	0.208	0.91	50.797	50.794	51.01	51.009	51.037	53.454	1/4
	1/4 to 2/4	Major	100	0	0		0	0	0	0					1	TANK OUTLET		0	0		1	419	0	86	86	0.7	0.3	375	uPVC SN10	0.78	96	0.87	2		0.031	2	0.062		0.062	0.2	0.001	0.277	0.98	50.797	50.794	51.132	51.131	51.194	53.454	
2/4	2/4 to 3/4	Minor	5	0	0		0	0	0	0					1	900x900		0	0		1.01	283	0	57	57	8.577	0.31	375	uPVC SN10	0.52	97	0.88	2	T3/T6	0.014	1.81	0.025	2.17	0.03	0.26	0.024	0.206	0.91	50.774	50.748	50.984	50.961	51.013	53.384	2/4
	2/4 to 3/4	Major	100	0	0		0	0	0	0					1	900x900		0	0		1.01	419	0	86	86	8.577	0.31	375	uPVC SN10	0.78	97	0.88	2	T3/T6	0.031	1.81	0.056	2.17	0.067	0.22	0.021	0.274	0.99	50.774	50.748	51.075	51.056	51.142	53.384	
3/4	3/4 to 4/4	Minor	5	0	0		0	0	0	0					1	KIP		0	0		1.08	279	0	57	57	17.563	0.31	375	RCP	0.52	97	0.88	2	T10	0.014	2.09	0.028	2.66	0.036	0.49	0.062	0.207	0.91	50.728	50.674	50.933	50.847	50.969	53.102	3/4
	3/4 to 4/4	Major	100	0	0		0	0	0	0					1	KIP		0	0		1.08	415	0	86	86	17.563	0.31	375	RCP	0.78	97	0.88	2	T10	0.031	2.09	0.065	2.66	0.082	0.58	0.069	0.274	0.99	50.728	50.674	50.991	50.889	51.073	53.102	
4/4		Minor	5												1	EXISTING																															50.847	52.464	4/4
		Major	100												1	EXISTING																															50.889	52.464	

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA RPEQ: 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
STORMWATER CALCULATION TABLE

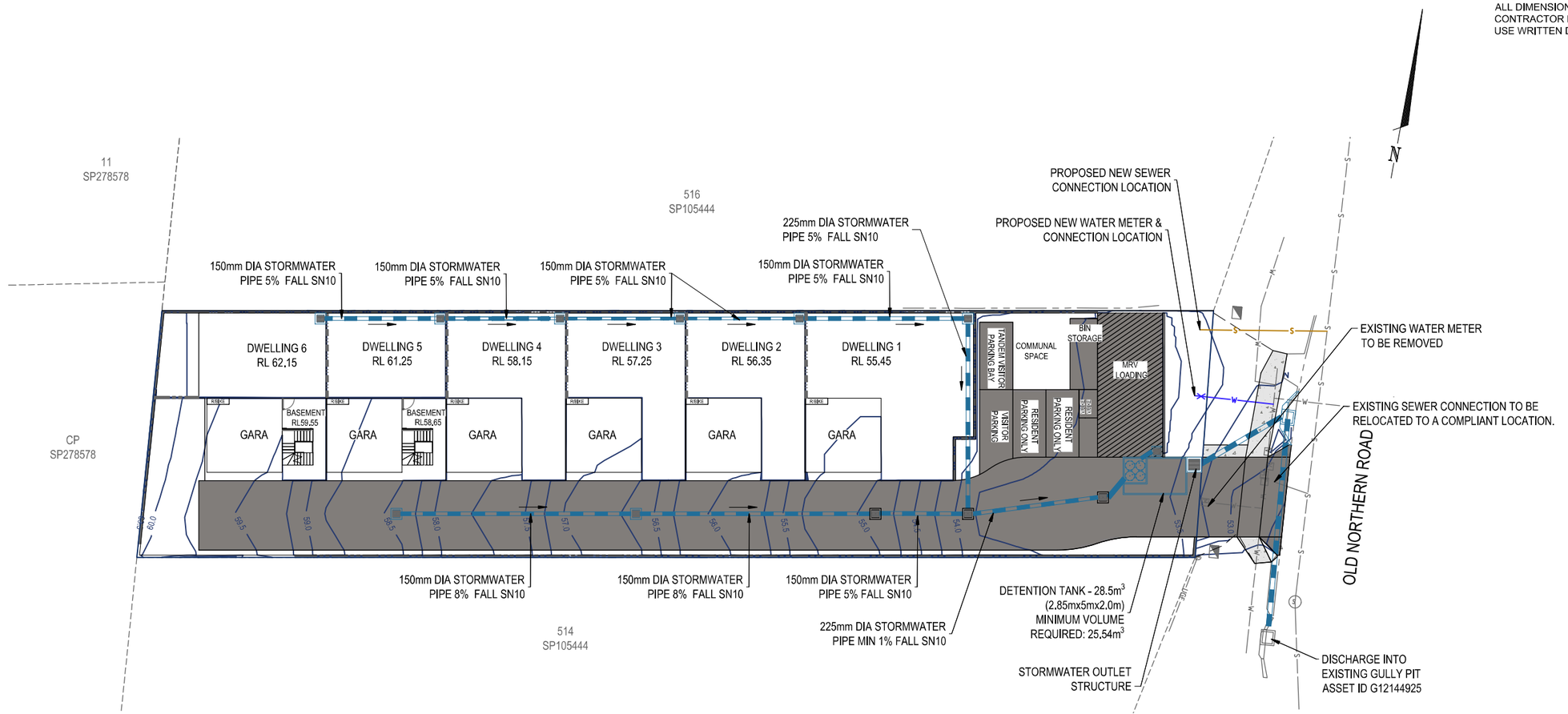
SCALE
1: @ A3

DATE
08.04.26

DRAWING NO.
230

REVISION
D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



PLAN
SCALE 1:200

LEGEND

- EXISTING STORMWATER
- EXISTING WATER
- EXISTING SEWER
- EXISTING ELECTRICAL
- PROPOSED/EXISTING RETAINING WALL
- PROPOSED ROAD DRIVEWAY
- PROPOSED WATER
- PROPOSED SEWER
- PROPOSED STORMWATER
- DESIGN CONTOURS
- PROPOSED 600x600 STORMWATER FIELD INLET
- PROPOSED 600x600 ATLAN STORMSACKS OR EQUIVALENT
- DIRECTION OF FLOW
- PROPOSED STORMWATER STRUCTURE NUMBER

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
SERVICES LAYOUT PLAN

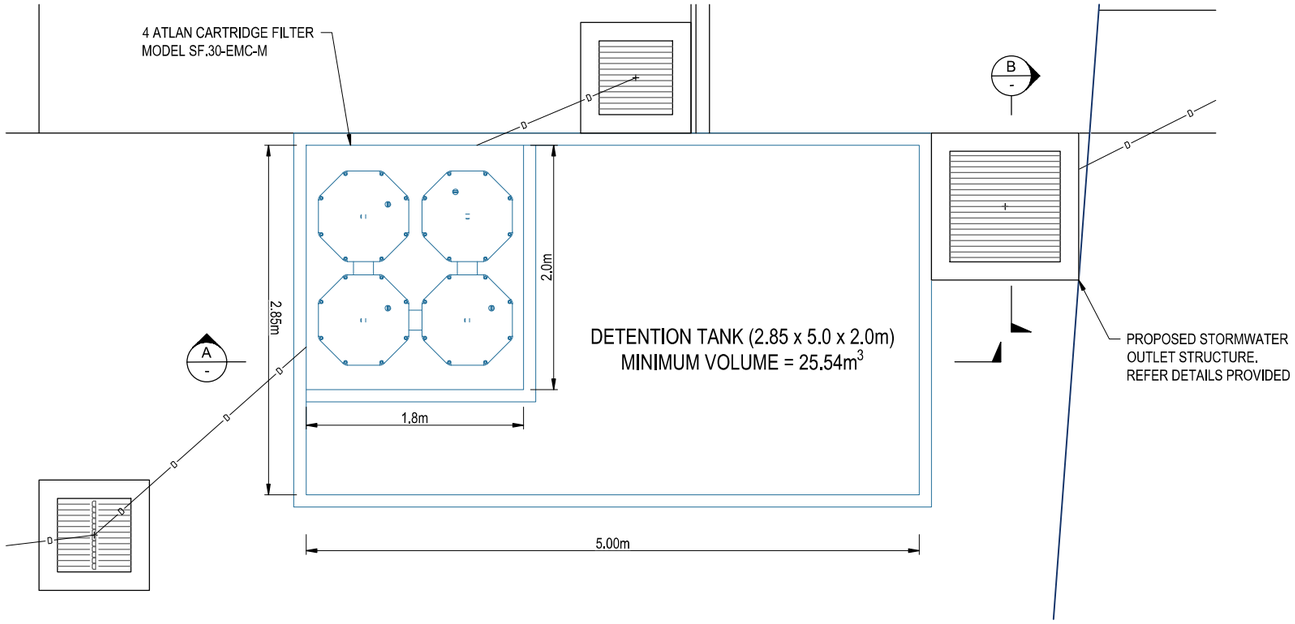
SCALE
1:200 @ A3

DATE
08.04.26

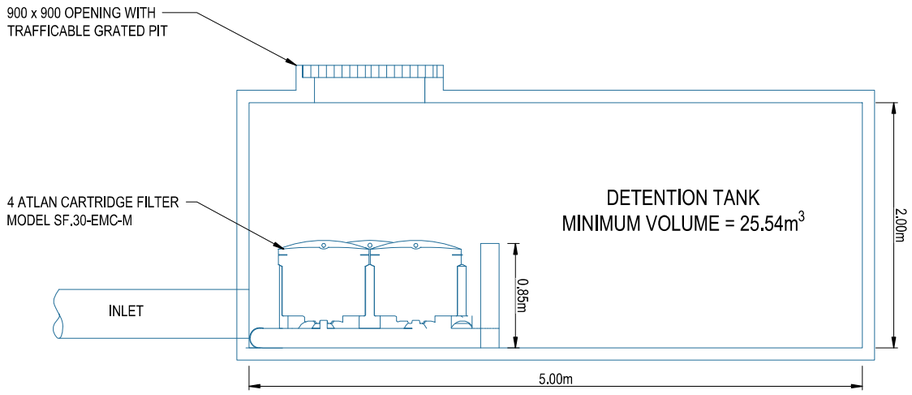
DRAWING NO.
450

REVISION
D

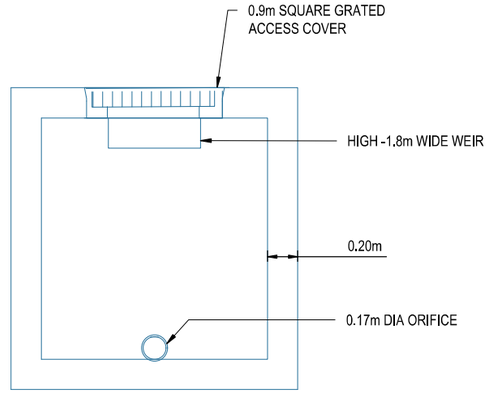
DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



TANK DETAIL
SCALE 1:25



A SECTION
SCALE 1:25



B OSD OUTLET STRUCTURE
SCALE 1:20

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 0.25 0.5 0.75 1 1.25 1.5 1.75 2
SCALE 1:25 (A1) SCALE 1:50 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
DETENTION TANK DETAIL

SCALE	DATE
1:200 @ A3	08.04.26

DRAWING NO.	REVISION
500	D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

DETENTION TANK NOTES

1. STORAGE VOLUMES WILL BE ADJUSTED FOR DROWNED ORIFICES.
2. ALL PITS GREATER THAN 1.2m SHALL BE FITTED WITH COUNCIL APPROVED STEP IRONS AT nom 300mm C/C IN A STAGGERED CONFIGURATION AND IN ACCORDANCE WITH AS 4198-1994
3. MINIMUM PIT SIZE 900mm x 900mm, ALL PITS DEEPER THAN 1.2m SHALL BE A MINIMUM SIZE OF 1200mm 1200mm
4. FOR DRIFICE DIAMETERS
   - LESS THAN 150mm:
     PROVIDE MAXI-MESH TRASH SCREEN WITH SUREACE AREA 50 TIMES THAT OF THE DRIFICE OPENING
   - GREATER THAN 150mm:
     PROVIDE WELDLOK F40/203 TRASH SCREEN WITH SURFACE AREA 20 TIMES THAT OF THE ORIFICE OPENING
5. CONCRETE BENCHING INSIDE THE PITS SHALL BE CARRIED OUT POST INSTALLATION OF THE ORIFICE PLATES 9
6. ALL REDUCED LEVELS AND DIAMETERS, DIMENSIONS OR TOLERANCES ARE TO BE NOMINATED BY THE DESIGNER 10.
7. THE ORIFICE PLATE SHALL BE 3mm THICK STAINLESS STEEL FOR DRIFICE SIZES 150mm OR FOR ORIFICES 150mm USE 5mm THICK STAINLESS STEEL WITH SHARP EDGES MACHINED TO 0,5mm ACCURACY FASTENED TO PIT WALL USING "HILTI" (OR APPROVED EQUIVALENT) STAINLESS HSIx1(R) - M6x40 BOLTS 11.
8. THE DOWNSTREAM PIPE DIAMETER SHALL BE AT LEAST 3x ORIFICE DIAMETER. MINIMUM 100mm & HAVE A MIN CAPACITY OF 2x ORIFICE FLOW 12.
9. REFER TO UPRCT "ON-SITE STORMWATER DETENTION HANDBOOK" 4th EDITION DECEMBER 2005
10. THE BASE OF THE DETENTION STORAGE TANK IS TO BE BENCHED TO FALL @ 2% TO THE INVERT OF THE OUTLET POINT
11. OWNERS MUST BE ABLE TO INSPECT CRITICAL PARTS OF THE STORAGE TANK FROM THE SURFACE WITHOUT HAVING TO REMOVE HEAVY ACCESS COVERS. ALL SECTIONS OF THE OSD SHALL HAVE GRATED ACCESS POINTS
12. FOR PITS:
    - LESS THAN THAN 1.2m DEEP OPENINGS MUST BE MINIMUM OF 900mm x 900mm
    - GREATER THAN 1.2m DEEP OPENINGS MUST BE MINIMUM OF 1.2m x 1.2m
13. FOR ALL OTHER ACCESS POINTS TO THE DETENTION TANK THE MINIMUM OPENING SIZE IS 900mm x 900mm
14. ALL OPENINGS SHALL BE COVERED BY A HINGED GALVANISED MILD STEEL GRATE AND FRAME AND FITTED WITH CHILD PROOF LOCKS
15. DETENTION STORAGE ACCESS GRATES TO THE BELOW GROUND OSD ARE TO BE POSITIONED SUCH THAT THE MAXIMUM REACH FROM ANY POINT IN THE TANK TO THE NEAREST GRATE IS DETERMINED BY THE TABLE BELOW

DEPTH OF TANK	LENGTH OF REACH
0.5m - 0.7m	1.5m
0.7m -1m	2m
1m -1.5m	3m
1.5m -2m	4m
>2m	6m

16. FOR BELOW GROUND OSD TANKS AS SHOWN ON SHEET 19 THE MINIMUM INTERNAL HEIGHT IS TO BE A MINIMUM OF 0.5m FOR EASE OF MAINTENANCE AND SAFE WORK SPACE REQUIREMENTS.
17. THE SAME ACCESS REQUIREMENTS AS IN NOTE 16. APPLY TO FILTER STORAGE AREAS WHERE USED. SEE SHEET 20
18. THE MINIMUM ORIFICE SIZE SHALL BE 25mm DIA.
19. STRUCTURAL DESIGN OF OSD STORAGE TO BE DESIGNED BY A QUALIFIED ENGINEER
20. CONFINED SPACE ENTRY REQUIREMENTS APPLY.
21. UNDERGROUND OSD EMERGENCY OVERFLOW WEIR SHALL BE DESIGNED TO CONVEY 100 YEAR ARI, 5 MINUTE STORM EVENT AND BE A MINIMUM HEIGHT OF 100mm

CONFINED SPACE DANGER SIGN

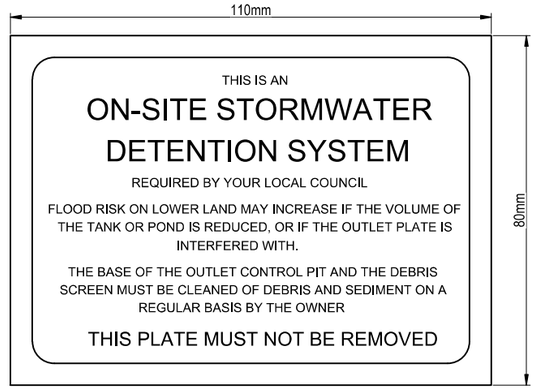
NOTES

1. A CONFINED SPACE DANGER SIGN` SHALL BE PLACED NEXT TO EACH AND EVERY ACCESS POINT SO THAT THEY ARE VISIBLE TO PERSONS ENTERING ANY BELOW GROUND TANK OR PIT.
2. COLOURS:
   - "DANGER" AND BACKGROUND - WHITE
   - ELLIPTICAL ARE - RED
   - RECTANGLE CONTAINING ELLIPSE - BLACK
   - LETTERING AND BORDER - BLACK
3. MINIMUM DIMENSIONS OF THE SIGN:
   - LARGE ENTRIES - 300mm x 450mm
   - SMALL ENTRIES - 250mm x 180 mm
4. SIGN TO BE MADE FROM COLOUR BONDED ALUMINIUM OR POLYPROPYLENE
5. SIGN FIXED USING HOLL TI CHEMSETS OR EXPOXY

ON SITE STORMWATER
DETENTION WARING SIGN

NOTES

1. SIGN SHALL BE PLACED IN A CLEAR AND VISIBLE LOCATION AT EACH DETENTION.
2. COLOURS:
   - TRIANGLE AND "WARING" - RED
   - WATER - BLUE
   - FIGURE AND LETTERING - BLACK
3. SIGN TO BE MADE FROM COLOUR BONDED ALUMINUM OR POLYPROPYLENE.
4. SIGN FIXED USING HILTI CHEMSETS OR EXPOXY



ON SITE STORMWATER
DETENTION SYSTEM SIGN

NOTES

1. CORNERS SQUARE
2. COLOURS: ETCHED AND FILLED BLACK LEGEND ON A NATURAL SILVER BACKGROUND.
3. CONSTRUCTED FROM ALUMINIUM 0.9mm MILL
4. THIS SIGN SHALL BE PLACED IN A VISIBLE LOCATION NEAR A DISCHARGE CONTROL PIT OR AT THE ACCESS TO ONE.
5. SIGN FIXED USING HILTI CHEMSETS OR EPOXY

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
DETENTION TANK NOTES

SCALE
1: @ A3

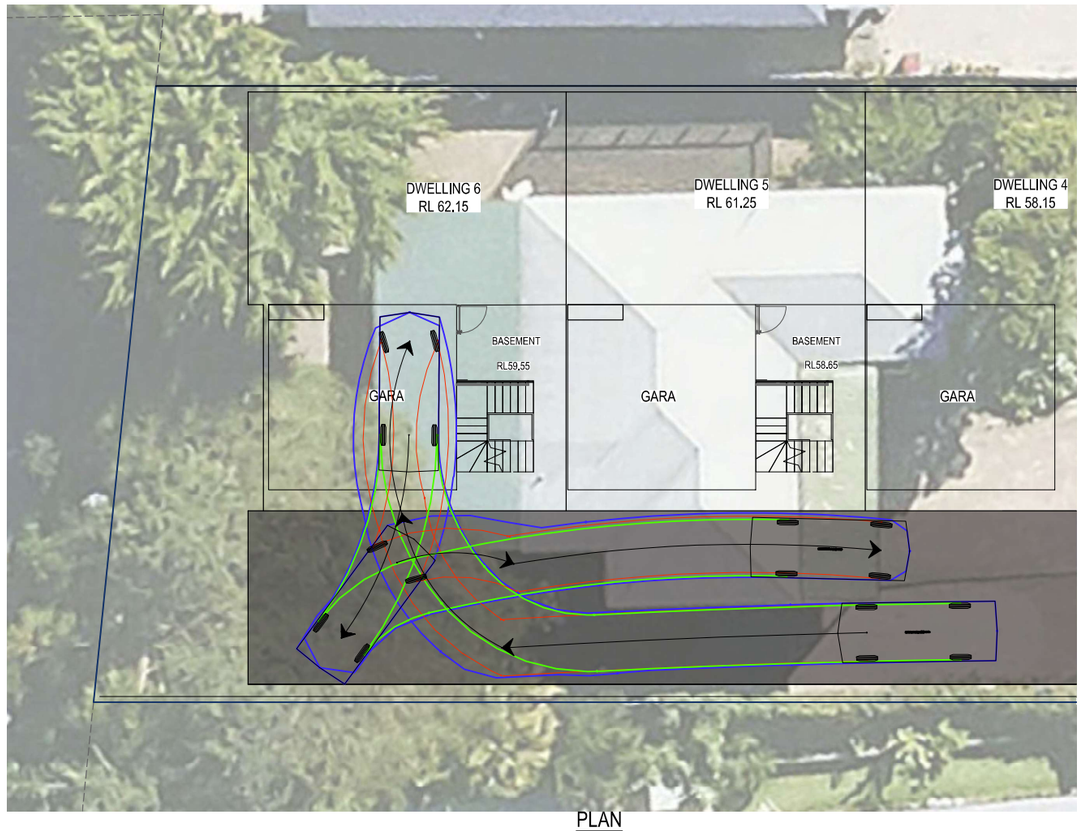
DATE
08.04.26

DRAWING NO.
501

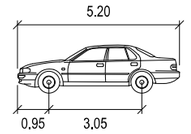
REVISION
D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.

PLAN
SCALE 1:200



PLAN
SCALE 1:200



B99

		meters
Width	:	1.94
Track	:	1.84
Lock to Lock Time	:	6.0
Steering Angle	:	33.9

LEGEND
VEHICLE BODY ENVELOPE
WHEELS SWEPT PATH

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
TURNING PATH PLAN - SHEET 1 OF 2

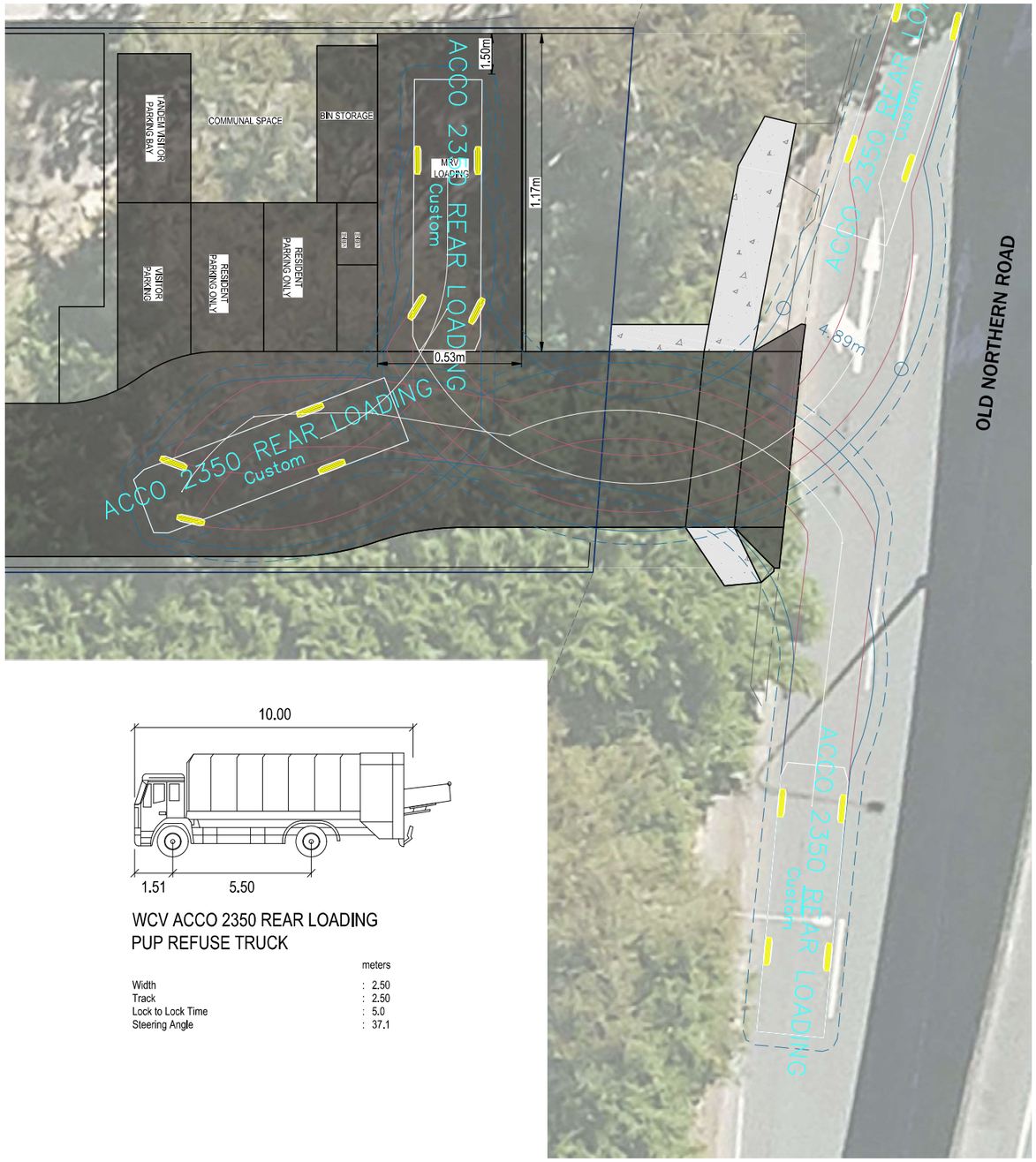
SCALE
1:200 @ A3

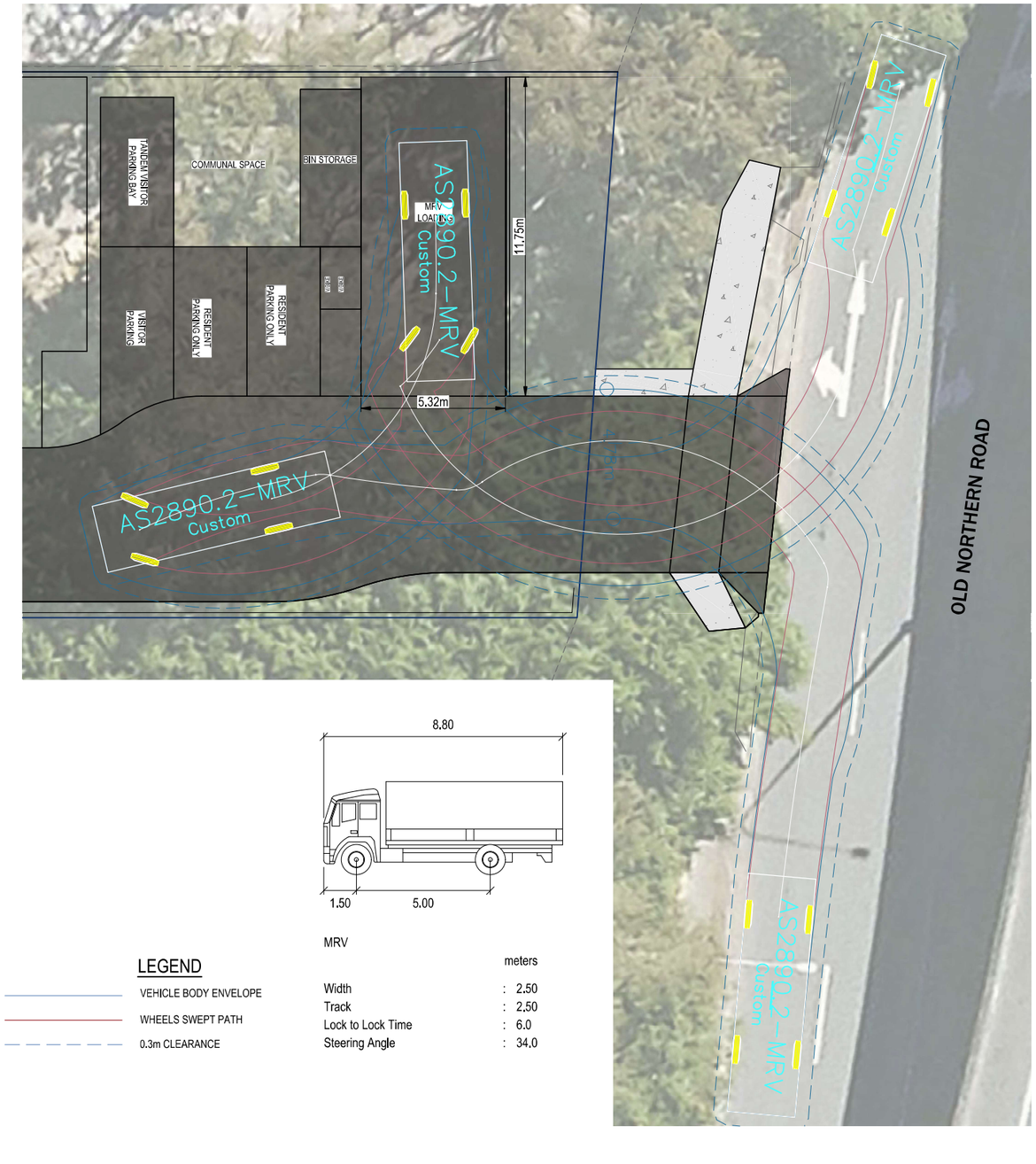
DATE
08.04.26

DRAWING NO.
901

REVISION
D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.





WCV ACCO 2350 REAR LOADING
PUP REFUSE TRUCK

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 5.0
Steering Angle	: 37.1

MRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

LEGEND

- VEHICLE BODY ENVELOPE
- WHEELS SWEPT PATH
- 0.3m CLEARANCE

PLAN
SCALE 1:200

PLAN
SCALE 1:200

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

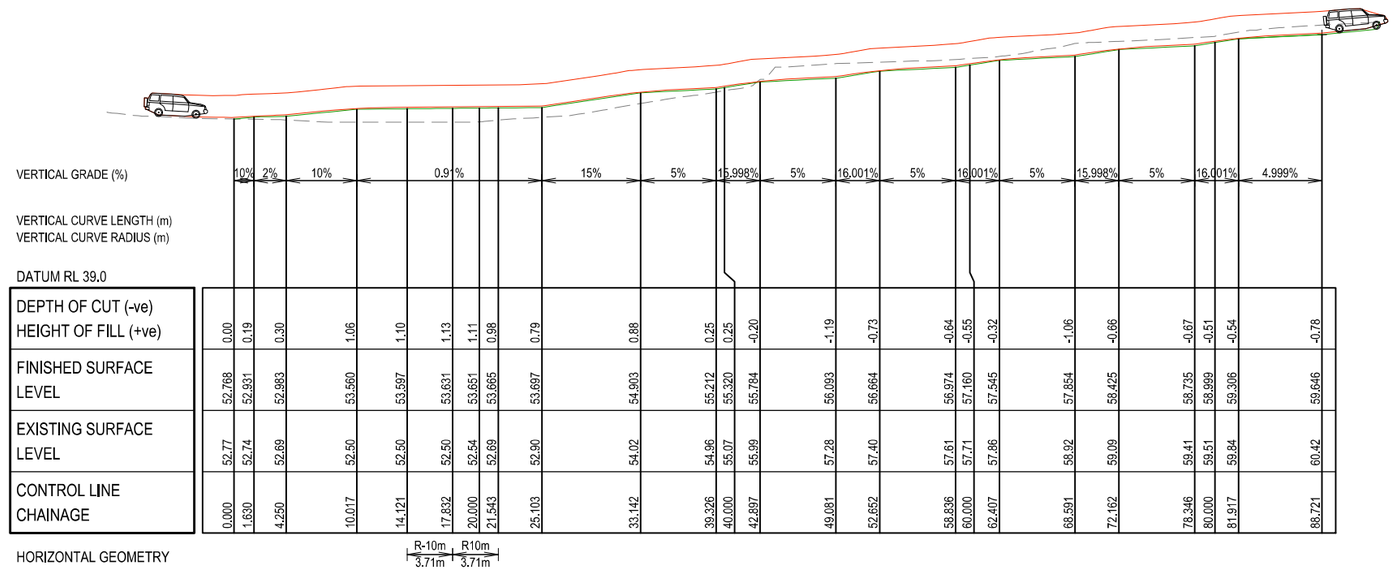
PROJECT NUMBER
2406003

DRAWING DETAILS
TURNING PATH PLAN - SHEET 2 OF 2

SCALE	DATE
1:100 @ A3	08.04.26

DRAWING NO.	REVISION
902	D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



LEGEND
VEHICLE BODY ENVELOPE
DESIGN SURFACE

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	VL	VL	EC	AG	23.08.24	ORIGINAL ISSUE
B	VL	VL	EC	AG	28.02.25	COUNCIL RFI
C	MN	HN	EC	AG	24.10.25	COUNCIL RFI
D	MN	HN	EC	AG	08.04.26	COUNCIL RFI

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
DRIVEWAY VETICAL CHECKING

SCALE
1:200 @ A3

DATE
08.04.26

DRAWING NO.
903

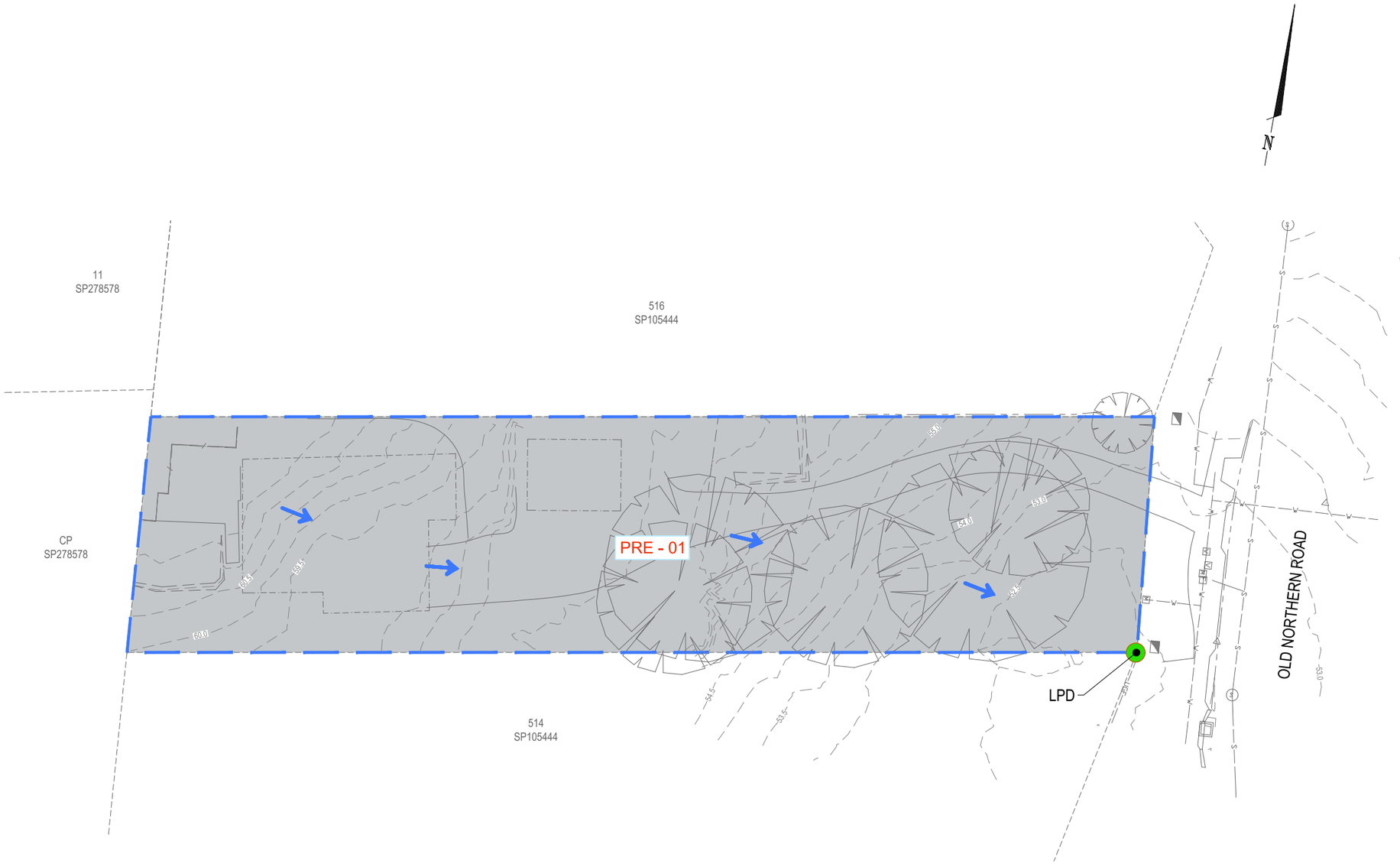
REVISION
D

Appendix C
Catchment Plans

Pre-Development Catchment Plan

Post-Development Catchment Plan

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



PLAN
SCALE 1:200

CATCHMENT TABLE	
CATCHMENT NAME	CATCHMENT AREA (ha)
PRE-01	0.173

LEGEND

- EXISTING CONTOUR
- EXISTING STORMWATER
- EXISTING WATER
- EXISTING SEWER
- EXISTING ELECTRICAL
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING TREE
- LPD
- A — CATCHMENT NAME
- CATCHMENT
- FLOW DIRECTION

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	MN	HN	AM	EC	28.09.25	ISSUED FOR APPROVAL
B	MN	HN	AM	EC	30.03.25	IR RESPONSE
C	MN	HN	AG	EC	26.10.25	IR RESPONSE
D	MN	HN	AG	EC	08.04.26	IR RESPONSE

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
PRE-DEVELOPMENT
CATCHMENT PLAN

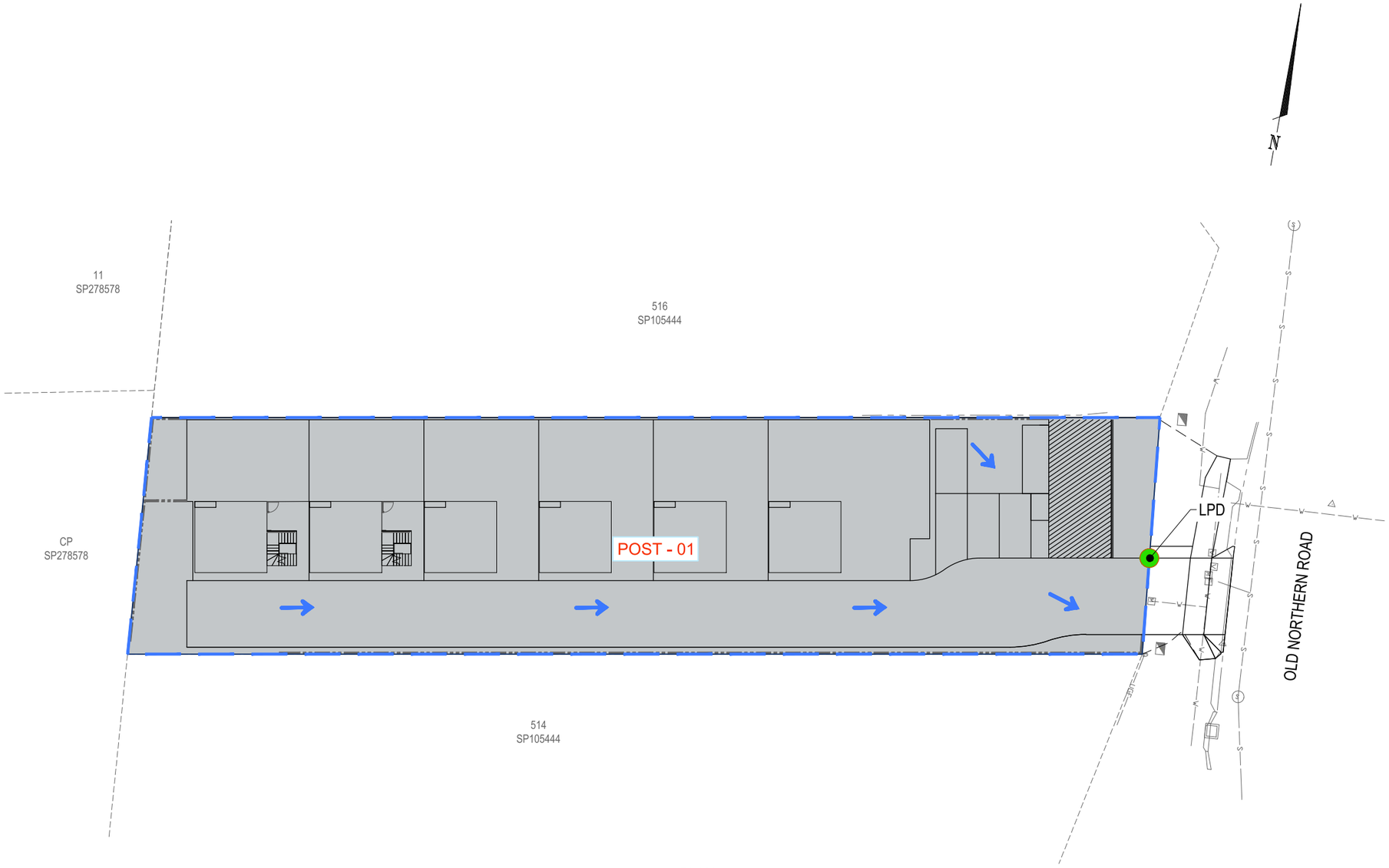
SCALE
1:200 @ A3

DATE
08.04.26

DRAWING NO.
SK010

REVISION
D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



PLAN
SCALE 1:200

CATCHMENT TABLE	
CATCHMENT NAME	CATCHMENT AREA (ha)
POST-01	0.173

LEGEND

- EXISTING STORMWATER
- EXISTING WATER
- EXISTING SEWER
- EXISTING ELECTRICAL
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING TREE
- PROPOSED ROAD DRIVEWAY
- DESIGN CONTOURS (9.60)
- LPD
- A — CATCHMENT NAME
- CATCHMENT
- FLOW DIRECTION

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	MN	HN	AM	EC	28.09.25	ISSUED FOR APPROVAL
B	MN	HN	AM	EC	30.03.25	IR RESPONSE
C	MN	HN	AG	EC	26.10.25	IR RESPONSE
D	MN	HN	AG	EC	08.04.26	IR RESPONSE

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

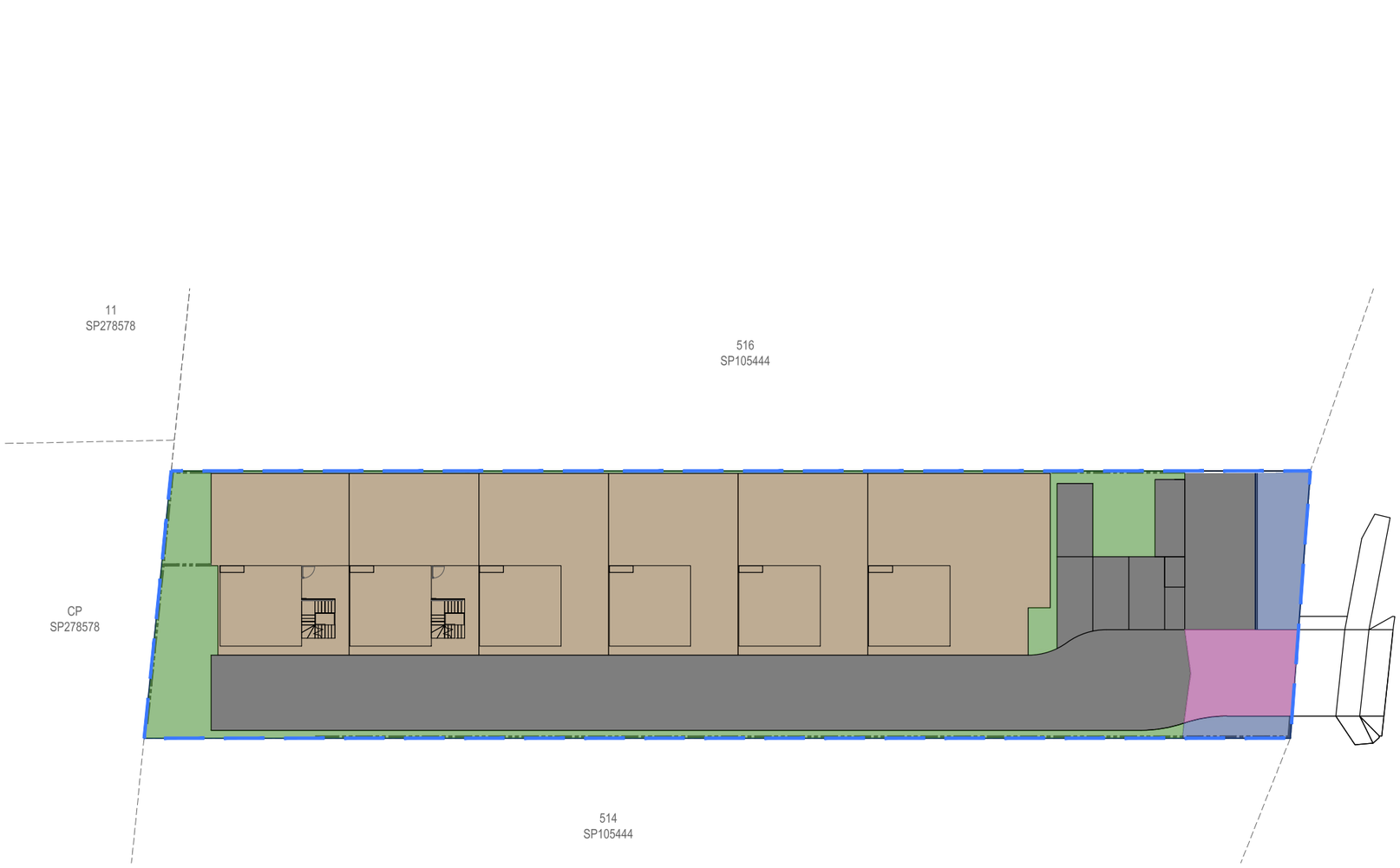
PROJECT NUMBER
2406003

DRAWING DETAILS
POST-DEVELOPMENT
CATCHMENT PLAN

SCALE	DATE
1:200 @ A3	08.04.26

DRAWING NO.	REVISION
SK011	D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



PLAN
SCALE 1:200

CATCHMENT TABLE		
	CATCHMENT	AREA (ha)
	ROOF	0.085
	ROAD	0.058
	GROUND	0.019
	ROAD BYPASS	0.005
	GROUND BYPASS	0.006

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	MN	HN	AM	EC	28.09.25	ISSUED FOR APPROVAL
B	MN	HN	AM	EC	30.03.25	IR RESPONSE
C	MN	HN	AG	EC	26.10.25	IR RESPONSE
D	MN	HN	AG	EC	08.04.26	IR RESPONSE

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
MUSIC CATCHMENT PLAN

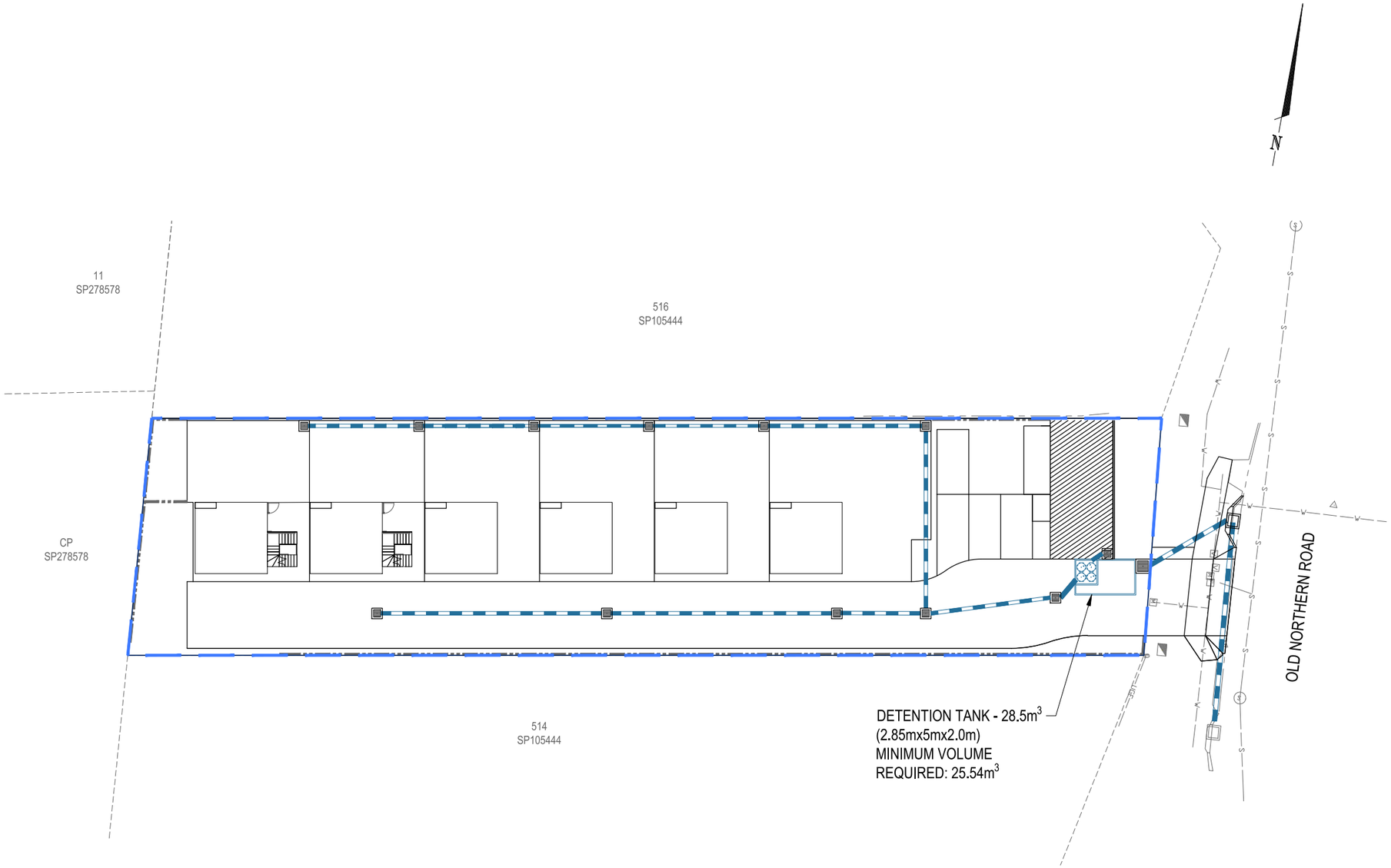
SCALE
1:200 @ A3

DATE
08.04.26

DRAWING NO.
SK012

REVISION
D

DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



PLAN
SCALE 1:200

LEGEND

- EXISTING STORMWATER
- EXISTING WATER
- EXISTING SEWER
- EXISTING ELECTRICAL
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING TREE
- PROPOSED ROAD DRIVEWAY

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	MN	HN	AM	EC	28.09.25	ISSUED FOR APPROVAL
B	MN	HN	AM	EC	30.03.25	IR RESPONSE
C	MN	HN	AG	EC	26.10.25	IR RESPONSE
D	MN	HN	AG	EC	08.04.26	IR RESPONSE

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 1 2 3 4 5 6 7 8
SCALE 1:100 (A1) SCALE 1:200 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

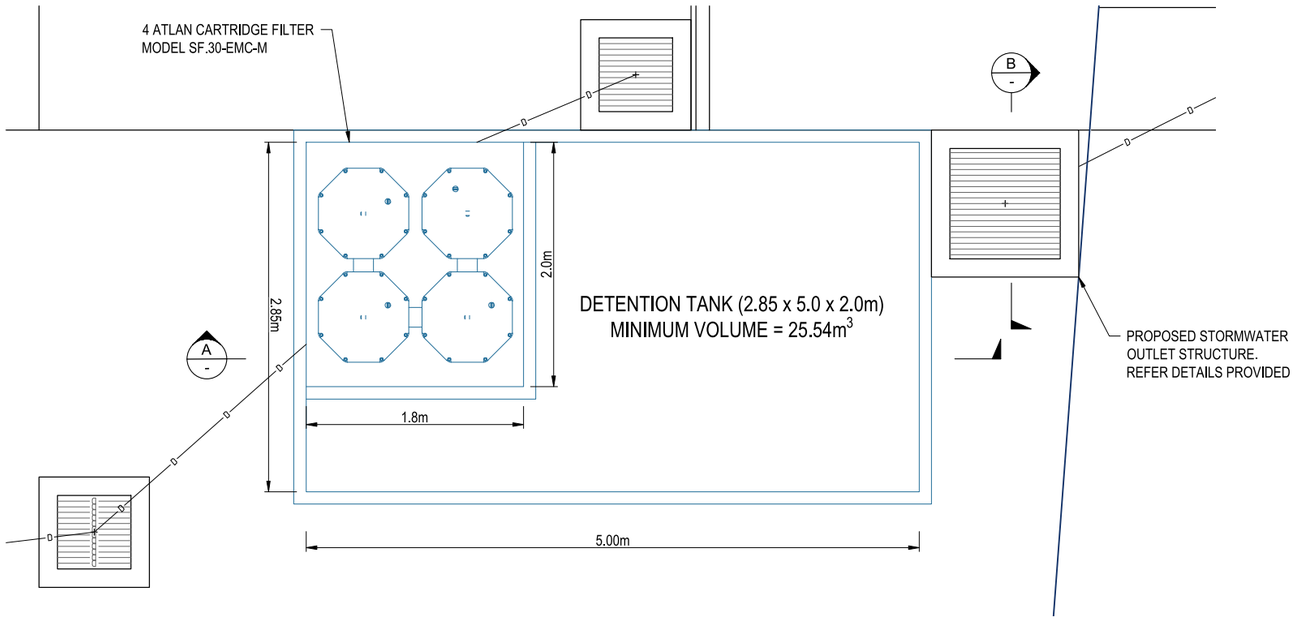
PROJECT NUMBER
2406003

DRAWING DETAILS
OPERATIONAL CONTROL PLAN

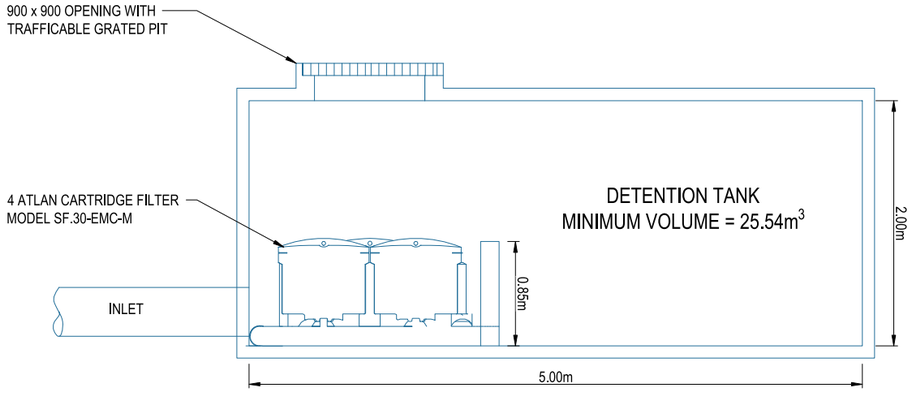
SCALE	DATE
1:200 @ A3	08.04.26

DRAWING NO.	REVISION
SK013	D

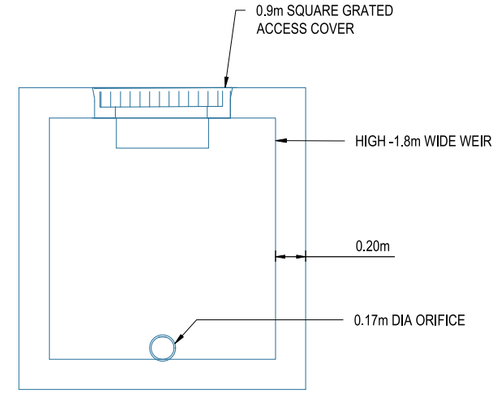
DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION.
USE WRITTEN DIMENSIONS ONLY, DO NOT SCALE.



TANK DETAIL
SCALE 1:25



A SECTION
SCALE 1:25



B OSD OUTLET STRUCTURE
SCALE 1:20

ISSUE	DESIGN	DRAWN	CHECK	APPROVED	DATE	REVISION DETAILS
A	MN	HN	AM	EC	28.09.25	ISSUED FOR APPROVAL
B	MN	HN	AM	EC	30.03.25	IR RESPONSE
C	MN	HN	AG	EC	26.10.25	IR RESPONSE
D	MN	HN	AG	EC	08.04.26	IR RESPONSE

DRAWING STATUS
ISSUED FOR APPROVAL

APPROVED
BY: AHMED GADALLA **RPEQ:** 35699
DATE: 08.04.26
SIGN:

A&E Direct Consulting
we value our relationship with our customers
477 Boundary Street, Springhill, Brisbane, QLD 4000
enquiries@aedirectconsulting.com
www.aedirectconsulting.com

CLIENT DETAILS
ANAYA PROPERTY PTY LTD

SCALE
0 0,25 0,5 0,75 1 1,25 1,5 1,75 2
SCALE 1:25 (A1) SCALE 1:50 (A3)

PROJECT DETAILS
194 OLD NORTHTHERN RD
EVERTON PARK

PROJECT NUMBER
2406003

DRAWING DETAILS
TANK DETAILS

SCALE
1:25 @ A3

DATE
08.04.26

DRAWING NO.
SK014

REVISION
D

Appendix D
Operational Control Plan

INSTALLATION MANUAL

AtlanFilter

(Formerly SPELFilter)

atlan.com.au

Atlan
STORMWATER

CONTENTS

FIGURE 1 AtlanFilter specifications

INTRODUCTION

Understanding how to correctly and safely install the AtlanFilter (formerly SPELFilter) is essential for the preservation of the filter's condition and its operational effectiveness.

The AtlanFilter is a highly engineered Stormwater filtration device designed to remove fine sediments, heavy metals, nitrogen and phosphorus from stormwater runoff.

The AtlanFilter relies on a spiral wound media filter cartridge. The Filters can be housed in either a concrete or fiberglass structure that evenly distributes the flow between cartridges. Flow through the filter cartridges is gravity driven and self-regulating, which makes the AtlanFilter system a low maintenance, high performance stormwater treatment device.

This manual will provide the necessary steps that are to be taken to correctly and efficiently install the AtlanFilter product.

VAULT TYPES

There are three vault types, which the AtlanFilter can be installed into:

1. Precast vault: Monolithically poured concrete vault (base and walls).
2. Cast in place vault: Custom designed for site.
3. Fiberglass vault: Must be made by an approved supplier.

FIGURE 2 AtlanFilter install

INSTALL PRE-REQUISETS

- Vault must be clean from all debris, etc.
- Vault must be easily accessible.
- 900 x 900mm lid must be installed correctly and operational.
- Structure of the tank must be safe and hazard free.

HEALTH & SAFETY

PERSONAL HEALTH & SAFETY

When carrying out the necessary installation operations of the AtlanFilter all contractors and staff personnel must comply with all current workplace health and safety legislation.

The below measures should be adhered to as practically as possible.

- Comply with all applicable laws, regulations and standards.
- All those involved are informed and understand their obligations in respect of the workplace health and safety legislation.
- Ensure responsibility is accepted by all employees to practice and promote a safe and healthy work environment.

FIGURE 3 Safety materials

PERSONAL PROTECTIVE EQUIPMENT/SAFETY EQUIPMENT

When carrying out the necessary installation operations of the AtlanFilter, wearing the appropriate personal protective equipment and utilising the adequate safety equipment is vital to reducing potential hazards.

Personal protective equipment/safety equipment in this application includes:

- Eye protection
- Safety apron
- Fluorescent safety vest
- Form of skin protection
- Puncture resistant gloves
- Steel capped safety boots
- Ear muffs
- Hard hat/s
- Sunscreen

IF CLASSED AS CONFINED SPACE

- Harness
- Gas detector
- Tripod
- Spotter

MATERIALS REQUIRED

MATERIALS REQUIRED TO INSTALL ATLANFILTERS

When installing the AtlanFilter, having the necessary tools and equipment is vital to an efficient and effective installation process.

Manifold pipework is to be supplied by plumber or on-site contractor.

Tools that will be required include:

- PVC pipe primer
- PVC pipe cement
- Hammer drill
- Hammer
- Hole saw
- Battery/power drill
- Hack saw
- Ratchet kit
- Shovel
- Tripod
- Winch/chain block for lowering Filters into vault
- Ladder
- Sikaflex gun

Items/products that will be included:

- AtlanFilter/s
- Weir wall & fixings
- Energy dissipater (if required)
- Pipework & fittings
- Fixings
- Anti-floatation brackets

FIGURE 4 AtlanFilter install set-up

INSTALLATION

AtlanFilter installation procedures may vary depending on the configuration of the AtlanFilters, the type of vault and engineers specs. Installation instructions for manhole AtlanFilter systems and precast vault AtlanFilter systems are contained in this section.

Custom AtlanFilter systems may have particular installation issues that will be addressed during the design.

INSTALLATION OF A ATLAN FILTER SYSTEM PROCEDURE

1. Implement pre-start safety measures.

Ensure that the area in which operational works are to be carried out is cordoned off, to prevent unauthorised access. Adequate safety barriers must be erected. Area in which work is to be carried out must be clean, safe and hazard free. (Refer to figure 4.)

2. Set-up gantry tripod above manhole.

Assemble and position the gantry above the manhole safely and as practically as possible. Attach the winch or chain block to the gantry for lifting the Atlan Filters. Perform safety procedures ie. Attach harnesses etc. (if confined space).

3. Open manhole lid.

Once you have sent up the Gantry and ensured that the area is safe to operate in, you can proceed to open the manhole lid, using lid lifters.

4. Conduct gas tests (If tank is classed confined space).

Once the lids have been removed to a safe distance to prevent tripping, you must then proceed to conduct gas tests. Perform necessary gas tests according to the confined space regulations.

5. Once confined space has been deemed safe to operate in, enter tank safely.

Once you have carried out the required gas test and the work area is deemed safe, you may then enter the pit via a ladder or winch system to assess the work area you will be operating in. Ensure all confined space procedures are followed.

6. Set up weir wall over outlet pipe and energy dissipater over inlet pipe (if required).

When installing the weir wall you must ensure that it is securely bolted to the tank wall and completely sealed. Centre the aluminium weir over the outlet pipe and fix weir to tank wall with the supplied fixings. Then use Sikaflex to seal around the edge of the weir and filter outlet pipework.

7. Install pipework and AtlanFilters.

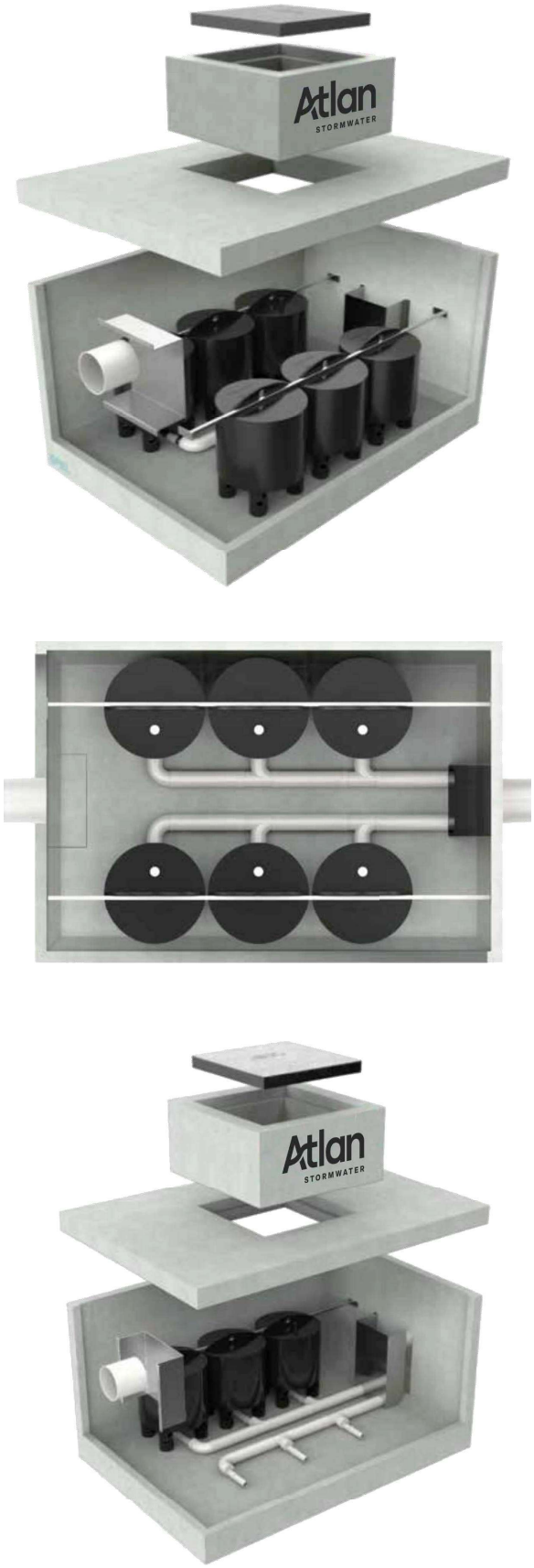
Please refer to the below standard install diagrams for the Atlan Filters. Then refer to your site specific drawings, as site requirements may require something different to the standard layout. Lower filters into tank, position into place, connect filter outlet pipework with the supplied fittings.

8. Install anti-floatation bars.

Please refer to the detailed drawings showing how the anti-floatation (Anchor) bars are to be installed.

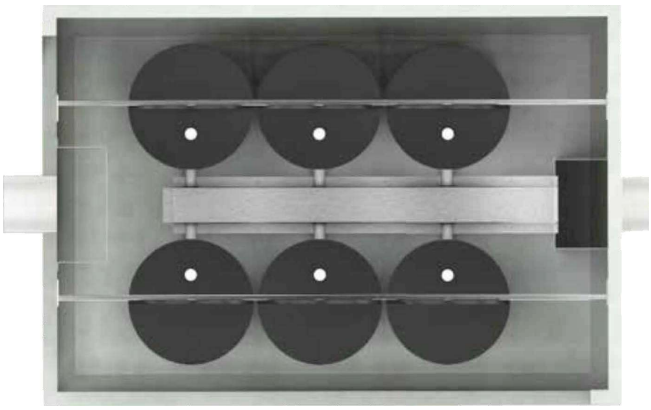
INSTALL EXAMPLES

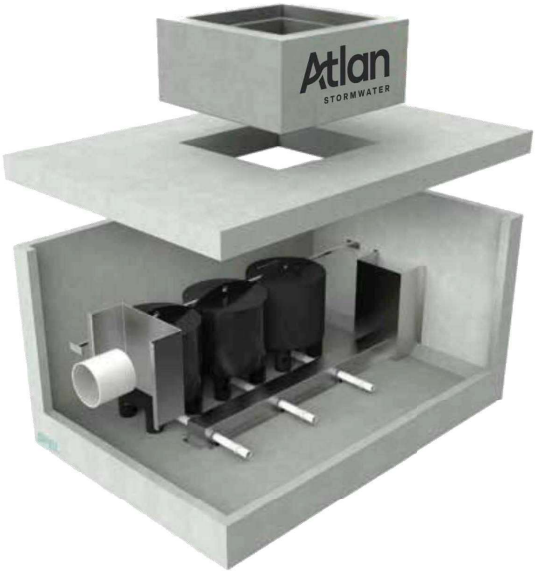
FIGURE 5
Standard install with PVC Outlet pipework



INSTALL EXAMPLES

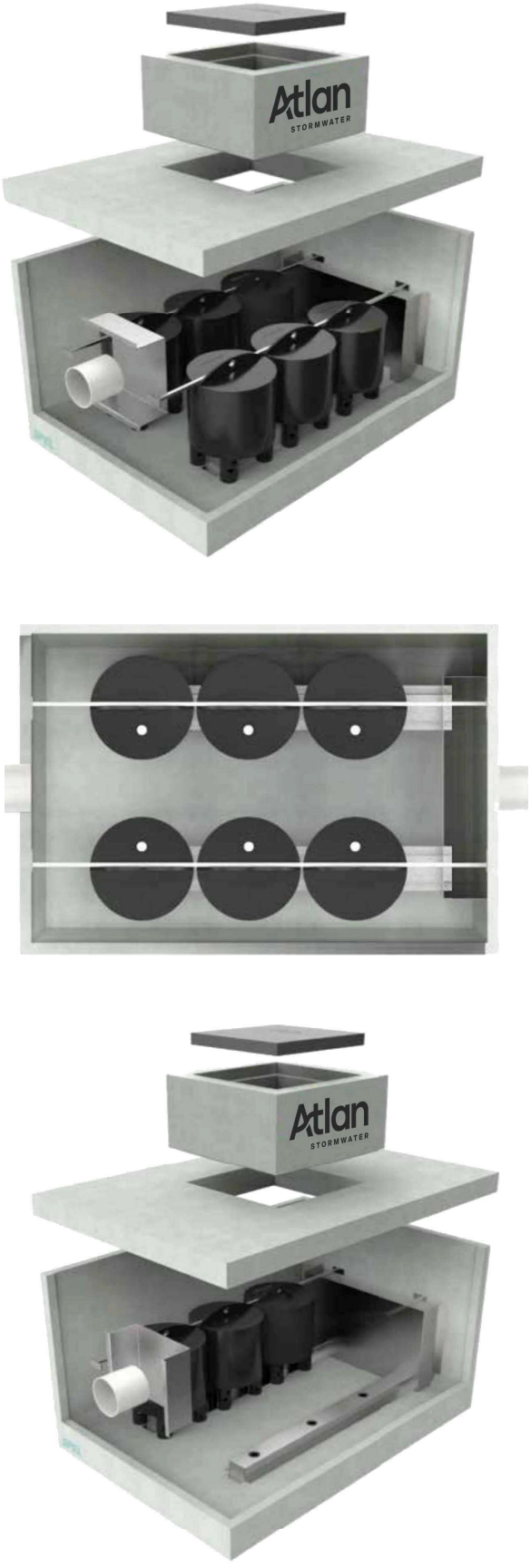
FIGURE 6 Standard install with Channel system Outlet pipework (1)





INSTALL EXAMPLES

FIGURE 7 Standard install with Channel system Outlet pipework (2)



INSTALLATION MANUAL

AtlanFilter

NSW HEAD OFFICE 100 Silverwater Rd, Silverwater NSW 2128 PO Box 7138, Silverwater NSW 1811 P: +61 2 8705 0255 P: 1300 773 500 nsw.sales@atlan.com.au	**QLD MAIN OFFICE** 130 Sandstone Pl, Parkinson QLD 4115 P: +61 7 3271 6960 P: 1300 773 500 qld.sales@atlan.com.au	**VIC & TAS OFFICE** 897 Wellington Rd Rowville VIC 3178 P: +61 3 5274 1336 P: 1800 810 139 sales@atlan.com.au **VIC GEELONG BRANCH** 70 Technology Close, Corio VIC
SA OFFICE 9 Hampden Road, Mount Barker SA 5251 P: 1300 773 500 sales@atlan.com.au	**QLD SUNSHINE COAST BRANCH** 19-27 Fred Chaplin Cct, Bells Creek, QLD 4551 P: 1300 773 500 qld.sales@atlan.com.au	**WA OFFICE** P: +61 8 9350 1000 P: 1800 335 550 sales@atlan.com.au
NZ OFFICE WANGANUI 43 Heads Road Wanganu New Zealand P: +64 6 349 0088 sales@atlan.com.au atlan.co.nz	**NZ OFFICE WELLINGTON** 41 Raiha St Porirua Wellington New Zealand P: +64 4 239 6006 sales@atlan.com.au atlan.co.nz	**NZ OFFICE AUCKLAND** 100 Montgomerie Road Airport Oaks P: +64 9 276 9045 sales@atlan.com.au atlan.co.nz

Joy in water

'We believe clean waterways are a right not a privilege and we work to ensure a Joy in Water experience for you, with your children and grandchildren.'

Andy Hornbuckle

Atlan STORMWATER

P 02 8705 0255 | sales@atlan.com.au
100 Silverwater Rd, Silverwater NSW 2128 Australia
atlan.com.au

0524

OPERATION & MAINTENANCE MANUAL

AtlanFilter

(Formerly SPELFilter)

atlan.com.au

Atlan
STORMWATER

CONTENTS

INTRODUCTION

Understanding how to correctly and safely maintain the AtlanFilter (formerly SPELFilter) is essential for the preservation of the filter's condition and its operational effectiveness. The AtlanFilter is a highly engineered stormwater filtration device designed to remove sediments, heavy metals, nitrogen and phosphorus from stormwater runoff.

The filters can be housed in either a concrete or fibreglass structure that evenly distributes the flow between cartridges.

Flow through the filter cartridges is gravity driven and self-regulating, which makes the AtlanFilter system a low maintenance, high performance stormwater treatment device.

This guide will provide the necessary steps that are to be taken to correctly and efficiently ensure the life of the AtlanFilter product.

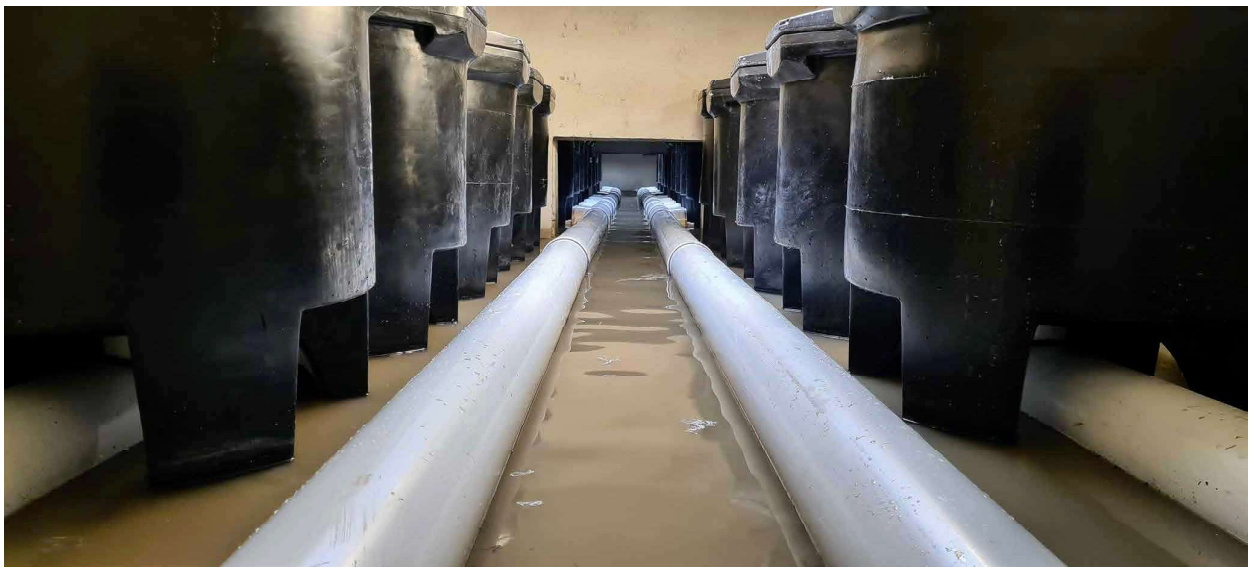


Figure 1 - AtlanFilters in a concrete chamber / vault

FEATURES

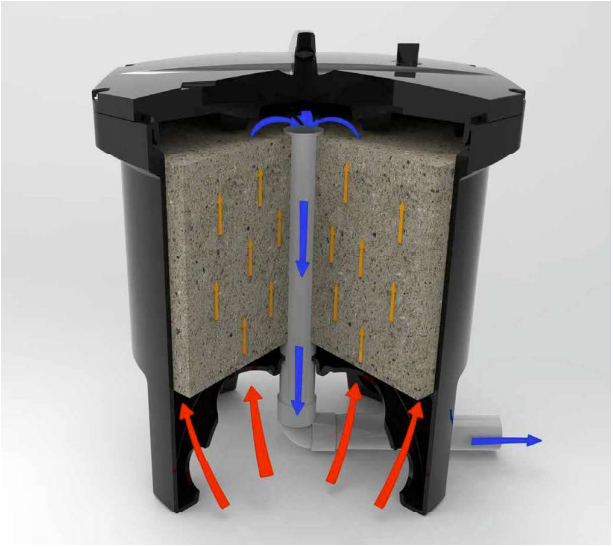


Figure 2 - Diagram of water flow through AtlanFilter

The AtlanFilter has a patented design that facilitates influent flow over the entire surface area of the media, providing consistent pollutant removal within a small footprint.

The AtlanFilter provides highly effective media filtration using gravity flow conditions, without the need for moving parts or floating valves. This eliminates the risk of mechanical failure, such as stuck valves and seizing components during its service life. This provides highly robust treatment performance.

Hydraulic head provided by a suitably sized weir in the filter vault forces stormwater through the filter media via the inlet ports underneath the filter cartridge.

Refer to the table below for minimum head required for the AtlanFilter cartridges to assist in sizing the weir.

The water to be treated enters the AtlanFilter cartridge via an upwards direction as the water level builds up around the AtlanFilter. This 'up flow' reduces the amount of sediment that could enter the media cartridge, as the sediment is allowed to drop to the vault floor under gravity. Any remaining sediment in the water is introduced through the filter media under hydraulic pressure and is filtered.

Water is filtered through the media, where dissolved and particulate Total Nitrogen and Total Phosphorus are removed via reaction with the media, in addition to the removal of Total Suspended Solids / sediment.

AtlanFilter Media Self-Backwash feature

A one-way air release valve located at the top of the filter cartridge allows air to escape as the cartridge fills up with water. This creates a siphonic flow condition as the air is completely evacuated from inside the AtlanFilter cartridge. Siphonic flow conditions are maintained until such time the water level outside of the cartridge falls beneath the inlet ports underneath the filter. At this moment, the water level inside the AtlanFilter cartridge is higher than the surrounding water level.

The water inside the AtlanFilter cartridge is then expelled upon the break of the siphon, and the water flows down and out of the inlet ports under gravity, onto the vault floor.

This is a highly effective backwash of the media and allows the expulsion of a high proportion of sediment out from the AtlanFilter media. The expelled sediment can be removed either manually or with a vacuum from the vault floor.

This backwash effect allows the media to remain highly conductive and is the key to the industry leading longevity of the AtlanFilter cartridge system, which does not need replacement for at least 5 years, and typically will achieve up to 6-8years of service, subject to the AtlanFilter being regularly maintained in accordance with this guideline and in accordance with the specific needs of the catchment.

Figure 3 - Typical Outlet Weir Wall

FEATURES

Self Supporting Feet

Each AtlanFilter cartridge stands on 4 feet, which negates the need for the construction of a false floor in the vault. The feet are bolted to the vault floor with the supplied stainless steel angles and M10 bolts. The feet allow a clear height from the vault floor up to the inlet ports of 240mm. The absence of a false floor allows plenty of room for backwashed sediment to evacuate from underneath the cartridges and thereby avoid blocking the inlet ports to the AtlanFilter from sediment buildup. It is for this reason that Atlan recommended the sediment buildup not exceed 150mm above the vault floor, so as to avoid blocking the inlet ports of the AtlanFilter. Blockage of the inlet ports due to sediment accumulation in the vault floor will cause the AtlanFilter to go into bypass and be ineffective. Hence it is important to keep up to date with monitoring and maintaining the AtlanFilter vault.

Figure 4 - Bolting the feet.

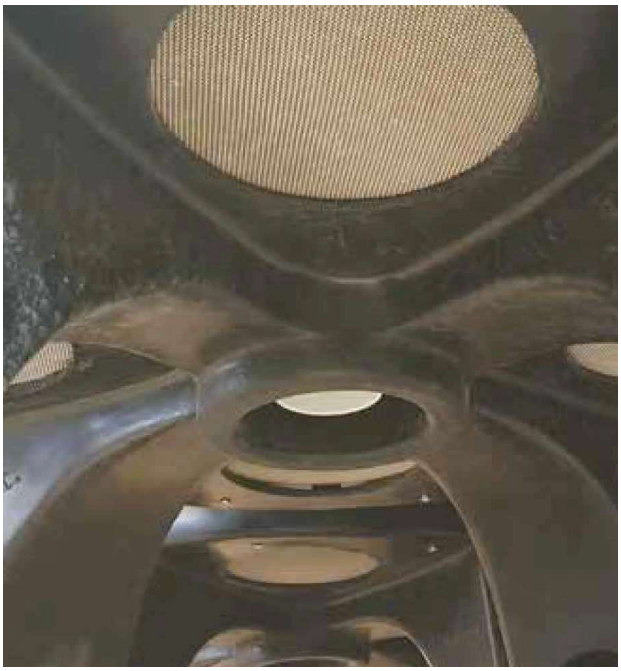


Figure 5 - Underside of the AtlanFilter showing the screened inlet ports and the connection for the outlet pipe in the middle.

Figure 6 - the top of the AtlanFilter showing the location of the one way air valve.

SIZES

Atlan Stormwater manufactures two height cartridges for varying site constraints as shown below. Each cartridge is designed to treat stormwater at a flow rate of 1.5 litres per second and 3.0 litres per second for the half height cartridge (model no. FIL-1.5) and full-height cartridge (model no. FIL-3.0) respectively.

	Full Height FIL-3.0	Half Height FIL-1.5
AtlanFilter total height	860mm	660mm
AtlanFilter Diameter	740mm	740mm
Minimum Head required	850mm	550mm
Treatment flow rate	3.0 L/s	1.5 L/s
Height of inlet ports above vault floor	250mm	250mm
Filtered water collection pipe diameter	50mm	50mm

AtlanFilter Full Height - FIL-3.0

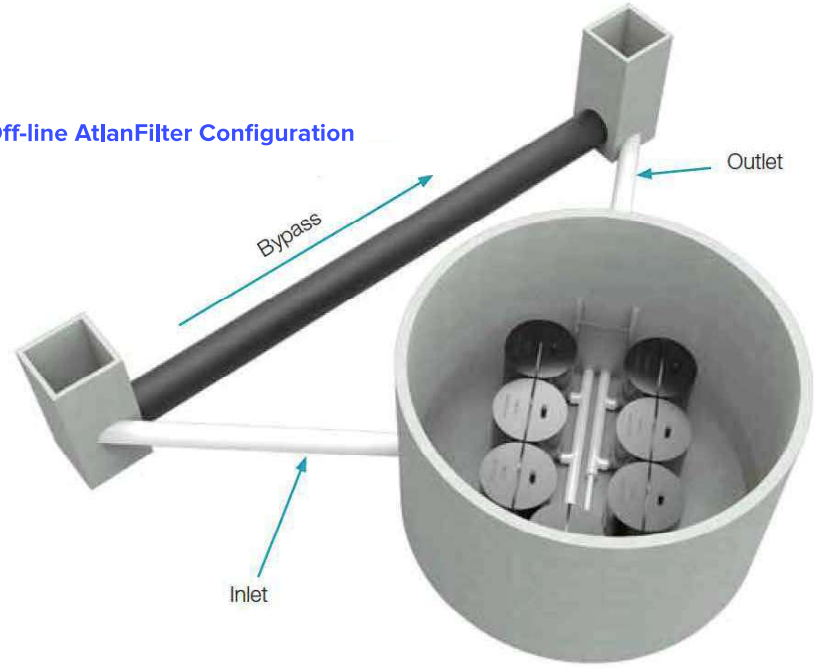
AtlanFilter Half Height - FIL1.5

SYSTEM CONFIGURATION

AtlanFilter cartridges are installed in concrete or fibreglass tanks commonly referred to as ‘vaults’. The vault selection and configuration are based on site characteristics and/or constraints; computational stormwater quality modelling; and selected AtlanFilter models. Typical AtlanFilter system configurations are shown below.

In-line AtlanFilter Configuration

Off-line AtlanFilter Configuration



HEALTH AND SAFETY

A. Personal health & safety

When carrying out the necessary installation operations of the AtlanFilter all contractors and staff personnel must comply with all current workplace health and safety legislation.

The below measures should be adhered to as practically as possible.

- Comply with all applicable laws, regulations and standards.
- All those involved are informed and understand their obligations in respect of the workplace health and safety legislation.
- Ensure responsibility is accepted by all employees to practice and promote a safe and healthy work environment.

B. Personal protective equipment/safety equipment

When carrying out the necessary installation operations of the AtlanFilter, wearing the appropriate personal protective equipment and utilising the adequate safety equipment is vital to reducing potential hazards.

Personal protective equipment / safety equipment in this application includes:

- Eye protection
- Safety apron
- Fluorescent safety vest
- Form of skin protection
- Puncture resistant gloves
- Steel capped safety boots
- Ear muffs
- Hard hat/s
- Sunscreen

C. Confined space

In the event access is required into the vault, confined space permits will be required which is not covered in this Guide. Typical equipment required for confined space entry include:

- Harness
- Gas detector
- Tripod
- Spotter

D. Traffic Control

It is not uncommon for Atlan Filter cartridges to be installed underneath trafficable areas. Minimum traffic control measures will need to be put in place in accordance with traffic control plans set out by respective local and state road authorities.

Vaults are to be treated as confined space.

Entry by permit only.

Monitor weather conditions prior to operation maintenance. Do not enter a vault during an episode of heavy rain as this can create a risk of drowning.

MAINTENANCE FREQUENCY

The AtlanFilter's design allows for a greater life span when frequently maintenance. Maintenance is broken up into three categories which include:

- Standard inspection
- General cleaning
- Cartridge replacement.

Standard Inspection

Standard inspections are conducted at regular four month intervals. At this time, an approved trained maintenance officer or Atlan representative shall undertake all measures outlined in Maintenance Procedure, Standard Inspection.

General Cleaning

At the end of each standard inspection, trigger measures will identify if general cleaning is required.

General cleaning will need to be executed immediate during standard inspections if the follow triggers are satisfied:

- Build-up of debris/pollutants within the vault greater than 150mm;
- Accumulation of debris/pollutants on the outlet chamber of the AtlanFilter vault;
- After large storm events, tidal or flooding impacts at the request of the owner;

Cartridge Replacement

Stormwater treatment is dependent on the effectiveness of the AtlanFilter cartridge system. As the AtlanFilter ages, pollutants will inundate the cartridge and ultimately reduce the treatment flow rate. At this point, a AtlanFilter flow test apparatus will be utilities to determine if replacement cartridges are required.

Based on the [site] concept modelling (MUSIC) and previous industry experience, we estimate the life of the AtlanFilter to be between 6 - 8 years. As a minimum requirement, each AtlanFilter cartridge should be replaced within 10 years.

The life cycle of the AtlanFilter can be impacted if standard inspections and general maintenance is not undertaken in accordance with this operation and maintenance Guide.

Other factors that will affect the above life cycle of the AtlanFilter include:

- Installation of cartridge system during construction phase and impacted by construction sediment loads;
- Neglecting to install pre-treatment using an industry approved GPT or a surface inlet pit trash bag such as the Atlan StormSack.
- Unforeseen environmental hazards affecting the AtlanFilter functionality.

MAINTENANCE PROCEDURES

Stormwater pollutants captured and retained by the AtlanFilter system need to be periodically removed to ensure environmental values are upheld. All associated maintenance works is heavily dependent on the site's operational activities and generated stormwater pollutants. To ensure the longevity of the installed AtlanFilter treatment system, it is imperative that the procedures detailed in this Guide are followed and all appropriate measures are actioned immediately.

Standard inspection

The standard inspection requires personal experience of Atlan products to visual inspection the vault and filter conditions.

Confined space requirements may not be required if a full inspection and assessment of each AtlanFilter can be achieved at surface level without being deemed a confined space entry.

The standard inspection requires personal experience of Atlan products to visual inspection the vault and filter conditions.

Confined space requirements may not be required if a full inspection and assessment of each AtlanFilter can be achieved at surface level without being deemed a confined space entry.

Site Inspection Procedures

1. Implement pre-start safety measures

Ensure that the area in which operational works are to be carried out is cordoned off, to prevent unauthorised access. Adequate safety barriers must be erected.

Area in which work is to be carried out must be clean, safe and hazard free. (Refer to figure 4.)

2. Set-up gantry tripod above manhole

Assemble and position the gantry above the manhole safely and as practically as possible. Attach the winch or chain block to the gantry for lifting the Atlan Filters.

Perform safety procedures ie. Attach harnesses etc. (if confined space).

3. Open manhole lid

Once you have set up the Gantry and ensured that the area is safe to operate in, you can proceed to open the manhole lid, using lid lifters.

4. Conduct gas tests

(If tank is classed confined space)

Once the lids have been removed to a safe distance to prevent tripping, you must then proceed to conduct gas tests. Perform necessary gas tests according to the confined space regulations.

5. Once confined space has been deemed safe to operate in, enter tank safely

Once you have carried out the required gas test and the work area is deemed safe, you may then enter the pit via a ladder or winch system to assess the work area you will be operating in. Ensure all confined space

6. AtlanFilter system assessment

Perform a review of the AtlanFilter system using the AtlanFilter assessment report/checklist. Sign off and forward a copy of the report to property manager and Atlan representative.

7. Reinstate AtlanFilter system and disposal

At the completion of the site inspection, ensure the site is reinstated back to its initial state and all pollutants are removed from the site in line with pollutant disposal procedures.

8. Sign off and forward a copy of the report to property manager and Atlan representative

GENERAL CLEANING

Vacuum out of Filter tank, removal, and disposal of pollutants at the completion of a standard inspection, general cleaning may be deemed necessary immediately or scheduled for a future date. Steps undertaken for general cleaning should be in general accordance with the procedure outlined below but not limited.

1. Implement pre-start safety measures

Ensure that the area in which operational works are to be carried out is cordoned off, to prevent unauthorised access. Adequate safety barriers must be erected.

Area in which work is to be carried out must be clean, safe and hazard free. (Refer to figure 4.)

2. Set-up gantry tripod above manhole

Assemble and position the gantry above the manhole safely and as practically as possible. Attach the winch or chain block to the gantry for lifting the AtlanFilters.

Perform safety procedures ie. attach harnesses etc. (if confined space).

3. Open manhole lid

Once you have sent up the Gantry and ensured that the area is safe to operate in, you can proceed to open the manhole lid, using lid lifters.

4. Conduct gas tests

(If tank is classed confined space)

Once the lids have been removed to a safe distance to prevent tripping, you must then proceed to conduct gas tests. Perform necessary gas tests according to the confined space regulations.

5. Once confined space has been deemed safe to operate in, enter tank safely

Once you have carried out the required gas test and the work area is deemed safe, you may then enter the pit via a ladder or winch system to assess the work area you will be operating in. Ensure all confined space

6. AtlanFilter system assessment

Perform a review of the AtlanFilter system using the AtlanFilter assessment report/checklist.

7. Pollutant removal from tank

Perform clean-up using a licenced vacuum truck contractor or wet/dry vacuum, depending on level of sediment built up and/or tank size.

8. Reinstate AtlanFilter system and disposal

At the completion of the site inspection, ensure the site is reinstated back to its initial state and all pollutants are removed from the site in line with pollutant disposal procedures.

9. Sign off and forward a copy of the report to property manager and Atlan representative

CARTRIDGE RECYCLING AND REPLACEMENT

AtlanFilter cartridges can be swapped out for new cartridges. The spent AtlanFilter cartridges can be collected from site and sent to Atlan Stormwater's facilities, where the spent media will be removed from the cartridge in factory conditions and disposed of in accordance with environmental regulations.

The AtlanFilter cartridge will be recharged with new media, thereby recycling and repurposing the cartridge.

AtlanFilter replacement procedures may vary depending on the configuration of the AtlanFilters, the type of vault and engineers' specs. Replacement instructions for manhole AtlanFilter systems and precast vault AtlanFilter systems are contained in this section.

At the completion of a standard inspection, AtlanFilter replacement may be deemed necessary immediately or scheduled for a future date. Steps undertaken for cartridge replacement should be in general accordance with the procedure outlined below but not limited.

1. Implement pre-start safety measures

Ensure that the area in which operational works are to be carried out is cordoned off, to prevent unauthorised access. Adequate safety barriers must be erected.

Area in which work is to be carried out must be clean, safe and hazard free.

2. Set-up gantry tripod above manhole

Assemble and position the gantry above the manhole safely and as practically as possible. Attach the winch or chain block to the gantry for lifting the AtlanFilters.

Perform safety procedures ie. attach harnesses etc. (if confined space).

3. Open manhole lid

Once you have sent up the gantry and ensured that the area is safe to operate in, you can proceed to open the manhole lid, using lid lifters.

4. Conduct gas tests

(If tank is classed confined space)

Once the lids have been removed to a safe distance to prevent tripping, you must then proceed to conduct gas tests. Perform necessary gas tests according to the confined space regulations.

5. Once confined space has been deemed safe to operate in, enter tank safely

Once you have carried out the required gas test and the work area is deemed safe, you may then enter the pit via a ladder or winch system to assess the work area you will be operating in. Ensure all confined space procedures are followed.

6. Remove exhausted cartridges

Disconnect all internal pipe work from inside the vault. Unbolt anti-floatation measures and remove cartridges from the vault using Gantry Tripod method.

7. Pollutant removal

Using a wet/dry vacuum or sucker truck, suck out all the residual pollutant from the vault.

8. Install pipework and AtlanFilters

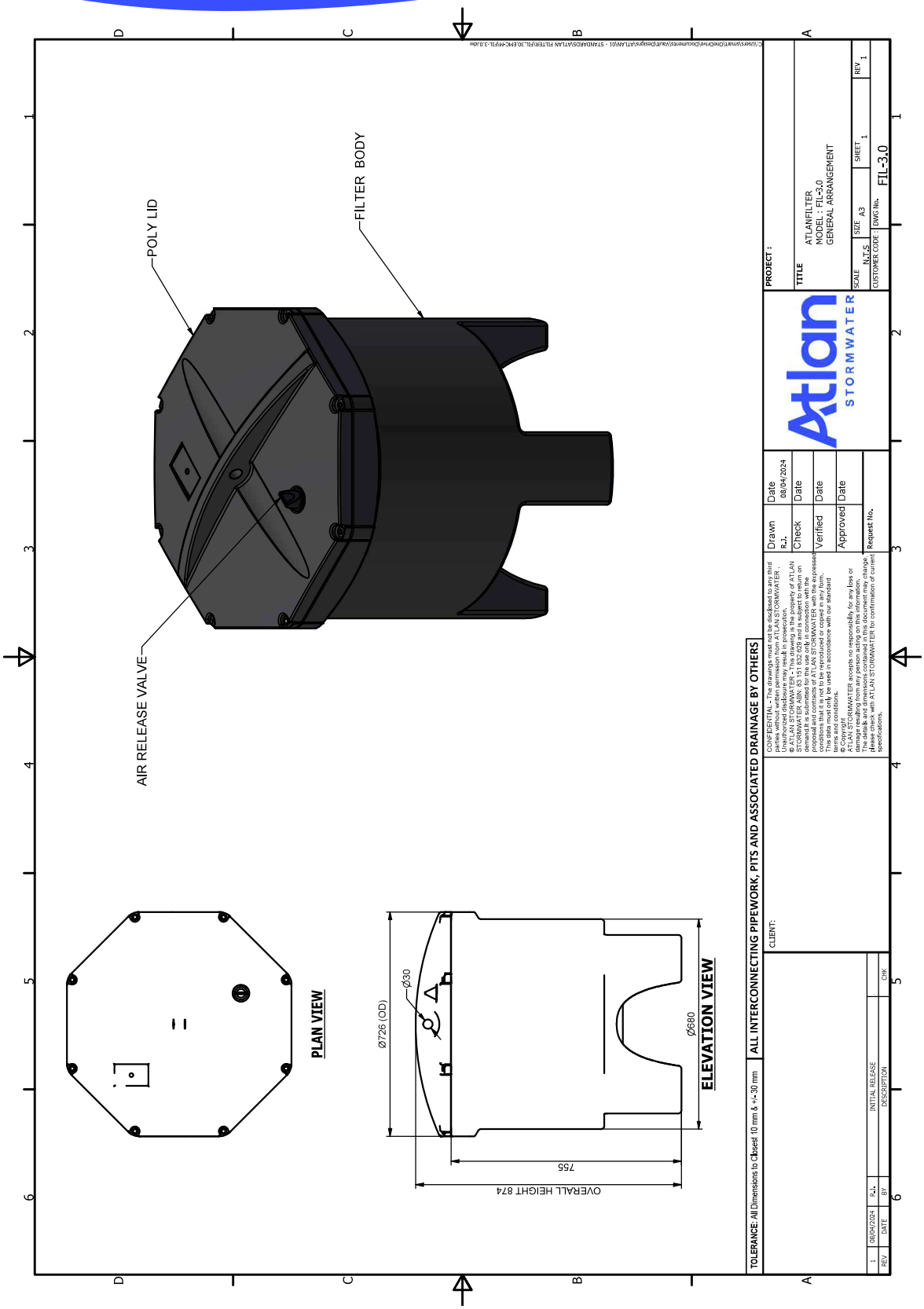
Please refer to the below standard install diagrams for the AtlanFilters. Then refer to your site specific drawings, as site requirements may require something different to the standard layout. Lower filters into tank, position into place, connect filter outlet pipework with the supplied fittings.

9. Install anti–floatation system

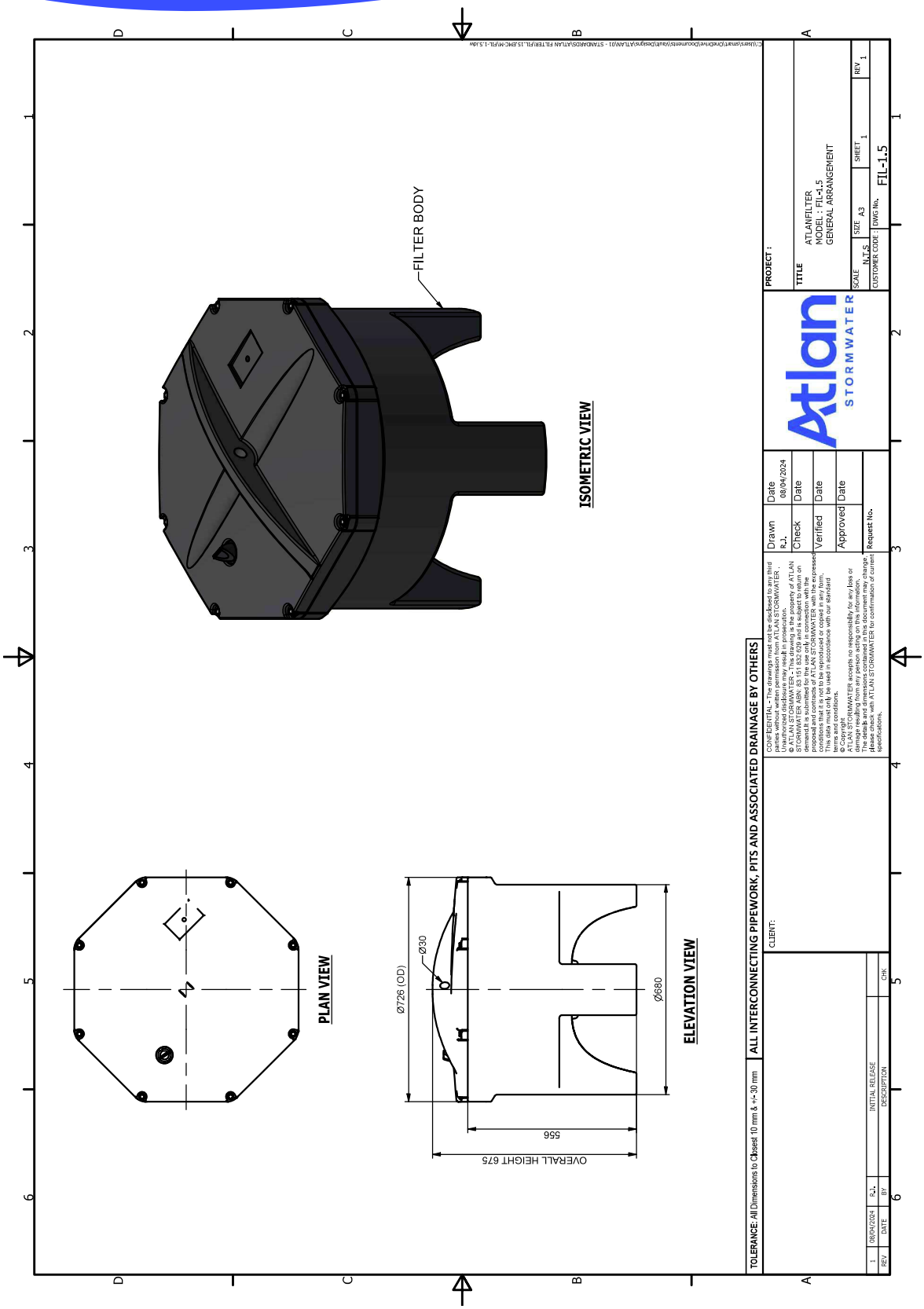
Please refer to the detailed drawings showing how the anti-floatation (anchor) bars are to be installed.

10. Sign off and forward a copy of the report to property manager and Atlan representative

Drawing
Full Height



Drawing
Half Height



SITE EXIT & CLEAN UP

At the end of the scheduled maintenance, approved contractors or Atlan maintenance crew are required to reinstate the site to pre-existing conditions. Steps included but limited to are:

- Ensure all access covers are securely inserted back into their frames;
- Remove and dispose collected pollutants from the site in accordance with local regulator authorities;
- Retrieve all traffic control measures and maintenance tools; and
- Return all exhausted and/or damaged Atlan products to Atlan Stormwater to begin recycling program.

Joy in water

‘We believe clean waterways are a right not a privilege and we work to ensure a Joy in Water experience for you, with your children and grandchildren.’

Andy Hornbuckle

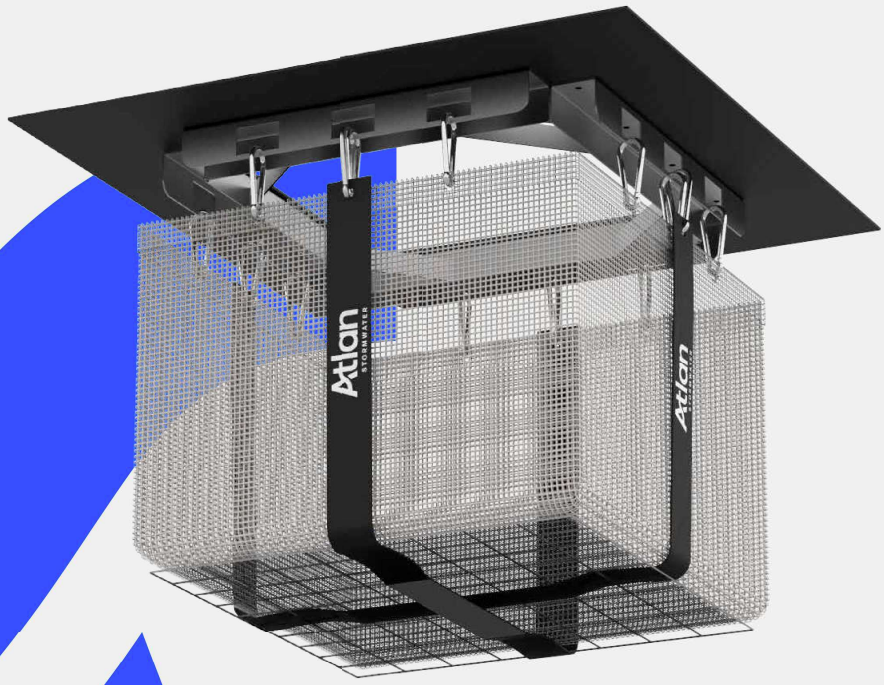
Atlan
STORMWATER

P 02 8705 0255
sales@atlan.com.au
100 Silverwater Rd,
Silverwater NSW 2128
atlan.com.au

0524

INSTALLATION MANUAL

StormSack



atlan.com.au

Atlan
STORMWATER

INTRODUCTION

The purpose of this manual is to indicate the safest and most efficient method in installing the StormSack.

INSTALLATION
The aim of all StormSack installations is to install the largest unit into each pit, without influencing the hydraulic performance of the pit or drainage system. To provide clarification on certain aspects of the installation the following tolerances are included.

SAFETY

PERSONAL PROTECTIVE EQUIPMENT
The following personal protective equipment is required by staff for install activities:

- High visibility vest or shirt
- Safety footwear (Steel cap toe)
- Gloves (leather palmed riggers gloves or similar)

Note: Personnel on construction and private sites must also adhere to the specific safety requirements of each work site.

INSTALLATION

1. TOOLS REQUIRED
- Tape measure
- Marker pen/texta
- Gloves
- Safety glasses
- Hearing protection
- Level/straight edge
- Grinder

2. SET UP SAFETY CONES AROUND PIT BEFORE OPENING

3. REMOVE GRATES FROM PIT READY FOR STORMSACK INSTALLATION

4. MEASURE LENGTH & WIDTH OF GRATE SUPPORT LEDGE FOR STORMSACK TO SIT ON

5. USE MEASURING TAPE AND MARKER TO MARK PLASTIC STORMSACK SUPPORT SHEET TO BE CUT OFF

6. USE LEVEL/STRAIGHT EDGE TO MARK A STRAIGHT CUTTING LINE

7. USE ANGLE GRINDER WITH CUTTING BLADE OR SIMILAR TO CUT PLASTIC STORMSACK SUPPORT SHEETING TO MATCH OPENING SIZE

8. ONCE THE PLASTIC STORMSACK SUPPORT SHEET HAS BEEN TRIMMED TO SUIT GRATE OPENING SIMPLY INSTALL INTO GRATE SUPPORT LEDGE

9. RE-INSTALL GRATES

INSTALLATION MANUAL

StormSack

NSW HEAD OFFICE 100 Silverwater Rd, Silverwater NSW 2128 PO Box 7138, Silverwater NSW 1811 P: +61 2 8705 0255 P: 1300 773 500 nsw.sales@atlan.com.au	**QLD MAIN OFFICE** 130 Sandstone Pl, Parkinson QLD 4115 P: +61 7 3271 6960 P: 1300 773 500 qld.sales@atlan.com.au	**VIC & TAS OFFICE** 897 Wellington Rd Rowville VIC 3178 P: +61 3 5274 1336 P: 1800 810 139 sales@atlan.com.au **VIC GEELONG BRANCH** 70 Technology Close, Corio VIC
SA OFFICE 9 Hampden Road, Mount Barker SA 5251 P: 1300 773 500 sales@atlan.com.au	**QLD SUNSHINE COAST BRANCH** 19-27 Fred Chaplin Cct, Bells Creek, QLD 4551 P: 1300 773 500 qld.sales@atlan.com.au	**WA OFFICE** 2 Modal Cres Canning Vale WA 6155 P: +61 8 9350 1000 P: 1800 335 550 sales@atlan.com.au
NZ OFFICE WANGANUI 43 Heads Road Wanganu New Zealand P: +64 6 349 0088 sales@atlan.com.au atlan.co.nz	**NZ OFFICE WELLINGTON** 41 Raiha St Porirua Wellington New Zealand P: +64 4 239 6006 sales@atlan.com.au atlan.co.nz	**NZ OFFICE AUCKLAND** 100 Montgomerie Road Airport Oaks P: +64 9 276 9045 sales@atlan.com.au atlan.co.nz

Joy in water

'We believe clean waterways are a right not a privilege and we work to ensure a joy in water experience for you and future generations.'

Andy Hornbuckle

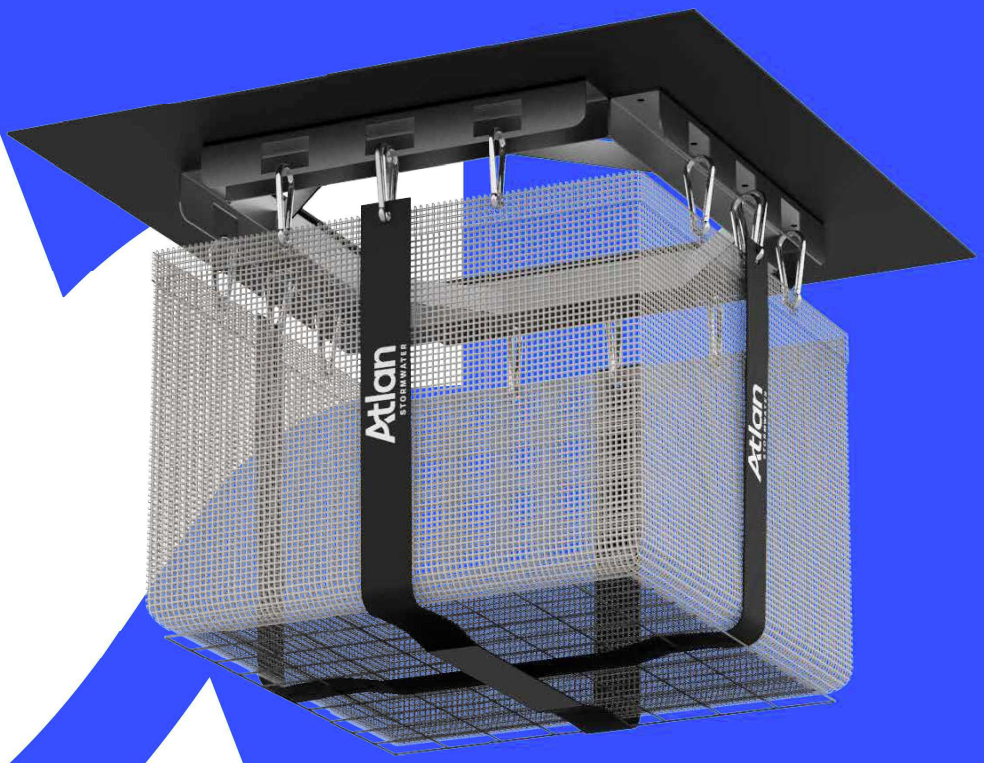
Atlan STORMWATER

P 02 8705 0255 | sales@atlan.com.au
100 Silverwater Rd, Silverwater NSW 2128 Australia
atlan.com.au

0823

OPERATION & MAINTENANCE MANUAL

StormSack



atlan.com.au

Atlan
STORMWATER

INTRODUCTION

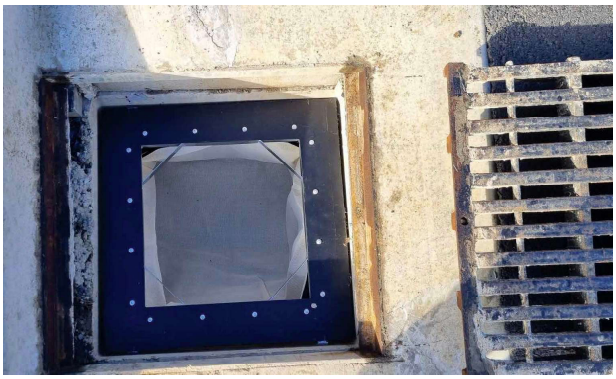
Maintenance of the Atlan StormSack is essential to preservation of its condition to ensure lifetime operational effectiveness.

The Atlan StormSack is a highly engineered water quality device that is deployed directly in the stormwater system as primary treatment to capture contaminants close to the surface for ease of maintenance.

To ensure full operational capacity, it is vital to ensure that the pollutants it captures are periodically removed, and filtration components are thoroughly cleaned.

This manual should be used in conjunction with the relevant site traffic management and safety plans, as well as any other provided documentation from Atlan.

The Atlan StormSack provides effective filtration of solid pollutants and debris typical of urban runoff, while utilising the existing or new storm drain infrastructure. The StormSack is designed to rest on the flanges of conventional catch basin frames and is engineered for most hydraulic and cold climate conditions.



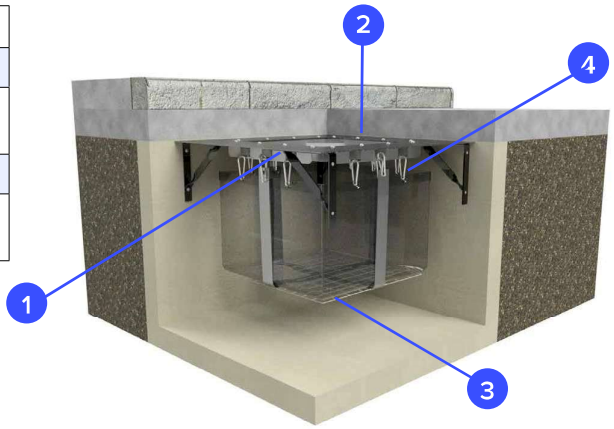
Typically the StormsSack is serviceable from the street level, and therefore maintenance does not usually require confined space entry into the catch basin structure. The unit is designed to be maintained in place with a vacuum hose attached to a sweeper or sucker truck.

COMPONENTS

- Adjustable Flange Deflector: Black HDPE attached to support frame
- Catchment Bag: 200micron woven poly fabric
- Support Hardware: Stainless steel 304
- Bag Support: Stainless steel 304 mesh
- Replaceable Oil Boom: Polypropylene 3 inch (76 mm) diameter (optional add-on)

Application	Regulatory Issue	Target Pollutants
Council Storm Drain Retrofits	At-source litter capture	Sediment, Litter, O&G
Commercial/Retail/Residential	Stormwater Compliance	Sediment, Litter, O&G
Litter Prone Urban Areas	Cost effective litter control	Litter ≥ 5 mm
Scrap Metal/Solid Waste/Oil Storage/Etc	Industrial Multi-Sector General Permit	Gross Pollutants, O&G
Part of Treatment Train	Council Stormwater Quality Improvement Targets	Sediment, Litter, O&G
Construction Sediment/Erosion	Sediment Control Plan	Sediment/Erosion Control

Features	
1.	Aluminium frame
2.	Black poly surround secured to frame • Can be cut to suit on site
3.	Reinforced StormSack bag
4.	Carabiners attach bag to frame for easy service and replacement



Standard StormSack to suit Pit Sizes
450x450mm
600x600mm
900x600mm
900x900mm

Custom sizes (i.e. 1200x900mm) can be manufactured on short lead times.

HEALTH & SAFETY

IMPORTANT: A full site based risk assessment should be completed prior to commencing work on your Atlan StormSack.

PERSONAL HEALTH & SAFETY

When carrying out maintenance operations of the Atlan StormSack all contractors and staff personnel must comply with all current workplace health and safety legislation. The below measures should be adhered as practically as possible:

- Comply with all applicable laws, regulations and standards.
- All those involved are informed and understand their obligations in respect of the workplace health and safety legislation.
- Ensure responsibility is accepted by all employees to practice and promote a safe and healthy work environment.

PERSONAL PROTECTIVE EQUIPMENT

When carrying out maintenance operations of the Atlan StormSack, wearing the appropriate personal protective equipment is vital to reducing potential hazards. Personal protective equipment in this application includes:

- Eye protection
- Safety apron
- Fluorescent safety vest
- Form of skin protection
- Puncture resistant gloves
- Steel capped safety boots

CAPTURED POLLUTANTS

The material captured by the Atlan StormSack can be harmful and needs to be handled correctly. The nature and amount of the captured pollutants depends on the characteristics of the site.

Pollutants can include from organic material such as leaves and sticks through to debris such as plastics, glass and other foreign objects such as syringes.

EQUIPMENT HANDLING

Handling activities such as a removing the drain grate a well as managing pedestrians and other non-worker personnel at the site should be exercised in accordance with specified safety procedures and guidelines.

CONFINED SPACES

Confined space entry procedures are not covered in this manual. It is requested that all personnel carrying out maintenance of the Atlan StormSack must evaluate their own needs for confined space entry and compliance with occupational health and safety regulations. Non trained staff are not permitted to participle in any confined space entries.

When maintenance operations cannot be carried out from the surface and there is a need to enter confined space, only personnel that currently hold a Confined Space Entry Permit are allowed to enter the confined space.

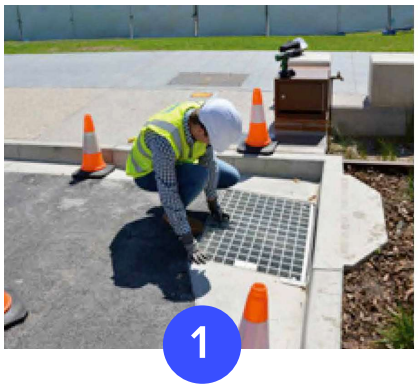
TRAFFIC MANAGEMENT

Typically stormwater gully pits are situated on roads and carparks, or adjacent to roads in a footpath or swale. As traffic requirements vary depending on the circumstance of the site, separate traffic control plans should be prepared for each site.

The specific road safety requirements for each site can be obtained from the relevant road authority to ensure all maintenance operations comply with the laws and regulations. State government publications can also be useful to find out the signage requirements, placement of safety cones and barricades that are required when working on public roads.

MAINTENANCE OF THE ATLAN STORMSACKS IS A SPECIALIST ACTIVITY

When carrying out maintenance operations of the Atlan StormSack, factors such as equipment handling methods, pollutants and site circumstances can impose potential risks to the maintainer and nearby civilians.



OPERATIONS

GENERAL MONITORING

The Atlan StormSack must be checked on a regular basis to analyse whether it requires maintenance or cleaning. As gully pit grates are usually quite heavy, it is vital to exercise the correct lifting techniques and also ensure that the area surrounding the open pit is shielded from access of non-work personnel.

To ensure optimal performance of the Atlan StormSack, the material collected by the filter bag should not exceed the level of approximately a half to two thirds of the total bag depth. When this material collected is showing signs of exceeding this level they should be scheduled to be emptied.

It is also recommended that additional monitoring is conducted following moderate to extreme rainfall events, especially when previous months have had little or no rainfall.

GULLY PIT COVER REMOVAL

Opening a hinged pit cover

1. Insert the lifting hooks beneath the grate.
2. Check hinge points are not damaged and debris is not caught in the hinge area.
3. Fully open pit grate, ensuring that the grate will stay in the open position without any external forces applied. Grates that do not remain open without being held, should be removed or secured during maintenance activities.

Opening a non-hinged pit cover

1. Place lifting hooks beneath grate, where possible in the four corners of the grate. Concrete lids may have Gatic lifting points, a key arrangement or holes in the lid, which may require special equipment such as Gatic lifters. Alternatively if safe to do so grip the grade with your hands.
2. Position each person on either side of the grate.
3. Lift the grate, ensuring that good heavy lifting posture is used at all times.
4. Place the grate on angle on the gutter, to allow for the lifting hooks to be removed.
5. For extremely heavy one-piece grates and concrete Gatic covers, insert the lifters in place and slide the lids back.

REPAIRS

Depending on the extent of the damage to the Atlan StormSack unit, it can usually be repaired.

Filter Bag Tears

Small tears to the filter bag can be repaired by either sewing the tear back together with additional fabric to increase the strength of the stitching, or by sewing a patch of filter material onto the filter bag.

Spill Procedures

In the event of a spill discharging into a gully pit, all effected sediment must be removed from the filter bags and the filter bags are to be removed and replaced with new filter bags.

Replacement Parts

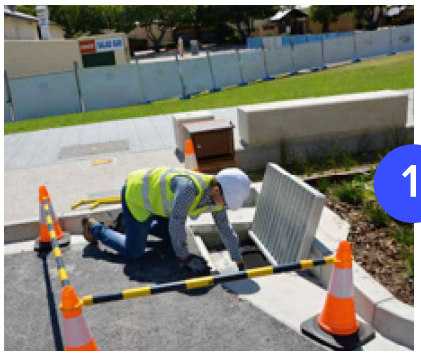
If large tears or irreparable damage to the frame and structure are present, it is advisable to replace the components.

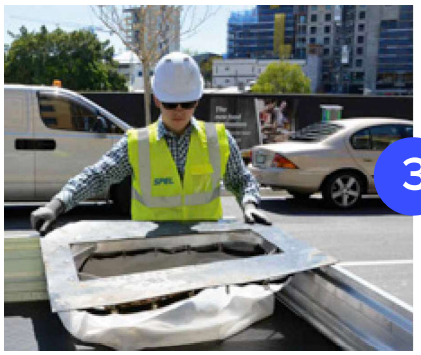
All required spare parts can be sourced directly from Atlan Stormwater.

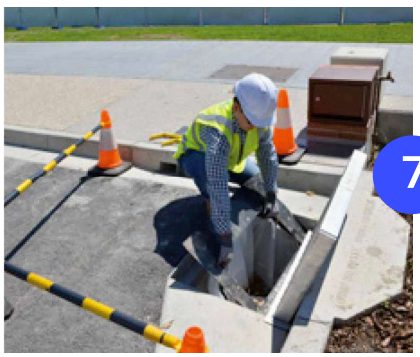
CLEANING METHODS

CLEANING USING AN VACUUM TRUCK

1. Open gully pit.
2. Place the vacuum hose, suck out all of the sediment, organic leaf material, litter and other materials that were collected in the filter bag.
3. Allow the filter bag to be sucked up in the vacuum hose for a few seconds to allow for the filter mesh pores to be cleaned.
4. Use the vacuum hose to remove any build-up of material around the overflows and in the bottom of the pit.
5. Remove filter back from pit.
6. Remove any sediment and litter caught in the gully pit grate.
7. Back opening channels are to be cleared of any debris to ensure flow is not hindered.
8. Thoroughly examine the structural integrity of the filter bag and frame.
9. Reinstate filter bag and gully pit covers.







CLEANING BY HAND

CAUTION: Correct PPE must be warn - refer to page three. Remain alert for dangerous objects and wildlife.

1. Open gully pit.
2. Using the correct lifting technique, lift the StormSack out by the diagonal lifting corners fitted to the frame. For extremely heavy and overfilled bags either use a hydraulic lifting arm to lift the StormSack, or remove excess material using a shovel or etc. Take care not to damage the bag when removing litter form the bag.
3. Lift the StormSack clear of the stormwater pit and position over the collection bin or vehicle.
4. Lift and empty the bag by holding the bottom lifting loops only.
5. Brush the StormSack with a stiff brush to remove the sediment from the filter pores.
6. Thoroughly examine the structural integrity of the filter bag and frame.
7. Reinstate StormSack and gully pit covers.

MATERIAL DISPOSAL

Collected materials can be potentially harmful to humans and the environment. Once all captured material from the Atlan StormSack has been removed, it must be taken off site and disposed of at a transfer station or a similar approved disposal site.

BLOCKAGE TROUBLESHOOTING

In the unlikely event of surface flooding around a gully pit which has a Atlan StormSack fitted, the following steps should be carried out:

- Check the overflow bypass.
- If overflow is clear and surface flooding still exists remove the Atlan StormSack and check the outlet pipe for blockages.
- Removal of the Atlan StormSack can be difficult if clogged with sediment and holding water.
- If the filter is clogged brush the side walls to dislodge particles trapped at the interface allowing water to flow through the filter.
- If the outlet pipe is blocked a vacuum truck may be required to unblock it. Litter can be removed from the Atlan StormSack using the vacuum truck before removal. If a vacuum truck is not available please follow the hand maintenance cleaning steps prior to unblocking the outlet pipe.

ATLAN STORMSACK MAINTENANCE CHECKLIST

SITE DETAILS	
Client	
Location of system on site	
Site address	
Site contact name and number	

CHECKLIST ITEMS	YES/NO	COMMENTS
Is the pit free from pollutants and debris?	SELECT	
Is there movement or damage to the cage?	SELECT	
Is there movement or damage to the plastic pit seals?	SELECT	
Is structural integrity in good condition including fixings, joints and connections?	SELECT	
Is the filter bag pores clean and not clogged?	SELECT	
Is the filter bag damaged in any way?	SELECT	
Are the inlet and outlet pipes free from debris and damage?	SELECT	
Is the cover grate free from debris and damage?	SELECT	
Does the StormSack need repairs or replacement parts?	SELECT	
Has captured material been disposed of responsibly at an approved disposal site?	SELECT	

MAINTENANCE & REPAIR NOTES

SIGN OFF	
Name of service technician	
Date	

Joy in water

‘We believe clean waterways are a right not a privilege and we work to ensure a Joy in Water experience for you, with your children and grandchildren.’

Andy Hornbuckle

Atlan
STORMWATER

P 02 8705 0255
sales@atlan.com.au
100 Silverwater Rd,
Silverwater NSW 2128
atlan.com.au

0624

Title	250924-2 52-78 Thornton St Rev B
File name	250924-2 52-78 Thornton St Rev B.pdf
Document ID	4f85ebd9023556697614f5f263112ad2cb8f71e2
Audit trail date format	DD / MM / YYYY
Status	Signed

Document history

SENT	**25 / 09 / 2025** 21:16:38 UTC+10	Sent for signature to Ashraf Elkhauly (a.elkhauly@hotmail.com) from ec@aedirectconsulting.com IP: 2001:8003:5c9d:5200:d044:3abd:86d8:2d3d
VIEWED	**25 / 09 / 2025** 21:17:30 UTC+10	Viewed by Ashraf Elkhauly (a.elkhauly@hotmail.com) IP: 1.145.34.151
SIGNED	**25 / 09 / 2025** 21:19:06 UTC+10	Signed by Ashraf Elkhauly (a.elkhauly@hotmail.com) IP: 1.145.34.151
COMPLETED	**25 / 09 / 2025** 21:19:06 UTC+10	The document has been completed.

Dropbox Sign

Audit trail

Title	194B Old Northern Road, Everton Park Rev D
File name	194B Old Northern...on Park Rev D.pdf
Document ID	7946a0c9baa4e1da1489e526a0259a77a7ad7c31
Audit trail date format	DD / MM / YYYY
Status	Signed

Document history

SENT	**13 / 04 / 2026** 11:33:13 UTC+10	Sent for signature to Ahmed Gadalla (ag@aedirectconsulting.com) by integrations@hellosign.com acting on behalf of ec@aedirectconsulting.com IP: 151.186.179.104
VIEWED	**13 / 04 / 2026** 19:26:11 UTC+10	Viewed by Ahmed Gadalla (ag@aedirectconsulting.com) IP: 27.96.221.246
SIGNED	**13 / 04 / 2026** 19:31:03 UTC+10	Signed by Ahmed Gadalla (ag@aedirectconsulting.com) IP: 27.96.221.246
COMPLETED	**13 / 04 / 2026** 19:31:03 UTC+10	The document has been completed.