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FAIRFIELD SHOWGROUND COMMUNITY AND EVENTS CENTRE 430-482 SMITHFIELD ROAD, PRAIRIEWOOD, NSW, 2176

WATER MANAGEMENT PLAN

Prepared For: ***NBRS*** ***4 GLEN STREET,*** ***MILSONS POINT, NSW, 2061***	*Prepared by:* ***Birzulis Associates*** ***583 Darling Street*** ***ROZELLE NSW 2039***

i. Document Control

Project Title	Fairfield Showground Community and Event Centre
Document Title	Water Management Plan
Project No.	9150
Description	Water Management Report

	Name	Signature
Prepared by	Grishmi Khanal	 ……..
Reviewed by	Christopher Mundy	 ……..

DOCUMENT HISTORY

Date	Revision	Reason for Issue	No. copies
04/04/2025	P1	Draft	PDF only
23/04/2025	P2	Draft v2	PDF only
30/05/2025	P3	Final Draft	PDF only
05/06/2025	P4	Revised Draft Report	PDF only
13/06/2025	P5	SSDA Report	PDF only
18/07/2025	P6	SSDA Report	PDF only

Contents

1 Executive Summary

This Integrated Water Management (IWM) Report accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act), in respect of a State Significant State significant state significant development application (SSDA) for the construction and operation of Fairfield Showground Community and Events Centre. This report addresses the relevant Secretary's Environmental Assessment Requirements (SEARs) issued for the project, notably Item 14 – Water Management.

The report outlines the proposed strategy for managing potable water, stormwater, wastewater, and groundwater in an integrated and sustainable manner. It has been prepared to ensure compliance with Fairfield City Wide DCP 2013, Stormwater Management Policy (2017), and ARR 2019, and to demonstrate that the development will avoid adverse impacts to downstream infrastructure, maintain flood resilience, and support long-term water sustainability.

Key outcomes of the IWM strategy are summarised below:

- Stormwater quality improvements based on MUSIC modelling):
    a) Total Gross Pollutants (GP): 100% reduction
    b) Total Suspended Solids (TSS): 81.33% reduction
    c) Total Phosphorus (TP): 70.84% reduction
    d) Total Nitrogen (TN): 50.22% reduction
- On-site detention volume provided: 100 m^3
- Rainwater reuse/storage capacity: 160m^3
- Flood risk management: Minimum habitable floor levels are set at 30.81 AHD, which is above the 1% AEP flood level. Flow paths and stormwater infrastructure are designed to manage major overland flows without causing adverse downstream impacts.

Compliance:

- SEARs Item 14 is addressed within this report.
- Local DCP and Stormwater Policy.
- ARR 2019 design guidelines has been adopted throughout modelling and design.

This report is to be read in conjunction with the civil and hydraulic design documentation submitted as part of this State Significant Development Application (SSDA). Supporting modelling, design drawings, and correspondence with Council are included in the appendices.

2 Introduction

This Integrated Water Management (IWM) Report accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), in respect of a State Significant State significant state significant state significant development application (SSDA) for the construction and operation of Fairfield Showground Community and Events Centre. This report addresses the relevant Secretary's Environmental Assessment Requirements (SEARs) issued for the project, notably:

Table 2-1 – Summary of Relevant SEARs and Response			
SEAR	Requirement	Response	Report Section
14	Integrated Water Management Plan	This report documents the relevant information in response to SEAR 14.	This report.

2.1 Project Site Description

The project site is located within the Fairfield Local Government Area (LGA), at 430-482 Smithfield Road, Prairiewood, legally identified as Lot 1 DP 1251493 and known as Fairfield Showground.

Lot and DP	Lot Area
Lot 1 DP 1251493	30.1 hectare

Fairfield Showground currently comprises a number of different uses including Fairfield Markets, outdoor sports fields, grandstands incorporating function centres, at-grade parking in multiple locations throughout the site and a range of other community and recreational uses.

The project site is located to the west of the existing market awning as shown in **Figure 2-1**.

Figure 2-1 Project Site (Source: DFP/ Nearmap).

The regional context of the project site is shown in **Figure 2-2** and includes the following:

Fairfield Hospital: Located approximately 250m to the north of the Fairfield Showground Precinct are Braeside and Fairfield Hospital.
Fairfield City Golf Club: Also located to the north of the site, the Fairfield City Golf Club is an 18-hole golf course, inclusive of a driving range and associated club house.
Wetherill Park Shopping Centre: Located approximately 600m to the northeast of the site is the Stockland Wetherill Park Shopping Centre
Mackillop Catholic College: To the east of the site is Mackillop Catholic College, being an independent Catholic school for girls.
Deerbush Park: To the site of the site is Deerbush Park. In the broader context of land to the south of the site are a range of low-medium density residential developments.
Transport Corridors: The key regional transport corridors in proximity to the project site are:

- Smithfield Road – Smithfield Road adjoins the eastern side of the site. A number of bus services travel along Smithfield Road, notably from Parramatta Station (Stand B2).
- Cumberland Highway – The Cumberland Highway is located approximately 1.5km to the east of the site.

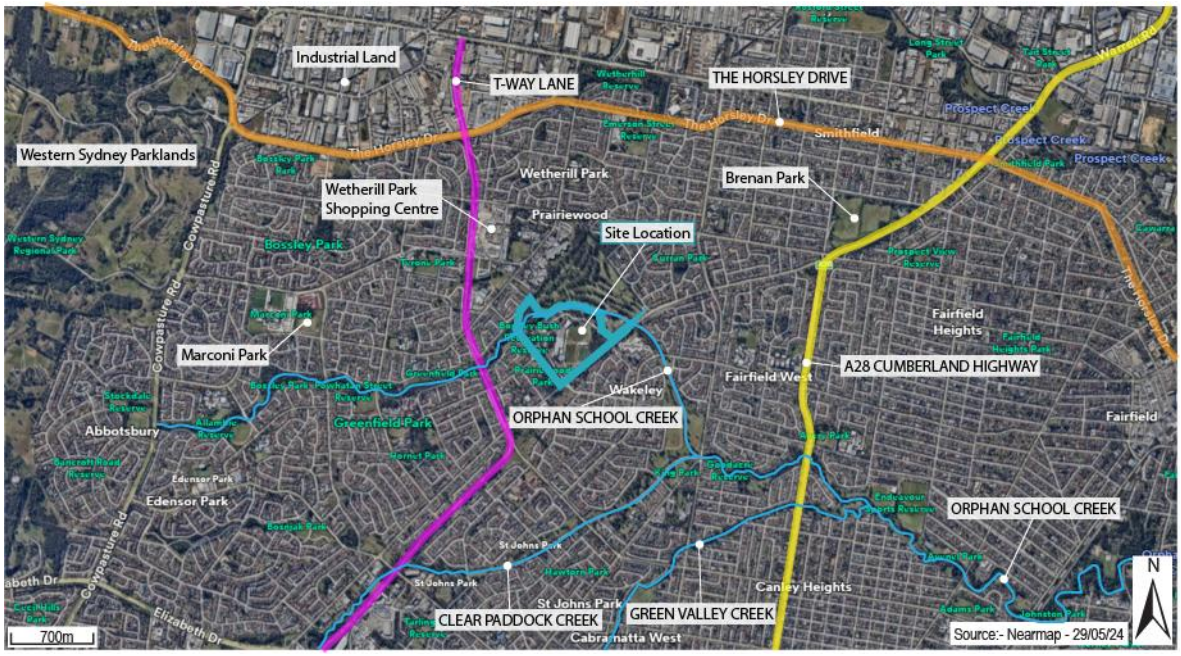

Figure 2-2 Regional Context (Source: DFP/ Nearmap).

2.2 Project Description

The project forms part of a masterplan located on the Fairfield Showground site which will comprise works to be carried out under multiple planning pathways.

Under *State Environmental Planning Policy (Transport and Infrastructure)* 2021 (SEPP TI), certain works can be undertaken as development permitted without consent (Part 5 approval). Accordingly, these works do not form part of the scope of physical works proposed under this State Significant Development Application (SSDA).

The proposed extent of works to be carried out under the development permitted without consent (Part 5/REF) planning pathway as part of the masterplan includes:

- Demolition of six small ancillary buildings and construction of a new amenities block.
- Road and car parking upgrades and new car parking area.
- New kiosk/substation; and
- Associated civil and landscape works.

The proposed extent of works to be carried out under this SSDA as part of the masterplan includes:

- Construction and use of a one-storey multi-purpose building; and
- Associated civil and landscape works.

Figure 2-3 details the masterplan and the delineation between the Part 5 and SSDA extent of physical works.

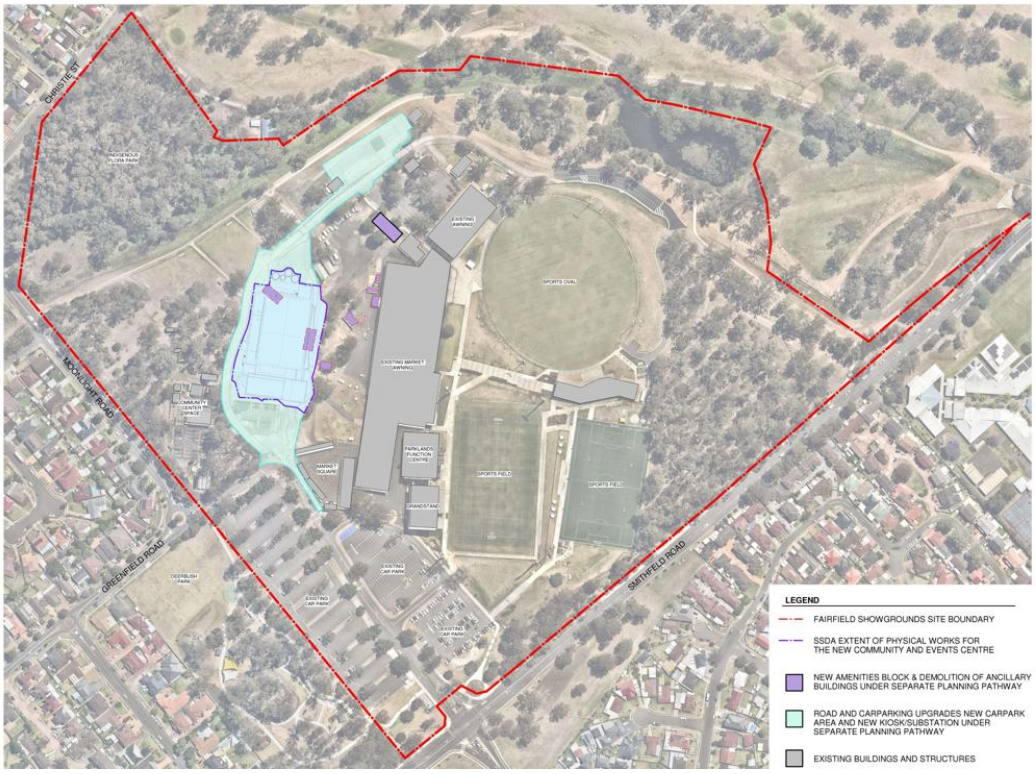

Figure 2-3 Masterplan(Source: NBRS).

2.3 Scope and purpose of the IWM report

This Integrated Water Management (IWM) report has been prepared to accompany the state SSDA and demonstrate that stormwater, potable water, wastewater, and groundwater are managed in an integrated and sustainable manner. The report addresses the pre- and post-development water cycle impacts and outlines proposed measures to meet Fairfield City Council's requirements under the Fairfield City Wide DCP 2013 and Stormwater Management Policy (2017), including on-site detention, pollutant load reduction targets, and protection of downstream infrastructure. The purpose of this report is to confirm that the development achieves compliance through practical, site-responsive water management solutions.

3 Site Context and Existing Conditions

3.1 Site location, topography, existing land use

The subject site is located at Fairfield Showground, Prairiewood, within the Fairfield Local Government Area, and is characterised by relatively flat topography with existing land use comprising public recreation and community facilities. The site is zoned RE1 – Public Recreation under the Fairfield Local Environmental Plan (LEP) and is used for a variety of cultural events, markets, and recreational activities.

The site generally flows to the north-east into existing stormwater infrastructure noted in section 3.3.

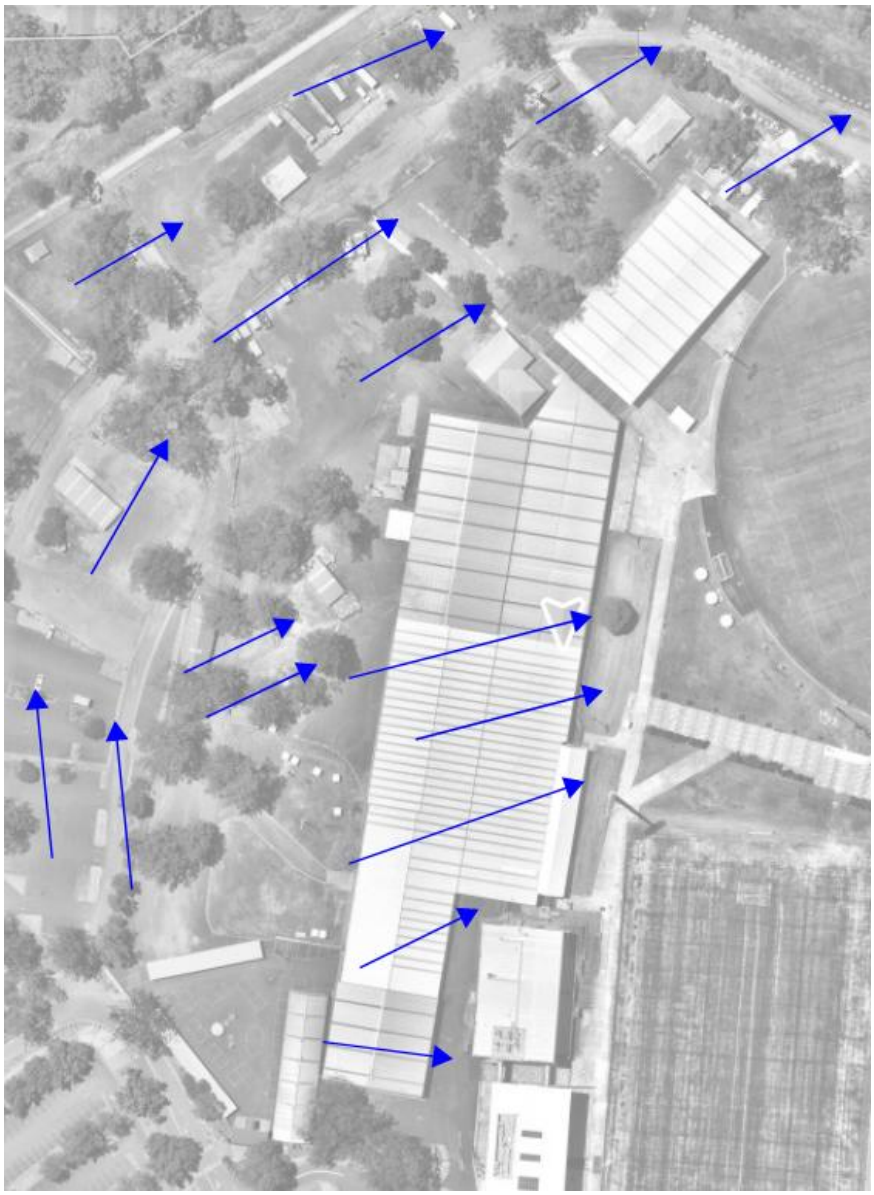

Figure 3-1 Overland flow Direction (Source: DFP/ Nearmap).

3.2 Soil type

In reference to the Geotechnical investigation report from alliance geotechnical and environmental solutions (report no. 8347.3-GR-1-1), the CBR (California Bearing Ratio) of the soil is 3% the pavement design for the car park and the internal road has to be done based on 3% CBR. In accordance with the borehole analysis the land is filled with silty clay and rock has not been encountered.
Geotech report from JBS&G (report no. JBS&G 6813 I 168560, Rev A) dated 18 June 2025 has also been reviewed. However, this report does not have information about the soil CBR value. In accordance with borehole results, rock has been encountered about 5 metres below the surface.

3.3 Existing stormwater infrastructure and catchments

Based on the site survey drawing provided, existing stormwater infrastructure within and adjacent to the site includes grated inlet pits, informal and formal swales, and a large drainage route to the north of the project, which drain toward an existing dam (refer below). The site falls towards the Orphan school creek located at the Northern-Eastern side of the site, this is where the existing stormwater system and the overland flow from the site discharges. Orphan School creek joins to Prospect Creek forming tributary to Georges River.

Figure 3-2 Existing Site (Source: DFP/ Nearmap).

3.4 Known flooding or overland flow characteristics.

The site has been identified as partially flood-affected based on available flood mapping and overland flow path analysis. Known surface flow paths traverse the site in a north-east direction and have been considered in the preliminary stormwater design.

Flood management report is required for all developments located within Flood Prone Land as per Section 2.5.9 of Fairfield council's DCP. Flood Impact and Risk Assessment report has been done by WMA water, July 2025. Figure 3-4 shows Flood map for the site in a 1% AEP flood level

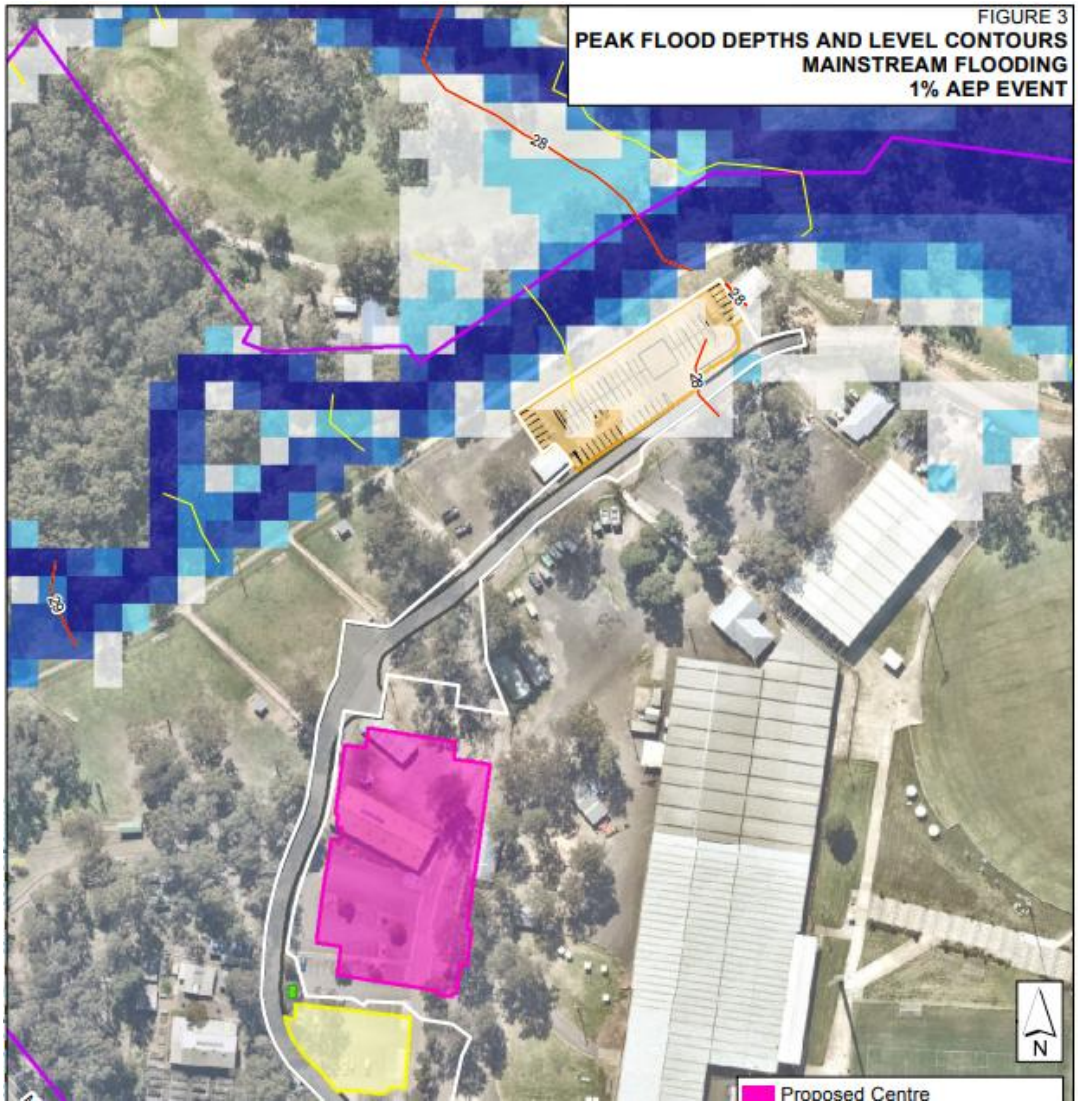

Figure 3-3 Area Affected by 1% AEP Flooding (Source: Flood Report).

In the PMF (Probable Maximum Flood) event, flood waters overtop the banks of creek to the west and levees north of the site, and the northern parts of the site. Figure 3-4 shows Flood map for the site at PMF Flood event.

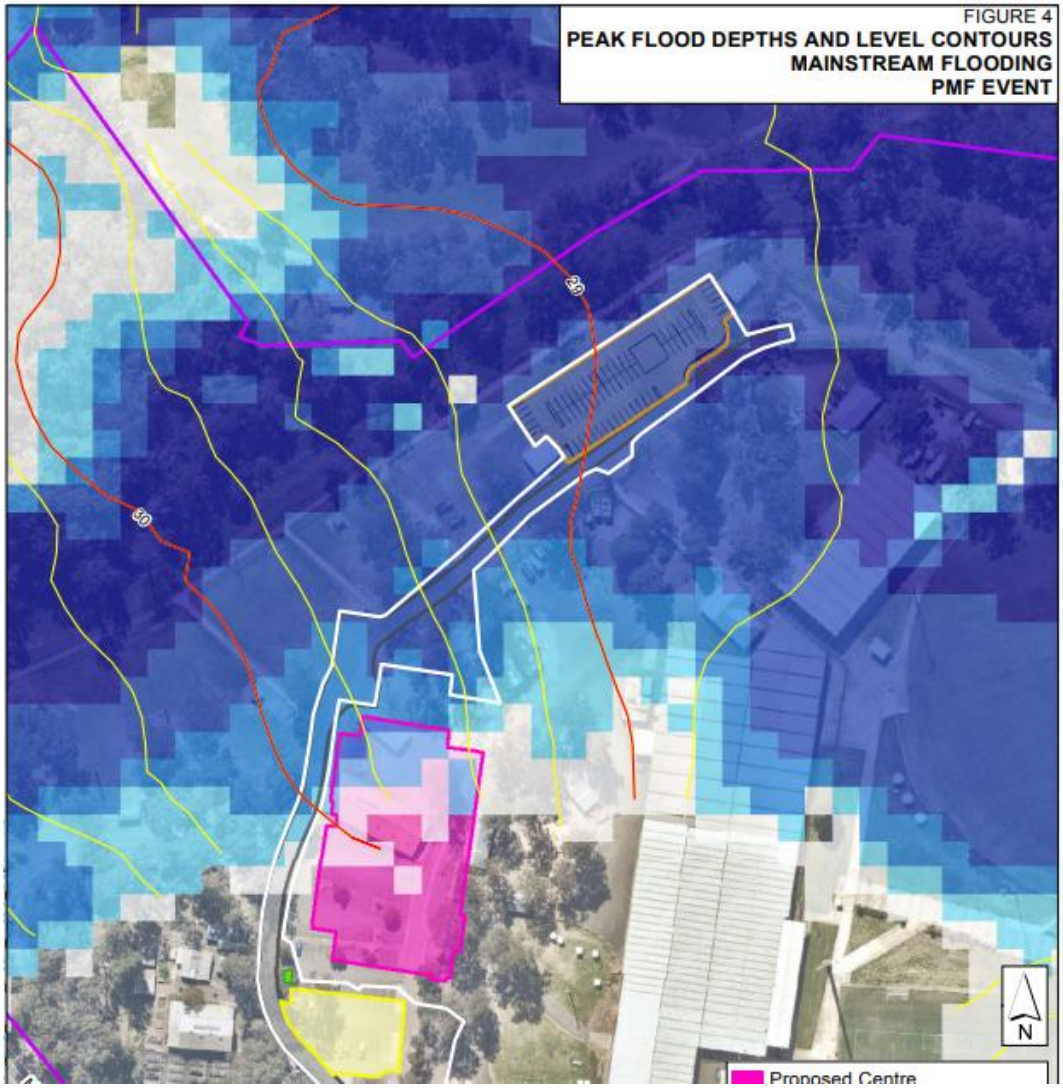

Figure 3-4 Area Affected by PMF Level Flooding (Source: Flood Report)

Proposed stormwater system including the OSD tank has been designed to discharge above 1% AEP Flood level (nominated in the flood report). Section 5.3 of this report explains in more detail the strategy of detention system design and the point of discharge in relation to the flood levels.

4 Water Management Objectives

The water management objectives for this project aim to ensure sustainable, resilient outcomes across the full water cycle, including potable water conservation, stormwater quantity and quality management, flood mitigation, and integration of water sensitive urban design (WSUD) principles.

4.1 Potable and Non-Potable water reduction targets

The proposed development will incorporate measures to reduce reliance on potable water supply, including rainwater harvesting and reuse systems, to meet or exceed the water efficiency targets outlined in Fairfield City Council's Stormwater Policy 2017.
A rainwater tank will be used as a tool for water reuse. Proposed rainwater tank must meet the following requirements as per the council's guidelines as follows:

- Ensure that 80% of the development's roof area drains to a tank or tanks with a 3,000 litres capacity per one hundred square metres of roof surface. All non-potable uses, such as washing machines, dryers, and toilet flushing, must be linked to the tank(s).
- Pumps must comply with the noise requirements of the New South Wales Protection of the Environment Operations Act, 1997.

A 160 kilolitres rainwater tank is proposed. Downpipes from the new building roof gets collected and discharged to the rainwater tank.

4.2 Runoff volume and pollutant reduction goals

Stormwater management for the site is designed to reduce runoff volumes and achieve pollutant load reductions consistent with Council and ARR 2019 guidelines, including targets for Total Suspended Solids (TSS), Total Phosphorus (TP), and Total Nitrogen (TN).

As per council's DCP chapter 2, section 2.5.5, detention system is required for this type of development. Therefore, the proposed development should introduce an OSD tank to ensure that the stormwater discharge does not increase the risk of downstream flooding, erosion of unstable waterways or a reduction in the capacity of Council's drainage network and limits the discharge from developed site to discharge from pre-developed level.

- Council's preferred method for estimating storage volumes is by using a runoff routing software package such as DRAINS. If this method is used, all calculations and models are to be provided to Council with the Development Application.
- On-Site Detention (OSD) tank has been designed and the proposed size has been analysed using DRAINS software. The OSD tank picks up overflow from RWT. Design method and the calculations for OSD tank size are as mentioned below.

OSD tank has been designed and runoff reductions have been achieved to meet the performance criteria within section 4.2 of the Fairfield City Council's Stormwater Management Policy. As per the council's guide, maximum runoff from the site cannot exceed:

- Maximum PSD of 140l/sec/ ha for the 9-hour 100-year rainfall event for the total site
- Maximum PSD of pre-developed site discharge of different duration storms for the 5- and 100-year rainfall events for the total site.

Total site area of the proposed development with the SSDA boundary is 0.7486 hectares. Therefore, the maximum PSD for the site is 0.7486 x 140 = 104.804 l/s. Runoff reduction values are shown below and screenshots of the results from analysis has been shown in Appendix B of this report.

DRAINS analysis has been carried out to check that the discharge from development does not exceed the pre-development discharge. Pre-developed and post-development catchment plan (has been prepared as a part of civil drawing set, drawing C.90.

Table 4-1 presents pervious and impervious area comparison for both pre-developed and post-development site conditions. Impervious area has increased by 841 m2 (11 %) at post-developed stage, which results in increased runoff from post-development condition verses the existing pre-developed condition. To limit the discharge from post-development condition to pre-developed condition, an on-site detention system in the form of underground tank has been proposed.

Table 4-1 Pervious and Impervious Area comparison for road.

Development stage	Pervious Area (m2)	Impervious area (m2)	Impervious area (%)	Total Area (m2)
Post-development	682	6804	91	7486
Pre-developed	1523	5963	80	7486
Difference	-841	841	11	0

Based on this catchment plan, pre-developed catchment is 80% impervious. OSD tank size has been calculated based on comparison with the pre-developed catchment at existing condition and as a result of the calibration, OSD tank volume required is calculated to be 100 cubic metres.
As mentioned above, the roof area of the proposed building discharges to the OSD tank and the rest of the area bypasses the detention system. Table 4-2 shows the result obtained from DRAINS.

Table 4-2 Result from analysis using DRAINS.

Runoff Value	Maximum Permissible Site Discharge	Achieved Runoff
9 Hour 100 Year ARI	104.8L/s	103L/s
Pre-developed Runoff vs post-development at 100 years ARI	351L/s	223L/s

Ten of 690 “Psorb” Ocean protect filters has been nominated inside the OSD tank that will provide filtration of the pollutants from water collected and conveyed to the tank. Achieved pollutant load reduction has been calculated with MUSIC software, and the result of the analysis is shown below:

Table 4-3 Result of analysis using MUSIC.

Pollutants	Council’s Reduction Target	Reduction Achieved
Gross Pollutants (GP)	90%	100%
Total Suspended Solids (TSS)	80%	81.33%
Total Phosphorus (TP)	55%	70.84%
Total Nitrogen (TN)	40%	50.22%

4.3 Flood mitigation, groundwater protection

The development will incorporate flood mitigation strategies to ensure no adverse impacts to adjacent or downstream properties, while also protecting groundwater resources through appropriate drainage design and infiltration controls where applicable. Flood assessment done by WMA water, 2025 provides more information on the flood controls measures.

4.4 Urban heat island reduction, WSUD alignment

Water management strategies has been developed to support urban heat island mitigation by maximising canopy cover, retaining moisture in the landscape and plantings trees. More information on the vegetation and trees proposal for the development can be obtained from the project specific arborist report. At source pollutant control propriety devices has been incorporated to reduce the pollution in discharge from the development and meet the WSUD requirement.

5 Integrated Water Cycle Strategy

The integrated water cycle strategy for the development aims to manage all aspects of the site's water use and discharge in a coordinated, sustainable manner. A consolidated summary of water demand, reuse strategy, stormwater treatment, and discharge approach will be provided in the next stage following confirmation of hydraulic and civil design layouts.

5.1 Potable and Non-Potable Water Reduction Strategy

The development will implement water efficiency measures and rainwater harvesting systems to reduce potable and non-potable water demand in accordance with Council requirements. Rainwater tank(RWT) size has been calculated by the hydraulic engineer in accordance with Fairfield City Council's design guidelines and the proposed size of the rainwater tank is 160kL. Refer to Infrastructure Management Report from Northrop for more information on the sizing and calculation for the proposed rainwater tank.

5.2 Wastewater Management

Wastewater generated from the site will be discharged to the existing sewer network. The existing sewer main and the connection on-site shall be adequate to service the proposed development. However, the invert level of the existing on-site sewer running is to be confirmed, sewer pump-out pit may be required if the new building cannot be drained to the existing onsite sewer system by gravitation. Refer to Infrastructure Management Report from North rob for more information on the proposed sewer infrastructure.
Where feasible, opportunities for greywater reuse will be explored to reduce potable demand. Detailed wastewater connection design and any reuse options will be included following input from the hydraulic consultant at the next submission.

5.3 Stormwater Management

The stormwater management strategy has been developed to limit post-development runoff volumes and flow rates to pre-development levels, while achieving required pollutant removal targets and safe conveyance of surface flows. The Fairfield City Council does not have water quality requirement for this development because the site falls into the Urban Zone of Fairfield LGA. However, in order to maintain good quality of water discharging to the existing stormwater system, water quality treatment will still take place for this proposed development.

Treatment measures will include Rainwater tank, in-tank filtration systems, Vortceptor to filter the gross pollutants, with MUSIC modelling used to demonstrate compliance with the pollution reduction target set by Fairfield city council's stormwater management policy. Roof area of the proposed building discharges to the RWT that overflows to the OSD tank with filters. This has been considered to analyse the pollution reduction, and the result of the analysis has been noted in section 4.2 of this report. Rest of the site bypasses the filters therefore does not form a part of MUSIC analysis. However, to maintain a good quality of water discharging from proposed development, we have proposed "Vortceptor" which acts as a Gross Pollutant Trap that filtrates runoff before discharging to the final point of discharge.

Appendix B of this report shows the final MUSIC model inputs and outputs and treatment node sizing. Appendix E of this report includes the product information for proposed water quality devices on the project, their operation, and maintenance schedule.

Stormwater conveyance is through standard channelised surface flow, kerb inlet pits, and underground stormwater pipes. The stormwater volume management is through an underground OSD tank for attenuation of storm events. The final point of discharge is at the existing headwall at Orphan School Creek. Appendix C of this report includes the updated civil drawings, refer to Appendix C for more detailed information on proposed stormwater system including pits, pipes, OSD tank and showing the final point of discharge.

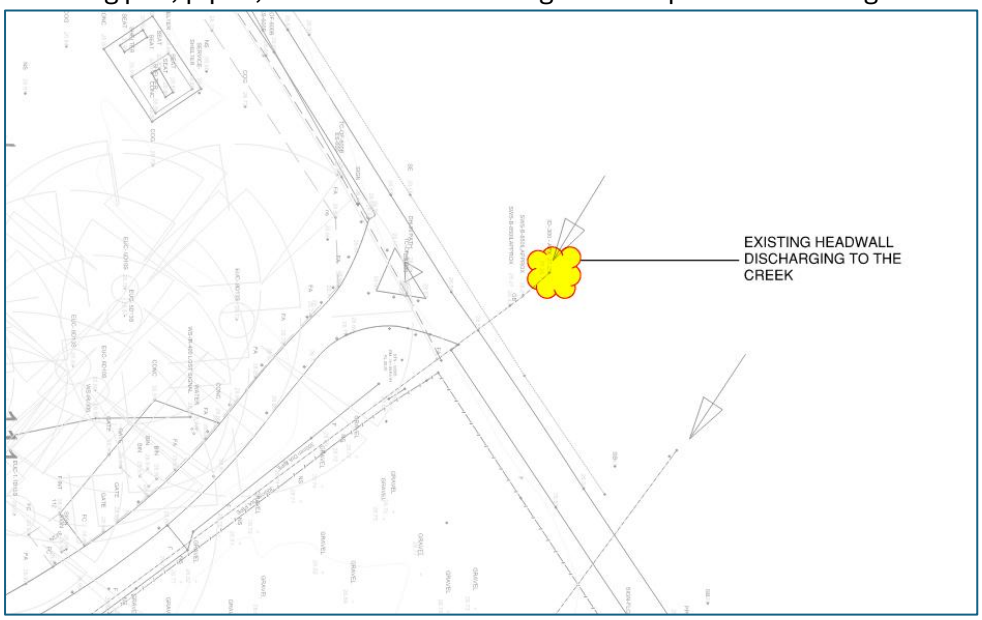

Figure 3-5 Existing headwall at Orphan School Creek (Source: Survey Drawing)

As per design suggestions provided by Fairfield City Council, the invert level of the OSD tank (IL= 28.7 m) has been designed higher than the 1% AEP Flood level (RL= 28.5 m) at the point of discharge from the OSD tank. This has been done to minimise backflow, and impact of tail water effect.

Preliminary hydraulic and water quality modelling has been included in drawing C.80 and C.81 of the civil design drawing set.

5.4 Flood and Overland Flow Management

The site has been assessed for flood risk; stormwater infrastructure will be designed as per council's requirement as mentioned in section 8.2 of this report. Overland flow paths and floor levels has been confirmed in accordance with flood planning controls.

5.5 Groundwater Considerations

In reference to the Geotechnical investigation report from JBS&G (report no. JBS&G 6813 I 168560, Rev A) dated 18 June 2025 section 12. Groundwater encountered during the geotechnical investigation, 2.0 m to 6.0 m bgs in the central and northern portion of the event area. It is to be noted that groundwater levels may vary depending on seasonal changes and/or during periods of heavy precipitation, therefore seasonal rainfall can cause fluctuation in groundwater levels. Adequate drainage has been provided to capture and convey the surface water from site to the point of discharge in Orphan School Creek.

5.6 Modelling and Calculations

Hydrological and hydraulic modelling is being used to inform the design of stormwater storage and treatment systems. Parameters include rainfall data, catchment imperviousness, and treatment performance. Proposed detention system has been designed for a 1 in 100 years rainfall event, and the pits and pipes has been designed for a 1 in 5-year rainfall event. DRAINS software has been used to do the analysis and check the adequacy of the proposed stormwater system. MUSICX software has been used to check the achieved pollution reduction. MUSICX and DRAINS software files will be submitted as a part of SSDA submission. Appendix B of this report includes the screen shots of the models and results from the analysis.

Preliminary hydraulic and water quality modelling has been included in drawing C.80 and C.81 of the civil design drawing set.

6 DESIGN INTEGRATION AND WSUD

Water Sensitive Urban Design (WSUD) elements has been integrated into the overall site layout to support stormwater treatment, landscape quality, and long-term maintainability.
Prepared civil plans has incorporated WSUD layout plan, and typical construction details, integration with landscaping and identification of maintenance access and operational constraints. Operational and maintenance schedule for the WSUD tools are as per the manufactures guide which has been provided in Appendix E of this report.

7 CONSTRUCTION AND STAGING CONSIDERATIONS

The project is structured into two distinct planning stages as outlined in SSDA. Stage 1 will deliver a full functional, fit for purpose Community and Events Centre that operates independently of stage 2 for all operational requirements. Stage 2 is to be delivered by Fairfield City Council (FCC), this stage will focus on additional Back Of House (BOH) performances wing, which will include several spaces to support large-scale performance. Refer to Staging Report prepared by Savills for more detailed information on the staging of the project.
The construction phase must manage temporary stormwater runoff and erosion risks in accordance with the Landcom 'Blue Book' and Council requirements, ensuring that stormwater infrastructure and WSUD elements are delivered in a practical and sequenced manner.
A concept erosion and sediment control plan (ESCP) has been provided for the construction works. In accordance with section 3.2 of the Council's DCP, all disturbed areas shall be

protected from erosion, civil documentation will demonstrate a sediment and erosion control plan for the development site. Main objective of this is to achieve a healthy aquatic ecosystem within the local and surrounding catchments. This can be done by maintaining natural soil on site as a part of biodiversity health and reducing pollution in the council's and private stormwater drainage infrastructures.

8 COMPLIANCE AND REFERENCE MATRIX

8.1 SEARs Compliance

This report has been prepared in response to Item 14 of the Secretary's Environmental Assessment Requirements (SEARs) and addresses the following requirements relevant to water management.

Table 8-1 SEARs requirement and Response.

SEARs Requirement / Description	Response	Relevant Section of Report
Consultation with the local council	Consultation has been held with Council on 28th of May 2025. Comments from consultation has been adopted in this report.	Appendix A
Water-related servicing infrastructure required by the development, and equivalent opportunities to reduce water demand	160 kL of Rainwater Tank (RWT) has been proposed to collect the roof water. Water collected in the RWT serves for irrigation purpose, this provides an opportunity to reduce water demand.	Infrastructure Management Report from Northrop
Proposed drainage design (stormwater and wastewater), including on-site treatment, reuse, detention, water quality management, and discharge points	A preliminary drainage strategy has been developed addressing detention, conveyance, and water quality measures.	Section 5
Compliance with Council or authority requirements, and avoidance of adverse downstream impacts	The strategy aligns with Council policy and mitigates downstream impacts.	Sections 2, 8 and 4
Water and drainage infrastructure to be handed over to Council or authority, including full hydraulic details and compliance with relevant standards	Works to be handed over will be designed in accordance with Council standards. Documentation will be provided with detailed plans and specifications.	Section 2, 4, 5, 8 and Appendix C

8.2 DCP Compliance

This report addresses the applicable provisions of the Fairfield City Council Development Control Plan (DCP), with respect to stormwater quantity, water quality, flood protection, and infrastructure design.

Table 8-2 Design Aspects and Requirements from council.

Design Aspect	Document Reference	Requirement
Stormwater Overflow Routes (Major System)	Fairfield Council Stormwater Management Policy, 2017	1% AEP (100-year ARI)
Stormwater Pits and Pipe Design (Minor System)	Fairfield Council Stormwater Management Policy, 2017	20% AEP (5-year ARI)

8.3 ARR 2019 Compliance

The stormwater design and associated modelling presented in this report have been developed in accordance with the principles and methodologies outlined in Australian Rainfall and Runoff (ARR 2019).

8.4 Other Referenced Documentation

Table 8-3 Documents Reviewed

Document	Version / Reference	Date Received
Site Survey Drawing	1620	March 2025
Flood Impact And Risk Assessment Report	118007	June 2025

9 APPENDICES

9.1 APPENDIX A - EVIDENCE OF CONSULTATION WITH COUNCIL

Chris Mundy

From:	Suhail Sayeed <SSayeed@fairfieldcity.nsw.gov.au>
Sent:	Monday, 2 June 2025 8:11 AM
To:	Antonio Inzitari; Jacquard Wong; Katie-Lee Carter; Ranga Fonseka; Chris Mundy; Grishmi Khanal
Cc:	Leonie Gray
Subject:	Fairfield Showgrounds Community and Events Centre – Stormwater Design Discussion with FCC Stakeholder meeting minutes [Filed 02 Jun 2025 18:14]
Attachments:	280525-9150- Fairfield Showground- For Discussion with Council P1.pdf; 280525-9150- Fairfield Showground- For Discussion with Council- P2.pdf
Categories:	Filed by Mail Manager

Morning,

Thank you for attending the meeting last week. Please see the notes below from our discussion.

Meeting: Fairfield Showgrounds Community and Events Centre – Stormwater Design Discussion with FCC Stakeholder
Date: 28 May 2025
Time: 1:00 pm to 1:30 pm

Attendees:
Antonio Inzitari (AI) FCC
Suhail Sayeed (SS) FCC
Jacquard Wong (JW) FCC
Katie-Lee Carter (KLC) Savills
Ranga Fonseka (RF) NBRS
Chris Mundy (CM) Birzulis
Grishmi Khanal (GK) Birzulis

Copied to this email – Leonie Gray (LG) FCC

Community and Events Centre -

- Chris Mundy presented the proposal for the connection from OSD to the existing stormwater pit and discharging to the headwall at Orphan School Creek. Please refer to the attached drawings that were presented.
- Antonio Inzitari (FCC) agrees with the proposal presented. No concerns noted.

REF –

- It is agreed that there will not be any OSD at the proposed car park.
- Kerb and gutter are proposed.

Please let me know if you have any queries.

Suhail Sayeed
Contracts Coordinator | Major Projects and Planning
City Delivery

02 9725 0353 | ssayeed@fairfieldcity.nsw.gov.au

Customer Service: 02 9725 0222 | PO Box 21 Fairfield NSW 1860

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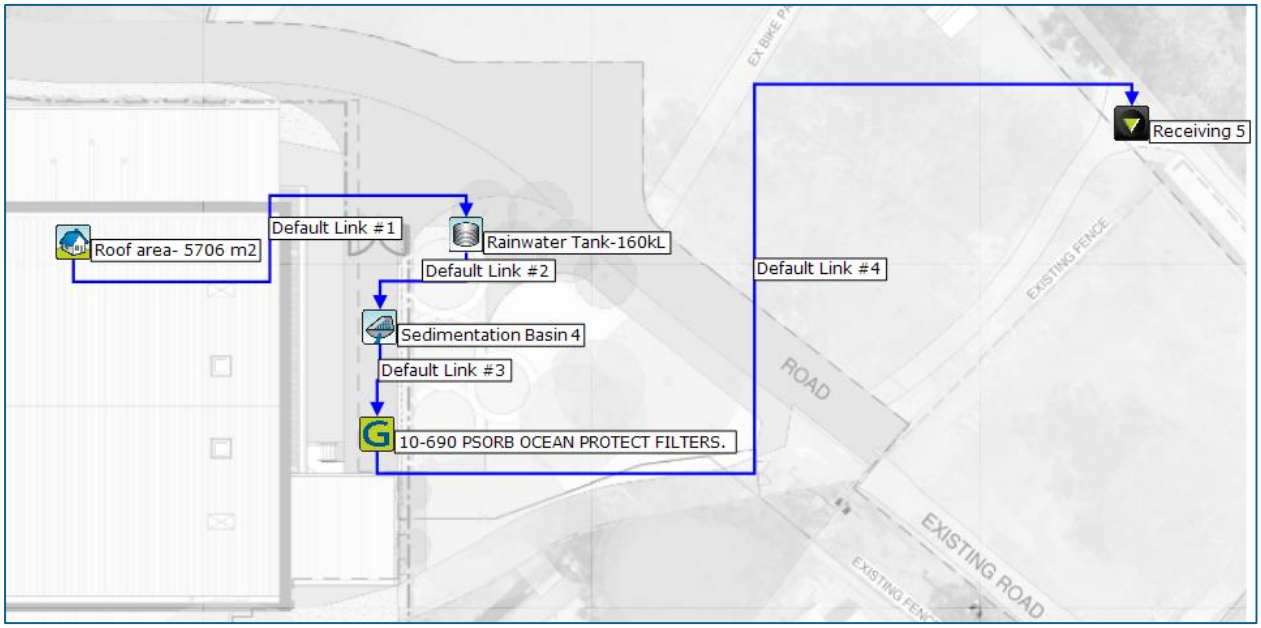
mail@fairfieldcity.nsw.gov.au

We acknowledge the Cabrogal of the Darug nation who are the Traditional Custodians of this Land.
We also pay our respect to the Elders both past, present and emerging of the Darug Nation.

9.2 APPENDIX B - SUPPORTING MODELLING (MUSIC, DRAINS OUTPUTS)

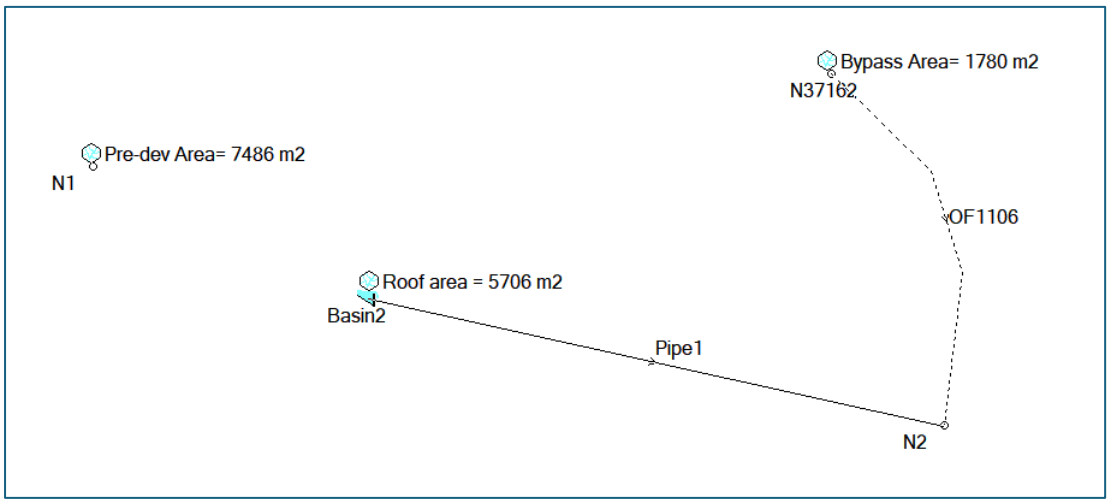
MUSIC MODEL:



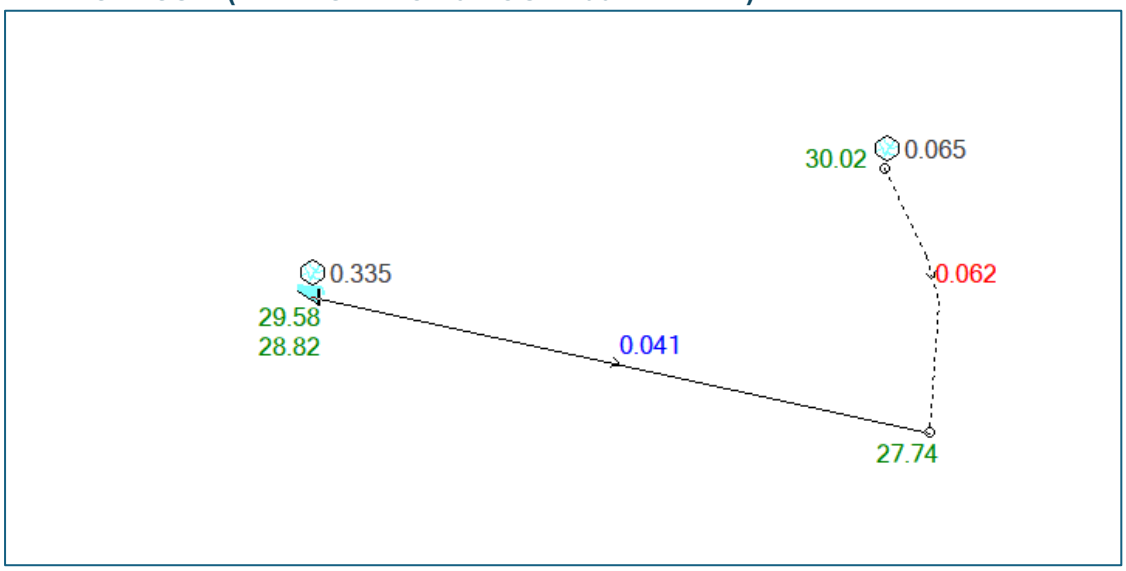
MUSIC ANALYSIS RESULT:

	Sources	Residual Load	% Reduction
Flow (ML/yr)	4.352	4.346	0.1461
Total Suspended Solids (kg/yr)	113.6	21.22	81.33
Total Phosphorus (kg/yr)	0.6623	0.1931	70.84
Total Nitrogen (kg/yr)	9.537	4.747	50.22
Gross Pollutants (kg/yr)	116	0	100

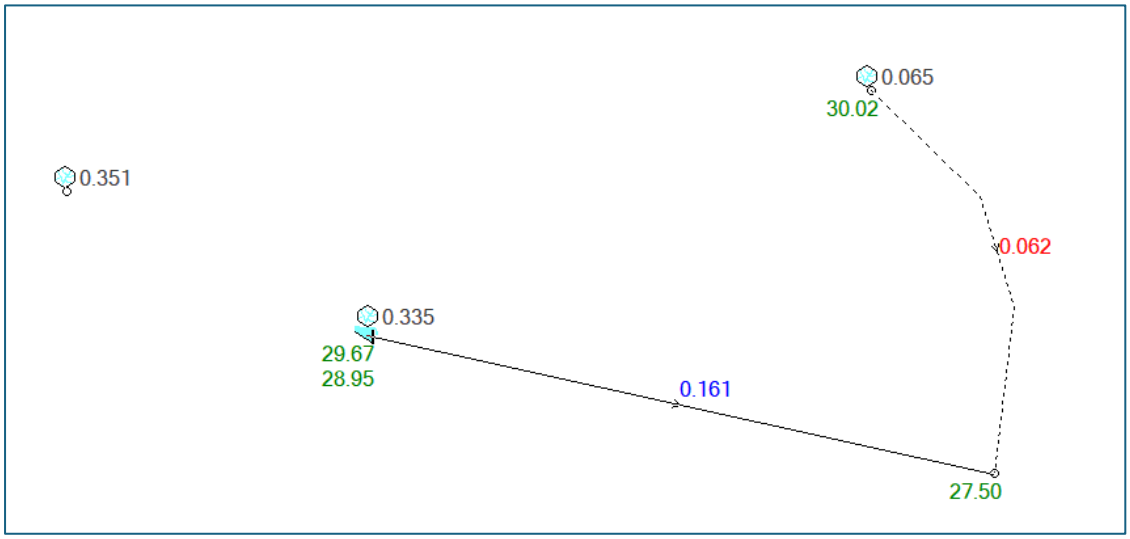
DRAINS MODEL:



DRAINS RESULT (ANALYSED FOR 9 HOUR 100 YEAR ARI)



DRAINS RESULT FOR 1% AEP (ANALYSED FOR THE MAXIMUM PSD AT PRE-DEVELOPMENT STATE)



9.3 APPENDIX C - ENGINEERING DRAWINGS (PLANS, SECTIONS, OSD)

BIRZULIS ASSOCIATES Pty Ltd
Consulting Structural + Civil Engineers
ACN 003 797 911 ABN 99 003 797 911

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CIVIL DOCUMENT REGISTER / TRANSMITTAL FORM

Project:	FAIRFIEL SHOWGROUND REDEVELOPMENT	Number:	9150	Sheet No.	1 of 1

To: NBRS Attention: Ranga Fonseka

Date of Issue																						
	Day	23	1	23	16	5	13	18														
	Month	9	4	4	5	6	6	7														
	Year	24	25	25	25	25	25	25														

No.	Title	Current Revision	Revision																			
C.00	COVER SHEET	P6	P1		P2	P3	P4	P5	P6													
C.01	CONSTRUCTION NOTES - SHEET 1	P6	P1		P2	P3	P4	P5	P6													
~~C.02~~	~~CONSTRUCTION NOTES - SHEET 2~~	NOT USED	P1		P2	P3																
C.10	SOIL EROSION AND SEDIMENT CONTROL PLAN	P6	P1		P2	P3	P4	P5	P6													
C.15	SOIL EROSION & SEDIMENT CONTROL DETAILS 01	P5			P1	P2	P3	P4	P5													
C.16	SOIL EROSION & SEDIMENT CONTROL DETAILS 02	P5			P1	P2	P3	P4	P5													
C.20	STORMWATER DRAINAGE PLAN SHEET 1	P7	P1	P2	P3	P4	P5	P6	P7													
~~C.21~~	~~STORMWATER DRAINAGE PLAN SHEET 2~~	NOT USED	P1	P2	P3	P4																
C.30	PIT SCHEDULE	P3					P1	P2	P3													
C.31	CIVIL DRAINAGE DETAILS 01	P5			P1	P2	P3	P4	P5													
C.32	CIVIL DRAINAGE DETAILS 02	P5			P1	P2	P3	P4	P5													
C.35	OSD TANK DETAILS	P5			P1	P2	P3	P4	P5													
C.40	EXTERNAL PAVEMENT PLAN	P8	P1	P2	P3	P4	P5	P6	P8													
C.51	EXTERNAL WORKS DETAILS 01	P4				P1	P2	P3	P4													
C.52	EXTERNAL WORKS DETAILS 02	P3					P1	P2	P3													
C.60	BULK EXCAVATION PLAN	P5			P1		P3	P4	P5													
C.70	LONG SECTIONS 01	P6			P1	P2	P3	P4	P6													
~~C.71~~	~~CROSS SECTIONS 01~~	NOT USED			P1	P2																
C.80	MUSIC RESULT	P5			P1	P2	P3	P4	P5													
C.81	DRAINS RESULT	P5			P1	P2	P3	P4	P5													
C.90	CATCHMENT PLAN						P1	P2	P3													
C.100	COUNCIL STANDARD DETAILS						P1	P2	P3													

Distribution List

P - PDF Format (.pdf) **D** - Drawing Format (.dwg)

Company :	**NBRS**	P	P	P	P	P	P	P														
Attention :	Ranga Fonseka	P	P	P	P	P	P	P														

P - Preliminary **T** - Tender **C** - Construction **I** - Information **AB** - As Builts
Co - Co-ordination **BA** - Building Application **DA** - Development Application

Method of Issue	E	E	E	E	E	E	E															

E - Email **O** - Online **Po** - Post Delivered **H** - Hand Delivered **P** - Print

Authorised by: C. Mundy Issued by: C. Ke

FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW
CIVIL WORKS PLAN

LOCALITY MAP. (COURTESY OF SIX MAPS)

DRAWING REGISTER		
NO.	TITLE	SHEET
C.00	COVER SHEET	1 of 1
C.01	CONSTRUCTION NOTES - SHEET 1	1 of 1
~~C.02~~	~~CONSTRUCTION NOTES - SHEET 2~~	NOT USE
C.10	SOIL EROSION AND SEDIMENT CONTROL PLAN	1 of 3
C.15	SOIL EROSION AND SEDIMENT CONTROL DETAILS 01	2 of 3
C.16	SOIL EROSION AND SEDIMENT CONTROL DETAILS 02	3 of 3
C.20	STORMWATER DRAINAGE PLAN SHEET 1	1 of 1
~~C.21~~	~~STORMWATER DRAINAGE PLAN SHEET 2~~	NOT USE
C.30	PIT SCHEDULE	1 of 1
C.31	CIVIL DRAINAGE DETAILS 01	1 of 2
C.32	CIVIL DRAINAGE DETAILS 02	2 of 2
C.35	OSD TANK DETAILS	1 of 1
C.40	EXTERNAL PAVEMENT PLAN	1 of 1
C.51	EXTERNAL WORKS DETAILS 01	1 of 2
C.52	EXTERNAL WORKS DETAILS 02	2 of 2
C.60	BULK EXCAVATION PLAN	1 of 1
C.70	LONG SECTION 01	1 of 1
~~C.71~~	~~CROSS SECTION 01~~	NOT USE
C.80	MUSIC RESULT	1 of 1
C.81	DRAINS RESULT	1 of 1
C.90	CATCHMENT PLAN	1 of 1
C.100	COUNCIL STANDARD DETAILS	1 of 1

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
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P5	SSDA ISSUE	MG	13-06-25
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P3	100% SCHEMATIC ISSUE	MG	16-05-25
P2	PRELIMINARY	MG	23-04-25
P1	70% SCHEMATIC ISSUE	MG	23-09-24

CLIENT
Fairfield SHOWGROUND

ARCHITECT
NBRS

BIRZULIS ASSOCIATES
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583 DARLING STREET ROZELLE NSW 2039
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www.birzulisassociates.com

PROJECT
FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE
COVER SHEET

SCALES	DATE
as noted @ A1	APR' 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P6	9150	C.00

GENERAL NOTES

1. These drawings shall be read in conjunction with all relevant other consultants drawings, the Architectural drawings issued “For Construction”, and all other specifications such as written instructions issued during construction, checklists and approving authority Specifications. Any discrepancies in these documents shall be referred to the relevant parties and not less than the Project Manager, the Engineer and the Superintendent for a decision prior to continuing with the works.

2. All existing drainage shown on the plans that is proposed to be re-used is to be inspected by a licenced plumber and certified that it is in good working condition, otherwise allow to rectify and or replace.

3. Provide Heelguard or equivalent to all pit lids and grated drains in pedestrian areas.

4. The Contractor or Principle Contractor shall check all dimensions onsite for correctness. Where relevant this can be for NCC (BCA) compliance, EFSG compliance, TfNSW compliance, LEPs, DCPs, and SEPPs. Any discrepancy shall be reported to the Superintendent and also not less than the Project Manager as soon as practicable. Dimensions shall not be obtained by scaling the drawings.

5. It is the responsibility of the Builder and Contractor to ensure that during works the stability of existing structures shall be maintained without undue disturbance. During processes of disturbance such as excavation, service modification, underpinning, piling, compaction, vibration, demolition, reworking stormwater, parking of heavy machinery or stockpiling of materials, dust and excessive noise, it is the responsibility of the Builder and Contractor to ensure that no part of an existing structure or building is overstressed.

6. Works shall not begin without the written approval of the relevant Certifying Authority.

7. Inspections by Birzulis Associates are required to confirm and certify the standard of construction. The Superintendent shall be given 48 hours notice prior to all stormwater elements being backfilled or concealed to inspect. This does not remove the need for other authorities such as Certifiers to conduct inspections. Additional inspections of pavement materials and layers may also be required. Refer to pavement or sub-grade specific notes and relevant Specifications.

8. Where shown, existing services are based on information provided to Birzulis Associates and are not a substitute for onsite testing and confirmation. It is the responsibility of contractors working in vicinity of these services to confirm their location.

9. All service trenches shall be backfilled in accordance with the relevant Australian Standard corresponding to the type of piping in the trench or TfNSW standards if working on a TfNSW managed road.

10. All workmanship and materials shall be in accordance with the legal or relevant requirements of current Australian Standards, National Construction Codes, SAA Codes, requirements or stipulations of relevant Certifying Authority, and relevant specifications. If in doubt all RFI's (Requests for Information) shall be submitted in writing and RFI's shall be in accordance with best practice and Standards.

11. No changes to the works as reflected on the design engineering drawings shall be made without the written approval of the Superintendent.

12. UNO or U.N.O denotes “unless noted otherwise” on these drawings.

13. All proprietary products shall be checked for Building Code compliance with the Certifying Authority and shall be installed in accordance with the manufacturer’s specifications and if required by an approved contractor endorsed by the manufacturer.

14. It is the responsibility of the Principle Contractor or equivalent to obtain all permits and authority approvals.
15. A Dilapidation report of elements in vicinity of the development shall be undertaken prior to works commencing.

16. Existing downpipes which are being reconfigured should be connected to flexible hosing and discharged in a safe location in accordance with requirements of sediment and erosion control. The top of excavations shall be protected from overland flow and if necessary overland flow paths should be redirected during phases in the construction particularly bulk excavation and site works.

17. It is the contractors responsibility to provide all safety fences, warning lights, temporary barriers around excavations/trenches, traffic diversions and the like during construction. All works to comply with Work Cover and OH&S regulations, and all other relevant safety requirements.

18. No trees shall be removed/destabilised/cut back or relocated without the written instruction from the Superintendent.

SURVEY NOTES

1. The existing site conditions shown on the following drawings have been investigated by the project surveyor.

2. The information is shown to provide a basis for design. Birzulis Associates does not guarantee the accuracy or completeness of the survey base or its suitability as a basis for construction drawings.

3. Should discrepancies be encountered during construction between the survey data and actual field data, contact Birzulis Associates.

NOTES:

All existing drainage to be inspected by a registered plumber and certified that it is in good working condition. Otherwise, allow to rectify and/or replace as necessary.

Services shown on plan are indicative, exact depth and location to be confirmed onsite. Contractor to carry out DIAL BEFORE YOU DIG application and engage a registered surveyor to peg out all existing services prior to any work commencing onsite.

STORMWATER DRAINAGE NOTES

1. All workmanship and materials shall be in accordance with AS 3500.3 and other relevant codes where other materials are used.

2. For downpipe locations refer Architectural drawings and the Hydraulic Engineers drawings. Use of downpipe chains shall be specifically checked with the certifying authority and a determination made if compliant with current codes in the application.

3. Establish and locate existing invert levels of existing services prior to commencing works and confirm with the Superintendent if the design is based on an assumption in the levels.

4. Pipes shall have a minimum fall of 1% unless noted otherwise. A minimum of 1:60 fall shall be provided for downpipes connecting to drainage lines.

5. Responsibility of roof drainage is by others unless specifically noted otherwise.

6. All uPVC stormwater drainage lines shall be in accordance with the latest version of AS 1254 and shall be installed in accordance with the requirements of the latest version of AS 3500.3, AS 2032 & AS 2566 unless noted otherwise.

7. All reinforced concrete stormwater drainage pipe work (RCP) shall be in accordance with AS 1342, TfNSW standards requirements and specifications and shall be installed in accordance with AS 3725 or the previous relevant standard/specification whichever is the greater or more appropriate. The pipes shall be of the following minimum classes in accordance with AS 1342 unless noted otherwise:
   - Class 4 under flexible pavements with min 600mm cover
   - Class 2 in other areas with no flexible pavement over and heavy machinery/trucks do not need to pass over and not surcharged by vehicles loads or greater.

8. Subsoil drainage for rigid and flexible trafficable pavements shall be in accordance with TfNSW requirements.

9. Subsoil drainage (minimum 100mm diameter wrapped in a geotextile sock shall be provided behind and at the base of all retaining walls, upturn walls (with the exception of underpinning and contiguous/soldier piling) and shall be backfilled with crushed rock with 10% cement. The wall shall also be waterproofed and a layer of Corflute applied between the waterproofing and the backfill. The backfill shall be wrapped in a geofabric. All subsoil drainage whether or not shown on plan shall connect to the downstream stormwater system and have sufficient clean out points to be adequately maintained.

10. Subsoil drainage shall be provided in poorly drained lawn style areas in accordance with best practice.

11. Step downs in flooring from internal to external shall be in accordance with the National Construction Code unless noted otherwise.

12. Falls in pavements shall be minimum 1% for external areas and 0.5% for external areas protected by a roof or undercover. Sufficient surface drainage shall be provided to facilitate these falls.

13. All drainage trenches shall not undermine existing structures and shall be in sound material. If soft spots exist they should be removed and backfilled with a compacted roadbase DGB20 or 40 and compacted to minimum 98% standard dry density at plus or minus 2% optimum moisture content.

14. All Stormwater pits or access to Stormwater tanks shall have the following:

a) have step irons installed (where deeper than 900mm) UNO, step irons shall be in accordance with TfNSW standard drawings.
b) have a lid as per specification or a pit schedule.
c) have bedding as required.
d) have any proof locks or better child protection as required by council or other consultant specifications.
e) have benching as required.

15. Cover for stormwater pipes shall be:

a) RCP: 600mm under flexible pavements or areas of vehicular loading
b) RCP: 300mm under landscape areas or rigid pavements.
c) uPVC: 300mm not subject to vehicular loading
d) uPVC: 600mm subject to vehicular loading with sealed flexible carriageways.
e) If not noted in the above the minimum covers shall be obtained from the relevant Australian Standard as noted below:
i) AS 2041.1 for corrugated metal stormwater pipes
ii) AS 2032 for PVC stormwater pipes
iii) AS/NZS 2566.2 for flexible stormwater pipes
iv) AS 3725 for reinforced concrete stormwater pipes
v) AS 2033 for polyethylene stormwater pipes.

16. Lids of stormwater pits shall have the following class lids unless noted otherwise:
a) Class A for areas accessed strictly by only pedestrians
b) Class C for areas of residential roads and car parks and areas subject to vehicle loads but not heavy vehicle loads.
c) Class D for areas where heavy vehicles can access and use

17. Minimum pit sizes regardless of what is shown on the drawings shall be in accordance with Table 7.5.2.1 of AS/NZS 3500.3.

18. Sites that have a high water table a minimum of 1.5 times the diameter over uPVC or lightweight pipes shall be provided as cover to prevent buoyancy.

19. All set out is to the face of the kerb, centreline of fence/bollard/pipe.

20. Smooth all transitions between new and existing stormwater drainage works in level and alignment.

21. It is the Contractor's responsibility to check all set out and levels prior to commencement of works and to report any discrepancies found to the Superintendent.

22. The contractor shall provide certification of compactions and pavement thickness from a NATA registered testing authority at the rate of a minimum three tests per layer as follows:
   pipe backfill density index 75
   select fill 95% standard
   select fill (less than 300mm follow base course) 98% modified
   base course 100% modified
23. The AUS-SPEC specification shall be the specification for these works.

ABBREVIATIONS

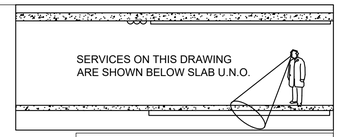
Ø OR DIA	DIAMETER
@ 1 %	AT 1 PERCENT
AHD	AUSTRALIAN HEIGHT DATUM
CBR	CALIFORNIA BEARING RATIO
CH	CHAINAGE
CL	CENTRE LINE
CO	CLEAR OUT
COS	CONFIRM ON SITE
DD	DISH CROSSING
DDO	DISH DRAIN OUTLET
DEJ	DOWELLED EXPANSION JOINT
DGB	DENSE GRADED BASECOURSE
DGS	DENSE GRADED SUB-BASE
DN	DIAMETER NOMINAL
DP	DOWNPIPE
EJ	EXPANSION JOINT
EJX	EXPANSION JOINT TO EXISTING PAVEMENT
ex	EXISTING
FFL	FINISHED FLOOR LEVEL
FW	FLOOR WASTE
GTD	GRATED TRENCH DRAIN
GSIP	GRATED SURFACE INLET PIT
HDG	HOT DIP GALVANISED
HYD	HYDRANT
IJ	ISOLATION JOINT
IK	INTEGRAL KERB
IL	INVERT LEVEL
IP	INTERSECTION POINT
KIP	KERB INLET PIT
KO	KERB ONLY
K&G	KERB & GUTTER
KR	KERB RETURN
LS	LONGITUDINAL SECTION
m	METER
mm	MILLIMETER
MIN	MINIMUM
NGL	NATURAL GROUND LEVEL
NO.	NUMBER
NOM.	NOMINAL
NGL	NATURAL GROUND LEVEL
OFP	OVERLAND FLOW PATH
OSD	ON-SITE DETENTION
r	RADIUS
RCP	REINFORCED CONCRETE PIPE
RHS	RECTANGULAR HOLLOW SECTION
RK	ROLL KERB & GUTTER
RL	REDUCED LEVEL
RW	RETAINING WALL
RWO	RAINWATER OUTLET
RWT	RAINWATER TANK
SJ	SAWN JOINT
SMH	SEWER MAN HOLE
SW	STORMWATER
SWP	STORMWATER PIT
SWRM	STORMWATER RISING MAIN
SWS	STORMWATER SUMP
SV	STOP VALVE
TOK	TOP OF KERB
TOW	TOP OF WALL
TP	TANGENT POINT
TYP.	TYPICAL
uPVC	UNPLASTICISED POLYVINYL CHRLORIDE
UNO	UNLESS NOTED OTHERWISE

LEGEND

AAPT LINE — AAPT — AAPT
COMMS LINE — C — C
ELECTRICAL LINE — E — E — E
FIRE LINE — F — F
GAS LINE — GAS — GAS
WATER LINE — W — W — W
NBN LINE — NBN — NBN
OPTUS LINE — OP — OP
TPG LINE — TPG — TPG
TELECOMMUNICATION LINE — T — T — T
OVERFLOW LINE — OFP — OFP — OFP
SEWER LINE — S — S — S
SEWER EXISTING LINE — EX.S — EX.S
SUBSOIL DRAINAGE LINE — SSD — SSD — SSD
SITE BOUNDARY
DEMOLISHED
STORMWATER LINE
EXISTING STORMWATER LINE — EX. SW — EX. SW
PROPOSED CONTOUR

GRATED STORMWATER PIT
EXISTING STORMWATER PIT
KERB INLET PIT
TELEPHONE PIT
DOWN PIPE — DP
EXISTING DOWN PIPE — Ex. DP.
FLOOR WASTE — FW
NEW GRATED DRAIN

SERVICES SHOWN ON PLAN ARE INDICATIVE, EXACT DEPTH AND LOCATION TO BE CONFIRMED ONSITE. CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIG APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ONSITE.



DIAL BEFORE YOU DIG

IMPORTANT: THE CONTRACTOR IS TO MAINTAIN A CURRENT SET OF "DIAL BEFORE YOU DIG" DRAWINGS ON SITE AT ALL TIMES.

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P6	REVISED SSDA ISSUE	MG	18-07-25
P5	SSDA ISSUE	MG	13-06-25
P4	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P3	100% SCHEMATIC ISSUE	MG	16-05-25
P2	PRELIMINARY	MG	23-04-25
P1	70% SCHEMATIC ISSUE	MG	23-09-24

CLIENT
Fairfield SHOWGROUND

ARCHITECT
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tel: (02) 9555 7230 email : office@birzulisassociates.com
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PROJECT
FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE
CONSTRUCTION NOTES - SHEET 1

SCALES	DATE
as noted @ A1	APR' 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

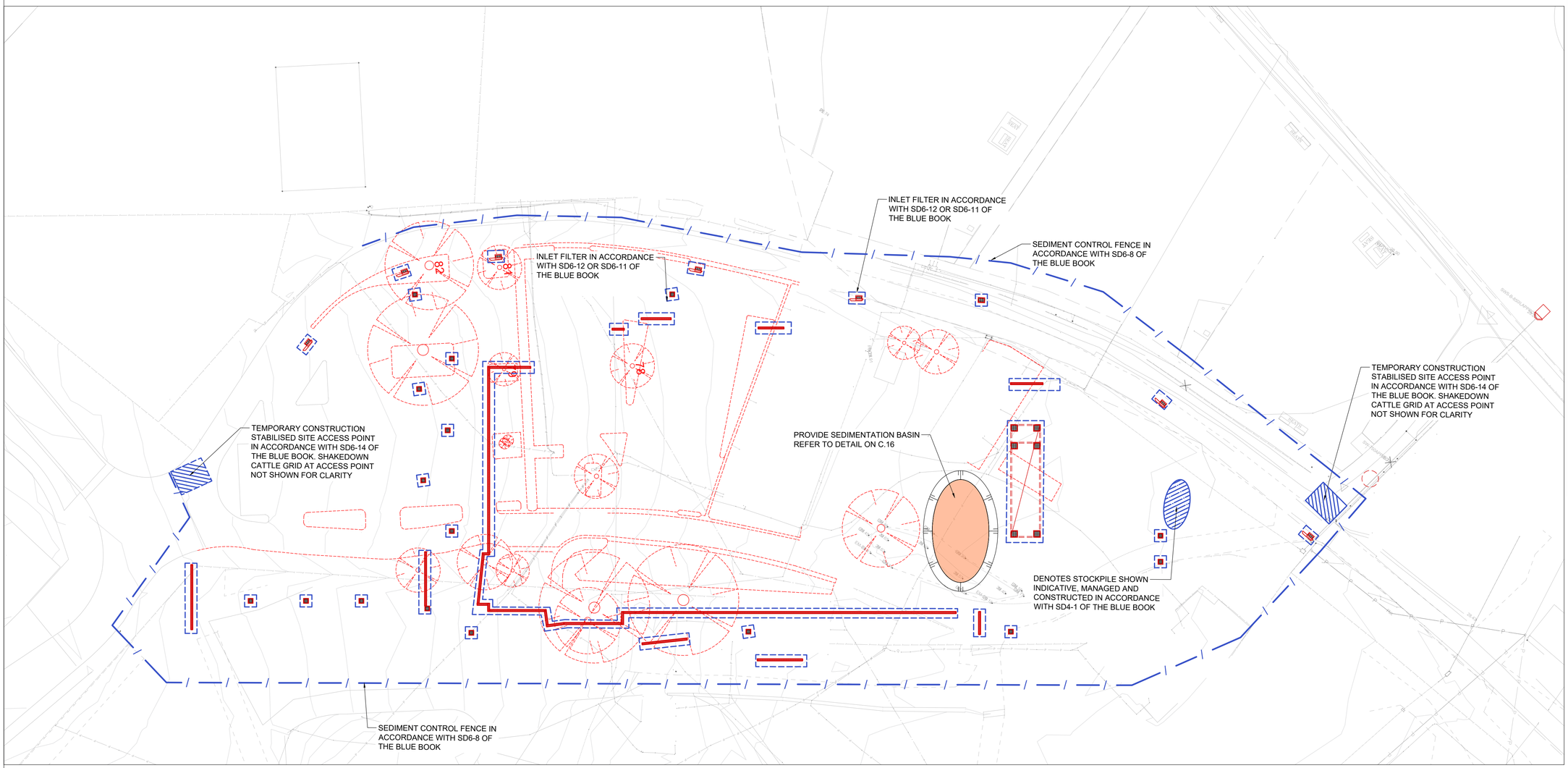
ISSUE	PROJECT No.	DRAWING No.
P6	9150	C.01

GENERAL NOTES:

1. THIS PLAN IS A CONCEPT PLAN ONLY FOR CONSTRUCTION OF SEDIMENT & EROSION CONTROL. IT IS NOT SUITABLE FOR CONSTRUCTION. THIS PLAN SHOULD BE ADAPTED BY THE BUILDER DURING DEMOLITION, EXCAVATION & CONSTRUCTION PHASES TO ENSURE ADEQUATE PERFORMANCE.
2. ALL DRAINAGE LAYOUT & DETAILS ARE DIAGRAMMATIC & INDICATIVE ONLY. ACTUAL LOCATION, SIZES, LEVELS & GRADES MAY CHANGE LATER WHEN DETAIL DESIGN WORKS ARE DOCUMENTED.

EROSION & SEDIMENTATION CONTROL NOTES

1. CONTRACTOR SHALL PROVIDE SEDIMENT FENCING MATERIAL DURING CONSTRUCTION TO THE LOW SIDE OF THE WORKS. TIE SEDIMENT FENCING MATERIAL TO CYCLONE WIRE SECURITY FENCE.SEDIMENT CONTROL FABRIC SHALL BE AN APPROVED MATERIAL (e.g. HUMES PROPEX SILT STOP) STANDING 300mm ABOVE GROUND & EXTENDING 150mm BELOW GROUND.
2. EXISTING DRAINS LOCATED WITHIN THE SITE SHALL ALSO BE ISOLATED BY SEDIMENT FENCING MATERIAL.
3. NO PARKING OR STOCKPILING OF MATERIAL IS PERMITTED ON THE LOWER SIDE OF THE SEDIMENT FENCE.
4. GRASS VERGES SHALL BE MANTAINED AS MUCH AS PRACTICAL TO PROVIDE A BUFFER ZONE TO THECONSTRUCTION SITE.
5. CONSTRUCTION ENTRY/EXIT SHALL BE VIA THE LOCATION NOTED ON THE DRAWING. CONTRACTOR SHALLENSURE ALL DROPPABLE SOIL & SEDIMENT IS REMOVED PRIOR TO CONSTRUCTION TRAFFIC EXITINGTHE SITE. CONTRACTOR SHALL ENSURE ALL CONSTRUCTION TRAFFIC ENTERING & LEAVING THE SITE DO SO IN A FORWARD DIRECTION.
6. MAINTENANCE AND AUDITING OF SEDIMENT AND EROSION CONTROL SHALL BE IN ACCORDANCE WITH THE BLUE BOOK AND ANY RELEVANT CONSENT CONDITIONS.
7. LOW POINTS OF EXCAVATION SHALL BE PUMPED TO THE SEDIMENT BASIN WHERE PROVIDED.
8. PROVIDE WIND, AND DUST CONTROL IN ACCORDANCE WITH THE BLUE BOOK.
9. PROVIDE BUNDS AND CATCH DRAINS AT THE TOP OF ALL BATTERS SO BATTERS ARE NOT ERODED WITH OVERLAND FLOW STORMWATER RUNOFF.



SOIL EROSION AND SEDIMENT CONTROL PLAN
SCALE 1:400

SOIL EROSION AND SEDIMENT CONTROL LEGEND

- DENOTES SEDIMENT CONTROL FENCE IN ACCORDANCE WITH SD6-8 OF THE BLUE BOOK
- DENOTES GEOTEXTILE INLET FILTER IN ACCORDANCE WITH SD6-11 OR SD6-12 OF THE BLUE BOOK
- DENOTES TEMPORARY CONSTRUCTION STABILISED SITE ACCESS POINT IN ACCORDANCE WITH SD6-14 OF THE BLUE BOOK. (SHAKEDOWN CATTLE GRID AT ACCESS POINT NOT SHOWN FOR CLARITY)
- DENOTES STOCKPILE SHOWN INDICATIVE MANAGED AND CONSTRUCTED IN ACCORDANCE WITH SD4-1 OF THE BLUE BOOK
- SITE BOUNDARY
- DENOTES PROPOSED BUILDING EXTENT
- EXISTING TO BE DEMOLISHED
- PROPOSED HAY BALE FILTER IN ACCORDANCE WITH SD6-7 OF THE BLUE BOOK
- PROPOSED SANDBAG OR GEOTEXTILE SOCK FILLED WITH GRAVEL AT INVERT OF GUTTER
- DENOTES CATCH DRAIN — CD — CD —

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

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CLIENT
Fairfield SHOWGROUND

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PROJECT
FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

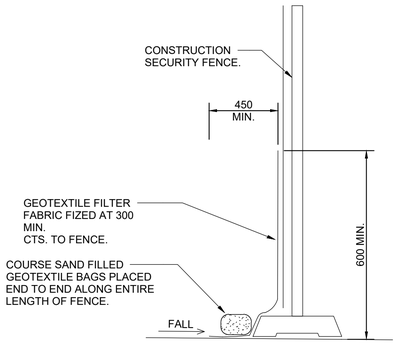
TITLE
SOIL EROSION AND SEDIMENT CONTROL PLAN

SCALES	DATE	
as noted @ A1	APR' 2024	
DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

All levels and dimensions are to be checked and verified on site prior to the commencement of any work, making of shop drawings or fabrication of components. Do not scale drawings. Use figured Dimensions.

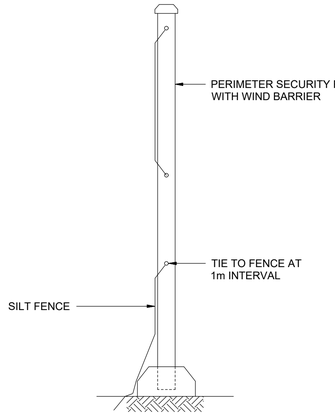
ISSUE	PROJECT No.	DRAWING No.
P6	9150	C.10

PRINT IN COLOUR



SEDIMENT FENCE ON PAVED SURFACE

(NOT TO SCALE)

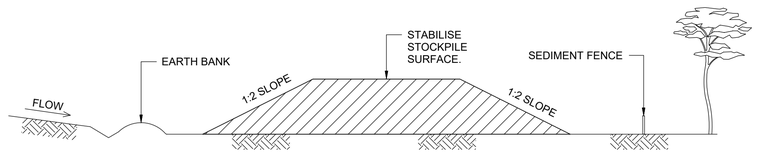


PERIMETER SECURITY FENCE WITH WIND BARRIER & SILT FENCE DETAIL

(NOT TO SCALE)

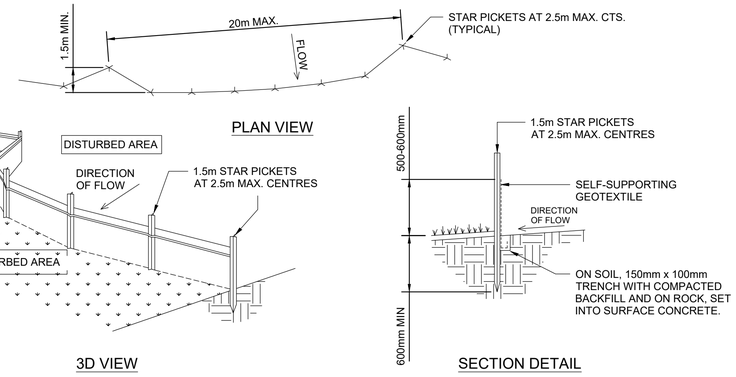
STOCKPILE CONSTRUCTION NOTES:

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE PLACED FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED E.S.C.P. OR S.W.M.P. TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 - 2 METRES DOWNSLOPE.



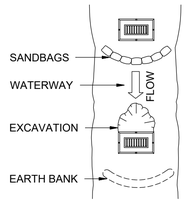
STOCKPILES DETAIL

(NOT TO SCALE)



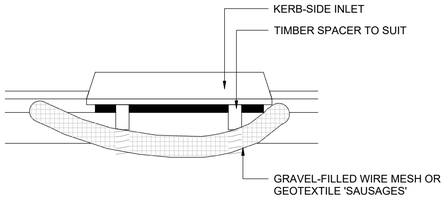
SEDIMENT FENCE DETAILS

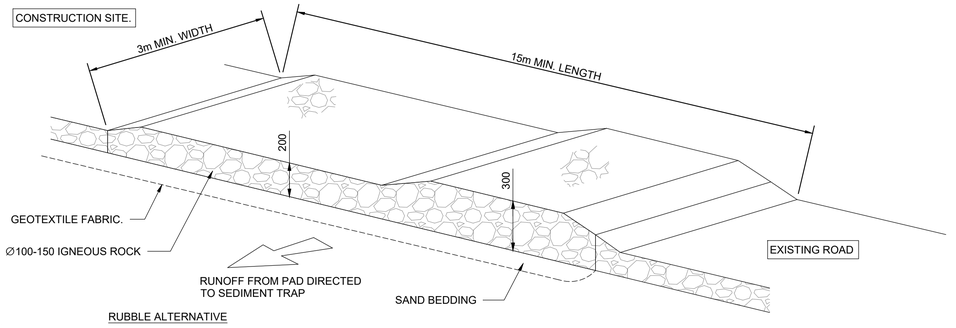
(NOT TO SCALE)



PLAN VIEW

FOR DROP INLETS @ NON-SAG POINTS, SANDBAGS, EARTH BANK OR EXCAVATION USED TO CREATE ARTIFICIAL SAG POINT.





TEMPORARY CONSTRUCTION EXIT

(NOT TO SCALE)

SEDIMENT FENCE CONSTRUCTION NOTES:

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5m LONG STAR PICKETS INTO GROUND AT 2.5m INTERVALS (MAX.) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

SECTION DETAIL

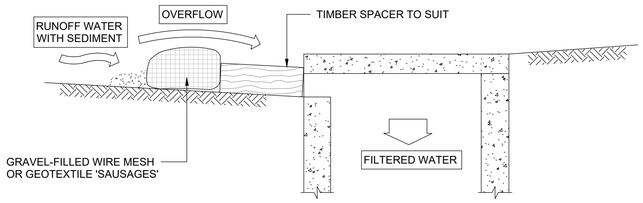
3D VIEW

GEOTEXTILE INLET FILTER DETAILS

(NOT TO SCALE)

GEOTEXTILE INLET FILTER CONSTRUCTION NOTES:

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE.
2. PICKET SPACING TO BE MAXIMUM 1m.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILES UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

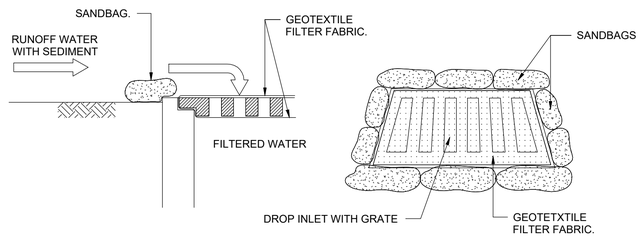


MESH & GRAVEL INLET FILTER DETAILS.

(NOT TO SCALE)

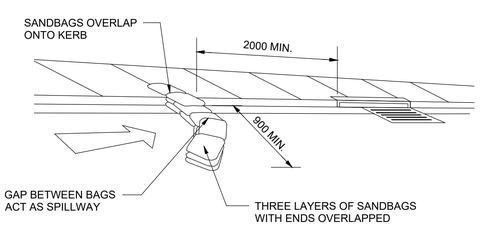
MESH & GRAVEL INLET FILTER CONSTRUCTION NOTES:

1. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25-50mm GRAVEL.
2. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
3. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH TIMBER SPACER BLOCKS.
4. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
5. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE, PROVIDING THEY ARE PLACED SO THAT THEY CAN FIRMLY ABUT EACH OTHER AND SEDIMENT LADEN WATERS CANNOT PASS BETWEEN.



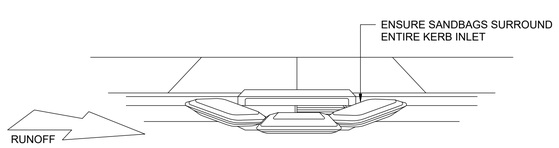
GEOTEXTILE FILTER FAVRIC DROP INLET SEDIMENT TRAP

(NOT TO SCALE)



SANDBAG SEDIMENT TRAP FOR KERB INLET ON GRADE

(NOT TO SCALE)



SANDBAG KERB INLET SEDIMENT TRAP DETAIL

(NOT TO SCALE)

PRELIMINARY ISSUE

NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P5	REVISED SSDA ISSUE	MG	18-07-25
P4	SSDA ISSUE	MG	13-06-25
P3	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P2	100% SCHEMATIC ISSUE	MG	16-05-25
P1	PRELIMINARY	MG	23-04-25

CLIENT

Fairfield SHOWGROUND

ARCHITECT

NBRS

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CONSULTING STRUCTURAL & CIVIL ENGINEERS
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tel: (02) 9555 7230 email : office@birzulisassociates.com
www.birzulisassociates.com

PROJECT

FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

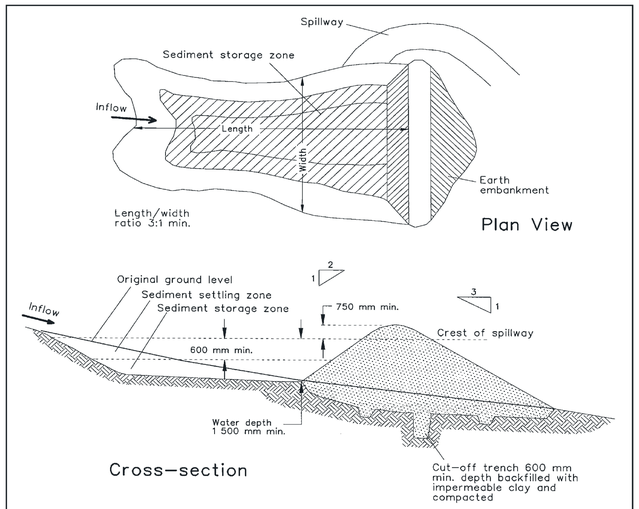
TITLE

SOIL EROSION & SEDIMENT CONTROL - DETAILS 01

SCALES	DATE
as noted @ A1	APR' 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P5	9150	C.15

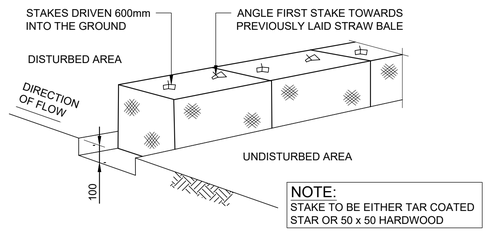


Construction Notes

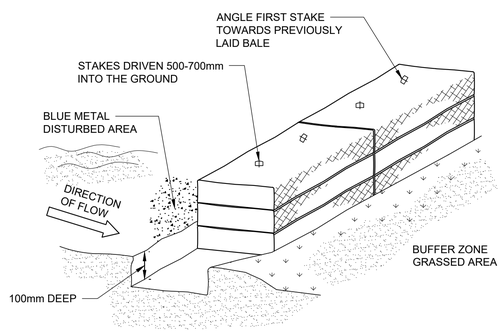
1. Remove all vegetation and topsoil from under the dam wall and from within the storage area.
2. Construct a cut-off trench 500 mm deep and 1,200 mm wide along the centreline of the embankment extending to a point on the gully wall level with the riser crest.
3. Maintain the trench free of water and recompact the materials with equipment as specified in the SWMP to 95 per cent Standard Proctor Density.
4. Select fill following the SWMP that is free of roots, wood, rock, large stone or foreign material.
5. Prepare the site under the embankment by ripping to at least 100 mm to help bond compacted fill to the existing substrate.
6. Spread the fill in 100 mm to 150 mm layers and compact it at optimum moisture content following the SWMP.
7. Construct the emergency spillway.
8. Rehabilitate the structure following the SWMP.

EARTH BASIN - WET
(APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY)

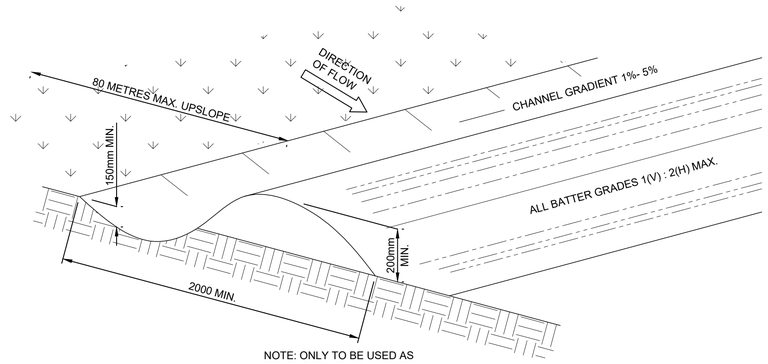
SD 6-4



STRAW BALE SEDIMENT FILTER DETAIL
(NOT TO SCALE)



HAY BALE BARRIER DETAIL
NOT TO SCALE

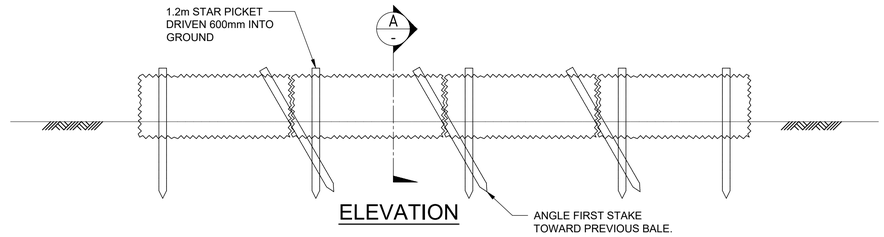


NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAX. UPSLOPE IS 80 METRES

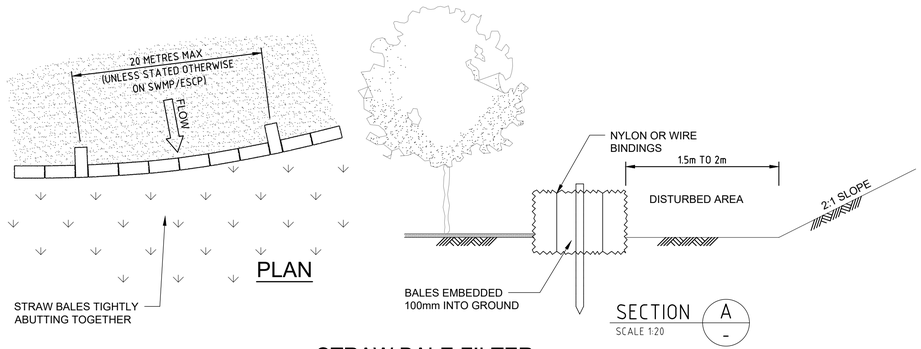
CATCH DRAIN
NOT TO SCALE

CATCH DRAIN CONSTRUCTION NOTES:

1. CONSTRUCT ALONG GRADIENT AS SPECIFIED.
2. MAXIMUM SPACING BETWEEN BANKS SHALL BE 80 METRES.
3. DRAINS TO BE OF PARABOLIC OR TRAPEZOIDAL CROSS SECTION NOT V-SHAPED.
4. EARTH BANKS TO BE ADEQUATELY COMPACTED IN ORDER TO PREVENT FAILURE.
5. CONSTRUCTION OF A TEMPORARY NATURE AND SHALL BE COMPACTED AT THE END A DAYS WORK OR IMMEDIATELY PRIOR RAIN.
6. ALL OUTLETS FROM DISTURBED LANDS ARE TO FEED INTO SEDIMENT BASIN OR SIMILAR.
7. DISCHARGE RUNOFF COLLECTED FROM UNDISTURBED LANDS ONTO EITHER A STABILISED OR AN UNDISTURBED DISPOSAL SITE WITHIN THE SAME SUBCATCHMENT AREA FROM WHICH THE WATER ORIGINATED.
8. COMPACT WITH A SUITABLE IMPLEMENT IN SITUATIONS WHERE THEY ARE REQUIRED TO FUNCTION FOR MORE THAN 5 DAYS.
9. EARTH BANKS TO BE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT WILL IMPEDE NORMAL FLOW.



ELEVATION



PLAN

STRAW BALE FILTER
NOT TO SCALE

STRAW BALE FILTER CONSTRUCTION NOTES:

1. CONSTRUCT THE STRAW BALE FILTER AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE.
2. PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAWS ARE TO BE PLACED PARALLEL TO GROUND.
3. ENSURE THAT THE MAXIMUM HEIGHT OF THE FILTER IS ONE BALE.
4. EMBED EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 1.2 METRE STAR PICKETS OR STAKES. ANGLE THE FIRST STAR PICKET OR STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE THEM 600mm INTO THE GROUND AND, IF POSSIBLE, FLUSH WITH THE TOP OF THE BALES. WHERE STAR PICKETS ARE USED AND THEY PROTUDE ABOVE THE BALES, ENSURE THEY ARE FITTED WITH SAFETY CAPS.
5. WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWNSLOPE FROM A DISTURBED BATTER, ENSURE THE BALES ARE PLACED 1 TO 2 METRES DOWNSLOPE FROM THE TOE.
6. ESTABLISH A MAINTENANCE PROGRAM THAT ENSURES THE INTEGRITY OF THE BALES IS RETAINED - THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS.

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P5	REVISED SSDA ISSUE	MG	18-07-25
P4	SSDA ISSUE	MG	13-06-25
P3	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P2	100% SCHEMATIC ISSUE	MG	16-05-25
P1	PRELIMINARY	MG	23-04-25

CLIENT
Fairfield SHOWGROUND

ARCHITECT
NBRS

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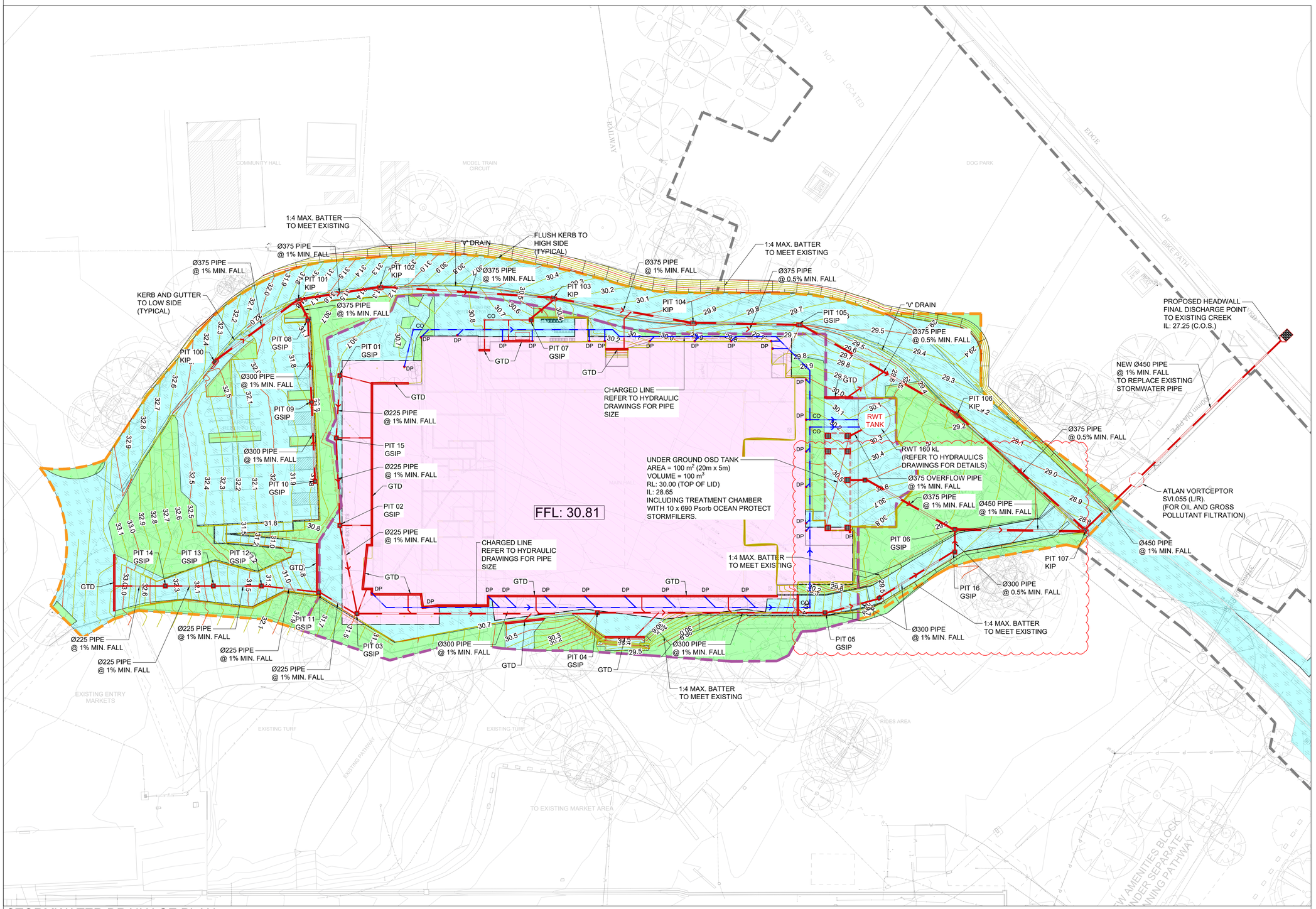
PROJECT
FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE
SOIL EROSION & SEDIMENT CONTROL - DETAILS 02

SCALES	DATE
as noted @ A1	APR' 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P5	9150	C.16



LEGEND

- AAPT LINE
- COMMS LINE
- ELECTRICAL LINE
- FIRE LINE
- GAS LINE
- WATER LINE
- NBN LINE
- OPTUS LINE
- TPG LINE
- TELECOMMUNICATION LINE
- OVERFLOW LINE
- SEWER LINE
- SEWER EXISTING LINE
- SUBSOIL DRAINAGE LINE
- SITE BOUNDARY
- DEMOLISHED
- STORMWATER LINE (GRAVITY)
- STORMWATER LINE (CHARGED)
- EXISTING STORMWATER LINE
- PROPOSED CONTOUR
- GRATED STORMWATER PIT
- EXISTING STORMWATER PIT
- KERB INLET PIT
- TELEPHONE PIT
- DOWN PIPE
- EXISTING DOWN PIPE
- FLOOR WASTE
- CLEAR OUT
- NEW GRATED DRAIN
- OVERLAND FLOW
- RAINWATER TANK (RWT)
- RAIN WATER OUTLET (RWO)
- EXTENT OF SSDA AREA
- EXTENT OF REF AREA
- DENOTE PERVIOUS AREA
- DENOTE IMPERVIOUS AREA
- DENOTE ROOF AREA
- DENOTE ROOF STAGE-2 AREA

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P8	REVISED SSDA ISSUE	MG	25-07-25
P7	REVISED SSDA ISSUE	MG	18-07-25
P6	SSDA ISSUE	MG	13-06-25
P5	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P4	100% SCHEMATIC ISSUE	MG	16-05-25
P3	PRELIMINARY	-	23-04-25
P2	PRELIMINARY	-	01-04-25
P1	70% SCHEMATIC ISSUE	-	23-09-24

CLIENT
Fairfield SHOWGROUND

ARCHITECT
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PROJECT
FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE
STORMWATER DRAINAGE PLAN
SHEET 1

SCALES	DATE
as noted @ A1	APR` 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P8	9150	C.20

STORMWATER DRAINAGE PLAN

SCALE 1:400

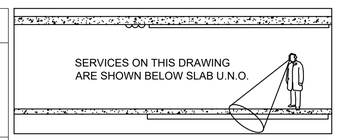
- SERVICES SHOWN ON PLAN ARE INDICATIVE, EXACT DEPTH AND LOCATION TO BE CONFIRMED ONSITE. CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIG APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ONSITE.
- ROOF DRAINAGE BY OTHERS.
- ALL uPVC STORMWATER DRAINAGE LINES SHALL BE 'CLASS SH' SEWER GRADE UNLESS NOTED OTHERWISE.
- UNLESS NOTED OTHERWISE DOWNPIPES SHALL CONNECT TO THE MAIN STORMWATER LINE DOWNSTREAM USING 150mm DIAMETER uPVC LINES WITH MINIMUM 1% FALL.
- UNLESS NOTED OTHERWISE GRATED DRAINS SHALL BE 150x150 AND CONNECTED TO THE DOWNSTREAM (NON-CHARGED) STORMWATER SYSTEM USING 150mm DIAMETER uPVC LINES WITH MINIMUM 1% FALL.
- ALL SUBSOIL DRAINAGE NOT SHOWN ON THE PLAN IS TO BE PROVIDED AND CONNECTED TO THE STORMWATER DRAINAGE SYSTEM.
- THE CONTRACTOR MUST VERIFY THE EXACT LOCATION AND EXTENT OF ALL SERVICES PRIOR TO CONSTRUCTION AND NOTIFY IMMEDIATELY OF ANY CONFLICTS WITH THE DRAWINGS TO THE ENGINEER/SUPERINTENDENT.

PRINT IN COLOUR

DIAL BEFORE YOU DIG

DIAL BEFORE YOU DIG
www.1100.com.au

IMPORTANT: THE CONTRACTOR IS TO MAINTAIN A CURRENT SET OF "DIAL BEFORE YOU DIG" DRAWINGS ON SITE AT ALL TIMES.



A1 0 1 2 3 4 5 6 7 8 9 10

THIS MAY BE A REDUCED SIZE PRINT - CHECK SCALE

STORMWATER PIT SCHEDULE

PIT No.	PIT COVER LEVEL (RL)	PIT INVERT LEVEL (IL)	PIT TYPE	INTERNAL PIT SIZE	COVER TYPE	COVER CLASS	REMARKS
PIT 100	32.30	31.30	KIP	900 x 900	GRATE	D	1.8m LINTEL
PIT 101	31.70	30.50	KIP	900 x 900	GRATE	D	1.8m LINTEL
PIT 102	31.20	29.90	KIP	900 x 900	GRATE	D	1.8m LINTEL
PIT 103	30.20	28.725	KIP	900 x 900	GRATE	D	1.8m LINTEL
PIT 104	29.80	28.425	KIP	900 x 900	GRATE	D	1.8m LINTEL
PIT 105	29.60	28.30	GSIP	900 x 900	'V'-GRATE	D	
PIT 106	29.10	28.05	KIP	900 x 900	GRATE	D	1.8m LINTEL
PIT 107	28.80	27.85	KIP	900 x 900	GRATE	D	1.8m LINTEL
PIT 01	30.66	30.00	GSIP	600 x 600	GRATE	B	HEELGUARD
PIT 02	30.55	29.68	GSIP	600 x 600	GRATE	B	HEELGUARD
PIT 03	30.50	29.465	GSIP	600 x 900	GRATE	B	HEELGUARD
PIT 04	30.60	29.00	GSIP	900 x 900	GRATE	B	HEELGUARD
PIT 05	30.80	28.521	GSIP	900 x 900	GRATE	B	HEELGUARD
PIT 06	29.90	28.167	GSIP	900 x 900	GRATE	B	HEELGUARD
PIT 07	30.15	29.15	GSIP	600 x 600	GRATE	D	HEELGUARD
PIT 08	31.65	30.65	GSIP	600 x 900	GRATE	D	HEELGUARD WITH STORMSACK, LOCATION OF PIT TO BE COORDINATED WITH WHEELSTOP
PIT 09	31.70	30.83	GSIP	600 x 900	GRATE	D	HEELGUARD WITH STORMSACK, LOCATION OF PIT TO BE COORDINATED WITH WHEELSTOP
PIT 10	31.80	31.00	GSIP	600 x 600	GRATE	D	HEELGUARD WITH STORMSACK, LOCATION OF PIT TO BE COORDINATED WITH WHEELSTOP
PIT 11	30.80	30.00	GSIP	600 x 600	GRATE	D	HEELGUARD
PIT 12	31.40	30.56	GSIP	600 x 600	GRATE	D	HEELGUARD
PIT 13	31.85	31.19	GSIP	600 x 600	GRATE	D	HEELGUARD
PIT 14	32.30	31.58	GSIP	600 x 600	GRATE	D	HEELGUARD
PIT 15	30.64	29.88	GSIP	600 x 600	GRATE	D	HEELGUARD
PIT 16	30.10	28.208	GSIP	900 x 900	GRATE	D	HEELGUARD

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P3	REVISED SSDA ISSUE	MG	18-07-25
P2	SSDA ISSUE	MG	13-06-25
P1	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25

CLIENT

Fairfield SHOWGROUND

ARCHITECT

NBRS

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PROJECT

FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

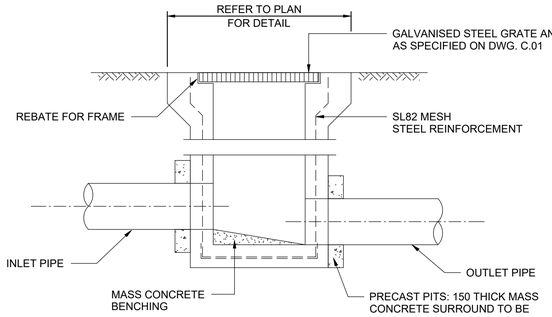
TITLE

PIT SCHEDULE

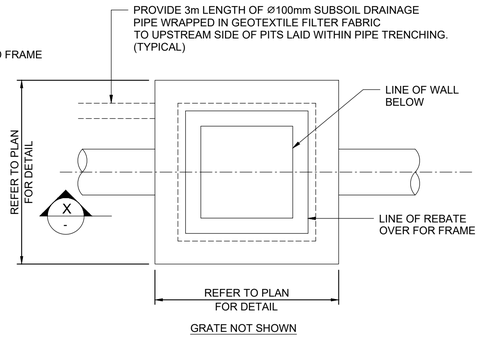
SCALES	DATE
as noted @ A1	APR' 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P3	9150	C.30

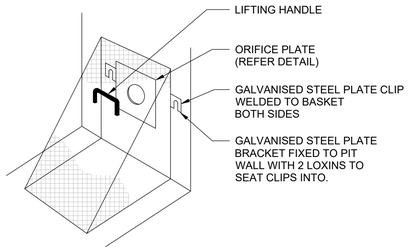


SECTION - X



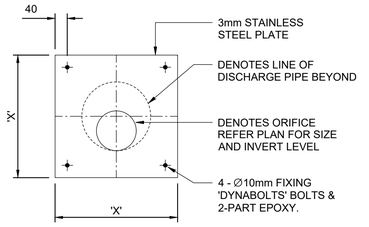
PLAN

STORMWATER PIT DETAIL
SCALE = 1:10

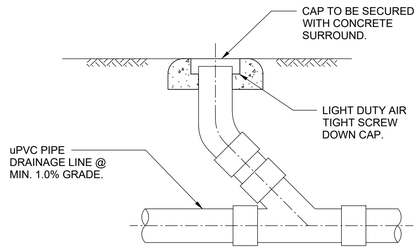


DEBRIS SCREEN DETAIL
(NOT TO SCALE)

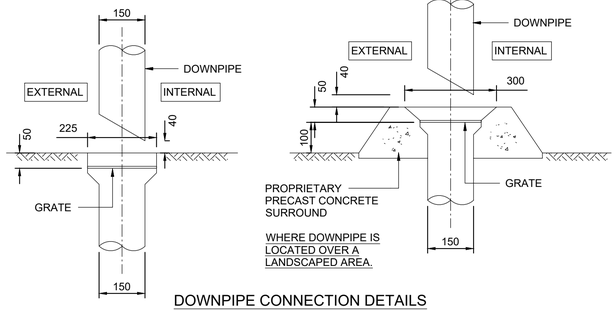
FOR OSD ORIFICE DIAMETERS:
- LESS THAN 150mm - PROVIDE MAXI-MESH TRASH SCREEN WITH SURFACE AREA 50 TIMES THAT OF THE ORIFICE OPENING.
- GREATER THAN 150mm - PROVIDE WELDLOK F40/203 TRASH SCREEN WITH SURFACE AREA 20 TIMES THAT OF THE ORIFICE OPENING.



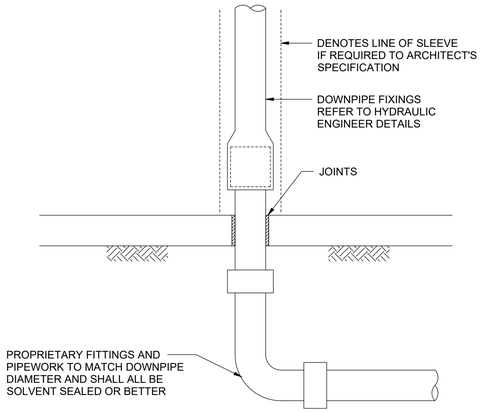
ORIFICE PLATE DETAIL
SCALE = 1:10



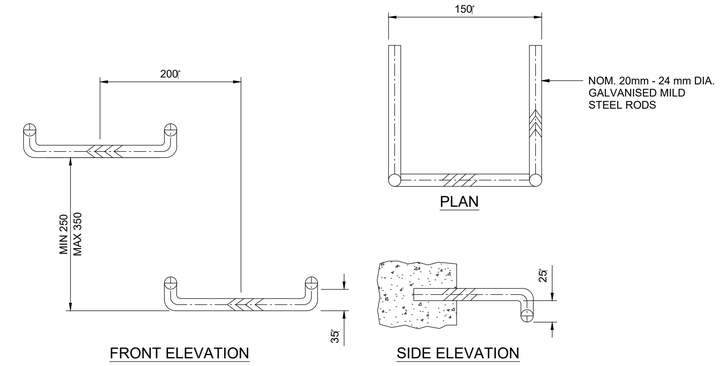
CLEANING OUT DETAIL
SCALE = 1:10



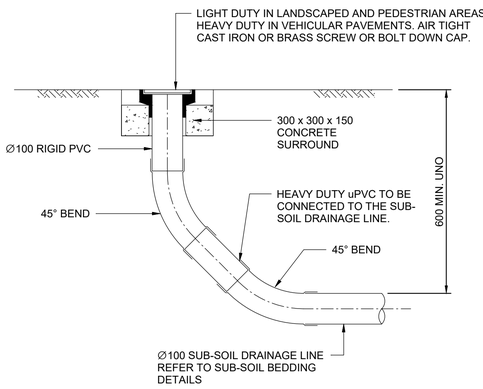
DOWNPIPE CONNECTION DETAILS
SCALE = 1:10



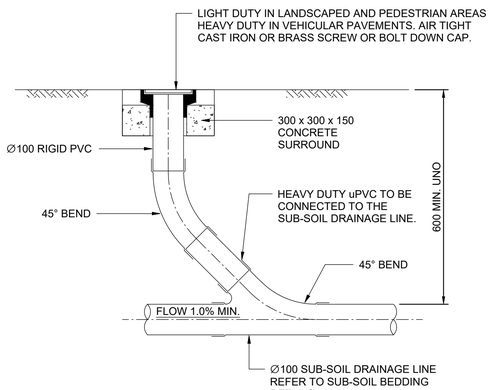
CHARGED DOWNPIPE CONNECTION DETAIL
(NOT TO SCALE)



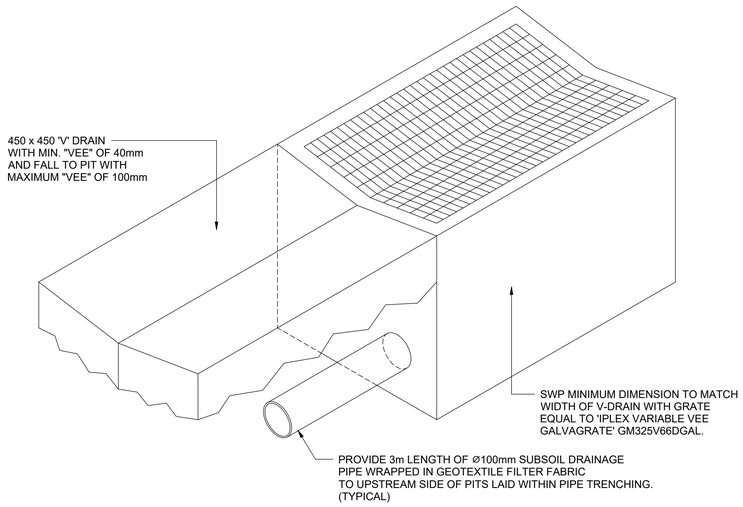
STEP IRON DETAILS
(NOT TO SCALE)
PROVIDE FOR PITS/TANKS GREATER THAN 900mm DEEP



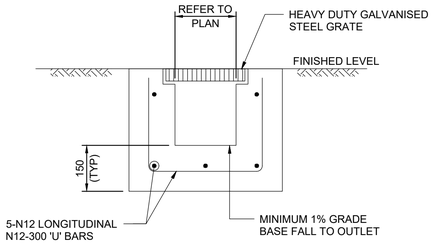
FLUSHING POINT (FP)
SCALE = 1:10
- NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED
- U.N.O. INSTALL AT UPSTREAM POINTS ALONG SUBSOIL DRAINAGE LINES



INTERMEDIATE RISER (IR)
SCALE = 1:10
- NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED.
- U.N.O. INSTALL AT UPSTREAM POINTS ALONG SUBSOIL DRAINAGE LINES.
- U.N.O. INSTALL AT MAXIMUM 30m CENTRES ALONG SUBSOIL LINES AND PRIOR TO DISCHARGING TO DRAINAGE STRUCTURES.



'V' DRAIN STORMWATER PIT TYPICAL DETAIL
(NOT TO SCALE)



TYPICAL GRATED DRAIN DETAIL
(NOT TO SCALE)

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P5	REVISED SSDA ISSUE	MG	18-07-25
P4	SSDA ISSUE	MG	13-06-25
P3	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P2	100% SCHEMATIC ISSUE	MG	16-05-25
P1	PRELIMINARY	MG	23-04-25

CLIENT
Fairfield SHOWGROUND

ARCHITECT
NBRS

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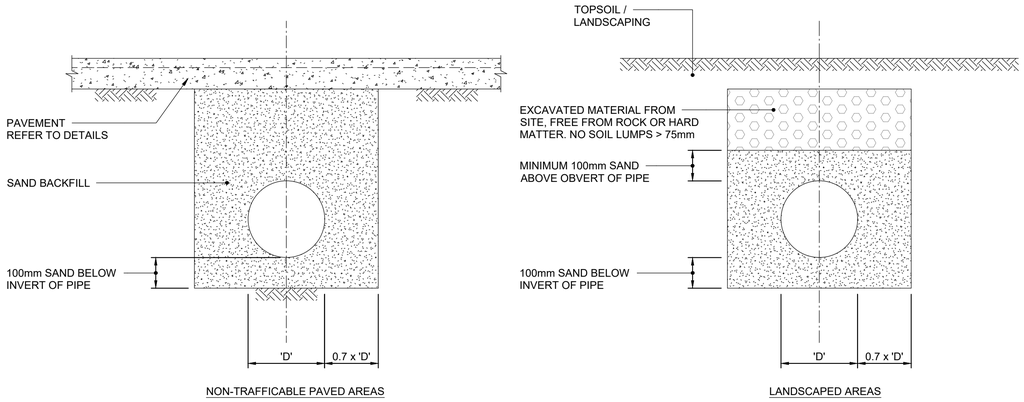
PROJECT
FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE
CIVIL DRAINAGE DETAILS 01

SCALES	DATE
as noted @ A1	APR' 2024

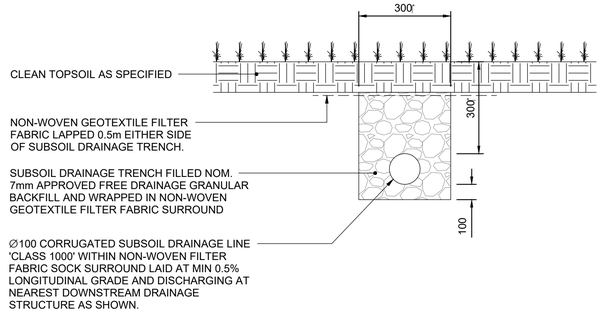
DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P5	9150	C.31



PIPE BACKFILLING DETAILS

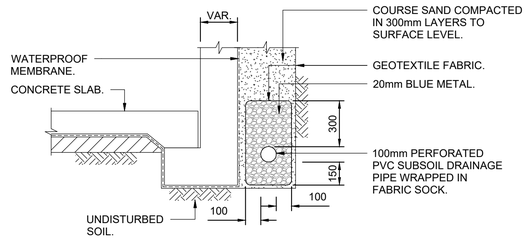
NOT TO SCALE



SUBSOIL DRAINAGE TRENCH - LANDSCAPING 'SSD'

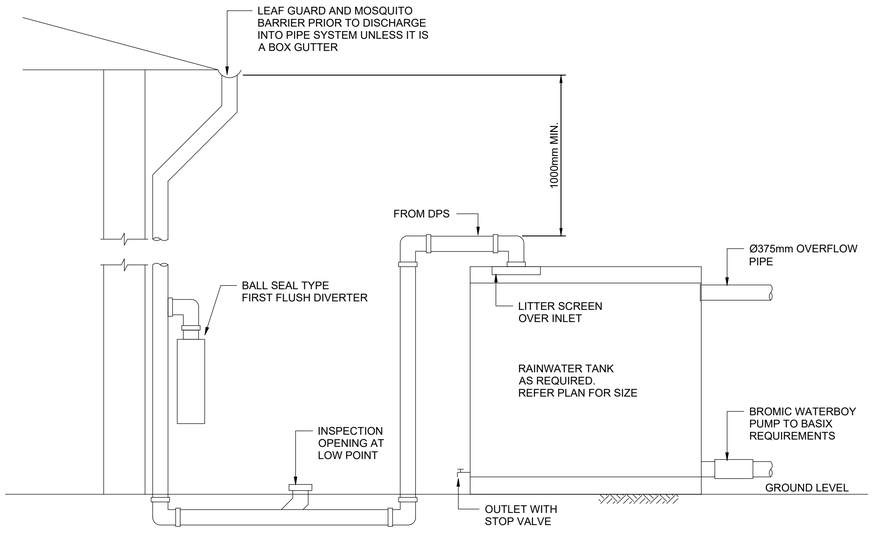
(NOT TO SCALE)

CLEAROUT TO BE INSTALLED AT MAX. 30m CENTRES AND
DISCHARGING TO DRAINAGE STRUCTURES AT MAX. 60m CENTRES.



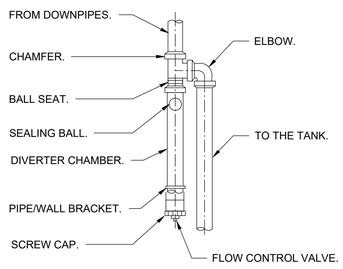
TYPICAL SUBSOIL DRAINAGE DETAIL

SCALE = 1:20



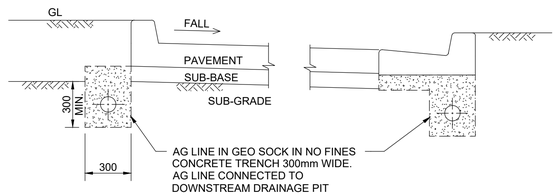
CONCEPT RAINWATER TANK DETAIL

(N.T.S.)



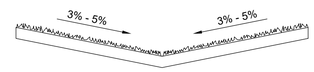
VERTICAL ABOVE GROUND FLUSH DIVERTER DETAIL

(NOT TO SCALE)



TRAFFICABLE PAVEMENT SUBSOIL DRAINAGE DETAIL

(NOT TO SCALE)



TYPICAL SWALE DETAIL

(NOT TO SCALE)

PRELIMINARY ISSUE

NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P5	REVISED SSDA ISSUE	MG	18-07-25
P4	SSDA ISSUE	MG	13-06-25
P3	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P2	100% SCHEMATIC ISSUE	MG	16-05-25
P1	PRELIMINARY	MG	23-04-25

CLIENT

Fairfield SHOWGROUND

ARCHITECT

NBRS

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PROJECT

FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

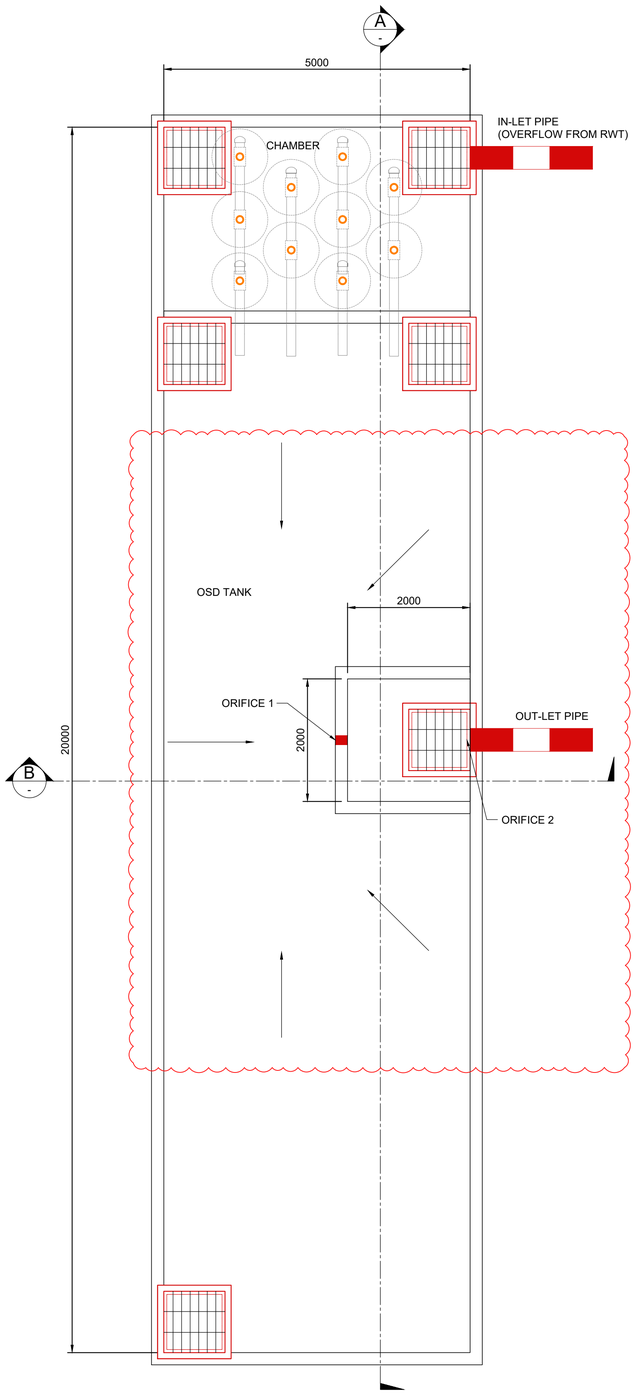
TITLE

CIVIL DRAINAGE DETAILS 02

SCALES	DATE
as noted @ A1	APR' 2025

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

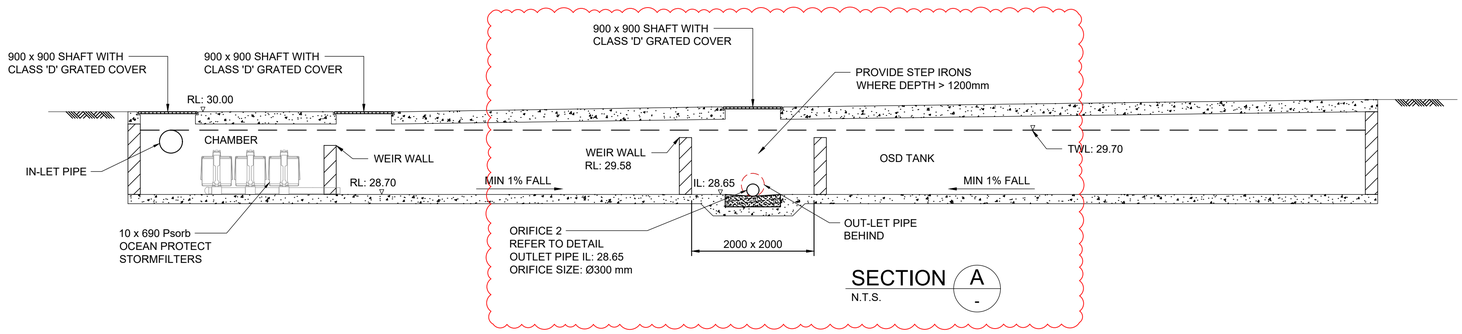
ISSUE	PROJECT No.	DRAWING No.
P5	9150	C.32



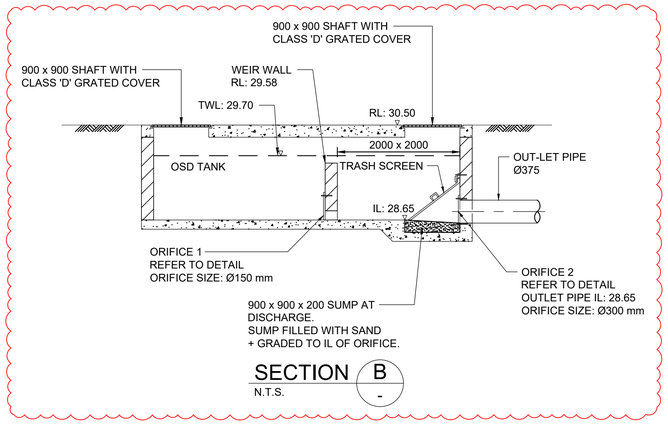
OSD TANK PLAN

SCALE 1:50

OSD TANK
CAPACITY = 100 m^3



SECTION A
N.T.S.

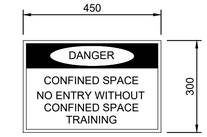


SECTION B
N.T.S.

NOTES:
ORIFICE 1 GOVERNED BY CONDITION 1: - MAXIMUM PSD OF 140 L/SEC/HA OR 104.8 L/s FOR THE 9 HOUR 100 YEAR ARI.

ORIFICE 2 GOVERNED BY CONDITION 2: - MAXIMUM PSD OF PRE-DEVELOPMENT SITE DISCHARGE FOR THE 5, 15, 30, 60, 90, 120 AND 540 MINUTES DURATION STORMS FOR THE 5 AND 100 YEAR ARI.

OSD SIGN DETAIL
(NOT TO SCALE)



CONFINED SPACE SIGN DETAIL
SCALE = 1:10

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P6	REVISED SSDA ISSUE	MG	25-07-25
P5	REVISED SSDA ISSUE	MG	18-07-25
P4	SSDA ISSUE	MG	13-06-25
P3	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P2	100% SCHEMATIC ISSUE	MG	16-05-25
P1	PRELIMINARY	-	22-04-25

CLIENT
Fairfield SHOWGROUND

ARCHITECT
NBRS

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www.birzulisassociates.com

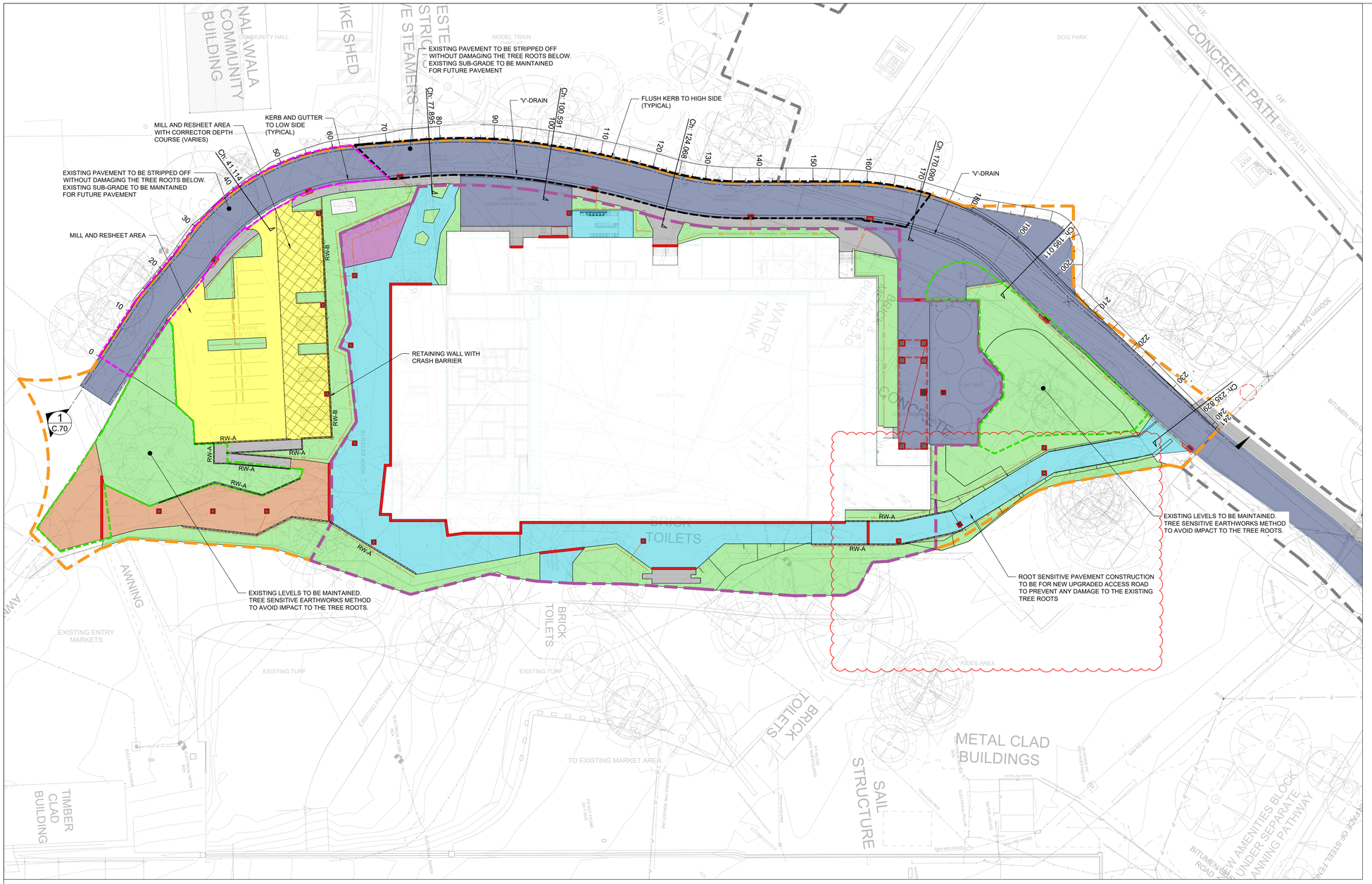
PROJECT
FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE
OSD TANK DETAILS

SCALES	DATE
as noted @ A1	APR' 2025

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P6	9150	C.35



EXTERNAL PAVEMENT PLAN

SCALE 1:400

PAVEMENT LEGEND:

- DENOTES FOOTPATH PAVEMENT
  REFER TO DRAWING: C.51 FOR DETAILS
- DENOTES RIGID CONCRETE RIGID PAVEMENT - TYPE 1
  REFER TO DRAWING: C.52 FOR DETAILS
- DENOTES RIGID CONCRETE RIGID PAVEMENT - TYPE 2
  REFER TO DRAWING: C.52 FOR DETAILS
- DENOTES DECOMPOSED GRANITE PAVEMENT
  REFER TO DRAWING: C.52 FOR DETAILS
- DENOTES RIGID UNIT PAVERS
  REFER TO DRAWING: C.52 FOR DETAILS
- DENOTES LANDSCAPE
- DENOTES MILL AND RESHEET AREA
- DENOTES MILL AND RESHEET AREA WITH CORRECTOR DEPTH COURSE (VARIES)

PRINT IN COLOUR

NOTES:

1. REFER TO STRUCTURAL DRAWING SA.01 & SA.02 FOR EXTERNAL WORKS CONSTRUCTION NOTES.
2. ARCHITECTURAL DESIGN SHOWN FOR COORDINATION PURPOSES ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS OF SETOUT AND CONSTRUCTION.
3. THE UTILITIES/ SERVICES SHOWN IN THESE PLANS HAVE BEEN COMPILED FROM MULTIPLE SOURCES OF INFORMATION. IT IS THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR TO UNDERTAKE THEIR OWN SITE INVESTIGATIONS PRIOR TO ANY CONSTRUCTION ACTIVITIES. THESE DRAWINGS ARE NEVER TO BE USED FOR THE PURPOSES OF LOCATING SERVICES.

A1 0 1 2 3 4 5 6 7 8 9 10

THIS MAY BE A REDUCED SIZE PRINT - CHECK SCALE

LEGEND

AAPT LINE	AAPT	AAPT
COMMS LINE	C	C
ELECTRICAL LINE	E	E
FIRE LINE	F	F
GAS LINE	G	G
WATER LINE	W	W
NBN LINE	NBN	NBN
OPTUS LINE	OP	OP
TPG LINE	TPG	TPG
TELECOMMUNICATION LINE	T	T
OVERFLOW LINE	OFP	OFP
SEWER LINE	S	S
SEWER EXISTING LINE	EX.S	EX.S
SUBSOIL DRAINAGE LINE	SSD	SSD
SITE BOUNDARY		
DEMOLISHED		
STORMWATER LINE (GRAVITY)		
STORMWATER LINE (CHARGED)		
EXISTING STORMWATER LINE	EX. SW	EX. SW
PROPOSED CONTOUR		

GRATED STORMWATER PIT — EXISTING STORMWATER PIT

KERB INLET PIT

TELEPHONE PIT

DOWN PIPE DP — EXISTING DOWN PIPE Ex. DP.

FLOOR WASTE FW — CLEAR OUT CO

NEW GRATED DRAIN

OVERLAND FLOW

RAINWATER TANK RWT — RAIN WATER OUTLET RWO

EXTENT OF SSDA AREA

EXTENT OF REF AREA

EXISTING PAVEMENT TO BE STRIPPED OFF WITHOUT DAMAGING THE TREE ROOTS BELOW. EXISTING SUB-GRADE TO BE MAINTAINED FOR FUTURE PAVEMENT

EXISTING PAVEMENT TO BE STRIPPED OFF WITHOUT DAMAGING THE TREE ROOTS BELOW. EXISTING SUB-GRADE TO BE MAINTAINED FOR FUTURE PAVEMENT

EXISTING LEVELS TO BE MAINTAINED. TREE SENSITIVE EARTHWORKS METHOD TO AVOID IMPACT TO THE TREE ROOTS.

EXTEND OF 1:4 BATTER WITHIN LANDSCAPING

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P9	REVISED SSDA ISSUE	MG	25-07-25
P8	REVISED SSDA ISSUE	MG	18-07-25
P7	DRAWING REVISED	-	07-07-25
P6	SSDA ISSUE	MG	13-06-25
P5	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P4	100% SCHEMATIC ISSUE	MG	16-05-25
P3	PRELIMINARY	-	23-04-25
P2	PRELIMINARY	-	01-04-25
P1	70% SCHEMATIC ISSUE	-	23-09-24

CLIENT
Fairfield SHOWGROUND

ARCHITECT
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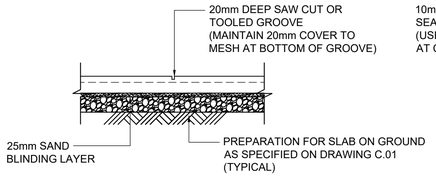
PROJECT
FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE
EXTERNAL PAVEMENT PLAN

SCALES	DATE
as noted @ A1	APR` 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

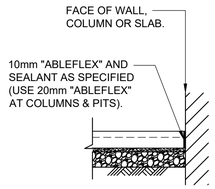
ISSUE	PROJECT No.	DRAWING No.
P9	9150	C.40



SAWN/TOOLED JOINT DETAIL

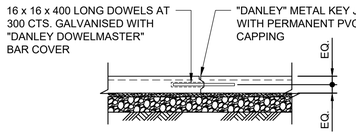
SHOWN THUS ON PLAN _ SJ _

OR PROVIDE AT MAXIMUM 1200mm CTS.
BETWEEN OTHER JOINTS U.N.O.



ISOLATION JOINT DETAIL

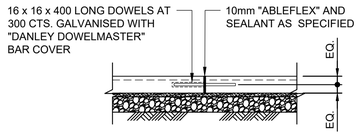
SHOWN THUS ON PLAN IJ



DOWELLED KEY JOINT DETAIL

SHOWN THUS ON PLAN DKJ

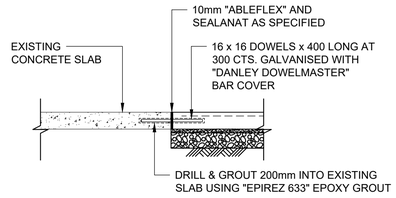
PROVIDE AT MAXIMUM 6000mm CTS.
BETWEEN EXPANSION JOINTS U.N.O.



EXPANSION JOINT DETAIL

SHOWN THUS ON PLAN EJ

PROVIDE AT MAXIMUM 18000mm CTS. U.N.O.



TYPICAL JUNCTION WITH EXISTING PAVEMENT

SHOWN THUS ON PLAN EJX

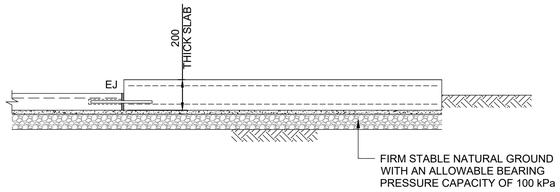
SAW CUTTING TABLE	
DAILY MAXIMUM TEMP. (°C)	LATEST TIME FOR SAWING (HOURS)
< 10	48
10 - 20	36
20 - 30	24
> 30	12

TYPICAL EXTERNAL CONCRETE FOOTPATH PAVEMENT JOINT DETAILS

SCALE 1:20

120mm THICK SLAB ON GROUND WITH SL102 MESH TOP THROUGHOUT U.N.O.
WITH 100mm SUB-BASE

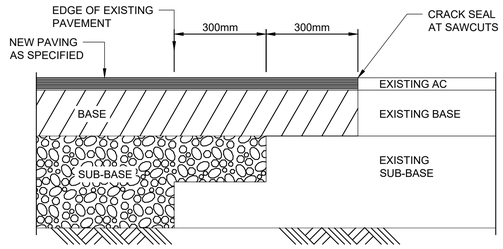
DENOTED ON PLAN



TYPICAL SECTION THROUGH SERVICES PLINTH

SCALE 1:20

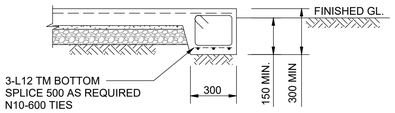
200mm THICK SLAB ON GROUND (F'c = 32MPa)
PROVIDE SL92 MESH TOP & BOTTOM THROUGHOUT U.N.O.
REFER TO ARCHITECTS PLANS FOR LOCATIONS



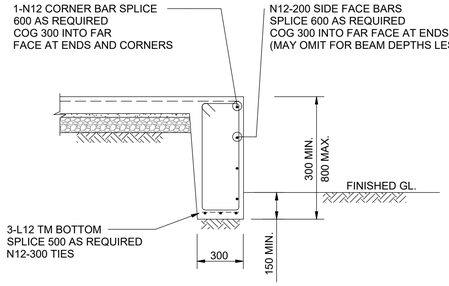
TYPICAL DETAIL OF NEW TO EXISTING PAVEMENT

SCALE 1:10

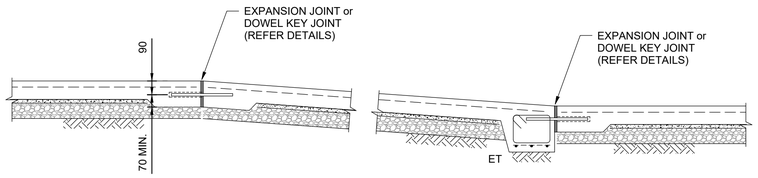
- REMOVE A STRIP OF THE EXISTING PAVEMENT AT LEAST 300mm WIDE FOR ITS FULL DEPTH.
- TRIM THE NEW EDGE TO AN ANGLE OF APPROXIMATELY 45° IN STEPS OF MAXIMUM HEIGHT 150mm THEN PLACE NEW PAVEMENT MATERIAL.
- TRIM THE SEAL TO A NEAT EDGE USING PNEUMATIC TOOLS OR OTHER SUITABLE MEANS.



TYPICAL CONCRETE PAVING EDGE THICKENING DETAIL



TYPICAL CONCRETE PAVING DEEP EDGE THICKENING DETAIL

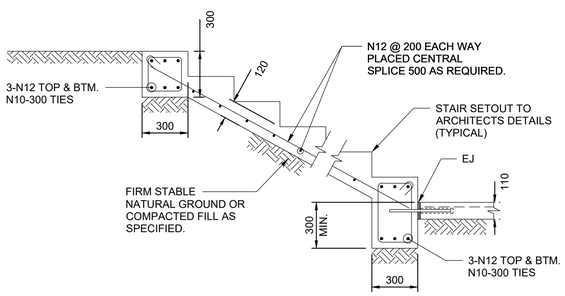


PROVIDE AT ALL EDGES OF PAVEMENT SLAB U.N.O.

TYPICAL EXTERNAL CONCRETE FOOTPATH PAVEMENT EDGE THICKENING DETAILS.

SCALE 1:20

USE AS REQUIRED TO SUIT GROUND LEVELS OR AS SHOWN ON PLAN



TYPICAL STAIRS ON GROUND DETAIL

SCALE 1:20

REFER TO ARCHITECT'S DRAWINGS FOR EXACT NUMBER OF TREADS AND RISERS

TYPICAL LONG SECTION THROUGH RAMP.

SCALE 1:20

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P4	REVISED SSDA ISSUE	MG	18-07-25
P3	SSDA ISSUE	MG	13-06-25
P2	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P1	100% SCHEMATIC ISSUE	MG	16-05-25

CLIENT
Fairfield SHOWGROUND

ARCHITECT
NBRS

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CONSULTING STRUCTURAL & CIVIL ENGINEERS
583 DARLING STREET ROZELLE NSW 2039
tel: (02) 9555 7230 email : office@birzulisassociates.com
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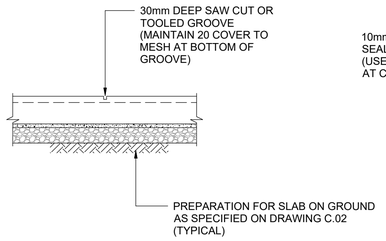
PROJECT
FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE
EXTERNAL WORKS DETAILS 01

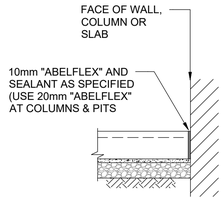
SCALES	DATE
as noted @ A1	APR' 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

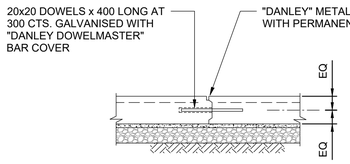
ISSUE	PROJECT No.	DRAWING No.
P4	9150	C.51



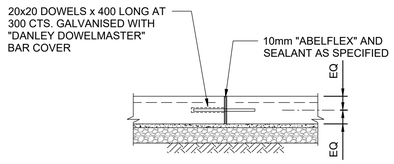
SAWN/TOOLED JOINT DETAIL



ISOLATION JOINT DETAIL



DOWELLED KEY JOINT DETAIL



EXPANSION JOINT DETAIL

PROVIDE AT MAXIMUM 1500mm CTS. BETWEEN OTHER JOINTS U.N.O.

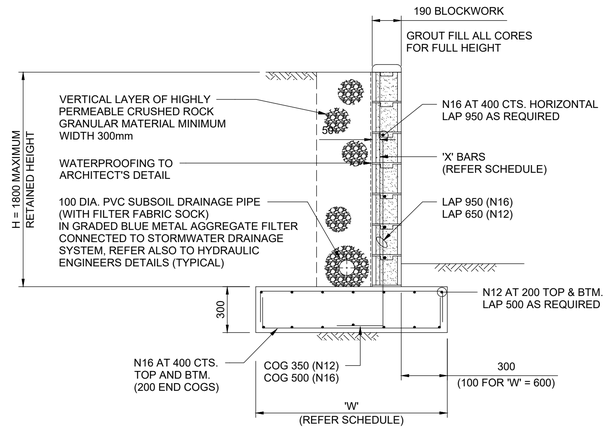
PROVIDE AT MAXIMUM 6000mm CTS. BETWEEN EXPANSION JOINTS U.N.O.

PROVIDE AT MAXIMUM 18000mm CTS. U.N.O.

TYPICAL EXTERNAL GAMES COURT PAVEMENT JOINT DETAILS

SCALE 1:20

REFER TO C.51 FOR SAW CUTTING SCHEDULE

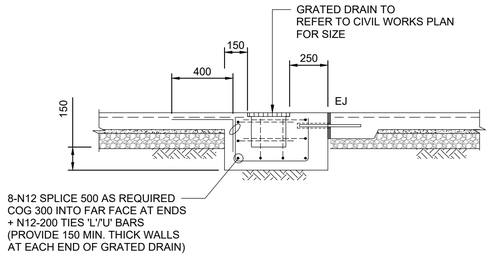


'RW-A' - R.C. BLOCK RETAINING WALL - TYPE 'A'

SCALE 1:20

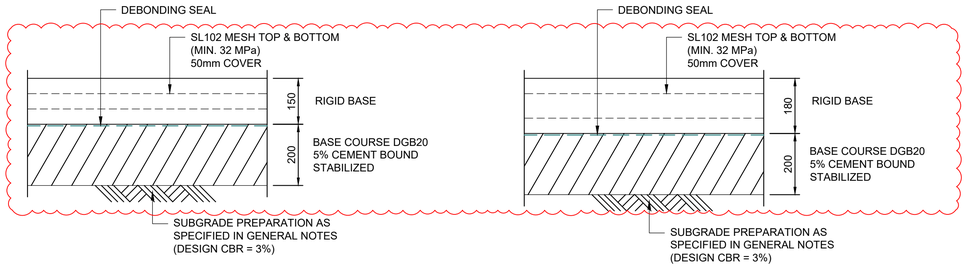
BLOCK RETAINING WALL 'RW-A' SCHEDULE

WALL TYPE	WALL HEIGHT 'H'	FOOTING WIDTH 'W'	REINFORCEMENT 'X' BARS
'A'	1400 - 1800	1200	N16 AT 400 CTS.
	1000 - 1400	1000	N16 AT 400 CTS.
	750 - 1000	800	N12 AT 400 CTS.
	UP TO 750	600	N12 AT 400 CTS.



TYPICAL GRATED DRAIN INTEGRATED TO SLAB DETAIL

SCALE 1:20



CONCRETE RIGID PAVEMENT DETAIL - TYPE 1

SCALE 1:10

DESIGN TRAFFIC LOADING = $1x10^5$ ESA

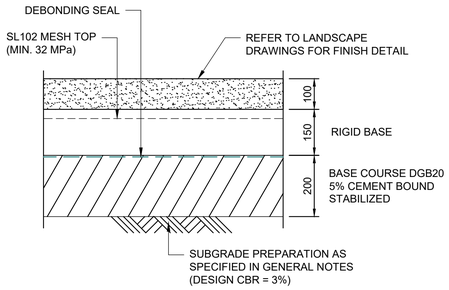
DENOTED ON PLAN

CONCRETE RIGID PAVEMENT DETAIL - TYPE 2

SCALE 1:10

DESIGN TRAFFIC LOADING = $1x10^6$ ESA

DENOTED ON PLAN

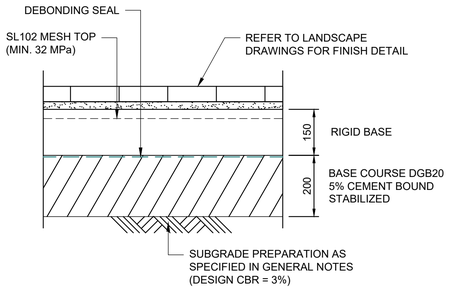


DECOMPOSED GRANITE PAVEMENT DETAIL

SCALE 1:10

DESIGN TRAFFIC LOADING = $1x10^5$ ESA

DENOTED ON PLAN



UNIT PAVERS DETAIL

SCALE 1:10

DESIGN TRAFFIC LOADING = $1x10^5$ ESA

DENOTED ON PLAN

PRELIMINARY ISSUE

NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P3	REVISED SSDA ISSUE	MG	18-07-25
P2	SSDA ISSUE	MG	13-06-25
P1	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25

CLIENT

Fairfield SHOWGROUND

ARCHITECT

NBRS

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PROJECT

FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

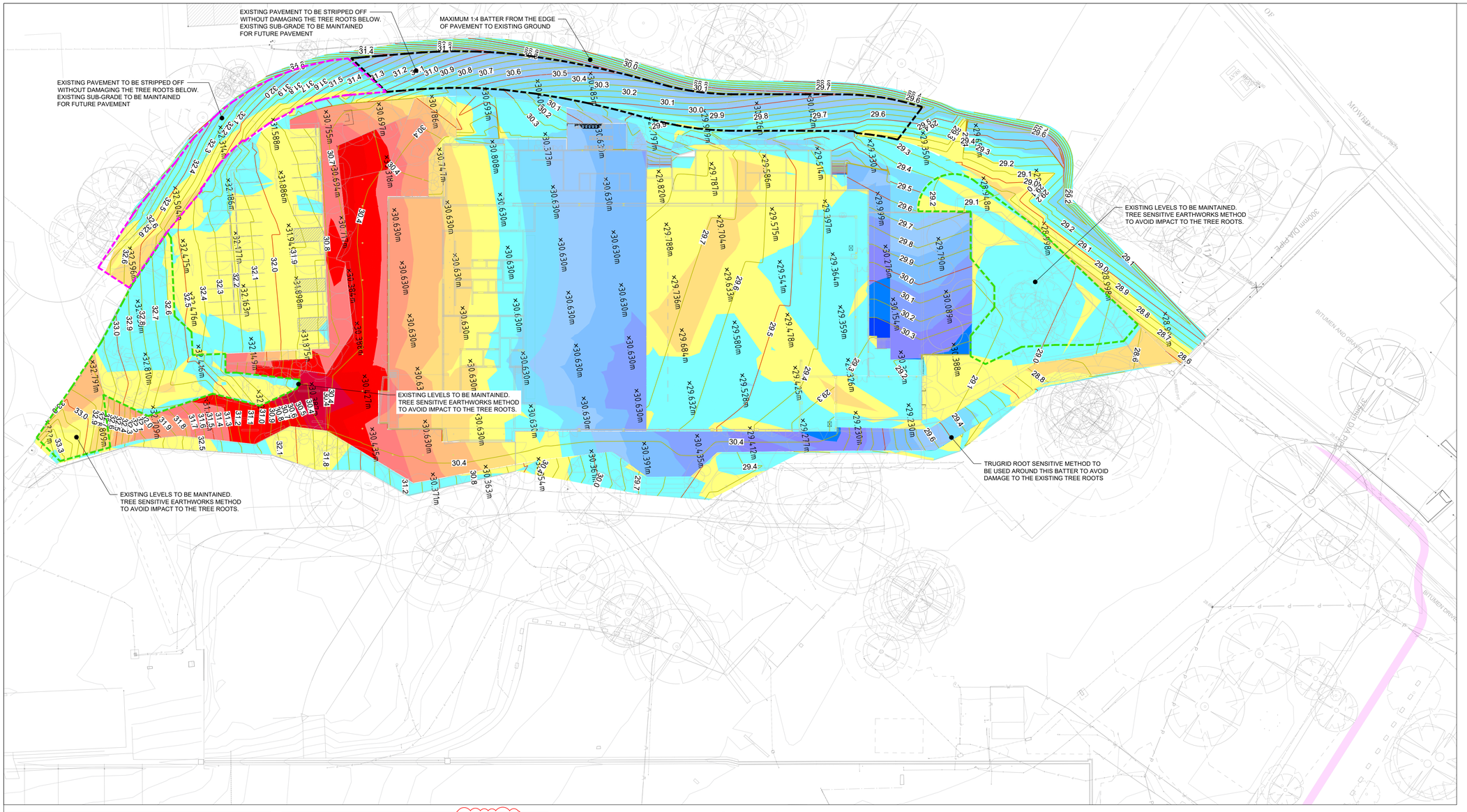
TITLE

EXTERNAL WORKS DETAILS 02

SCALES	DATE
as noted @ A1	APR' 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P3	9150	C.52



Surface Analysis: Elevation Ranges

Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-1.800	-1.600
2		-1.600	-1.400
3		-1.400	-1.200
4		-1.200	-1.000
5		-1.000	-0.800
6		-0.800	-0.600
7		-0.600	-0.400
8		-0.400	-0.200
9		-0.200	0.000
10		0.000	0.200
11		0.200	0.400
12		0.400	0.600
13		0.600	0.800
14		0.800	1.000
15		1.000	1.200
16		1.200	1.400
17		1.400	1.600
18		1.600	1.800
19		1.800	2.000
20		2.000	2.200
21		2.200	2.400
22		2.400	2.600

BULK EARTHWORKS NOTES:

1. BULK EARTHWORKS LEVELS ARE BASE ON THE FOLLOWING PAVEMENT THICKNESS AND ALLOWANCES:
   - 180mm BUILDING PLATFORM
   - 220mm FOOTPATH PAVEMENT
   - 350mm CONCRETE RIGID PAVEMENT(FORECOURT)
   - 380mm CONCRETE RIGID PAVEMENT (PROPOSED ROAD)
   - 400mm UNIT PAVERS PAVEMENT
   - 450mm DECOMPOSED GRANITE PAVEMENT
   - LANDSCAPE LEVELS HAVE BEEN TAKEN FROM THE FINISHED SURFACE LEVELS AND ACCOUNT FOR NO CHANGE FROM EXISTING.
2. THE EXISTING GROUND SURFACE IS NOT LOWERED TO ACCOUNT FOR ANY TOPSOIL/ VEGETATION OR EXISTING PAVEMENTS. STRIPPING VOLUME ASSESSMENT TO BE MADE BY CONTRACTOR.
3. BULKING FACTOR OF 1.0 WAS USED FOR BOTH CUT & FILL.
4. NO ALLOWANCE HAS BEEN MADE FOR DETAILED WORKS SUCH AS FOOTINGS, SET DOWN, LIFT PITS, SERVICE TRENCHES & STORMWATER/SUBSOIL TRENCHES, TEMP CONSTRUCTION PLATFORMS, STABILISATION, TEMP BATTERS, BENCHING, RETAINING WALL BACKFILL, REMOVAL OF HAZARDOUS MATERIAL OR TEMPORARY SEDIMENT BASINS, OR SOFT EXISTING UNSUITABLE MATERIAL, UPPER CARPARK OSD, PIPE AND PIT OSDs AND THE LOWER CARPARK PAVEMENT FOR ABOVE GROUND LEVELS TO BE ACHIEVED. DETAILED SUBGRADE EXCAVATION IS REQUIRED IN VICINITY OF OSD 2.
5. THIS PLAN IS PREPARED FOR INFORMATION PURPOSES ONLY AND IS INDICATIVE ONLY. EARTH WORKS CONTRACTOR IS TO VERIFY ALL LEVELS AND QUANTITIES AND PERFORM THEIR OWN BULK EARTHWORK ASSESSMENT. SOME FILL AND CUT HAS BEEN SHOWN BASED ON ASSUMED LANDSCAPE PROFILING AND IS THE RESPONSIBILITY OF OTHERS

TOTAL CUT VOLUME	-2084 m^3
TOTAL FILL VOLUME	2159 m^3
EXCESS OF CUT OVER FILL	75 m^3
NOTE: VOLUMES ARE FROM EXISTING TO BULK EARTHWORKS LEVEL NO ALLOWANCE FOR THE REMOVAL OF TOPSOIL	
BULK ELEVATION LEVEL	BE 28.038

- EXISTING PAVEMENT TO BE STRIPPED OFF WITHOUT DAMAGING THE TREE ROOTS BELOW. EXISTING SUB-GRADE TO BE MAINTAINED FOR FUTURE PAVEMENT
- EXISTING PAVEMENT TO BE STRIPPED OFF WITHOUT DAMAGING THE TREE ROOTS BELOW. EXISTING SUB-GRADE TO BE MAINTAINED FOR FUTURE PAVEMENT
- EXISTING LEVELS TO BE MAINTAINED. TREE SENSITIVE EARTHWORKS METHOD TO AVOID IMPACT TO THE TREE ROOTS.
- EXTEND OF 1:4 BATTER WITHIN LANDSCAPING

BULK EXCAVATION PLAN

SCALE 1:400

PRINT IN COLOUR

A1 0 1 2 3 4 5 6 7 8 9 10

THIS MAY BE A REDUCED SIZE PRINT - CHECK SCALE

N

PRELIMINARY ISSUE

NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P6	REVISED SSDA ISSUE	MG	25-07-25
P5	REVISED SSDA ISSUE	MG	18-07-25
P4	SSDA ISSUE	MG	13-06-25
P3	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P2	100% SCHEMATIC ISSUE	MG	26-05-25
P1	PRELIMINARY	MG	23-04-25

CLIENT: Fairfield SHOWGROUND

ARCHITECT: NBRS

BIRZULIS ASSOCIATES
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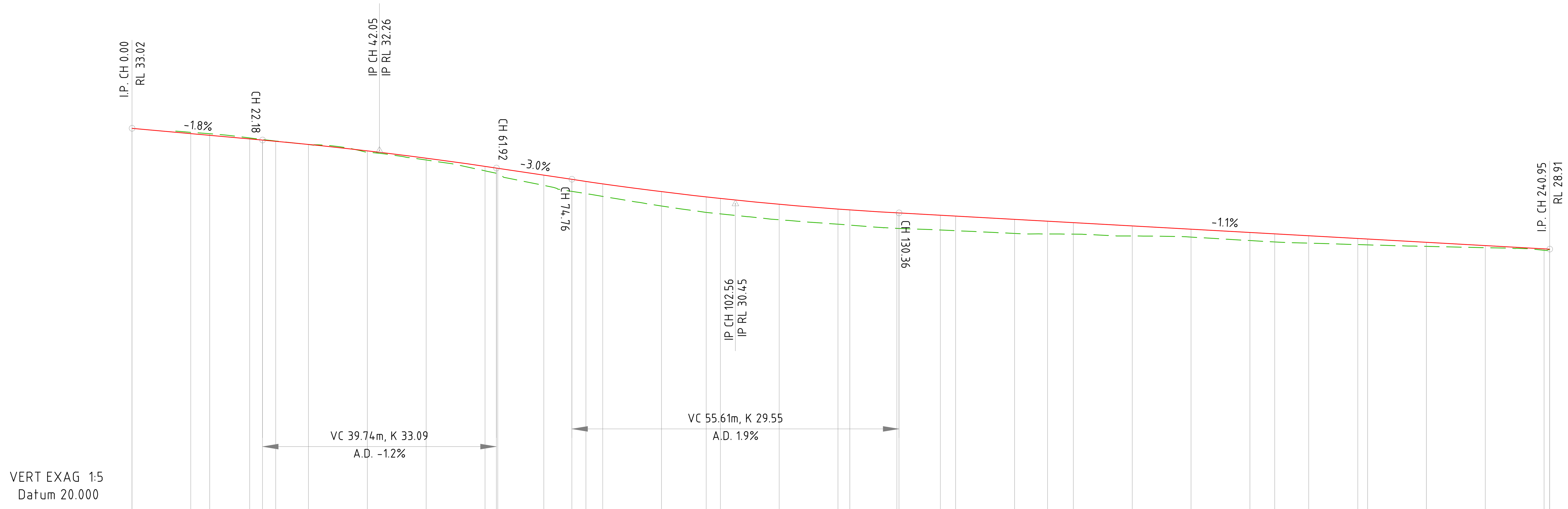
www.birzulisassociates.com

PROJECT: FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE: BULK EXCAVATION PLAN

SCALES	DATE		
as noted @ A1	APR` 2024		
DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	

ISSUE	PROJECT No.	DRAWING No.
P6	9150	C.60



DESIGN LEVELS	EXISTING LEVELS	DEPTH	CHAINAGE
			0.000
32.882	32.882	0.000	10.000
32.833	32.833	0.000	13.208
32.690	32.690	0.000	20.000
32.583	32.583	0.000	24.417
32.464	32.464	0.000	30.000
32.204	32.204	0.000	40.000
31.939	31.939	0.000	50.000
31.572	31.572	0.000	60.000
31.480	31.480	0.000	62.165
31.076	31.076	0.000	70.000
30.798	30.798	0.000	77.154
30.703	30.703	0.000	80.000
30.377	30.377	0.000	90.000
30.159	30.159	0.000	97.592
30.109	30.109	0.000	100.000
29.910	29.910	0.000	110.000
29.758	29.758	0.000	120.000
29.728	29.728	0.000	121.997
29.617	29.617	0.000	130.000
29.561	29.561	0.000	137.379
29.538	29.538	0.000	140.000
29.443	29.443	0.000	150.000
29.427	29.427	0.000	155.615
29.420	29.420	0.000	160.000
29.358	29.358	0.000	170.000
29.321	29.321	0.000	180.000
29.202	29.202	0.000	190.000
29.154	29.154	0.000	194.225
29.114	29.114	0.000	200.000
29.066	29.066	0.000	208.335
29.056	29.056	0.000	210.000
29.004	29.004	0.000	220.000
28.961	28.961	0.000	230.000
28.872	28.872	0.000	240.000
28.902	28.902	0.000	240.948

ROAD LONG SECTION (1 / C.40)

SCALE H = 1:500 V = 1:100

Datum: 30.000

PROPOSED LEVELS	32.375	32.282	32.140	32.045	31.990	32.095	32.180
EXISTING LEVELS	32.212	32.187	31.991	31.907	31.901	31.905	31.911
LEVEL DIFFERENCE	0.162	0.095	0.149	0.138	0.090	0.190	0.269
OFFSETS	-0.168	0.000	2.878	5.980	6.703	7.473	8.484

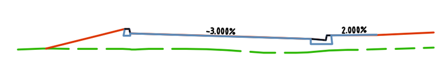
Chainage 41.114

Datum: 30.000

PROPOSED LEVELS	31.340	31.192	31.165	31.011	31.126	31.151	31.151
EXISTING LEVELS	30.784	30.773	30.787	30.662	30.718	30.790	30.790
LEVEL DIFFERENCE	0.556	0.419	0.378	0.349	0.408	0.361	0.360
OFFSETS	-0.180	0.000	0.855	5.970	6.865	8.150	8.151

Chainage 77.895

Datum: 25.000



PROPOSED LEVELS	30.119	30.558	30.619	30.498	30.441	30.564	30.648
EXISTING LEVELS	30.120	30.110	30.094	30.010	30.001	30.089	30.148
LEVEL DIFFERENCE	-0.001	0.448	0.525	0.488	0.439	0.475	0.500
OFFSETS	-2.819	-1.064	0.000	4.025	5.933	7.703	10.000

Chainage 100.591

Datum: 25.000

PROPOSED LEVELS	29.724	29.749	30.214	30.036	30.140	30.054	30.135
EXISTING LEVELS	30.120	30.110	30.094	30.010	30.001	30.089	30.148
LEVEL DIFFERENCE	-0.001	0.448	0.525	0.488	0.439	0.475	0.500
OFFSETS	-2.819	-1.064	0.000	4.025	5.933	7.703	10.000

Chainage 124.068

Datum: 25.000

PROPOSED LEVELS	29.396	29.396	29.695	29.523	29.417	29.622	
EXISTING LEVELS	30.120	30.110	30.094	30.010	30.001	30.089	30.100
LEVEL DIFFERENCE	-0.001	0.448	0.525	0.488	0.439	0.475	0.467
OFFSETS	-2.819	-1.064	0.000	4.025	5.933	7.703	8.113

Chainage 170.090

Datum: 25.000

PROPOSED LEVELS	29.102	29.423	29.422	29.368	29.418	29.314	29.241	29.202	29.394	29.410
EXISTING LEVELS	30.120	30.110	30.094	30.010	30.001	30.089	30.100			
LEVEL DIFFERENCE	-0.001	0.448	0.525	0.488	0.439	0.475	0.467			
OFFSETS	-2.819	-1.064	0.000	4.025	5.933	7.703	8.113			

Chainage 195.011

Datum: 25.000

PROPOSED LEVELS	28.931	29.079	28.940	28.795	28.966	29.075	
EXISTING LEVELS	30.120	30.110	30.094	30.010	30.001	30.089	30.148
LEVEL DIFFERENCE	-0.001	0.448	0.525	0.488	0.439	0.475	0.500
OFFSETS	-2.752	-1.039	0.000	3.964	5.844	7.587	9.849

Chainage 235.829

A1 0 1 2 3 4 5 6 7 8 9 10

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PRELIMINARY ISSUE

NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P6	REVISED SSDA ISSUE	MG	18-07-25
P5	DRAWING REVISED	-	07-07-25
P4	SSDA ISSUE	MG	13-06-25
P3	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P2	100% SCHEMATIC ISSUE	MG	16-05-25
P1	PRELIMINARY	MG	23-04-25

CLIENT

Fairfield SHOWGROUND

ARCHITECT

NBRS

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PROJECT

FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE

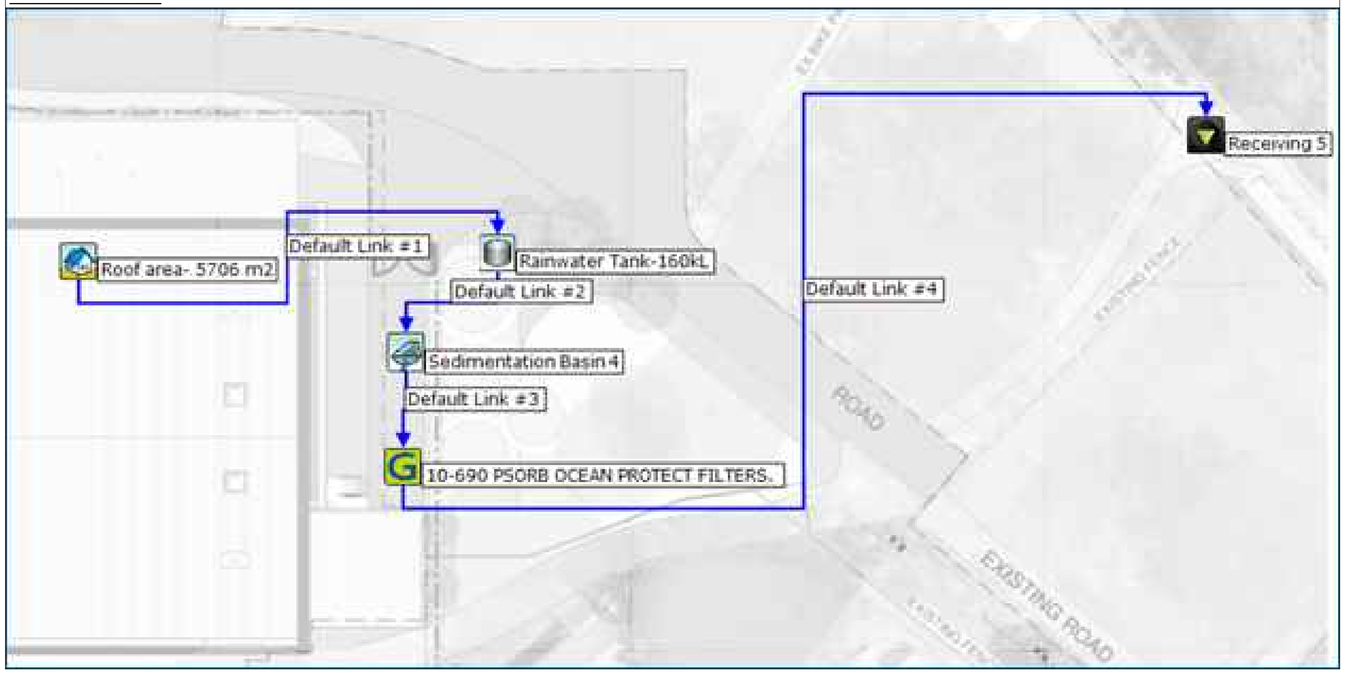
LONG SECTIONS 01

SCALES	DATE
as noted @ A1	APR' 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P6	9150	C.70

MUSIC MODEL



MUSIC RESULT

	Sources	Residual Load	% Reduction
Flow (ML/yr)	4.352	4.346	0.1461
Total Suspended Solids (kg/yr)	113.6	21.22	81.33
Total Phosphorus (kg/yr)	0.6623	0.1931	70.84
Total Nitrogen (kg/yr)	9.537	4.747	50.22
Gross Pollutants (kg/yr)	116	0	100

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P5	REVISED SSDA ISSUE	MG	18-07-25
P4	SSDA ISSUE	MG	13-06-25
P3	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P2	100% SCHEMATIC ISSUE	MG	16-05-25
P1	PRELIMINARY	-	23-04-25

CLIENT
Fairfield SHOWGROUND

ARCHITECT
NBRS

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tel: (02) 9555 7230 email : office@birzulisassociates.com
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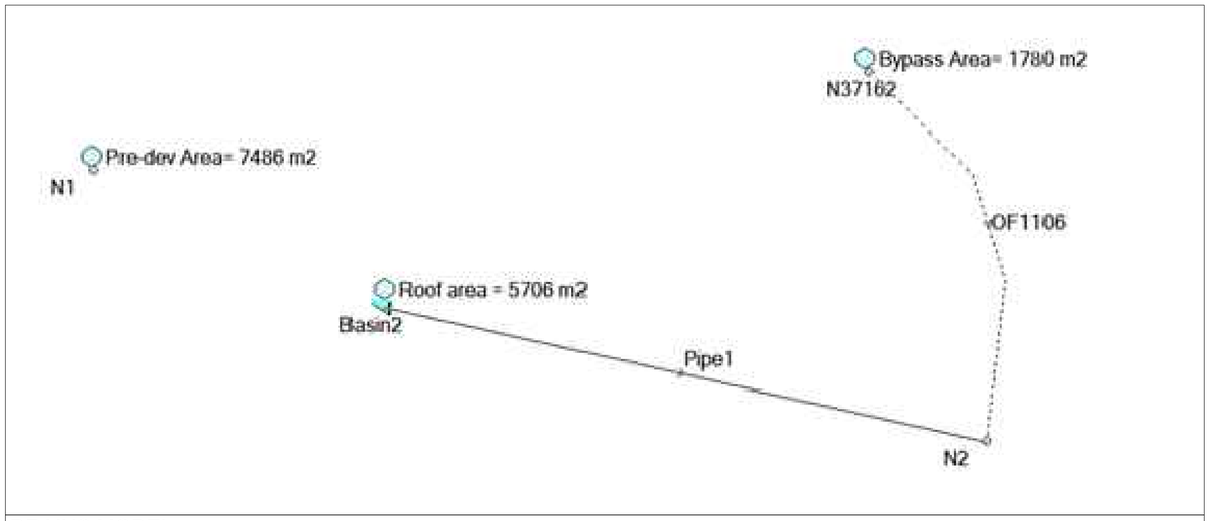
PROJECT
FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE
MUSIC RESULT

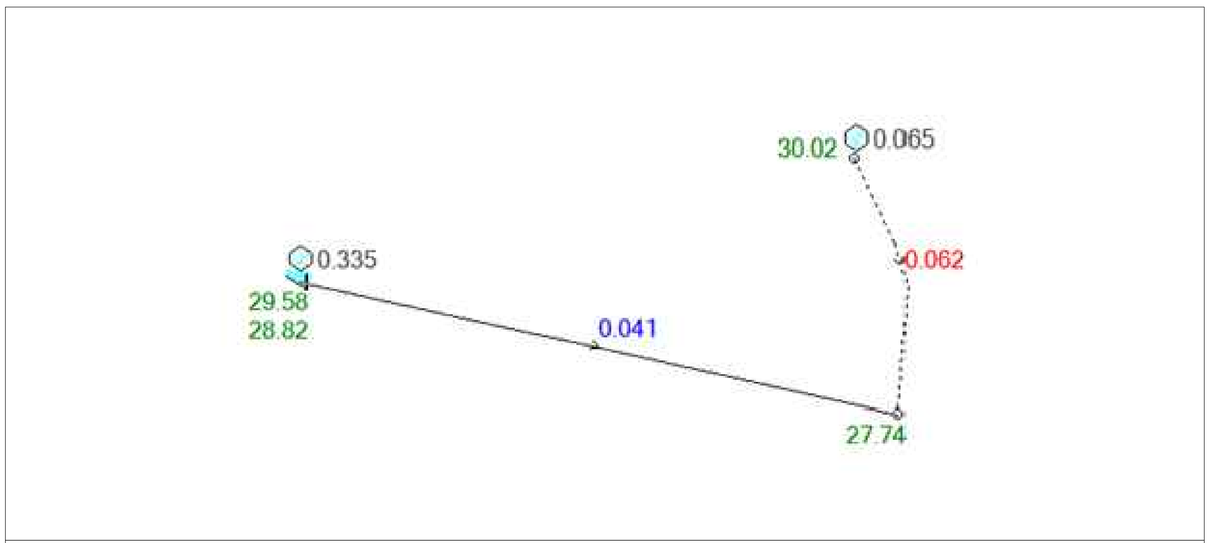
SCALES	DATE
as noted @ A1	APR' 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P5	9150	C.80

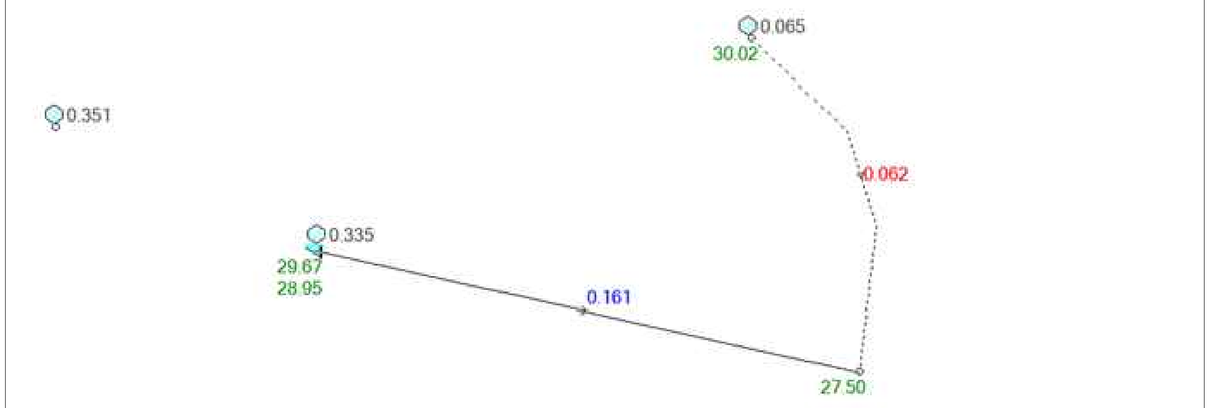


DRAINS MODEL



RESULT FOR 1% AEP FOR A 9 HOUR STORM

NOTE: THIS IS DESIGNED IN ACCORDANCE WITH SECTION 4.2 OF THE FAIRFIELD CITY COUNCIL'S STORMWATER MANAGEMENT POLICY.
MAXIMUM PSD OF 140 L/sec/ ha FOR THE 9 HOUR 100 YEAR ARI, MAXIMUM ALLOWABLE PSD FOR OUR SITE IS CALCULATED TO BE 104.6 L/sec.



RESULT FOR 1% AEP, COMPARISION WITH PRE-DEVELOPMENT CONDITION

NOTE: THIS IS DESIGNED IN ACCORDANCE WITH SECTION 4.2 OF THE FAIRFIELD CITY COUNCIL'S STORMWATER MANAGEMENT POLICY.
MAXIMUM PSD OF PRE-DEVELOPED SITE DISCHARGE FOR THE 5,15,30, 60,90,120, AND 540 MINUTES DURATION STORMS FOR THE 100 YEAR ARIs.

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P5	REVISED SSDA ISSUE	MG	18-07-25
P4	SSDA ISSUE	MG	13-06-25
P3	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25
P2	100% SCHEMATIC ISSUE	MG	16-05-25
P1	PRELIMINARY	-	23-04-25

CLIENT
Fairfield SHOWGROUND

ARCHITECT
NBRS

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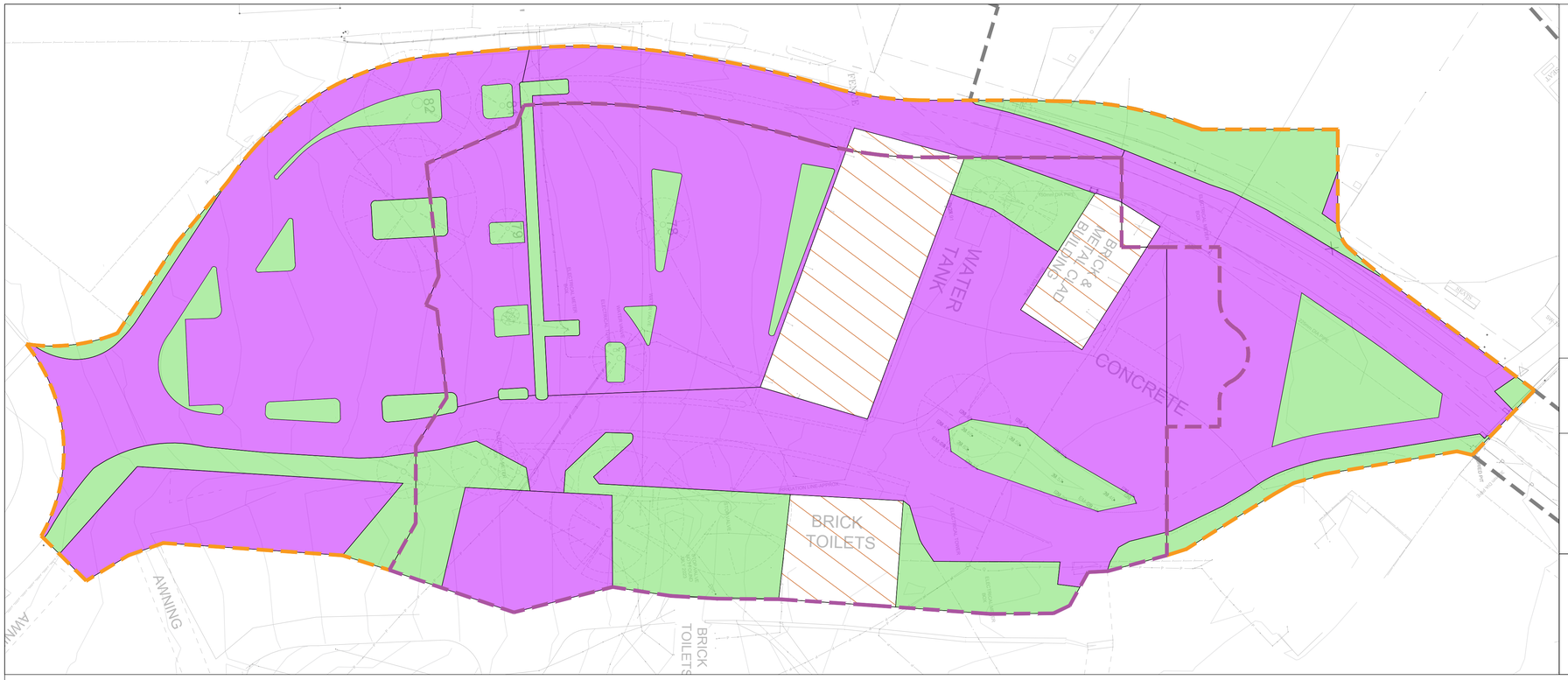
PROJECT
FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE
DRAINS RESULT

SCALES	DATE
as noted @ A1	APR' 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P5	9150	C.81



CATCHMENT PLAN - PRE-DEVELOPMENT

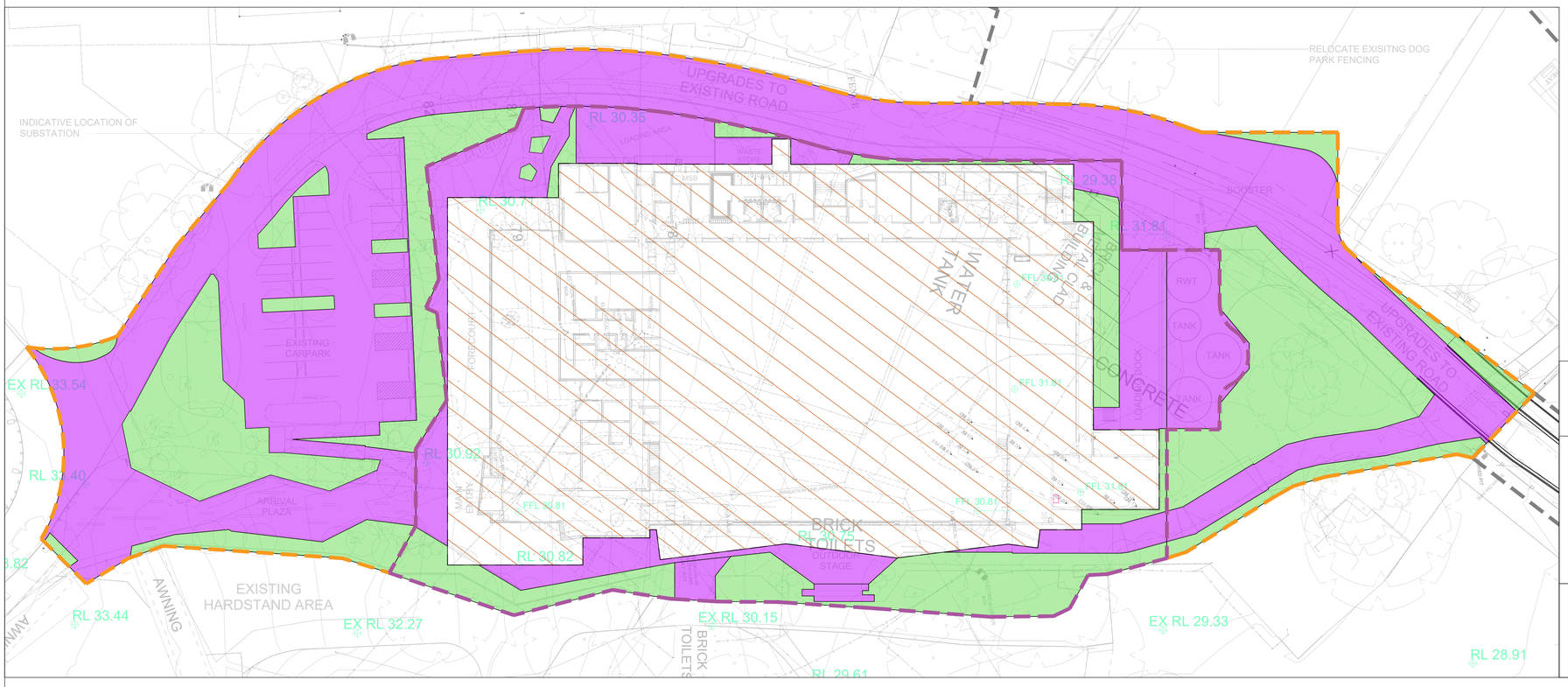
SCALE 1:400

SSDA AREA = 7486 m^2

PERVIOUS AREA	= 1523 m^2
IMPERVIOUS AREA	= 4820.5 m^2
ROOF AREA	= 1142.5 m^2

REF AREA = 6212.5 m^2

PERVIOUS AREA	= 1537 m^2
IMPERVIOUS AREA	= 4616 m^2
ROOF AREA	= 59.5 m^2



CATCHMENT PLAN - POST-DEVELOPMENT

SCALE 1:400

SSDA AREA = 7486 m^2

PERVIOUS AREA (BYPASSING OSD)	= 682 m^2
IMPERVIOUS AREA (BYPASSING OSD)	= 1098.5 m^2
ROOF AREA (CAPTURED BY OSD)	= 5570 m^2
ROOF AREA (STAGE 2) (CAPTURED BY OSD)	= 135.5 m^2

REF AREA = 6212.5 m^2

PERVIOUS AREA (BYPASSING OSD)	= 1920 m^2
IMPERVIOUS AREA (BYPASSING OSD)	= 4292.5 m^2

EXTENT OF SSDA AREA

EXTENT OF REF AREA

PRELIMINARY ISSUE

NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P3	REVISED SSDA ISSUE	MG	18-07-25
P2	SSDA ISSUE	MG	13-06-25
P1	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25

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PROJECT

FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

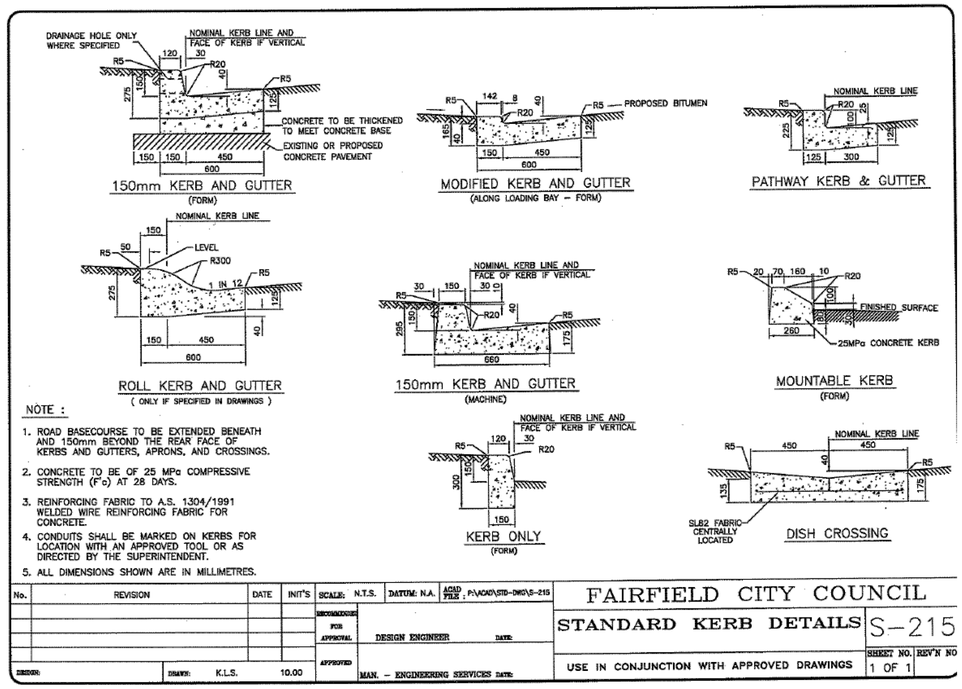
TITLE

CATCHMENT PLAN

SCALES			DATE
as noted @ A1			APR' 2024
DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P3	9150	C.90

Standard kerb details: S-215



NOTE :

1. ROAD BASECOURSE TO BE EXTENDED BENEATH AND 150mm BEYOND THE REAR FACE OF KERBS AND GUTTERS, APRONS, AND CROSSINGS.
2. CONCRETE TO BE OF 25 MPa COMPRESSIVE STRENGTH (F'c) AT 28 DAYS.
3. REINFORCING FABRIC TO A.S. 1304/1991 WELDED WIRE REINFORCING FABRIC FOR CONCRETE.
4. CONDUITS SHALL BE MARKED ON KERBS FOR LOCATION WITH AN APPROVED TOOL OR AS DIRECTED BY THE SUPERINTENDENT.
5. ALL DIMENSIONS SHOWN ARE IN MILLIMETRES.

No.	REVISION	DATE	INIT'S

SCALE: N.T.S. DATUM: N.A. AHD FILE : P:\ACAD\STD-DWG\S-215

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER DATE:

APPROVED — MAN. – ENGINEERING SERVICES DATE:

DESIGN: DRAWN: K.L.S. 10.00

FAIRFIELD CITY COUNCIL

STANDARD KERB DETAILS S–215

USE IN CONJUNCTION WITH APPROVED DRAWINGS SHEET NO. 1 OF 1 REV'N NO

NOTE: USE AS REQUIRED

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

ISSUE	DESCRIPTION	APPROVED	DATE
P3	REVISED SSDA ISSUE	MG	18-07-25
P2	SSDA ISSUE	MG	13-06-25
P1	RE-ISSUE 100% SCHEMATIC ISSUE	MG	05-06-25

CLIENT
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PROJECT
FAIRFIELD SHOWGROUND
SMITHFIELD ROAD, FAIRFIELD NSW

TITLE
COUNCIL STANDARD DETAILS

SCALES	DATE
as noted @ A1	APR' 2024

DRAWN	DESIGN	VERIFIED	APPROVED
C.KE	G.K	C.M	M.G

ISSUE	PROJECT No.	DRAWING No.
P3	9150	C.100

9.4 APPENDIX D - FLOOD OR GROUNDWATER TECHNICAL REPORTS

Refer to Appendix V of the Environment Impact Statement (EIS).

9.5 APPENDIX E - MANUFACTURER DATA SHEETS FOR TREATMENT SYSTEMS

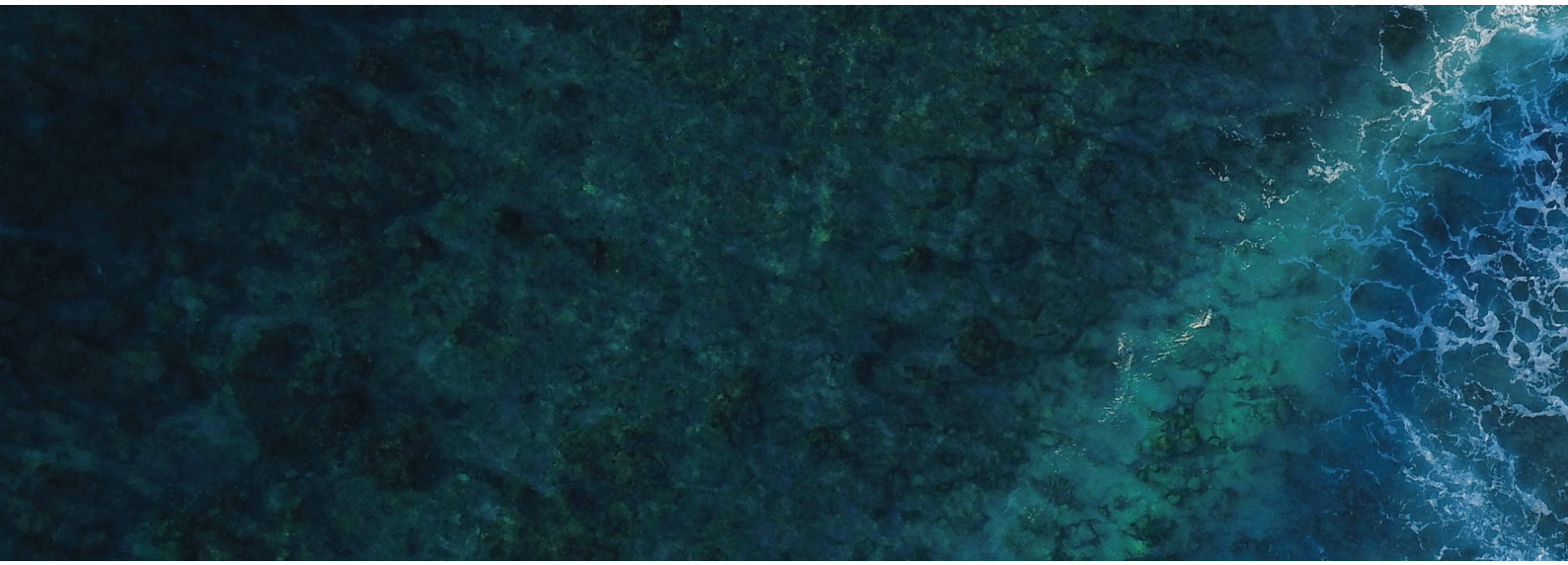
OCEAN PROTECT

StormFilter®

Operations & Maintenance Manual

Stopping Pollution Entering Waterways

11/24



www.oceanprotect.com.au

Introduction

The primary purpose of stormwater treatment devices is to capture and prevent pollutants from entering waterways, maintenance is a critical component of ensuring the ongoing effectiveness of this process. The specific requirements and frequency for maintenance depends on the treatment device and pollutant load characteristics of each site. This manual has been designed to provide details on the cleaning and maintenance processes for the StormFilter®, as recommended by us.

The StormFilter® is designed and sized to meet stringent regulatory requirements. It removes the most challenging target pollutants (including total suspended solids, soluble heavy metals, oil, particulate and soluble nutrients) using a variety of media. For more than two decades, StormFilter® has helped clients meet their regulatory needs and, through ongoing product enhancements, the design continues to be refined for ease of use and improved performance.

Why do I need to perform maintenance?

Adhering to the inspection and maintenance schedule of any stormwater treatment device is essential to ensuring that it functions properly throughout its design life.

During each inspection and clean, details of the mass, volume and type of material that has been collected by the device should be recorded. This data will assist with the revision of future management plans and help determine maintenance interval frequency. It is also essential that qualified and experienced personnel carry out all maintenance (including inspections, recording and reporting) in a systematic manner.

Maintenance of your stormwater management system is essential to ensuring ongoing at-source control of stormwater pollution. Maintenance also helps prevent structural failures (e.g. prevents blocked outlets) and aesthetic failures (e.g. debris build up), but most of all ensures the long term effective operation of the StormFilter®.

Health and Safety

Access to a StormFilter® system requires removing access covers/grates, and it is necessary to enter a confined space. Pollutants collected by the StormFilter® will vary depending on the nature of your site. There is potential for these materials to be harmful. For example, sediments may contain heavy metals, carcinogenic substances or objects such as broken glass and syringes. For these reasons, all aspects of maintaining and cleaning your StormFilter® require careful adherence to Occupational Health and Safety (OH&S) guidelines.

It is important to note that the same level of care needs to be taken to ensure the safety of non-work personnel. As a result, it may be necessary to employ traffic/pedestrian control measures when the device is situated in, or near areas with high vehicular/pedestrian activity.

Personnel health and safety

Whilst performing maintenance on the StormFilter®, precautions should be taken in order to minimise (or, if possible, prevent) contact with sediment and other captured pollutants by maintenance personnel. The following personal protective equipment (PPE) is subsequently recommended (but not limited to):

- Puncture resistant gloves
- Steel capped safety boots
- Long sleeve clothing, overalls or similar skin protection
- Eye protection
- High visibility clothing or vest

During maintenance activities, it may be necessary to implement traffic control measures. Ocean Protect recommend that a separate site-specific traffic control plan is implemented as required to meet the relevant governing authority guidelines.

Whilst some aspects of StormFilter® maintenance can be performed from surface level, there will be a need to enter the StormFilter® system (confined space) during a major service. It is recommended that all maintenance personnel evaluate their own needs for confined space entry and compliance with relevant industry regulations and guidelines. Ocean Protect maintenance personnel are fully trained and carry certification for confined space entry applications.

How does it work?

During a storm, runoff percolates through the filtration media and starts filling the cartridge central tube. The air inside the hood is purged through a one-way check valve as the water rises. When water reaches the top of the float, buoyant forces pull the float free and allow filtered water to exit the cartridge.

A siphon is established within each cartridge that draws water uniformly across the full height of the media profile ensuring even distribution of pollutants and prolonged media longevity.

As the storm subsides and the water level in the structure starts falling, a hanging water column remains under the cartridge hood until the water level reaches the scrubbing regulators at the bottom of the hood. Air then rushes through the regulators breaking the siphon and creating air bubbles that agitate the surface of the filter media causing accumulated sediment to settle on the treatment chamber floor. This unique surface-cleaning mechanism helps prevent surface blinding and further extends cartridge life.

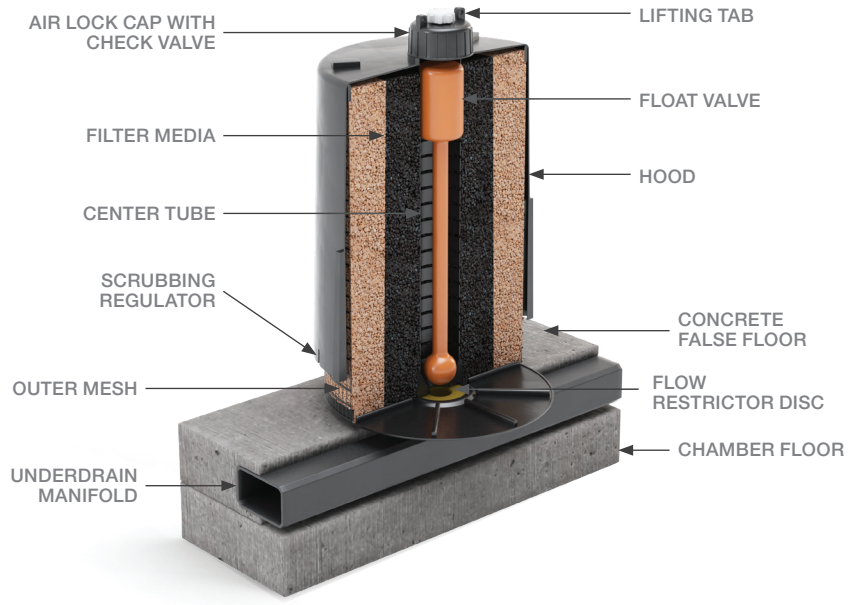


Figure 1: StormFilter® components

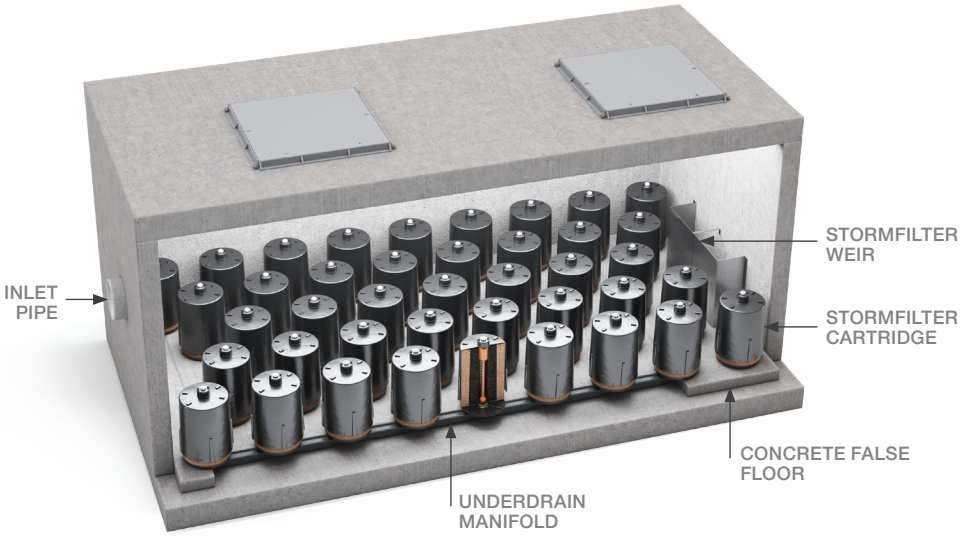


Figure 2: Example conceptual diagram of a StormFilter® system

Maintenance Procedures

To ensure optimal performance, it is advisable that regular maintenance is performed. Typically, the StormFilter® requires an inspection every 6 months with a minor service at 12 months. Additionally, as the StormFilter® cartridges capture pollutants the media will eventually become occluded and require replacement (expected media life is 1-3 years).

Primary types of maintenance

The table below outlines the primary types of maintenance activities that typically take place as part of an ongoing maintenance schedule for the StormFilter®.

Service Type	Description of Typical Activities	Frequency
Inspection	Visual Inspection of cartridges & chamber Remove larger gross pollutants Perform minimal rectification works (if required)	Every 6 Months
Minor Service	Evaluation of cartridges and media Removal of accumulated sediment (if required) Wash-down of StormFilter® chamber (if required)	Every 12 Months
Major Service	Replacement of StormFilter® cartridge media	As required

Maintenance requirements and frequencies are dependent on the pollutant load characteristics of each site. The frequencies provided in this document represent what the manufacturer considers to be best practice to ensure the continuing operation of the device is in line with the original design specification.

Inspection

The purpose of the inspecting the StormFilter® system is to assess the condition of the StormFilter® chamber and cartridges. When inspecting the chamber, particular attention should be taken to ensure all cartridges are firmly connected to the connectors. It is also an optimal opportunity to remove larger gross pollutants and inspect the outlet side of the StormFilter® weir.

Minor Service

This service is designed to ensure the ongoing operational effectiveness of the StormFilter® system, whilst assessing the condition of the cartridge media.

1. Establish a safe working area around the access point(s)
2. Remove access cover(s)
3. Evaluate StormFilter® cartridge media (if exhausted schedule major service within 6 months)
4. Measure and record the level of accumulated sediment in the chamber (if sediment depth is less than 100 mm skip to step 9)
5. Remove StormFilter® cartridges from the chamber
6. Use vacuum unit to removed accumulated sediment and pollutants in the chamber
7. Use high pressure water to clean StormFilter® chamber
8. Re-install StormFilter® cartridges
9. Replace access cover(s)

Major Service (Filter Cartridge Replacement)

For the StormFilter® system a major service is reactionary process based on the outcomes from the minor service, specifically the evaluation of the cartridge media.

Trigger Event	Maintenance Action
Cartridge media is exhausted[1]	Replace StormFilter® cartridge media[2]

[1] Multiple assessment methods are available, contact Ocean Protect for assistance

[2] Replacement filter media and components are available for purchase from Ocean Protect

This service is designed to return the StormFilter® device back to optimal operating performance.

1. Establish a safe working area around the access point(s)
2. Remove access cover(s)
3. By first removing the head cap, remove each individual cartridge hood to allow access to the exhausted media
4. Utilise a vacuum unit to remove exhausted media from each cartridge
5. Use vacuum unit to remove accumulated sediment and pollutants in the chamber
6. Use high pressure water to clean StormFilter® chamber
7. Inspect each empty StormFilter® cartridges for any damage, rectify damage as required
8. Re-fill each cartridge with media in line with project specifications
9. Re-install replenished StormFilter® cartridges
10. Replace access cover(s)

Additional Types of Maintenance

Occasionally, events on site can make it necessary to perform additional maintenance to ensure the continuing performance of the device.

Hazardous Material Spill

If there is a spill event on site, the StormFilter® unit should be inspected and cleaned. Specifically, all captured pollutants and liquids from within the unit should be removed and disposed in accordance with any additional requirements that may relate to the type of spill event. Additionally, it will be necessary to inspect the filter cartridges and assess them for contamination – and, depending on the type of spill event, it may be necessary to replace the filtration media.

Blockages

In the unlikely event that flooding occurs upstream of the StormFilter® system, the following steps should be undertaken to assist in diagnosing the issue and determining the appropriate response.

1. Inspect the upstream diversion structure (if applicable) ensuring that it is free of debris and pollutants
2. Inspect the StormFilter® unit checking the underdrain manifold as well as both the inlet and outlet pipes for obstructions (e.g. pollutant build-up, blockage), which if present, should be removed

Major Storms and Flooding

In addition to the scheduled activities, it is important to inspect the condition of the StormFilter® after a major storm event. The focus is to inspect for damage and abnormally high sediment accumulation that may result from localised erosion. Where necessary damaged components should be replaced and accumulated pollutants should be removed and disposed

.

Disposal of Waste Materials

The accumulated pollutants found in the StormFilter® must be handled and disposed of in a manner that is in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. If the filter media has been contaminated with any unusual substance, there may be additional special handling and disposal methods required to comply with relevant government/authority/industry regulations.

Maintenance Services

With over a decade and a half of maintenance experience, Ocean Protect has developed a systematic approach to inspecting, cleaning and maintaining a wide variety of stormwater treatment devices. Our fully trained and professional staff are familiar with the characteristics of each type of system, and the processes required to ensure its optimal performance.

Ocean Protect has several stormwater maintenance service options available to help ensure that your stormwater device functions properly throughout its design life. In the case of StormFilter®, we offer long term pay-as-you-go contracts, pre-paid once off servicing and replacement media for cartridges.

For more information please visit www.oceanprotect.com.au

Ocean Protect supplies and maintains a complete range of filtration, hydrodynamic separation, screening and oil/water separation technologies.

Call 1300 354 722

www.oceanprotect.com.au

OPERATION & MAINTENANCE MANUAL

Vortceptor

atlan.com.au

Atlan
STORMWATER

INTRODUCTION

This operation and maintenance manual has been written to assist asset owners and maintenance staff understand how the Vortceptor GPT works, and how to maintain their asset to ensure it performs optimally throughout its life cycle.

The Vortceptor is a vortex type Gross Pollutant Trap that provides robust, high performing, and reliable primary stormwater treatment. It is able to remove litter, sediment, oil, and particulate bound nutrient pollutants out of stormwater. The Vortceptor has no moving parts, which reduces the risk of moving part malfunctions.

It is constructed out of a FRP (fibreglass) body, and 316 stainless steel screens that has been specifically engineered to withstand the tough demands of stormwater and wastewater applications. FRP is resistant to the most demanding of conditions and can exceed the durability of conventional precast concrete and cast in-situ concrete construction.

Manufacture

The Vortceptor is manufactured in Penrith NSW Australia.

Why FRP?

Glass fibre reinforced polymer (FRP) or fibreglass is a composite material of high strength glass fibre reinforcement in a polymer resin matrix. The glass fibres provide the main load bearing function of the material, and can be woven and aligned specifically for strength. Glass fibre reinforcing provides ideal engineering properties of linear elastic behaviour until failure, and extremely high strength that can exceed that of steel in tension. The matrix has 4 important functions: 1. It holds the glass fibre reinforcing in place 2. It transfers forces to and between the fibres, 3. Prevents buckling of the fibres 4. it provides the beneficial protection from the environment. The resin is specifically formulated to ensure resistance to harsh stormwater environments, that can exceed the durability that of concrete.

This material stands up to the harshest environments, commonly found in stormwater, wastewater, acid sulfate soils, and saltwater.

Fibreglass is becoming a material that is enjoying increased adoption in civil structural engineering applications worldwide due to its light weight, high strength, and its ability to resist degradation. The ability of fibreglass to achieve high strength with low weight means that the Vortceptor can be fabricated and delivered to site in a substantially assembled state. The treatment chamber is mostly one-piece, with the other sections being any risers, covers, and a precast concrete diversion chamber. One-piece construction means there are no joints to be made on site for the treatment chamber, which eliminates the potential for leaking joints, and risk of backfill and subgrade degradation from water egress through leaking joints. This means that the Vortceptor will provide a more reliable and watertight body, than one made from precast concrete components that are joined and sealed onsite. This is especially important as joints must be able to withstand tremendous hydrostatic pressures. The Vortceptor takes away this risk by eliminating joints, using a single piece FRP body.

MAINTENANCE

Structural strength of FRP

The Vortceptor has been engineered to withstand the forces associated with structures that are buried and carry vehicular loads. The Vortceptor has been engineered to withstand vehicular loadings to Class D rating per AS3996. A cast in situ concrete cover slab that is 600mm larger than the diameter of the FRP Vortceptor separation chamber, and 200mm thick is required to support a dynamic T44 traffic load. The precast concrete diversion chamber is rated to carry Class D traffic loads without the need for the additional concrete cover slab. Refer to Atlan Stormwater Vertical Tank installation guide for further details.

Safety Precautions

The Vortceptor is an underground structure that retains water. Ensure that adequate safety equipment and procedures are in place to avoid personnel falling into the Vortceptor, as there is a severe risk of drowning.

The Vortceptor is deemed a confined space. It is not necessary to enter the Vortceptor during maintenance, however in the rare event that entry is required, it should only be done so by suitably qualified and equipped personnel, working in accordance with strict OH&S laws, regulations and procedures.

Pollution captured by the Vortceptor can be hazardous to health. Do not make contact with the pollutant material. Ensure personnel are fully equipped with PPE to avoid contact and have procedures in place for first aid.

OPERATION

The Vortceptor is comprised of two chambers: The separation treatment chamber stormwater enters this chamber by being directed by a weir into a chute and is then circulated into the screening area. A vortex flow pattern forms as a result of flow velocity and head. Pollutants are removed via screening, and via centrifugal and gravitational forces acting to separate sediment and other particles.

Pollutants are captured and are stored in a sump area separate to the screening area. The shear cone separates the screening area and the sump, and acts to create quiescent conditions in the sump. This is what allows the Vortceptor to avoid resuspension of captured pollutants. The sump resides directly below the screening area and is conveniently accessible from the manhole for vacuum cleaning.

Storage of pollutants away from the screening area ensures that the Vortceptor can provide a consistent treatment flow rate, that does not diminish according to the level of pollutants stored. This is a key advantage over other GPTs that store pollutants in the screening area.

Floating pollutants are kept at the top of the screening area, but do not impede flow rate. An oil baffle acts to contain oil and hydrocarbons within the treatment chamber. The captured floatable pollution remains inside the Vortceptor until the time it is cleaned.

The vortex action of flow acts to create a shear force across the face of the 316 stainless steel vortex separation screen. The flow is tangential to the screen, which acts to create a self-cleaning effect and prevents the screen from blinding.

Treated flows are then discharged into the diversion chamber via the outlet chute and then discharged from the diversion chamber outlet into the drainage network.

The Diversion Chamber Pit

This chamber allows interface of the Vortceptor with the pipe or culvert drainage network. A weir goes across the width of the Diversion Chamber and is angled so that it is aligned with the entry chute to the separation treatment chamber. The Diversion Chamber is sized to allow bypass of flows exceeding the treatment flow rate over the weir.

Inline Vortceptor models have a small diversion chamber integrated over the separation treatment chamber, to provide a unit that is packaged into a compact footprint.

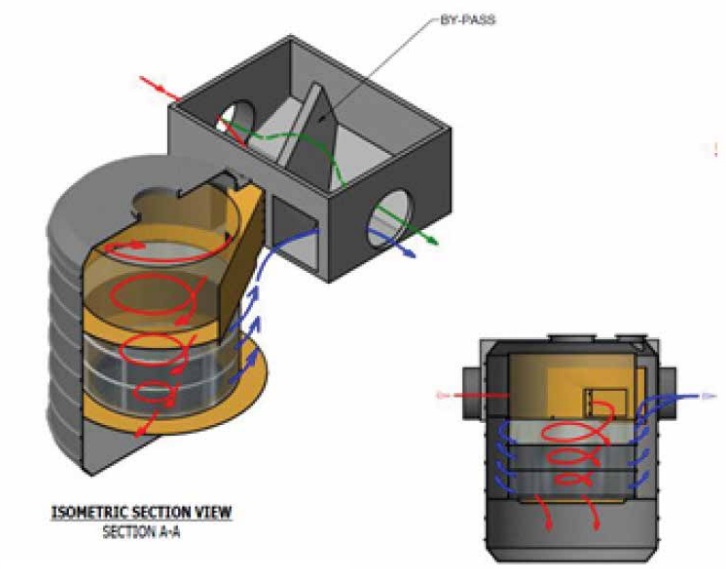


Figure 1 - Offline Vortceptor

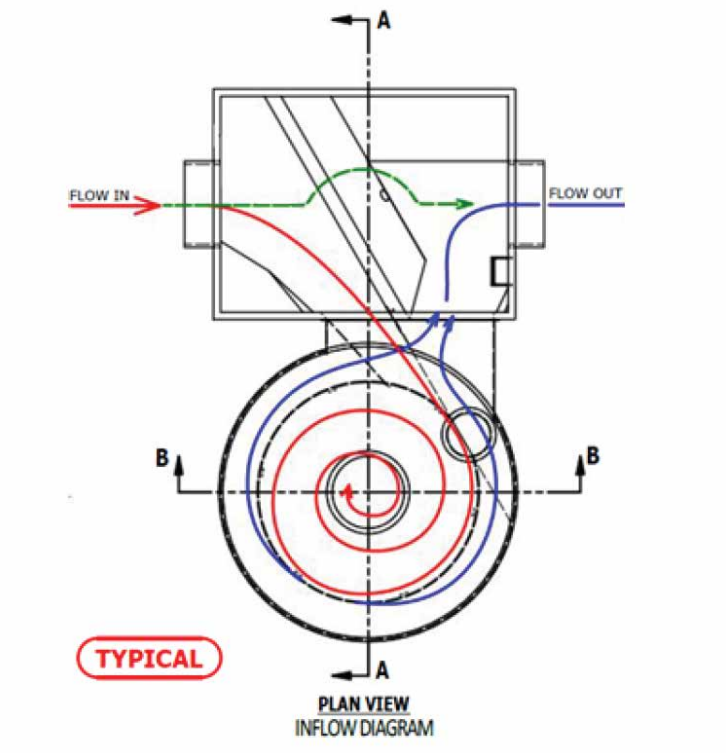


Figure 2 - Offline Vortceptor Plan view showing Separation treatment chamber (Circle) and diversion chamber (rectangle)

Offline and Online

The Vortceptor GPT comes in an offline and online configuration. Offline – the treatment separation chamber is adjacent to the diversion chamber. Online – The diversion chamber and the separation treatment chamber are integrated together.

Cleaning options

The following cleaning options allow asset owners to choose the best option available for ongoing maintenance and the required cleaning frequency with the right cleaning services and resources available.

Depending on the size, access, and depth of the system, the three following methods can be used to clean the Atlan Vortceptor.

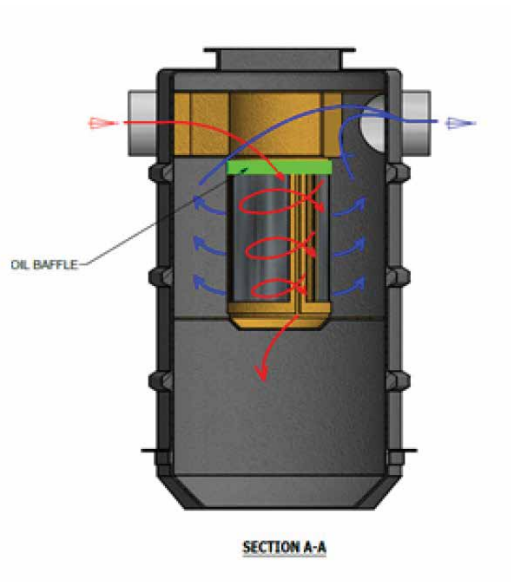


Figure 3 - Online Vortceptor in Elevation view

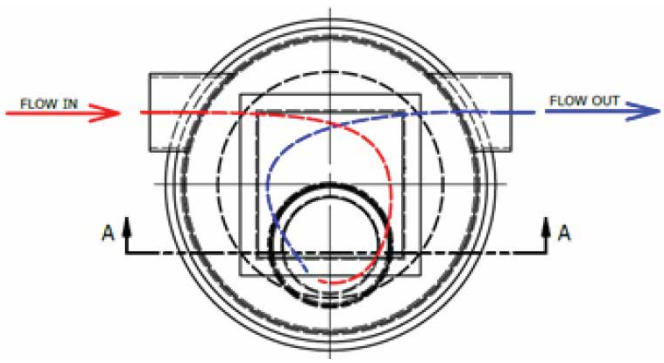


Figure 4 - Online Vortceptor in Plan view showing the diversion chamber and separation chamber in line

Vacuum Suction Cleaning

Equipment needed – eductor truck
Personnel needed – 2

Suction cleaning is used for most proprietary GPT's. This is by far the most convenient and safest method but does require specialist machinery to achieve. There are several specialist companies that offer vacuum suction cleaning of GPTs. Costs are usually based on the total volume of pollutants disposed, as well as water removed. Asset owners should enquire with cleaning contractors if the option to decant captured water back into the Vortceptor is possible, to reduce disposal fees.

Grab Cleaner

Equipment needed – truck with mounted crane and grab attachment
Personnel needed – 1 to 2

The Grab Cleaner can be carried out without dewatering the system. However, this operation is limited to the larger Vortceptor models with larger screen internal diameters. This option is practically only available for the SVO.530 and above as they have screen internal diameters of 2m. Care must be taken by the operator to ensure that the grab does not make contact with the stainless steel screen, and the shear cone underneath the screen area.

The grab truck cleaning option offers the removal of 80 – 90% of the pollution stored in a sump. It can be a cheaper option than vacuum suction cleaning. However, the asset owner must still allow for an annual vacuum clean, to remove accumulated sediment in the sump and behind the screens.

Removable Basket

Truck with mounted crane
Personnel – 1 to 2

If a removal waste basket is fitted, it can be lifted at any time, without the need for dewatering. This is the fastest and the most cost-effective option but comes at the sacrifice of sump capacity. The basket will not impede flow rate.

The smaller sump capacity that results from using a basket may lead to the need for more frequent maintenance activities. But this is offset by the ease and ability to carry out the cleaning activity in house.

An annual vacuum clean to thoroughly dewater and remove accumulated sediment will be recommended for this approach.

Tidal and backwater affected Vortceptors

Gross pollutant traps, including the Vortceptor, may from time to time, be required in tidal and backwater affected locations. The designer should consider specifying a penstock or stop valve on the outlet side of the Vortceptor, so that the Vortceptor can be isolated from tidal and backwater, and effectively dewatered and cleaned. It will be critical for the maintenance crew to re-open the penstock or stop valve after they have finished maintaining the Vortceptor. Failure to re-open the penstock or valve can lead to catastrophic flooding.

Increasing the Vortceptor sump capacity to spread out the cleaning intervals

Vortceptor sump capacities can be increased over and above the standard capacities listed in Table 1 below. It is recommended that the designer carefully estimate the expected pollution load volumes from their catchment and target a sump capacity to match a desired cleaning frequency. Extending the sump is only possible during the desktop design stage, before the Vortceptor is manufactured, so good early planning and design is essential.

Atlan Vortceptor Maintenance Capacities & Dimensions Inline

Models	Dimensions (mm)					Capacities			
	Internal Diameter	Overall Width	Depth Below Invert	Manhole Size (mm)	Max Pipe Size (mm)	Sump Capacity (m^3)	Floatables Volume (m^3)	Treatable Flow Rate (L/s)	Max Flow Rate (L/s)
INLINE SERIES									
SVI.025 (L/R)	1200	1370	1400	600x 600	450	1.2	0.06	26	280
SVI.055 (L/R)	1800	1970	1650	900x 900	525	2.7	0.22	55	380
SVI.055.M (L/R)	2200	2370	1585		525	3.2	0.22	55	750
SVI.100/15 (L/R)	1500	1670	1900	1000 DIA Internal 600x 600	600	3.1	0.20	100	700
SVI.160/22 (L/R)	2200	2370	2400		750	3.4	0.39	160	940
SVI.200/22 (L/R)	2200	2370	2900		750	3.1	0.39	200	990
SVI.300/22 (L/R)	2200	2370	3100		750	4.5	0.83	300	1050
SVI.400/22 (L/R)	2200	2370	3000		750	3.4	0.83	400	1180
SVI.400/25 (L/R)	2500	2670	2900		900	5.5	0.83	400	1650
SVI.400/30 (L/R)	3000	3170	3500		900	10	1.5	400	2500
SVI.500/30 (L/R)	3000	3170	3500		1050	10	1.5	500	1650
SVI.500/35 (L/R)	3500	3670	4000		1050	10	1.5	500	1900

Atlan Vortceptor Maintenance Capacities & Dimensions Offline

Models	Dimensions (mm)				Capacities			
	Internal Diameter	Overall Width	Depth below invert	Manhole Size (mm)	Sump Capacity (m^3)	Floatables Volume (m^3)	Treatable Flow Rate (L/s)	Bypass Flow Rate (L/s)
OFFLINE SERIES								
SVO.096 (L/R)	1500	1670	1725	1000 DIA Internal 600x600	2.0	0.35	96	PROJECT SPECIFIC DESIGN
SVO.140 (L/R)	1500	1670	2025		2.3	0.35	140	
SVO.180 (L/R)	1500	1670	2325		3.0	0.35	180	
SVO.220 (L/R)	2200	2350	2800		4.5	1.1	220	
SVO.360 (L/R)	2200	2350	3080		6.0	1.1	360	
SVO.530 (L/R)	3000	3150	3200		8.5	2.8	530	
SVO.800 (L/R)	3000	3150	4200		8.5	2.8	800	
SVO.810 (L/R)	4000	4150	3400		19.3	5.65	800	
SVO.1200 (L/R)	4000	4150	4000		19.3	5.65	1200	
SVO.1600 (L/R)	4000	4150	4600		19.3	5.65	1600	

Maintenance

The Atlan Vortceptor requires regular inspections and cleaning. There are no consumable parts on the Atlan Vortceptor throughout its operating life. The regularity of inspections and cleaning of the Vortceptor is contingent on the features and properties of the catchment area. Good monitoring and record keeping systems by the asset owner will allow them to optimally schedule cleaning activities for each individual Vortceptor. The section below provides asset owners some guidance to the frequencies for maintaining the Vortceptor.

Inspection

Routine inspection is the key to effective maintenance. Pollutant transportation and deposition may vary from catchment to catchment. Regular routine inspections will help the asset owner assess the rate of pollutant capture for that specific location.

At a minimum, routine inspections should be performed twice per year. The suggested inspection frequency in the first year of operation is 3 months.

This interval can be extended to 6 months at the discretion of the asset owner. The routine visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet, outlet, and separation screen. The routine inspection should also quantify the accumulation of floating trash, and sediment in the sump. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. All inspections should be recorded. A sample inspection report is attached to this manual. Furthermore, it is recommended that the Vortceptor be inspected after every major rain event, with a focus on ensuring there are no blockages to the inlet and outlets of the Vortceptor and the diversion chamber.

Access for maintenance

Separation Treatment chamber

The separation treatment chamber has adequate access for maintenance. Vortceptor models up to SVO.360 have single manhole access, whereas the larger Vortceptor models SVO.530 and above have 2 manholes, consisting of Class D cast iron lids. The lid in the centre of the separation chamber provides access into the screen and sump area.

The single round lid as pictured below provides access behind the screen, so that sediment can be extracted using a vacuum.

The lids are locked with bolts. The lids can be lifted using standard manhole cover lifters.

As described above, an additional Class D manhole cover allows access to the clean water side of the screen, or otherwise called the area ‘behind the screen’. This area can have some level of sediment deposition over time. This manhole allows convenient access, by allowing the vacuum hose to be dropped down vertically to the area behind the screen. It is recommended that the area behind the vortex separation screen be cleaned annually, to avoid build-up of sediment. Alternatively, access behind the screen can be gained by inserting the vacuum hose from the outlet side of the diversion chamber, and into the outlet of the separation treatment chamber.

Diversion chamber

There are access manholes above the diversion chamber, with a lid situated either above the inlet side and/or the outlet side of the chamber.

These manholes allow for visual inspection to the treatment chamber inlet and outlet chutes, and if required, access for cleaning.

Access for Maintenance

Pollution removal performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to reaching maximum sump capacity for easier removal of sediment. The level of sediment is easily determined by measuring from the finished surface level down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile.

Method to calculate the % sump capacity filled with pollutants

1. Determine the water depth that is above the sediment layer. This is done by taking two measurements with a measuring staff: one measurement from the finished surface level (ie manhole opening level) to the top of the sediment pile and the other from the manhole opening to the water surface.

2. If the difference between these measurements is less than the Depth from water level to top of sump in table 2, the system should be cleaned out. If the water depth to the sediment is less than the water depth to the top of sump, this means the sediment level is above the sump.

3. If the water depth to sediment is greater than the depth from water level to top of sump, calculate the % of sump that contains sediment by the following method:

Height of sediment = Depth of Water level to top of sump + Sump depth - water depth to sediment
Sump % full = height of sediment / height of sump x 100

A work sheet is attached to the end of this manual to assist with calculating and recording the sump levels.

Models	Sump depth (mm)	Depth from Water level to top of sump	Sump Capacity (m^3)	Light Liquid Volume (L)	Floatables Volume (m^3)
INLINE SERIES					
SVI.025	25	1400	500	600	770
SVI.055	55	1650	700	800	770
SVI.055.M	55	1585	700	800	770
OFFLINE SERIES					
SVO.096	1150	1010	2.0	239	0.39
SVO.096	1320	1260	2.3	239	0.39
SVO.096	1380	1560	2.5	239	0.39
SVO.096	1430	1560	4.3	515	1.1
SVO.096	1570	1860	6.0	515	1.1
SVO.096	1270	1860	8.5	1263	2.8
SVO.096	1270	2860	8.5	1263	2.8
SVO.096	1540	1860	19.3	2155	5.65
SVO.096	1540	2490	19.3	2155	5.65
SVO.096	1560	3150	19.3	2155	5.65

Table 2 - Sump depth dimensions

Cleaning

Cleaning of the Vortceptor system should be done during dry weather conditions when little or no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump.

The system should be completely drained down and the sump fully evacuated of sediment, and a final hose down of the screen and sump.

Disposal of material

The material captured by the Vortceptor could include hazardous material, such as syringes, chemicals, and sharp objects. Care must be taken by cleaning crews and they must work in accordance with a specific job safety plan. PPE such as gloves, protective wear, boots should be mandatory. Disposal of material must be done in accordance with all environmental regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins.

Inspection and cleaning frequencies

The frequency of cleaning will depend on the pollutant loads of the catchment, so inspections are recommended to confirm the maintenance intervals, which could be either three, six or twelve months.

Visual inspection and cleaning frequencies

	After every major storm	3 months	6 months	12 months
Visual inspection of treatment chamber	-	visually inspect every 3 months. Measure the amount of pollutants in the sump	-	-
Visual inspection of diversion chamber	Check inlet and outlet pipe or culvert for blockages	-	Visually inspect the diversion chamber for any signs of blockage and sediment build up	Visually inspect the diversion chamber for any signs of blockage and sediment build up
Regular Clean – Removal of captured pollutant material from the Vortceptor separation chamber	-	-	-	-
-	-	-	Primarily to remove floatables and sump contents contents. Note Cleaning interval is every 6 months on average but may need to be adjusted according to site specific conditions. Interval frequency can be reduced if extended sump has been installed	-
Full dewater and clean	-	-	-	Full sump pump out, jet screen and sump
Clean behind screen	-	-	-	In conjunction with full dewater and clean
Visual inspection of Vortex separation screen	-	-	-	Note the condition of the screen – note down signs of damage if any
Clean diversion chamber	-	-	Visual inspection	Remove sediment buildup if required.

Repairs and replacement

The Vortceptor does not have any consumable parts that require replacement throughout its design life of the unit. However, in the unlikely event that the Vortceptor requires repair due to damage, the following provides guidance on repairing the Vortceptor.

All repairs should be conducted by suitably qualified personnel, following OH&S requirements for working in confined spaces. All repairs should be conducted in dry weather and should be conducted after the Vortceptor has been dewatered and emptied.

Vortex Separation Screen

The vortex separation screen is comprised of 316 stainless steel. The Screen is not a consumable item. In the unlikely event that the screen is damaged, specific sections of the screen can be removed by cutting them out. Replacement screens can be riveted into the fibreglass body, and tack welded to the neighbouring screens. The installer must ensure that the screen is installed such that the screen aperture is facing the correct direction.

The way to check this is to run a hand over the surface of the screen. Ensure you are wearing gloves. The screen is smooth when stroking in one direction, and rough when stroking in the opposite direction. The smooth direction indicates the direction that the vortex will flow. Ensure that the replaced screen is in the same direction as of the screens next to them. Replacement screens are available from Atlan Stormwater, as well as specialist on site support from Atlan Stormwater's maintenance team.

Shear cone

The shear cone is not a consumable item. The only practical way it will be damaged is if a grab makes contact. Vortceptors up to SVO.360 have FRP shear cones, and the units from SVO.530 and above have 316 stainless steel shear cones. Replacement of the shear cone has been designed for easy replacement.

First completely dewater the unit, then gain access, noting that it is a confined space. Undo bolts and replace the damaged shear cone section. The shear cone is divided into 4 separate sections, so that only the damaged section needs to be replaced. Replacement shear cone sections are available from Atlan Stormwater as well as specialist on site support from Atlan Stormwater's maintenance team.

Cast iron Manhole covers

Cast iron manhole covers are not consumable items. However in the event they are damaged, they are readily available on the market as standard covers are used for the Vortceptor.

Precast concrete Diversion chamber

The diversion chamber is made of min 40Mpa concrete. Damage or cracks can be repaired with a concrete mortar such as Rapidset, Xypex, Parchem. 2-part epoxy and flexible fillers such as Sikaflex are also widely available. Refer to the manufacturers for specialist details on repairing precast concrete for water retaining structures.

Fibreglass components

One of the many benefits of using FRP/fibreglass over conventional materials such as concrete is its ease and durability of repairs. The material to repair fibreglass is readily and widely available.

Safety

Ensure the work area is well ventilated as the resin fumes can be harmful, especially in a confined space area. Resins, acetone, and FRP dust are flammable. Peroxides (catalyst) are strong oxidizing agents and can ignite fuels. Follow MSDS instructions, including PPE prior to commencement of repair work.

Repairs to Fibreglass

A key principle of repairs to fibreglass is that the repair will differ from the original fibreglass primary structure. The original resin and glass reinforcing fabric in the primary structure has cured and bonded chemically and physically with each other, forming the primary bond. Repairs to a damaged fibreglass part is referred to as secondary bonds, that are attached to the primary structure. The repair relies on the physical bond to the primary structure, and the resin must have strong adhesive properties. Increasing the surface area of the bond to the primary structure will increase the strength and durability of the repair.

Parts for repair

1. Resin – Polyester resin or Vinyl ester resin
2. Catalyst / Hardener – MEKP (Butanox M50 or equivalent)
3. Fibreglass matt – 450g/m2 chopped strand mat
4. Acetone – for cleaning the bond surface
5. Hot Coat – finishing layer (resin mixed with 1% solution of 8% wax in styrene can be used for this purpose)
6. Paint brush and or roller – for applying resin to fibreglass mat

Commercial fibreglass repair kits are widely available and can be used to repair the Vortceptor.

Identify the Damaged Area

Identify the damage and draw the boundary of the damage. An easy inspection method is to tap a solid material, like a coin, and listen for any differences in the sound of the tap. Mark out suspect areas. Damage could be cracks, holes, puncture, and delamination.

Trimming and cutting

Cut out the damaged area if you cannot patch over the area. Otherwise grind the surface as described below. Most concrete or masonry cutting tools are compatible to cut FRP. Note that high speed cutting tools for metals are not suitable for FRP.

Surface cleaning and grinding

Grind approximately 20mm or more of surface area from the damaged area to promote adhesion of the repair. Grind surface using abrasive methods.

Recommended equipment are 4 inch grinder with 34 grit sanding disc, or an orbital sander with a low grit number such as 60 grit. Do not use chemical primers. Grind the surface until the glossy finish of the resin is no longer visible, surface is even and uniform with no high or low spots. A slight taper in the surface will assist with locking in the repair.

Clean the surface of dust, water, oil. Brush or vacuum to remove dust, then wipe the surface with clean acetone. The surface should not be wet and must be dried.

The surface must be prepared again if the repair has not been performed within 24 hours of the surface preparation, or if the surface is contaminated with oil or water.

Resin preparation

Mix resin and catalyst in small batches. Catalyst should be between 1.25% to 2.5% of the resin weight. The reaction of the resin and catalyst will cause high amount of heat when curing. Refer to the resin and catalyst manufacturer's instructions.

Applying Fibreglass layers

Wet the bonding surface with catalysed resin. Apply fibreglass mat in layers, and completely cover with resin. Minimise the layer thickness to no more than 7mm, to avoid generating excess heat. Build up the layers until it matches or exceeds the thickness of the primary structure. Press the layers together to avoid the formation of air pockets between the layers, by using a roller.

Finishing the Fibreglass repair

After all layers are applied, a final coat of 'Hot Coat' is to be applied. The Hot coat can be applied while the top layer is still wet.

Further Assistance

Thank you for choosing the Atlan Vortceptor GPT. We are confident that it will faithfully carry out the essential task of keeping our waterways clean of pollution and do so in a robust and hassle-free manner for years to come. Our confidence in the product is backed by our 25 year warranty. Engineering and maintenance support are at hand for all asset owners. Contact Atlan Stormwater on 1300 773 500 or email maintenance@atlan.com.au.

Inspection & Maintenance Log

Model _____ Location _____

Date	Depth from manhole to top of sediment (1)	Depth from manhole to top of water level (2)	Water depth to sediment (1) – (2) (3)	Water Depth top of sump (from table 2) (4)	Is the water Depth (3) less than water depth to sump (4) Yes/No If yes, organize clean	% sump capacity full	Describe Maintenance Performed	Comments

a. The water depth to sediment is determined by taking two measurements with a measuring staff: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface.

b. Obtain the Water depth to top of sump for the specific Vortceptor model from table 2 of this manual

c. Compare the Water Depth to Sediment (3) to the Water Depth to top of sump (4). If the water depth to the sediment is less than the water depth to the top of sump, this means the sediment level is above the sump.

d. If the water depth to sediment is greater than the depth from water level to top of sump, calculate the % of sump that contains sediment by the following method:

Height of sediment = Depth of Water level to top of sump + Sump depth - water depth to sediment
Sump % full = height of sediment / height of sump x 100

e. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable

Ecoceptor
6000 SERIES

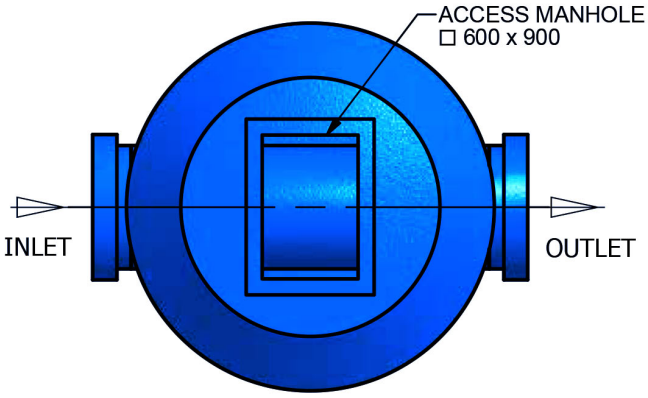
SELECTION CHART

Weight approximately 700kg each

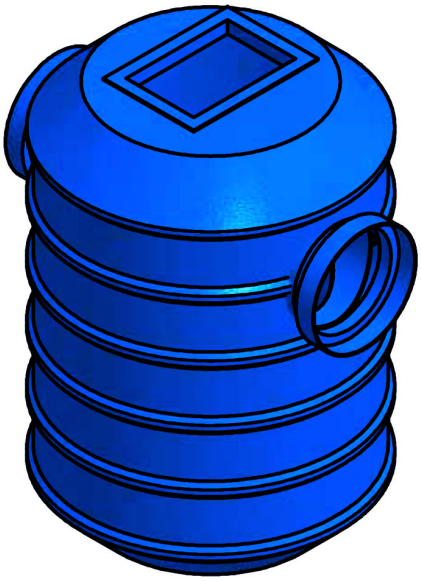
MODEL	E/606767	E/607575	E/609090
Inlet (mm)	675	750	900
Outlet (mm)	675	750	900
Invert Level* (mm)	1400	1400	1400
Overall Height* (mm)	3300	3300	3300
Internal Diameter (mm)	2200	2200	2200
Manhole Opening (mm)	900 x 600	900 x 600	900 x 600
Manhole Quantity	1	1	1
Max Silt Capacity (Litre)	6000	6000	6000
Max Hydrocarbon Capacity (Litre)	2200	2200	2200
Max Capacity (Litre)	11500	11500	11500

Atlan Stormwater accepts no responsibility for any loss or damage resulting from any person acting on this information. The details and dimensions contained in this document may change, please check with Atlan Stormwater for confirmation of current specifications.

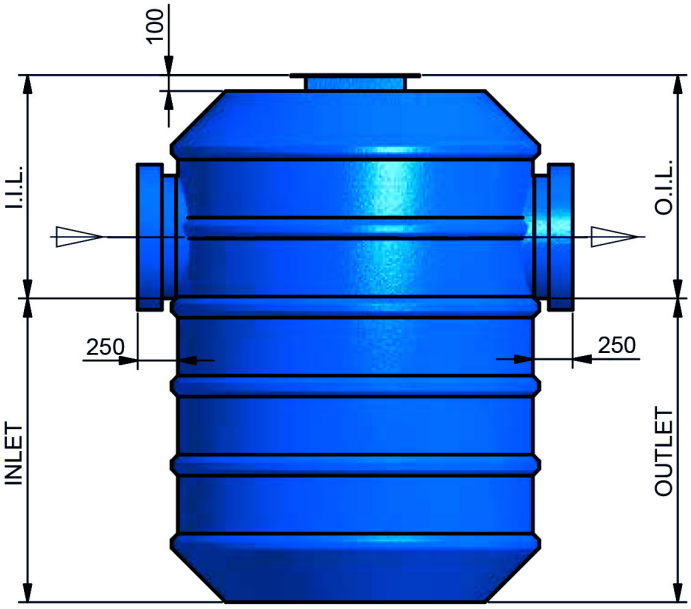
*Height does not include lid.



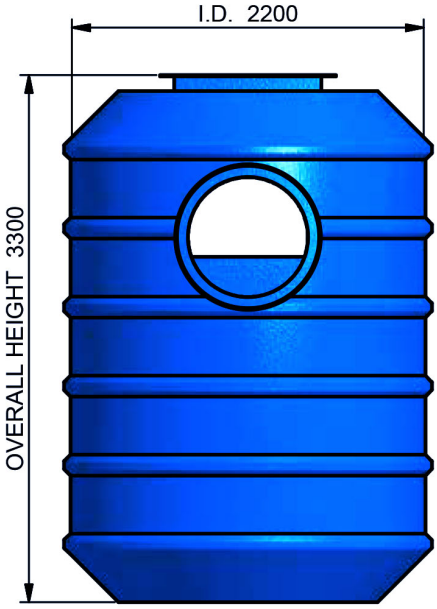
PLAN VIEW



ISOMETRIC VIEW



ELEVATION VIEW



SIDE VIEW

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TOLERANCE: ALL DIMENSIONS 10mm UNLESS OTHERWISE STATED.

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

Drawn P.Z.	Date 10-10-17
Check	Date
Verified	Date
Approved	Date
Request No. RN4656	

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

PRODUCT : 6000 SERIES

TITLE

SCALE	SIZE	SHEET	REV
N.T.S	1	1	1

CUSTOMER CODE :

DWG No. SP17-EC39300-P

Ecoceptor 8000 SERIES

SELECTION CHART

Weight approximately 1350kg each

MODEL	E.175.105105	E.185.135135	E.200.150150	E.8018090.BC
Inlet (mm)	1050	1350	1500	1800x800 BC
Maximum Treatment Flow (lps)	1750	1850	2000	-
Outlet (mm)	1050	1350	1500	1800x800 BC
Invert Level* (mm)	2400	2400	2400	1800
Overall Height* (mm)	4500	4500	4500	4500
Diameter (mm)	2480	2480	2480	2480
Manhole Opening (mm)	900 x 600	900 x 600	900 x 600	900 x 600
Manhole Quantity	2	2	2	2
Max Silt Capacity (Litre)	10,000	10,000	10,000	10,000
Max Hydrocarbon Capacity (Litre)	4200	4200	4200	4200
Max Capacity (Litre)	19,000	19,000	19,000	19,000

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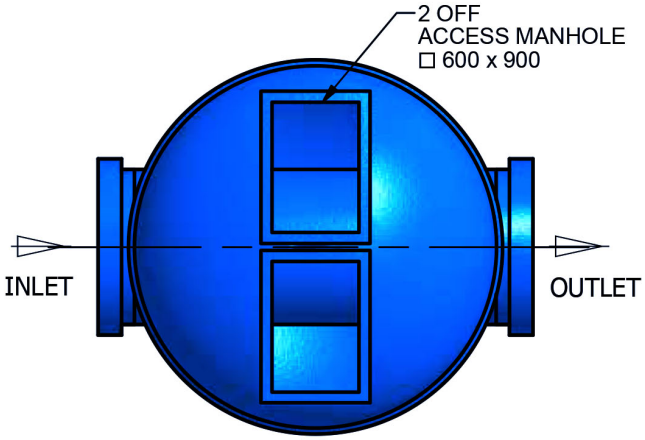
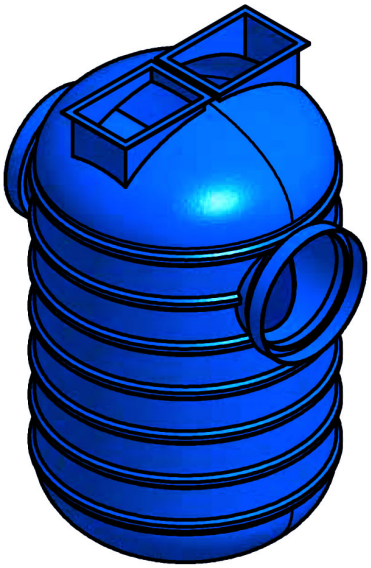
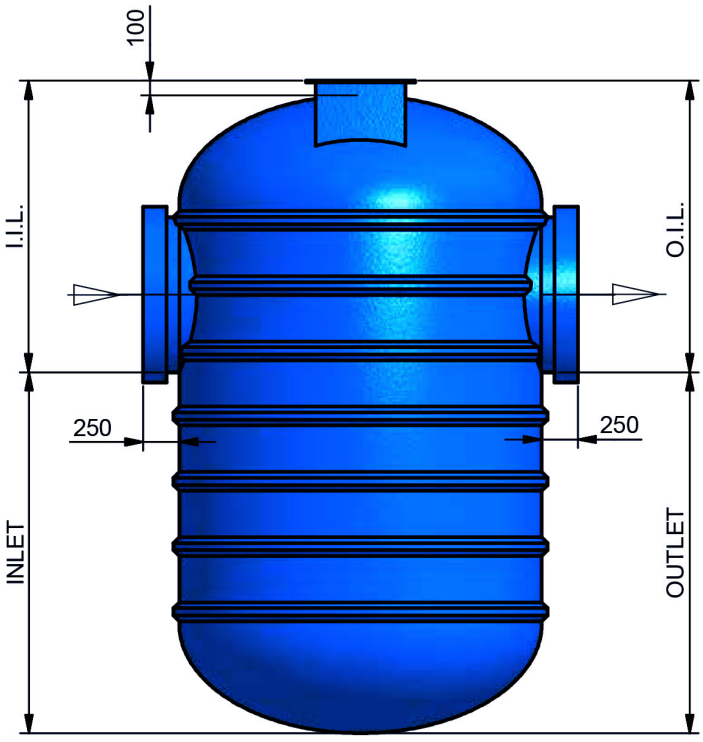
*Height does not include lid.



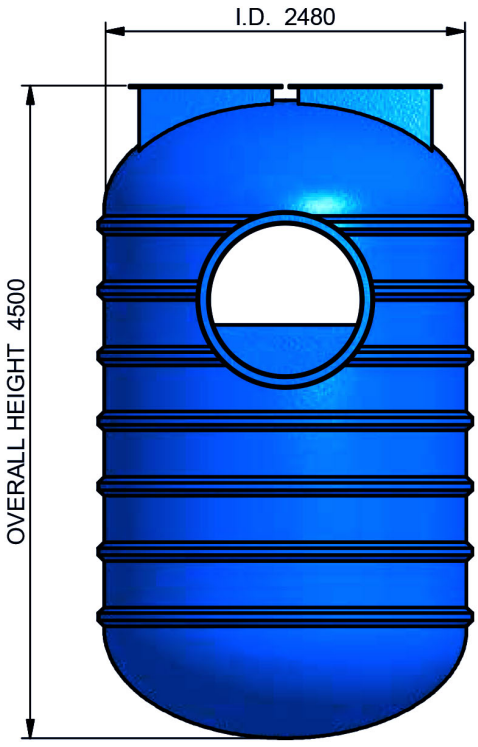
PLAN VIEW



ISOMETRIC VIEW



ELEVATION VIEW



SIDE VIEW

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TOLERANCE: ALL DIMENSIONS 10mm UNLESS OTHERWISE STATED.

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

Drawn P.Z.	Date 22-03-18
Check	Date
Verified	Date
Approved	Date
Request No. RN1801	

Atlan STORMWATER
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PRODUCT : 8000 SERIES

TITLE

SCALE	SIZE	SHEET	REV
N.T.S	1	1	1

CUSTOMER CODE :

DWG No. SP18-EC10590-P

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

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