



**ADVERTISED
PLAN**

STORMWATER MANAGEMENT PLAN

**PROPOSED CARPARK
48 & 50 FORDHOLM ROAD,
HAWTHORN, VICTORIA**

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August 2024

PROJECT NO: STR603206

REVISION NO: 01

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Prepared By:

Project:

Date:

Subject: **STORM WATER MANAGEMENT PLAN**

Introduction.

We have been engaged by Scotch College to provide a stormwater management plan for a proposed Change of Use Development Application at 48 & 50 Fordholm Road, Hawthorn. It is proposed to change the current residential use of this land to a carpark for the school.

Concept plans for the proposed carpark have been prepared by Neil Architecture and we make reference to their drawings TP01 to TP03 dated 24th June 2024.

This management plan demonstrates how the project will address the following City of Boroondara planning scheme requirements:

Clause 19.03-3L Objective:

- To manage stormwater flow and quality before it enters waterways.

Clause 53.18 Objectives:

- To encourage stormwater management that maximises the retention and reuse of stormwater.
- To encourage development that reduces the impact of stormwater on the drainage system and filters sediment and waste from stormwater prior to discharge from the site.
- To encourage stormwater management that contributes to cooling, local habitat improvements and provision of attractive and enjoyable spaces.
- To ensure that chemical pollutant and other toxicants do not enter the stormwater system.

References.

Drainage system

Australian / New Zealand Standard. Plumbing and Drainage, Part 3: Stormwater drainage.

Raingardens.

Urban Stormwater Best Practice Environmental Management Guidelines
(Victorian Stormwater Committee, 1999)

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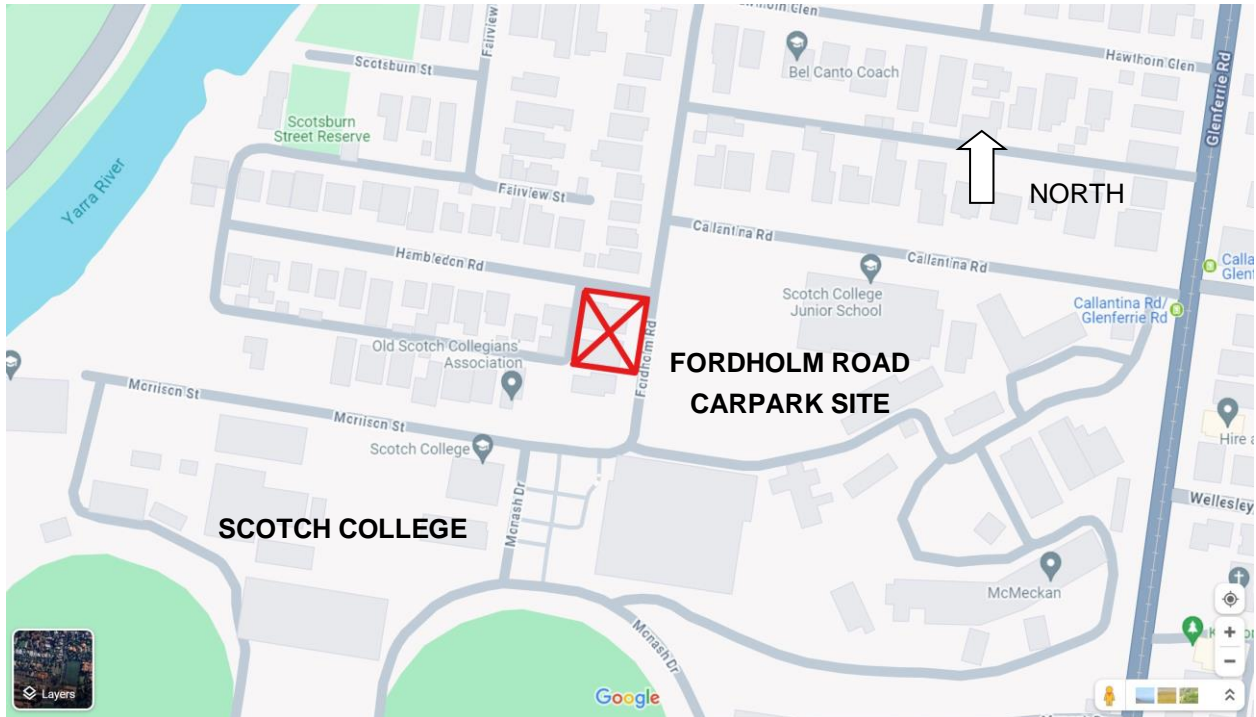
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Site Location

The proposed carpark will be located at 48 & 50 Fordholm Road in Hawthorn, Victoria, situated in the City of Boroondara.



The site is not located in a designated Flood Overlay zone.

Legal Point of Discharge

Legal point of discharge for the existing residential properties at 48 & 50 Fordholm Road is to the concrete paved Laneway at the rear (west) of each property. Stormwater from these properties currently discharges to the formed surface and travels overland to the north side of Morrison Street. From here stormwater travels along the Morrison Street kerb & channel, then via a side entry pit and pipe system to discharge into the Yarra River.

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Water Sensitive Urban Design

The proposed drainage design responds to the Boroondara Planning scheme requirements, specifically the Clause 19.03-3L and 53.18 objectives, by providing the following treatments:

Clause 19.03-3L

- The proposed carpark design incorporates the construction of raingardens and the use of permeable landscaping. Litter screens are also proposed to prevent litter and coarse sediments from entering the existing stormwater system.

Clause 53.18

- The proposed carpark design will retain water within the landscape and raingarden areas.
- Impact on the existing downstream drainage system from stormwater generated by the proposed carpark will be reduced by filtering sediment and waste out of the runoff via the proposed raingardens, soft landscaping and stormwater pit mesh screens.
- Stormwater management for this project contributes to cooling & habitat improvements by the inclusion of soft landscaping and raingarden treatments.
- Sediment, chemicals and waste from stormwater is to be filtered out by the ground level raingardens prior to discharge from site and into the existing stormwater system.

Current best practice performance objectives for stormwater quality have been demonstrated by using the Melbourne Water Storm Calculator at <http://storm.melbournewater.com.au>. The proposed raingarden treatment of 28m² achieves a STORM rating of 131% based on the proposed site parameters. A 100% rating demonstrates compliance with best practice performance objectives to Urban Stormwater – Best Practice Environmental Management Guidelines.

A copy of the STORM rating report is provided as Appendix A.

Stormwater Drainage Design

The stormwater drainage concept design is shown on drawing STR603206-C01 attached as Appendix B.

Runoff from the proposed carpark surface will be collected via Landscaping and Raingarden filtration measures, then concentrated to a new piped drainage system connecting to the existing drainage in Morrison Street.

The proposed piped drainage system will be designed to cater for a 10% A.E.P. event. The gap flow for a 1% A.E.P. event will be catered for by overland flow along the formed laneway to Morrison Street as is the current condition.

Carpark Site parameters:

Total site area 1180 m²
Soft Landscaping 177 m²
Paved areas 1003 m²
10% A.E.P. Site Flow is estimated to be 27 L/sec

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Stormwater Management Plan – Fordholm Road Carpark

The proposed stormwater management plan for a carpark development at 48 & 50 Fordholm Road in Hawthorn has been designed to comply with:

- City of Boroondara legal point of discharge requirements
- City of Boroondara planning scheme clauses 19.03-3L & 53.18 objectives.
- AS 3500.3 Part 3 Stormwater Drainage requirements.
- WSUD best practice stormwater treatment measures.

Prepared by

Structplan Group Pty Ltd



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APPENDICES

**APPENDIX A:
MELBOURNE WATER STORM RATING REPORT**

**APPENDIX B:
STORMWATER MANGEMENT PLAN DRAWING
STR603206-C01-D**

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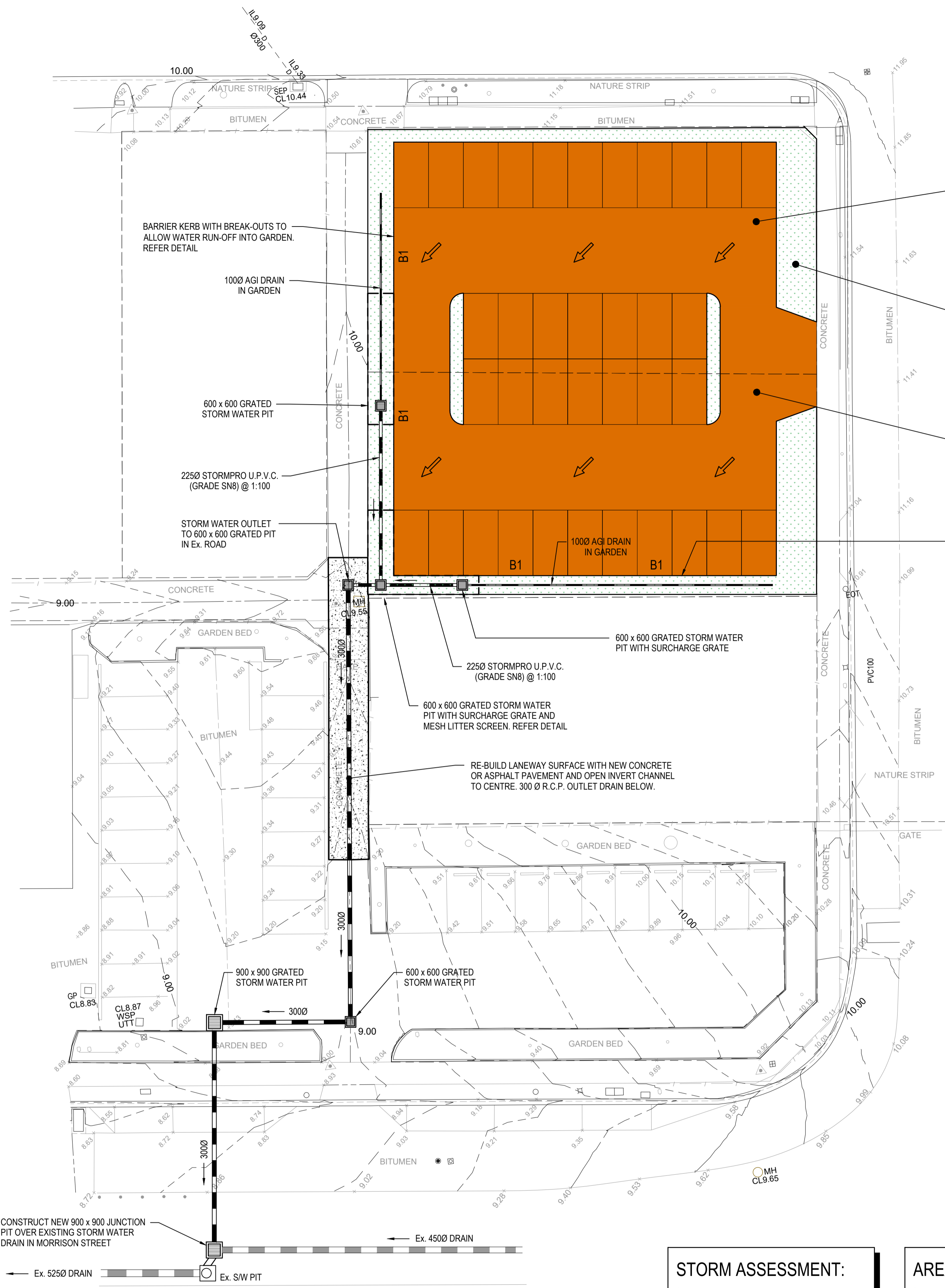
STORM Rating Report

TransactionID: 0
Municipality: BOROONDARA
Rainfall Station: BOROONDARA
Address: 48-50 Fordholm Road
Hawthorn, VIC
3122
VIC VIC
Assessor: Structplan Group
Development Type: Other
Allotment Site (m2): 1,180.00
STORM Rating %: 131

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Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Carpark	1,003.00	Raingarden 100mm	28.00	0	131.00	0.00

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DRIVEWAY CATCHMENT RUNOFF COEFFICIENT = 0.90

SOFT LANDSCAPING AREA 177m² INCLUDING 28m² OF RAIN GARDEN TREATMENT

CAR PARK AREA 1003m² DIVERTED TOWARDS RAIN GARDENS.

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STORM ASSESSMENT:
CAR PARK
 DRAIN 1003m² OF CAR PARK PAVEMENT DIRECTLY INTO 28.0m² OF RAIN GARDEN AREA - (GRAVITY FED SYSTEM).

AREA SCHEDULE:
SITE ANALYSIS
 SITE AREA: 1180 m²
 PAVING AREAS: 1003 m²
 ROOF CATCHMENT AREAS: - m²
 LANDSCAPE / PERMEABLE AREAS: 177 m²

STORMWATER MANAGEMENT SITE PLAN
 SCALE: 1:200



LEGEND:

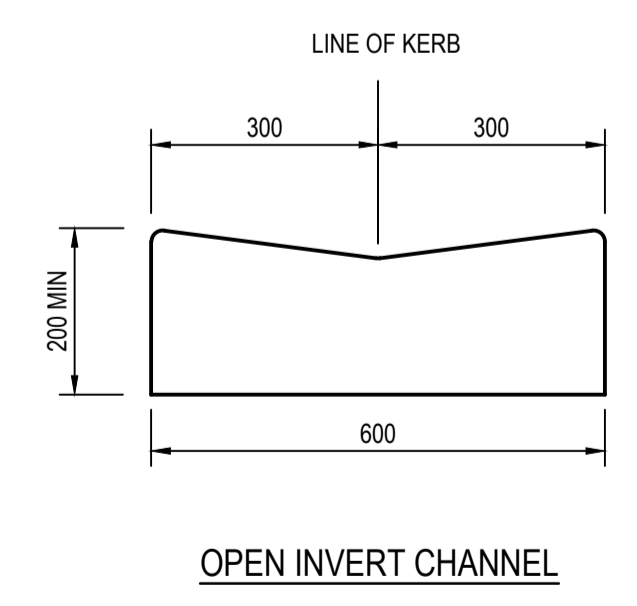
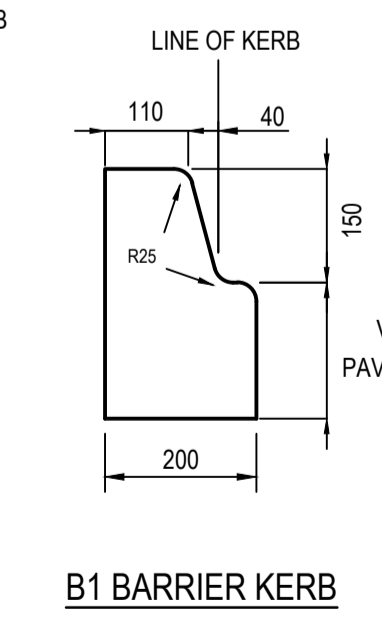
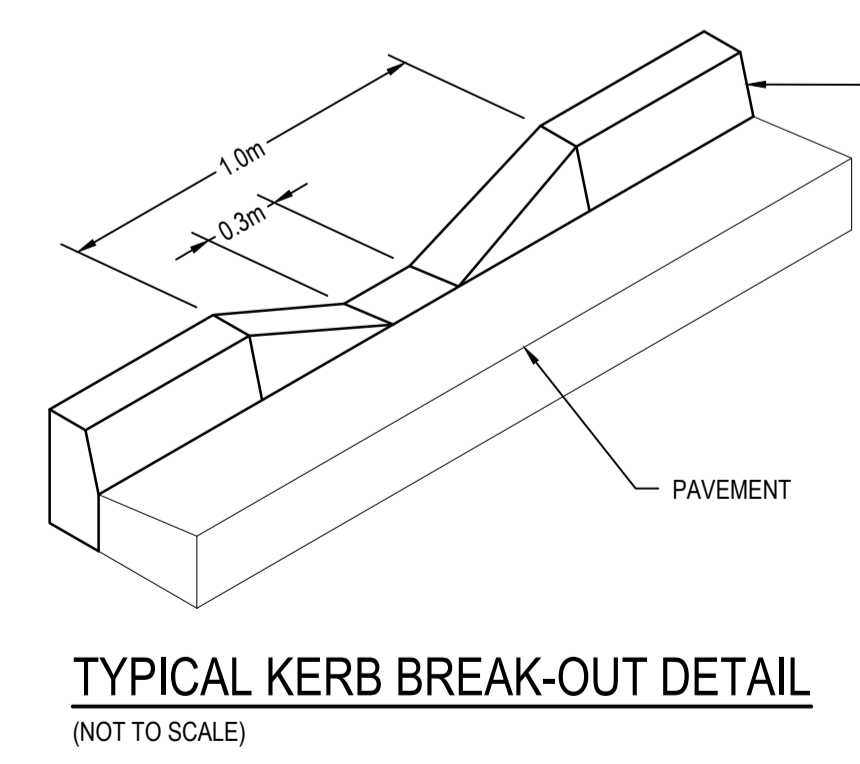
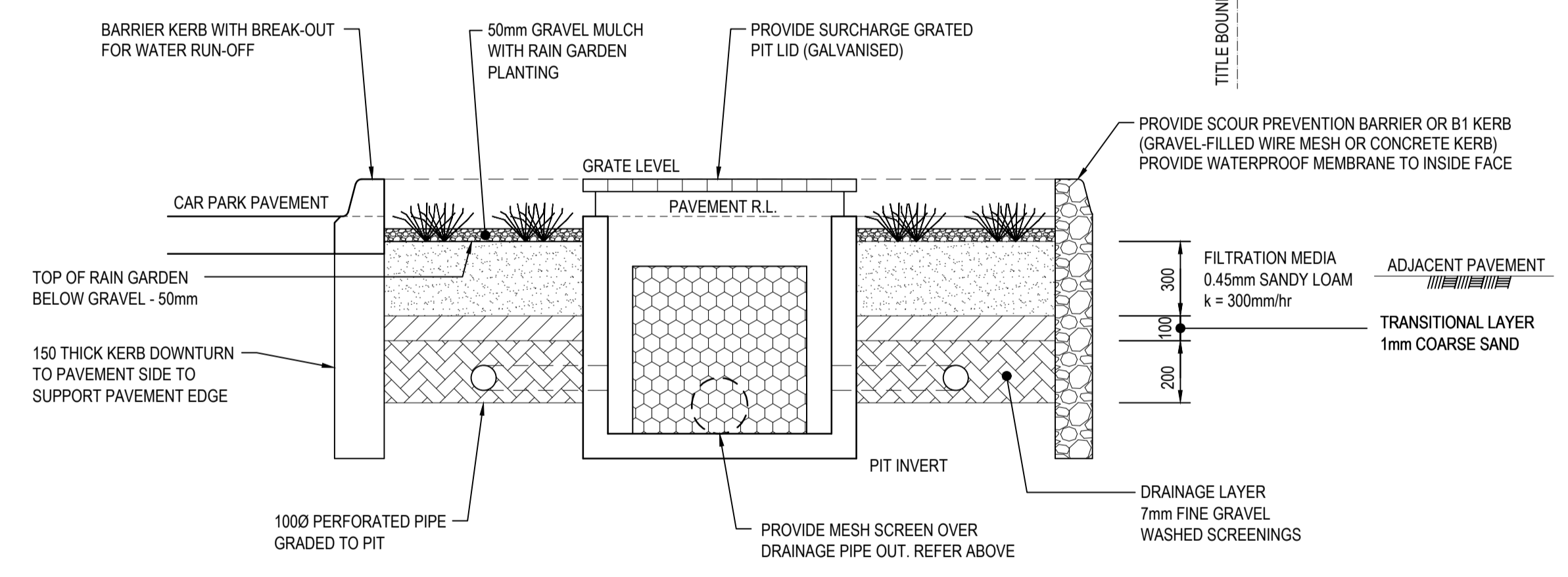
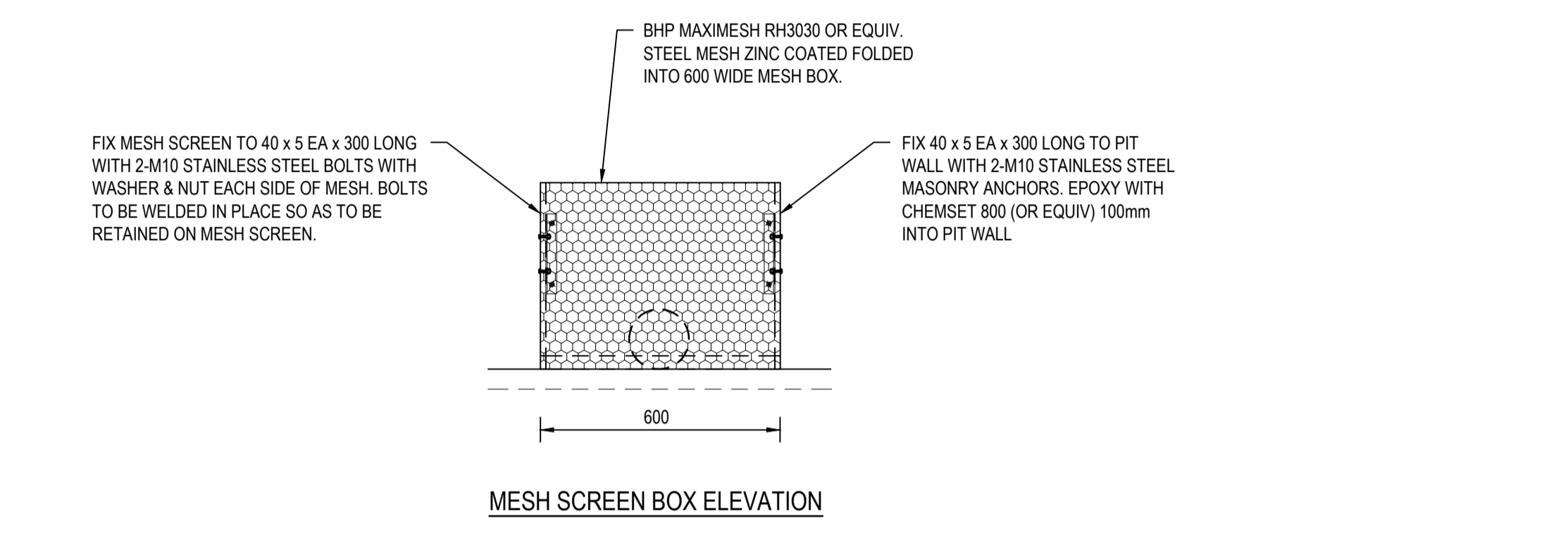
- DENOTES PROPOSED CAR PARK PAVEMENT (OPEN TO SKY) TREATED AREA BY RAIN GARDEN. REFER DETAIL.
- DENOTES LANDSCAPED / GARDEN AREA
- DENOTES RAINGARDEN IN LANDSCAPED AREA
- GRADE DENOTES DRIVEWAY OR PAVING GRADE DIRECTION

WARNING
BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES IS APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEES GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

BUILDER TO ENSURE THAT NO PART OF THE PROPOSED CAR PARK WORKS OR DRAINAGE EXTENDS OVER THE BOUNDARY LINE.

CONTRACTOR TO CHECK FOR POWER, WATER, GAS, STORMWATER, SEWER, PHONE AND ANY OTHERS SERVICES PRIOR TO EXCAVATION / CONSTRUCTION OF CAR PARK AND DRAINAGE WORKS. IF THE CONDITIONS ON SITE DIFFER, CONTACT STRUCTPLAN ENGINEERS FOR FURTHER RECOMMENDATIONS.



No.	REVISION DESCRIPTION	DRAWN	CHECKED	APPROVED	DATE
D	PRELIMINARY ISSUE TO COUNCIL	G.P.	A.M.S.	A.M.S.	12.08.2024
C	PRELIMINARY ISSUE FOR COMMENT	G.P.	A.M.S.	A.M.S.	25.06.2024
B	PRELIMINARY ISSUE FOR COMMENT	G.P.	A.M.S.	A.M.S.	20.06.2024
A	PRELIMINARY ISSUE FOR COMMENT	G.P.	A.M.S.	A.M.S.	12.06.2024

PRELIMINARY

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Structural Engineering - Design and Documentation

SCALE	AS NOTED	ORIGINAL SIZE	A1	CLIENT:	SCOTCH COLLEGE HAWTHORN
DRAWN	G.P.	DESIGNED	A.M.S.	PROJECT:	FORDHOLM ROAD CAR PARK
APPROVED	A.M.S.	DATE	MAY 2024	TITLE:	STORMWATER MANAGEMENT PLAN
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				REVISION:	D