SUSTAINABLE MANAGEMENT PLAN

ADVERTISED PLAN

PROPOSED DATA CENTRE DEVELOPMENT

165 Williamson Road,
South Morang

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GIW24212
Revision C

Prepared for:
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01 October 2026

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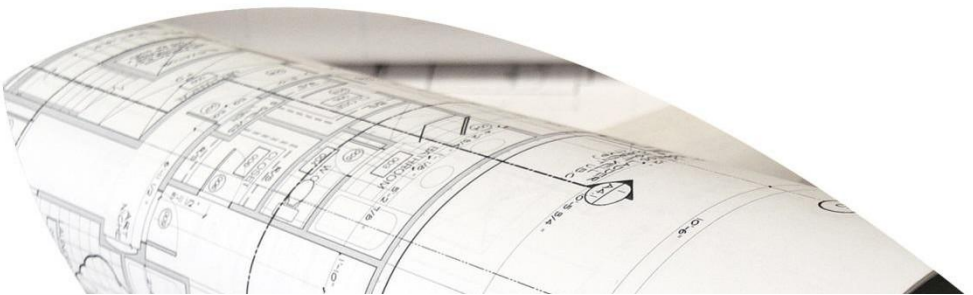

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Revision History

Revision Number	Date Issued	Author	Approved	Comments
A	27/06/2025	MS	IB	Draft
B	18/07/2025	MS	IB	Final
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1. Introduction

Project Information

GIW Environmental Solutions Pty Ltd ("GIW") has been engaged by Dover 1 SM2 Pty Ltd to provide Environmentally Sustainable Design (ESD) consulting services for the proposed commercial development at 165 Williamson Road, South Morang.

The proposed development will comprise three levels of data centre use, including ancillary office areas and services within the basement, as well as outdoor car parking. The development will include the following:

- 43,974m^2 data centre
- 436.3m^2 admin hall

The site located at 165 Williamson Road, South Morang has an approximate surface area of 86,380m^2 and is currently undeveloped. Distance from the site to Melbourne CBD is approximately 30km.

Figure 1 - Pre-existing sites at 165 Williamson Road, South Morang.

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Statutory Requirements

This Sustainable Management Plan (SMP) has been prepared to inform City of Whittlesea of the proposed development's sustainability credentials and performance targets. The project team is committed to achieving a building solution which responds to City of Whittlesea Planning Scheme - Clause 15.01-2L Environmentally Sustainable Development.

Development Type	Application Requirement	Example Tools
A non-residential building with a gross floor area of more than 1000m^2.	Sustainability Management Plan (SMP)	BESS Green Star MUSIC STORM

Further to the above, this SMP also responds to Victoria Planning Provisions VC216 – 15.01-2S.

Built Environment Sustainability Scorecard (BESS)

The proposed commercial development will be assessed against the Built Environment Sustainability Scorecard (BESS) guidelines. The BESS tool addresses nine key environmental categories as follows:

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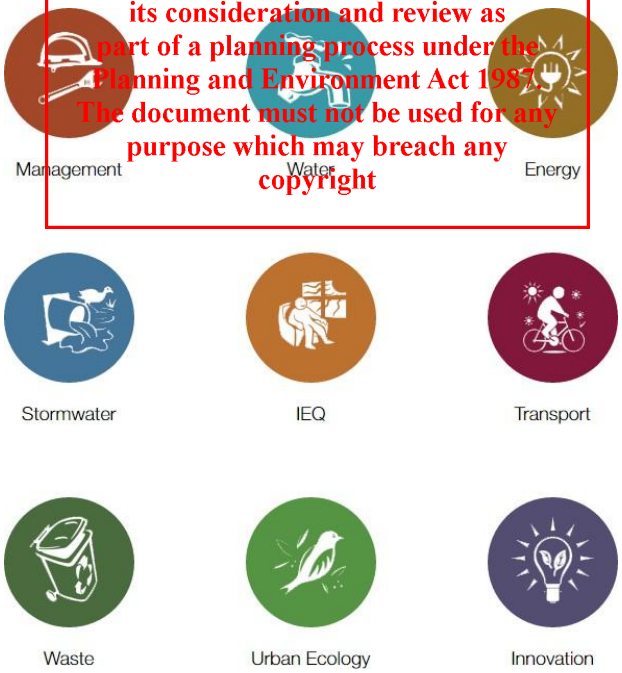

Figure 2 - BESS Environmental Categories (www.bess.net.au)

All ESD measures described under the nine key environmental categories are to be suitably incorporated into relevant project documentation at the appropriate project phase.

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Responsibilities & Implementation

Dover 1 SM2 Pty Ltd will be responsible for the suitable implementation of the requirements of this report throughout the design and development phases. Should the development be sold the responsibility will pass to the new owner. At such time as a builder is novated or a building contract is put in place the builder will be responsible for implementation during the construction phase. At occupancy, the Owners Corporation and individual lot owners and or tenants will be responsible for the correct use of installed equipment and building systems in line with the provided Building User's Guide.

Sources of Information

The following 'Sources of Information' have been used to guide the design solutions:

- Ewert Leaf – Town Planning Submission - Rev A (issued on 15/7/2025)
- Green Joy – Landscape Package – Rev A (dated 8/7/2025)
- Matter Consulting Engineers – Stormwater Management Plan – Rev 1 (dated 30/7/2025)
- Municipal Association of Victoria - SDAPP Explained; Building Design for a Sustainable Future
- Built Environment Sustainability Scorecard (BESS)
- CSIRO 1999, Urban Stormwater – Best Practise Environmental Management Guidelines

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2. ESD Summary

The proposed commercial development at 165 Williamson Road, South Morang will implement the following ESD initiatives:

1. The project achieves a total BESS score of 50% with no mandatory category (IEQ, Energy, Water, Stormwater) below 50%.
2. The office areas are targeting a 2% DF to 33% of the nominated area.
3. The conditioned areas aim to reduce heating and cooling energy consumption 5% below the reference case (BCA Section J 2022).
4. The development is to utilise electric instantaneous hot water systems.
5. Individual cold water, electricity and gas meters will be provided to the development.
6. Water efficient fittings and fixtures are applied throughout.
7. A 20,000-litre rainwater tank will harvest rainwater from the roof area. This tank will be connected to the office toilets and landscape irrigation.
8. Majority of landscaping is required to be native vegetation with low water demand i.e. no irrigation system and no watering after an initial period when plants are getting established.
9. In total 13 bicycle spaces are to be provided for employees & 4 bicycle spaces are to be provided for visitors.

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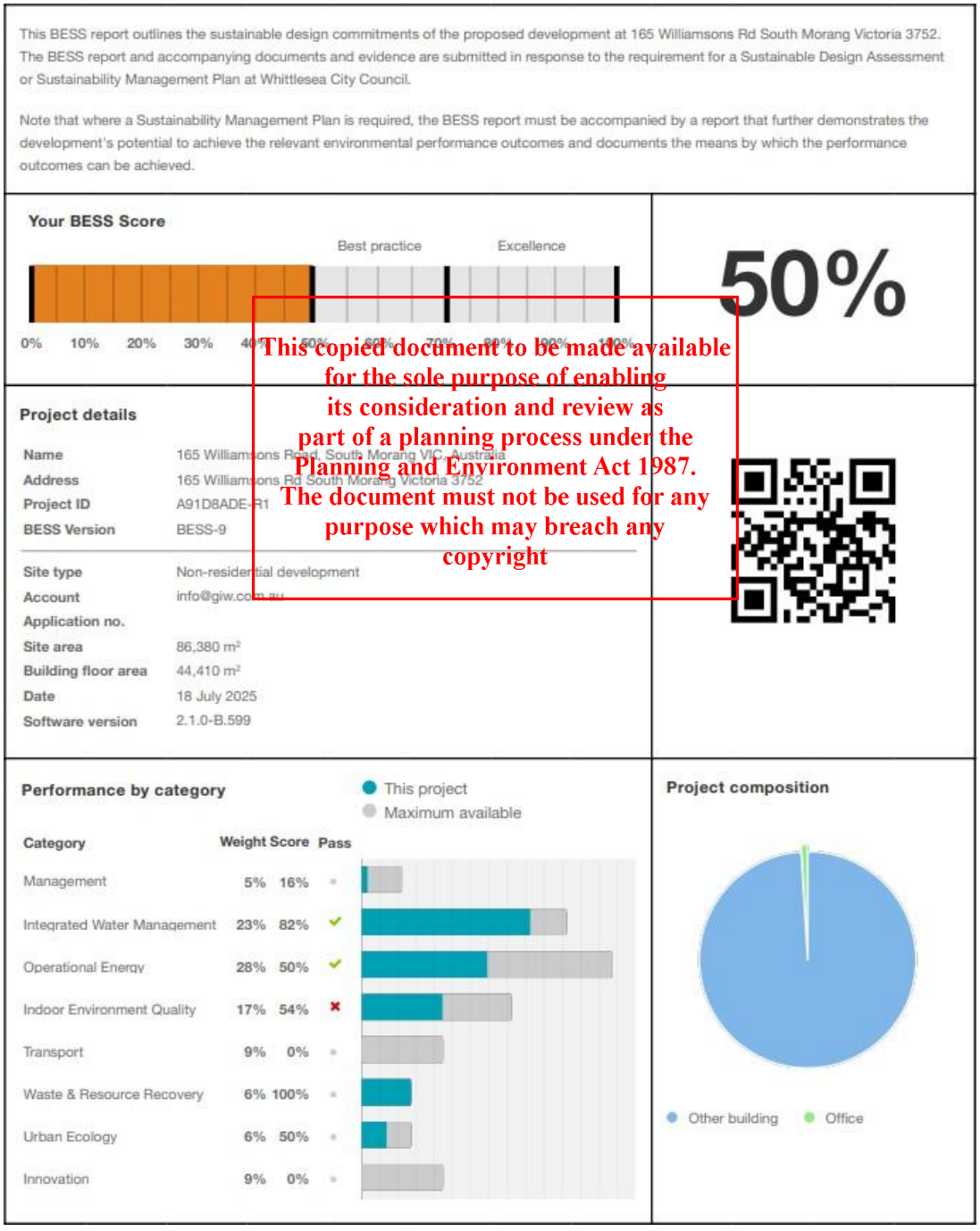
3. BESS Performance

The project achieves a total BESS score of 50% with no mandatory category (IEQ, Energy, Water, Stormwater) below 50%. This figure represents a percentage improvement over a benchmark project. A score of 50% and higher equates to 'best practice' and is an effective pass of the BESS tool. A score of 70% and higher equates to BESS 'excellence' and exists as a higher benchmark in the tool.



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4. ESD Assessment

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Management

Council ESD objectives:

- To encourage a holistic and integrated design and construction process and ongoing high performance.

Council Best Practice Standard

Criteria		Construction and Building Management Actions
Pre-Application Meeting	To ensure appropriate sustainable design principles and strategies are considered from the preliminary design stage of each development.	GIW has been actively involved in the preliminary design stage, but has not been involved in a pre-application meeting with Council.
Metering	To provide building users with information that allows monitoring of energy and water consumption	Electricity, cold water and gas metering is to be provided to the development. Lighting and general power to external areas is to be separately metered to quantify energy used for common areas spaces. Additionally, the main electrical switchboard to contain at least two empty three-phase circuit breaker slots and four DIN rail spaces labelled to indicate the use of each space for a solar PV system and battery system.
Building User's Guide	To encourage and recognise initiatives that will help building users to use the building more efficiently.	A Building User's Guide will be provided to all occupants explaining the correct use of installed equipment and building systems. This shall cover at a minimum: • Energy and Environmental Strategy • Monitoring and Targeting • Building Services • Transport Facilities • Materials and Waste Policy • Expansion/Re-fit Considerations • References and Further Information

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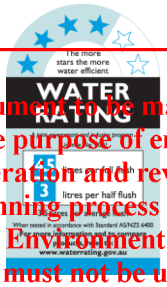
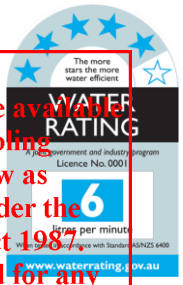
Water

Council ESD objectives:

- To ensure the efficient use of water
- To reduce total operating potable water use
- To encourage the collection and reuse of stormwater
- To encourage the appropriate use of alternative water sources (e.g. grey water)
- To minimize associated water costs

Council Best Practice Standard

Criteria		Development Provision
Potable Water Reduction	To reduce total potable water use due through the use of efficient fixtures, appliances, and the use of rainwater.	WELS 4 Star - Toilets  WELS 5 Star - Taps  WELS 5 Star - Dishwasher
Rainwater Collection & Reuse		A 20,000-litre rainwater tank will harvest rainwater from the roof area. This tank will be connected to the office toilets and landscape irrigation. It is estimated that this will save more than 25kL of potable water every year and meet 95.8% of the demand in these areas. Stormwater drainage mechanism is to be determined by the hydraulics services engineer at the design development phase. Refer Appendix A – WSUD Response
Landscape Irrigation	To ensure the efficient use of water and to reduce total operating potable water use through encouraging water efficient landscape design.	Majority of landscaping is required to be native vegetation with low water demand i.e. no irrigation system and no watering after an initial period when plants are getting established. Minimal supplemental irrigation to be provided during extreme dry periods.

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Council Best Practice Standard

Criteria		Development Provision
Building System Water Use Reduction	Ensure the efficient use of water, to reduce total operating potable water use and to encourage the appropriate use of alternative water sources for cooling and fire testing systems.	>80% of fire test water (e.g. hydrant pump test water or SCV annubar test) is to be reused on site. The proposed development is to incorporate air-cooled HVAC systems for the non-residential areas within the development.

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Energy

Council ESD objectives:

- To ensure the efficient use of energy
- To reduce total operating greenhouse emissions
- To reduce energy peak demand
- To reduce associated energy costs

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Council Best Practice Standard

Criteria		Development Provision
Thermal Performance Rating – Non-Residential	To reduce energy needed to achieve thermal comfort in summer and winter - improving comfort, reducing greenhouse gas emissions, energy consumption, and maintenance costs.	The conditioned areas aim to reduce heating and cooling energy consumption 5% below the reference case (BCA Section J 2022). Refer Appendix B – Preliminary Part J4D6 Façade Calculator.
Electrification	To support the transition to renewable energy sources.	N/A
HVAC System	To ensure the efficient use of energy and to reduce consumption of electricity.	VRV / VRF systems with a COP of 3.4 are to be installed to the office areas. Alternatively, inverter split systems are to be installed to the office areas. The efficiency of the air conditioning systems is to be within 1 star rating of the best available under MEPS 2019 measurement standard. System nomination is to be determined by the mechanical services engineer at the design development phase.
Hot Water System	To ensure the efficient use of energy and to reduce consumption and greenhouse	The development is to utilise electric instantaneous hot water systems

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Council Best Practice Standard

Criteria		Development Provision
	emissions from water heating.	
Car Park Ventilation	To ensure the efficient use of energy, reduce total operating greenhouse gas emissions and to reduce energy peak demand.	N/A
Internal Lighting – Non-Residential	To ensure the efficient use of energy, to reduce energy consumption, greenhouse emissions associated with artificial lighting, and to reduce energy peak demand.	The maximum illumination power density (W/m2) in the non-residential areas meets the requirements of Table J7D3a of the NCC 2022 Section J. Lighting power density shall be as follows: • Data Centre: No greater than average 4.5W/m^2 • Office: No greater than average 4.5W/m^2
Renewable Energy Systems - Solar	To encourage on-site renewable energy generation and reduce greenhouse emissions.	Nil.

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Stormwater

Council ESD objectives:

- To reduce the impact of stormwater run-off
- To improve the water quality of stormwater run-off
- To achieve best practice stormwater quality outcomes
- To incorporate water sensitive urban design principles

Council Best Practice Standard

Criteria		Development Provision
Stormwater Treatment	To minimise negative environmental impacts of stormwater runoff and maximise onsite re-use of stormwater.	A compliant MUSIC assessment has been provided by others. Refer Appendix C - Stormwater Management Plan and Water Sensitive Urban Design Report.

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Indoor Environment Quality

Council ESD objectives:

- to achieve a healthy indoor environment quality for the wellbeing of building occupants.
- to provide a naturally comfortable indoor environment will lower the need for building services, such as artificial lighting, mechanical ventilation and cooling and heating devices.

Council Best Practice Standard

Criteria		Development Provision
Daylight Access – Non-Residential	To provide a high level of amenity and energy efficiency through design for natural light.	The office areas are targeting a 2% DF to 33% of the nominated area. Minimal windows are proposed for the data centre to maintain the necessary conditions for optimal operation and security of the IT infrastructure. On this basis, daylight access requirements are scoped out.
Ventilation – Non-Residential	To provide fresh air and passive cooling opportunities.	Outdoor air rate for the office and datacentre are to be 50% increased compared to AS 1668:2012; OR The ventilation system to be designed to achieve, monitor and maintain CO2 concentrations below 800ppm. This is to be included in the mechanical design and specifications. Mechanical ventilation strategy is subject to refinement by the mechanical services engineer at the design development phase.
Thermal Comfort – Non-Residential	To provide comfortable indoor spaces and reduce energy needed for heating and cooling.	Conditioned areas do not include any windows facing north, east or west. The only windows are south oriented in the mechanical services corridor.
		None of the regular use areas are provided with ceiling fans.
Air Quality – Non-Residential	All paints and adhesives meet the maximum total indoor pollutant emission limits.	All internally applied paints adhesives and sealants are to have a low or ultra-low VOC content in line with Green Star Buildings V1 Credit 13.
	All carpet meets the maximum total indoor pollutant	All internally applied carpets are to have a low VOC content in line with Green Star Buildings V1 Credit 13.

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Council Best Practice Standard

Criteria		Development Provision
	emission limits.	
	All engineered wood meets the maximum total indoor pollutant emission limits.	All internally applied engineered wood products are to have low formaldehyde levels in line with Green Star Buildings V1 Credit 13.

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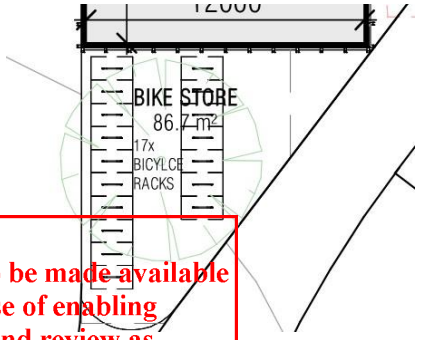
Transport

Council ESD objectives:

- To minimise car dependency.
- To ensure that the built environment is designed to promote the use of public transport, walking and cycling.

Council Best Practice Standard

Criteria		Development Provision
Bicycle Parking – Non-Residential & Non-Residential Visitors	To encourage and recognise initiatives that facilitate cycling.	 In total 13 bicycle spaces are to be provided for employees. This represents a 50% increase over the planning scheme requirements. In total 4 bicycle spaces are to be provided for visitors. This represents a 50% increase over the planning scheme requirements.
End of Trip Facilities – Non-Residential	To minimise car dependency and to ensure that the built environment is designed to promote the use of public transport, walking and cycling.	Nil.
Electric Vehicle Infrastructure	To minimise car dependency and to ensure that the built environment is designed to promote the use of public transport,	Future infrastructure for electrical charging points is incorporated in the services design including dedicated electrical distribution boards (DB-EV) for EV charging on every floor of the parking lot per NCC 2022 Table J9D4. Each DB-EV must be fitted with a charging control system with the ability to manage and schedule charging of electric vehicles in response to total building demand. When associated with a Class 5 to 9 building, have capacity for

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Criteria		Development Provision
	walking and cycling.	each circuit to support an electric vehicle charger able to deliver a minimum of 12 kWh from 9:00 am to 5:00 pm daily. Additionally, each DB-EV must be sized to support the future installation of a 7 kW (32 A) type 2 electric vehicle charger in 10% of car parking spaces associated with a Class 5 or 6 building.
Car Share Scheme	To minimise car dependency and to ensure that the built environment is designed to promote the use of public transport, walking and cycling.	Nil.
Motorbikes / Mopeds	To minimise car dependency and to ensure that the built environment is designed to promote the use of public transport, walking and cycling.	Nil.

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Materials

ESD objectives:

- Use of low embodied energy materials.
- Encourage use of recycled and reusable materials in building construction and undertake adaptive reuse of buildings, where practical.

Council Best Practice Standard

Criteria		Development Provision
Embodied Energy	Limited use of high embodied energy metals and materials, especially in a design with intended high churn (e.g. retail)	The design will seek to limit the use of high embodied energy metal finishes. Concrete mixes used within the project will seek to reduce Portland cement and aggregate content where deemed appropriate by the structural engineer.
Structural and Reinforcing Steel	Commitment to source structural and reinforcing steel from a responsible steel maker	The building's steel (by mass) is to be sourced from a Responsible Steel Maker with: • a currently valid and certified ISO 14001 Environmental Management System (EMS) in place; and • is a member of the World Steel Association's (WSA) Climate Action Programme (CAP)
Sustainable Timber	Commitment to source timber from sustainably managed source, with proof of audit trail.	Where timber is to be used, such timbers are to accord with the GBCA's 'Essential' criteria for forest certification. This may include FSC and / or PEFC Certification which are both internationally recognised schemes ensuring that timber is sourced from sustainable sources. Alternatively, recycled timber will be used.
PVC	Commitment to source best practice PVC products	Permanent formwork, pipes, flooring, blinds and cables in the project will seek to comply with the following: • Meet the GBCA's Best Practice Guidelines for PVC. or; • The supplier holds a valid ISO140001 certification.
Sustainable Products	Commitment to source products that meet the transparency and sustainability requirements	The project will incorporate products that meet the transparency and sustainability requirements where deemed appropriate. This includes the following: reused products, recycled content products, environmental product declarations, third party certified and stewardship programs.

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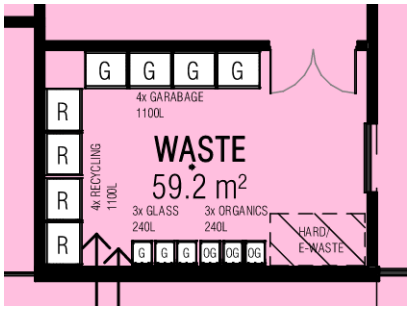
Waste Management

Council ESD objectives:

- To ensure waste avoidance, reuse and recycling during the design, construction and operation stages of development.
- To ensure long term reusability of building materials.
- To meet Councils' requirement that all multi-unit developments must provide a Waste Management Plan in accordance with the *Guide to Best Practice for Waste Management in Multi-unit Developments 2010*, published by Sustainability Victoria.

Council Best Practice Standard

Criteria		Development Provision
Building Re-use	To ensure waste avoidance, reuse and recycling during the design.	There is no existing building on the proposed site.
Construction and Demolition Waste	To reduce construction waste going to landfill	At least 80% of the waste generated during construction and demolition has been diverted from landfill.
Food & Garden Waste	To ensure waste avoidance, reuse and recycling during the operational life of the building.	Food and organic waste storage is provided in the waste room.
Convenience of Recycling	To ensure waste avoidance, reuse and recycling during the operational life of the building.	 Separate general, recycling and organic waste storage will be provided in the waste room.

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Urban Ecology

Council ESD objectives:

- To protect and enhance biodiversity.
- To provide sustainable landscaping.
- To protect and manage all remnant indigenous plant communities.
- To encourage the planting of indigenous vegetation.

Council Best Practice Standard

Criteria		Development Provision
Communal Space	To encourage and recognise initiatives that facilitate interaction between building occupants.	Nil.
Vegetation	To encourage and recognise the use of vegetation and landscaping within and around developments.	Landscaped area is to be located at ground level. The total area of vegetation is 50.4% of the site area.
Green Walls / Roof	To encourage the appropriate use of green roofs, walls and facades to mitigate the impact of the urban heat island effect.	Nil.
Food Production – Non-Residential	To encourage the production of fresh food on-site.	Nil.
Heat Island Effect	To reduce the contribution of the project site to the 'heat island effect	Roofs are to have a three year SRI of minimum 60. Unshaded hard-scaping elements are to have a three year SRI of minimum 40.

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Appendices

Appendix A: Rainwater Reuse

Inputs

Catchment Area	18200 sqm
Number of Occupants	60
Bin Washout	No
Irrigation Area	0 sqm
Tank Capacity	20,000 Litre

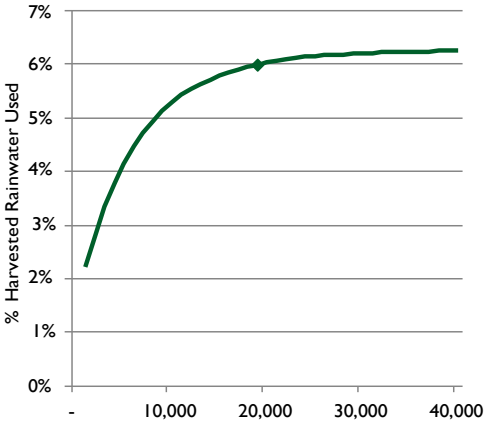
Outputs

% Served by Rainwater	95.8%
% Harvested Rainwater Used	6.0%
Total Potable Water Saved	25,295 Litre

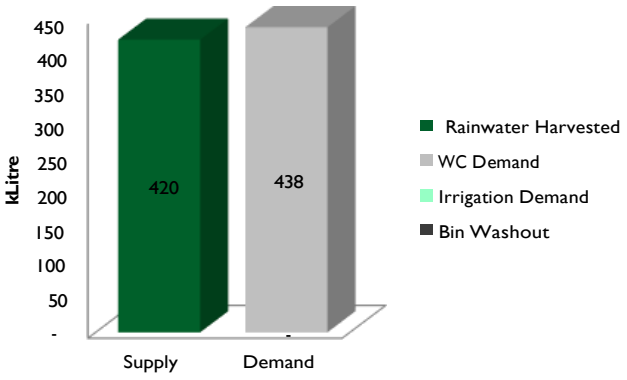
Rainwater Balance (Monthly Averages)

Month	Rainwater Harvested (L)	Irrigation Demand (L)	WC Demand (L)	Bin Washout (L)
Jan	36,278	0	37,200	0
Feb	28,611	0	33,600	0
Mar	34,555	0	37,200	0
Apr	34,942	0	36,000	0
May	37,485	0	37,200	0
Jun	36,480	0	36,000	0
Jul	37,303	0	37,200	0
Aug	34,136	0	37,200	0
Sep	38,317	0	36,000	0
Nov	34,200	0	36,000	0
Dec	32,093	0	37,200	0
Total	420,095	0	438,000	0
Equivalent STORM tool		0		0

Tank Sizing



Supply-Demand



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Appendix B: Part J4D6 Façade Calculator

GIW environmental SOLUTIONS

J4D6 Façade Calculator

Address	165 Williamson Road, South Morang
Climate Zone	6
Building Classification	Class 5
Level	GF

	North	East	South	West	Internal
Façade area (m2)	0.0	0.0	143.3	0.0	0.0

Number of Rows: 12

		Dimensions			Shading (m)	
Window No.	Orientation	Height (m)	Width (m)	Area (m2)	P	H
Meeting Room	South	6.2	7.175	44.485	1.2	6.2
Lobby	South	6.2	6.625	41.075	1.2	6.2
Security Room	South	6.2	7.112	44.0944	1.2	6.2
				0		
				0		

RESULTS

Method 1	U-Value	SHGC	Min. Wall R-values
North	7.50	0.87	1.4
East	7.50	0.87	1.4
South	2.11	0.17	1
West	7.50	0.87	1.4
Internal	7.50		1.4

	U-Value	SHGC
Method 2	2.11	0.17

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Appendix C: Stormwater Management Plan and Water Sensitive Urban Design Report

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165 Williamson Road, South Morang VIC 3752

Stormwater Management Plan

Project No.: 24315
30 June 2025
Revision No. 1

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EVISION	DATE	COMMENT	AUTHOR	CHECKER
1	26th June 2025	Schematic Design	DR	DK

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Appendix A – Schematic Drainage Design

Appendix B – Proposed Site Coverage

Appendix C – OSD Calculations

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1 Executive Summary

This Stormwater Management Plan (SMP) has been prepared to support the proposed development located at 165 Williamson Road, South Morang, VIC within the local jurisdiction of the City of Whittlesea. The development comprises the construction of a data centre along with supporting car parking, access roads, sub-station and fuel storage areas. These works will result in changes to the site's impervious areas, necessitating a robust and compliant stormwater strategy.

The SMP evaluates the existing site conditions, current drainage infrastructure, and flood risks, and outlines a stormwater management approach that aligns with Council regulations, Melbourne Water's Water Sensitive Urban Design (WSUD) guidelines, and best practice principles. The strategy focuses on mitigating both stormwater quantity and quality impacts through:

- Implementation of On-site Stormwater Detention (OSD) to control peak flows and reduce effects downstream.
- Integration of WSUD measures, demonstrating compliance with best practice targets.
- Design of a new underground stormwater network to accommodate a 1 in 20-year storm event, with conservative assumptions to address existing downstream capacity constraints.

The development is not subject to inundation and is therefore located outside designated flood-prone areas.

This SMP provides a framework that supports both development approval and future design progression, ensuring that stormwater is effectively managed to protect downstream environments, public infrastructure, and site users.

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2 Introduction

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2.1 Purpose

Increased intensity of urbanisation of any site drives a need for effective stormwater management to appropriately manage effects of the proposed development on the natural receiving environment. Consequently, regulatory authorities set criteria that new developments need to satisfy to ensure adverse effects on the natural receiving environment is effectively mitigated. The stormwater mitigation measures are broadly characterised into two categories:

- Water Quantity – the increase in impervious surfaces will lead to increased stormwater flows which will need to be mitigated. This is typically done by the provision of detention of the increased runoff from the pre-development baseline in stormwater storage devices with controlled outlets.
- Water Quality – the proposed change in land use from the pre-existing greenfield baseline to an extensive impervious character will lead to generation of polluted stormwater from the various types of impervious surfaces created by the development. As such, mitigation measures need to be provisioned to ensure the treatment of stormwater to the required levels through the implementation of Water Sensitive Urban Design (WSUD) practises.

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This Stormwater Management Plan (SMP) report has been prepared to provide an initial description of the proposed stormwater drainage strategy for discussion purposes. The information used to prepare this report includes the architectural drawings, project design team meetings, site investigations, existing condition surveys, existing infrastructure documents, advice from the relevant authorities, and associated reports. This report should be read in conjunction with the Design Development drawings including documentation and reports from other relevant design disciplines.

2.2 Objectives

The purpose of this report is to present a stormwater management strategy to collect, convey, treat and discharge stormwater for the proposed development which will meet the performance requirements of the proposed development whilst mitigating adverse impacts to surrounding environments and existing infrastructure.

The report will outline how the development will achieve the following key objectives:

- Safely and effectively convey stormwater away from the facility to approved points of discharge.
- Mitigate the flood impact of the development on existing infrastructure, overland flow paths and watercourses by controlling the quantity of stormwater discharged off the site.
- Incorporate best practice WSUD principles to protect downstream watercourses and reduce potable water demand.

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2.3 Legislation, Regulation & Guidelines

The proposed stormwater management has been formulated as basis of compliance with the legislation and associated regulatory documents as follows:

- Environmental Protection Act 1993
- Environment Protection (Water Quality) Policy 2015
- National Construction Code
- Australian/New Zealand Standard AS/NZS 3500.3-2018 (Plumbing and Drainage, Part 3: Stormwater Drainage)

Stormwater management measures outlined in this report will be designed in reference to the following guidelines and documents:

- Melbourne Water MUSIC Modelling Guidelines – 2024
- Climate Change in Australia (CSIRO and Bureau of Meteorology) 2015
- Development and Stormwater Management Design Guide - City of Unley 2016
- Australian Rainfall and Runoff (ARR) 2019
- Bureau of Meteorology for Rainfall Data and IFD Charts

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3 Existing Condition

3.1 Site Description

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Fig.01: Site Location of the Proposed Development

The site is located at the corner of Williamson Road and Findon Road in South Morang, Victoria. The area of the site subject to development is 86,411m^2. The site is located in commercially zoned land and is adjcaent to a railway transport corridor at the southern boundary. Williamson Road is located at the north of the property which is an declared uncompleted road. Findon Road is located at the eastern boundary which is complete with carriageways, nature strips and roadside swale. Eastern boundary is adjacent to the South Morang Sub-Station. The site is accessed off Findon Road with culvert crossing of

The lot is currently vacant with grass cover, vegetation and trees onsite . The site is relatively flat with a gentle slope down towards east. Refer to the existing site levels contained in Appendix A.

3.2 Existing Stormwater Infrastructure

From desktop research and limited survey information available, there appears to be a significant lack of stormwater drainage infrastructure able to service the site. Findon Road is drained by a roadside swale flows south toward the Yan Yean Pipe Track, a walking/cycling public amenity that is adjacent to a swale.

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Fig.02: Adjacent Stormwater Infrastructure

Futher vertification of the existing swales within and adjacent to the subject site will be undertaken as the design progresses.

3.3 Flood Risk

Desktop research shows that the site is not subject flooding risks and is situated at the high point within the localised catchment context.

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4 Proposed Development

4.1 Description

The developer proposes to constuct data centre with supporting car parks, sub-station and tank/fuel storage areas.

Fig.03: Proposed Development

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5 Stormwater Management Strategy

5.1 Pre and Post Development Comparative Analysis

The following tables present the pre-development and post-development site areas, enabling a clear comparison of impervious surfaces and the changes in site runoff characteristics.

Coverage Type	Runoff Coefficient (C)	Pre-Development		Post-Development	
		Area	%	Area	%
Grass	0.30	86411	100	45266	52.4
Paved	0.90	-	-	22132	25.6
Building	1.00	-	-	19013	22.0
Total		**86411**	**100**	**86411**	**100**

Table 01: Pre to Post Development Imperviousness

Table 1 demonstrates that the site has a low pre-development imperviousness. Following development, total imperviousness increases from 0.30 to 0.61, which is generally classified as medium from a catchment-wide perspective. This increase in impervious cover will elevate peak stormwater runoff flows triggering the need to for mitigative measures as part of the site stormwater management. Refer to Appendix B for site coverage plan and area breakdown.

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5.2 Design Objectives

The stormwater design and management for the site is required to be in accordance with Councils requirements

- Volume Control - On-Site Detention (OSD) - Detention tanks must accommodate required OSD storage for the 10% AEP rainfall event.
- Flow Discharge Control: Post-development peak discharge must not exceed the pre-development 20% Annual Exceedance Probability (AEP) rate. Detention tank shall attenuate flows.
- Freeboard Requirements: Habitable floor levels must maintain a minimum freeboard, governed by the higher of:
    - 150 mm above kerb level
    - 300 mm above the 100-year floodplain level
- Landscape Integration: The stormwater strategy must align with landscape design, including considerations for greening and tree canopy initiatives.

5.3 Legal Point of Discharge (LPoD)

An application for the LPoD has been lodged with Council with approval pending. Given the lack of formal stormwater draiange networks in the area and the existing fall patterns, a legal point of discharge is nominated at this conceptual stage to the existing roadside swale drain. The exact location of the discharge point is to be determined following reciept of detailed survey and advice from Council.

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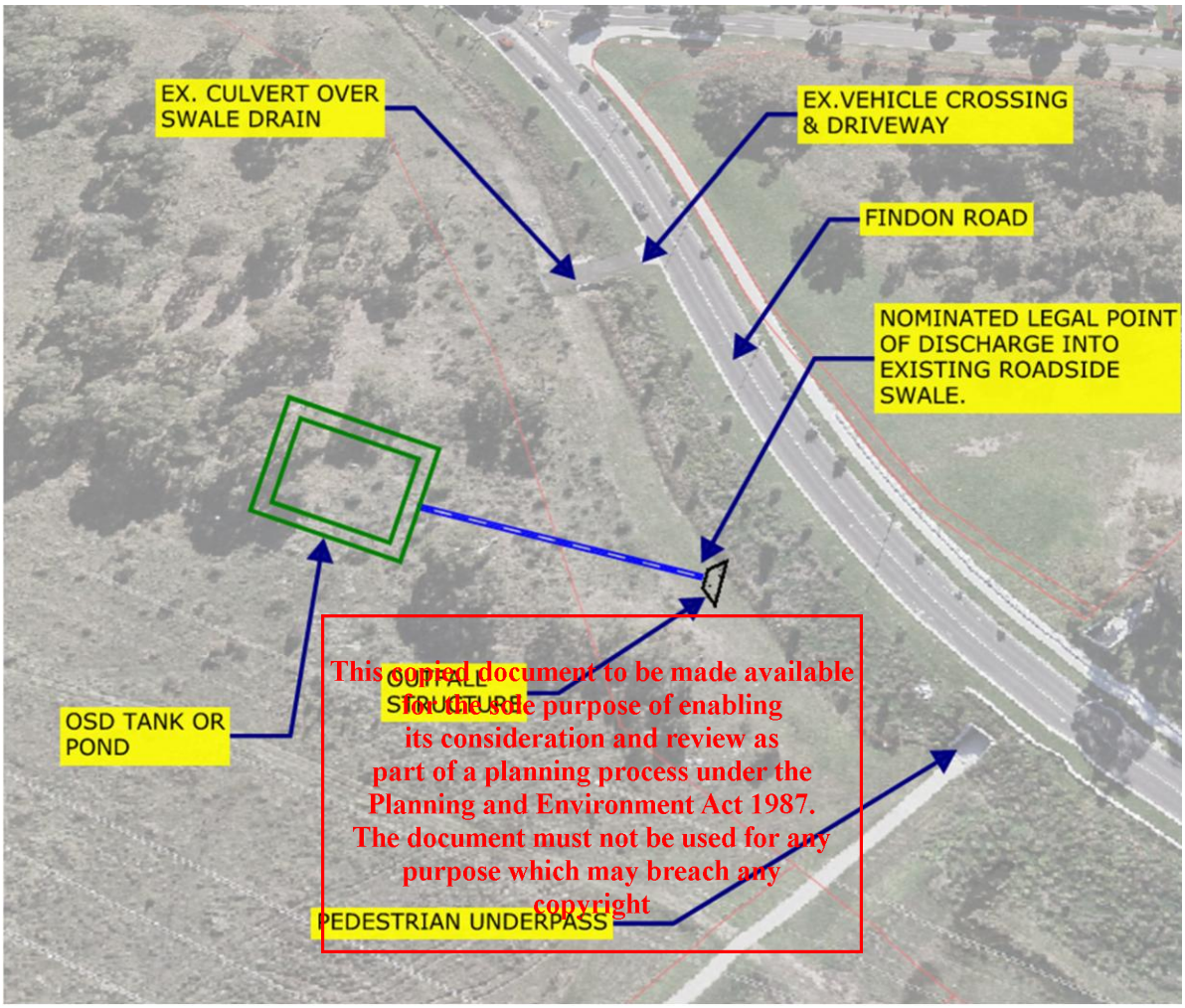

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Fig.04: Nominated Legal Point of Discharge

5.4 WSUD Systems

Water Sensitive Urban Design (WSUD) aims to integrate water management into urban planning and development in a sustainable and environmentally conscious manner. Its primary technical goal is the removal of pollutants from stormwater generated primarily by newly created impervious surfaces. Council has confirmed the requirement of WSUD pollutant removal targets will need to be demonstrated as part of the SMP.

In accordance with the Melbourne Water MUSIC Modelling guidelines, the performance targets for pollutant removal as follows:

Polluntant Type	Target Removal
Total Suspended Solids (TSS)	80% of annual load
Total Phosphorus (TP)	45% of annual load
Total Nitrogen (TN)	45% of annual load
Gross Pollutants	70% of annual load

Table 03: MUSIC Model Performance Targets

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6 Stormwater Quantity

Stormwater quantity (volume) reduction will be required as a mitigation measure for the proposed development, subject to Council approval. The overarching approach is to reduce post-development outflows to align with pre-development flow rates. This will be achieved through the implementation of On-site Stormwater Detention (OSD), using a detention storage device, such as a tank, located near the legal point of discharge. The underground pipe drainage system will be designed to accommodate the 5% AEP storm, in accordance with National Construction Code (NCC) requirements.

6.1 Storage & Peak Flow Mitigation

The primary objective of the stormwater volume management strategy is to mitigate the increase in peak flows resulting from the development, particularly given the transition to more intensive impervious land use. The proposed design was hydrologically analysed using the Rational Method for both pre- and post-development scenarios, based on the following computational parameters:

Computation Methodology	Modified Rational Method
Location	South Morang
Permissible Site Discharge	20% AEP
Onsite Detention (OSD) Storage	10% AEP

Table 04: OSD Computational Parameters

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6.2 OSD Storage Volumes

The following figure illustrates the outputs from the computation. Refer to Appendix C for detailed OSD outputs.

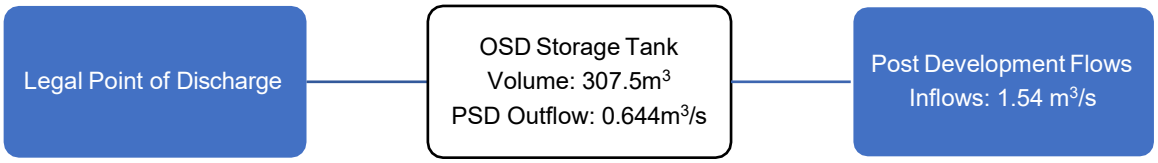

Fig.05 OSD Storage Schematic

The detention system is proposed to consist of a storage tank that will capture stormwater runoff during design rainfall events up to the 10% Annual Exceedance Probability (AEP). The tank will discharge at a controlled rate equivalent to the pre-development 20% AEP flow rate, with the stored volume generally draining out within a 6-hour period. Table 5 summarises the proposed OSD design:

Catchment	Area (m^2)	PSD (L/s)	Storage (m^3)	Storage Device Type	Nominal Device Size
Site	86,411	644	307.5	Rectangular	Tank or Pond (TBC)

Table 05: OSD Design Summary

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6.3 Private Stormwater Drainage Network

A new primary underground stormwater drainage network will be constructed to manage surface water runoff generated during the 5% AEP storm event. The system will comprise pipes, pits, detention tanks, subsoil drains, pit covers, and inspection points, all designed to capture and convey runoff to the Legal Point of Discharge (LPoD).

The drainage network has been designed in accordance with *AS/NZS 3500.3: Plumbing and Drainage – Part 3: Stormwater Drainage*. Pits will be constructed as reinforced concrete chambers, while pipework will comprise either concrete or high-strength plastic, selected based on site-specific load and hydraulic requirements. All drainage components will utilise industry-standard sizes and materials. Refer to Appendix A for schematic drainage design.

6.4 Rainwater Reuse

The development proposes the capture of roof water rainwater tank for reuse in non-potable applications, including landscape irrigation and ground-level toilet flushing.

Overflow from the rainwater reuse tank will discharge into the civil stormwater drainage network. On-site detention (OSD) tanks will be positioned downstream of the rainwater tanks to provide additional flow attenuation.

For further details on water reuse initiatives, refer to the Environmental Sustainability Consultant (ESD). Water balance calculations are provided by the Hydraulics Engineer.

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7 Stormwater Quality

7.1 MUSIC Model

The recognised tool for establishing pollutant loads from the site's constituent surface types (paved, roof, carpark, landscape) is a software called MUSIC which is an acronym for Model for Urban Stormwater Improvement Conceptualization. MUSIC is a widely used tool in the industry which assists engineers, urban planners, and environmental professionals to analyse and optimize stormwater management strategies in urban areas.

It can simulate a wide range of stormwater management practices, such as detention basins, green roofs, permeable pavements, and biofiltration systems. Overall, the MUSIC model provides a performance rating of the stormwater management system in terms of percentage removal of the target pollutants.

7.2 Treatment Train Configuration

The following diagram provides a high-level illustration of proposed treatment train:

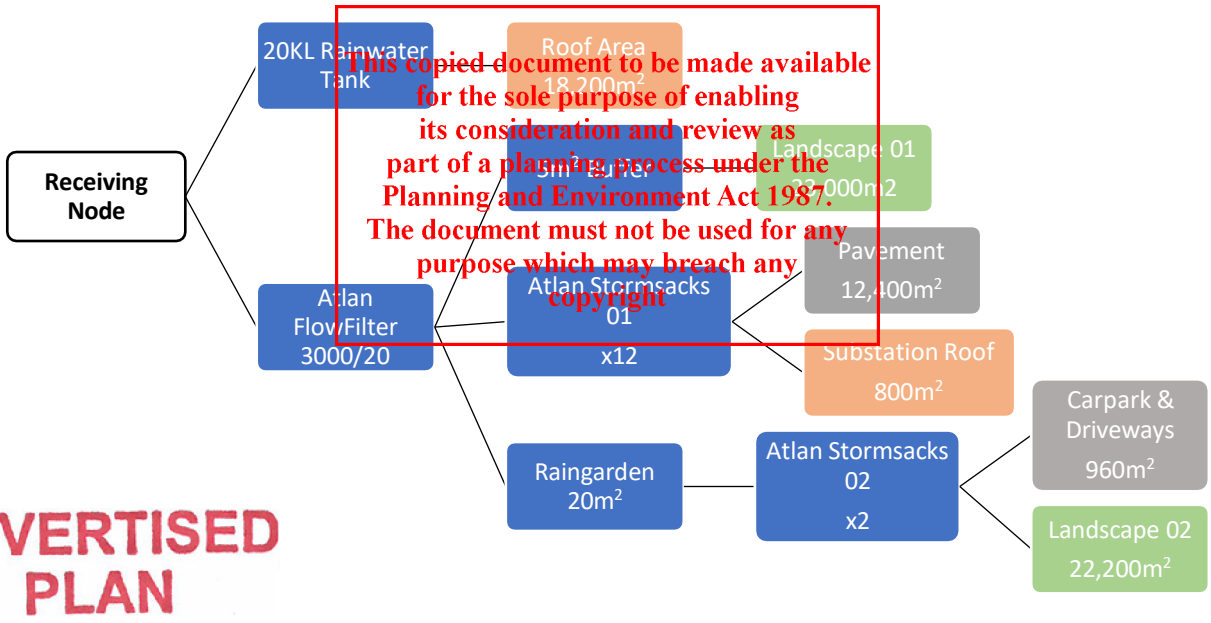

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Fig.06: Treatment Train Schematic

Area Description	Surface Type	Area (m^2)	Treatment Devices
Roof	Impervious	18,200	Rainwater Tank
Landscape 01	Pervious	23,000	5m^2 Buffer
Pavement	Impervious	12,400	Atlan FlowFilter & Stormsack
Substation Roof	Impervious	800	Atlan FlowFilter & Stormsack
Carpark & Driveways	Impervious	960	Atlan FlowFilter Raingarden & Stormsack
Landscape 02	Pervious	22,200	Atlan FlowFilter Raingarden & Stormsack

Table 06: Proposed WSUD Measures - Summary

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The above are to serve as a performance specification for the respective treatment devices. Detailed design for these elements will be by other parties as follows:

- Refer to Hydraulics Engineer and ESD Consultant for rainwater tank details.
- Refer to Landscape Architect for details relating to the raingarden and buffer strips.

Refer to Appendix D for detailed MUSIC Modelling results.

7.3 Results – Pollutant Removal

The preliminary design of the treatment train as outlined above was tested on MUSIC model to assess its effectiveness against the targeted pollutant removal rates.

The following table outlines the performance of the proposed stormwater management in relation to WSUD objectives:

Polluntant Type	Target Removal Rates	Removal Rates Achieved %
Total Suspended Solids (TSS)	80% of annual load	85.7
Total Phosphorus (TP)	60% of annual load	81.4
Total Nitrogen (TN)	45% of annual load	50.3
Gross Polltants	70% of annual load	96.0

Table 07: MUSIC Modelling Results

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8 Overland Flows and Flooding

8.1 Design Provisions for Flood Protection

The site is not identified as subject to flooding hazards; however, the design of the proposed development shall consider measures to adequately protect the critical elements from a localised overland flows perspective.

The protective measures must seek to avoid or minimise risks to prevent floodwater ingress into buildings and critical assets where damage or operational disruption is likely.

- building floor levels are set above the external levels in accordance with the NCC design guidance
- critical infrastructure like sub-stations and fuel storage areas set clear of overland flow paths

The design of the site layout will account for the above as a design response to mitigate against the flooding risk.

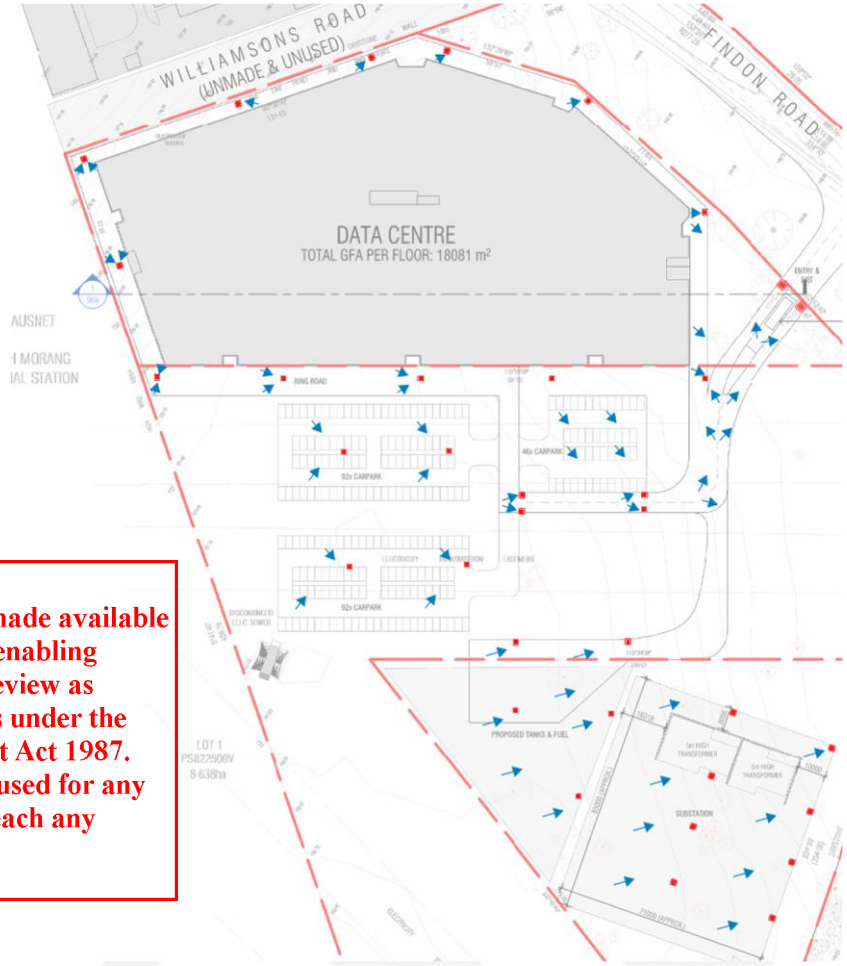

Fig.07 – Conceptual Overland Flowpaths

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9 Conclusions

9.1 Strategy Schematic

The following schematic diagram summarises the stormwater management strategy proposed to service the development.

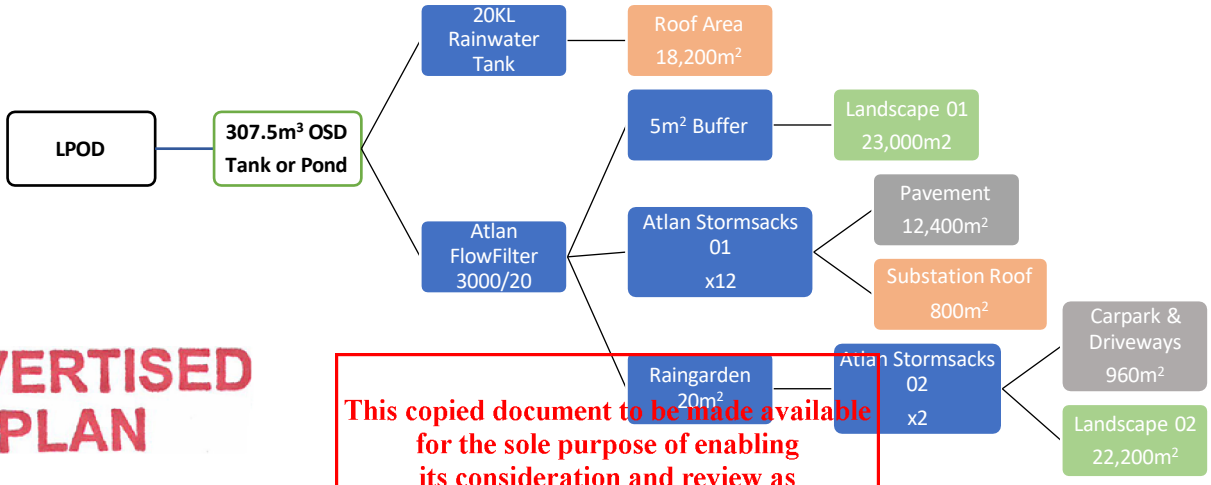

Fig.08: Stormwater Management Summary

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9.2 Summary

This SMP analyses the existing site and the proposed development to prepare a robust means of stormwater management to enable the proposed development at the subject site. The report considers the existing site features and nature of the development whilst responding the best practise design outcomes as targeted by the compliance requirements.

The SMP demonstrates that the proposed stormwater management measures are the best practical option to minimize any potential for adverse effects on the existing infrastructure and surrounding receiving environments.

9.3 Design Progression

This report has been compiled for use by the developer and their consultant team directly involved with the project in relation to this site. The report will be used to support the development approval processes as part of an overall submission package. The report should not be used or relied upon for any other developments.

The SMP will be updated as the design progresses and further stakeholder input is received. The intention is to retain the objectives of the strategy proposed within this SMP with regard to any potential changes resulting from input from relevant stakeholders and further design development

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10 Limitations

The report has been prepared for this specific project as described to Matter Consulting and its extent is limited to the scope of work agreed between the parties. The assessment contained herein is largely desktop based relying on survey, architectural and other data provided by the client along with services information from Dial Before U Dig and publicly available GIS information. All third-party information is considered current at the time of this document's production. No responsibility is accepted by Matter Consulting for the accuracy of information from third party sources and/or the use of any part of this report in any other context or for purposes other than intended.

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Appendix A – Schematic Drainage Design

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LEGEND

- PROPOSED GRATED INLET PIT
- PROPOSED JUNCTION PIT
- STORMWATER PIPE MIN 100 DIA UPVC 1:150 (U.N.O)
- ON SITE DETENTION
- OUTFALL (INDICATIVE)
- OVERLAND FLOWPATHS

ALL INTERNAL DRAINAGE WORKS ARE TO BE IN ACCORDANCE WITH A.S./N.Z.S.3500.3-2018 PART 3 'STORMWATER DRAINAGE SYSTEMS' AND IN ACCORDANCE WITH MANUFACTURERS DETAILS AND SPECIFICATIONS

INSTALL AG DRAINS TO THE PERIMETER OF LANDSCAPE AREAS INTERFACING WITH PAVED AREAS AND BEHIND RETAINING WALLS. CONNECT AG DRAINS INTO ADJACENT STORMWATER PITS

CONTRACTOR IS TO ENSURE THAT ANY EXISTING STORMWATER REMAINS FUNCTIONAL OR IS REDIRECTED TO AN ALTERNATIVE POINT OF DISCHARGE DURING CONSTRUCTION. AN ALLOWANCE SHOULD BE MADE FOR ALL TEMPORARY WORKS AS REQUIRED.

ALL PIT AND PIPE SIZES SHOWN ON THIS SKETCH ARE NOMINAL. FINAL GRADE AND LOCATION TBC.

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

MATTER

Project: DATA CENTRE - SOUTH MORANG

Job No.: 24315

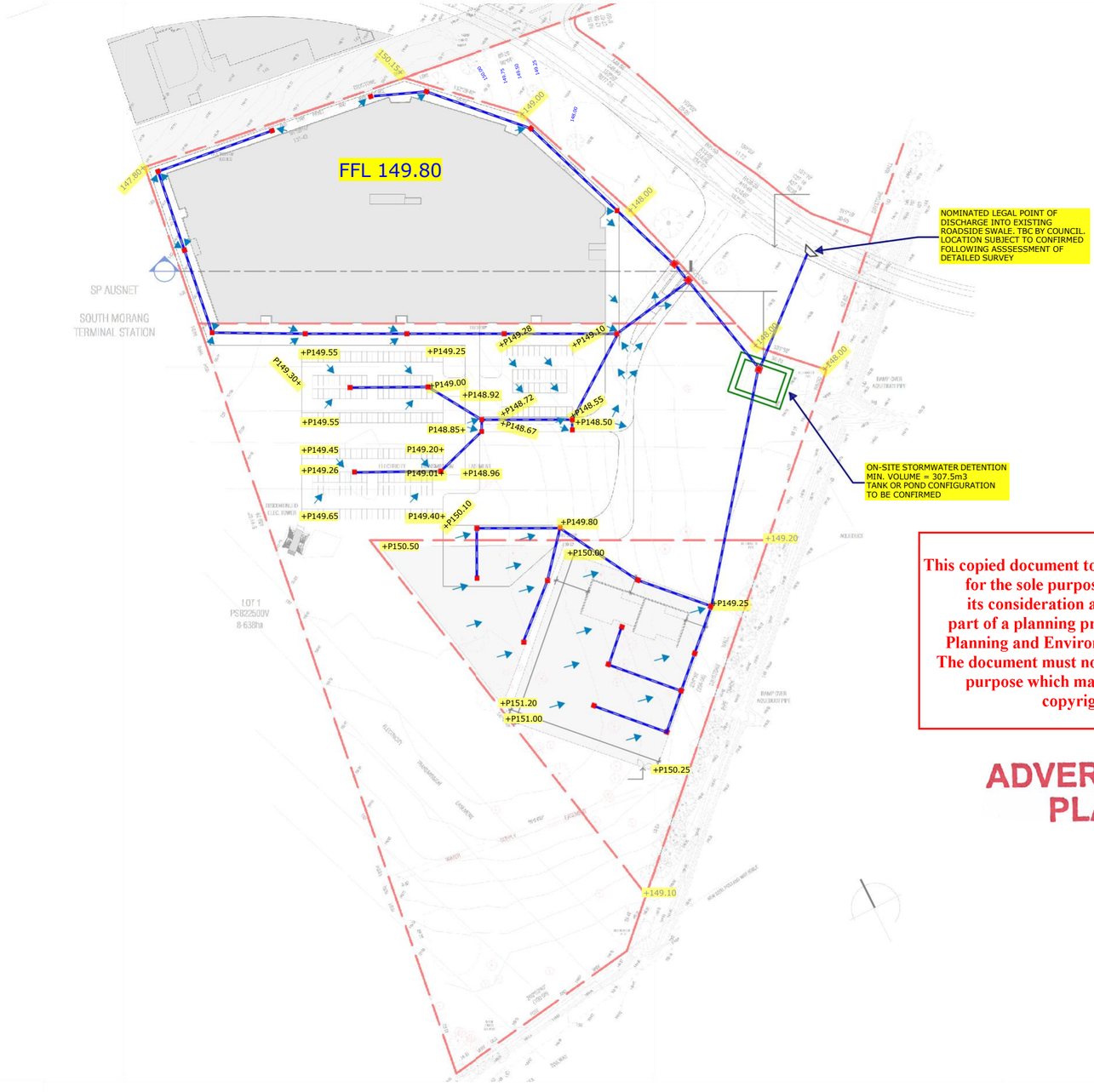
Sketch Title: SCHEMATIC DESIGN

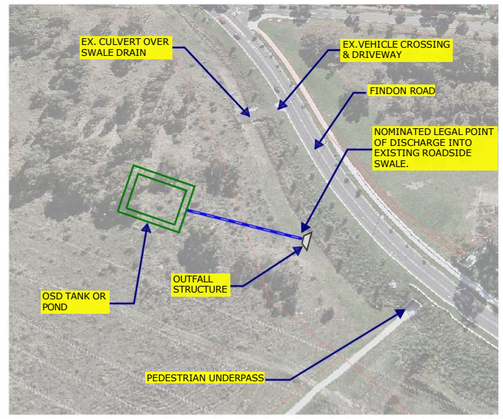
Sketch No.: CSK-001

By: DR **Date:** 30/06/2025

S:\24\24315\Engineering\Civil\CAD\04 SKETCH\24315-CSK-001-SITE PLAN.pdf

Data Centre
165 Williamsons Road, South Morang





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Appendix B – Proposed Site Coverage

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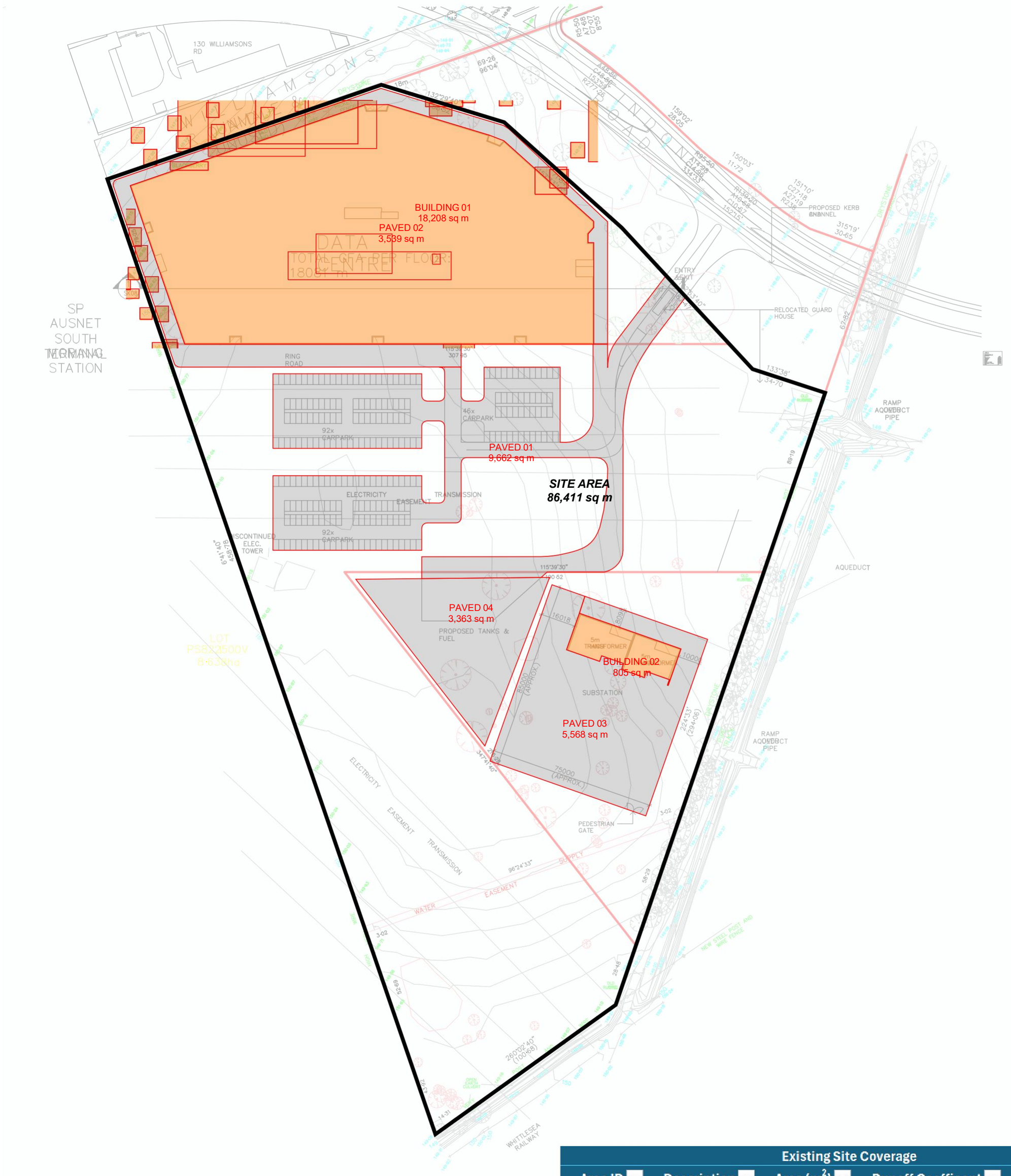

Existing Site Coverage				
Area ID	Description	Area (m^2)	Runoff Coefficent	Area Equivalent
Site Area	Pervious	86411	0.30	25923
Total		**86411**	**0.30**	**25923**

Proposed Site Coverage				
Area ID	Description	Area (m^2)	Runoff Coefficent	Area Equivalent
Building 01	Impervious	18208	1.00	18208.0
Building 02	Impervious	805	1.00	805.0
Paved 01	Impervious	9662	0.90	8695.8
Paved 02	Impervious	3539	0.90	3185.1
Paved 03	Impervious	5568	0.90	5011.2
Paved 04	Impervious	3363	0.90	3026.7
Grass	Pervious	45266	0.30	13579.8
Total		**86411**	**0.61**	**52512**

SCALE 1:1000 @ A1

MATTER

Project: DATA CENTRE - 165 WILLIAMSONS ROAD

Job No.: 24315

Sketch Title: SITE COVERAGE

Sketch No.: CSK-002

By: DR **Date:** 25/06/2025

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Appendix C – OSD Calculations

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Calculations

M A T T E R

Data Centre - SMP & WSUD

job no.	24315	designed	DK	date	27/06/2025	page no.	

Stormwater detention/infiltration design (via Modified Rational Method)

Location of design		USER DATA	
Pre-development flows			
ARI adopted for pre-development		5	
Pre-development time of concentration		5	minutes
Design Rainfall Intensity		89.47	mm/hr
Development areas			
Roof	(c=1.0)	0	m^2
Concrete paving	(c=0.9)	0	m^2
Bitumen paving	(c=0.7)	0	m^2
Soft landscaping	(c=0.3)	86411	m^2
sum		86411	m^2
Pre-development weighted C		0.300	User override C
Adopted pre-development C		0.300	
Maximum Pre-development flow		**644.29**	**l/s**
Post-development flows			
ARI adopted for post-development		10	
Post-development time of concentration		5	minutes
Design Rainfall Intensity		105.71	mm/hr
Development areas			
Roof	(c=1.0)	19013	m^2
Concrete paving	(c=0.9)	22132	m^2
Bitumen paving	(c=0.7)	0	m^2
Soft landscaping	(c=0.3)	45266	m^2
sum		86411	m^2
Post-development weighted C		0.608	User override C
Adopted pre-development C		0.608	
Maximum Post-devleopment flow		**1541.90**	**l/s**
Difference between pre and post areas		**0**	
Soil infiltration			
Infiltration rate (l/s/m2)		0	
Infiltration area		0	
Infiltration system absorption rate (l/s)		0.0	
Required detention system capacity (l)		**307391.3**	for a 9.58 minute event duration
Required detention system capacity (m^3)		307.3913393	

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calculations

project

M A T T E R

job no.	designed	date	page no.

Intensity frequency duration table

Iteration No.	Duration (min)	10 year mm/hr	Post-development flowrate (l/s)	Difference b/w pre and post flows (l/s)	**Required detention volume (litres)**
0	5	105.707	1541.90	897.61	**269283**
1	7.5	89.9939	1312.70	668.41	**300783**
2	3.33333	121.257	1768.72	1124.42	**224885**
3	8.75	84.1821	1227.93	583.63	**306408**
4	11.4583	74.3904	1085.10	440.81	**303054**
5	10.1042	78.8906	1150.74	506.45	**307035**
6	10.7813	76.5543	1116.66	472.37	**305564**
7	10.4427	77.6995	1133.37	489.07	**306436**
8	10.2734	78.2891	1141.97	497.68	**306770**
9	10.0195	79.1959	1155.20	510.90	**307140**
10	9.80794	79.973	1166.53	522.24	**307324**
11	9.5752	80.8512	1179.34	535.05	**307391**
12	9.35303	81.7137	1191.92	547.63	**307318**
13	9.46411	81.2794	1185.59	541.29	**307372**
14	9.51965	81.0646	1182.45	538.16	**307386**
15	9.60297	80.7451	1177.79	533.50	**307391**
16	9.67239	80.4814	1173.95	529.65	**307381**
17	9.63768	80.613	1175.87	531.57	**307387**
18	9.62032	80.679	1176.83	532.54	**307390**
19	9.59429	80.7782	1178.28	533.98	**307391**
20	9.57259	80.8612	1179.49	535.19	**307391**
21	9.58344	80.8197	1178.88	534.59	**307391**
22	9.57802	80.8405	1179.18	534.89	**307391**
23	9.58073	80.8301	1179.03	534.74	**307391**
24	9.58208	80.8249	1178.96	534.66	**307391**
25	9.58412	80.8171	1178.84	534.55	**307391**
26	9.58581	80.8106	1178.75	534.46	**307391**
27	9.58497	80.8139	1178.80	534.50	**307391**
28	9.58454	80.8155	1178.82	534.53	**307391**
29	9.58391	80.8179	1178.86	534.56	**307391**
30	9.58338	80.8199	1178.88	534.59	**307391**

Version 1 April 2018

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Appendix D – MUSIC Modelling Results

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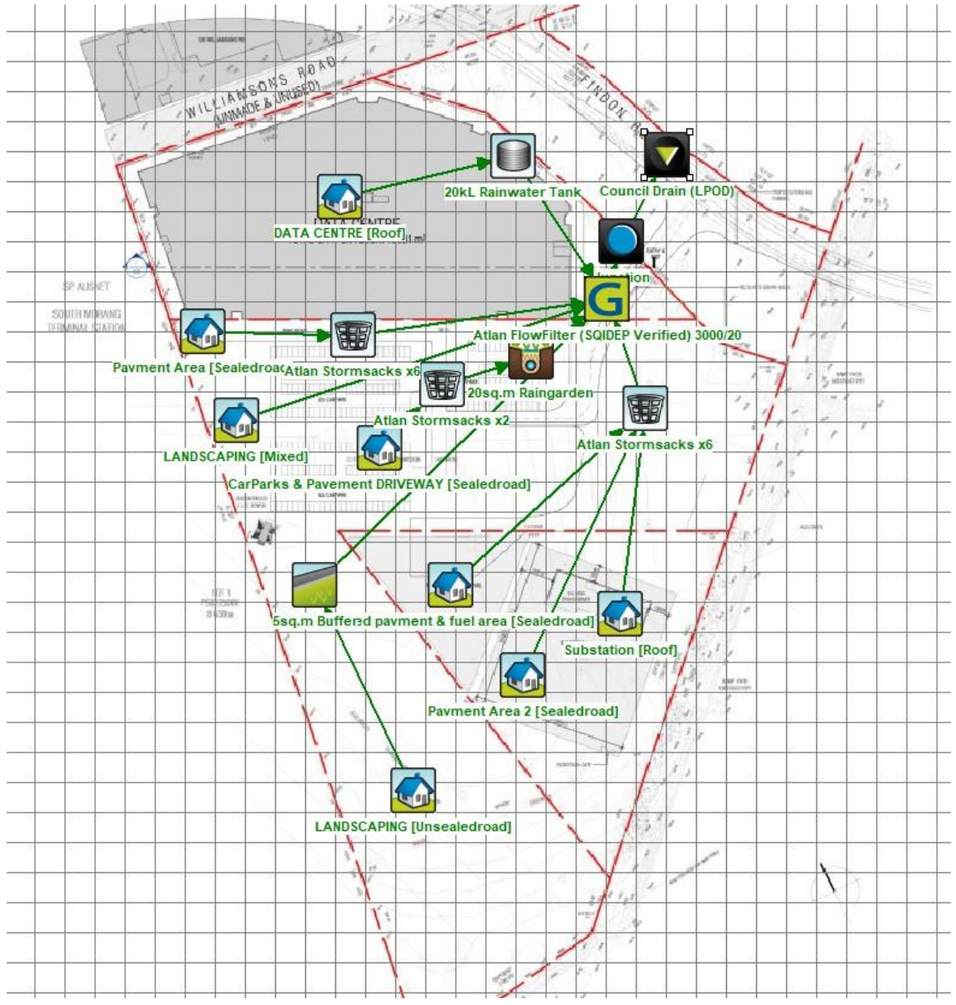

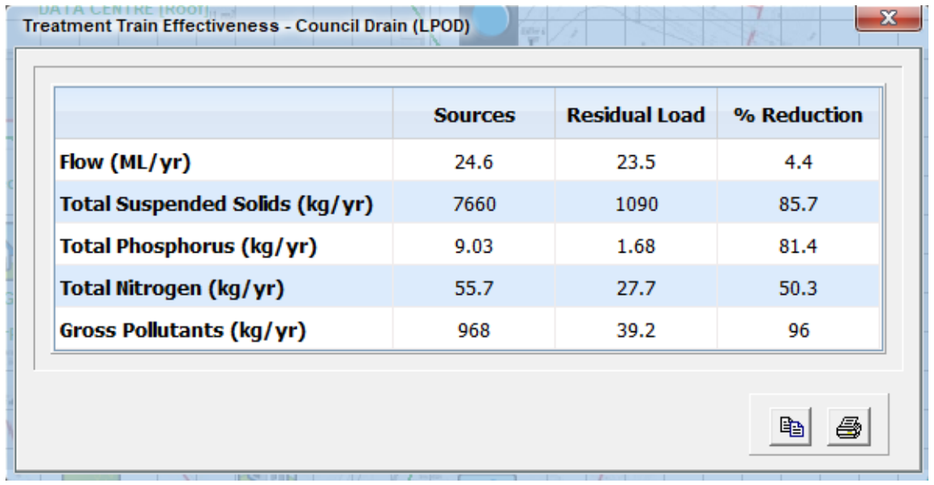

	Sources	Residual Load	% Reduction
Flow (ML/yr)	24.6	23.5	4.4
Total Suspended Solids (kg/yr)	7660	1090	85.7
Total Phosphorus (kg/yr)	9.03	1.68	81.4
Total Nitrogen (kg/yr)	55.7	27.7	50.3
Gross Pollutants (kg/yr)	968	39.2	96

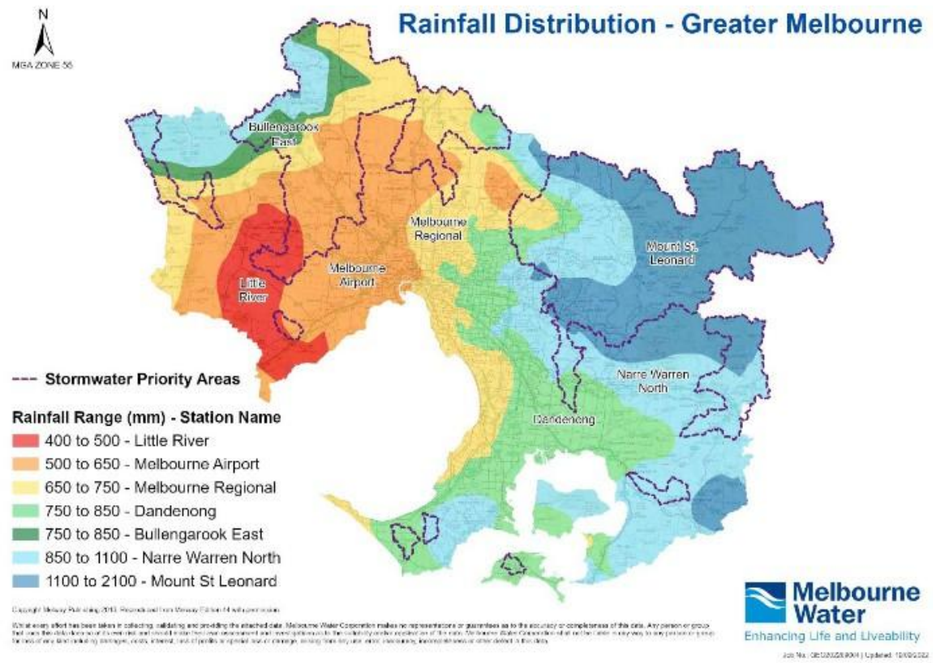

Figure 2 Rainfall template selection map

Table 1 Rainfall templates with mean annual rainfall and evapotranspiration

Rainfall band	Rainfall station	Period	Mean annual rainfall	Evapo-transpiration
400-500	87033 Little River	1992-2001	472	1067
500-650	86282 Melbourne Airport infilled	1987-1996	574	1047
650-750	86071 Melbourne Regional	1952-1961	708	995
750-850 West	87075 Bullengarook East	1990-1999	779	1043
750-850 East	86224 Dandenong	1967-1976	777	1027
850-1,100	86085 Narre Warren North	1984-1993	932	985
1,100-2,100	86142 Toolangi (Mount St Leonard DPI)	1995-2004	1,221	962

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Proje DATA CENTRE - SOUTH MORANG
Job No.: 24315
Sketch Title: MUSIC MODELLING RESULTS
Sketch No.: CSK-001
By: DR **Date:** 30/06/2025

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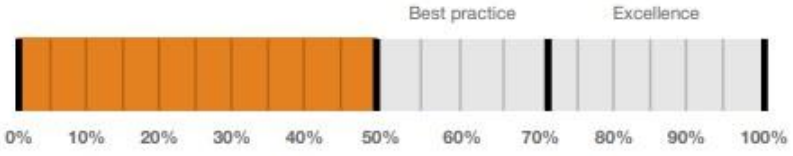
Appendix D: BESS Assessment

This BESS report outlines the sustainable design commitments of the proposed development at 165 Williamsons Rd South Morang Victoria 3752. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Whittlesea City Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

Your BESS Score



50%

Project details

Name	165 Williamsons Road South Morang VIC Australia
Address	165 Williamsons Rd South Morang Victoria 3752
Project ID	A91D8ADE-R1
BESS Version	BESS-9
Site type	Non-residential development
Account	info@giw.com.au
Application no.	
Site area	86,380 m²
Building floor area	44,410 m²
Date	18 July 2025
Software version	2.1.0-B.599

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Performance by category

Project composition

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Buildings

Name	Height	Footprint	% of total footprint
Building 1	3	54,292 m^2	100%

Dwellings & Non Res Spaces

Non-Res Spaces

Name	Quantity	Area	Building	% of total area
Office				
Office Spaces and Meeting Rooms	1	436 m^2	Building 1	< 1%
Total	**1**	**436 m^2**	**< 1%**	
Other building				
Data Hall	1	43,974 m^2	Building 1	99%
Total	**1**	**43,974 m^2**	**99%**	

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Supporting Evidence

Shown on Floor Plans

Credit	Requirement	Response	Status
Integrated Water Management 2.1	Location of any stormwater management systems (rainwater tanks, raingardens, buffer strips)		-
Integrated Water Management 3.1	Annotation: Water efficient garden details		-
Transport 1.4	Location of non-residential bicycle parking spaces		-
Transport 1.5	Location of non-residential visitor bicycle parking spaces		-
Waste & Resource Recovery 2.1	Location of food and garden waste facilities		-
Waste & Resource Recovery 2.2	Location of recycling facilities		-
Urban Ecology 2.1	Location and size of vegetated areas		-

Supporting Documentation

Credit	Requirement	Response	Status
Management 2.3a	Section J glazing assessment		-
Integrated Water Management 2.1	STORM report or MUSIC model		-
Operational Energy 1.1	Energy Report showing calculations of reference case and proposed buildings		-
Operational Energy 3.7	Average lighting power density and lighting type(s) to be used		-

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Credit summary

Management Overall contribution 4.5%

	16%	
1.1 Pre-Application Meeting	0%	
2.3 Thermal Performance Modelling - Non-Residential	0%	
3.2 Metering - Non-Residential	N/A	Scoped Out
		One tenant
3.3 Metering - Common Areas	N/A	Scoped Out
		One tenant
4.1 Building Users Guide	100%	

IWM Overall contribution 22.5%

	82%	✔ Pass
1.1 Potable Water Use	42%	✔ Achieved
2.1 Stormwater Treatment	100%	✔ Achieved
3.1 Water Efficient Landscaping	100%	
4.1 Building Systems Water Use	100%	

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Operational Energy Overall contribution 27.5%

	Minimum required 50%	50%	Pass
1.1 Thermal Performance Rating - Non-Residential		25%	
2.1 Greenhouse Gas Emissions		100%	
2.2 Peak Demand		0%	
2.6 Electrification		0%	Disabled
Credit is available when the energy supply is set to all-electric (no gas or wood).			
2.7 Energy consumption		100%	
3.1 Carpark Ventilation		N/A	Scoped Out
No enclosed car park			
3.2 Hot Water - Non-Residential		100%	
3.7 Internal Lighting - Non-Residential		100%	
4.1 Combined Heat and Power (cogeneration / trigeneration)		N/A	Scoped Out
No cogeneration or trigeneration system in use.			
4.2 Renewable Energy Systems - Solar		0%	Disabled
No solar PV renewable energy is in use.			
4.4 Renewable Energy Systems - Other		N/A	Scoped Out
No other (non-solar PV) renewable energy is in use.			

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IEQ Overall contribution 16.5%

	Minimum required 50%	54%	Pass
1.4 Daylight Access - Non-Residential		N/A	Scoped Out
Daylight to office areas will commit to achieving a DF2 to min. 33% of the nominated floor area. Nil daylight requirements and windows are proposed for the data centre to maintain the necessary conditions for optimal operation and security of the IT infrastructure.			
2.3 Ventilation - Non-Residential		33%	Achieved
3.4 Thermal comfort - Shading - Non-Residential		100%	
3.5 Thermal Comfort - Ceiling Fans - Non-Residential		0%	
4.1 Air Quality - Non-Residential		100%	

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Transport Overall contribution 9.0%

	0%
1.4 Bicycle Parking - Non-Residential	0%
1.5 Bicycle Parking - Non-Residential Visitor	0%
1.6 End of Trip Facilities - Non-Residential	0% ⊘ Disabled
	Credit 1.4 must be complete first.
2.1 Electric Vehicle Infrastructure	0%
2.2 Car Share Scheme	0%
2.3 Motorbikes / Mopeds	0%

Waste & Resource Recovery Overall contribution 5.5%

	100%
1.1 Construction Waste - Building Re-Use	N/A ✣ Scoped Out
	No existing structure
2.1 Operational Waste - Food & Garden Waste	100%
2.2 Operational Waste - Convenience of Recycling	100%

Urban Ecology Overall contribution 5.5%

	50%
1.1 Communal Spaces	0%
2.1 Vegetation	100%
2.2 Green Roofs	0%
2.3 Green Walls and Facades	0%
3.2 Food Production - Non-Residential	0%

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Innovation Overall contribution 9.0%

	0%
1.1 Innovation	0%

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Credit breakdown

Management Overall contribution 4.5%

16%

1.1 Pre-Application Meeting		0%
Score Contribution	This credit contributes 50% towards the category score.	
Criteria	Has an ESD professional been engaged to provide sustainability advice from schematic design to construction? AND Has the ESD professional been involved in a pre-application meeting with Council?	
Question	Criteria Achieved ?	
Project	No	
2.3 Thermal Performance Modelling - Non-Residential		0%
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	Has a preliminary facade assessment been undertaken in accordance with NCC2022 Section J4D6?	
Question	Criteria Achieved ?	
Office	Yes	
Other building	No	
Criteria	Has preliminary modelling been undertaken in accordance with either NCC2022 Section J (Energy Efficiency), NABERS or Green Star?	
Question	Criteria Achieved ?	
Office	No	
Other building	No	
3.2 Metering - Non-Residential		N/A Scoped Out
		One tenant
This credit was scoped out	One tenant	
3.3 Metering - Common Areas		N/A Scoped Out
		One tenant
This credit was scoped out	One tenant	
4.1 Building Users Guide		100%
Score Contribution	This credit contributes 16.7% towards the category score.	
Criteria	Will a building users guide be produced and issued to occupants?	
Question	Criteria Achieved ?	
Project	Yes	

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IWM Overall contribution 22.5%

82% ✔ Pass

Do you have a reticulated third pipe or an on-site water recycling system?:	No
Are you installing a swimming pool?:	No
Stormwater profile	
Which stormwater modelling software are you using?:	MUSIC or other modelling software
STORM score achieved:	-
Flow:	4 %
Total Suspended Solids:	85 %
Total Phosphorus:	81 %
Total Nitrogen:	50 %
Rainwater tank profile	
What is the total roof area connected to the rainwater tank?: Rainwater Tank 1	18,200 m²
Tank Size: Rainwater Tank 1	20,000 Litres
Irrigation area connected to tank: Rainwater Tank 1	0.0 m²
Is connected irrigation area a water efficient garden?: Rainwater Tank 1	Yes
Other external water demand connected to tank?: Rainwater Tank 1	0.0 Litres/Day
Fixtures, fittings & connections profile	
Building: All	Building 1
Showerhead: All	Scope out
Bath: All	Scope out
Kitchen Taps: All	>= 5 Star WELS rating
Bathroom Taps: All	>= 5 Star WELS rating
Dishwashers:	
Data Hall	Scope out
Office Spaces and Meeting Rooms	>= 5 Star WELS rating
WC: All	>= 4 Star WELS rating
Urinals: All	Scope out
Washing Machine Water Efficiency: All	Scope out
Which non-potable water source is the dwelling/space connected to?:	
Data Hall	-1
Office Spaces and Meeting Rooms	230831
Non-potable water source connected to Toilets:	
Data Hall	No
Office Spaces and Meeting Rooms	Yes
Non-potable water source connected to Laundry (washing machine): All	No
Non-potable water source connected to Hot Water System: All	No

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1.1 Potable Water Use		42% ✔ Achieved
Score Contribution	This credit contributes 31.2% towards the category score.	
Criteria	What is the reduction in total potable water use due to efficient fixtures, appliances, rainwater use and recycled water use? To achieve points in this credit there must be >25% potable water reduction.	
Output	Reference	
Project	38355 kL	
Output	Proposed (excluding rainwater and recycled water use)	
Project	28152 kL	
Output	Proposed (including rainwater and recycled water use)	
Project	27942 kL	
Output	% Reduction in Potable Water Consumption	
Project	27 %	
Output	% of connected demand met by rainwater	
Project	100 %	
Output	How often does the tank overflow?	
Project	Very Often	
Output	Opportunity for additional rainwater connection	
Project	17644 kL	
2.1 Stormwater Treatment		100% ✔ Achieved
Score Contribution	This credit contributes 31.2% towards the category score.	
Criteria	Has best practice stormwater management been demonstrated?	
Output	Flow	
Project	4 %	
Output	Min Suspended Solids reduction	
Project	80 %	
Output	Total Suspended Solids reduction	
Project	85 %	
Output	Min Phosphorus reduction	
Project	45 %	
Output	Total Phosphorus reduction	
Project	81 %	
Output	Min Nitrogen reduction	
Project	45 %	
Output	Total Nitrogen reduction	
Project	50 %	
3.1 Water Efficient Landscaping		100%
Score Contribution	This credit contributes 6.2% towards the category score.	
Criteria	Will water efficient landscaping be installed?	
Question	Criteria Achieved ?	
Project	Yes	
4.1 Building Systems Water Use		100%

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Score Contribution	This credit contributes 6.2% towards the category score.
Criteria	Where applicable, have measures been taken to reduce potable water consumption by >80% in the buildings air-conditioning chillers and when testing fire safety systems?
Question	Criteria Achieved ?
Project	Yes

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Operational Energy Overall contribution 27.5%

	Minimum required 50%	50%	✔ Pass

Project profile	
Use the BESS Deem to Satisfy (DtS) method for Non-residential spaces?:	No
Are you installing any renewable energy system(s) (other than solar photovoltaic)?:	No
Energy Supply:	Electricity & Natural Gas
Are you installing a cogeneration or trigeneration system?:	No
Non-residential buildings profile	
Heating, Cooling & Comfort Ventilation Electricity Reference fabric and Reference services:	1,000 kWh
Heating, Cooling & Comfort Ventilation Electricity Proposed fabric and Reference services:	949 kWh
Heating, Cooling & Comfort Ventilation Electricity Proposed fabric and Proposed services:	949 kWh
Heating - Gas - Reference fabric and services:	1,000 MJ
Heating - Gas - Proposed fabric and Reference services:	949 MJ
Heating Gas Proposed fabric & Proposed services:	949 MJ
Heating Wood Reference fabric and Reference services:	0.0 MJ
Heating Wood Proposed fabric and Reference services:	0.0 MJ
Heating Wood Proposed fabric and Proposed services:	0.0 MJ
Hot Water Electricity - Reference:	1,000 kWh
Hot Water Electricity - Proposed:	1,000 kWh
Hot Water Gas - Reference:	1,000 MJ
Hot Water Gas - Proposed:	1,000 MJ
Lighting Electricity - Reference:	1,000 kWh
Lighting Electricity - Proposed:	1,000 kWh

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Peak Thermal Cooling Load Reference:	0.0 kW
Peak Thermal Cooling Load Proposed:	0.0 kW

1.1 Thermal Performance Rating - Non-Residential	25%
Score Contribution	This credit contributes 36.4% towards the category score.
Criteria	What is the % reduction in heating and cooling energy consumption against the reference case (NCC2022 Section J)?
Output	Total Improvement
Office	5 %
Other building	5 %

2.1 Greenhouse Gas Emissions	100%
Score Contribution	This credit contributes 9.1% towards the category score.
Criteria	What is the % reduction in annual greenhouse gas emissions against the benchmark?
Output	Reference Building with Reference Services (BCA only)
Office	16.5 kg CO2
Other building	1,666 kg CO2
Output	Proposed Building with Proposed Services (Actual Building)
Office	16.5 kg CO2
Other building	1,666 kg CO2
Output	% Reduction in GHG Emissions
Office	0%
Other building	0%

2.2 Peak Demand	0%
Score Contribution	This credit contributes 4.5% towards the category score.
Criteria	What is the % reduction in the instantaneous (peak-hour) demand against the benchmark?

2.6 Electrification	0% ⊘ Disabled
	Credit is available when the energy supply is set to all-electric (no gas or wood).
This credit is disabled	Credit is available when the energy supply is set to all-electric (no gas or wood).

2.7 Energy consumption	100%

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Score Contribution	This credit contributes 18.2% towards the category score.
Criteria	What is the % reduction in annual energy consumption against the benchmark?
Output	Reference Building with Reference Services (BCA only)
Office	90.4 MJ
Other building	9,110 MJ
Output	Proposed Building with Proposed Services (Actual Building)
Office	88.1 MJ
Other building	8,877 MJ
Output	% Reduction in total energy
Office	2 %
Other building	2 %

3.1 Carpark Ventilation — N/A — Scoped Out

No enclosed car park

This credit was scoped out	No enclosed car park

3.2 Hot Water - Non-Residential — 100%

Score Contribution	This credit contributes 4.5% towards the category score.
Criteria	What is the % reduction in annual energy consumption (gas and electricity) of the hot water system against the benchmark?
Output	Reference
Office	45.2 MJ
Other building	4,555 MJ
Output	Proposed
Office	45.2 MJ
Other building	4,555 MJ
Output	Improvement
Office	0 %
Other building	0 %

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3.7 Internal Lighting - Non-Residential — 100%

Score Contribution	This credit contributes 9.1% towards the category score.
Criteria	Does the maximum illumination power density (W/m2) in at least 90% of the area of the relevant building class meet the requirements in Table J7D3a of the NCC 2022 Vol 1?
Question	Criteria Achieved ?
Office	Yes
Other building	Yes

4.1 Combined Heat and Power (cogeneration / trigeneration) — N/A — Scoped Out

No cogeneration or trigeneration system in use.

This credit was scoped out	No cogeneration or trigeneration system in use.

4.2 Renewable Energy Systems - Solar — 0% — Disabled

No solar PV renewable energy is in use.

This credit is disabled	No solar PV renewable energy is in use.

4.4 Renewable Energy Systems - Other		N/A	Scoped Out
			No other (non-solar PV) renewable energy is in use.

This credit was scoped out	No other (non-solar PV) renewable energy is in use.

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IEQ Overall contribution 16.5%

	Minimum required 50%	54%	✔ Pass

1.4 Daylight Access - Non-Residential		N/A	Scoped Out
Daylight to office areas will commit to achieving a DF2 to min. 33% of the nominated floor area. Nil daylight requirements and windows are proposed for the data centre to maintain the necessary conditions for optimal operation and security of the IT infrastructure.			
This credit was scoped out	Daylight to office areas will commit to achieving a DF2 to min. 33% of the nominated floor area. Nil daylight requirements and windows are proposed for the data centre to maintain the necessary conditions for optimal operation and security of the IT infrastructure.		
2.3 Ventilation - Non-Residential		33%	✔ Achieved
Score Contribution	This credit contributes 54.5% towards the category score.		
Criteria	What % of the regular use areas are effectively naturally ventilated?		
Question	Percentage Achieved?		
Office	-		
Other building	0 %		
Criteria	What increase in outdoor air is available to regular use areas compared to the minimum required by AS 1668.2:2012?		
Question	Percentage Achieved?		
Office	50 %		
Other building	50 %		
Criteria	What CO2 concentrations are the ventilation systems designed to achieve, to monitor and to maintain?		
Question	Value		
Office	-		
Other building	-		
3.4 Thermal comfort - Shading - Non-Residential		100%	
Score Contribution	This credit contributes 27.3% towards the category score.		
Annotation	Conditioned areas do not include any windows facing north, east or west.		
Criteria	What percentage of east, north and west glazing to regular use areas is effectively shaded?		
Question	Percentage Achieved?		
Office	100 %		
Other building	100 %		
3.5 Thermal Comfort - Ceiling Fans - Non-Residential		0%	

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Score Contribution	This credit contributes 9.1% towards the category score.
Criteria	What percentage of regular use areas in tenancies have ceiling fans?
Question	Percentage Achieved?
Office	-
Other building	-

4.1 Air Quality - Non-Residential	100%
Score Contribution	This credit contributes 9.1% towards the category score.

Criteria	Do all paints, sealants and adhesives meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Office	Yes
Other building	Yes

Criteria	Does all carpet meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Office	Yes
Other building	Yes

Criteria	Does all engineered wood meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Office	Yes
Other building	Yes

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Transport Overall contribution 9.0%

	0%

1.4 Bicycle Parking - Non-Residential	0%
Score Contribution	This credit contributes 25% towards the category score.
Criteria	Have the planning scheme requirements for employee bicycle parking been exceeded by at least 50% (or a minimum of 2 where there is no planning scheme requirement)?
Question	Criteria Achieved ?
Office	Yes
Other building	No
Question	Bicycle Spaces Provided ?
Office	13
Other building	-

1.5 Bicycle Parking - Non-Residential Visitor	0%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Have the planning scheme requirements for visitor bicycle parking been exceeded by at least 50% (or a minimum of 1 where there is no planning scheme requirement)?
Question	Criteria Achieved ?
Office	Yes
Other building	No
Question	Bicycle Spaces Provided ?
Office	4
Other building	-

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1.6 End of Trip Facilities - Non-Residential	0% ⊘ Disabled
	Credit 1.4 must be complete first.
This credit is disabled	Credit 1.4 must be complete first.

2.1 Electric Vehicle Infrastructure	0%
Score Contribution	This credit contributes 25% towards the category score.
Criteria	Are facilities provided for the charging of electric vehicles?
Question	Criteria Achieved ?
Project	No

2.2 Car Share Scheme	0%
Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Has a formal car sharing scheme been integrated into the development?
Question	Criteria Achieved ?
Project	No

2.3 Motorbikes / Mopeds	0%

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Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Are a minimum of 5% of vehicle parking spaces designed and labelled for motorbikes (must be at least 5 motorbike spaces)?
Question	Criteria Achieved ?
Project	No

Waste & Resource Recovery Overall contribution 5.5%

100%

1.1 Construction Waste - Building Re-Use		N/A Scoped Out
		No existing structure
This credit was scoped out	No existing structure	
2.1 Operational Waste - Food & Garden Waste		100%
Score Contribution	This credit contributes 50% towards the category score.	
Criteria	Are facilities provided for on-site management of food and garden waste?	
Question	Criteria Achieved ?	
Project	Yes	
2.2 Operational Waste - Convenience of Recycling		100%
Score Contribution	This credit contributes 50% towards the category score.	
Criteria	Are the recycling facilities at least as convenient for occupants as facilities for general waste?	
Question	Criteria Achieved ?	
Project	Yes	

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Urban Ecology Overall contribution 5.5%

50%

1.1 Communal Spaces		0%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Is there at least the following amount of common space measured in square meters : * 1m² for each of the first 50 occupants * Additional 0.5m² for each occupant between 51 and 250 * Additional 0.25m² for each occupant above 251?	
Question	Common space provided	
Office	-	
Other building	-	
Output	Minimum Common Space Required	
Office	34 m²	
Other building	687 m²	

2.1 Vegetation		100%
Score Contribution	This credit contributes 50% towards the category score.	
Criteria	How much of the site is covered with vegetation, expressed as a percentage of the total site area?	
Question	Percentage Achieved ?	
Project	50 %	

2.2 Green Roofs		0%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Does the development incorporate a green roof?	
Question	Criteria Achieved ?	
Project	No	

2.3 Green Walls and Facades		0%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Does the development incorporate a green wall or green façade?	
Question	Criteria Achieved ?	
Project	No	

3.2 Food Production - Non-Residential		0%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	What area of space per occupant is dedicated to food production?	
Question	Food Production Area	
Office	-	
Other building	-	
Output	Min Food Production Area	
Office	9 m²	
Other building	550 m²	

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Innovation **Overall contribution 9.0%**

		0%

1.1 Innovation		0%
Score Contribution	This credit contributes 100% towards the category score.	
Criteria	What percentage of the Innovation points have been claimed (10 points maximum)?	

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