Site Based Stormwater Management Report

893-899 Stanley St & 10 Hampton St East Brisbane

Prepared for DAKL Group Pty Ltd

ensilon

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV-2026-WGB-4631

Date: 25-May-2026

Queensland Government

AMENDED IN RED

By: Essen Joseph

Date: 25-May-2026

Queensland Government

See amendments in red to drawing number C200, contained in Appendix C.

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ISSUE	DATE	ISSUE DETAILS	AUTHOR	CHECKED	APPROVED
1	19.03.2026	DA Issue	JCH	NM	JCH

Appendices

1. Introduction

Ensilon Consulting has been commissioned by DAKL Group to prepare a Site Based Stormwater Management Plan for the proposed residential development at the corner of Stanley Street and Hampton Street, East Brisbane (known as 893-899 Stanley St & 10 Hampton St and described as Lot 61 on RP11567, Lot 62 on RP11567, Lot 63 on RP11567, Lot 1 on RP116092 and Lot 60 on RP11567) within the Brisbane City Council (BCC) local government area. The site is currently within the EDQ Woolloongabba Priority Development Area (PDA).

This report addresses issues relating to flooding, stormwater quantity and stormwater quality management for the overall development with details to demonstrate the specific requirements.

The objective of this report is to demonstrate that the proposed development can be supported by the existing and/or proposed stormwater infrastructure and is compliant with the EDQ Development Scheme and Brisbane City Council (BCC) Planning Scheme.

2. Scope

The following items will be addressed in this report;

- Lawful point of discharge for the development;
- Proposed concept stormwater quantity management plan for the site; and
- Proposed concept stormwater quality management plan for the site.

3. Criteria

This report has been compiled based on:

- Existing site survey prepared by Bplanned (Surveyor);
- Proposed site layout plan prepared by NMDS Architecture (Architect);
- Discussions with the Client and Architect; and
- Information obtained from Council's online resources and EDQ Prelodgement minutes.

4. Site Characteristics

4.1 Location and Description

The proposed development is located at 893-899 Stanley St & 10 Hampton St, East Brisbane. The site is located within the Brisbane City Council (BCC) local government area. The site is currently within the EDQ Woolloongabba Priority Development Area (PDA). The current site is a mixture and commercial and warehousing with multi access points off Stanley St & 10 Hampton St.

The existing total area of the site is 2621 m^2.

Figure 4.1 Site Locality Plan (Source: Nearmap 2025)

4.2 Watercourses and Topography

The site is generally located on uniformly undulating terrain that tends to drain toward the west and southwest. The footpath on the Stanley Street frontage appears to drain toward Stanley Street, whilst surface water and the majority of roofwater drains towards Hampton Street.

Surface levels within the development site vary between RL 11m AHD at the southwest corner to RL 13m AHD at the northeast corner. The site generally falls in a south-westerly direction from the rear boundary at approximately 1-2%. No distinct overland flow paths discharge into the site, although a small sub catchment does discharge surface flow onto the eastern site boundary.

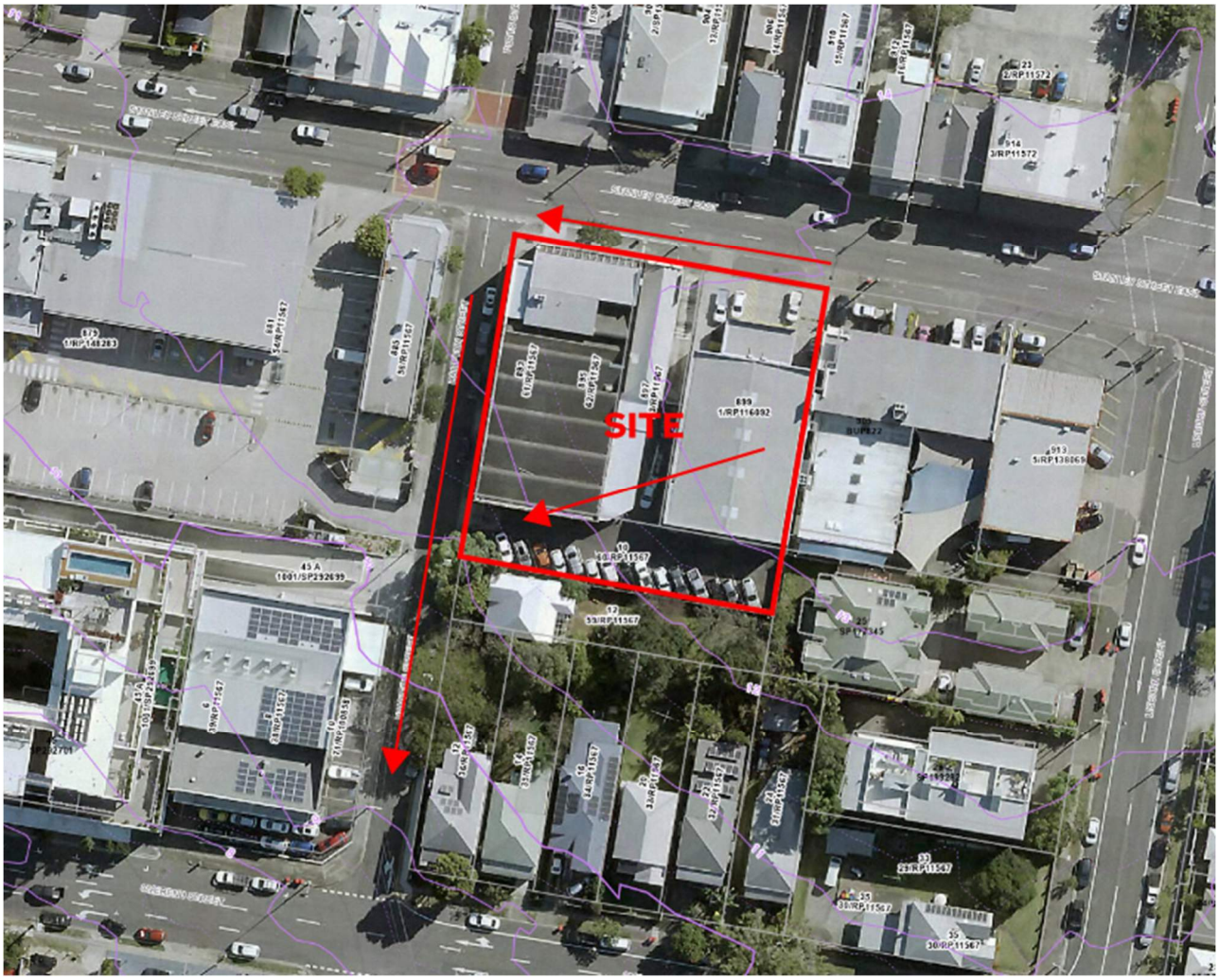


Figure 2.3 Contour Map (Source: BCC 2025)

Stanley Street and Hampton Street have kerb and channel on both sides. Flow within Stanley Street is currently directed to the west, with no indication that excess carriageway surface flow spills either into the site or onto Hampton Street. Figure 2.3 presents the topography of the site and surrounds via a contour map. A Detailed Survey is attached to Appendix A which provides further details of the site topography.

4.3 Existing Stormwater Infrastructure

There is no existing piped stormwater infrastructure within the existing properties other than a DN150 foul water line shown as a plotted record (See Figure 4.3). This foul water line could not be located as part of general terrestrial survey or via CCTV survey, as no visible surface entry features associated with the alleged foul water line could be located within 100m of the site.

Based on plotted records, the foul water line appears to connect the upstream 905 Stanley Street property, however, recent site inspections (28Jan26) and potholing (Mar26) revealed that no foul water line exists when potholing was conducted. This casts doubt as to whether 905 Stanley Street connects to the alleged foul water line. (See Figure 4.4) and Appendix A for Potholing Report.

It is possible that the foul water line does not exist, however, this will be later confirmed during the next stage of development approvals.

However, there are a number of existing roofwater kerb adaptors located within the existing kerb and channel along Hampton Street. The existing rear carpark currently discharges stormwater onto Hampton Street via surface flow.

Figure 4.3 Piped Stormwater Drainage (Source: BCC Community Maps 2026)

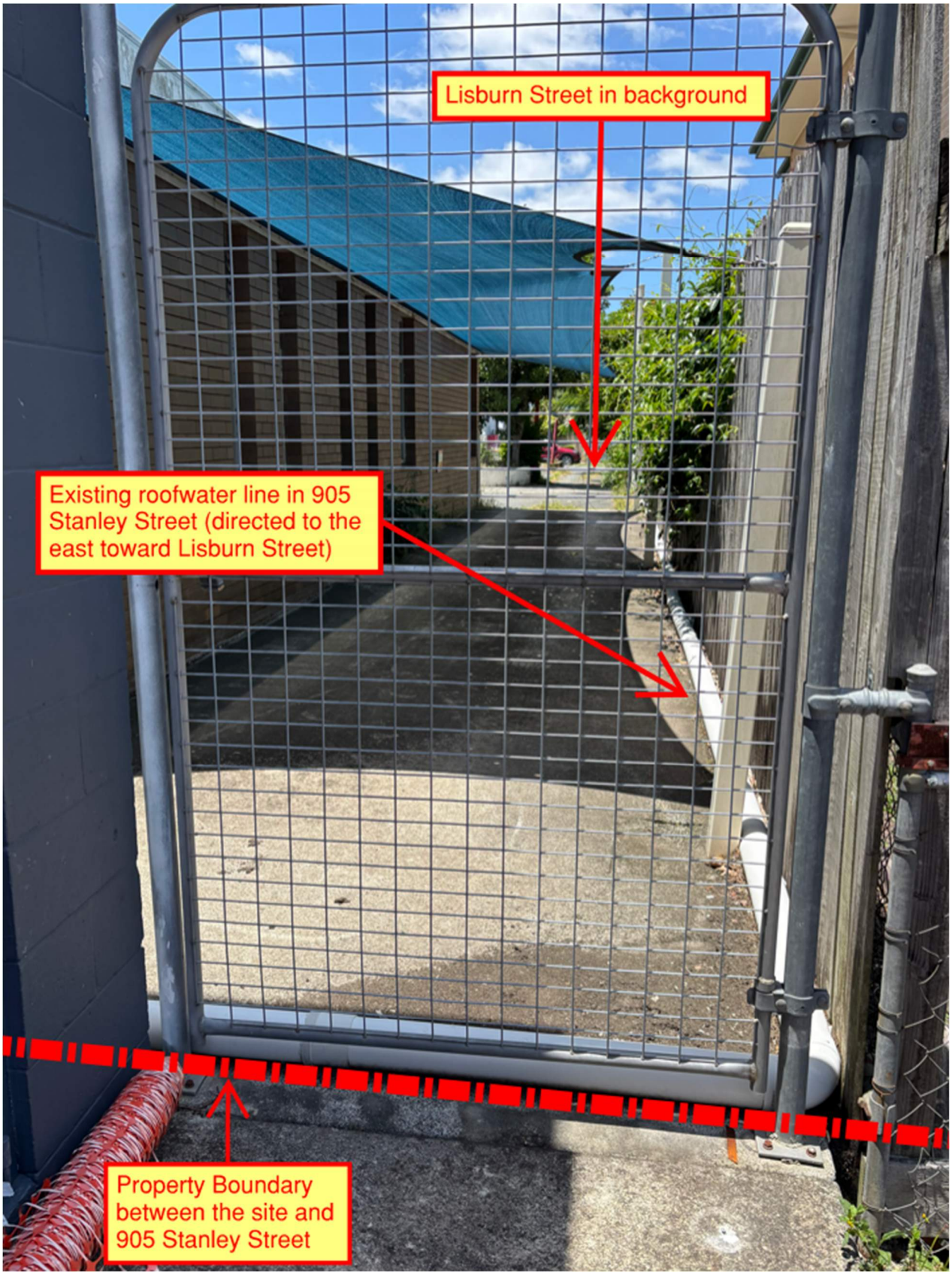


Figure 4.4 Existing Roofwater line that exists within 905 Stanley Street (photo taken on the eastern site boundary in an eastern direction toward Lisburn Street. Note that the existing roofwater line is laid above the ground)

4.4 Lawful Point of Discharge

The lawful point of discharge test is described in Section 3.9.1 of the Queensland Urban Drainage Manual (QUDM) 4th Edition 2016 and has been considered with regard to the proposed discharge of stormwater from this site.

The criteria for determining the lawful point of discharge are:

i. Will the proposed development alter the site's stormwater discharge characteristics in a manner that may substantially damage a third party property (see Section 3.6)?

- *If not, then no further steps are required to obtain tenure for a lawful point of discharge (assuming any previous circumstances and changes were lawful).*
- *If there is a reasonable risk of such damage, then consider issue (ii) or (iii).*

ii. Is the location of the discharge from the development site under the lawful control of the local government or other statutory authority from whom permission to discharge has been received? This will include a park, watercourse, drainage or road reserve, stormwater registered drainage easement, or land held by local government (including freehold land).

- *If so, then no further steps are required to obtain tenure for a lawful point of discharge.*
- *If not, then consider issue (iii). A land owner or regulator may require that the developer obtain an authority to discharge as described in (iii) in order for the stormwater to ultimately flow to a location described in (ii).*

iii. An authority to discharge over affected properties will be necessary. In descending order of certainty, an authority may be in the form of:

- *Dedication of a drainage reserve or park*
- *A registered easement for stormwater discharge/works*
- *Written discharge approval*

Existing stormwater infrastructure in the form of kerb and channel and roofwater kerb adaptors, and the general direct of surface flow from the rear carpark onto Hampton Street, indicates that the existing lawful point of discharge for the site is the kerb and channel within Hampton Street.

It is proposed that this existing discharge point be maintained for the proposed development.

5. Flooding

5.1 Overview

The Brisbane City Council flood overlay mapping does not identify the site as being within a flood affected area from Brisbane River flooding (See Figure 5.1). The site is also not identified as being affected by creek/waterway or overland flow. (See Figure 5.2 and 5.3).

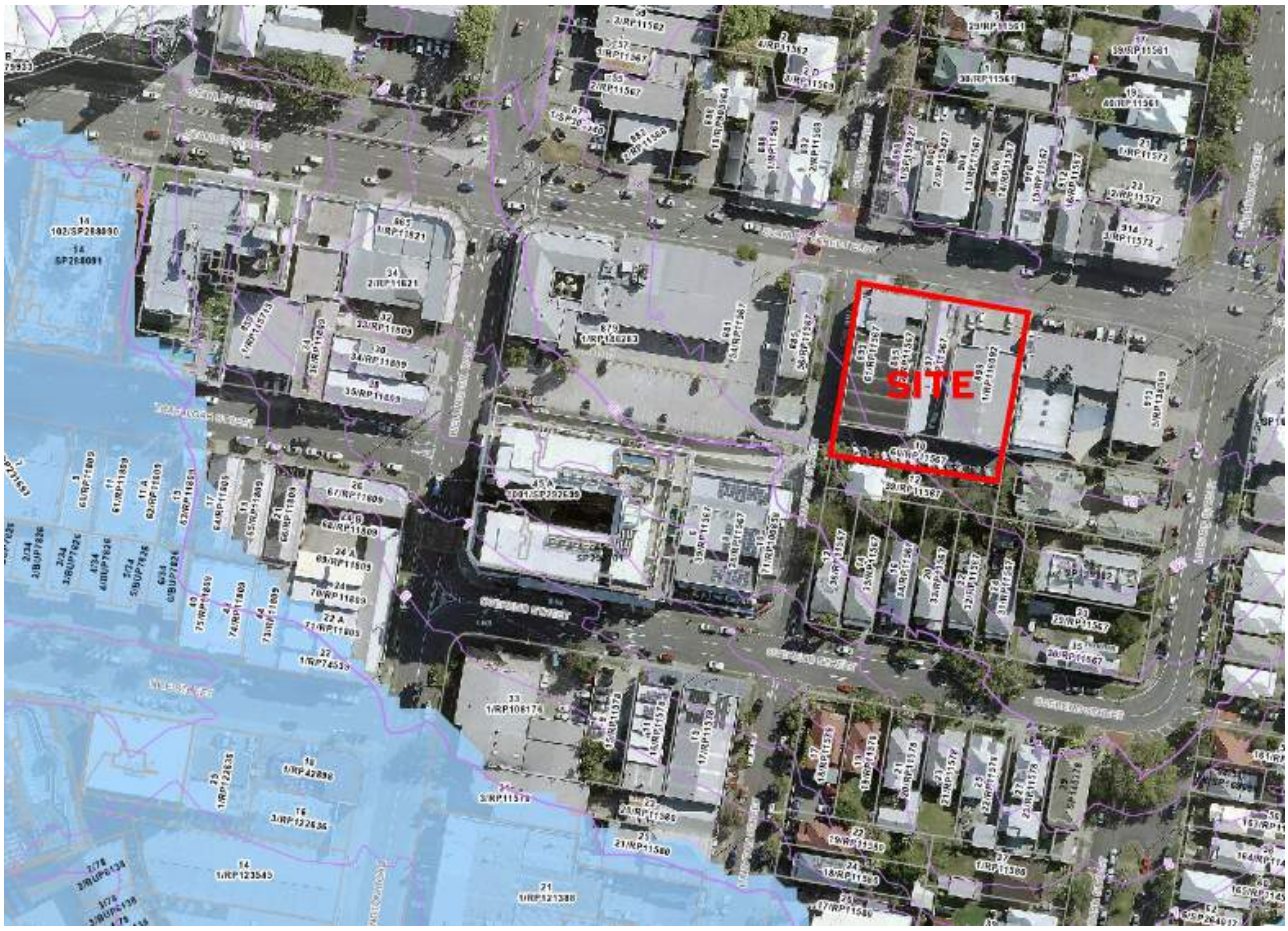


Figure 5.1 BCC Flood Overlay – Brisbane River Flooding (Source: BCC 2026)

As the lowest existing level of the site is RL 11.0m AHD and the maximum predicted flood level is 5.2m AHD during a 1% AEP storm event, the likelihood of the site being inundated due to Brisbane River backwater flooding is very low.

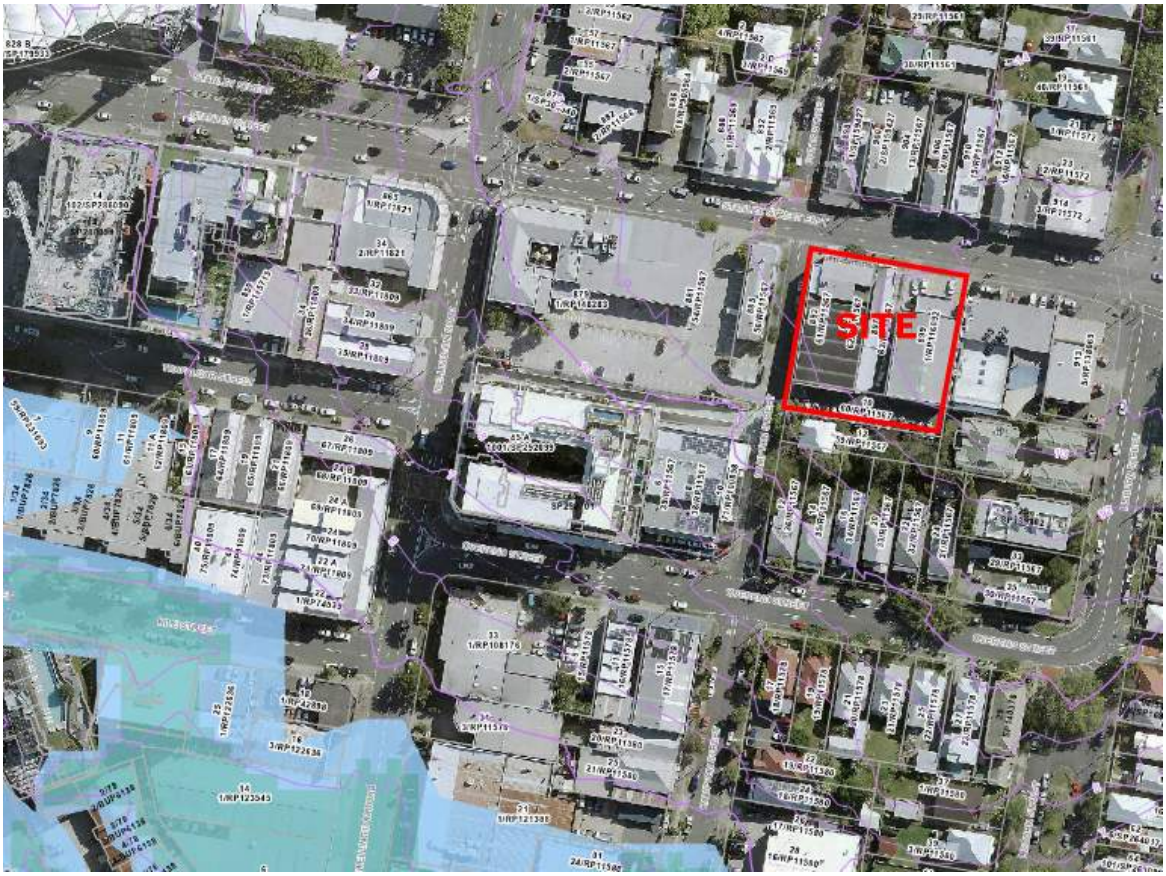


Figure 5.2 BCC Creek and River Flooding (Source: BCC 2026)

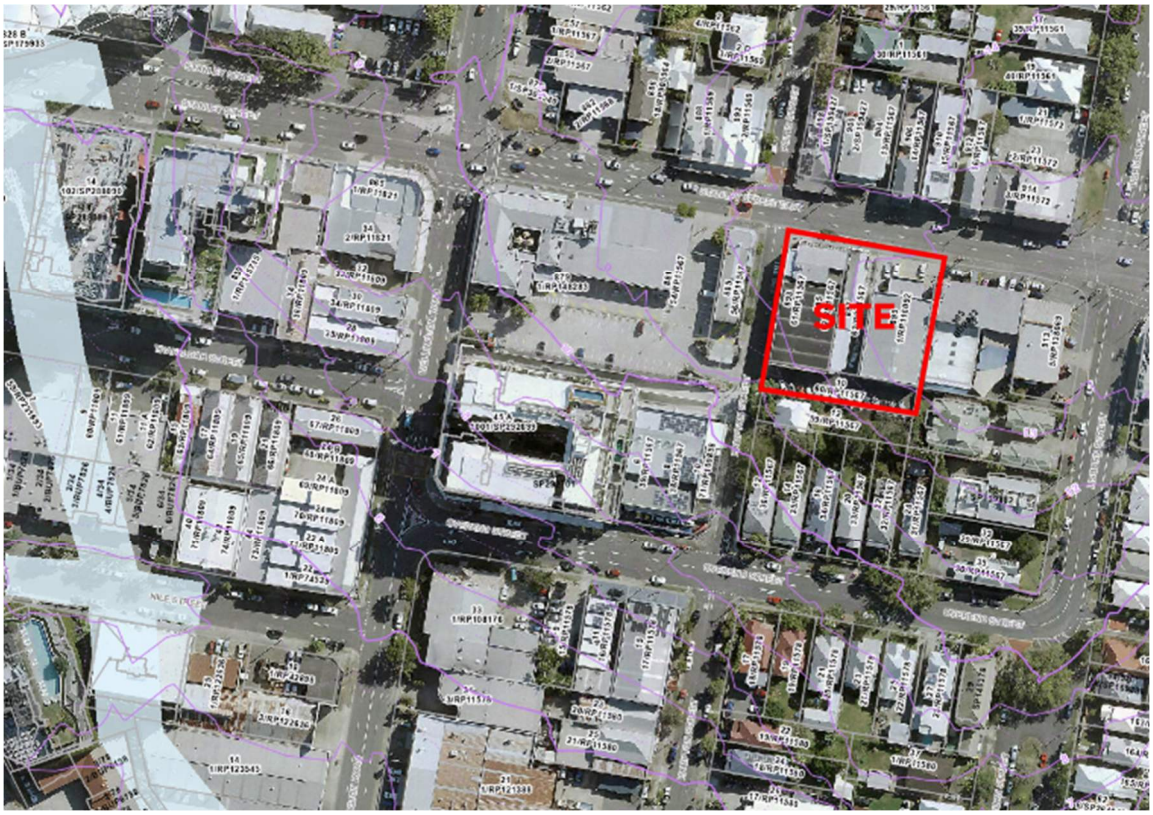


Figure 5.3 BCC Overland Flow Flooding (Source: BCC 2026)

6. Stormwater Quantity Management

6.1 Stormwater Quantity Analysis

The proposed development will not result in increased rates of stormwater runoff, and an on-site detention system will not be required. This is based on the observation that the current site has an existing (predeveloped) percentage of fraction impervious of 100% with appropriate lawful points of discharge. As the post-developed fraction impervious will not exceed the pre-developed fraction impervious and the predeveloped fraction impervious exceeds 60% (see Figure 6.1), in accordance with Clause 7.5.2 Chapter 7 of the SC6.16 Infrastructure design planning scheme policy, stormwater detention is not required.

Figure 5.2 Pre-developed Impervious Surface (Source: Nearmap 2026)

The post-developed fraction impervious is 91% and this surface is shown in Figure 6.2

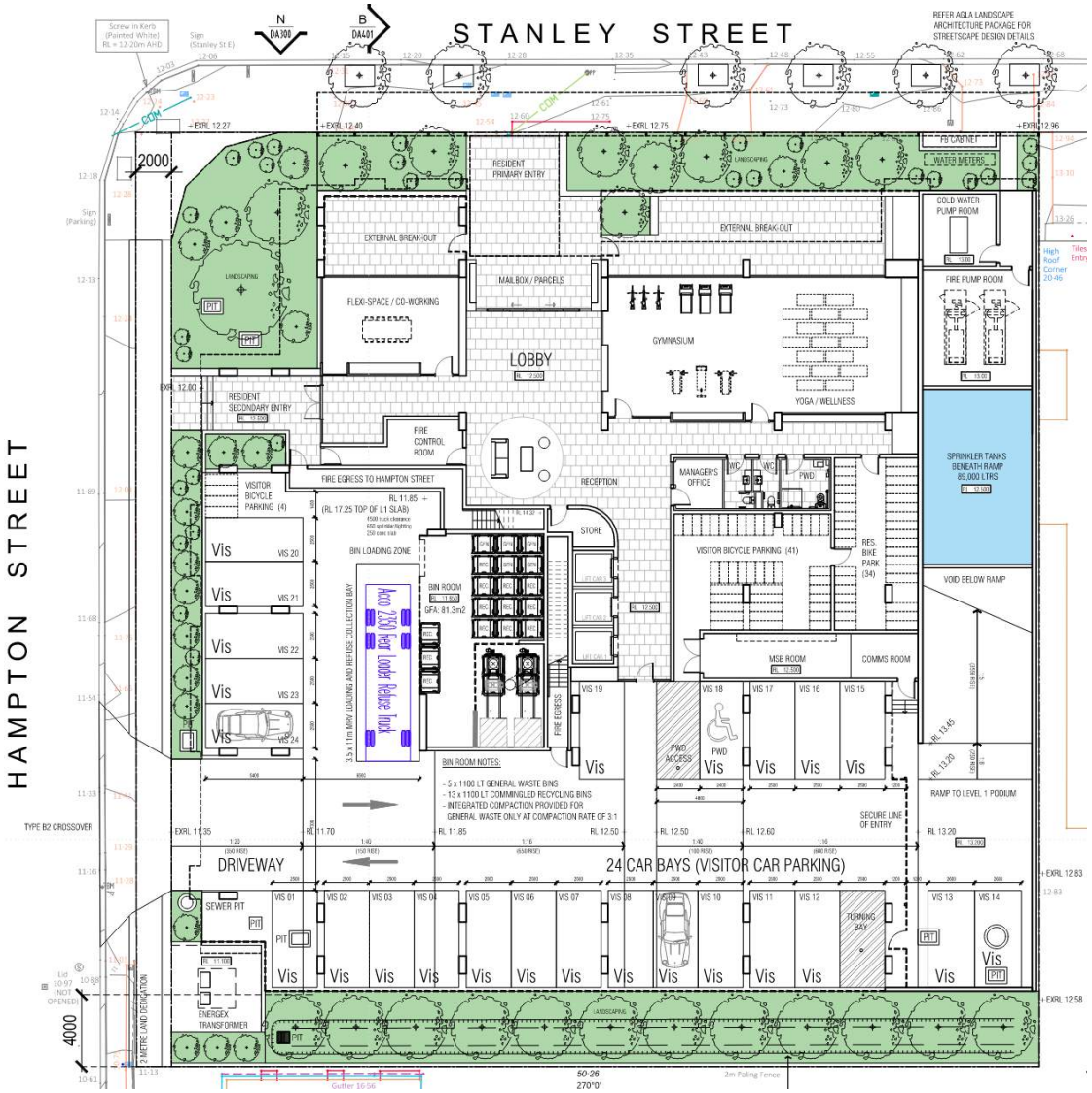


Figure 6.2 Post-developed Impervious Surface (Source: NMDS Architecture 2026)

6.1.1 Pre-developed Site Discharge

The predeveloped site discharge rate was calculated by analysing the 63%, 50%, 20%, 10%, 5%, 2% and 1% AEP events using the Rational Method.

Table 6.1 Pre-developed Site Characteristics

Parameter	Value
Area	0.262 ha
Fraction Impervious	1.0
Time of Concentration (Paved)	10 min

The peak flow rates for each AEP are detailed in Table 6.2

Table 6.2 Calculated Pre-developed Peak Flow Rates

AEP %	Peak Discharge (m^3/s)
63	0.046
50	0.062
20	0.089
10	0.106
5	0.128
2	0.160
1	0.179

6.1.2 Post-developed Site Discharge

The predeveloped site discharge rate was calculated by analysing the 63%, 50%, 20%, 10%, 5%, 2% and 1% AEP events. The post developed fraction impervious is 91%. The peak flow rates for each AEP are detailed in Table 6.3.

Table 6.3 Calculated Post-developed Peak Flow Rates

AEP %	Peak Discharge (m^3/s)
63	0.045
50	0.062
20	0.088
10	0.105
5	0.127
2	0.160
1	0.179

The difference between pre-developed and post-developed site discharge is considered negligible.

6.2 Proposed Design and Analysis

Post-developed flows from the site will be discharged to existing stormwater infrastructure located within Hampton Street. Roofwater and surface water generated within the proposed development will be routed through multiple kerb adaptors located on the south-west corner of the site where it will be discharged into the street drainage system. No onsite detention will be provided. Refer to Appendix C for the concept stormwater layout sketch for the Site.

7. Stormwater Quality Management

7.1 Water Quality Objectives

7.1.1 Construction Phase

- Control measures to be put in place to protect downstream properties from nuisance flows.

- Maximum of 50mg/L of total suspended solids present in run-off discharged from the site during the construction stage, and a pH between 8 and 8.5.

7.1.2 Operational Phase

According to the BCC Planning Scheme the threshold for stormwater quality management for development for urban purposes is as follows:

- material change of use for an urban purpose which involves greater than 2,500m2 of land that:
    - will result in an impervious area greater than 25% of the net developable area; or
    - will result in 6 or more dwellings.
- reconfiguring a lot for an urban purpose that involves greater than 2,500m2 of land and will result in 6 or more lots.
- operational work for an urban purpose which involves disturbing greater than 2,500m2 of land.

Consequently, the proposed site will require water quality improvement devices.

7.1.2.1 MUSIC Modelling Guidelines

Water quality parameters and the proposed limits applicable to this site were selected in accordance with Water by Design MUSIC Modelling Guidelines for South-East Queensland (2018).

7.1.2.2 Rainfall Data

MUSIC Modelling Guidelines provide advice on meteorological data for different climatic regions of South-East Queensland. Six minutes step rainfall data from City of Brisbane station from 1980 to 1989 were adopted for the site. Monthly evapotranspiration values were also obtained from the MUSIC Modelling Guidelines for the same Council/station. The below values were used in the MUSIC model.

7.1.2.3 Model Selection, Assumptions and Removal Effectiveness

In accordance with the Water by Design MUSIC Modelling Guidelines, split catchment methods were used for the source nodes utilising modified % impervious area. Rainfall threshold, soil properties & pollutant concentration input values were also sourced from the guideline. The MUSIC modelling inputs for the rainfall source nodes are summarised below.

Table 7.1 MUSIC Source Parameters (Source: MUSIC Modelling Guidelines 2018)

PARAMETER	URBAN RESIDENTIAL	COMMERCIAL AND INDUSTRIAL
RAINFALL THRESHOLD (MM)	1	1
SOIL STORAGE CAPACITY (MM)	500*	18
INITIAL STORAGE (% CAPACITY)	10	10
FIELD CAPACITY (MM)	200	80
INFILTRATION CAPACITY COEFFICIENT A	211	243
INFILTRATION CAPACITY COEFFICIENT B	5.0	0.6
INITIAL DEPTH (MM)	50	50
DAILY RECHARGE RATE (%)	28	0
DAILY BASEFLOW RATE (%)	27	31
DAILY DEEP SEEPAGE RATE (%)	0	0

Base flow and Storm flow parameters for TSS, TP and TN for roofs, roads and ground levels were sourced from Water by Design MUSIC Modelling Guidelines (2018). Refer below for a summary of the parameters used for the model.

Table 7.2 Source Node MUSIC Input Parameters (Source: MUSIC Modelling Guidelines 2018)

	FLOW TYPE	POLLUTANT SOURCE	TSS LOG^{10} VALUES		TP LOG^{10} VALUES		TN LOG^{10} VALUES	
			MEAN	ST. DEV.	MEAN	ST. DEV.	MEAN	ST. DEV.
Lumped	Baseflow	Urban Lumped	1.00	0.34	-0.97	0.31	0.31	0.20
	Stormflow		2.18	0.39	-0.47	0.32	0.32	0.23
Split	Baseflow	Roof	N/A	N/A	N/A	N/A	N/A	N/A
		Roads	1.00	0.34	-0.97	0.31	0.20	0.20
		Ground Level	1.00	0.34	-0.97	0.31	0.20	0.20
	Stormflow	Roof	1.30	0.39	-0.89	0.31	0.26	0.23
		Roads	2.43	0.39	-0.30	0.31	0.26	0.23
		Ground Level	2.18	0.39	-0.47	0.31	0.26	0.23

7.2.1.4 Catchment Split

Total land use directed to the treatment devices and the catchment breakdown is shown in the table below.

Table 7.3 MUSIC Model Catchments

Catchment	Area (ha)	Comments
Site Capture (Roof)	0.201	Site catchment flows to the proposed treatment device prior to site discharge.
Fugitive Site Release – Driveway (Ground)	0.002	A small section of driveway and planting along the Hampton Street frontage with an assumed fraction impervious of 0.6
Pervious Deep Planting Zone 1 (along southern boundary) (Ground)	0.021	A small section of deep planting along the southern boundary bypasses the treatment device, is treated by a swale and flows directly into Hampton Street with an assumed fraction impervious of 0.1
Pervious Deep Planting along Hampton Street – Zone 2 (Ground)	0.004	A small section of deep planting along the southern boundary bypasses the treatment device, is treated by a swale and flows directly into Hampton Street with an assumed fraction impervious of 0.1
Pervious Deep Planting at corner of Hampton and Stanley Street (Ground)	0.022	A small section of deep planting along the southern boundary bypasses the treatment device, is treated by a swale and flows directly into Hampton Street with an assumed fraction impervious of 0.25
Total	**0.262**	

7.2.2 Proposed Treatment Train

A treatment train consisting of proprietary treatment devices from Humes is proposed for the Site. The figure below summarises the proposed treatment train for the development.

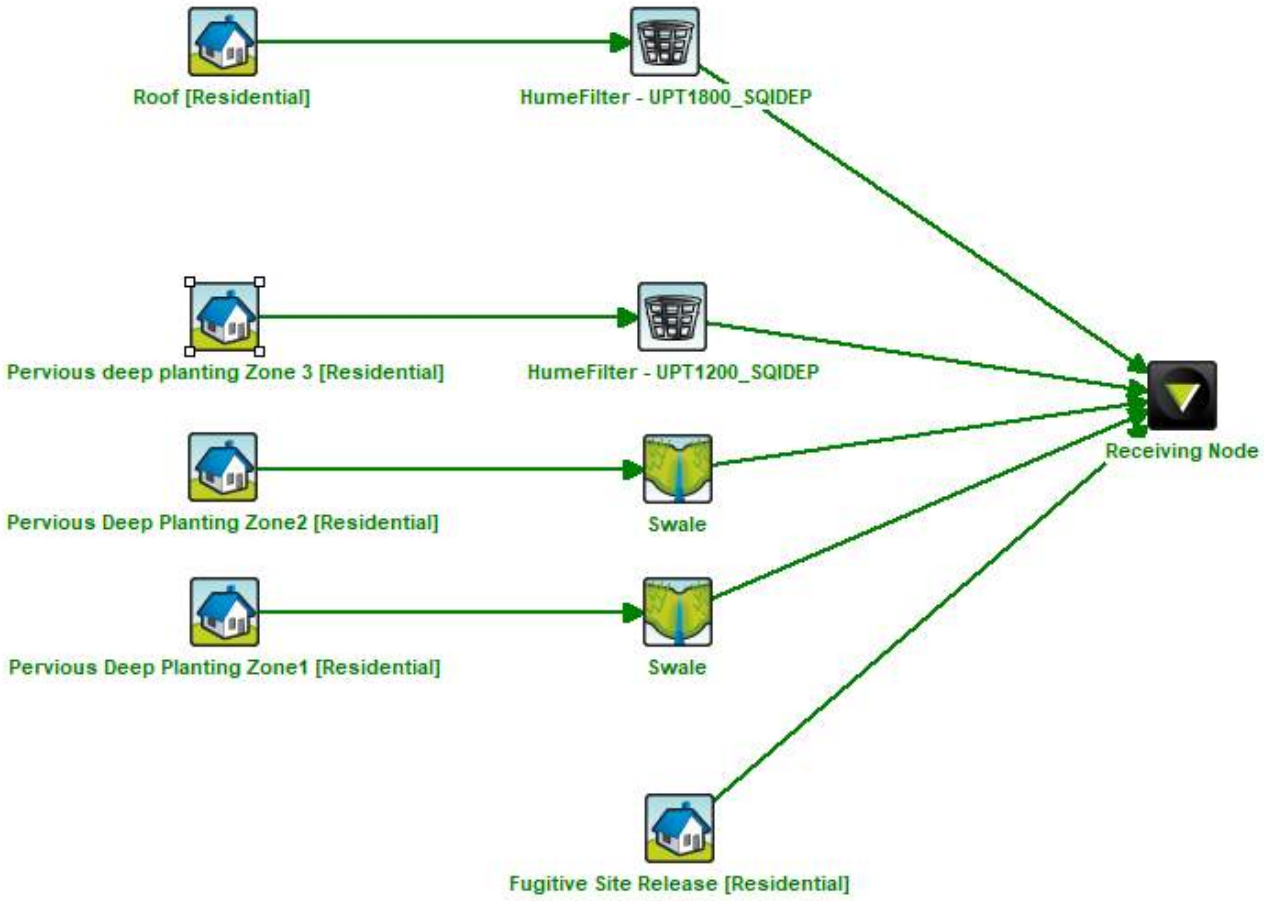


Figure 7.1 MUSIC Model Layout

Refer to Appendix C for the concept stormwater layout sketch.

7.2.2.1 Treatment devices

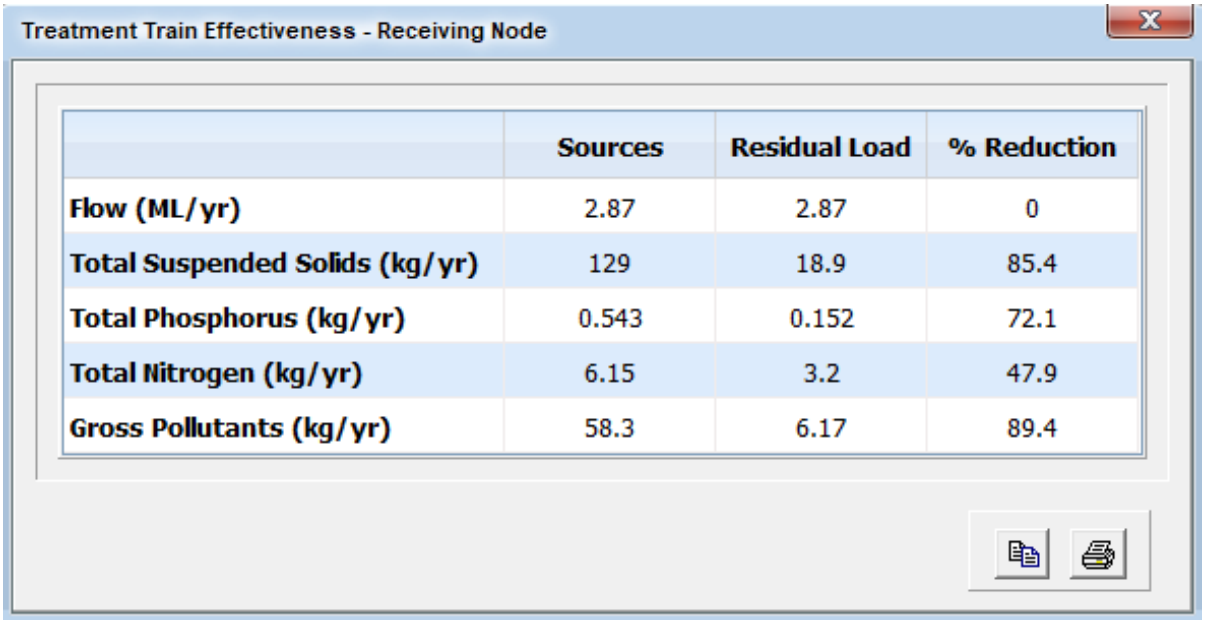
The following proprietary treatment devices from Humes are proposed for the site.

- 1 x Humefilter UPT 1800 (SQIDEP approved)
- 1 x Humefilter UPT 1200 (SQIDEP approved)
- 2 x Swales

Refer to Appendix D for the SQIDEP and proprietary information.

7.2.3 Treatment train effectiveness

The following tables summarise the effectiveness of the proposed treatment trains modelled in MUSIC.



	Sources	Residual Load	% Reduction
Flow (ML/yr)	2.87	2.87	0
Total Suspended Solids (kg/yr)	129	18.9	85.4
Total Phosphorus (kg/yr)	0.543	0.152	72.1
Total Nitrogen (kg/yr)	6.15	3.2	47.9
Gross Pollutants (kg/yr)	58.3	6.17	89.4

Figure 7.2 Overall Development Treatment Train Effectiveness Results

7.2 Construction Phase Stormwater Quality Management

7.2.1 Reference and Guidelines

Erosion and sediment control management for the development should be in accordance with the International Erosion Control Association (IECA) Best Management Practices (2008), the Institute of Engineers (QLD) 'Sediment and Erosion Control Guidelines' and Council requirements.

All erosion and sediment control devices used during and after construction are to be in line with current best management practices and all practical measures applicable to the site. Erosion and Sediment Control Measures should include, but not be limited to, details within the Erosion and Sediment Control Plan Drawings to be provided at detailed design stage.

As per the Environmental Protection Act (EPA) 1994 all personnel must comply with the general environmental controls under Sections 319 and 320, provided as follows:

- Section 319 of the EPA states that all persons involved in the project, from design to construction, are to act in accordance with the 'general environmental duty'. This requires all reasonable and practicable measures to be adopted to prevent or minimise environmental harm. Consequently, any erosion and sediment control devices proposed or implemented on site must represent current best management practices and all practical measures applicable to the site.

- In addition, Section 320 of the EPA, all personnel have a legally binding duty to notify their employer, their Local Regulatory Authority and the Environmental Protection Agency (QLD) should they become aware of a potential or actual incident of environmental harm. The Principal Contractor should therefore be aware of their responsibility to ensure all persons on site are aware of their environmental duties.

7.2.2 Responsibility

In addition to the above, it is the responsibility of the Contractor to put in place all the erosion and sediment control measures on site until all disturbed areas are reinstated including maintenance of such measures. The Contractor is, at all times, responsible for the erosion and sediment control measures to ensure minimal environmental harm and compliance with Council's standards.

7.3 Proposed Erosion & Sediment Control Measures

During the construction phase of the development, an Erosion and Sediment Control Program will be implemented to minimise water quality impacts.

This Program will be developed by the Contractor that is engaged to design and construct the development and hence, will not be available until closer to the start of construction.

Details of the required construction phase sediment and erosions control measures will be provided on the engineering drawings (detailed design phase) and shall be in accordance with the SPP.

The Contractor shall be ultimately responsible for the preparation and implementation of an Erosion and Sediment Control Program and meeting the required minimum construction phase water quality objectives.

The information below is provided to identify possible controls and procedures, that could be adopted to mitigate erosion and sediment impacts, including who is responsible for them, and is recommended to be incorporated into the Erosion and Sediment Control Program.

7.3.1 Pre-Construction

- Establish a single stabilised entry/exit point for each stage of construction. This point should also include a vehicle shakedown device to mitigate the transportation of dust and dirt.

- Sediment fences are to be placed along the low side of the site to slow flows, reduce scour and capture some sediment runoff. Soil testing needs to be undertaken (if required) to confirm the type of sediment fence most suitable for the site.

- Areas for plant and construction material storage are to be designated along with associated diversion drains and spillage holding ponds.
- Prepare a detailed erosion and sediment control plan suitable for the site and the proposed development layout prior to starting works.
- Incorporate measures to address potential acid sulfate soils.
- Site personnel must be inducted on to the sediment and erosion control measures implemented on site.

7.3.2 During Construction

- Progressive stabilization of exposed areas.
- Construction activities are to be confined to the necessary construction areas.
- Tracking the excavation and stockpiling of materials.
- Incorporate measures to address potential acid sulfate soils.
- The provision of a construction entry/exit point and shakedown area to prevent the tracking of debris from vehicles onto public roads. Only one construction exit should be nominated to limit the movement of construction equipment.
- Transport loads that are subject to loss through wind or spillage shall be covered or sealed to prevent entry of pollutants to the stormwater system.
- Regular inspection and maintenance of sediment fences, sediment basins and other erosion control measures. Following rainfall events greater than 50mm, inspection of erosion control measures and removal of collected material should be undertaken. Replacement of any damaged equipment should be performed immediately.

7.3.3 Post Construction

The Contractor/Developer will be responsible for the maintenance of erosion and sediment control devices from the possession of the site until ground surface stabilisation has occurred to the satisfaction of the Superintendent and the Principal. The Sediment and Erosion Control Management Plans should be provided to all people involved with the Project, including sub-contractors, private certifiers, body corporates and regulators. These guidelines have been formed in accordance with the Healthy Waterways Fact Sheet 'Erosion and Sediment Control Management Plans' and the 'Best Practice Erosion and Sediment Control'.

8. Conclusion

A stormwater management plan has been prepared to manage stormwater quantity and quality for the development. The following key points are as follows.

- No on-site pipe detention system is required for the site.
- Two (2) Humefilters and two (2) swales for water quality treatment devices have been proposed for the development.
- The site is not directly affected by 1% AEP backwater flooding according to Council's online mapping and Council's planning scheme.

The information presented in this report demonstrates that the proposed development may be serviced and constructed generally in accordance with the EDQ Development Scheme and Brisbane City Council (BCC) Planning Scheme.

Following our review of the proposed service requirements for the subject site and based on the enclosed information we advise there are no stormwater constraints that would make the subject site unsuitable for development.

Prepared by:

Jason Harley
Principal Engineer, Ensilon Consulting
BE(Hon), BSurv(Hon), MEngSc. RPEQ 05665

9. Qualifications and Limitations

This report must be read in its entirety along with all relevant references. Due regard should be given to the limitations and constraints involved in the derivation of SMPs and flood studies which must be considered by future users of the information to correctly interpret the outcomes and outputs from this study. The following points summarise the main limitations and uncertainties associated with this study:

- LiDAR inherently has issues with accuracy as it cannot penetrate dense vegetation or water. As part of this project, the LiDAR has been reviewed through critical locations in the model. However, locations may not be accurately represented in the LiDAR topography which may affect hydraulic results.

- There are errors in LiDAR accuracy which should be considered when using design flood levels and design planning levels.

- From time to time, there may be minor errors introduced into DEMs when LiDAR is reprojected between different GDA datums or when post-developed surfaces are retriangulated and merged back into surrounding LiDAR tiles.

- The hydraulic validation model assumes no blockage of hydraulic structures, other than that directly as a result of the structure itself (piers, deck, railing etc). During real flood events, blockage can occur at structures and within waterways which may increase peak flood levels in some locations and reduce flood levels in others.

- Uncertainties in hydraulic modelling parameters and model discretisation. While these have been minimised through adopting industry standard parameter values derived and fine-tuned through calibration and verification of the hydraulic model to observed flood behaviour, uncertainties will still remain.

- Whilst the hydraulic assessment is a highly comprehensive detailed investigation, the models represent a point in time and are based on available data. Triggers for revisiting or reworking the study will depend on the significance of change to the study outcomes which will need to be assessed accordingly. Such triggers could include major flood events, improvements to design rainfalls, increased certainty on the effects of climate change, significant advancements in modelling techniques and major civil works such as large dams or extensive levee work.

- Not all structures within the catchment have been reviewed or inspected during the site visits. There may be errors in the Council database or previous modelling which have been used to inform the structure sizes and representations at some locations.

- The earthworks model which this study relies on may change or be modified in the future; either as a result of changes enacted by the Developer in future development applications or by future asset owners and their respective agents.

In preparing this document, including all relevant calculations and modelling, Ensilon Consulting has exercised the degree of skill, care and diligence normally exercised by members of the engineering profession and has acted in accordance with accepted practices of engineering principles.

Ensilon Consulting has used reasonable endeavours to inform itself of the parameters and requirements of the project and has taken reasonable steps to ensure that the works and documents are as accurate and comprehensive as possible given the information upon which it has been based including information that may have been provided or obtained by any third party or external sources which has not been independently verified. In making technical directions, Council takes on the full liability for any issues associated with those directions.

Ensilon Consulting reserves the right to review and amend any aspect of the works performed including any opinions and recommendations from the works included or referred to in the works if:

- Additional sources of information not presently available (for whatever reason) are provided or become known to Ensilon Consulting; or
- Ensilon Consulting considers it prudent to revise any aspect of the works in light of any information which becomes known to it after the date of submission.

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This report does not provide legal advice or legal interpretation in any way whatsoever.

Appendix A - Detailed Site Survey

STANLEY STREET EAST

HAMPTON STREET

U/G Telstra Location Compiled (Telstra Records)
U/G Gas Location Compiled (APA Records)
U/G Water Compiled (UU Records)
U/G Sewer Compiled (UU Records)
O/H Power & Comms Lines
U/G High Voltage Cables Location Compiled (Energex Records)
U/G Fibre Optic Location Compiled (BCC Records)
U/G Traffic Signal Cable Location Compiled (BCC Records)
U/G NBN Location Compiled (NBN Records)
U/G SW Location Compiled (BCC Records)
U/G Sewer Location Compiled (UU Records)
U/G Water Compiled (UU Records)

Screw in Kerb (Painted White) RL = 12·20m AHD
Screw in Concrete (Painted White) RL = 12·96m AHD
Screw in Channel (Painted White) RL = 11·11m AHD
Sign (Stanley St E)
Sign (No Stopping)
Sign (Parking)
Spread: 4 Height: 6 Trunk: 0.15

61 RP11567 421 m²
62 RP11567 422 m²
63 RP11567 422 m²
1 RP116092 845 m²
CP BUP822
60 RP11567 505 m²
59 RP11567
CP SP177345

359°56'40" (52·028)
179°59'35" (52·028)
90°0' (50·304)
270°0' (50·26)

Top Stone Step 12·59
Roof Edge 18·87
Roof Corner 19·00
Ridge 20·10
Two Storey Front Office
Polished Concrete 12·90
Ridge 18·21
Gutter 16·58
Gutter 16·56
Floorboards 13·55
Single Storey Brick Warehouse
Single Storey Block Warehouse
Front Office
Gutter 16·31
Entry Tiles 13·37
High Roof Corner 20·46
Tiles Outside Entry 13·45
Roof Corner 18·89
Slab 13·30
Two Storey Brick Office Building
Rounded Ridge 18·71
Inside Slab 12·57
Rounded Ridge 18·70
Inside Slab 12·59
Roof Corner 18·97
Roof Corner 17·47
Roof Corner 18·87
Roof Corner 18·86
Tiles at Rear Door 13·30
Lid 10·97 NOT OPENED
2m Paling Fence
2·5m Paling Fence
Gutter 16·56
Single Storey Raised Weatherboard Dwelling
Roof Ridge 18·32
Gutter 20·54
Balcony Tiles 15·46
Balcony Tiles 18·12
Ridge 21·56
Three Storey Brick Unit Block
Ridge 21·59
Roof Ridge 23·99

NOTE: Refer to Identification Survey Plan (IS340995) For Encroachment Details

Scale 1:150 – Lengths are in Metres.
2 0 2 4 6 8 10 12 14 16 18 20 22

N

LEGEND
Water
Sewer
Fence
Stormwater
Vegetation
Electrical (U/G)
Electrical (A/G)

NOTE:
This plan has been prepared for Pedakil 3 Pty Ltd, from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose.

The spot heights shown represent the existing features in general only. The contours shown on this plan may not be used to determine maximum building heights, refer to local council regulations for requirements.

Height and spread information of trees are approximate only.

The title boundaries shown hereon were marked at the time of the survey and are as shown on IS340995.

Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of underground services and detailed locations of all services.

This note is an integral part of this plan/file

P. 1300 275 266
info@bplanned.com.au
www.bplanned.com.au
bplanned & surveyed
TOWN PLANNING SURVEYING

DETAIL SURVEY

of Lots 60-63 on RP11567
& Lot 1 on RP116092.

10 Hampton Street & 893, 895, 897, 899 Stanley Street East, East Brisbane.

Client - Pedakil 3 Pty Ltd.

L.A.	Brisbane C. C.
LOCALITY	East Brisbane
CONTOUR INT	0.2m
MERIDIAN	IS340995
LEVEL ORIGIN	OPM 141331
DATUM	RL 10.031m AHD
SURVEYOR	TBG
CHECKED BY	JMG
SCALE	1:150 @ A1
DATE	30/09/2025
SHEET	1 of 1

DRAWING No. 002668_detail
REV B

SERVICE LOCATION REPORT

All down pipes go to ground
Pipes blocked

HAMPTON STREET

LISBURN STREET

S/W (b)

S/W (b)

S/W (b)

Clearance slot trench
4.2M length 1.0M depth
Rock encountered
Pipe not found

Unable to trace rod past this point
Pipe blocked

Pipe blocked in Man Hole

S/W (c)

S/W (c)

MH

N

GDA2020LatLng
lat: -27.48758
long: 153.04103

NOT FOR DESIGN OR CONSTRUCTION

ULS ADVISES THAT ALL SERVICES ARE TO BE POTHOLED TO ACHIEVE A QUALITY LEVEL A AS PER AS5488

TELSTRA - WHITE - (T)		NBN - WHITE - (NBN)	
ELECTRICAL - ORANGE - (E)		REEF NETWORKS - WHITE - (RN)	
WATER - BLUE - (W)		VOCUS - WHITE - (VOC)	
GAS - YELLOW - (G)		AAPT - WHITE - (APT)	
SEWER - CREAM - (S)		TPG - WHITE - (TPG)	
RECYCLED WATER - PURPLE - (RM)		POWERTEL - WHITE - (PWT)	
STORMWATER -GREEN - (S/W)	✔	AARNET - WHITE - (ARN)	
FIRE MAINS - RED - (FM)		NEXTGEN - WHITE - (NXT)	
UNIDENTIFIED SERVICES - PINK - (U)		UECOMM - WHITE - (UE)	
COMMUNICATIONS - WHITE - (C)		PIPE NETWORKS - WHITE - (PN)	
OPTUS - WHITE - (OPT)			

DATE:	16/03/2026
COMPANY:	VISION SURVEYS
CONTACT:	ELLIOT GIBSON
ADDRESS:	893-899 STANLEY STREET EAST, EAST BRISBANE
JOB #:	15599
PROJECT:	-
SKETCH #:	-
LOCATED BY:	NATHAN GRANT
REPORT BY:	NATHAN GRANT
SITE CONTACT:	ELLIOT GIBSON

SERVICE LOCATION REPORT LEGEND

N — NORTH FACING	TELSTRA PILLAR	ELECTRICAL MANHOLE	RECYCLED WATER MANHOLE	SEWER MANHOLE	OPTUS — OPTUS PIT
.600 — DEPTH BOX	TELSTRA MANHOLE	E — ELECTRICAL MANHOLE	V — RECYCLED WATER VALVE	MH — SEWER MANHOLE	UECOMM — UECOMM PIT
P/H — POTHOLE LOCATION	9 — TELSTRA 9 PIT	E — ELECTRICAL PIT	M — RECYCLED WATER METER	MH — SEWER MANHOLE	PN — PIPE NETWORKS PIT
PIT — GAS PIT	8 — TELSTRA 8 PIT	E — ELECTRICAL PIT	RECYCLED WATER TAP	MH — SEWER MANHOLE	RN — REEF NETWORKS PIT
V — GAS VALVE	6 — TELSTRA 6 PIT	ELECTRICAL PILLAR	MH — STORMWATER MANHOLE	IO — SEWER INSPECTION OPENING	VOCUS — VOCUS PIT
WATER MANHOLE	5 — TELSTRA 5 PIT	ELECTRICAL TRANSFORMER	MH — STORMWATER MANHOLE	V — SEWER VALVE	AAPT — AAPT PIT
V — WATER VALVE	4 — TELSTRA 4 PIT	SL — STREET LIGHT	STORM WATER GULLY PIT	NBN — NBN PIT	TPG — TPG PIT
H — WATER HYDRANT	3 — TELSTRA 3 PIT	PP — POWER POLE	STORM WATER GULLY PIT	NODE — NBN NODE	POWERTEL — POWERTEL PIT
M — WATER METER	2 — TELSTRA 2 PIT	V — FIRE MAIN VALVE	STORM WATER GULLY PIT	C — COMMUNICATIONS PIT	AARNET — AARNET PIT
WATER TAP	B — TELSTRA BURIED PIT	FIRE MAIN HYDRANT	STORM WATER HEAD WALL	C — COMMUNICATIONS PIT	NEXTGEN — NEXTGEN PIT
SCOPE OF WORKS	WARNING CLOUD	H — FIRE MAIN HYDRANT	FIRE HOSE REEL	C — COMMUNICATIONS PIT	

-- (a) -- (a) -- QUALITY LEVEL A	-- (b) -- (b) -- QUALITY LEVEL B	-- (c) -- (c) -- QUALITY LEVEL C	-- (d) -- (d) -- QUALITY LEVEL D	-- T -- T -- TELSTRA
-- E -- E -- ELECTRICAL	-- G -- G -- GAS	-- W -- W -- WATER	-- S/W -- S/W -- STORMWATER	-- FM -- FM -- FIRE MAINS
-- S -- S -- SEWER	-- R/W -- R/W -- RECYCLED WATER	-- U -- U -- UNIDENTIFIED	-- C -- C -- COMMUNICATIONS	-- OPT -- OPT -- OPTUS
-- NBN -- NBN -- NBN	-- UE -- UE -- UECOMM	-- PN -- PN -- PIPE NETWORKS	-- RN -- RN -- REEF NETWORKS	-- V -- V -- VOCUS
-- APT -- APT -- AAPT	-- TPG -- TPG -- TPG	-- PWT -- PWT -- POWERTEL	-- ARN -- ARN -- AARNET	-- NXT -- NXT -- NEXTGEN

SERVICE LOCATION REPORT TERMS & CONDITIONS

ULS SERVICE LOCATION REPORT TERMS AND CONDITIONS

1. ULS advises that Electronic and GPR depths & alignments are indicative only. Customer must validate all known assets before commencing excavation via potholing of services either by Hydrovac Excavation or Hand Digging to achieve a Quality Level A as per AS 5488-2022.

2. The client acknowledges that the information contained in this document are only correct at the time of producing the document, changes in circumstances after the time of recording data may impact on the accuracy of this data eg. ground levels can change and other underground assets could be installed without our knowledge.

3. Utility Location Services Pty Ltd gives no warranty or assurance and makes no representation as to the accuracy of any information or advice contained, it is NOT TO SCALE and intended for visual purposes only.

4. Depth readings are for "general information" only and NOT accurate for Design and Construction. Depths if depicted, are from ground surface to somewhere on or within the service based on locating procedures and signal strength. All on site and documented depths are for potholing purposes only. Size of materials of services, if depicted are per the BYDA records or if the service is visually exposed to the locator. It may not however be applicable to the entire service.

5. All locations are done as per BYDA or GIS Documentation provided. Locations are made only for the services requested, Other services may remain unmarked if they were not part of the request.

6. Client is responsible for complying with the duty of care of the asset holders as well as following all relevant Workplace Health and Safety Legislation and Regulations.

7. It is the responsibility of the client to ensure that all necessary permits, permissions or authorisations are obtained for the work to be carried out on site.

DEFINITION OF QUALITY LEVEL CLASSIFICATIONS AS PER AS 5488-2022

This Standard provides a framework for the classification of subsurface utility location and attributes information in terms of specified quality levels.This Standard applies to subsurface utilities and associated surface features that facilitate the location and identification of subsurface utility infrastructure. These features may include access chambers, stop valves, terminal pads and other surface related facilities. This Standard does not apply to utility infrastructure that is above the surface, such as overhead wires.This Standard applies to all existing (including redundant) and under-construction subsurface utility infrastructure. A quality level describes the amount and accuracy of information that is collected or held on subsurface utility. There are four quality levels A,B,C & D

Quality Level A - (meets location accuracy standard for minimum risk when excavating)
QL-A is the highest Quality Level accuracy and consists of positive identification (Potholing) of the attribute of a subsurface utility at a point to an absolute spatial position in three dimensions. It is the only quality level that defines a subsurface utility as "Validated".

Quality Level B - (significant risk reduction)
QL-B provides relative subsurface feature in 3 dimensions. The minimum requirement for QL-B is relative spatial position, this can be achieved via an electromagnetic frequency locating device. An electronic location provided by a DBYD Certified Locator to QL-B standard would have a minimum horizontal tolerance of plus or minus 300mm and a maximum vertical tolerance of plus or minus 500mm.

Quality Level C - (low accuracy and a high risk of damage)
QL-C is described as a subsurface feature correlation or an interpretation of the approximate location and attribute of a subsurface utility asset using a combination of existing records and site survey of visible evidence - for example you can see the pit lids shown on the plan but the actual position of underground connection between pits is still assumed.

Quality Level D - (least accurate level and if used on its own has a high risk of damage)
QL-D information is generally obtained from existing records provided by utilise as a result of a Before You Dig enquiry being lodged. In many cases the asset depicted on the plan is in a schematic format only and intended to indicate its presence.

Appendix B - Proposed Development Plans

FINISHES LEGEND:

FACADE

- BRK — FEATURE BRICK CLADDING TO PODIUM
- BAT — INFILL ALUMINIUM BATTENS POWDERCOAT: MONUMENT.
- CONC1 — PRECAST CONCRETE PANEL. COLOUR: WHITE.
- CONC2 — PRECAST CONCRETE PANEL. COLOUR: MID-GREY.
- CONC3 — PRECAST CONCRETE PANEL. COLOUR: DARK-GREY.

BAISTRADES

- BAL-1 — CLEAR GLASS BALUSTRADE
- BAL-2 — METAL BALUSTRADE

NORTH

17.03.2026

NMDSARCHITECTURE
NICK MUSLIN 0409.130.471
www.nmds.net.au

PROJECT ADDRESS	DRAWING TITLE	SCALE	JOB NUMBER	DRAWING	REV
PROPOSED UNIT DEVELOPMENT. 893-899 STANLEY ST EAST + 10 HAMPTON ST. EAST BRISBANE.	NORTH ELEVATION	1:300 @A3	2531	DA-300 -	- 17.03.2026 DA APPLICATION

STANLEY STREET

HAMPTON STREET

REFER AGLA LANDSCAPE ARCHITECTURE PACKAGE FOR STREETSCAPE DESIGN DETAILS

Screw in Kerb (Painted White) RL = 12·20m AHD

Sign (Stanley St E)

Sign (Parking)

N DA300

B DA401

W DA303

E DA301

A DA400

S DA302

+EXRL 12.27

+EXRL 12.40

+EXRL 12.75

+EXRL 12.96

+EXRL 12.00

+EXRL 12.83

+EXRL 12.58

EXRL 11.35

2000

4000

RESIDENT PRIMARY ENTRY

RESIDENT SECONDARY ENTRY

RL 12.500

EXTERNAL BREAK-OUT

LANDSCAPING

PIT

FLEXI-SPACE / CO-WORKING

MAILBOX / PARCELS

LOBBY

RL 12.500

GYMNASIUM

YOGA / WELLNESS

FIRE CONTROL ROOM

FIRE EGRESS TO HAMPTON STREET

RECEPTION

MANAGER'S OFFICE

WC

WC

PWD

VISITOR BICYCLE PARKING (4)

VISITOR BICYCLE PARKING (41)

RES. BIKE PARK (34)

RL 11.85 + (RL 17.25 TOP OF L1 SLAB)

4500 truck clearance
650 sprinkler/lighting
250 conc slab

RL 14.32 +

STORE

BIN LOADING ZONE

BIN ROOM
RL 11.850
GFA: 81.3m2

3.5 x 11m MRV LOADING AND REFUSE COLLECTION BAY

Accco 2350 Rear Loader Refuse Truck

LIFT CAR 3

LIFT CAR 2

LIFT CAR 1

FIRE EGRESS

MSB ROOM
RL 12.500

COMMS ROOM

VIS 01 VIS 02 VIS 03 VIS 04 VIS 05 VIS 06 VIS 07 VIS 08 VIS 09 VIS 10 VIS 11 VIS 12 VIS 13 VIS 14 VIS 15 VIS 16 VIS 17 VIS 18 VIS 19 VIS 20 VIS 21 VIS 22 VIS 23 VIS 24

PWD ACCESS

PWD

BIN ROOM NOTES:

- 5 x 1100 LT GENERAL WASTE BINS
- 13 x 1100 LT COMMINGLED RECYCLING BINS
- INTEGRATED COMPACTION PROVIDED FOR GENERAL WASTE ONLY AT COMPACTION RATE OF 3:1

DRIVEWAY

24 CAR BAYS (VISITOR CAR PARKING)

TURNING BAY

SECURE LINE OF ENTRY

RAMP TO LEVEL 1 PODIUM

TYPE B2 CROSSOVER

SEWER PIT

RL 11.100

ENERGEX TRANSFORMER

2 METRE LAND DEDICATION

Lid 10·97 (NOT OPENED)

LANDSCAPING

FB CABINET

WATER METERS

COLD WATER PUMP ROOM

RL 13.00

FIRE PUMP ROOM

RL 13.00

SPRINKLER TANKS BENEATH RAMP 89,000 LTRS

RL 12.500

VOID BELOW RAMP

RL 13.45

RL 13.20

RL 13.200

Gutter 16·56

Single Storey Raised Weatherboard Dwelling

O/H Power & Comms Lines

Roof Ridge 18·32

50·26
270°0'

59
RP11567

2m Paling Fence

SWALE TO DEEP PLANTING ZONE.
REFER CIVIL ENG DWGS FOR DETAILS.

High Roof Corner 20·46

Tiles Outside Entry 13·45

Two Storey Brick Office Building

Gutter 20·54

Balcony Tiles 15·46

Balcony Tiles 18·12

Three Storey Brick Unit Block

Ridge 21·56

Ridge 21·59

CP SP177345

GR (L0)
17.03.2026

NMDSARCHITECTURE
NICK MUSLIN 0409.130.471
www.nmds.net.au

PROJECT ADDRESS	DRAWING TITLE	SCALE	JOB NUMBER	DRAWING	REV
PROPOSED UNIT DEVELOPMENT. 893-899 STANLEY ST EAST + 10 HAMPTON ST. EAST BRISBANE.	GROUND	1:250 @A3	2531	DA-200	-

-	17.03.2026	DA APPLICATION

Appendix C - Preliminary Stormwater Sketch

LEGEND

- EXISTING LOT BOUNDARY
- DESIGN SURFACE CONTOUR (0.1m INTERVALS)
- PROPOSED STORMWATER LINE
- PROPOSED STORMWATER STRUCTURE
- EARTHWORKS BATTER TOP
- EARTHWORKS BATTER BOTTOM
- PROPOSED BUILDING EXTENT
- PROPOSED WATER RETICULATION
- PROPOSED SEWER RETICULATION
- PROPOSED SWALE
- PROPOSED FLOW PATH
- PROPOSED RETAINING WALL (HEIGHT IN m)
- PROPOSED DRIVEWAY CROSSOVER – CONCRETE 180mm THICK
- LANDSCAPE PLANTING – REFER LANDSCAPE ARCHITECTS PLANS
- EXISTING KERB
- EXISTING STORMWATER
- EXISTING SEWER
- EXISTING WATER
- EXISTING ELECTRICAL
- EXISTING TELECOMMUNICATION
- EXISTING COMMS
- EXISTING GAS
- EXISTING U/G HIGH VOLTAGE ELECTRICAL
- EXISTING WATER REMOVED

Discharge arrangement subject to compliance assessment approval, as per condition 28.

NOTE:
FLOOR PLAN PROVIDED BY NMDS ARCHITECTURE, REV (A) DATED 18.03.26

STANLEY STREET EAST

PROPOSED BARRIER KERB AND CHANNEL.

PROPOSED BARRIER KERB AND CHANNEL.

EXISTING ø20 WATER SERVICE AND METER TO BE RETAINING FOR TEMPS/ CONSTRUCTION FACILITY

ABANDON AND REMOVE EXISTING ø20 WATER SERVICE AND METER

ABANDON AND REMOVE EXISTING ø20 WATER SERVICE AND METER

Flow to be conveyed via DN150

INLET PIT
SL = 12.1
IL = 11.7

HUMES FILTER
UPT 1200

DIVERSION PIT
IL = 11.4m

PROPOSED BUILDING
FFL 13.000

PROPOSED BUILDING
FFL 12.500

PROPOSED BUILDING
FFL 12.000

905 STANLEY STREET EAST

HAMPTON STREET

SWALE
B=0.5m
D=0.1m
1 in 3 BATTER

ø225 UPVC SN8

PROPOSED BUILDING
FFL 11.850

INLET PIT
SL = 11.5m
IL = 11.2m

7.3m WIDE DRIVEWAY CROSSOVER TO HAMPTON STREET.
TYPE B2 DRIVEWAY CROSSOVER AS PER BCC STD BSD-2021

7.300m

ø150 UPVC SN8

FOUL WATER LINE NOT IDENTIFIED DURING POTHOLING SURVEY

FOUL WATER LINE NOT IDENTIFIED DURING POTHOLING SURVEY

SEWER PROPERTY PIT

SEWER CONNECTION INTO EX SEWER MANHOLE IN HAMPTON ST

JUNCTION PIT
SL = 11.6m
IL = 11.1m

DIVERSION PIT

ø225 UPVC SN8

LETTERBOX OPENING AND INLET PIT TO ACCEPT MINOR SURFACE FLOWS FROM ADJACENT PROPERTY

4 x 125x75 RHS KERB ADAPTOR

ø300 UPVC SN8

HUMES FILTER
UPT 1800
SL 13.200

ø225 UPVC SN8

ø300 UPVC SN8

ABANDON AND REMOVE EXISTING ø20 WATER SERVICE AND METER

PROPOSED BUILDING
FFL
11.100

INLET PIT FOR ALL INCOMING ROOFWATER

25 LISBURN STREET

H:0.4

H:0.4

H:0.4

5 x 125x75 RHS KERB ADAPTOR

12 HAMPTON STREET

INLET PIT

LOW RETAINING WALL WITH FENCE BRACKETS.

SWALE
B=1.0m
D=0.15m
1 in 3 BATTER

SITEWORKS LAYOUT PLAN
SCALE 1:100

REV	DESCRIPTION	BY	DES	DATE
A	FOR APPROVAL	NM	NM	26.02.26

2.5 0 2.5 5.0m
1 : 125 (FULL SIZE A1)

NAME:
RPEQ: DATE:

Approved by, for and on behalf of Ensilon

Ensilon Pty Ltd
ACN 644 618 253
http://www.ensilon.com.au

CLIENT: DAKL GROUP

TITLE: SITEWORKS LAYOUT PLAN

PROJECT: UNIT DEVELOPMENT
893–899 STANLEY ST EAST + 10 HAMPTON ST, EAST BRISBANE

STATUS: FOR APPROVAL

DESIGNED	DRAWN	APPROVED	DATE	SCALE @ A1	SHEET
NM	NM	-	26.02.26	1:125	1 of 1

PROJECT No: 26–001
DRAWING No: C200
REV: A

Appendix D - Proprietary Information

UNIVERSAL POLLUTANT TRAP (UPT1200) PARTS TABLE

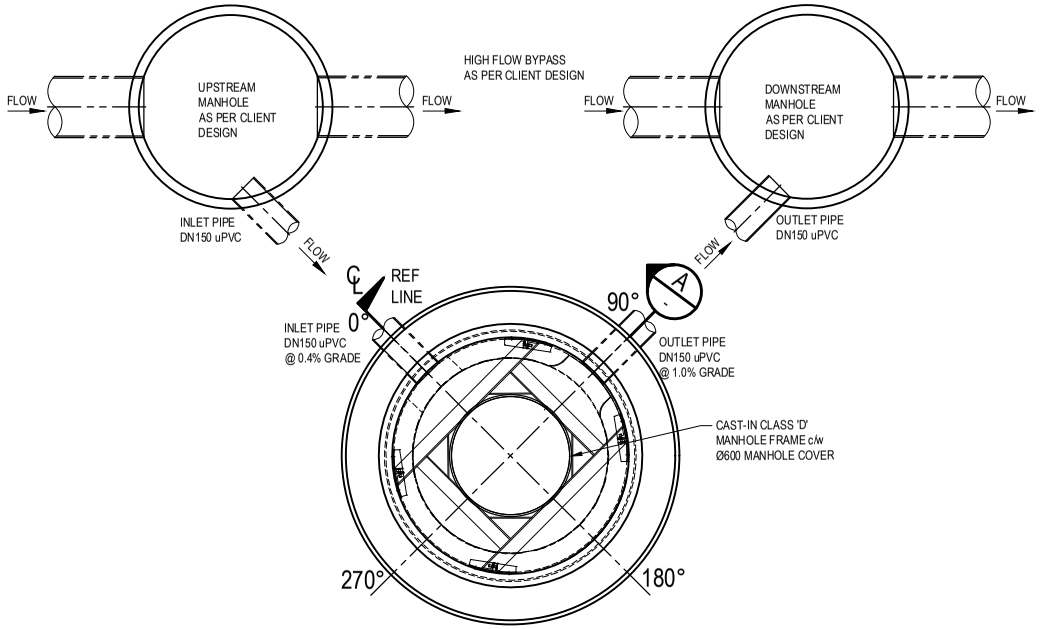
ITEM No.	PART	MANUF'T	SUPPLIED BY	No OFF.	APPROX MASS (t)	COMMENTS
1	BASE UNIT	HUMES	HUMES	1	1.15	INSTALLED BY CONTRACTOR ON-SITE
2	PLINTH	BY OTHERS	HUMES	1	BY OTHERS	INSTALLED BY HUMES IN FACTORY
3	FILTER MEDIUM CARTRIDGE	BY OTHERS	HUMES	1	BY OTHERS	INSTALLED BY CONTRACTOR ON-SITE
4	TREATMENT CHAMBER SHAFT	HUMES	HUMES	1	1.20 (SHAFT ONLY)	INSTALLED BY CONTRACTOR ON-SITE
5	TREATMENT CHAMBER INSERT	BY OTHERS	HUMES	1	BY OTHERS	INSTALLED BY CONTRACTOR ON-SITE
6	TREATMENT CHAMBER SUPPORT FRAME	BY OTHERS	HUMES	1	BY OTHERS	
7	TREATMENT CHAMBER SUPPORT FRAME BRACKET	BY OTHERS	HUMES	4	BY OTHERS	INSTALLED BY HUMES IN FACTORY
8	CONCRETE SURROUND RING	HUMES	HUMES	1	1.00	INSTALLED BY CONTRACTOR ON-SITE
9	RUBBER RING	HUMES	HUMES	1	0.02	INSTALLED BY CONTRACTOR ON-SITE
10	CONCRETE LID	HUMES	HUMES	1	0.50	INSTALLED BY CONTRACTOR ON-SITE
	ANCON 1.3t "UNILIFT" CONE ANCHOR CLUTCHES	ANCON	CONTRACTOR	4	-	PROVIDED BY CONTRACTOR FOR LIFTING
	ANCON 2.5t "UNILIFT" CONE ANCHOR CLUTCHES	ANCON	CONTRACTOR	4	-	PROVIDED BY CONTRACTOR FOR LIFTING
	MEGAPOXY / EPOXY / MASTIC SEALANT	-	HUMES		-	INSTALLED BY CONTRACTOR ON-SITE
	STAINLESS STEEL CLEVIS PIN / R-CLIP	WHITWORTHS	HUMES	4xEACH		USED TO REMOVE AND SECURE INSERT

GENERAL NOTES:

1. CONCRETE DESIGNED TO AS3600
2. EXPOSURE CLASSIFICATION: B2 AS PER AS3600. SELF COMPACTING CONCRETE WITH RIGID FORMWORK
3. TRAFFIC LOADING: SM1600 VEHICLE TO AS5100 AND LIVE LOAD FACTOR 1.5 WITH 1.25 DYNAMIC ALLOWANCE
4. MINIMUM COVER TO REINFORCEMENT = 25mm (NOMINAL COVER = 30mm ± 5 UNO)
5. FOUNDING MATERIAL TO BE A MINIMUM 150kPa (WORKING LOAD) AND 150mm THICK COMPACTED GRAVEL TO 95% MDD
6. SEALANT: PU MASTIC OR SIKAFLEX 11FC
7. ABBREVIATIONS:
   O/A = OVERALL
   I/D = INTERNAL DIAMETER
   O/D = OUTSIDE DIAMETER
   TC = TREATMENT CHAMBER
   MU = MAKEUP (SHAFT)

PIPES CONNECTION TABLE

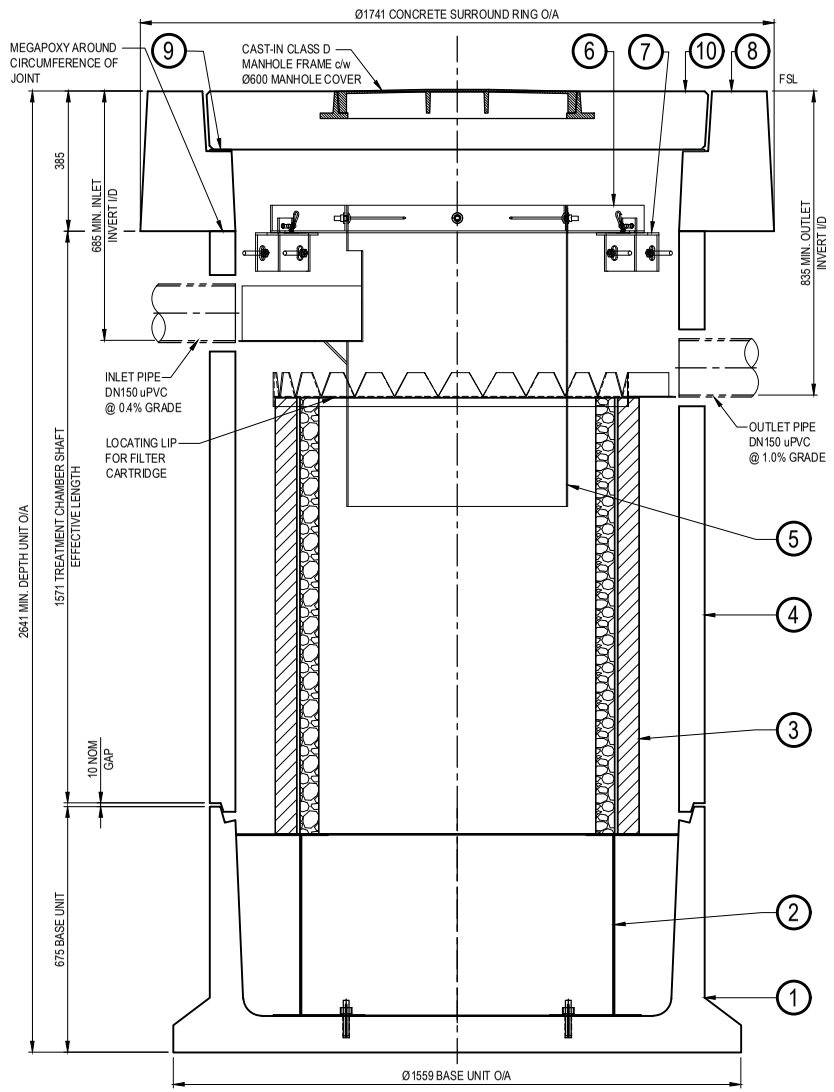
	SIZE / TYPE	CONNECTION	COMMENTS
UPT INLET	DN150 uPVC CLASS TBC CONSULTANT	EPOXY JOINT	uPVC SUPPLIED AND INSTALLED BY CONTRACTOR ON-SITE.
UPT OUTLET	DN150 uPVC CLASS TBC CONSULTANT	EPOXY JOINT	uPVC SUPPLIED AND INSTALLED BY CONTRACTOR ON-SITE.



HUMEFILTER UPT1200

PLAN - SITE ARRANGEMENT

SCALE 1: NTS



SECTION A - A

SCALE 1: NTS

AS INSTALLED

DESIGN IS A CONCEPT ONLY.
DRAWING MAY VARY
SUBJECT TO DETAIL DESIGN

REV	DETAILS OF ALTERATIONS	DWN	DATE ISS.	CHKD BY
B	MINOR AMENDMENTS - REISSUED FOR INFORMATION	CMT	--	--
A	ISSUED FOR INFORMATION	CMT	02-02-22	CK

REVISIONS

ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. DO NOT SCALE

DWG STATUS:	FOR INFORMATION ONLY					
DWG PROD BY:	NAT. WATER SOLTUIONS	ENG DSN BY: KRB	ENG DSN CHK: N/A	DRAFT BY: CMT	DRAFT CHK: GJH	APP: CK
QR / QA CODE:		ENG DSN BY DATE: 02-02-22	ENG DSN CHK DATE: xx-xx-xx	DRAFT BY DATE: 01-02-22	DRAFT CHK DATE: 02-02-22	APP DATE: 02-02-22

CLIENT:	HUMES WATER SOLUTIONS
PROJ ADD:	HUMEFILTER TECHNICAL MANUAL
TITLE 1:	HUMEFILTER UPT1200
TITLE 2:	uPVC INLET & OUTLET
DWG DES:	GENERAL ARRANGEMENT
DWG No.:	EP-UPT-1200-PVC-NAT-B2-GA
PDF SHEET SIZE:	A2
ISSUE:	B

C:\USERS\CTAYLOR\DOCUMENTS\HUMES - MIL\DWG\PT\CAD\CONCEPT UPT12\MANUAL\01-A.DWG PRINTED: 10/02/2022 4:27:25 PM

UNIVERSAL POLLUTANT TRAP (UPT1800) PARTS TABLE

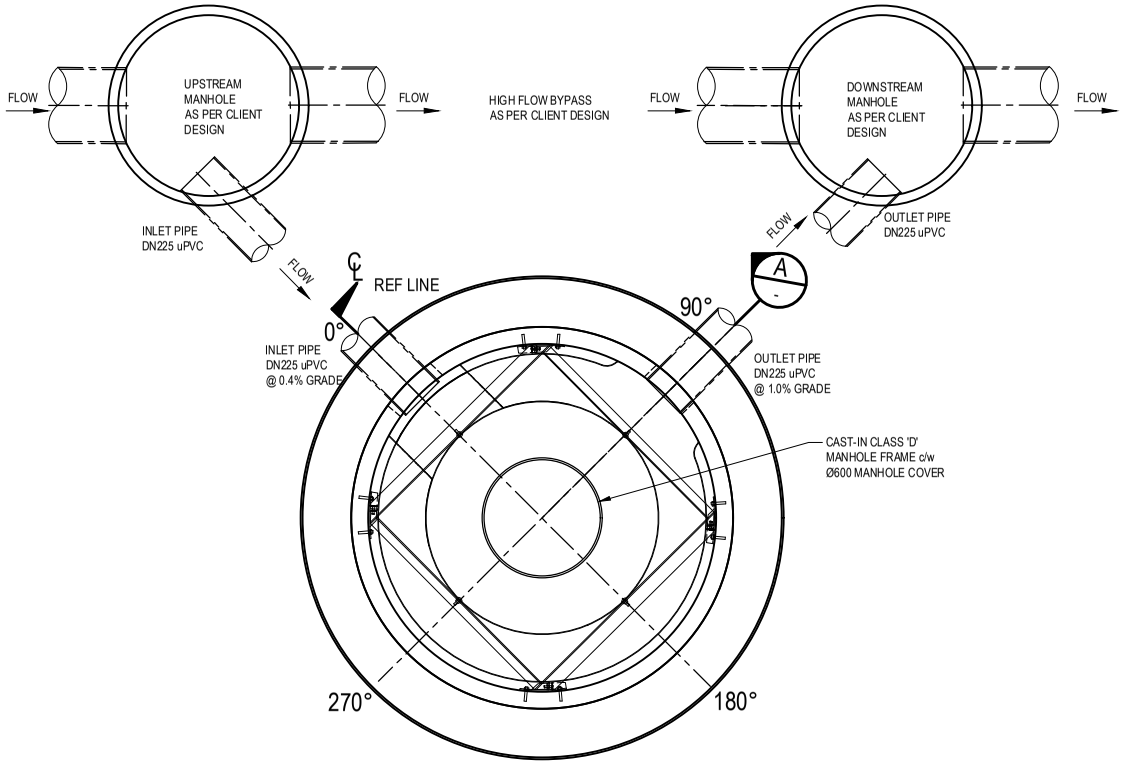
ITEM No.	PART	MANUF'T	SUPPLIED BY	No OFF.	APPROX MASS (t)	COMMENTS
1	BASE UNIT	HUMES	HUMES	1	3.80	INSTALLED BY CONTRACTOR ON-SITE
2	PLINTH	BY OTHERS	HUMES	1	BY OTHERS	INSTALLED BY HUMES IN FACTORY
3	FILTER MEDIUM CARTRIDGE	BY OTHERS	HUMES	1	BY OTHERS	INSTALLED BY CONTRACTOR ON-SITE
4	TREATMENT CHAMBER SHAFT	HUMES	HUMES	1	2.05 (SHAFT ONLY)	INSTALLED BY CONTRACTOR ON-SITE
5	TREATMENT CHAMBER INSERT	BY OTHERS	HUMES	1	BY OTHERS	INSTALLED BY CONTRACTOR ON-SITE
6	T.C. SUPPORT FRAME	BY OTHERS	HUMES	1	BY OTHERS	
7	T.C. SUPPORT FRAME BRACKET	BY OTHERS	HUMES	4	BY OTHERS	INSTALLED BY HUMES IN FACTORY
8	CONCRETE SURROUND RING	HUMES	HUMES	1	2.20	INSTALLED BY CONTRACTOR ON-SITE
9	RUBBER RING	HUMES	HUMES	1	0.02	INSTALLED BY CONTRACTOR ON-SITE
10	CONCRETE LID	HUMES	HUMES	1	1.30	INSTALLED BY CONTRACTOR ON-SITE
	ANCON 1.3t "UNILIFT" CONE ANCHOR CLUTCHES	ANCON	CONTRACTOR	4	-	PROVIDED BY CONTRACTOR FOR LIFTING
	ANCON 2.5t "UNILIFT" CONE ANCHOR CLUTCHES	ANCON	CONTRACTOR	4	-	PROVIDED BY CONTRACTOR FOR LIFTING
	MEGAPOXY / EPOXY / MASTIC SEALANT	-	HUMES		-	INSTALLED BY CONTRACTOR ON-SITE
	STAINLESS STEEL CLEVIS PIN / R-CLIP	WHITWORTHS	HUMES	4xEACH		USED TO REMOVE AND SECURE INSERT

GENERAL NOTES:

1. CONCRETE DESIGNED TO AS3600
2. EXPOSURE CLASSIFICATION: B2 AS PER AS3600. SELF COMPACTING CONCRETE WITH RIGID FORMWORK
3. TRAFFIC LOADING: SM1600 VEHICLE TO AS5100 AND LIVE LOAD FACTOR 1.5 WITH 1.25 DYNAMIC ALLOWANCE
4. MINIMUM COVER TO REINFORCEMENT = 25mm (NOMINAL COVER = 30mm ± 5 UNO)
5. FOUNDING MATERIAL TO BE A MINIMUM 150kPa (WORKING LOAD) AND 150mm THICK COMPACTED GRAVEL TO 95% MDD
6. SEALANT: PU MASTIC OR SIKAFLEX 11FC
7. ABBREVIATIONS:
   O/A = OVERALL
   I/D = INTERNAL DIAMETER
   O/D = OUTSIDE DIAMETER
   TC = TREATMENT CHAMBER
   MU = MAKEUP (SHAFT)

PIPES CONNECTION TABLE

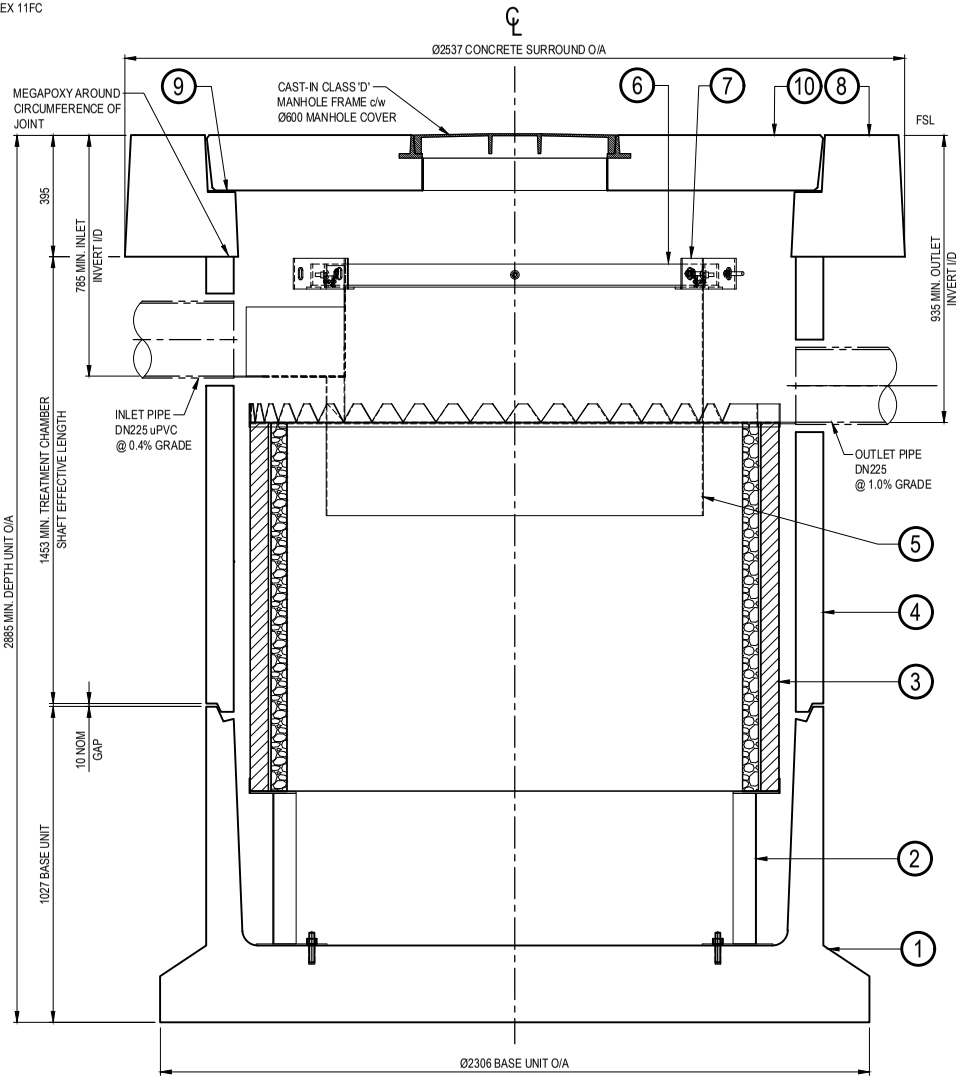
	SIZE / TYPE	CONNECTION	COMMENTS
INLET	DN225 uPVC CLASS TBC CONSULTANT	EPOXY JOINT	uPVC SUPPLIED AND INSTALLED BY CONTRACTOR ON-SITE.
OUTLET	DN225 uPVC CLASS TBC CONSULTANT	EPOXY JOINT	uPVC SUPPLIED AND INSTALLED BY CONTRACTOR ON-SITE.



HUMEFILTER UPT1800

PLAN - SITE ARRANGEMENT

SCALE 1: NTS



SECTION A - AS INSTALLED

SCALE 1: NTS

DESIGN IS A CONCEPT ONLY.
DRAWING MAY VARY
SUBJECT TO DETAIL DESIGN

REVISIONS					
B	MINOR AMENDMENTS - REISSUED FOR INFORMATION	CMT	--	-	
A	ISSUED FOR CONCEPTUAL DESIGN	CMT	02-02-22	CK	
REV	DETAILS OF ALTERATIONS	DWN	DATE ISS.	CHKD BY	

ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. DO NOT SCALE

DWG STATUS:	FOR INFORMATION ONLY				
DWG PROD BY:	NAT. WATER SOLUTIONS	ENG DSN BY: KRB	ENG DSN CHK: N/A	DRAFT BY: CMT	DRAFT CHK: GJH
QR / QA CODE:		ENG DSN BY DATE: 02-02-22	ENG DSN CHK DATE: N/A	DRAFT BY DATE: 01-02-22	DRAFT CHK DATE: 02-02-22

CLIENT:	HUMES WATER SOLUTIONS
PROJ ADD:	HUMEFILTER TECHNICAL MANUAL
TITLE 1:	HUMEFILTER UPT1800
TITLE 2:	uPVC INLET & OUTLET
DWG DES:	GENERAL ARRANGEMENT
DWG No.:	EP-UPT-1800-PVC-NAT-B2-GA
PDF SHEET SIZE:	A2
ISSUE:	B

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STORMWATER AUSTRALIA

Stormwater Quality Improvement Device Evaluation Protocol (SQIDEP)

VERIFICATION CERTIFICATE

Applicant Information

Company Name	Holcim Australia
Company Address	18 Little Cribb St Milton QLD 4064
Website	www.humes.com.au
Contact Email	charles.kelly@holcim.com

Verified Technology

Product Title	**HumeFilter UPT Family**
SQIDEP Pathway	Local Field Trial Evaluation Pathway
Reviewed Documents	The following documents form the basis of this independent evaluation: • SQIDEP Detailed Performance Report 31/01/23 (Issue 1) (superseded) • SQIDEP Detailed Performance Report 22/03/23 (Issue 2) (current) • Appendix C – iAuditor Sample Collection Reports_Timelapse Videos • Appendix D - ALS Lab testing documentation • Appendix E – Hydrographs • Appendix F - Statutory Declarations • Appendix H - Lab Testing Reports The following files and documents were also provided: • Dirty Water Test.MP4 • Filter_S04pc_Q0100_view1_hiRes.avi • Filter_S04pc_Q0100_view3_hiRes.avi • Hume Filter_Animation.MP4 • Humes UPT.ppt • Stormwater Quality Lab Testing- Final Report • Manly hydraulic laboratory testing Additional information was requested after a meeting between the Evaluators and applicants, chaired by a senior representative from Stormwater Australia including: • Additional laboratory Quality Assurance information in the form of Sample Receipt Notices • Sizing spreadsheets supplied on a confidential basis for the purpose of this review • Additional information on maintenance procedures Further information was provided on 30th May 2023 related to the permeability of the pleated filter. This included: • Technical Data –Non-woven Filter • Cover letter from Matthew King of Filquip Pty Ltd regarding filter permeability

Technology Information

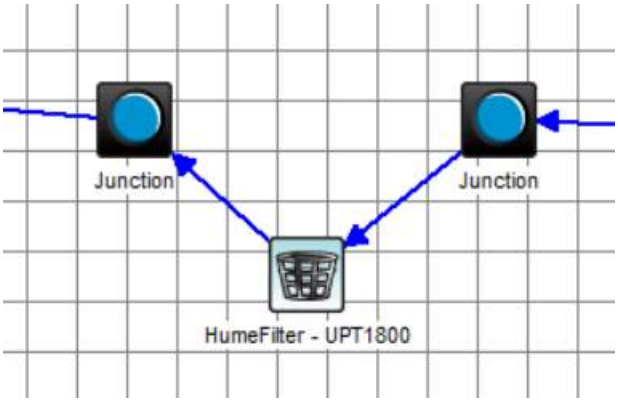
Applicant's Verified Performance Claims	Total Suspended Solids (TSS) Total Phosphorus (TP) Total Nitrogen (TN) Gross Pollutants	89 % 75 % 50 % 90 %

Test Stormwater Runoff	The presented runoff pollutant test results complied with the SQIDEP typical stormwater pollutant concentrations for urban environments. The device has therefore been tested within the pollutant loading ranges specified by SQIDEP v1.3 for typical urban environments (Urban Roads, Residential, Industrial, Commercial).
Applicant's performance claims	Total Suspended Solids (TSS) 89 % - Accepted Total Phosphorus (TP) 75 % - Accepted Total Nitrogen (TN) 50 % - Accepted Gross Pollutants 90 % (Accepted by evaluators, but not quantitatively measured – see conditions)
Test Catchment Type	Urban Road

Maintenance Performed during monitoring	The Holcim Humefilter was maintained once during the monitored period. This maintenance involved a filter backwash and removal of captured gross pollutants and sediment. The filter cartridges were not replaced.

Verified method to model in MUSIC

Modelling a HumeFilter in MUSIC is as follows:



Bypass (TFR) parameters should be set as appropriate for each size of device in the family.

Device Designation	TFR (L/s)	Pollutant Removal
UPT1200	12	TSS 89% TP 75% TN 50% Gross Pollutants 90%
UPT1800	30	
UPT2400	55	
UPT3000	100	
UPT3600	160	

Input Properties should reflect those shown below;

Pollutant	Influent range	Effluent Range	Reduction
Total Suspended Solids (TSS)	1000	110	89%
Total Phosphorous (TP)	5	1.25	75%
Total Nitrogen (TN)	50	25	50%
Gross Pollutants	1000	100	90%

Conditions	The limitations of the acceptance of these claims include: The results are reliant on the maintenance of the device being consistent with the manufacturer's guidelines. The life expectancy of the media should be regularly monitored and replaced in accordance with the Manufacturer's Technical Guidelines/Maintenance Manual. The tested device was configured "offline" with flows exceeding the TFR externally bypassing the device. Alternative installations may result in different outcomes. While the device should be capable of capturing Gross Pollutants it has not been optimized for this function

Independent Reviewers

Evaluator	Evaluator
Andrew Allan	Rod Wiese
AFFLUX CONSULTING STORMWATER MANAGEMENT SOLUTIONS	WIESE INSIGHT

Issue of Verification Certificate

Acceptance by SQIDEP Governance Panel	24-Aug-2023
Acceptance by Stormwater Australia Board of Directors	25-Aug-2023
Verification Issued	31-Aug-2023
Stormwater Australia Verification Certificate Number Reference	SA-2023/07a-VC

Verified under SQIDEP Version 1.3

Field Evaluation Pathway