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Buildings
10-12/91 Gardiner Street, Rutherford

Stormwater Management Plan

JCPMB Pty Ltd

Revision: 5
Version Date: 17 February 2025
GCA Ref: 23263C

LAND DEVELOPMENT • BUILDINGS • INFRASTRUCTURE

CIVIL, STRUCTURAL & ENVIRONMENTAL ENGINEERING,
WATER & WASTEWATER, BUILDING DESIGN & PROJECT ADVISORY

Revision	Description	Author		Review		Approved	
1	Initial Issue	SK	06.03.24	SH		SH	
2	Revised Hydrology	SK	11.03.24	SH	11.03.24	SH	11.03.24
3	General Amendments	AM	10.05.24	IH	10.05.24	IH	10.05.24
4	Combined Modelling	SK	18.11.24	SH	29.11.24	IH	29.11.24
5	General Amendments	SK	17.02.25	SH	17.02.25	SH	17.02.25

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List of Acronyms

MCC	Maitland City Council
MOES	Manual of Engineering Standards
`OSD	On Site Detention
PSD	Permissible Site Discharge
SSR	Site Storage Requirement
SQUIDS	Stormwater Quality Improvement Devices

1 Background

This report is to support a Development Application to Maitland City Council for a proposed light industrial development at 10/91-12/91 Gardiner Street, Rutherford.

1.1 Site

The site comprises Lots 6 and 7 on DP 271474, which were known as Lots 105 and 106 in the parent Subdivision Works Certificate plan, refer Figure 1.

The lots discharge to an interallotment drainage line that conveys flow to Swale 01, which has been designed to treat runoff to meet Council's water quality targets. Accordingly, water quality controls are not required for the subject development.

This report confirms that the proposed-on site detention systems ensure that the post development volume rate of flow is less than the predevelopment case for the 20%, 5% and 1% Annual Exceedance Probability events.

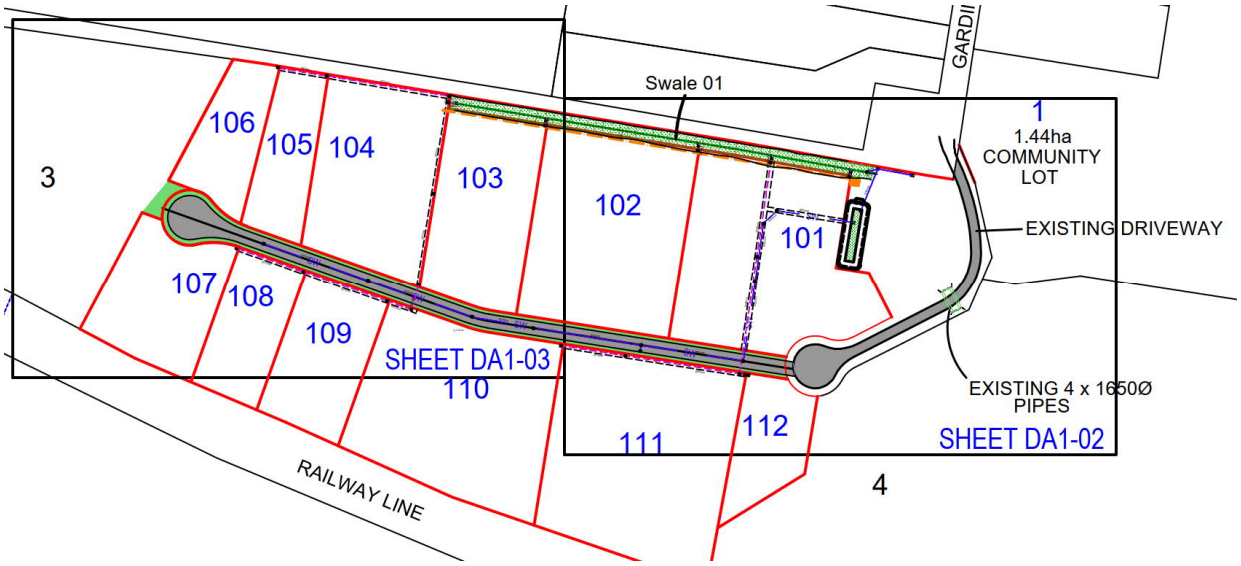

Figure 1: Subdivision Water Management Plan

1.2 Proposed Development

The proposed development comprises the construction of 8 industrial buildings with associated curtilage including car parking, concrete pavement, and landscaping. The total site area including the proposed access driveway is 10,715m^2.

1.3 Stormwater Management Strategy

To minimise the on ground on site detention, roof water is to be detained in 10,000 Litre above ground tanks with 20mm discharge orifices (30mm for the twin tanks at Building H). Tanks are to be located generally at the sides of the proposed buildings.

Runoff from the rooves is to be collected in gutters and directed to the tanks. 150mm diameter overflows are to be connected at the tops of the tanks and directed to the on-site drainage system. Low flow outlets, comprising 100mm diameter pipes and orifices (as indicated on the plans) are to be located 100mm above the invert of the tanks and connected to the high-level overflows at ground level.

Runoff from ground level catchments generally cumulates to surface detention systems, whose outlets are controlled by orifices on the downstream faces of the control pits as indicated on Drawing C01. The differences between the incoming runoff and discharge are to be stored in the designed pavement depressions.

Generally, each of the surface detention systems overflows when full to the main driveway, where the overflow is collected and further detained in the above ground OSD system 7 at Pit 70.

Further detailed calculations are provided in Section 2.

2 On Site Detention

2.1 Requirements

Maitland City Council provides guidance for onsite detention systems in its Manual of Engineering Standards 2014.

For sites larger than 3000m^2, detailed modelling of the stormwater system using time area hydrograph methodology is required to demonstrate the pre development flow rates are matched (or improved on) in the 20%, 5% and 1% AEP events.

2.2 Methodology

ARR2019 provides the current methodology for determining design rainfall events as ensembles of storms. It uses up-to-date rainfall data and provides an area- based procedure relative to the location of the subject site. Note also that ARR2019 discourages the use of the term “Average Recurrence Interval (ARI)”.

The DRAINS software package published by Watercom Pty Ltd is a time area hydrograph model that translates rainfall hyetographs into runoff hydrographs over sub catchments and subsequently adds the resulting hydrographs together to quantify design rates of flow and runoff volumes. DRAINS has inbuilt procedures for accommodating ARR2016 rainfall patterns and takes a suite of rainfall events (of various duration) for the same exceedance probability and runs them through the catchment - node model to determine maximum rate of flow at any point. Note that the maximum rate of flow at one point in the system does not necessarily originate from the same duration storm as at another point in the system.

The stie’s DRAINS model was built with both predevelopment and post development outlet links so that the respective outflow rates could be compared directly.

Refer Appendix B for DRAINS Model layout, data and results. Results are summarised as Section 2.3 Below:

2.3 Results

Table 2-1 Designed OSD Volume Summary.

Description	1% AEP WATER LEVEL (m AHD)	1% AEP DETENTION VOLUME (m^3)	1% AEP FLOW RATE (m^3s^{-1})
SURFACE BASIN 1	23.27	11.7	0.036
SURFACE BASIN 2	23.21	16.3	0.044
SURFACE BASIN 3	22.46	9.2	0.035
SURFACE BASIN 4	23.46	3.7	0.030
SURFACE BASIN 5	22.52	19.6	0.093
SURFACE BASIN 6	23.11	26.8	0.057
SURFACE BASIN 7	22.44	50.2	0.265
COMINED ROOF WATER TANKS		86.6	
TOTAL DETENTION		224.1	

Table 2-2 Total Flow Rates

Event	Predevelopment Discharge Rate (m^3s^{-1})	Post Development Discharge Rate (m^3s^{-1})
20% AEP	0.107	0.101
5% AEP	0.233	0.200
1% AEP	0.412	0.406

3 Stormwater Quality

3.1 Requirements

Water quality targets are given in Section 8.2 of the Maitland City Council's Manual of Engineering Standards and are reflective of best practice for the region. It should be noted that the targets are benchmarked against what is likely to be generated by the proposed development. Council's targets are indicated in Table 3-1:

Table 3-1 Post Construction Stormwater Management Targets

Pollutant	Retention Criteria
Suspended Solids	80% of average annual load
Total Phosphorous	45% of average annual load
Total Nitrogen	45% of average annual load
Gross Pollutants > 5mm	70% of average annual load

3.2 Methodology

The water quality controls for this development were provided in Swale 01 at the subdivision stage, as indicated on Figure 1. The proposed development complies with Council's targets for water quality.

4 Conclusion

The design stormwater system comprises:

- Collection of roof water and associated on site detention provided in above ground rainwater tanks with 10,000L and 15,000L capacity for Buildings G and H respectively. Tanks are to have 35mm (Building G) and 45mm (Building H) orifices installed 100mm above their inverts.

- Collection of surface water at a centralised pits and shaping of the pavement to contain a total of 137.5m^3 storage and safe overflow path to the rear of the site.

The development proposal complies with Maitland City Council's requirements for stormwater management.

Appendix A

DEVELOPMENT PLANS

PROPOSED UNIT DEVELOPMENT

10/91-12/91 GARDINER STREET, RUTHERFORD

DEVELOPMENT APPLICATON

JCPMB PTY LTD

MAITLAND CITY COUNCIL

FEBRUARY 2025

GDA 2020

DRAWING SCHEDULE 23263

DWG No.	SHEET TITLE	REV
C00	COVER SHEET	5
C01	CIVIL WORKS PLAN	5
C02	SEDIMENT AND POLLUTION CONTROL PIT	3
C03	RAINWATER TANK DETAILS	3
C05	EARTHWORK PLAN	5

GCA ENGINEERING SOLUTIONS

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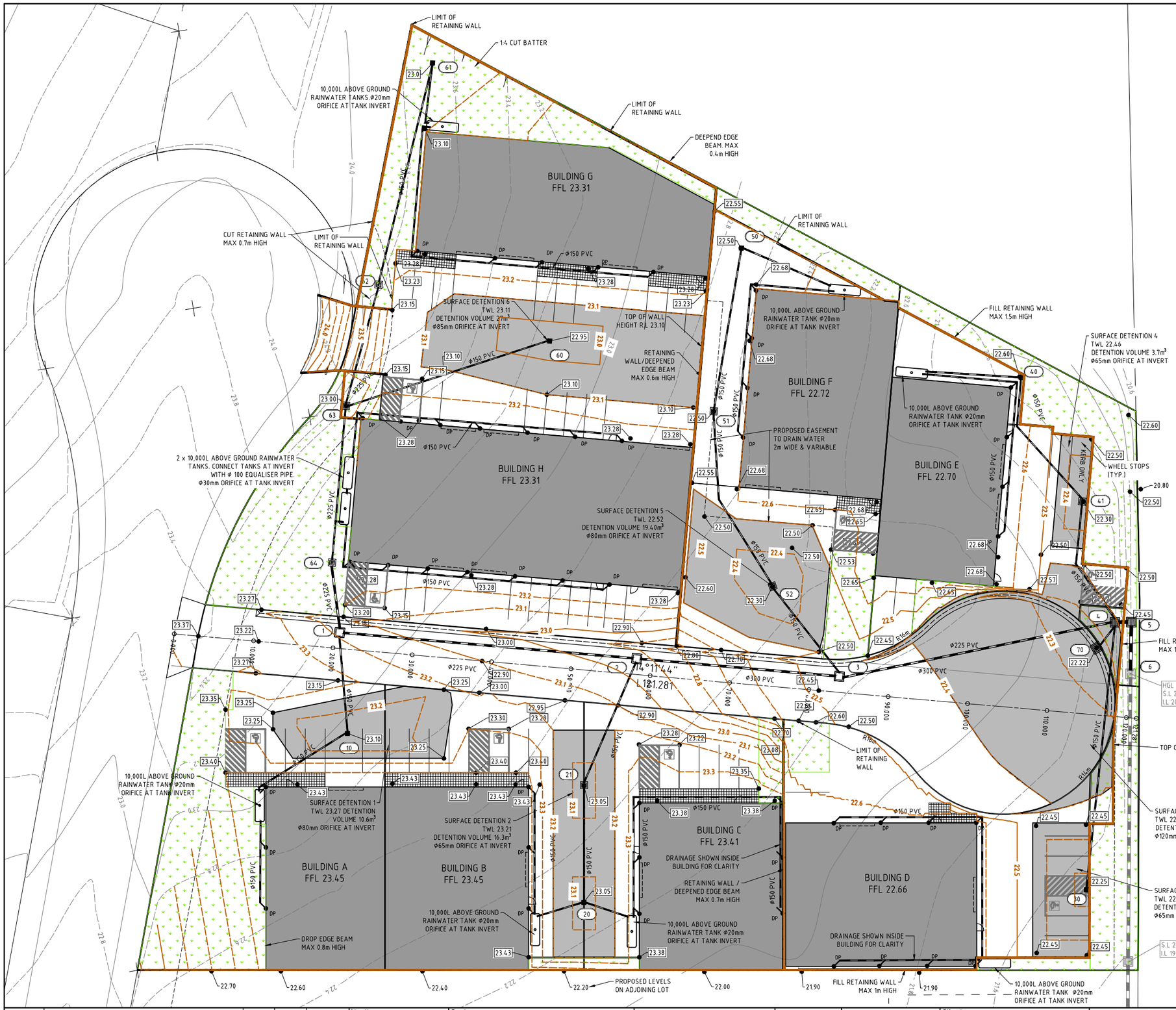
PRELIMINARY ISSUE
NOT FOR CONSTRUCTION



NOTE

ALL EXISTING UNDERGROUND SERVICES MUST BE LOCATED AND EXPOSED PRIOR TO EARTHWORKS COMMENCING AND IT IS THE RESPONSIBILITY OF THOSE PERSONS USING THIS PLAN TO CONFIRM BOTH POSITION & LEVEL OF THESE UTILITIES IN CONJUNCTION WITH THE APPROPRIATE AUTHORITY.

LEGEND

- PROPOSED BUILDING
- PROPOSED DETENTION BASIN
- PROPOSED LANDSCAPE
- FFL — FINISHED FLOOR LEVEL
- DP — DOWN PIPE
- 1 — PIT NUMBER
- FLOW — FLOW DIRECTION
- KERB ONLY
- PROPOSED PIPE
- EXISTING PIPE
- OHP — EXISTING OVERHEAD POWER
- S — EXISTING SEWER
- 12.00 — DESIGN FINISH PAVEMENT LEVEL
- 12.00 — EXISTING DESIGN FINISH PAVEMENT LEVEL
- GRATED SURFACE INLET PIT (GSIP)
- JUNCTION BOX (JB)
- EXISTING GSIP

DRAINAGE SCHEDULE

Pit No.	DESCRIPTION	LEVEL		
		SURFACE	PIT INVERT	OUTLET PIPE GRADE
1	900 x 900 JUNCTION	23.20	22.09	0.5%
2	900 x 900 JUNCTION	23.93	21.91	0.5%
3	900 x 900 JUNCTION	22.48	21.43	0.5%
4	900 x 900 GSIP	22.22	20.26	0.5%
5	900 x 900 GSIP	21.10	20.15	0.5%
6	EXIST IAD PIT	21.01	20.09	1.0%
10	450 x 450 PCP	23.10	22.60	1.0%
20	450 x 450 PCP	23.05	22.55	0.5%
21	450 x 450 PCP	23.05	22.48	0.5%
30	450 x 450 PCP	22.25	21.75	0.5%
40	450 x 450 SPCP	22.60	22.10	3.0%
41	600 x 600 PCP	22.30	21.55	1.0%
50	450 x 450 SPCP	22.50	22.00	1.0%
51	600 x 600 SPCP	22.50	21.80	1.0%
52	600 x 600 PCP	22.30	21.57	1.0%
60	450 x 450 PCP	22.95	22.45	1.0%
61	450 x 450 SPCP	23.00	22.50	0.5%
62	600 x 600 SPCP	23.00	22.36	0.5%
63	601 x 600 SPCP	23.00	22.19	0.5%
64	900 x 900 GSIP	23.35	22.09	0.5%
70	450 x 450 PCP	22.22	21.72	1.0%

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
5	ARCHITECTURAL AMENDMENTS	SK	SH	17.02.25
4	ARCHITECTURAL AMENDMENTS	SK	SH	29.11.24
3	LAYOUT AMENDMENTS	A.M	I.H	10.05.24
2	REVISED HYDROLOGY	S.K	S.H	08.03.24
1	FIRST ISSUE	S.K	S.H	22.02.24

North

Scale
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1:250 (A1) 1:500 (A3)

Designed S.K
Cad Reference 23263C dC01 r5
Scale 1:250
A1 SHEET
Project Approval
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Consulting Civil Engineer

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PROPOSED UNIT DEVELOPMENT
10/91-12/91 GARDINER STREET
RUTHERFORD
CIVIL WORKS PLAN

Project No 23263C
Drawing No C01
Revision 5

PLOT DATE: 17/02/2025 10:55:19 AM
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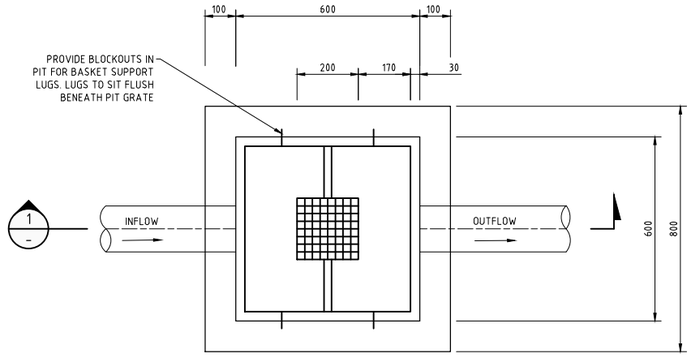

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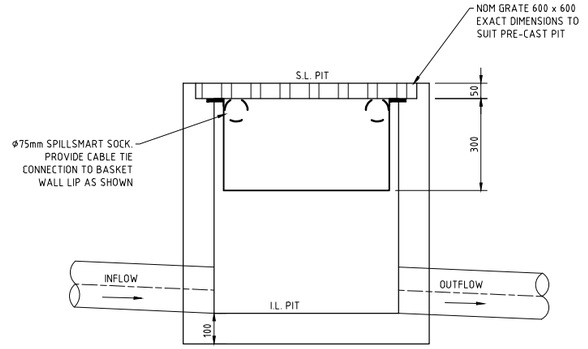

TYPICAL SECTION THROUGH PCP - SECTION 1
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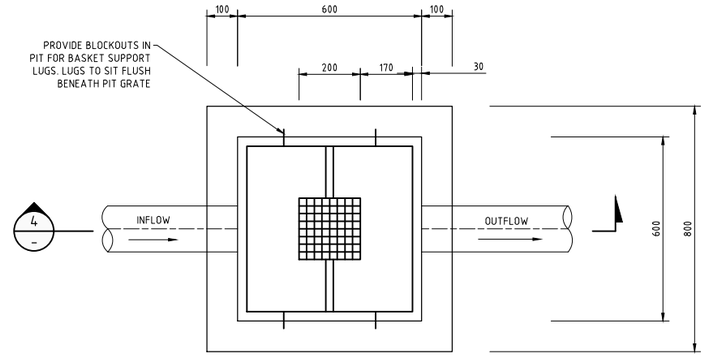

SEDIMENT PIT TYPICAL DETAIL
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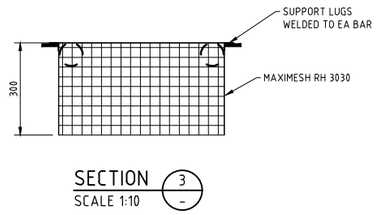

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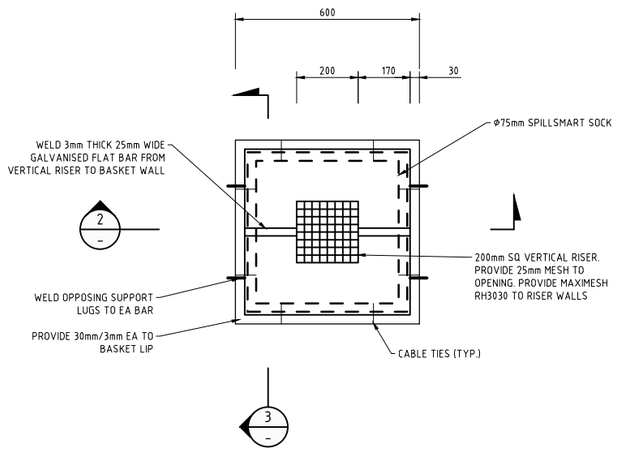

PCP TRASH BASKET TYPICAL DETAIL
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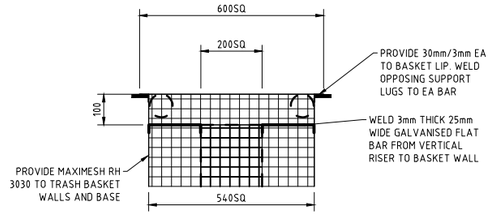

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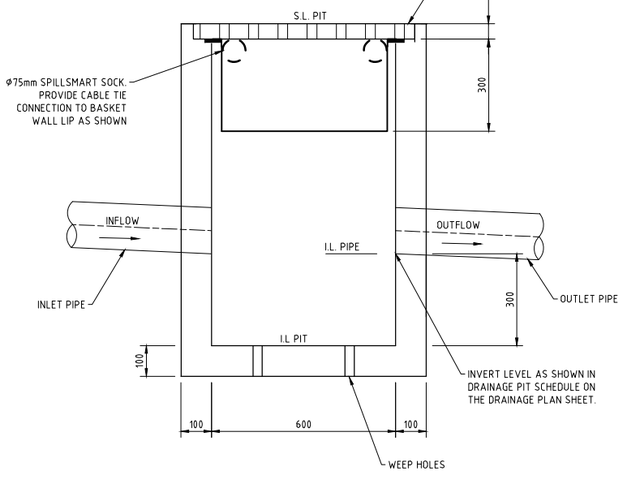

SECTION THROUGH SEDIMENT PIT 4
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PRELIMINARY ISSUE
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Amendment	Description	Drawn	App'd	Date
3	GENERAL REVISION	A.M	I.H	24.04.24
2	REVISED HYDROLOGY	S.K	S.H	08.03.24
1	FIRST ISSUE	S.K	S.H	22.02.24

North

Scale
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Designed: S.K
Cad Reference: 23263C dC02 r3
Scale: 1:10
A1 SHEET
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

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PROPOSED UNIT DEVELOPMENT 10/91-12/91 GARDINER STREET RUTHERFORD

SEDIMENT AND POLLUTION CONTROL PIT DETAILS

Project No: 23263C
Drawing No: C02
Revision: 3

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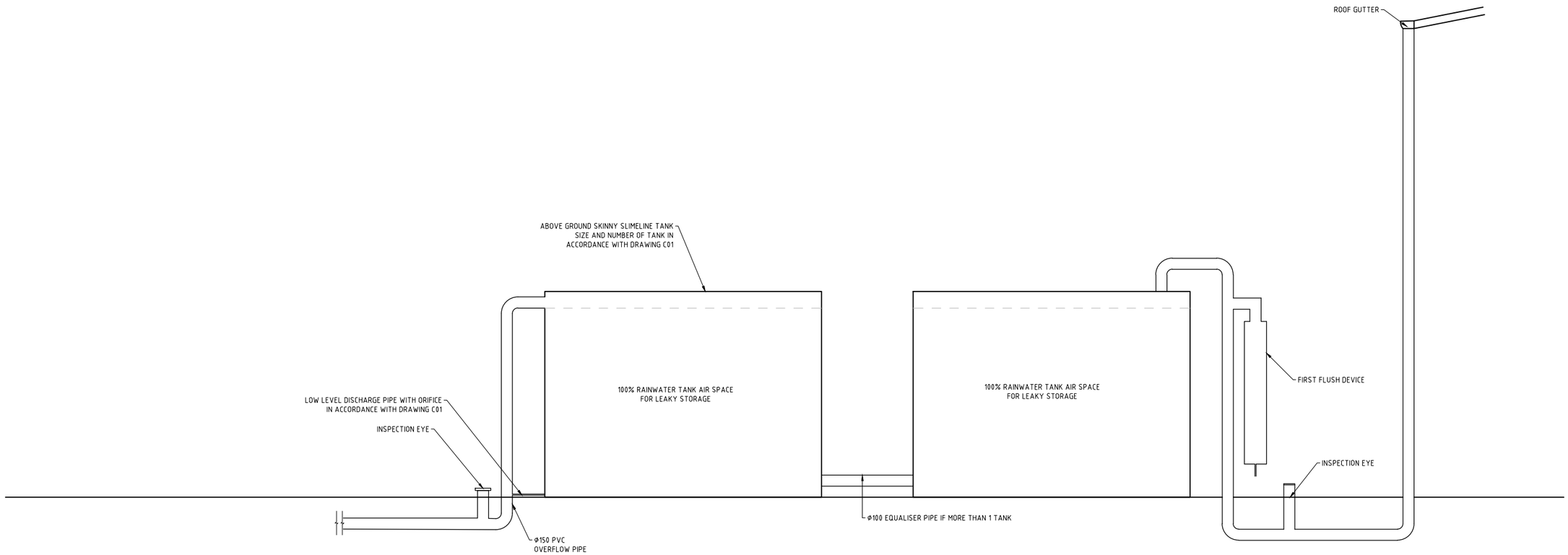

RAINWATER TANK DETAILS

N.T.S

PRELIMINARY ISSUE
NOT FOR CONSTRUCTION

Amendment	Description	Drawn	App'd	Date
3	GENERAL REVISION	A.M	I.H	24.04.24
2	REVISED HYDROLOGY	S.K	S.H	08.03.24
1	FIRST ISSUE	S.K	S.H	22.02.24

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Scale

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Designed: S.K

Cad Reference: 23263C dC03 r3

Scale: 1:10

A1 SHEET

Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

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PROPOSED UNIT DEVELOPMENT
10/91-12/91 GARDINER STREET
RUTHERFORD

RAINWATER TANK DETAILS

Project No: 23263C

Drawing No: C03

Revision: 3

PLOT DATE: 17/02/2025 10:55:29 AM
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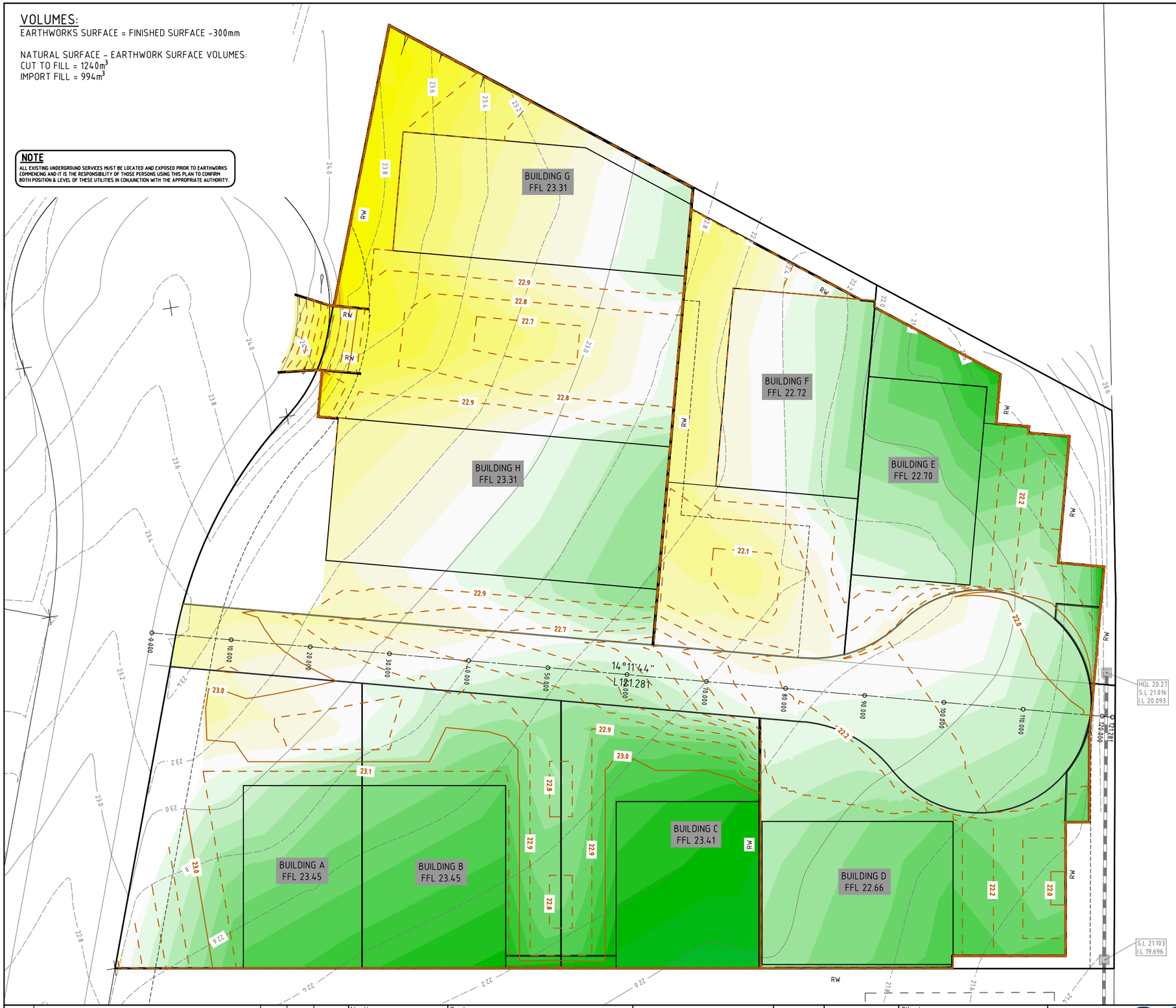
VOLUMES:

EARTHWORKS SURFACE = FINISHED SURFACE -300mm

NATURAL SURFACE - EARTHWORK SURFACE VOLUMES:
CUT TO FILL = 1240m^3
IMPORT FILL = 994m^3

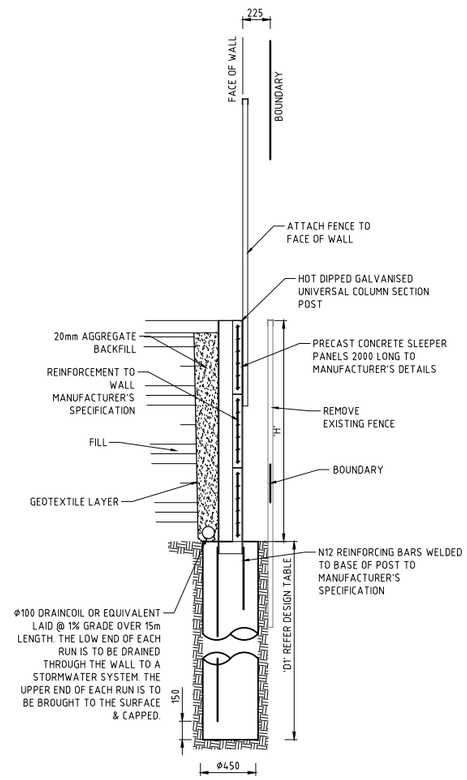
NOTE

ALL EXISTING UNDERGROUND SERVICES MUST BE LOCATED AND EXPOSED PRIOR TO EARTHWORKS COMMENCING AND IT IS THE RESPONSIBILITY OF THOSE PERSONS USING THIS PLAN TO CONFIRM BOTH POSITION & LEVEL OF THESE UTILITIES IN CONJUNCTION WITH THE APPROPRIATE AUTHORITY.



WALL HEIGHT 'H' (mm)	POST	*D1 (mm)
900	100 UC 15	H + 700
1350	100 UC 15	H + 600
1500	200 UB 22	H + 500

*MINIMUM PIER DEPTH = 1100mm



FILL RETAINING WALL 400-1800mm
SCALE 1:25

CUT/FILL DEPTH		
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-2.80	to	-2.70 m
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-2.60	to	-2.50 m
-2.50	to	-2.40 m
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0.60	to	0.70 m
0.70	to	0.80 m
0.80	to	0.90 m
0.90	to	1.00 m
1.00	to	1.10 m
1.10	to	1.20 m
1.20	to	1.30 m
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1.80	to	1.90 m
1.90	to	2.00 m
2.00	to	2.10 m
2.10	to	2.20 m
2.20	to	2.30 m
2.30	to	2.40 m
2.40	to	2.50 m
2.50	to	2.60 m
2.60	to	2.70 m
2.70	to	2.80 m
2.80	to	2.90 m
2.90	to	

LEGEND

- 23.0 — NATURAL SURFACE CONTOUR 1.0m
- NATURAL SURFACE CONTOUR 0.2m
- 23.0 — EARTHWORKS SURFACE CONTOUR 1.0m
- EARTHWORKS SURFACE CONTOUR 0.1m

PRELIMINARY ISSUE
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REVISION	Description	Drawn	App'd	Date
5	ARCHITECTURAL AMENDMENTS	SK	SH	17.02.25
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North

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1:25 (A1) 1:50 (A3)

Designed S.K
Scale 1:250
Cad Reference 23263C dC05 r5
Project Approval
IAN HILL (B.E)
Consulting Civil Engineer

Client

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PROPOSED UNIT DEVELOPMENT
10/91-12/91 GARDINER STREET
RUTHERFORD

CIVIL WORKS PLAN

Project No 23263C
Drawing No C05
Revision 5
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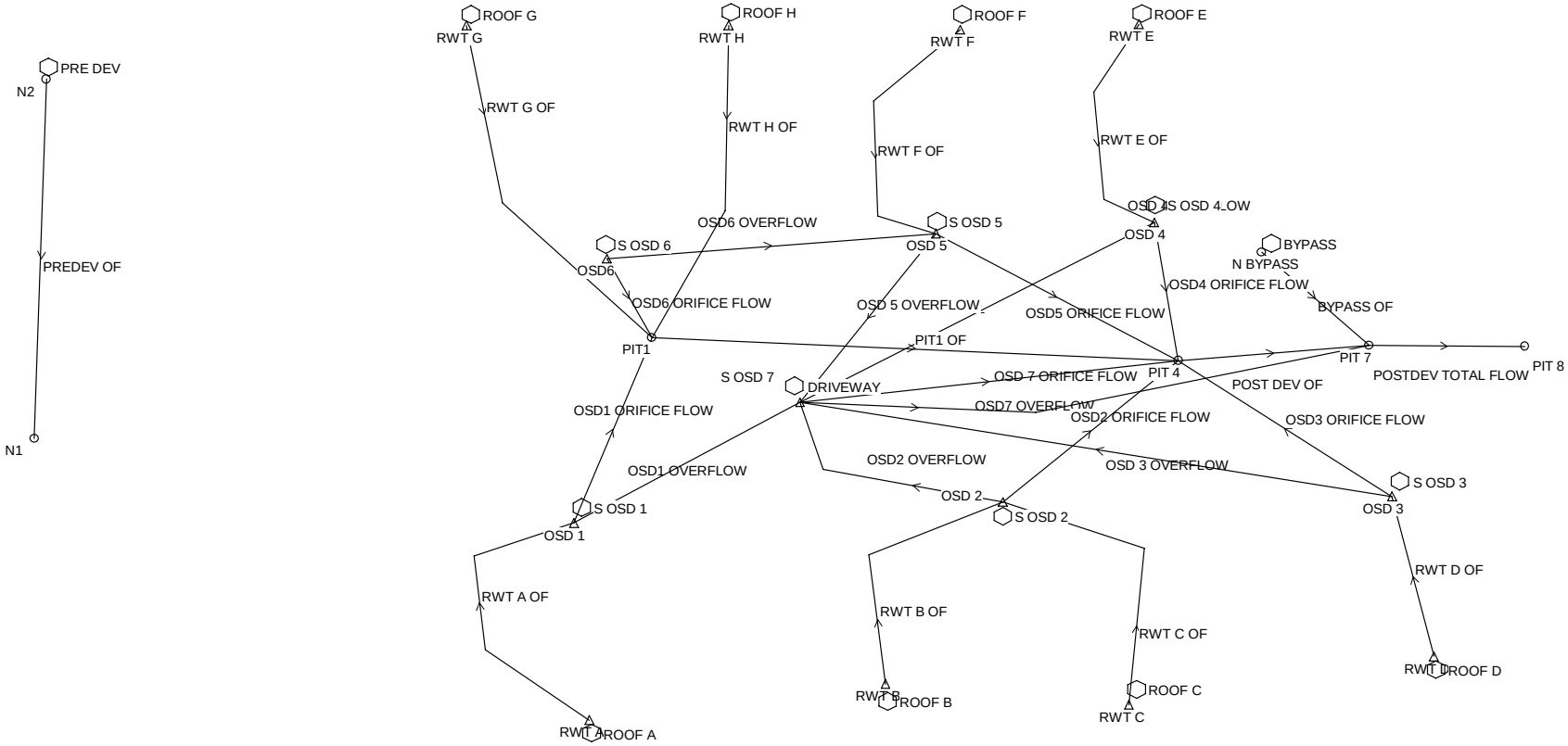
Appendix B

DRAINS MODELLING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N2
PREDEV OF
N1
ROOF G
RWT G
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ROOF H
RWT H
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RWT F OF
ROOF E
RWT E
RWT E OF
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OSD 4
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OSD 5
S OSD 6
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PIT1
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PIT 7
PIT 8
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DRIVEWAY
OSD 7 ORIFICE FLOW
PIT 4
POST DEV OF
OSD7 OVERFLOW
OSD2 ORIFICE FLOW
OSD3 ORIFICE FLOW
OSD1 ORIFICE FLOW
OSD2 OVERFLOW
OSD 3 OVERFLOW
OSD1 OVERFLOW
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RWT A OF
RWT B OF
RWT C OF
RWT D
ROOF D
RWT B
ROOF B
ROOF C
RWT C
RWT A
ROOF A

PROPOSED UNIT DEVELOPMENT 10/91 - 12/91 GARDINER STREET, RUTHERFORD
23263C DRAINS DATA
PIT / NODE DETAILS Version 15

Name	Type	Family	Size	Ponding Volume (cu.m)	Pressure Change Coeff. Ku	Surface Elev (m)	Max Pond Depth (m)	Base Inflow (cu.m/s)	Blocking Factor	x	y	Bolt-down lid	id	Part Full Shock Loss	Inflow Hydrograph	Pit is	Internal Width (mm)	Inflow is Misaligned
N1	Node								0	358.157	-270.246		6		No			
N2	Node								0	360.483	-206.755		8		No			
PIT 4	Node					20.5			0	560.413	-256.468		75		No			
PIT 7	Node					20			0	594.21	-253.819		134		No			
PIT1	Node								0	467.27	-252.338		323250		No			
N BYPASS	Node								0	575.161	-237.233		824543		No			
PIT 8	Node					19.5			0	621.706	-254.057		1349629		No			

DETENTION BASIN DETAILS

Name	Elev	Surf. Area	Not Used	Outlet Type	K	Dia(mm)	Centre RL	Pit Family	Pit Type	x	y	HED	Crest RL	Crest Leng	id
RWT G	23.2	5		None						434.664	-197.155	No			15
	25.3	5													
	25.4	5													
	26	5													
RWT H	23.2	10		None						480.88	-197.155	No			23
	25.1	10													
	25.2	10													
	26	10													
OSD6	22.45	1		None						459.324	-238.384	No			27
	22.95	1													
	23	61													
	23.1	380													
	24	400													
RWT F	22.6	5		None						521.872	-197.958	No			35
	24.5	5													
	24.6	5													
	25	5													
OSD 5	21.73	1		None						517.466	-233.966	No			53
	22.3	1													
	22.4	60													
	22.5	213													
	23	300													
RWT E	22.6	5		None						553.514	-196.91	No			60
	24.5	5													
	24.6	5													
	25	5													
OSD 4	21.6	1		None						556.095	-232.074	No			68
	22.3	1													
	22.4	23													
	22.45	44.2													
	22.5	80													
	23	80													
RWT A	23	5		None						456.366	-320.062	No			82
	24.75	5													
	24.8	5													
	25	5													
OSD 1	22.35	1		None						453.687	-285.233	No			88
	22.5	1													
	23.1	1													
	23.15	21													
	23.25	145													
	24.25	200													
RWT B	23.1	5		None						508.61	-313.699	No			95
	25	5													
	25.1	5													
	26	5													
RWT C	23.1	5		None						551.611	-317.316	No			100
	24.9	5													
	25	5													
	26	5													
OSD 2	22.2	2		None						529.327	-281.409	No			107
	22.4	2													
	23.05	2													
	23.1	46													
	23.2	220													
	24.2	300													
RWT D	22.6	5		None						605.462	-308.877	No			117
	24.6	5													
	24.7	5													
	26	5													
S OSD 7	20.2	1		None						493.512	-263.967	No			58853
	20.75	1													
	22.24	1													
	22.25	7.2													
	22.3	22.3													
	22.35	262													
	22.4	525													
	22.45	700													
	22.5	1000													
	22.55	1250													
OSD 3	21.65	1		None						598.122	-280.44	No			234899
	22.25	1													
	22.3	7.4													
	22.35	22.3													
	22.4	66.8													
	22.45	118													
	23.45	118													

SUB-CATCHMENT DETAILS

Name	Pit or Node	Total Area (ha)	Paved Area %	Grass Area %	Supp Area %	Paved Time (min)	Grass Time (min)	Supp Time (min)	Paved Length (m)	Grass Length (m)	Supp Length (m)	Paved Slope(%) %	Grass Slope %	Supp Slope %	Paved Rough	Grass Rough	Supp Rough	Lag Time or Factor
PRE DEV	N2	1.0733	0	100	0	0	0	0	0	-1	100	-1	-1	2	-1	-1	0.13	-1	0
ROOF G	RWT G	0.0513	100	0	0	0	5	5	2										0
ROOF H	RWT H	0.0756	100	0	0	0	5	5	2										0
S OSD 6	OSD6	0.1315	80	20	0	0	0	0	0	20	20	-1	2	2	-1	0.013	0.13	-1	0
ROOF F	RWT F	0.0449	100	0	0	0	5	5	2										0
S OSD 5	OSD 5	0.073	90	10	0	0	0	0	0	20	20	-1	2	2	-1	0.013	0.13	-1	0
ROOF E	RWT E	0.0374	100	0	0	0	5	5	2										0
S OSD 4	OSD 4	0.028	100	0	0	0	0	0	0	20	20	-1	2	2	-1	0.013	0.13	-1	0
ROOF A	RWT A	0.0344	100	0	0	0	5	5	2										0
S OSD 1	OSD 1	0.049	90	10	0	0	0	0	0	20	20	-1	2	2	-1	0.013	0.13	-1	0
ROOF B	RWT B	0.0415	100	0	0	0	5	5	2										0
ROOF C	RWT C	0.0378	100	0	0	0	5	5	2										0
S OSD 2	OSD 2	0.0405	95	5	0	0	0	0	0	20	20	-1	2	2	-1	0.013	0.13	-1	0
ROOF D	RWT D	0.0432	100	0	0	0	5	5	2										0
DRIVEWAY	S OSD 7	0.2624	90	10	0	0	0	0	0	50	50	-1	2	2	-1	0.013	0.13	-1	0
S OSD 3	OSD 3	0.035	95	5	0	0	0	0	0	20	20	-1	2	2	-1	0.013	0.13	-1	0
BYPASS	N BYPASS	0.0884	0	100	0	0	0	0	0	-1	100	-1	-1	2	-1	-1	0.13	-1	0

PIPE DETAILS

Name	From	To	Length (m)	U/S IL (m)	D/S IL (m)	Slope (%)	Type	Dia (mm)	I.D. (mm)	Rough	Pipe Is	No. Pipes	Chg From	At Chg	Chg (m)	Rl (m)	Chg (m)	RL (m)

DETAILS of SERVICES CROSSING PIPES

Pipe	Chg (m)	Bottom Elev (m)	Height of S (m)	Chg (m)	Bottom Elev (m)	Height of S (m)	Chg (m)	Bottom Elev (m)	Height of S (m)	etc etc

CHANNEL DETAILS

Name	From	To	Type	Length (m)	U/S IL (m)	D/S IL (m)	Slope (%)	Base Width (m)	L.B. Slope (1:?)	R.B. Slope (1:?)	Manning n	Depth (m)	Roofed

OVERFLOW ROUTE DETAILS

Name	From	To	Travel Time (min)	Spill Level (m)	Crest Length (m)	Weir Coeff. C	Cross Section	Safe Depth Major Storm (m)	Safe Depth Minor Storm (m)	Safe DxV (sq.m/sec)	Bed Slope (%)	D/S Area Contributing %	id	U/S IL	D/S IL	Length (m)
PREDEV OF	N2	N1	0.3				OVERFLOW	0.3	0.3	0.4	1	0	9	22.5	20	5
RWT G OF	RWT G	PIT1	0.3	23.2			OVERFLOW	0.3	0.3	0.4	1	0	48	23.2	23	5
RWT H OF	RWT H	PIT1	0.3	23.2			OVERFLOW	0.3	0.3	0.4	1	0	49	23.2	23.1	5
OSD6 ORIFICE FLOW	OSD6	PIT1	2.8	22.45			OVERFLOW	0.3	0.3	0.4	1	0	369806	22.45	22.1	50
OSD6 OVERFLOW	OSD6	OSD 5	0.6	23.1			OVERFLOW	0.3	0.3	0.4	1	0	286247	23.1	22.3	10
RWT F OF	RWT F	OSD 5	0.3	22.6			OVERFLOW	0.3	0.3	0.4	1	0	54	22.6	22.5	5
OSD 5 OVERFLOW	OSD 5	S OSD 7	0.1	22.5			channel between basins	0.3	0.3	0.6	1	0	674590	22.5	22.25	10
OSD5 ORIFICE FLOW	OSD 5	PIT 4	0.1	21.73			channel between basins	0.3	0.3	0.6	1	0	286246	21.73	20.5	10
RWT E OF	RWT E	OSD 4	0.3	22.6			OVERFLOW	0.3	0.3	0.4	1	0	74	22.6	22.5	5
OSD 4 OVERFLOW	OSD 4	S OSD 7	0.1	22.45			channel between basins	0.3	0.3	0.6	5	0	1340440	22.45	20.5	5
OSD4 ORIFICE FLOW	OSD 4	PIT 4	0.3	21.63			OVERFLOW	0.3	0.3	0.4	1	0	76	21.63	20.5	5
POST DEV OF	PIT 4	PIT 7	0.1				OVERFLOW	0.3	0.3	0.4	1	0	139	20.5	20	2
RWT A OF	RWT A	OSD 1	0.3	23			OVERFLOW	0.3	0.3	0.4	1	0	91	23	22.75	5
OSD1 OVERFLOW	OSD 1	S OSD 7	0.1	23.25			channel between basins	0.3	0.3	0.6	1	0	650173	23.25	22.25	10
OSD1 ORIFICE FLOW	OSD 1	PIT1	0.6	22.6			OVERFLOW	0.3	0.3	0.4	1	0	369813	22.35	22.1	10
RWT B OF	RWT B	OSD 2	0.3	23.1			OVERFLOW	0.3	0.3	0.4	1	0	110	23.1	23	5
RWT C OF	RWT C	OSD 2	0.3	23.1			OVERFLOW	0.3	0.3	0.4	1	0	111	23.1	22.9	5
OSD2 OVERFLOW	OSD 2	S OSD 7	0.3	23.2			channel between basins	0.3	0.3	0.6	1	0	586996	23.2	22.25	50
OSD2 ORIFICE FLOW	OSD 2	PIT 4	0.6	22.4			OVERFLOW	0.3	0.3	0.4	1	0	286254	22.2	20.5	10
RWT D OF	RWT D	OSD 3	0.3	22.6			OVERFLOW	0.3	0.3	0.4	1	0	234906	22.6	22.55	5
POSTDEV TOTAL FLOW	PIT 7	PIT 8	0.1				OVERFLOW	0.3	0.3	0.4	1	0	1349630	20	19.5	2
OSD7 OVERFLOW	S OSD 7	PIT 7	0.2	22.4			channel between basins	0.3	0.3	0.6	5	0	1349618	22.3	20	50
OSD 7 ORIFICE FLOW	S OSD 7	PIT 4	0.3	21.5			OVERFLOW	0.3	0.3	0.4	1	0	286255	21.5	20.5	5
OSD 3 OVERFLOW	OSD 3	S OSD 7	0.1	22.45			channel between basins	0.3	0.3	0.6	1	0	666254	22.45	22.25	10
OSD3 ORIFICE FLOW	OSD 3	PIT 4	0.6	21.65			OVERFLOW	0.3	0.3	0.4	1	0	286256	21.85	20.5	10
PIT1 OF	PIT1	PIT 4	2.3				OVERFLOW	0.3	0.3	0.4	1	0	323256	22.1	20.5	40
BYPASS OF	N BYPASS	PIT 7	0.3				OVERFLOW	0.3	0.3	0.4	1	0	824544	21	20	5

PIPE COVER DETAILS

Name	Type	Dia (mm)	Safe Cover Cover (m)

This model has no pipes with non-return valves

DRAINS RESULTS - 20% AEP STORMS

DRAINS results prepared from Version 2023.10.8682.19045

PIT / NODE DETAILS

Name	Max HGL	Max Pond HGL	Max Surface Flow Arrivin (cu.m/s)	Max Pond Volume (cu.m)	Min Freeboard (m)	Overflow (cu.m/s)	Constraint

SUB-CATCHMENT DETAILS

Name	Max Flow Q (cu.m/s)	Paved Max Q (cu.m/s)	Grassed Max Q (cu.m/s)	Paved Tc (min)	Grassed Tc (min)	Supp. Tc (min)	Due to Storm
PRE DEV	0.107	0	0.107	0	22.82	0	20% AEP, 45 min burst, Storm 8
ROOF G	0.016	0.016	0	5	5	2	20% AEP, 5 min burst, Storm 1
ROOF H	0.024	0.024	0	5	5	2	20% AEP, 5 min burst, Storm 1
S OSD 6	0.039	0.037	0.002	1.44	5.73	0	20% AEP, 5 min burst, Storm 1
ROOF F	0.014	0.014	0	5	5	2	20% AEP, 5 min burst, Storm 1
S OSD 5	0.024	0.023	0.001	1.44	5.73	0	20% AEP, 5 min burst, Storm 1
ROOF E	0.012	0.012	0	5	5	2	20% AEP, 5 min burst, Storm 1
S OSD 4	0.01	0.01	0	1.44	5.73	0	20% AEP, 5 min burst, Storm 1
ROOF A	0.011	0.011	0	5	5	2	20% AEP, 5 min burst, Storm 1
S OSD 1	0.016	0.016	0	1.44	5.73	0	20% AEP, 5 min burst, Storm 1
ROOF B	0.013	0.013	0	5	5	2	20% AEP, 5 min burst, Storm 1
ROOF C	0.012	0.012	0	5	5	2	20% AEP, 5 min burst, Storm 1
S OSD 2	0.014	0.014	0	1.44	5.73	0	20% AEP, 5 min burst, Storm 1
ROOF D	0.014	0.014	0	5	5	2	20% AEP, 5 min burst, Storm 1
DRIVEWAY	0.085	0.083	0.001	2.49	9.93	0	20% AEP, 5 min burst, Storm 1
S OSD 3	0.012	0.012	0	1.44	5.73	0	20% AEP, 5 min burst, Storm 1
BYPASS	0.009	0	0.009	0	22.82	0	20% AEP, 45 min burst, Storm 8

PIPE DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Max U/S HGL (m)	Max D/S HGL (m)	Due to Storm

CHANNEL DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Due to Storm

OVERFLOW ROUTE DETAILS

Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm
PREDEV OF	0.107	0.107	2.649	0.043	0	29.91	0.08	20% AEP, 45 min burst, Storm 8
RWT G OF	0.01	0.01	2.649	0.01	0	29.9	0.03	20% AEP, 45 min burst, Storm 4
RWT H OF	0.007	0.007	2.649	0.008	0	29.9	0.03	20% AEP, 45 min burst, Storm 7
OSD6 ORIFICE FLOW	0.012	0.012	2.649	0.011	0	29.9	0.04	20% AEP, 10 min burst, Storm 10
OSD6 OVERFLOW	0	0	2.649	0	0	0	0	
RWT F OF	0.008	0.008	2.649	0.009	0	29.9	0.03	20% AEP, 1 hour burst, Storm 5
OSD 5 OVERFLOW	0	0	2.403	0	0	0	0	
OSD5 ORIFICE FLOW	0.012	0.012	2.403	0.008	0	4	0.36	20% AEP, 15 min burst, Storm 4
RWT E OF	0.003	0.003	2.649	0.005	0	29.9	0.02	20% AEP, 1.5 hour burst, Storm 8
OSD 4 OVERFLOW	0	0	2.404	0	0	0	0	
OSD4 ORIFICE FLOW	0.008	0.008	2.649	0.009	0	29.9	0.03	20% AEP, 5 min burst, Storm 1
POST DEV OF	0.093	0.093	2.649	0.041	0	29.91	0.08	20% AEP, 1 hour burst, Storm 1
RWT A OF	0.005	0.005	2.649	0.006	0	29.9	0.03	20% AEP, 1 hour burst, Storm 6
OSD1 OVERFLOW	0.008	0.008	2.403	0.007	0	4	0.29	20% AEP, 1 hour burst, Storm 6
OSD1 ORIFICE FLOW	0.002	0.002	2.649	0.004	0	29.9	0.02	20% AEP, 1 hour burst, Storm 6
RWT B OF	0.007	0.007	2.649	0.008	0	29.9	0.03	20% AEP, 1 hour burst, Storm 5
RWT C OF	0.007	0.007	2.649	0.008	0	29.9	0.03	20% AEP, 1 hour burst, Storm 5
OSD2 OVERFLOW	0	0	2.403	0	0	0	0	
OSD2 ORIFICE FLOW	0.013	0.013	2.649	0.012	0	29.9	0.04	20% AEP, 1 hour burst, Storm 1
RWT D OF	0.008	0.008	2.649	0.009	0	29.9	0.03	20% AEP, 1 hour burst, Storm 5
POSTDEV TOTAL FLOW	0.101	0.101	2.649	0.041	0	29.91	0.08	20% AEP, 45 min burst, Storm 7
OSD7 OVERFLOW	0	0	2.404	0	0	0	0	
OSD 7 ORIFICE FLOW	0.029	0.029	2.649	0.02	0	29.9	0.05	20% AEP, 20 min burst, Storm 6
OSD 3 OVERFLOW	0	0	2.403	0	0	0	0	
OSD3 ORIFICE FLOW	0.008	0.008	2.649	0.009	0	29.9	0.03	20% AEP, 10 min burst, Storm 10
PIT1 OF	0.028	0.028	2.649	0.019	0	29.9	0.05	20% AEP, 1 hour burst, Storm 1
BYPASS OF	0.009	0.009	2.649	0.009	0	29.9	0.03	20% AEP, 45 min burst, Storm 8

DETENTION BASIN DETAILS

Name	Max WL	MaxVol	Max Q Total	Max Q Low Level	Max Q High Level
RWT G	25.31	10.5	0.01	0	0.01
RWT H	25.1	19	0.007	0	0.007
OSD6	23.08	13.4	0.012	0	0.012
RWT F	24.5	9.5	0.008	0	0.008
OSD 5	22.43	4.9	0.012	0	0.012
RWT E	24.5	9.5	0.003	0	0.003
OSD 4	22.35	0.9	0.008	0	0.008
RWT A	24.7	8.5	0.005	0	0.005
OSD 1	23.26	9.4	0.011	0	0.011
RWT B	25	9.5	0.007	0	0.007
RWT C	24.9	9	0.007	0	0.007
OSD 2	23.01	1.6	0.013	0	0.013
RWT D	24.5	9.5	0.008	0	0.008
S OSD 7	22.4	26.2	0.029	0	0.029
OSD 3	22.36	1.7	0.008	0	0.008

Run Log for 23263C DRAINS 20241128 - DRAINS run at 09:00:44 on 17/2/2025 using Watercom Drains v2023.10.8682.19045
{\colortbl;\red0\green0\blue0;\red192\green0\blue0;}Run Log for 23263C DRAINS 20241128 - DRAINS run at 09:00:44 on 17/2/2025 using Watercom Drains v2023.10.8682.19045

Flows were safe in all overflow routes.

DRAINS RESULTS - 5% AEP STORMS

DRAINS results prepared from Version 2023.10.8682.19045

PIT / NODE DETAILS

Name	Max HGL	Max Pond HGL	Max Surface Flow Arrivin (cu.m/s)	Version 8 Max Pond Volume (cu.m)	Min Freeboard (m)	Overflow (cu.m/s)	Constraint

SUB-CATCHMENT DETAILS

Name	Max Flow Q (cu.m/s)	Paved Max Q (cu.m/s)	Grassed Max Q (cu.m/s)	Paved Tc (min)	Grassed Tc (min)	Supp. Tc (min)	Due to Storm
PRE DEV	0.233	0	0.233	0	16.25	0	5% AEP, 20 min burst, Storm 5
ROOF G	0.024	0.024	0	5	5	2	5% AEP, 5 min burst, Storm 1
ROOF H	0.036	0.036	0	5	5	2	5% AEP, 5 min burst, Storm 1
S OSD 6	0.06	0.053	0.007	1.25	4.97	0	5% AEP, 5 min burst, Storm 1
ROOF F	0.021	0.021	0	5	5	2	5% AEP, 5 min burst, Storm 1
S OSD 5	0.035	0.033	0.002	1.25	4.97	0	5% AEP, 5 min burst, Storm 1
ROOF E	0.018	0.018	0	5	5	2	5% AEP, 5 min burst, Storm 1
S OSD 4	0.014	0.014	0	1.25	4.97	0	5% AEP, 5 min burst, Storm 1
ROOF A	0.016	0.016	0	5	5	2	5% AEP, 5 min burst, Storm 1
S OSD 1	0.023	0.022	0.001	1.25	4.97	0	5% AEP, 5 min burst, Storm 1
ROOF B	0.02	0.02	0	5	5	2	5% AEP, 5 min burst, Storm 1
ROOF C	0.018	0.018	0	5	5	2	5% AEP, 5 min burst, Storm 1
S OSD 2	0.02	0.019	0.001	1.25	4.97	0	5% AEP, 5 min burst, Storm 1
ROOF D	0.02	0.02	0	5	5	2	5% AEP, 5 min burst, Storm 1
DRIVEWAY	0.123	0.119	0.004	2.17	8.62	0	5% AEP, 5 min burst, Storm 1
S OSD 3	0.017	0.017	0	1.25	4.97	0	5% AEP, 5 min burst, Storm 1
BYPASS	0.019	0	0.019	0	16.25	0	5% AEP, 20 min burst, Storm 4

PIPE DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Max U/S HGL (m)	Max D/S HGL (m)	Due to Storm

CHANNEL DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Due to Storm

OVERFLOW ROUTE DETAILS

Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm
PREDEV OF	0.233	0.233	2.649	0.07	0.01	29.91	0.11	5% AEP, 20 min burst, Storm 5
RWT G OF	0.02	0.02	2.649	0.016	0	29.9	0.04	5% AEP, 20 min burst, Storm 3
RWT H OF	0.027	0.027	2.649	0.019	0	29.9	0.05	5% AEP, 20 min burst, Storm 10
OSD6 ORIFICE FLOW	0.012	0.012	2.649	0.012	0	29.9	0.03	5% AEP, 20 min burst, Storm 3
OSD6 OVERFLOW	0.02	0.02	2.649	0.016	0	29.9	0.04	5% AEP, 20 min burst, Storm 3
RWT F OF	0.017	0.017	2.649	0.014	0	29.9	0.04	5% AEP, 20 min burst, Storm 8
OSD 5 OVERFLOW	0.022	0.022	2.403	0.012	0.01	4	0.46	5% AEP, 25 min burst, Storm 1
OSD5 ORIFICE FLOW	0.013	0.013	2.403	0.009	0	4	0.34	5% AEP, 25 min burst, Storm 1
RWT E OF	0.013	0.013	2.649	0.012	0	29.9	0.04	5% AEP, 20 min burst, Storm 10
OSD 4 OVERFLOW	0.006	0.006	2.404	0.003	0	4	0.47	5% AEP, 1 hour burst, Storm 3
OSD4 ORIFICE FLOW	0.009	0.009	2.649	0.009	0	29.9	0.03	5% AEP, 1 hour burst, Storm 3
POST DEV OF	0.132	0.132	2.649	0.049	0	29.91	0.09	5% AEP, 20 min burst, Storm 10
RWT A OF	0.012	0.012	2.649	0.012	0	29.9	0.03	5% AEP, 20 min burst, Storm 10
OSD1 OVERFLOW	0.019	0.019	2.403	0.011	0	4	0.42	5% AEP, 1 hour burst, Storm 2
OSD1 ORIFICE FLOW	0.002	0.002	2.649	0.004	0	29.9	0.02	5% AEP, 1 hour burst, Storm 2
RWT B OF	0.015	0.015	2.649	0.013	0	29.9	0.04	5% AEP, 20 min burst, Storm 8
RWT C OF	0.014	0.014	2.649	0.012	0	29.9	0.04	5% AEP, 20 min burst, Storm 10
OSD2 OVERFLOW	0	0	2.403	0	0	0	0	
OSD2 ORIFICE FLOW	0.016	0.016	2.649	0.013	0	29.9	0.04	5% AEP, 1 hour burst, Storm 3
RWT D OF	0.016	0.016	2.649	0.014	0	29.9	0.04	5% AEP, 20 min burst, Storm 8
POSTDEV TOTAL FLOW	0.2	0.2	2.649	0.063	0.01	29.91	0.11	5% AEP, 1 hour burst, Storm 2
OSD7 OVERFLOW	0.073	0.073	2.404	0.016	0.02	4	1.14	5% AEP, 20 min burst, Storm 10
OSD 7 ORIFICE FLOW	0.029	0.029	2.649	0.02	0	29.9	0.05	5% AEP, 20 min burst, Storm 10
OSD 3 OVERFLOW	0.005	0.005	2.403	0.005	0	4	0.25	5% AEP, 1 hour burst, Storm 7
OSD3 ORIFICE FLOW	0.008	0.008	2.649	0.009	0	29.9	0.03	5% AEP, 1 hour burst, Storm 7
PIT1 OF	0.059	0.059	2.649	0.031	0	29.91	0.06	5% AEP, 20 min burst, Storm 10
BYPASS OF	0.019	0.019	2.649	0.015	0	29.9	0.04	5% AEP, 20 min burst, Storm 4

DETENTION BASIN DETAILS

Name	Max WL	MaxVol	Max Q Total	Max Q Low Level	Max Q High Level
RWT G	25.31	10.6	0.02	0	0.02
RWT H	25.1	19	0.027	0	0.027
OSD6	23.11	23.8	0.032	0	0.032
RWT F	24.52	9.6	0.017	0	0.017
OSD 5	22.51	16.8	0.035	0	0.035
RWT E	24.51	9.5	0.013	0	0.013
OSD 4	22.45	3.4	0.015	0	0.015
RWT A	24.7	8.5	0.012	0	0.012
OSD 1	23.26	10.3	0.021	0	0.021
RWT B	25.01	9.6	0.015	0	0.015
RWT C	25.05	9.8	0.014	0	0.014
OSD 2	23.18	10.1	0.016	0	0.016
RWT D	24.5	9.5	0.016	0	0.016
S OSD 7	22.41	34.5	0.103	0	0.103
OSD 3	22.45	8.4	0.013	0	0.013

Run Log for 23263C DRAINS 20241128 - DRAINS run at 08:59:44 on 17/2/2025 using Watercom Drains v2023.10.8682.19045
{\colortbl;\red0\green0\blue0;\red192\green0\blue0;}Run Log for 23263C DRAINS 20241128 - DRAINS run at 08:59:44 on 17/2/2025 using Watercom Drains v2023.10.8682.19045

Flows were safe in all overflow routes.

DRAINS RESULTS - 1% AEP STORMS

DRAINS results prepared from Version 2023.10.8682.19045

PIT / NODE DETAILS

Name	Max HGL	Max Pond HGL	Max Surface Flow Arrivin (cu.m/s)	Max Pond Volume (cu.m)	Min Freeboard (m)	Overflow (cu.m/s)	Constraint

SUB-CATCHMENT DETAILS

Name	Max Flow Q (cu.m/s)	Paved Max Q (cu.m/s)	Grassed Max Q (cu.m/s)	Paved Tc (min)	Grassed Tc (min)	Supp. Tc (min)	Due to Storm
PRE DEV	0.412	0	0.412	0	13.37	0	1% AEP, 15 min burst, Storm 8
ROOF G	0.034	0.034	0	5	5	2	1% AEP, 5 min burst, Storm 1
ROOF H	0.05	0.05	0	5	5	2	1% AEP, 5 min burst, Storm 1
S OSD 6	0.087	0.073	0.013	1.1	4.37	0	1% AEP, 5 min burst, Storm 1
ROOF F	0.03	0.03	0	5	5	2	1% AEP, 5 min burst, Storm 1
S OSD 5	0.049	0.046	0.004	1.1	4.37	0	1% AEP, 5 min burst, Storm 1
ROOF E	0.025	0.025	0	5	5	2	1% AEP, 5 min burst, Storm 1
S OSD 4	0.02	0.02	0	1.1	4.37	0	1% AEP, 5 min burst, Storm 1
ROOF A	0.023	0.023	0	5	5	2	1% AEP, 5 min burst, Storm 1
S OSD 1	0.033	0.031	0.002	1.1	4.37	0	1% AEP, 5 min burst, Storm 1
ROOF B	0.028	0.028	0	5	5	2	1% AEP, 5 min burst, Storm 1
ROOF C	0.025	0.025	0	5	5	2	1% AEP, 5 min burst, Storm 1
S OSD 2	0.028	0.027	0.001	1.1	4.37	0	1% AEP, 5 min burst, Storm 1
ROOF D	0.029	0.029	0	5	5	2	1% AEP, 5 min burst, Storm 1
DRIVEWAY	0.172	0.165	0.008	1.9	7.57	0	1% AEP, 5 min burst, Storm 1
S OSD 3	0.024	0.023	0.001	1.1	4.37	0	1% AEP, 5 min burst, Storm 1
BYPASS	0.034	0	0.034	0	13.37	0	1% AEP, 15 min burst, Storm 10

PIPE DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Max U/S HGL (m)	Max D/S HGL (m)	Due to Storm

CHANNEL DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Due to Storm

OVERFLOW ROUTE DETAILS

Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm
PREDEV OF	0.412	0.412	2.649	0.098	0.01	29.92	0.14	1% AEP, 15 min burst, Storm 8
RWT G OF	0.033	0.033	2.649	0.021	0	29.9	0.05	1% AEP, 10 min burst, Storm 5
RWT H OF	0.04	0.04	2.649	0.024	0	29.9	0.06	1% AEP, 20 min burst, Storm 3
OSD6 ORIFICE FLOW	0.012	0.012	2.649	0.012	0	29.9	0.03	1% AEP, 10 min burst, Storm 7
OSD6 OVERFLOW	0.044	0.044	2.649	0.026	0	29.91	0.06	1% AEP, 10 min burst, Storm 7
RWT F OF	0.026	0.026	2.649	0.018	0	29.9	0.05	1% AEP, 10 min burst, Storm 7
OSD 5 OVERFLOW	0.08	0.08	2.403	0.027	0.02	4	0.74	1% AEP, 20 min burst, Storm 8
OSD5 ORIFICE FLOW	0.013	0.013	2.403	0.009	0	4	0.35	1% AEP, 20 min burst, Storm 8
RWT E OF	0.022	0.022	2.649	0.017	0	29.9	0.04	1% AEP, 15 min burst, Storm 1
OSD 4 OVERFLOW	0.021	0.021	2.404	0.007	0.01	4	0.72	1% AEP, 20 min burst, Storm 10
OSD4 ORIFICE FLOW	0.009	0.009	2.649	0.009	0	29.9	0.03	1% AEP, 20 min burst, Storm 10
POST DEV OF	0.153	0.153	2.649	0.054	0.01	29.91	0.09	1% AEP, 15 min burst, Storm 8
RWT A OF	0.018	0.018	2.649	0.015	0	29.9	0.04	1% AEP, 10 min burst, Storm 6
OSD1 OVERFLOW	0.033	0.033	2.403	0.016	0.01	4	0.51	1% AEP, 20 min burst, Storm 10
OSD1 ORIFICE FLOW	0.003	0.003	2.649	0.004	0	29.9	0.02	1% AEP, 20 min burst, Storm 10
RWT B OF	0.024	0.024	2.649	0.018	0	29.9	0.04	1% AEP, 10 min burst, Storm 7
RWT C OF	0.021	0.021	2.649	0.016	0	29.9	0.04	1% AEP, 10 min burst, Storm 4
OSD2 OVERFLOW	0.028	0.028	2.403	0.014	0.01	4	0.5	1% AEP, 20 min burst, Storm 8
OSD2 ORIFICE FLOW	0.016	0.016	2.649	0.014	0	29.9	0.04	1% AEP, 20 min burst, Storm 8
RWT D OF	0.025	0.025	2.649	0.018	0	29.9	0.05	1% AEP, 10 min burst, Storm 4
POSTDEV TOTAL FLOW	0.406	0.406	2.649	0.097	0.01	29.92	0.14	1% AEP, 20 min burst, Storm 10
OSD7 OVERFLOW	0.235	0.235	2.404	0.032	0.06	4	1.85	1% AEP, 20 min burst, Storm 10
OSD 7 ORIFICE FLOW	0.03	0.03	2.649	0.02	0	29.9	0.05	1% AEP, 20 min burst, Storm 10
OSD 3 OVERFLOW	0.027	0.027	2.403	0.014	0.01	4	0.47	1% AEP, 20 min burst, Storm 10
OSD3 ORIFICE FLOW	0.008	0.008	2.649	0.009	0	29.9	0.03	1% AEP, 20 min burst, Storm 10
PIT1 OF	0.078	0.078	2.649	0.036	0	29.91	0.07	1% AEP, 15 min burst, Storm 8
BYPASS OF	0.034	0.034	2.649	0.022	0	29.9	0.05	1% AEP, 15 min burst, Storm 10

DETENTION BASIN DETAILS

Name	Max WL	MaxVol	Max Q Total	Max Q Low Level	Max Q High Level
RWT G	25.35	10.7	0.033	0	0.033
RWT H	25.1	19	0.04	0	0.04
OSD6	23.11	26.8	0.057	0	0.057
RWT F	24.56	9.8	0.026	0	0.026
OSD 5	22.52	19.6	0.093	0	0.093
RWT E	24.52	9.6	0.022	0	0.022
OSD 4	22.46	3.7	0.03	0	0.03
RWT A	24.71	8.5	0.018	0	0.018
OSD 1	23.27	11.7	0.036	0	0.036
RWT B	25.03	9.7	0.024	0	0.024
RWT C	24.94	9.2	0.021	0	0.021
OSD 2	23.21	16.3	0.044	0	0.044
RWT D	24.51	9.5	0.025	0	0.025
S OSD 7	22.44	50.2	0.265	0	0.265
OSD 3	22.46	9.2	0.035	0	0.035

Run Log for 23263C DRAINS 20241128 - DRAINS run at 08:57:36 on 17/2/2025 using Watercom Drains v2023.10.8682.19045
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Flows were safe in all overflow routes.