

Camden Medical Campus

Stormwater Management and Servicing Strategy Report

January 2020



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1 Introduction

1.1 Purpose of Report

This Stormwater Management and Servicing Strategy Report has been prepared by Mott MacDonald (MM) to accompany a Section 4.55(2) modification application for the proposed Camden Medical Campus located on Lot number 846 within the Gregory Hills Corporate Park development. This amended report describes the proposed stormwater management measures and review of the servicing strategy for the proposed site. The report has been prepared in response to SEARS Application specifically items 10, 14 and 15.

1.2 Site Location and Description

The site is located on Lot number 846 within the Gregory Hills Corporate Park development at Gregory Hills. The proposed site is bounded by the South Creek Tributary Way to the west, Digitaria Drive to the north, the Hermitage Way to the east and a proposed future medical centre to the south. The site generally has a fall from east to west with all of the site runoff directed towards the South Creek Tributary.

1.3 Basis of Report

The engineering detail in this report has been developed based on the following documentation:

- Existing site survey undertaken by Burton and Field Surveyors.
- Draft DP plan prepared by Burton and Field Surveyors.
- Civil engineering documentation prepared by Mott MacDonald for the Stage 3 to 6 Gregory Hills Corporate Park Development Application, DA 997/2014.
- Civil Engineering documentation for Stage 4 of Gregory Hills Corporate Park prepared by Mott MacDonald.
- Civil Engineering documentation for the South Creek Tributary works in the Gregory Hills Corporate Park site prepared by Mott MacDonald.
- Civil engineering DA drawings for Stage 2 of the Gregory Hills Corporate Park development prepared by Mott MacDonald submitted as DA 864/2014.
- Civil Engineering documentation for Stage 2 of Gregory Hills Corporate Park prepared by Mott MacDonald.
- Sydney Water drawings for Stage 4 of Gregory Hills Corporate Park prepared by Mott MacDonald.
- Civil engineering documentation prepared by Tribeca Homes for the residential Development to the east of the proposed site.



2 Stormwater Management

2.1 Design Philosophy

The stormwater drainage for the site has been designed in accordance with the following criteria that has been approved by council and is consistent with the overall estate design philosophy.

Approved Overall Estate Drainage Criteria:

- Road network drainage system designed to convey the 10-year ARI storm event runoff from the road areas as well as the detained flows from each of the individual development lots.
- Outlet pipes from each of the lots designed to convey the detained 10-year ARI storm event runoff from the lots. This is as a result of detention being required on each of the individual development lots so that the peak flow from the post developed site (including compensatory storage for the adjacent road area) does not exceed the pre developed flows for all storm events from the 1 year to the 100-year ARI storm events.

Proposed Site Drainage Criteria:

- Internal drainage system designed to convey the 10-year ARI storm event runoff from the site.
- Detention provided so that the peak flow from the post developed site (including compensatory storage for the adjacent road area) does not exceed the pre-developed flows for all storm events from the 1-year to the 100-year ARI storm events. In accordance with detention sizing provided as part of the approved DA 997/2014.

To achieve this design criteria, drainage is proposed to collect runoff from the carpark and building areas discharging via a detention tank into the proposed external mains system in Digitaria Drive. The proposed drainage layout is shown on MM drawing numbers MMD-368851-C-DR-CA-DA-0130 to MMD-368851-C-DR-CA-DA-0134.

2.2 Onsite Detention

The Turner Road Precinct Development Control Plan 2007 requires that the development attenuates the 100-year ARI peak post development flow back to the pre-development flow rates. In accordance with Camden Council Engineering Design Specification on site detention shall manage peak discharges for all storms up to the 100-year ARI event.

As documented in the "*Civil Engineering Report* – *Stage 3 to 6 Development Application, Mott MacDonald, March 2015*" which was prepared by Mott MacDonald as part of the DA submission, the basis for the lot-based detention design for the Gregory Hills Corporate Park site is as follows:

- The general principles of on-site detention for each commercial lot are as approved in the development consent 277/2012 and 997/2014. The development consent states that "*if necessary* an on-site detention system must be provided to restrict stormwater discharges from the site to pre development flows in accordance with Camden Council's current Engineering Design Specifications".
- The detention volume for each lot has been designed to provide compensatory detention for the adjacent road frontage including the proportion of Gregory Hills Drive adjacent to the site.



- The calculated proportion of adjacent road area that each individual lot provides compensatory storage for was taken as the percentage of the total lot area of each individual lot.
- Each lot was modelled so that the peak flow from the post developed site (including flows that bypass the detention basin from the adjacent road area) does not exceed the pre-developed flows for all storm events from the 1-year to the 100-year ARI storm events.
- The assumed depth of the proposed detention tanks is taken as 1m.

From the calculations undertaken as part of the DA submission the following detention requirements have been calculated for Lot 846:

Detention Volume = $1,375 \text{ m}^3$

Orifice Diameter = **390 mm**

The following catchment data was used to calculate the detention volume required for the site.

Table 2.1:Lot 846 – Input Data	
Item	Value
Pre-Developed (Total) Area	5.175 ha
Lot Area	4.145 ha
Percentage of Total Lot Area	26.77%
Adjacent Road Area	1.030 ha

Source: Civil Engineering Report - Stage 3 to 6 Development Application, Mott MacDonald, March 2015

With the following allowable discharge required from the site:

Table 2.2: Lot 846 - Detention Calculations DRAINS Output

Storm Event	Pre-Developed Flow (m³/s)	Post Developed Pipe Flow from Site (m³/s)	Post Developed Overland Flow from Site (m³/s)	Post Developed Flow Bypassing Detention (m ³ /s)	Total Post Developed Flow (m³/s)
1 year	0.396	0.189	0	0.207	0.396
10 year	1.270	0.275	0.008	0.367	0.650
100 year	2.070	0.310	0.910	0.513	1.733

Source: Civil Engineering Report – Stage 3 to 6 Development Application, Mott MacDonald, March 2015

Due to the layout of the site which results in not all of the runoff being able to be directed through the proposed detention system these calculations have been revisited as shown in Section 2.3.8.

2.3 Stormwater Modelling

Modelling of the proposed stormwater system was undertaken using the DRAINS software package. The following parameters were used in the model.

2.3.1 Hydrologic Parameters

The Intensity-Frequency-Duration (IFD) information from Camden Councils Engineering Design Specification was used. The proposed stormwater drainage system was analysed for a range of durations



(between 5 minutes to 2 hours) to ascertain the effectiveness of the proposed system under multiple design rainfall scenarios.

Table 2.3 lists the loss parameters utilised in the DRAINS model. These parameters are as outlined in the Camden Council Engineering Design Specification.

Table 2.3: DRAINS Model Loss Parameters

Parameter	Value
Impervious (Paved) Depression Storage	1 mm
Pervious (Grassed) Depression Storage	5 mm
Soil Type	3

2.3.2 Pit Inlet Capacities

For all pits throughout the development, the pit capacity relationships within *DRAINS* were adopted. These relationships are based on published results of scale model testing. For the 100-year storm event a blockage factor of 50% was applied on all pits as per Camden Council requirements.

2.3.3 Pipe and Pit Friction Losses

A Manning's friction coefficient of 0.013 was adopted for reinforced concrete pipes and 0.009 for uPVC pipes as specified by Camden Council.

Pit loss values were derived from the Missouri chart as set out in the Camden Council Engineering Design Specification and are summarised in the DRAINS Input data.

2.3.4 Pipes

Proposed pipes were graded at a minimum slope of 1%, with a desirable minimum cover of 600mm over the pipe.

2.3.5 Catchments

Catchment areas for each pit are shown in the DRAINS Input data attached in Appendix A and on the Catchment Plan, MM drawing number MMD-368851-C-DR-CA-DA-0210.

The DRAINS Input data in Appendix A lists the areas for each catchment and the adopted pervious and impervious percentages.

2.3.6 **Overland Flow Paths**

Typical cross-sections based on the gutter shape and pavement type were input to DRAINS representing the overland flow paths. Slopes were derived from the proposed pit surface levels.

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2.3.7 Tailwater Levels

The tailwater level at the connection point to the downstream drainage system was set at the HGL level from the Stage 4 Gregory Hills Corporate Park design.

2.3.8 Detention

Using the design criteria as discussed in Section 2.2, the detention volume for the site was revisited due to areas of the site not able to be drained through the proposed detention system. The tank was sized to satisfy the following:

The post-developed flow		The external post-developed		The pre-developed flows for
from the site (including the	+	flows from the public domain	=	all flows from the 1-year to
flows bypassing detention)		areas		the 100-year storm event.

To meet these requirements, it is proposed to install a detention tank with a high early discharge pit. The high early discharge pit has been utilised to provide a detention system with a smaller storage volume requirement but still however meeting the site discharge requirements. As a result, the following detention system is proposed:

- Detention Volume = 1,000 m³
- Orifice diameter for low flows = **340mm**
- Weir level = **RL 98.8**
- Outlet pipe diameter for high flows = 600mm

The detention system is proposed to be an underground tank. Other options include utilising storage in the pipe system by upsizing the pipe size within the site. This can be investigated further during the detailed design phase.

The outflows from the site utilising the detention system as specified above are summarised in Section 2.3.9.

2.3.9 Results

The model was run to provide 150mm freeboard at all the pits during the 10-year ARI storm event. The results from the DRAINS model are attached in Appendix A. The total outflows from the site are summarised below against the required outflows as identified in Section 2.2.

Storm Event	Pre-Developed Flow (m3/s)	Post-Developed Flow Bypassing OSD from external to site (m3/s)	Post- Developed Flow Piped from Site (m3/s)	Post- Developed Overland Flow from OSD (m3/s)	Post-Developed Flow Bypassing OSD from Site (m3/s)	Total Post- Developed Flow (m3/s)
1 year	0.396	0.207	0.152	0	0.032	0.391
10 year	1.27	0.367	0.431	0	0.066	0.864
100 year	2.07	0.513	0.981	0.219	0.129	1.842

Table 2.4: DRAINS Output

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2.4 Stormwater Quality Management

As part of this development it is proposed to provide an onsite water quality management system to meet the requirements in accordance with Camden Councils guidelines as summarised in Table 2.5 below:

Table 2.5:	able 2.5: Camden Council Water Quality Targets					
	Pollutant	% Reduction in Pollutant Loads				
Gross P	ollutants (>5mm)	90%				
Total Suspended Solids		85%				
Tota	l Phosphorus	65%				
То	tal Nitrogen	45%				

Source: Camden Council Engineering Design Specification

The above objectives are expressed as the reduction in pollutant loads required, compared to the proposed development with no stormwater control measures.

As approved in the Gregory Hills Corporate Park Development Consent for the whole estate, a development condition shall be imposed on all private lot developments to manage water quality onsite prior to discharging flows into the public domain system. The runoff within the public domain is being treated with a separate at source treatment on the public domain roads prior to entry into the piped system.

2.4.1 Proposed Treatments

To achieve the required pollutant reductions to satisfy Camden Councils requirements, the following water quality treatment train is proposed. A HumeGard® GPT will be used as the primary treatment followed by a JellyFish® filter as a tertiary treatment device. The proposed treatment train is discussed in more detail in the following sections.

2.4.1.1 HumeGard® Gross Pollutant Trap (GPT)

For primary treatment of the stormwater runoff, a HumeGard® Gross Pollutant Trap is to be provided. The HumeGard is a pollution control device specifically designed to remove gross pollutants and coarse sediments in residential and commercial developments. The MUSIC node from Hume's was used for this model with the input data as summarised below.

Input	Output	Adopted Rate				
500	295	41%				
5	3.3	34%				
5	3.8	24%				
15	2.2	85%				
	Input 500 5 5 5 15	Input Output 500 295 5 3.3 5 3.8 15 2.2				

Table 2.6: HumeGard® GPT MUSIC Input Parameters

Source: Humes



2.4.1.2 HumeCeptor® Oil and Silt Arrestor

For secondary treatment of the stormwater runoff, a HumeCeptor® oil and silt arrestor is to be provided. The HumeCeptor is a pollution control device specifically designed to remove Total Suspended Solids and hydrocarbons from runoff. The MUSIC node from Hume's was used for this model with the input data as summarised below.

Table 2.7: HumeCeptor® MUSIC Input Parameters

Pollutant	Input	Output	Adopted Rate
Suspended Solids (mg/L)	500.3	100.3	80%
Phosphorus (mg/L)	4.998	3.519	30%
Nitrogen (mg/L)	5.0	3.5	30%
Gross Pollutants (kg/ML)	15.1	14.9	1.3%

Source: Humes

2.4.1.3 JellyFish® Filter

The JellyFish® filter are to be provided to be used as a final treatment device for stormwater runoff from the proposed development. Using filtration cartridges, the JellyFish® filter is able to capture a high level of stormwater pollutants including total suspended solids, total nitrogen, total phosphorous, total copper and total zinc. In developing the MUSIC model for the proposed development, a JellyFish® JF3000-16-4 cartridge system by Hume's with a treatable flow rate of 88L/s has been proposed as an end-of-line treatment prior to discharge. The position of the JellyFish® system has been proposed to maximise flows and allow easy access for maintenance. The MUSIC node from Hume's was used for this model with the input data as summarised below.

Table 2.8: JellyFish® Filter MUSIC Input Parameters

Pollutant	Input	Output	Adopted Rate
Suspended Solids (mg/L)	200	22	89%
Phosphorus (mg/L)	0.4	0.14	65%
Nitrogen (mg/L)	7	3.2	54%
Gross Pollutants (kg/ML)	100	1	99%

Source: Humes

2.4.2 Water Quality Modelling

A MUSIC (Version 6) model was created for the site to ensure the treatment measures provided onsite achieve the pollutant removal objectives as set by Camden Council. The following methodology and parameters were incorporated in the MUSIC model:

- The MUSIC model's default pluviograph data for Sydney 6-minute interval was utilised within the model. This was deemed acceptable for the site since the years utilised had both wet and dry periods and were close to the site.
- A MUSIC model was setup to represent the post developed site. The site was split up into 3 sub catchments representing the landscaped area, the carpark and sealed footpath area and the roofed areas.



Table 2.9: MUSIC Post-Developed Catchments

Post-Developed Region	Area (Ha)
Roof water discharging to water quality treatment	1.769 ha
Sealed road and footpath discharging to water quality treatment	1.451 ha
Landscaping discharging to water quality treatment	0.741 ha
Landscaping Bypass	0.067 ha
Sealed road and footpath bypass	0.120 ha

For the MUSIC catchment plan, refer to MM drawing number MMD-368851-C-DR-CA-DA-0220.

• Pollutant concentration parameters used within the model were based on the recommended model defaults for different land use categories as specified in the MUSIC modeling guidelines prepared for the Sydney Catchment Authority (SCA). These are summarised in the following table:

Table 2.10: Post-Development Areas – MUSIC Node Classification

MUSIC Node	Category
Roof	"Roof Area"
Hardstand	"Roads"
Landscaping	"Pervious"

Source: NSW MUSIC modeling guidelines.

• A treatment train was designed to incorporate a series of treatment nodes including a HumeGard, HumeCeptor and a JellyFish Filter. The effectiveness of the proposed treatments is summarised in Section 2.4.3.

2.4.3 MUSIC Results

The following results were achieved within the model.

Pollutant	Post – Dev (kg	velopment /yr)	Removal Rate (%)	Target Removal (%)
	Untreated	Residual		
Suspended Solids	12,300	1050	91.5	85
Phosphorus	20.9	5.83	72.1	65
Nitrogen	114	39.3	65.5	45
Gross Pollutants	1120	54	95.2	90

Table 2.11: MUSIC Results of Total Site

According to the results of the MUSIC analysis, the water quality treatment train provided will provide adequate treatment for the proposed development runoff from the proposed development in accordance with the water quality targets as set out by Camden Council.



2.5 Flooding

As part of the design works for the proposed South Creek Tributary a HEC-RAS model was prepared to determine the flood levels within the proposed creek alignment. The design of the creek tributary is as documented in the "*Civil Engineering Report – South Creek Tributary CC, Mott MacDonald, September 2015*". A plan summarising the results from the HEC-RAS model taken from the above-mentioned report is attached in Appendix B. As per council requirements, the finished surface level for all habitable floor levels is to be in accordance with Camden Councils Flood Risk Management Policy, for critical utilities and public facilities for which this site is classified. Further to this advice was received from council in response to the initial SEARS application stating that the site was to have a minimum freeboard of 2.3m above the riparian corridor.

Location	Minimum Creek Surface Level RL (m)	100 Year Flood Level RL (m)	PMF Flood Level RL (m)	Minimum Allowable Floor Level 2.3m above Creek Level (m)
North western corner of the site	95.22	95.99	98.48	97.52
South western corner of the site	97.19	97.85	98.74	99.49

Table 2.12: Flood Levels

Source: Civil Engineering Report – Tributary CC, Mott MacDonald, September 2015

The proposed finished floor levels for the site are as summarised below:

- The proposed finished floor level for the main building of the site is RL 102.50. This provides a freeboard of 4.02m above the PMF flood level and a freeboard of 4.98m above the recommended minimum allowable floor level as identified in the SEARS response letter.
- The proposed basement located adjacent to the north eastern corner of the site has a finished surface level of RL 99.50. This provides a freeboard of 1.02m above the PMF flood level and a freeboard of 1.98m above the recommended minimum allowable floor level as identified in the SEARS response letter.
- The proposed multi deck carpark has a minimum proposed level of RL 100.55 in the south western corner of the site. This provides a freeboard of 1.81m above the PMF flood level and a freeboard of 1.06m above the recommended minimum allowable floor level as identified in the SEARS response letter.

As summarised above, the proposed finished floor levels are acceptable and in accordance with Council's requirements as set out in Camden Council's Flood Risk Management Policy.



3 Servicing Strategy

The following section provides a summary of the servicing strategy for the site. It is noted that the servicing infrastructure as discussed below has already been constructed.

3.1 Water

A 150mm diameter DICL water main has been constructed as part of the Stage 4 works of the Gregory Hills Corporate Park development on the northern side of Digitaria Drive. 2 x 150mm diameter tees have been constructed off this main to provide a connection point to Lot 846 in the north western corner of the site, for both potable water and fire services. The design of these works has been undertaken by Mott MacDonald as the Water Servicing Coordinators (WSCs) for the proposed development. A 150mm diameter PVC is also located on the eastern side of the Hermitage Way, with connection also being able to be provided to this pipe if required. Connections provided to the site are sufficient for the proposed hospital site, with no amplification required.

3.2 Sewer

An existing 375mm diameter PVC main runs within the South Creek tributary along the western boundary of the subject site. As part of the Stage 4 works of the Gregory Hills Corporate Park development, a 225mm diameter PVC pipe with terminal maintenance shaft has been provided off the 375mm diameter main for the connection of Lot 846, with realignment of this 225mm line required to accommodate the proposed basement in the Biomedical Building. The design of these works has been undertaken by Mott MacDonald, as the water servicing coordinators for the proposed development. Connections provided to the site are sufficient for the proposed hospital site, with no amplification required.

3.3 Electricity

An underground electrical network has been constructed as part of the Stage 4 works of the Gregory Hills Corporate Park development within Digitaria Drive and the Hermitage Way on both sides of the road. The design of these works has been undertaken by Estate Power Design Pty Ltd with allowance made for the connection of Lot 846. An electrical substation has been provided for the hospital site along Digitaria Drive.

3.4 Gas

A 110mm gas main is located along the eastern boundary of the site on the eastern side of the Hermitage Way. Connection to this main is proposed for the site. Connection requirements are to be determined during the detailed design phase once usage requirements have been determined.

3.5 Telecommunications

An underground telecommunications network has been constructed as part of the Stage 4 works of the Gregory Hills Corporate Park development within Digitaria Drive and the Hermitage way on both sides of the road. Connection to these cables is proposed for this development.





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Appendix A. Drains Input / Output

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DRAINS Input

PIT / NODE DETAILS			Version 15																		
Name	Туре	Family	Size	Ponding	Pressure	Surface	Max Pond	Base	Blocking	x	У	Bolt-down	id	Part Full	Inflow	Pit is					
				(cu.m)	Coeff. Ku	Elev (m)	Depth (m)	(cu.m/s)	Factor			lid		SHOCK LOSS	Hydrograp	on					
PitG1	Sag	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade	5	1.5	101.35	0.1	0	0.5	294184.898	6233226.567	No	217	1 x Ku	No	New					
PitA3	OnGrade	Dummy	GPT		0.5	99.7		0	0.5	294147.371	6233265.109	Yes	91	1 x Ku	No	New					
PitA1	OnGrade	Junction	JP		0.5	99.2		0	0.5	294146.987	6233273.891	Yes	34298752	1 x Ku	No	New					
PitA0	OnGrade	Junction	JP		0.5	99		0	0.5	294147.099	6233279.977	Yes	154	1 x Ku	No	Existing	a				
NOut NBvoges1	Node					98.7 100		0		294146.97	6233281.982		93 241		No						
NBypass2	Node					100		ő		294243.851	6233276.221		242		No						
NBypassSum	Node					99		0		294053.968	6233156.728		289		No						
NBypassOut NRoof5	Node					98 110		0		293980.089	6233156.714		290 348		No						
PitB1	Sag	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade	5	1.5	99.5	0.15	ő	0.5	294185.365	6233273.513	No	207	1 x Ku	No	New					
NRoof4	Node					110		0		294330.875	6233229.875		475		No						
PitB5 PitB4	OnGrade OnGrade	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade RM 7 Grated Accessway Pit at 1% longitudinal grade		0.5	101.82		0	0.5	294330.687	6233241.799 6233247 181	No	548 523	1 x Ku 1 x Ku	No	New					
PitB3	Sag	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade	5	0.5	100.7	0.1	ő	0.5	294294.306	6233251.766	No	429	1 x Ku	No	New					
PitB2	OnGrade	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade		0.5	100.35		0	0.5	294243.713	6233266.068	No	387	1 x Ku	No	New					
NBypass3 NBypass4	Node					100		0		294281.492	6233266.26		512		No						
PitB6	OnGrade	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade		4	102.3		ő	0.5	294369.55	6233222.884	No	560	1 x Ku	No	New					
NBypass7	Node					100		0		294139.8	6233195.582		652		No						
NRoof1 PitA6	Node	NSW Dept of Housing RM7 lotet 3% crossfall-1% grade	RM 7 Grated Accessway Pit at 1% Iongitudinal grade	5	2	110	0.25	0	0.5	294164.475	6233130.225	No	168265 590	1 x Ku	NO	New					
PitA5	Sag	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade	5	0.5	101.5	0.25	ő	0.5	294162.052	6233184.849	No	580	1 x Ku	No	New					
NRoof2	Node					110		0		294168.766	6233214.782		168277		No						
NBypass5 NRoof3	Node					100		0		294238.239	6233021.741		252700		NO						
PitH1	OnGrade	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade		4	102		ō	0.5	294196.777	6233143.642	No	606	1 x Ku	No	New					
PitA7	OnGrade	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade		2	101.85		0	0.5	294187.403	6233126.386	No	604	1 x Ku	No	New					
PitF4	Sag	NSW Dept. of Housing RM7 Inlet. 3% crossfall-1% grade	RM 7 Grated Accessway Pit at 1% longitudinal grade	2	4	100	0.1	0	0.5	294144.778	6233073.761	No	5102305 16955448	1 x Ku	NO	New					
PitE3	Sag	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade	1	1.5	102.3	0.15	ō	0.5	294234.516	6233067.385	No	168338	1 x Ku	No	New					
PitE2	Sag	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade	1	1.5	102.3	0.15	0	0.5	294245.458	6233088.219	No	38653216	1 x Ku	No	New					
Pite1	Sag OnGrade	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade RM.7 Grated Accessway Pit at 1% longitudinal grade	1	2	102.2	0.15	0	0.5	294248.32	6233094.006	NO	38653241 605	1 x Ku 1 x Ku	NO	New					
PitC2	OnGrade	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade		0.5	102.1		ő	0.5	294267.431	6233121.106	No	38653283	1 x Ku	No	New					
PitC1	Sag	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade	1	1.5	101.8	0.15	0	0.5	294257.373	6233104.877	No	38653277	1 x Ku	No	New					
PitA12 PitA11	OnGrade	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade RM 7 Grated Accessway Pit at 1% longitudinal grade		0.5	102.9		0	0.5	294314.545	6233176.329	NO	38653285	1 x Ku	NO	New					
PitA10	OnGrade	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade		0.5	101.65		ő	0.5	294243.131	6233115.174	No	38653287	1 x Ku	No	New					
PitD2	OnGrade	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade		0.5	101.85	0.45	0	0.5	294257.005	6233126.794	No	38653297	1 x Ku	No	New					
PitD1 PitE3	Sag OnGrade	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade RM.7 Grated Accessway Pit at 1% longitudinal grade	1	1.5	101.6	0.15	0	0.5	294247.771 294307.603	6233113.029	NO	38653295	1 x Ku 1 x Ku	NO	New					
PitF2	Sag	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade	1	2	102.45	0.15	ō	0.5	294298.904	6233139.174	No	38653305	1 x Ku	No	New					
PitF1	OnGrade	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade		0.5	102.32	0.45	0	0.5	294288.075	6233147.331	No	38653300	1 x Ku	No	New					
PitN2 PitN1	Sag	NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade NSW Dept. of Housing RM7 Inlet, 3% crossfall-1% grade	RM.7 Grated Accessway Pit at 1% longitudinal grade RM.7 Grated Accessway Pit at 1% longitudinal grade	5	4	102.1	0.15	0	0.5	294142.809	6233083.124	NO	4899836	1 x Ku 1 x Ku	NO	New					
	oug	Non Dept. of Hodding Nin Inits, one of cooldin The grade	This office recessing the try longitudinal grade	0	0.0	101.0	0.2	0	0.0	204140.200	0200100.114	140	4000000	1 A Hu	110						
DETENTION BASIN DETAILS	-	0	Netherd	0		D '-()	0	D2 5	0% T				0								
OSDA4	97.61	Surf. Area	Not Used	Outlet Type	ĸ	340	97.78	Pit Family	Pit Type	x 294155.884	y 6233252.372	No	Crest RL 0	Crest Length(m)) IO 89						
	97.88	750																			
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OSDWeir	97.88 99.5 100 101.8 97.6	750 750 1 1 1 1		Culvert	0.5					294153.72	6233255.618	No			8371174	1					
OSDWeir	97.88 99.5 100 101.8 97.6 100	750 750 1 1 1 1 1 1		Culvert	0.5					294153.72	6233255.618	No			8371174	1					
OSDWeir SUB-CATCHMENT DETAILS	97.88 99.5 99.51 100 101.8 97.6 100	750 750 1 1 1 1 1		Culvert	0.5					294153.72	6233255.618	No			8371174	1					
OSDWeir SUB-CATCHMENT DETAILS Name	97.88 99.5 99.51 100 101.8 97.6 100 Pit or	750 750 1 1 1 1 1 1 7 0 7 000	Paved	Culvert Grass	0.5 Supp	Paved	Grass	Supp	Paved	294153.72 Grass	6233255.618 Supp	No Paved	Grass	Supp	8371174 Paved	Grass	Supp L	ag Time (Gutter Gut	ter Gutte	er Rainfall
OSDWeir SUB-CATCHMENT DETAILS Name	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node	750 750 1 1 1 1 1 1 1 7ctal Area (ha)	Paved Area %	Culvert Grass Area %	0.5 Supp Area %	Paved Time (min)	Grass Time (min)	Supp Time (min)	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Slope %	8371174 Paved Rough	t Grass Rough	Supp L Rough d	ag Time (or Factor L	Sutter Gut ength Slo (m) %	ter Gutte De FlowFa	er Rainfall ctor Multiplier
OSDWeir SUB-CATCHMENT DETAILS Name CatG1	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node PitG1	750 750 1 1 1 1 1 1 1 1 0 1 238	Paved Area % 80	Culvert Grass Area % 20	0.5 Supp Area % 0	Paved Time (min) 5	Grass Time (min) 10	Supp Time (min) 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Slope %	8371174 Paved Rough	s Grass Rough	Supp L Rough c	ag Time 4 or Factor L 0	Gutter Gut ength Slo (m) %	ter Gutte be FlowFar	er Rainfall ctor Multiplier 1.
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatA	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node PitG1 OSDA4	750 750 1 1 1 1 1 1 Total (ma) 0.1238 0.23951	Paved Area % 80 30 30 30 30	Culvert Grass Area % 20 70	0.5 Supp Area % 0 0	Paved Time (min) 5 5	Grass Time (min) 10 10	Supp Time (min) 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Slope %	8371174 Paved Rough	t Grass Rough	Supp L Rough d	ag Time o or Factor L 0 0	Sutter Gut ength Slo (m) %	ter Gutte be FlowFa	er Rainfall ctor Multiplier 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatBypass1 CatBypass1 CatBypass2	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node PitG1 OSDA4 NBypass1 NBypass2	750 750 1 1 1 1 1 1 1 1 1 0.1238 0.2381 0.0375 0.0373	Paved Area % 80 30 60 20	Culvert Grass Area % 20 70 40 80	0.5 Supp Area % 0 0 0 0	Paved Time (min) 5 5 5 5	Grass Time (min) 10 10 10	Supp Time (min) 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Slope %	8371174 Paved Rough	grass Rough	Supp L Rough c	Lag Time 1 or Factor L 0 0 0 0	Sutter Gut ength Slo (m) %	ter Gutte De FlowFa	er Rainfall ctor Multiplier 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatG1 CatBypass1 CatBypass2 CatBypass2 CatBypass2	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node PitG1 OSDA4 NBypass1 NBypass1 NBypass1	750 750 1 1 1 1 1 7dtal Artaa (ha) 0.1228 0.2381 0.0375 0.0313 0.0313	Pawed Area % 80 30 60 20 100	Culvert Grass Area % 20 70 40 80 0	0.5 Supp Area % 0 0 0 0 0	Paved Time (min) 5 5 5 5 5	Grass Time (min) 10 10 10 10	Supp Time (min) 0 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Slope %	8371174 Paved Rough	s Grass Rough	Supp L Rough (ag Time (xr Factor L 0 0 0 0	Gutter Gut ength Slo (m) %	ter Gutte PlowFar	er Rainfall ctor Multiplier 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatB1 CatB1 CatB1 CatB1 CatB1 CatB1 CatB1 CatB1	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node Pit G1 OSDA4 NBypass1 NBypass1 NBypass2 NRoof5 PitB1 NRoof4	750 750 1 1 1 1 1 1 1 7 7 6 8 7 8 9 0 1238 0 0 2381 0 0 3281 0 0 3281 0 0 3281 0 0 3281 0 0 3210 0 0 3210 0 0 320 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Paved Area % 80 30 20 20 100 100 100	Culvert Grass Area % 20 70 40 80 0 100	0.5 Area % 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5	Grass Time (min) 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Slope %	8371174 Paved Rough	t Grass Rough	Supp L Rough (ag Time 4 xr Factor L 0 0 0 0 0 0	Gutter Gut ength Slo (m) %	ter Gutte be FlowFar	er Rainfall ctor Multiplier 1 1 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatA4 CatBypasa1 CatRoot5 CatRoot5 CatRoot5 CatRoot4 CatB5	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node Pit G1 OSDA4 NBypass1 NBypass1 NBypass1 NRoof4 PitB5	750 750 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Paved Area % 80 30 60 20 100 0 100 100	Culvert Grass Area % 20 70 40 80 0 100 0 0	0.5 Area % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Grass Time (min) 10 10 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Stope(%) %	Grass Slope %	Supp Slope %	8371174 Paved Rough	4 Grass Rough	Supp L Rough (ag Time 1 vr Factor L 0 0 0 0 0 0 0 0 0 0	Sutter Gut ength Slo (m) %	ter Gutte be FlowFar	er Rainfall ctor Multiplier 1 1 1 1 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatG1 CatBypass1 CatBypass2 CatByfod5 CatB1 CatB5 CatB5 CatB5 CatB5 CatB5	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node Pit G1 OSDA4 NBypass1 NRoof5 PitB1 NRoof4 PitB5 PitB1	750 750 1 1 1 1 1 1 1 7 040 0400 0,0313 0,0315 0,0313 0,0335 0,0335 0,0335 0,0335 0,0335 0,0335 0,0335 0,0335 0,0335 0,0335 0,0335 0,0335 0,0000000000	Paved Avea 80 30 60 20 100 0 100 100 100 100 100 100 100	Culvert Area % 20 70 40 80 0 100 0 100 0 13	0.5 Supp Area % 0 0 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Grass Time (min) 10 10 10 10 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Siope %	8371174 Paved Rough	4 Grass Rough	Supp L Rough (ag Time 1 xr Factor L 0 0 0 0 0 0 0 0 0 0 0	Sutter Gut ength Slo (m) %	ter Gutte be FlowFar	er Rainfall ctor Multiplier 1 1 1 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatA4 CatBysas1 CatBysas2 CatB1 CatBysas2 CatB1 CatB5 CatB5 CatB5 CatB4 CatB3 CatB4 CatB3 CatB4	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node Pit or Node Pit or Node Pit S Nod SDA NRod5 PitB1 NRod4 PitB3 PitB3 PitB3 PitB3 PitB3	750 750 1 1 1 1 1 1 1 1 7 0 4 7 8 0 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Paved Area % 80 30 20 20 100 0 100 87 7 100 100	Culvert Grass Area % 20 70 40 80 80 0 100 0 100 0 113 0 0	0.5 Area % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Grasss Time (min) 10 10 10 10 10 10 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Stope %	8371174 Paved Rough	t Grass Rough	Supp L ⊨ Rough (Lag Time (or Factor L 0 0 0 0 0 0 0 0 0 0 0 0 0	Sutter Gut ength Slo (m) %	ter Gutte De FlowFar	or Rainfall tctor Multiplier 1 1 1 1 1 1 1 1 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatG1 CatBypass1 CatBypass2 CatBypass2 CatBo CatBS CatBS CatBS CatBS CatB3 CatB2 CatB2 CatB2 CatB2	97.88 99.5 99.5-1 100 101.8 97.6 100 Pit or Node PitG1 OSDA4 NBvpass2 NRod5 PitB1 NRod4 PitB1 NRod4 PitB2 PitB2	750 750 1 1 1 1 1 1 7 0 1 1 7 0 1 1 1 7 0 1 1 1 1	Paved Area % 80 30 60 20 100 100 100 87 100 100 100 100 100	Culvert Area % 20 70 40 80 0 100 0 100 0 13 0 0 90	0.5 Area % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Grass Time (min) 10 10 10 10 10 10 10 10 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Slope %	8371174 Paved Rough	t Grass Rough	Supp L ⊨ Rough d	ag Time (or Factor L 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Sutter Gut ength Slo (m) %	ter Gutte be FlowFar	er Rainfall ctor Multiplier 1 1 1 1 1 1 1 1 1 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatG1 CatG4 CatBypass1 CatBypass2 CatBod5 CatB1 CatB5 CatB4 CatB3 CatBypass3 CatBypass3 CatBypass3 CatBypass3	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node Pit01 OSDA NRpds Pit04 P	750 750 1 1 1 1 1 1 7 7 6 8 7 8 9 0 0 38 0 0 2381 0 0375 0.0313 0.0335 0.0335 0.0335 0.0335 0.0335 0.0335 0.0335 0.0335 0.0335 0.0335 0.0335 0.0021 0.012 0.012 0.015 0.0078 0.0078	Paved Area % 8 80 60 20 100 100 100 100 87 100 100 100 100 100 100 100 25	Culvert Area % 20 70 80 0 100 0 100 0 130 0 90 90 75	0.5 Area % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Grass Time (min) 10 10 10 10 10 10 10 10 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Silope %	8371174 Paved Rough	4 Grass Rough	. Supp L ⊨ Rough c	ag Time (x Factor L 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Sutter Gut ength Slo (m) %	ter Gutte De FlowFar	ar Rainfall ctor Multiplier 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatA4 CatRoot5 CatB1 CatB5 CatB4 CatB5 CatB4 CatB2 CatB3 CatB2 CatB2 CatB2 CatB2 CatB2 CatB2 CatB2 CatB3 CatB2 CatB3 CatB2 CatB3 CatB	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node PitG1 0SDA4 NBypass2 NRod5 PitB4 PitB3 PitB3 PitB3 PitB4 NBypass3	750 750 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Paved Area % 80 30 60 20 100 100 100 80 7 100 100 100 100 100 25 0 0	Culvert Grass Area % 20 70 40 80 0 100 0 13 0 0 90 57 5 100 100	0.5 Supp Area % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Grass Time (min) 10 10 10 10 10 10 10 10 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Stope %	8371174 Paved Rough	Grass Rough	Supp L ⊨ Rough d	ag Time (or Factor L 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Sutter Gut ength Slo (m) %	ter Gutte Þe FlowFar	or Rainfall ctor Multiplier 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatG1 CatG1 CatBypass1 CatBypass2 CatBypass3 CatB CatG1 CatB CatG2 CatBypass3 CatBypass3 CatBypass3 CatBypass3 CatBypass3 CatBypass3 CatBypass3 CatBypass3 CatBypass3 CatBypass3 CatBypass3 CatBypass3 CatBypass3	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node Pit or Node Node Node Node Node Node Node Node	750 750 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Pawad Araa % 80 30 60 20 100 100 100 100 100 100 25 0 0 0 100	Culvert Area % 20 70 70 40 80 0 100 0 0 13 0 0 0 13 0 0 0 90 75 100 100 0 0 0	0.5 Area % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Grass Time (min) 10 10 10 10 10 10 10 10 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Graas Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Slope %	8371174 Paved Rough	Grass Rough	Supp L Rough t	Lag Time (x Factor L 0 0 0 0 0 0 0 0 0 0 0 0 0	Sutter Gut ength Slo (m) %	ter Gutte Poe FlowFar	r Rainfall ctor Multiplier 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatBypass1 CatBypass1 CatBypass2 CatBypass2 CatBypass3 CatB CatB3 CatB3 CatB3 CatB3 CatB2 CatBypass3 CatB9 CatB2 CatB4 CatB5 CatB9 CatB2 CatB5 CatB4 CatB5 CatB4 CatB5 CatB4 CatB5 CatB4 CatB5 CatB4 CatB5 CatB4 CatB5 CatB4 CatB5 CatB4 CatA4 CatA4 CatA4 CatB4 CatA4 CatB4 CatA4 CatB4 CatA4 CatB4 CatA4 CatB4 CatA4 CatB4 CatA4 CatB4 CatA4 Ca	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node Pit01 OSDA4 NBypass2 NBod5 Pit83 Pit83 Pit83 Pit83 Pit83 Pit83 Pit86 NBypass3 NBypass3 Pit86 Pit86 Pit86 Pit86 Pit86 Pit87 Pit86 Pit86 Pit87 Pit86 Pit87 Pit86 Pit87 Pit86 Pit87 Pit86 Pit87 Pit86 Pit87 Pit86 Pit87 Pit86 Pit	750 750 1 1 1 1 1 1 1 7 7 7 6 1 1 7 7 7 6 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Paved Area % 80 20 20 100 100 100 87 100 100 100 100 100 25 0 0 0 0 90	Culvert Grass Area % 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5 Supp Area % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Grass Time (min) 10 10 10 10 10 10 10 10 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Slope(%) %	Grass Slope %	Supp Stope %	8371174 Paved Rough	s Grass Rough	Supp L Rough i	ag Time (x Factor L 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Sutter Gut ength Slo (m) %	ter Gutte De FlowFar	or Rainfall ctor Multiplier 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatG1 CatG4 CatBypass1 CatBypass2 CatBypass2 CatByford CatB CatG4 CatB CatG4 CatC CatG4 CatC CatG4 CatC CatG4 CatC CatC1 CatA11 CatA	97.88 99.5 99.51 100 101.8 97.6 100 Pit or Node PitG1 OSDA4 NBypass1 NBypass2 NRod5 PitB5 PitB5 PitB5 PitB5 PitB5 PitB5 PitB5 PitB5 PitB5 PitB5 PitB5 PitB5 NRod2 PitB5 NRod3 PitB4 PitB6 NBypass7 NRod3 PitB5 PitB5 NRod3 PitB5 PitB1 PitA6 PitB4 Pit	750 750 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Pauvad Area 80 30 60 20 100 0 100 100 100 100 25 0 10 25 0 10 100 100 25 0 10 100 25 7 0 100 100 25 0 100 100 25 0 5 87 7 87 78 90 80 82 85 85 85 85 85 85 85	Culvert Graces % 270 40 80 0 0 0 0 100 0 0 0 0 100 0 0 0 0 100 0 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5 Supp 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Grasss Time (min) 10 10 10 10 10 10 10 10 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Skopet%) %	Grass Slope %	Supp Slope %	8371174 Paved Rough	Grass Rough	Supp I I Rough i	ag Time I Factor I 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Sutter Gut Sio (m) %	ter Gutte	r Rainfail ctor Multipiler 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatAo CatAo CatBo CatCa CatBo CatBo CatBo CatCa CatBo CatBo CatBo CatCa CatBo CatCa CatBo CatCa CatBo CatCa CatBo CatCa CatBo CatBo CatCa CatBo CatCa CatCa CatCa CatCa CatCa CatDo C	97.88 99.5 99.5 99.5 100 101.8 97.6 100 PitG1 OSDAA NBypass1 NBypass1 NBypass3 NBypa	750 750 1 1 1 1 1 1 1 1 0 0.0289 0.0375 0.0375 0.0375 0.0375 0.0375 0.0375 0.0375 0.0375 0.0375 0.0375 0.0375 0.0375 0.0375 0.0375 0.0461 0.012 0.012 0.0177 0.015 0.0078 0.0078 0.0074 0.0313 0.0313 0.0371 0.0313 0.0375 0.0074 0.0354 0.0384 0.0488 0.0488 0.0518 0.0121 0.0354 0.0518 0.0121 0.0354 0.0354 0.0518	Pawed Area % 80 30 60 20 100 100 100 87 100 100 100 100 100 100 100 100 100 10	Culvert Grass 700 00 00 00 00 00 00 00 00 00 00 00 00	0.5 Supp Area % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Grass Time (min) 10 10 10 10 10 10 10 10 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Graas Length (m)	6233255.618 Supp Length (m)	No Paned Slopa(%) %	Grass Slope %	Supp Slope %	8371174 Paved Rough	Grass Rough	Supp I Rough i	ag Time (x Factor 1) 0 0 0 0 0 0 0 0 0 0 0 0 0	Sutter Gut Sio (m) %	ter Gutte	r Rainfail ctor Multiplier 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatA4 CatByDass1 CatByDass2 CatByDass2 CatByDass3 CatBs	97.88 99.5 99.5 99.5 100 101.8 97.6 100 Pit or Node PitG1 OSDA4 NBypass1 NBypass2 NBypass3 NBypass3 NBypass4 PitB2 NBypass5 NBypas5	750 750 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Pawed Area % 30 30 60 20 100 100 100 100 100 25 0 100 25 0 0 100 90 90 90 90 90 90 87 87 78 90 82 85 85 85 85 86 80 40 40 40 90 95 80	Culvert Grass 4rea 20 70 40 80 0 100 0 100 0 90 90 90 90 90 90 90 90 90 90 90 90	0.5 Supp 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Grass Time (min) 10 10 10 10 10 10 10 10 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Paved Size(%)	Grass Slope %	Supp Slope %	8371174 Paved Rough	Grass Rough	Supp I Rough i	ag Time (Factor 1 C C C C C C C C C C C C C	Sutter Gut (m) %	ier Gutte	r Rainfall tor Multiplier 1 1 1 1 1 1 1 1 1 1 1 1 1
OSDWeir SUB-CATCHMENT DETAILS Name CatG1 CatG1 CatG1 CatBypass1 CatBypass2 CatBypass3 CatBypass4 CatBypass4 CatBypass4 CatBypass5 CatBypas5 CatB CatB CatB CatB CatB CatB CatB CatB	97.88 99.5 99.5 99.5 100 101 100 97.6 100 Pit or Node PitG1 05DA4 NBypass1 NBypass2 NBypass3 NBypass4 PitB4 PitB4 PitB4 PitB4 PitB5 NBypass5 NBypass5 NBypass5 NBypass5 NBypass5 NBypass5 NBypass5 NBypass5 NBypass6 PitB1 PitA5 PitB4 PitB4 PitB4 PitB4 PitB4 PitB4 PitB4 PitB5 PitB4 Pit	750 750 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Paved Avea 5% 80 30 60 20 100 0 100 100 100 100 100 100 25 0 100 100 100 100 100 100 100 100 100	Culvert Grass % 200 40 40 80 0 0 0 100 0 0 0 13 10 0 0 0 0 13 10 0 0 0	0.5 Suppo Area % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Time (min) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Grasss Time (min) 10 10 10 10 10 10 10 10 10 10 10 10 10	Supp Time (min) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paved Length (m)	294153.72 Grass Length (m)	6233255.618 Supp Length (m)	No Skopet%) %	Grass Slope %	Supp Slope %	8371174 Paved Rough	Grass Rough	Supp I Rough i	ag Time (Factor 1 0 0 0 0 0 0 0 0 0 0 0 0 0	Butter Gut ength Sico (m) %	ler Guite	r Rainfail tor Multipiler 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

CatN2 CatN1	PitN2 PitN1	0.0862 0.0988	80 0	20 100	0	5 5	10 10	0										0	
PIPE DETAILS	From	To	Length	11/5 11	D/S II	Slope	Type	Dia	ID	Rough	Pine Is	No Pines	Cha From	At Cha	Cha	RI	Cha	RI	etc
Hallo	11011	10	(m)	(m)	(m)	(%)	1,900	(mm)	(mm)	rtougn	1 ipo io	140.11000	ongrioni	At ong	(m)	(m)	(m)	(m)	(m)
PipeG1-A4	PitG1	OSDA4	22.6	100.45	100.22	1.02	RCP	300	300	0.013	NewFixed	1	OSDA4	0					
Pipe A4-A3	OSDA4 OSDWeir	PitA3	2	97.61	97.59	0.5	RCP	450	450	0.013	NewFixed	1	PitA3	2					
PipeA3-A2	PitA3	PitA2	2	97.55	97.54	0.5	RCP	600	600	0.013	New	1	PitA2	0					
PipeA2-A1	PitA2	PitA1	2	97.46	97.45	0.5	RCP	600	600	0.013	New	1	PitA1	0					
PipeA1-A0 PipeA0-NOut	PitA1 PitA0	PitAU	2	97.39	97.38	0.5	RCP	600 750	600 750	0.013	New Existing	1	PitA0 NOut	0					
PipeRoof5-B1	NRoof5	PitB1	22.9	98.59	98.36	1	RCP	375	375	0.013	New	1	PitB1	1					
PipeB1-A4	PitB1	OSDA4	24.6	98.34	98.09	1.02	RCP	600	600	0.013	NewFixed	1	OSDA4	0					
PipeRoof4-B5 PipeR5-R4	NRoof4	PitB5	8.1	100.58	100.48	1.23	RCP	375	375	0.013	New	1	PitB5	10					
PipeB4-B3	PitB4	PitB3	39.6	99.75	99.35	1.01	RCP	525	525	0.013	New	1	PitB3	0					
PipeB3-B2	PitB3	PitB2	43.5	99.32	98.88	1.01	RCP	525	525	0.013	New	1	PitB2	0					
PipeB2-B1	PitB2	PitB1	50.7	98.86	98.36	0.99	RCP	525	525	0.013	New	1	PitB1	0					
PipeBo-b5 PipeBoof1-A6	NRoof1	PitA6	17.6	99.07	98.89	1.04	RCP	375	375	0.013	New	1	PitA6	1					
PipeA6-A5	PitA6	PitA5	41.3	98.87	98.46	0.99	RCP	675	675	0.013	New	1	PitA5	o					
PipeA5-A4	PitA5	OSDA4	47.7	98.44	97.96	1.01	RCP	675	675	0.013	NewFixed	1	OSDA4	0					
PipeRoof2-A4 PipeRoof3-H1	NRoof2 NRoof3	OSDA4 PitH1	17.4	100.83	100.65 99.41	1.03	RCP	375	375	0.013	NewFixed New	1	OSDA4 PitH1	2					
PipeH1-A7	PitH1	PitA7	12.4	99.39	99.26	1.05	RCP	600	600	0.013	New	1	PitA7	ō					
PipeA7-A6	PitA7	PitA6	34.8	99.24	98.89	1.01	RCP	600	600	0.013	New	1	PitA6	0					
PipeE4-E3	PitE4	PitE3	21.7	101.25	101.03	1.01	RCP	300	300	0.013	New	1	PitE3	0					
PipeE3-E2 PipeE2-E1	PitE2	PitE1	20.7	100.7	100.72	1.02	RCP	300	300	0.013	New	1	PitE1	0					
PipeE1-A8	PitE1	PitA8	16.1	99.92	99.76	0.99	RCP	300	300	0.013	New	1	PitA8	0					
PipeA8-A7	PitA8	PitA7	48.2	99.74	99.26	1	RCP	600	600	0.013	New	1	PitA7	0					
PipeC1-E1	PitC1	PitE1	20.2	101.2	100.92	3.35	RCP	300	300	0.013	New	1	PitE1	0					
PipeA12-A11	PitA12	PitA11	45	102	101.3	1.56	RCP	300	300	0.013	New	1	PitA11	ō					
PipeA11-A10	PitA11	PitA10	46.7	101.2	100.65	1.18	RCP	375	375	0.013	New	1	PitA10	0					
PipeA10-A8 PipeD2-D1	PitA10 PitD2	PitA8 PitD1	16.9	100.6	100.43	1.01	RCP	375 300	3/5	0.013	New	1	PitA8 PitD1	0					
PipeA10-D1	PitD1	PitA10	3.4	100.68	100.64	1.18	RCP	300	300	0.013	New	1	PitA10	ŏ					
PipeF3-F2	PitF3	PitF2	17.8	101.77	101.55	1.24	RCP	300	300	0.013	New	1	PitF2	0					
PipeF2-F1	PitF2	PitF1	12.4	101.53	101.41	0.97	RCP	300	300	0.013	New	1	PitF1	0					
PipeN2-N1	PitN2	PitN1	26.2	101.39	101.22	0.99	RCP	375	375	0.013	New	1	PitN1	0					
PipeN1-A6	PitN1	PitA6	19.5	99.47	99.27	1.03	RCP	300	300	0.013	New	1	PitA6	0					
AILS of SERVICES CROSSING P Pipe	Cha	Bottom	Height of Service	Cha	Bottom	Height of Service	Cha	Bottom	Height of Service	etc									
	(m)	Elev (m)	(m)	(m)	Elev (m)	(m)	(m)	Elev (m)	(m)	etc									
CHANNEL DETAILS	_	_																	
Namo	From	10	Type	Length	11/5 11	D/S II	Slope	Rase Width	I B Slope	R B Slone	Manning	Denth	Roofed						
Name	From	lo	Туре	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						
Name	From	10	Туре	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						
Name OVERFLOW ROUTE DETAILS	From	10	Туре	Length (m)	U/S IL (m)	D/S IL (m)	Slope (%)	Base Width (m)	L.B. Slope (1:?)	R.B. Slope (1:?)	Manning n Rod	Depth (m)	Roofed	id					
Name OVERFLOW ROUTE DETAILS Name	From	То	Type Travel Time	Length (m) Spill Level	U/S IL (m) Crest Length	D/S IL (m) Weir Coeff. C	Slope (%) Cross Section	Base Width (m) Safe Depth Major Storms	L.B. Slope (1:?) SafeDepth Minor Storms	R.B. Slope (1:?) Safe DxV	Manning n Bed Slope	Depth (m) D/S Area Contributing	Roofed	id					
Name OVERFLOW ROUTE DETAILS Name	From	То	Type Travel Time (min)	Length (m) Spill Level (m)	U/S IL (m) Crest Length (m)	D/S IL (m) Weir Coeff. C	Slope (%) Cross Section	Base Width (m) Safe Depth Major Storms (m)	L.B. Slope (1:?) SafeDepth Minor Storms (m)	R.B. Slope (1:?) Safe DxV (sq.m/sec)	Manning n Bed Slope (%)	Depth (m) D/S Area Contributing %	Roofed	id					
Name OVERFLOW ROUTE DETAILS Name OFD1 OF OFD	From From PitG1	To CSDA4	Type Travel Time (min) 0.1	Length (m) Spill Level (m)	U/S IL (m) Crest Length (m)	D/S IL (m) Weir Coeff. C Dummy used to m	Slope (%) Cross Section	Base Width (m) Safe Depth Major Storms (m) 0.2	L.B. Slope (1:?) SafeDepth Minor Storms (m) 0.05	R.B. Slope (1:?) Safe DxV (sq.m/sec) 0.6	Manning n Bed Slope (%) 1	Depth (m) D/S Area Contributing % 0	Roofed	id 573			10		
Name OVERFLOW ROUTE DETAILS Name OFD1 OF OSD OFA4	From From PitG1 OSDA4 OSDWeir	To OSDA4 OSDWeir NOut	Type Travel Time (min) 0.1 0.1 0.1	Length (m) Spill Level (m) 98.8 100	U/S IL (m) Crest Length (m) 5 5	D/S IL (m) Weir Coeff. C Dummy used to m 1.704 1.704	Slope (%) Cross Section adel flow acr adel flow acr adel flow acr	Base Width (m) Safe Depth Major Storms (m) 0.2 0.2 0.2	L.B. Slope (1:?) SafeDepth Minor Storms (m) 0.05 0.05 0.05	R.B. Slope (1:?) Safe DxV (sq.m/sec) 0.6 0.6 0.6	Manning n Bed Slope (%) 1 1 1	Depth (m) D/S Area Contributing % 0 0 0	Roofed	id 573 8371194 24862794			10 1 13		
Name OVERFLOW ROUTE DETAILS Name OFD1 OF OSD OFA4 Bypass1	From PitG1 OSDA4 OSDWeir NBypass1	To OSDA4 OSDWeir NOut NBypassSum	Type Travel Time (min) 0.1 0.1 0.1 0.1 0.1	Length (m) Spill Level (m) 98.8 100	U/S IL (m) Crest Length (m) 5 5 5	D/S IL (m) Weir Coeff. C Dummy used to m 1.704 1.704 Dummy used to m	Slope (%) Cross Section adel flow act xdel flow act xdel flow act adel flow act	Base Width (m) Safe Depth Major Storms (m) 0.2 0.2 0.2 0.2 0.2	L.B. Slope (1:?) SafeDepth Minor Storms (m) 0.05 0.05 0.05 0.05	R.B. Slope (1:?) Safe DxV (sq.m/sec) 0.6 0.6 0.6 0.6	Manning n Bed Slope (%) 1 1 1 1	Depth (m) D/S Area Contributing % 0 0 0 0 0	Roofed	id 573 8371194 24862794 298			10 1 13 10		
Name OVERFLOW ROUTE DETAILS Name OFD1 OF OSD OFA4 Bypass2 Bypass2	From PitG1 OSDA4 OSDWeir NBypass1 NBypass2	To OSDA4 OSDWeir NOut NBypassSum NBypassSum	Type Travel (min) 0.1 0.1 0.1 0.1 0.1 0.1 0.1	Length (m) Spill Level (m) 98.8 100	U/S IL (m) Crest Length (m) 5 5 5	D/S IL (m) Weir Coeff. C Dummy used to m 1.704 Dummy used to m Dummy used to m	Slope (%) Cross Section adel flow act adel flow act adel flow act adel flow act adel flow act	Base Width (m) Safe Depth Major Storms (m) 0.2 0.2 0.2 0.2 0.2 0.2	L.B. Slope (1:?) SafeDepth Minor Storms (m) 0.05 0.05 0.05 0.05 0.05 0.05	R.B. Slope (1:?) Safe DxV (sq.m/sec) 0.6 0.6 0.6 0.6 0.6	Manning n Bed Slope (%) 1 1 1 1 1	Depth (m) D/S Area Contributing 0 0 0 0 0 0	Roofed	id 573 8371194 24862794 298 408			10 1 13 10 10		
Name OVERFLOW ROUTE DETAILS Name OFD1 OF 05D OFA4 Bypass1 Bypass2 Bypass2 OFB1	From PitG1 OSDA4 OSDWeir NBypass1 NBypass2 NBypass2um PitB1	To OSDA4 OSDWeir NSota NBypassSum NBypassSum NBypassSum	Travel Time (min) 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.2	Length (m) Spill Level (m) 98.8 100	U/S IL (m) Crest Length (m) 5 5 5 5	D/S IL (m) Weir Coeff. C Dummy used to m 1.704 1.704 Dummy used to m Dummy used to m Dummy used to m	Slope (%) Cross Section adel flow act adel flow act adel flow act adel flow act adel flow act adel flow act	Base Width (m) Safe Depth Major Storms (m) 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	L.B. Slope (1:?) SafeDepth Minor Storms (m) 0.05 0.05 0.05 0.05 0.05 0.05 0.05	R.B. Slope (1:?) Safe DxV (sq.m/sec) 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6	Manning n Bed Slope (%) 1 1 1 1 1 1 1	Depth (m) D/S Area Contributing % 0 0 0 0 0 0 0 0 0 0 0	Roofed	id 573 8371194 24862794 298 408 292 454			10 1 13 10 10 10 20		
Name OVERFLOW ROUTE DETAILS Name OFD1 OF OSD OFA4 Bypass1 Bypass2 Bypass1 OFB1 OFB1 OFB7	From PitG1 OSDA4 OSDWeir NBypass1 NBypass2 NBypass2 NBypass2 NBypass2 NBypass2	To OSDA4 OSDWeir NOut NBypasSum NBypasSum NBypasSout NBypasSout NBypasSout NBypasSout	Type Travel Trime 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	Length (m) Spill Level (m) 98.8 100	U/S IL (m) Crest Length (m) 5 5 5 5 5 5	D/S IL (m) Weir Coeff. C Dummy used to m 1.704 1.704 Dummy used to m Dummy used to m Dummy used to m	Slope (%) Cross Section adel flow act adel flow act	Base Width (m) Safe Depth Major Storms (m) 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	L.B. Slope (1:?) SafeDepth Minor Storms (m) 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.0	R.B. Slope (1:?) Safe DxV (sq.m/sec) 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6	Manning n Bed Slope (%) 1 1 1 1 1 1 1 1 1 1	Depth (m) D/S Area Contributing % 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Roofed	id 573 8371194 24862794 298 408 292 454 556			10 1 13 10 10 10 20 5		
Name OVERFLOW ROUTE DETAILS Name OFD1 OF OSD OFA4 Bypass1 Bypass2 Bypass1 Bypass2 Bypass1 Bypass2 Bypass1 OFB1 OFB7 OFB7 OFB7	From PitG1 OSDA4 OSDWeir NBypass1 NBypass2 NBypass2 NBypass2 PitB1 PitB5 PitB4 PitB5	To OSDA4 OSDWeir NOut NBypassSum NBypassSum NBypassSun NBypass4 NBypass4	Type Travel (min) 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.2 0.2 0.1 0.1	Length (m) Spill Level (m) 98.8 100	U/S IL (m) Crest Length (m) 5 5 5 5 5 5	D/S IL (m) Weir Coeff. C Dummy used to m 1.704 Dummy used to m Dummy used to m Dummy used to m Dummy used to m Dummy used to m	Slope (%) Cross Section adel flow act adel f	Base Width (m) Safe Depth Major Storms (m) 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	L.B. Slope (1:?) SafeDepth Minor Storms (m) 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.0	R.B. Slope (1:?) Safe DxV (sq.m/sec) 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6	Manning n Bed Slope (%) 1 1 1 1 1 1 1 1 1 1	Depth (m) D/S Area Contributing % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Roofed	id 573 837/194 24862794 298 408 292 454 556 542 556 542			10 1 13 10 10 20 5 5 5		
Name OVERFLOW ROUTE DETAILS Name OFD1 OF 0SD OFA4 Bypass1 Bypass1 Bypass1 OFB1 OFB1 OFB1 OFB1 OFB5 OFB6 OFB6	From PitG1 OSDA4 OSDVeir NBypass2 NBypass2 NBypass2 NBypass2 NBypass2 PitB1 PitB3 PitB4 PitB3 PitB3	To OSDA4 OSDWeir NOut NBypassSum NBypassSum NBypassOut NBypassOut NBypass4 NBypass4 NBypass2	Type Travel Time (min) 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	Length (m) Spill Level (m) 98.8 100	U/S IL (m) Crest Length (m) 5 5 5 C C C C C C C C C C C C C C C C	D/S IL (m) Weir Coeff. C Dummy used to m 1.704 Dummy used to m Dummy used to m	Slope (%) Cross Section addel flow act addel flow act	Base Width (m) Safe Depth Major Storms (m) 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	L.B. Slope (1:?) SaleDepth Minor Storms (m) 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.0	R.B. Slope (1:?) Safe DxV (sq.m/sec) 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6	Manning n Bed Slope (%) 1 1 1 1 1 1 1 1 1 1 1 1 1	Depth (m) D/S Area Contributing 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Roofed	id 573 8371194 24862794 298 408 292 454 556 542 550 446			10 1 13 10 10 20 5 5 25 5 5		
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PipeRoof1-A6	RCP	375	0.6	2.3	
PipeA6-A5	RCP	675	0.6	2	
PipeA5-A4	RCP	675	0.6	-1.08 Unsafe	
PipeRoof2-A4	RCP	375	0.6	-3.45 Unsafe	
PipeRoof3-H1	RCP	375	0.6	2.18	
PipeH1-A7	RCP	600	0.6	1.95	
PipeA7-A6	RCP	600	0.6	1.97	
PipeE4-E3	RCP	300	0.6	0.67	
PipeE3-E2	RCP	300	0.6	0.96	
PipeE2-E1	RCP	300	0.6	1.26	
PipeE1-A8	RCP	300	0.6	1.51	
PipeA8-A7	RCP	600	0.6	1.22	
PipeC2-C1	RCP	300	0.6	0.55 Unsafe	
PipeC1-E1	RCP	300	0.6	0.57 Unsafe	
PipeA12-A11	RCP	300	0.6	0.57 Unsafe	
PipeA11-A10	RCP	375	0.6	0.59 Unsafe	
PipeA10-A8	RCP	375	0.6	0.64	
PipeD2-D1	RCP	300	0.6	0.57 Unsafe	
PipeA10-D1	RCP	300	0.6	0.59 Unsafe	
PipeF3-F2	RCP	300	0.6	0.57 Unsafe	
PipeF2-F1	RCP	300	0.6	0.58 Unsafe	
PipeF1-A11	RCP	300	0.6	0.6	
PipeN2-N1	RCP	375	0.6	0.55 Unsafe	
PipeN1-A6	RCP	300	0.6	2	

nodel has no pipes with non-return valves

DRAINS Output - 1 Year ARI Storm Event

DRAINS results prepared from Version 2019.09

PIT / NODE DETAILS				Version 8			
Name	Max HGL	Max Pond	Max Surface	Max Pond	Min	Overflow	Constraint
		HGL	Flow Arriving	Volume	Freeboard	(cu.m/s)	
			(cu.m/s)	(cu.m)	(m)		
PitG1	100.57	101.41	0.025	0.2	0.78	0	Inlet Capacity
PitA3	97.83		0		1.87		None
PitA2	97.74		0		1.66		None
PitA1	97.67		0		1.53		None
PitA0	97.59		0		1.41		None
NOut	97.45		0				
NRoof5	98.79		0.093				
PitB1	98.65	99.52	0.007	0	0.85	0	Inlet Capacity
NRoof4	100.77		0.096				
PitB5	100.18		0.004		1.64	0	None
PitB4	99.97		0.005		1.23	0	None
PitB3	99.53	100.71	0.004	0	1.17	0	Inlet Capacity
PitB2	99.08		0.004		1.27	0	None
PitB6	101.49		0.012		0.81	0.001	Inlet Capacity
NRoof1	99.3		0.066				
PitA6	99.28	101.66	0.025	0.1	2.32		Inlet Capacity
PitA5	98.84	101.55	0.022	0	2.66	0	Inlet Capacity
NRoof2	100.97		0.055				
NRoof3	99.71		0.086				
PitH1	99.71		0.008		2.29	0	None
PitA7	99.63		0		2.22		None
PitE4	101.36	102.28	0.011	0	0.89	0	Inlet Capacity
PitE3	101.18	102.36	0.024	0	1.12		Inlet Capacity
PitE2	100.89	102.35	0.017	0	1.41		Inlet Capacity
PitE1	100.4	102.26	0.025	0	1.8		Inlet Capacity
PitA8	100.09		0.022		1.51	0.005	Inlet Capacity
PitC2	101.26		0.007		0.84	0	None
PitC1	101.01	101.83	0.011	0	0.79		Inlet Capacity
PitA12	102.07		0.01		0.83	0	Inlet Capacity
PitA11	101.36		0.018		0.84	0.003	Inlet Capacity
PitA10	100.81		0.013		0.84	0.001	Inlet Capacity
PitD2	101.03		0.011		0.82	0.001	Inlet Capacity
PitD1	100.84	101.63	0.012	0	0.76		Inlet Capacity
PitF3	101.84		0.01		0.83	0	Inlet Capacity
PitF2	101.64	102.48	0.01	0	0.81	0	Inlet Capacity
PitF1	101.52		0.008		0.8	0	None
PitN2	101.19	102.15	0.017	0	0.91		Inlet Capacity
PitN1	99.58	101.82	0.008	0	2.22	0	Inlet Capacity

SUB-CATCHMENT DETAILS							
Name	Max	Paved	Grassed	Paved	Grassed	Supp.	Due to Storm
	Flow Q	Max Q	Max Q	Tc	Tc	Tc	
	(cu.m/s)	(cu.m/s)	(cu.m/s)	(min)	(min)	(min)	
CatG1	0.025	0.023	0.001		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatA4	0.027	0.016	0.013		5	10	0 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
CatBypass1	0.006	0.005	0.001		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatBypass2	0.003	0.001	0.002		5	10	0 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
CatRoof5	0.093	0.093	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatB1	0.007	0	0.007		5	10	0 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
CatRoof4	0.096	0.096	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatB5	0.003	0.003	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatB4	0.005	0.004	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatB3	0.004	0.004	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatB2	0.004	0.004	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatBypass3	0.001	0	0.001		5	10	0 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
CatBypass4	0.001	0	0		5	10	0 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
CatB6	0.012	0	0.012		5	10	0 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
CatBypass7	0.002	0	0.002		5	10	0 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
CatRoof1	0.066	0.066	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatA6	0.025	0.024	0.001		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatA5	0.017	0.016	0.002		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatRoof2	0.055	0.055	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatBypass5	0.002	0.002	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatRoof3	0.086	0.086	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatH1	0.008	0.007	0.001		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatBypass6	0.018	0.018	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatE4	0.011	0.011	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatE3	0.024	0.024	0.001		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatE2	0.017	0.015	0.001		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatE1	0.025	0.024	0.001		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatA8	0.021	0.02	0.001		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatC2	0.007	0.007	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatC1	0.011	0.011	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatA12	0.01	0.009	0.001		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatA11	0.017	0.012	0.006		5	10	0 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
CatA10	0.01	0.009	0.001		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatD2	0.011	0.011	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatD1	0.011	0.011	0		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatF3	0.01	0.009	0.001		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
CatF2	0.009	0.009	0.001		5	10	0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1

CatF1	0.008	0.008	0	5	10
CatN2	0.017	0.016	0.001	5	10
CatN1	0.008	0	0.008	5	10

0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1 0 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1 0 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1

Outflow Volumes for Total Catchment (3.10 impervious + 0.92 pervious = 4.02 total ha) Storm Total Rainf Total Runo Impervious Runoff Pervious Runoff

	cu.m	cu.m (Runccu.m (Runoff %)	cu.m (Runoff %)
AR&R 1 year, 5 minutes storm	293.77	195.51 (66 195.51 (86.3%)	0.00 (0.0%)
AR&R 1 year, 10 minutes stor	450.36	319.49 (70 316.23 (91.1%)	3.26 (3.2%)
AR&R 1 year, 15 minutes stor	564.12	418.30 (74 403.93 (92.9%)	14.38 (11.1%)
AR&R 1 year, 20 minutes stor	654.46	496.57 (75.473.57 (93.9%)	23.00 (15.3%)
AR&R 1 year, 25 minutes stor	731.15	561.56 (76 532.69 (94.5%)	28.87 (17.2%)
AR&R 1 year, 30 minutes stor	797	612.12 (76 583.45 (95.0%)	28.67 (15.7%)
AR&R 1 year, 45 minutes stor	957.6	747.43 (78 707.26 (95.8%)	40.18 (18.3%)
AR&R 1 year, 1 hour storm, av	1084.08	855.32 (78 804.75 (96.3%)	50.56 (20.4%)
AR&R 1 year, 1.5 hours storm	1252.74	985.69 (78 934.78 (96.8%)	50.91 (17.7%)
AR&R 1 year, 2 hours storm, a	1389.19	1096.38 (7:1039.97 (97.1%)	56.41 (17.7%)
AR&R 1 year, 3 hours storm, a	1590.08	1246.62 (7:1194.84 (97.5%)	51.78 (14.2%)

PIPE	DETAILS	S
Nom	~	

PIPE DETAILS						
Name	Max Q	Max V	Max U/S		Max D/S	Due to Storm
	(cu.m/s)	(m/s)	HGL (m)		HGL (m)	
PipeG1-A4	0.023	2.01		100.517	100.32	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
POSD	0.152	0.96		98.051	98.046	AR&R 1 year, 1 hour storm, average 27 mm/h, Zone 1
Pipe A4-A3	0.152	1.4		97.845	97.836	AR&R 1 year, 1 hour storm, average 27 mm/h, Zone 1
PipeA3-A2	0.152	1.42		97.792	97.786	AR&R 1 year, 1 hour storm, average 27 mm/h, Zone 1
PipeA2-A1	0.152	1.42		97.702	97.696	AR&R 1 year, 1 hour storm, average 27 mm/h, Zone 1
PipeA1-A0	0.152	1.42		97.632	97.626	AR&R 1 year, 1 hour storm, average 27 mm/h, Zone 1
PipeA0-NOut	0.152	1.76		97.547	97.447	AR&R 1 year, 1 hour storm, average 27 mm/h, Zone 1
PipeRoof5-B1	0.093	1.55		98.789	98.648	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeB1-A4	0.202	2.72		98.525	98.435	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeRoof4-B5	0.096	1.76		100.767	100.666	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeB5-B4	0.107	1.89		100.132	99.968	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeB4-B3	0.107	1.66		99.928	99.53	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeB3-B2	0.113	1.92		99.486	99.085	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeB2-B1	0.112	1.66		99.044	98.648	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeB6-B5	0.012	3.15		101.43	100.985	AR&R 1 year, 1 hour storm, average 27 mm/h, Zone 1
PipeRoof1-A6	0.065	0.92		99.299	99.28	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeA6-A5	0.368	5.42		99.035	98.837	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeA5-A4	0.382	2.3		98.759	98.435	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeRoof2-A4	0.055	1.42		100.973	100.794	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeRoof3-H1	0.086	0.96		99.714	99.705	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeH1-A7	0.092	0.87		99.631	99.631	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeA7-A6	0.276	2.82		99.467	99.28	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeE4-E3	0.011	0.9		101.317	101.181	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeE3-E2	0.033	1.25		101.131	100.891	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeE2-E1	0.049	2.12		100.809	100.76	AR&R 1 year, 25 minutes storm, average 43.7 mm/h. Zone 1
PipeE1-A8	0.091	1.29		100.227	100.086	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeA8-A7	0.184	1.9		99.965	99.631	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeC2-C1	0.007	0.9		101.252	101.01	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeC1-E1	0.021	1.84		100.965	100.397	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeA12-A11	0.009	1		102.055	101.358	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeA11-A10	0.048	1.44		101.328	100.81	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeA10-A8	0.079	1.6		100.771	100.606	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeD2-D1	0.01	0.94		101 014	100 838	AR&R 1 year 25 minutes storm average 43.7 mm/h Zone 1
PipeA10-D1	0.021	0.7		100.814	100.81	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
PipeE3-E2	0.009	0.93		101 829	101 64	AR&R 1 year 25 minutes storm average 43.7 mm/h Zone 1
PipeF2-F1	0.019	2 12		101 585	101 518	AR&R 1 year 25 minutes storm average 43.7 mm/h Zone 1
PipeF1-A11	0.026	1 15		101 497	101 358	AR&R 1 year 25 minutes storm average 43.7 mm/h Zone 1
PipeN2-N1	0.017	5.84		101.123	100.918	AR&R 1 year, 25 minutes storm, average 43.7 mm/h Zone 1
PipeN1-A6	0.022	1 21		99 562	99,367	AR&R 1 year 1.5 hours storm average 20.8 mm/h Zone 1
	0.022	1.21		00.002	00.007	All a search year, no nouro storm, average 20.0 mm/n, 20ne n

CHANNEL DETAILS Name

Max Q Max V (cu.m/s) (m/s)

Due to Storm

$\cap M$		
.01	NOUL	

OVERI LOW ROUTE DE	I AILO							
Name	Max Q U/S M	/lax Q D/S Safe Q		Max D	Max DxV	Max Width I	Max V	Due to Storm
OFD1	0	0	0.256	0	0	0	C)
OF OSD	0	0	0.256	0	0	0	C)
OFA4	0	0	0.256	0	0	0	C)
Bypass1	0.006	0.006	0.256	0.012	0	4.04	0.25	5 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
Bypass2	0.003	0.003	0.256	0.009	0	3.14	0.21	AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
BypassTotal	0.032	0.032	0.256	0.023	0.01	7.63	0.37	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
OFB1	0	0	0.256	0	0	0	C)
OFB7	0	0	0.256	0	0	0	C)
OFB6	0	0	0.256	0	0	0	C)
OFB5	0	0	0.256	0	0	0	C)
OFB3	0	0	0.256	0	0	0	C)
Bypass3	0.001	0.001	0.256	0.006	0	1.95	0.12	2 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
Bypass4	0.001	0.001	0.256	0.006	0	1.95	0.14	AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
OFB8	0.001	0.001	0.256	0.007	0	2.25	0.15	5 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
Bypass5	0.002	0.002	0.256	0.009	0	2.84	0.2	2 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1
OFA5	0	0	0.256	0	0	0	C)
Bypass7	0.002	0.002	0.256	0.009	0	2.84	0.19	AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1
OFH1	0	0	0.256	0	0	0	C)
Bypass6	0.018	0.018	0.256	0.018	0.01	6.14	0.32	2 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1

OFE3	0	0	0.256	0	0
OFA8	0.005	0.005	0.256	0.011	0
OFC2	0	0	0.256	0	0
OFA12	0	0	0.256	0	0
OFA11	0.003	0.003	0.256	0.009	0
OFA10	0.001	0.001	0.256	0.007	0
OFD2	0.001	0.001	0.256	0.006	0
OFF3	0	0	0.256	0	0
OFF2	0	0	0.256	0	0
OFF1	0	0	0.256	0	0
OFN1	0	0	0.256	0	0

DETENTION BASIN DETAILS						
Name	Max WL	MaxVol	Max Q		Max Q	Max Q
			Total		Low Level	High Level
OSDA4	98.43	486		0.152	0.152	0
OSDWeir	98.05	0.4		0.152	0.152	0
CONTINUITY CHECK for AR8	R 1 year, 1	.5 hours sto	rm, average 2	20.8 m	m/h, Zone	1
Node	Inflow	Outflow	Storage Cha	ange	Difference	
	(cu.m)	(cu.m)	(cu.m)		%	
PitG1	31.28	31.32		0	-0.1	
OSDA4	936.84	848.13		88.71	0	
OSDWeir	848.13	847.42		0.25	0.1	
PitA3	847.42	847.14		0	0	
PitA2	847.14	846.87		0	0	
PitA1	846.87	846.59		0	0	
PitA0	846.59	846.07		0	0.1	
NOut	846.07	846.07		0	0	
NBypass1	7.63	7.63		0	0	
NBypass2	3.28	3.28		0	0	
NBypassSum	40.19	40.19		0	0	
NBypassOut	40.19	40.19		0	0	
NRoof5	118.75	118.38		0	0.3	
PitB1	274.1	272.14		0	0.7	
NRoof4	122.65	122.69		0	0	
PitB5	135.04	135.15		0	-0.1	
PitB4	141.01	140.38		0	0.4	
PitB3	145.73	145.84		0	-0.1	
PitB2	150.37	150.72		0	-0.2	
NBypass3	0.62	0.62		0	0	
NBypass4	0.87	0.87		0	0	
PitB6	9	8.73		0	3	
NBypass7	1.73	1.73		0	0	
NRoof1	83.69	83.54		0	0.2	
PitA6	515.24	513.88		0	0.3	
PitA5	536.93	531.97		0	0.9	
NRoof2	70.61	70.62		0	0	
NBypass5	2.99	2.99		0	0	
NRoof3	109.75	109.73		0	0	
PitH1	119.85	119.68		0	0.1	
PitA7	372.05	372.75		0	-0.2	
NBypass6	23.07	23.07		0	0	
PitE4	13.98	13.98		0	0	
PitE3	44.81	44.73		0	0.2	
PitE2	65.52	65.69		0	-0.3	
PitE1	120.86	120.73		0	0.1	
PitA8	253.75	253.67		0	0	
PitC2	9.38	9.37		0	0.1	
PitC1	23.68	23.69		0	0	
PitA12	12.23	12.23		0	0	
PitA11	66.87	66.96		0	-0.1	
PitA10	106.97	106.95		0	0	
PitD2	14.31	14.31		0	0	
PitD1	28.04	28.03		0	0	
PitF3	12.23	12.23		0	0	
PitF2	24.08	24.04		0	0.2	
PitF1	34.11	34.01		0	0.3	
PitN2	21.78	21.78		0	0	
PitN1	27.25	27.3		0	-0.2	

Run Log for 368851 2020 run at 09:27:49 on 14/1/2020 No water upwelling from any pit. Freeboard was adequate at all pits. Flows were safe in all overflow routes.

0.22 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1

3.74

3.14

2.25 1.95 0 0 0

0.21 AR&R 1 year, 1.5 hours storm, average 20.8 mm/h, Zone 1 0.14 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1 0.14 AR&R 1 year, 25 minutes storm, average 43.7 mm/h, Zone 1 0 0 0 0

DRAINS Output - 10 Year ARI Storm Event

DRAINS results prepared from Version 2019.09

PIT / NODE DETAILS	3			Version 8			
Name	Max HGL	Max Pond	Max Surface	Max Pond	Min	Overflow	Constraint
		HGL	Flow Arriving	Volume	Freeboard	(cu.m/s)	
PitG1	100.61	101 43	(cu.m/s)	(cu.m)	(m) 0.74	0	Inlet Canacity
DitA3	08.06	101.45	0.044	0.5	1.64	0	None
Dit A 2	90.00		0		1.04		None
	97.97		0		1.43		None
	97.09		0		1.31		None
NOut	97.70		0		1.24		NULLE
NDut	97.56		0 154				
Di+D1	90.94	00.56	0.134	0.1	0.59	0	Inlat Connaity
FILD I	90.92	99.00	0.022	0.1	0.56	0	inier Capacity
DitDE	100.84		0.159		1 56	0.002	Inlat Connaity
	100.20		0.010		1.50	0.002	Nana
PILD4	100.06	100 70	0.006	0	1.14	0	NONE Inlat Canadity
PILDO	99.61	100.72	0.007	0	1.09	0	Iniel Capacity
PITB2	99.17		0.006		1.18	0	None
PITBO	101.54		0.04		0.76	0.013	Inlet Capacity
NROOT	99.66	404.00	0.108		-		
PitA6	99.6	101.69	0.043	0.1	2		Inlet Capacity
PitA5	99.02	101.59	0.049	0.1	2.48	0	Inlet Capacity
NRoot2	101.02		0.091				
NRoof3	100.13		0.142				
PitH1	100.12		0.016		1.88	0.002	Inlet Capacity
PitA7	100.06		0.002		1.79		None
PitE4	101.46	102.3	0.019	0.1	0.79	0	Inlet Capacity
PitE3	101.43	102.39	0.042	0	0.87		Inlet Capacity
PitE2	101.29	102.37	0.03	0	1.01		Inlet Capacity
PitE1	101.13	102.29	0.042	0	1.07		Inlet Capacity
PitA8	100.32		0.045		1.28	0.017	Inlet Capacity
PitC2	101.28		0.013		0.82	0.001	Inlet Capacity
PitC1	101.16	101.85	0.021	0	0.64		Inlet Capacity
PitA12	102.09		0.017		0.81	0.003	Inlet Capacity
PitA11	101.42		0.043		0.78	0.015	Inlet Capacity
PitA10	100.9		0.032		0.75	0.009	Inlet Capacity
PitD2	101.04		0.019		0.81	0.004	Inlet Capacity
PitD1	100.93	101.66	0.022	0	0.67		Inlet Capacity
PitF3	101.86		0.017		0.81	0.003	Inlet Capacity
PitF2	101.69	102.5	0.02	0	0.76	0	Inlet Capacity
PitF1	101.56		0.014		0.76	0.002	Inlet Capacity
PitN2	101.23	102.17	0.031	0	0.87		Inlet Capacity
PitN1	99.68	101.86	0.024	0.1	2.12	0	Inlet Capacity
SUB-CATCHMENT	DETAILS						
Name	Max	Paved	Grassed	Paved	Grassed	Supp.	Due to Storm

	Flow Q	Max Q	Max Q	Tc	Тс	Tc	
	(cu.m/s)	(cu.m/s)	(cu.m/s)	(min)	(min)	(min)	
CatG1	0.044	0.039	0.006	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatA4	0.065	0.028	0.038	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatBypass1	0.012	0.009	0.003	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatBypass2	0.008	0.002	0.006	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatRoof5	0.154	0.154	0	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatB1	0.022	0	0.022	5	1	0	0 AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1
CatRoof4	0.159	0.159	0	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatB5	0.005	0.005	0	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatB4	0.008	0.007	0.001	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatB3	0.007	0.007	0	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatB2	0.006	0.006	0	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatBypass3	0.002	0	0.002	5	1	0	0 AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1
CatBypass4	0.002	0.001	0.001	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatB6	0.04	0	0.04	5	1	0	0 AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1
CatBypass7	0.008	0	0.008	5	1	0	0 AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1
CatRoof1	0.108	0.108	0	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatA6	0.043	0.04	0.003	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatA5	0.032	0.026	0.007	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatRoof2	0.091	0.091	0	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatBypass5	0.004	0.004	0	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatRoof3	0.142	0.142	0	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatH1	0.016	0.012	0.005	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatBypass6	0.03	0.03	0	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatE4	0.019	0.018	0.002	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatE3	0.042	0.039	0.003	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatE2	0.03	0.026	0.004	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatE1	0.042	0.04	0.003	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatA8	0.036	0.032	0.004	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatC2	0.013	0.012	0.001	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatC1	0.02	0.018	0.002	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatA12	0.017	0.015	0.002	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatA11	0.039	0.021	0.018	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatA10	0.017	0.015	0.002	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatD2	0.019	0.018	0.001	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatD1	0.018	0.018	0.001	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatF3	0.017	0.015	0.002	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
CatF2	0.017	0.015	0.002	5	1	0	0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1

CatF1	0.014	0.013	0.001	5	10
CatN2	0.031	0.027	0.004	5	10
CatN1	0.024	0	0.024	5	10

0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1 0 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1 0 AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1

Outflow Volumes for Total Catchment (3.10 impervious + 0.92 pervious = 4.02 total ha)

Storm	I otal Rainf	Total Runo	Impervious Runoff	Pervious Runoff
	cu.m	cu.m (Rund	cu.m (Runoff %)	cu.m (Runoff %)
AR&R 10 year, 5 mini	486.16	368.01 (75	343.83 (91.7%)	24.18 (21.7%)
AR&R 10 year, 10 mir	743.46	607.36 (81	542.18 (94.6%)	65.18 (38.3%)
AR&R 10 year, 15 mir	930.5	780.40 (83	686.36 (95.7%)	94.04 (44.1%)
AR&R 10 year, 20 mir	1080.06	918.45 (85	801.66 (96.3%)	116.79 (47.2%)
AR&R 10 year, 25 mir	1206.2	1030.36 (8	898.90 (96.7%)	131.46 (47.6%)
AR&R 10 year, 30 mir	1314.95	1125.84 (8	982.73 (96.9%)	143.11 (47.5%)
AR&R 10 year, 45 mir	1577.93	1361.09 (8	1185.46 (97.5%)	175.63 (48.6%)
AR&R 10 year, 1 hour	1782.7	1542.60 (8)	1343.32 (97.7%)	199.27 (48.8%)
AR&R 10 year, 1.5 ho	2071.79	1792.59 (8	1566.17 (98.1%)	226.41 (47.7%)
AR&R 10 year, 2 hour	2288.61	1978.60 (8	1733.31 (98.2%)	245.29 (46.8%)

PIPE DETAILS

Name	Max Q	Max V	Max U/S	Max D/S	Due to Storm
	(cu.m/s)	(m/s)	HGL (m)	HGL (m)	
PipeG1-A4	0.042	2.3	100.541	100.357	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
P OSD	0.202	1.27	98.331	98.324	AR&R 10 year, 1.5 hours storm, average 34.4 mm/h, Zone 1
Pipe A4-A3	0.433	1.83	98.072	98.059	AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1
PipeA3-A2	0.431	1.97	97.986	97.974	AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1
PipeA2-A1	0.431	1.92	97.903	97.894	AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1
PipeA1-A0	0.431	1.99	97.82	97.81	AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1
PipeA0-NOut	0.43	2.36	97.683	97.584	AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1
PipeRoof5-B1	0.153	1.42	98.94	98.919	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeB1-A4	0.367	1.33	98.9	98.894	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeRoof4-B5	0.158	1.96	100.838	100.738	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeB5-B4	0.199	2.15	100.203	100.058	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeB4-B3	0.201	1.98	100	99.615	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeB3-B2	0.209	2.25	99.553	99.173	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeB2-B1	0.209	2.03	99.113	98.919	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeB6-B5	0.027	4.11	101.445	101.019	AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1
PipeRoof1-A6	0.108	0.98	99.66	99.6	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeA6-A5	0.647	2.54	99.322	99.016	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeA5-A4	0.692	2.42	98.943	98.894	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeRoof2-A4	0.091	1.62	101.02	100.84	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeRoof3-H1	0.141	1.28	100.132	100.119	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeH1-A7	0.154	0.54	100.069	100.063	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeA7-A6	0.459	1.62	99.837	99.6	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeE4-E3	0.021	0.46	101.433	101.427	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeE3-E2	0.061	0.86	101.382	101.289	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeE2-E1	0.083	1.18	101.188	101.126	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeE1-A8	0.149	2.11	100.685	100.321	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeA8-A7	0.322	1.47	100.174	100.063	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeC2-C1	0.012	1.04	101.264	101.161	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeC1-E1	0.036	0.57	101.146	101.126	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeA12-A11	0.014	1.14	102.07	101.418	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeA11-A10	0.085	1.68	101.376	100.896	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeA10-A8	0.144	1.95	100.838	100.69	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeD2-D1	0.015	1.06	101.028	100.925	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeA10-D1	0.036	0.66	100.9	100.896	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeF3-F2	0.014	1.06	101.844	101.69	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeF2-F1	0.033	2.06	101.614	101.564	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeF1-A11	0.045	1.33	101.535	101.418	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeN2-N1	0.03	10.06	101.124	100.945	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
PipeN1-A6	0.052	1.12	99.658	99.6	AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1

CHANNEL DETAILS Name

Max Q Max V (cu.m/s) (m/s)

Due to Storm

OVERFLOW ROUT	E DETAILS								
Name	Max Q U/S M	/lax Q D/S Safe Q	Max D		Max DxV	Max Width M	ax V	Due to Storm	
OFD1	0	0	0.256	0	0	0	0		
OF OSD	0.246	0.246	0.256	0.049	0.03	13.79	0.66	AR&R 10 year, 2 hours storm, average 28.5 mm/h, 2	Zone 1
OFA4	0	0	0.256	0	0	0	0		
Bypass1	0.012	0.012	0.256	0.016	0	5.24	0.29	AR&R 10 year, 25 minutes storm, average 72.1 mm	/h, Zone 1
Bypass2	0.008	0.008	0.256	0.014	0	4.64	0.25	AR&R 10 year, 25 minutes storm, average 72.1 mm	/h, Zone 1
BypassTotal	0.066	0.066	0.256	0.03	0.01	10.02	0.44	AR&R 10 year, 25 minutes storm, average 72.1 mm	/h, Zone 1
OFB1	0	0	0.256	0	0	0	0		
OFB7	0.002	0.002	0.256	0.009	0	2.84	0.2	AR&R 10 year, 2 hours storm, average 28.5 mm/h, 2	Zone 1
OFB6	0	0	0.256	0	0	0	0		
OFB5	0	0	0.256	0	0	0	0		
OFB3	0	0	0.256	0	0	0	0		
Bypass3	0.002	0.002	0.256	0.008	0	2.54	0.2	AR&R 10 year, 2 hours storm, average 28.5 mm/h, 2	Zone 1
Bypass4	0.004	0.004	0.256	0.011	0	3.74	0.2	AR&R 10 year, 25 minutes storm, average 72.1 mm	/h, Zone 1
OFB8	0.013	0.013	0.256	0.017	0	5.54	0.29	AR&R 10 year, 2 hours storm, average 28.5 mm/h, 2	Zone 1
Bypass5	0.008	0.008	0.256	0.013	0	4.34	0.27	AR&R 10 year, 2 hours storm, average 28.5 mm/h, 2	Zone 1
OFA5	0	0	0.256	0	0	0	0		
Bypass7	0.004	0.004	0.256	0.01	0	3.44	0.22	AR&R 10 year, 25 minutes storm, average 72.1 mm	/h, Zone 1
OFH1	0.002	0.002	0.256	0.009	0	2.84	0.2	AR&R 10 year, 25 minutes storm, average 72.1 mm	/h, Zone 1
Bypass6	0.03	0.03	0.256	0.022	0.01	7.33	0.37	AR&R 10 year, 25 minutes storm, average 72.1 mm	/h, Zone 1
OFE3	0	0	0.256	0	0	0	0		

OFA8	0.017	0.017	0.256	0.018	0.01	6.14	0.29 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
OFC2	0.001	0.001	0.256	0.007	0	2.25	0.17 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
OFA12	0.003	0.003	0.256	0.009	0	3.14	0.19 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
OFA11	0.015	0.015	0.256	0.018	0.01	5.84	0.3 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
OFA10	0.009	0.009	0.256	0.014	0	4.64	0.27 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
OFD2	0.004	0.004	0.256	0.01	0	3.44	0.21 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
OFF3	0.003	0.003	0.256	0.009	0	3.14	0.19 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
OFF2	0	0	0.256	0	0	0	0
OFF1	0.002	0.002	0.256	0.008	0	2.54	0.16 AR&R 10 year, 25 minutes storm, average 72.1 mm/h, Zone 1
OFN1	0	0	0.256	0	0	0	0

Name Max VOI Max Q Max Q Max Q Max Q Max Q Max Q High Level High Level Old <	DETENTION BASIN	DETAILS				
OSDA4 98.89 830.6 0.447 0.202 0.246 OSDWeir 98.32 0.7 0.433 0.433 0 CONTINUITY CHECK for AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1 Node Inflow Outflow Storage Change Difference Inflow Outflow Storage Change Difference Inflow O 0.6 OSDM4 1867.51 1735.24 132.27 0 O O OSDWeir 1735.24 132.27 0 O O PitA3 1734.26 0.29 0 PitA3 1733.55 0 O O PitA1 1733.95 0 O O Nout	Name	Max WL	MaxVol	Max Q Total	Max Q Low Level	Max Q High Level
OSDWeir 98.32 0.7 0.433 0.433 0 CONTINUITY CHECK for AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1 Node Inflow Outflow Storage Change Difference % PitG1 62.06 61.69 0 0.6 OSDA4 1867.51 1735.24 132.27 0 OSDWeir 1735.24 1734.26 0.29 0 PitA3 1734.26 0.29 0 PitA2 1734.15 1733.35 0 0 0 Number 2000 0 Number 2000 Number 2000 Number 2000 Number 2000 0 Number 2000 Number 2000 <t< td=""><td>OSDA4</td><td>98.89</td><td>830.6</td><td>0.447</td><td>0.202</td><td>0.246</td></t<>	OSDA4	98.89	830.6	0.447	0.202	0.246
CONTINUITY CHECK for AR&R 10 year, 2 hours storm, average 28.5 mm/h, Zone 1 Node Inflow Outflow Storage Change Difference (cu.m) (cu.m) % PitG1 62.06 61.69 0 0.6 OSDM4 1867.51 1735.24 132.27 0 OSDWeir 1734.26 1734.15 0 0 PitA3 1734.26 1733.95 0 0 PitA4 1733.35 0 0 0 NOut 1733.35 1733.30 0 0 NBypass1 16.6 16.6 0 0 NBypass2 10.18 10.18 0 0 NBypass2 10.18 10.14 0 0 NBypass2 10.18 10.14 0 0 NBypass2 10.18 10.14 0 0 NBypass2 10.18 0 0.1 1 PitB4 286.97 286.02 0 0.1	OSDWeir	98.32	0.7	0.433	0.433	0
Node Inflow Outflow Storage Change Difference (cu.m) (cu.m) % PitG1 62.06 61.69 0 0.6 OSDA4 1867.51 1735.24 132.27 0 OSDWeir 1735.24 1734.15 0 0 PitA3 1734.15 1733.95 0 0 PitA4 1733.95 1733.55 0 0 NOut 1733.355 1733 0 0 Notu 1733.355 1733 0 0 NUt 1733.355 1733 0 0 NBypass1 16.6 16.6 0 0 NBypass2 10.18 10.18 0 0 NRoof5 220.19 219.66 0 0.2 NRoof4 227.42 227.41 0 0 NRoof4 227.42 227.41 0 0 NBypass3 2.31 2.31 0 0.1	CONTINUITY CHEC	K for AR&R	10 year 2 h	ours storm averac	ie 28.5 mm/h. Zo	ne 1
(cu.m)(cu.m)(cu.m)%PitG1 62.06 61.69 00.6OSDA4 1867.51 1735.24 132.27 0OSDWeir 1735.24 1734.26 0.29 0PitA3 1734.26 1734.15 00PitA4 1733.95 000PitA1 1733.355 173300NOut 1733.55 1733.55 00Nbypass1 16.6 16.6 00NBypass2 10.18 10.18 00NBypass2 10.18 10.18 00NRoof5 220.19 219.66 0 0.2 PitB1 547.15 545.01 00.4NRoof4 227.42 227.41 00PitB5 277.35 276.38 00.3PitB4 286.97 286.02 00.3PitB5 277.35 275.35 00NBypass3 2.31 2.31 00NBypass4 3.25 3.25 00NBopass7 8.35 8.35 00.3PitB6 43.36 43.21 00.3NBypass5 5.54 5.5400NRoof1 155.18 154.77 00.3NBypass5 5.54 5.5400NRoof2 130.93 130.8 00.1NBypass5 5.54 5.5400NRoof2 120	Node	Inflow	Outflow	Storage Change	Difference	
PitG1 62.06 61.69 0 0.6 OSDA4 1867.51 1735.24 132.27 0 OSDWeir 1735.24 1734.26 0.29 0 PitA3 1734.26 1734.15 0 0 PitA2 1734.15 1733.95 0 0 PitA1 1733.95 1733.55 0 0 NOut 1733.55 1733 0 0 NBypass1 16.6 16.6 0 0 NBypass2 10.18 10.18 0 0 NBypassSum 89.02 89.02 0 0 NBoof5 20.19 219.66 0 0.2 NRoof4 227.42 227.41 0 0 PitB1 547.15 545.01 0 0.1 PitB2 203.91 303.39 0 0.2 NBypass3 2.31 2.31 0 0 NBypass3 2.31 2.31 0 0.3 PitB2 303.91 303.39 0 0.2 <td></td> <td>(cu.m)</td> <td>(cu.m)</td> <td>(cu.m)</td> <td>%</td> <td></td>		(cu.m)	(cu.m)	(cu.m)	%	
OSDA4 1867.51 1735.24 132.27 0 OSDWeir 1735.24 1734.26 0.29 0 PitA3 1734.26 1734.15 0 0 PitA2 1734.15 1733.35 0 0 PitA1 1733.95 1733 0 0 NOut 1733.35 1733 0 0 NBypass1 16.6 16.6 0 0 NBypass2 10.18 10.18 0 0 NBypassOut 89.02 89.02 0 0 NRoof5 220.19 219.66 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof4 227.42 227.41 0 0 PitB3 295.93 295.51 0 0.1 PitB4 286.97 286.02 0 0 NBypass3 2.31 2.31 0 0 NBypass3 2.31 2.31 0	PitG1	62.06	61.69	0	0.6	
OSDWeir 1734.26 0.29 0 PitA3 1734.26 1734.15 0 0 PitA2 1734.15 1733.95 0 0 PitA1 1733.95 1733.55 0 0 NOut 1733.55 1733 0 0 NBypass1 16.6 16.6 0 0 NBypass2 10.18 10.18 0 0 NRopf5 220.19 219.66 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof5 220.19 219.66 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof4 227.42 227.41 0 0 PitB3 295.93 295.51 0 0.1 PitB4 266.97 286.02 0 0.3 PitB2 303.91 303.39 0 0.2 NBypass3 2.31 2.31 0 0	OSDA4	1867.51	1735.24	132.27	0	
PitA3 1734.26 1734.15 0 0 PitA2 1734.15 1733.95 0 0 PitA1 1733.95 1733.55 0 0 PitA0 1733.55 1733 0 0 NOut 1733.55 1733 0 0 NBypass1 16.6 16.6 0 0 NBypass2 10.18 10.18 0 0 NBypass2 10.18 10.18 0 0 NRoof5 220.19 219.66 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof4 227.42 227.41 0 0 PitB3 295.93 295.51 0 0.1 PitB4 286.97 286.02 0 0.3 PitB2 303.91 303.39 0 0.2 NBypass3 2.31 2.31 0 0 NBypass4 3.25 3.25 0 0 NRoof1 155.18 154.77 0 0.3	OSDWeir	1735.24	1734.26	0.29	0	
PitA2 1/33.45 0 0 PitA1 1733.95 1733.55 0 0 PitA0 1733.55 1733 0 0 NOut 1733.55 1733 0 0 NBypass1 16.6 16.6 0 0 NBypass2 10.18 10.18 0 0 NBypassSum 89.02 89.02 0 0 NBypassOut 89.02 89.02 0 0 NRoof5 220.19 219.66 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof4 227.42 227.41 0 0 PitB3 295.93 295.51 0 0.1 PitB4 286.97 286.02 0 0.3 PitB3 295.93 295.51 0 0.1 PitB4 286.97 286.02 0 0.2 NBypass3 2.31 2.31 0 0 NBypass4 3.25 3.25 0 0 NRoof1	PitA3	1734.26	1734.15	0	0	
PitA1 1733.95 1733 0 0 PitA0 1733.55 1733 0 0 NOut 1733 1733 0 0 NBypass1 16.6 16.6 0 0 NBypass2 10.18 10.18 0 0 NBypass2 89.02 0 0 0 NBypassOut 89.02 89.02 0 0 NRoof5 220.19 219.66 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof4 227.42 227.41 0 0 PitB5 277.35 276.38 0 0.3 PitB4 286.97 286.02 0 0.1 PitB3 295.93 295.51 0 0.1 NBypass3 2.31 2.31 0 0 NBypass3 2.31 2.31 0 0 NBypass7 8.35 8.35 0 0.3 PitA6 1002.65 999.05 0 0.4 NR	PitA2	1/34.15	1733.95	0	0	
PITA0 1733.55 1733 0 0 NOut 1733 1733 0 0 NBypass1 16.6 16.6 0 0 NBypass2 10.18 10.18 0 0 NBypass2 10.18 10.18 0 0 NBypass2 10.18 10.18 0 0 NBof5 220.19 219.66 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof5 227.42 227.41 0 0 PitB3 277.35 276.38 0 0.3 PitB4 286.97 286.02 0 0.3 PitB3 295.93 295.51 0 0 NBypass3 2.31 2.31 0 0 NBypass3 2.31 2.31 0 0 NBypass7 8.35 8.35 0 0 NRoof1 15.18 15.477 0 0.3 PitA6 1002.65 99.05 0 0.4 NRo	PitA1	1733.95	1/33.55	0	0	
NOUt 1733 1733 0 0 NBypass1 16.6 16.6 0 0 NBypass2 10.18 10.18 0 0 NRoof5 220.19 219.66 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof4 227.42 227.41 0 0 PitB5 277.35 276.38 0 0.3 PitB2 303.91 303.39 0 0.2 NBypass3 2.31 2.31 0 0 NBypass4 3.25 3.25 0 0 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.	PitAU	1733.55	1733	0	0	
NBypass1 16.6 16.6 0 0 0 NBypass2 10.18 10.18 0 0 NBypass2un 89.02 89.02 0 0 NBypassOut 89.02 89.02 0 0 NBopassOut 89.02 89.02 0 0 NRoof5 220.19 219.66 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof4 227.42 227.41 0 0 PitB5 277.35 276.38 0 0.3 PitB3 295.93 295.51 0 0.1 PitB3 295.93 295.51 0 0 NBypass3 2.31 2.31 0 0 NBypass3 2.31 2.31 0 0 NBypass7 8.35 8.35 0 0 NRoof1 155.18 154.77 0 0.3 NBypas5 5.54 5.54	NOUT	1733	1733	0	0	
NBypass2 10.18 10.18 0 0 0 NBypassSum 89.02 89.02 0 0 NBypassOut 89.02 89.02 0 0 NRoof5 220.19 219.66 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof4 227.42 227.41 0 0 PitB5 277.35 276.38 0 0.3 PitB4 286.97 286.02 0 0.3 PitB3 295.93 295.51 0 0.1 PitB4 286.97 286.02 0 0.2 NBypass3 2.31 2.31 0 0 0 NBypass3 2.31 2.31 0 0 0 NBypass7 8.35 8.35 0 0 0 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.4 NRo	NBypass1	10.0	10.0	0	0	
NBypassSuff 08:02 8:02 0 0 0 NBypassOut 8:02 8:02 0 0 0 NRoof5 220.19 219.66 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof4 227.42 227.41 0 0 PitB5 277.35 276.38 0 0.3 PitB4 286.97 286.02 0 0.3 PitB3 295.51 0 0.1 1 PitB4 286.97 286.02 0 0.2 NBypass3 2.31 2.31 0 0 NBypass3 2.31 2.31 0 0 NBypass7 8.35 8.35 0 0 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.4 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 <td< td=""><td>NBypass2</td><td>10.18</td><td>10.18</td><td>0</td><td>0</td><td></td></td<>	NBypass2	10.18	10.18	0	0	
NBypassOut 08:02 08:02 00 0 NRoof5 220.19 219.66 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof4 227.42 227.41 0 0 PitB5 277.35 276.38 0 0.3 PitB4 286.97 286.02 0 0.3 PitB3 295.93 295.51 0 0.1 PitB2 303.91 303.39 0 0.2 NBypass3 2.31 2.31 0 0 NBypass3 2.25 3.25 0 0 PitB6 43.36 43.21 0 0.3 NBypass7 8.35 8.35 0 0 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.4 NRoof2 103.93 130.8 0 0.1 NBypass5 5.54 0 0	NBypassourn	69.02 80.02	09.02	0	0	
NK0015 220.19 19.00 0 0.2 PitB1 547.15 545.01 0 0.4 NRoof4 227.42 227.41 0 0 PitB5 277.35 276.38 0 0.3 PitB4 286.97 286.02 0 0.1 PitB2 303.91 303.39 0 0.2 NBypass3 2.31 2.31 0 0 PitB6 43.36 43.21 0 0.3 NBypass4 3.25 3.25 0 0 NRoof1 155.18 154.77 0 0.3 NBypass7 8.35 8.35 0 0 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 0.1 NBypass6 42.78 42.78 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 0 0.3 0	NBypassOut	09.02 220.10	09.0Z	0	0	
PitB1 34.11 0 0 0.4 NRoof4 227.42 227.41 0 0 PitB5 277.35 276.38 0 0.3 PitB4 286.97 286.02 0 0.3 PitB3 295.93 295.51 0 0.1 PitB2 303.91 303.39 0 0.2 NBypass3 2.31 2.31 0 0 NBypass4 3.25 3.25 0 0 NBopass7 8.35 8.35 0 0 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.4 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 0.1 NBypass6 42.78 42.78 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.77 42.78 0 0.3		220.19 E47.1E	219.00	0	0.2	
Intent 221.42 221.43 0 0 PitB5 277.35 276.38 0 0.3 PitB4 286.97 286.02 0 0.3 PitB3 295.93 295.51 0 0.1 PitB2 303.91 303.39 0 0.2 NBypass3 2.31 2.31 0 0 NBypass4 3.25 3.25 0 0 NRoof1 155.18 154.77 0 0.3 PitB6 43.36 43.21 0 0.3 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.4 PitA5 1650.22 1045.56 0 0.4 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitA7 720.8 718.24 0 0.3 PitA7 720.8 718.24 0 0.3 PitE3 86.49 86.19 0 0.3 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE2 127.76 127.61 0 0.1 PitE1 223.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2	NRoof4	227 42	227 41	0	0.4	
Into 21135 210.30 0 0.3 PitB4 266.97 286.02 0 0.3 PitB3 295.93 295.51 0 0.1 PitB2 303.91 303.39 0 0.2 NBypass3 2.31 2.31 0 0 NBypass4 3.25 3.25 0 0 PitB6 43.36 43.21 0 0.3 NBypass7 8.35 8.35 0 0 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.4 Ntoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitA7 720.8 718.24 0 0.3 PitA7 720.8 718.24 0 0.3 PitE3 86.49 86.19 0	PitB5	277 35	276 38	0	03	
Interv 200.01 200.02 0 0.1 PitB3 295.51 0 0.1 PitB2 303.91 303.39 0 0.2 NBypass3 2.31 2.31 0 0 NBypass4 3.25 3.25 0 0 NBypass7 8.35 8.35 0 0 NBypass7 8.35 8.35 0 0 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 99.05 0 0.4 PitA5 1050.22 1045.56 0 0.4 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0.5	PitB4	286.97	286.02	0	0.3	
Into: 253.51 0 0.1 PitB2 303.91 303.39 0 0.2 NBypass3 2.31 2.31 0 0 NBypass4 3.25 3.25 0 0 PitB6 43.36 43.21 0 0.3 NBypass7 8.35 8.35 0 0 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.4 PitA5 1050.22 1045.56 0 0.4 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0 PitE4 27.03 26.89 0 0.5	PitB3	200.07	200.02	0	0.5	
NBypass3 2.31 2.31 0 0 NBypass3 2.31 2.31 0 0 NBypass4 3.25 3.25 0 0 PitB6 43.36 43.21 0 0.3 NBypass7 8.35 8.35 0 0 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.4 PitA5 1050.22 1045.56 0 0.4 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.	PitB2	303.91	303.39	0	0.1	
NBypassi 3.25 3.25 0 0 PitB6 43.36 43.21 0 0.3 NBypass7 8.35 8.35 0 0 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.4 PitA5 1050.22 1045.56 0 0.4 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE2 127.76 127.61 0 0.1 PitE1 233.75 23.97 0 <	NBvpass3	2.31	2.31	0	0	
PitB6 43.36 43.21 0 0.3 NBypass7 8.35 8.35 0 0 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.4 PitA5 1050.22 1045.56 0 0.4 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0.5 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE1 233.75 232.97 0 0.3 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0	NBvpass4	3.25	3.25	0	0	
NBypass7 8.35 8.35 0 0 NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.4 PitA6 1050.22 1045.56 0 0.4 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0.5 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE3 86.49 86.19 0 0.1 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0	PitB6	43.36	43.21	0	0.3	
NRoof1 155.18 154.77 0 0.3 PitA6 1002.65 999.05 0 0.4 PitA5 1050.22 1045.56 0 0.4 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE1 233.75 232.97 0 0.3 PitE3 86.29 501.99 0 0.1 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0	NBypass7	8.35	8.35	0	0	
PitA6 1002.65 999.05 0 0.4 PitA5 1050.22 1045.56 0 0.4 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE2 127.76 127.61 0 0.1 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2	NRoof1	155.18	154.77	0	0.3	
PitA5 1050.22 1045.56 0 0.4 NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0.5 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE2 127.76 127.61 0 0.1 PitE1 233.75 23.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2 PitC1 46.09 45.91 0 0.4	PitA6	1002.65	999.05	0	0.4	
NRoof2 130.93 130.8 0 0.1 NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE1 233.75 232.97 0 0.3 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2 PitC1 46.09 45.01 0 0.4	PitA5	1050.22	1045.56	0	0.4	
NBypass5 5.54 5.54 0 0 NRoof3 203.5 203.66 0 -0.1 PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0.5 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE1 233.75 232.97 0 0.3 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2	NRoof2	130.93	130.8	0	0.1	
NRcof3 203.5 203.66 0 -0.1 PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2 PitC1 46.09 45.91 0 0.4	NBypass5	5.54	5.54	0	0	
PitH1 225.7 224.94 0 0.3 PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.1 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2 PitC1 46.09 45.91 0 0.4	NRoof3	203.5	203.66	0	-0.1	
PitA7 720.8 718.24 0 0.4 NBypass6 42.78 42.78 0 0 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE2 127.76 127.61 0 0.1 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2 PitC1 46.09 45.91 0 0.4	PitH1	225.7	224.94	0	0.3	
NBypass6 42.78 42.78 0 0 PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE2 127.76 127.61 0 0.1 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2 PitC1 46.09 45.91 0 0.4	PitA7	720.8	718.24	0	0.4	
PitE4 27.03 26.89 0 0.5 PitE3 86.49 86.19 0 0.3 PitE2 127.76 127.61 0 0.1 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2	NBypass6	42.78	42.78	0	0	
PitE3 86.49 86.19 0 0.3 PitE1 127.76 127.61 0 0.1 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2 PitC1 46.09 45.91 0 0.4	PitE4	27.03	26.89	0	0.5	
PitE2 127.76 127.61 0 0.1 PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2 PitC1 46.09 45.91 0 0.4	PitE3	86.49	86.19	0	0.3	
PitE1 233.75 232.97 0 0.3 PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2 PitC1 46.09 45.91 0 0.4	PitE2	127.76	127.61	0	0.1	
PitA8 502.39 501.99 0 0.1 PitC2 18.27 18.22 0 0.2 PitC1 46.09 45.91 0 0.4	PitE1	233.75	232.97	0	0.3	
PitC2 18.27 18.22 0 0.2 PitC1 46.09 45.91 0 0.4	PitA8	502.39	501.99	0	0.1	
	PitC2	18.27	18.22	0	0.2	
	PitC1	46.09	45.91	0	0.4	
PitA12 24.26 24.09 0 0.7	PITA12	24.26	24.09	0	0.7	
PITATI 142.15 141.95 U U.1	PITATT DitA10	142.15	141.95	0	0.1	
FILMIU 210.73 210.1 U U.3 DitD2 27.38 27.35 0 0.4		210.75	210.1	0	0.3	
FILD2 21.30 21.30 U U.1 PitD1 53.2 53.04 0 0.2	PitD1	21.38	21.35	0	0.1	
PitE3 24.26 24.21 0 0.3	PitF3	24.26	00.04 24 21	0	0.3	
PitF2 47 72 47 6 0 0.2	PitF2	24.20 17 70	24.21 A7 6	0	0.2	
PitF1 66.86 66.64 0 0.3	PitF1	66.86	66 64	0	0.3	
PitN2 43.21 43.04 0 0.4	PitN2	43 21	43.04	0	0.5	
PitN1 69.38 69.09 0 0.4	PitN1	69.38	69.09	0	0.4	

Run Log for 368851 2020 run at 09:33:17 on 14/1/2020 No water upwelling from any pit. Freeboard was adequate at all pits. Flows were safe in all overflow routes.

DRAINS Output - 100 Year ARI Storm Event

DRAINS results prepared from Version 2019.09

PIT / NODE DETAIL Name	-S Max HGL	Max Pond HGL	Max Surface Flow Arriving	Version 8 Max Pond Volume	l Min Freeboard	Overflow (cu.m/s)	Constraint
			(cu.m/s)	(cu.m)	(m)	. ,	
PitG1	100.63	101.45	0.062	0.4	0.72	0.011	Inlet Capacity
PitA3	99.12		0		0.58		None
PitA2	98.76		0		0.64		None
PitA1	98.4		0		0.8		None
PitA0	98.04		0		0.96		None
NOut	97.81		0.219				
NRoof5	99.64		0.226				
PitB1	99.39	99.58	0.036	0.1	0.11	0	Inlet Capacity
NRoof4	100.99		0.233				
PitB5	100.32		0.039		1.5	0.013	Inlet Capacity
PitB4	100.12		0.011		1.08	0.001	Inlet Capacity
PitB3	99.79	100.73	0.01	0.1	0.91	0	Inlet Capacity
PitB2	99.61		0.009		0.74	0	Inlet Capacity
PitB6	101.56		0.065		0.74	0.034	Inlet Capacity
NRoof1	100.58		0.159				
PitA6	100.46	101.71	0.061	0.1	1.14		Inlet Capacity
PitA5	99.64	101.64	0.091	0.1	1.86	0	Inlet Capacity
NRoof2	101.08		0.134				
NRoof3	101.17		0.209				
PitH1	101.15		0.023		0.85	0.005	Inlet Capacity
PitA7	101.03		0.005		0.82		None
PitE4	102.34	102.35	0.027	0.2	0	0.024	Outlet System
PitE3	102.35	102.45	0.06	0.1	0		Outlet System
PitE2	102.22	102.39	0.042	0	0.08		Inlet Capacity
PitE1	102	102.31	0.061	0	0.2		Inlet Capacity
PitA8	101.3		0.077		0.3	0.045	Inlet Capacity
PitC2	102.1		0.018		0	0.038	Outlet System
PitC1	101.95	101.95	0.066	0.1	0		Outlet System
PitA12	102.1		0.024		0.8	0.005	Inlet Capacity
PitA11	101.68		0.068		0.52	0.037	Inlet Capacity
PitA10	101.5		0.06		0.15	0.027	Inlet Capacity
PitD2	101.69		0.028		0.16	0.007	Inlet Capacity
PitD1	101.57	101.67	0.033	0	0.03		Inlet Capacity
PitF3	101.87		0.024		0.8	0.005	Inlet Capacity
PitF2	101.8	102.52	0.029	0	0.65	0	Inlet Capacity
PitF1	101.76		0.019		0.56	0.004	Inlet Capacity
PitN2	101.26	102.19	0.043	0	0.84		Inlet Capacity
PitN1	100.6	101.88	0.04	0.1	1.2	0	Inlet Capacity

SUB-CATCHMENT DETAILS

Name	Max	Paved	Grassed	Paved	Gras	ssed	Supp.	Due to Storm
	Flow Q	Max Q	Max Q	Tc	Тс		Тс	
	(cu.m/s)	(cu.m/s)	(cu.m/s)	(min)	(min	n)	(min)	
CatG1	0.062	0.052	0.0)1	5	10		0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatA4	0.102	0.038	0.00	64	5	10		0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatBypass1	0.018	0.012	0.00)6	5	10		0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatBypass2	0.013	0.003	0.0)1	5	10		0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatRoof5	0.226	0.226		0	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatB1	0.036	i 0	0.03	36	5	10		0 AR&R 100 year, 20 minutes storm, average 121.4 mm/h, Zone 1
CatRoof4	0.233	0.233		0	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatB5	0.007	0.007		0	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatB4	0.011	0.011		0	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatB3	0.01	0.01		0	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatB2	0.009	0.009		0	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatBypass3	0.003	0	0.00)3	5	10		0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatBypass4	0.003	0.001	0.00)2	5	10		0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatB6	0.065	0	0.06	65	5	10		0 AR&R 100 year, 20 minutes storm, average 121.4 mm/h, Zone 1
CatBypass7	0.013	0	0.0	3	5	10		0 AR&R 100 year, 20 minutes storm, average 121.4 mm/h, Zone 1
CatRoof1	0.159	0.159		0	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatA6	0.061	0.059	0.00)2	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatA5	0.046	0.035	0.0	1	5	10		0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatRoof2	0.134	0.134		0	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatBypass5	0.006	0.006		0	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatRoof3	0.209	0.209		0	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatH1	0.023	0.016	0.00	8	5	10		0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatBypass6	0.044	0.044		0	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatE4	0.027	0.026	0.00)1	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatE3	0.06	0.057	0.00)3	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatE2	0.042	0.034	0.00)7	5	10		0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatE1	0.061	0.059	0.00)2	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatA8	0.051	0.048	0.00)3	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatC2	0.018	0.017	0.00)1	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatC1	0.028	0.026	0.00)1	5	10		0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatA12	0.024	0.02	0.00)4	5	10		0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatA11	0.059	0.028	0.03	31	5	10		0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1

CatA10	0.024	0.02	0.004	5	10	0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatD2	0.028	0.027	0.001	5	10	0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatD1	0.026	0.026	0	5	10	0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatF3	0.024	0.02	0.004	5	10	0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatF2	0.023	0.02	0.004	5	10	0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatF1	0.019	0.019	0.001	5	10	0 AR&R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
CatN2	0.043	0.036	0.007	5	10	0 AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
CatN1	0.04	0	0.04	5	10	0 AR&R 100 year, 20 minutes storm, average 121.4 mm/h, Zone 1
Outflow Volumes for	Total Catch	nment (3.10 i	mpervious + 0.92	pervious = 4.02	total ha)	
Storm	Total Rainf	Total Runo I	Impervious Runoff	Pervious Runof	f	
	cu.m	cu.m (Runo	cu.m (Runoff %)	cu.m (Runoff %)	
AR&R 100 year. 5 m	732.42	612.97 (83 5	533.67 (94.5%)	79.31 (47.3%)	/	
AR&R 100 year, 10	1119.54	981.68 (87 8	832.10 (96.4%)	149.58 (58.3%)		
AR&R 100 year. 15	1400.27	1247.16 (8	1048.50 (97.1%)	198.66 (61.9%)		
AR&R 100 year. 20	1624.78	1458.63 (8	1221.58 (97.5%)	237.05 (63.7%)		
AR&R 100 year. 25	1811.81	1630.84 (9	1365.76 (97.8%)	265.08 (63.9%)		
AR&R 100 year 30	1975 43	1782 36 (9	1491 89 (98 0%)	290 46 (64 2%)		
AR&R 100 year, 45	2369.91	2147.38 (9	1796.00 (98.3%)	351.37 (64.7%)		
AR&R 100 year. 1 h	2678.07	2432.18 (9 2	2033.55 (98.5%)	398.63 (65.0%)		
AR&R 100 year 1.5	3113 71	2830 16 (9 2	2369 41 (98 7%)	460 75 (64 6%)		
AR&R 100 year, 2 h	3444.96	3130.78 (92	2624.72 (98.8%)	506.05 (64.1%)		
Name	Max O	Max V I	Max U/S	Max D/S Due	to Storm	
	(cu m/s)	(m/s)	HGL (m)	HGI (m)		
PipeG1-A4	0.051	2.56	100.547	100.373 AR&I	R 100 vear	20 minutes storm, average 121.4 mm/h, Zone 1
POSD	0.203	1 28	100 073	100 087 AR&I	R 100 vear	25 minutes storm average 108.3 mm/h Zone 1
Pipe A4-A3	0.981	3.47	99.166	99.115 AR&	R 100 vear	1.5 hours storm, average 51.7 mm/h, Zone 1
PipeA3-A2	0.981	3.47	98.808	98.759 AR&	R 100 vear	1.5 hours storm, average 51.7 mm/h, Zone 1
PipeA2-A1	0.981	3.47	98.451	98.402 AR&I	R 100 vear	, 1.5 hours storm, average 51.7 mm/h, Zone 1
PipeA1-A0	0.981	3.47	98.095	98.045 AR&	R 100 vear	1.5 hours storm, average 51.7 mm/h, Zone 1
PipeA0-NOut	0.981	3.14	97.859	97.813 AR&	R 100 vear	1.5 hours storm, average 51.7 mm/h, Zone 1
PipeRoof5-B1	0.227	2.06	99.642	99.387 AR&	R 100 vear	5 minutes storm, average 218.9 mm/h. Zone 1
PipeB1-A4	0.505	1.79	99,196	99.106 AR&	R 100 vear	15 minutes storm, average 139.5 mm/h. Zone 1
PipeRoof4-B5	0.234	2.21	100.991	100.822 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeB5-B4	0.268	2.27	100.251	100.117 AR&I	R 100 year	, 15 minutes storm, average 139.5 mm/h, Zone 1
PipeB4-B3	0.286	2.29	100.045	99.791 AR&I	R 100 year	, 25 minutes storm, average 108.3 mm/h, Zone 1
PipeB3-B2	0.287	1.51	99.752	99.611 AR&I	R 100 year	, 15 minutes storm, average 139.5 mm/h, Zone 1
PipeB2-B1	0.288	1.33	99.574	99.387 AR&I	R 100 year	, 15 minutes storm, average 139.5 mm/h, Zone 1
PipeB6-B5	0.035	4.53	101.45	101.031 AR&I	R 100 year	, 30 minutes storm, average 98.4 mm/h, Zone 1
PipeRoof1-A6	0.164	1.49	100.584	100.459 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeA6-A5	0.834	2.33	99.98	99.64 AR&I	R 100 year	, 15 minutes storm, average 139.5 mm/h, Zone 1
PipeA5-A4	0.908	2.54	99.505	99.106 AR&I	R 100 year	, 15 minutes storm, average 139.5 mm/h, Zone 1
PipeRoof2-A4	0.136	1.78	101.077	100.895 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeRoof3-H1	0.209	1.9	101.171	101.148 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeH1-A7	0.232	0.82	101.049	101.033 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeA7-A6	0.559	1.98	100.697	100.459 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeE4-E3	0.039	0.54	102.345	102.346 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeE3-E2	0.074	1.05	102.296	102.222 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeE2-E1	0.117	1.66	102.092	102.003 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeE1-A8	0.178	2.51	101.597	101.3 AR&I	R 100 year	, 10 minutes storm, average 167.3 mm/h, Zone 1
PipeA8-A7	0.387	1.37	101.174	101.033 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeC2-C1	0.031	0.43	102.1	101.95 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeC1-E1	0.055	0.78	101.95	102.003 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeA12-A11	0.019	1.24	102.08	101.677 AR&I	R 100 year	, 25 minutes storm, average 108.3 mm/h, Zone 1
PipeA11-A10	0.124	1.12	101.658	101.503 AR&I	R 100 year	, 15 minutes storm, average 139.5 mm/h, Zone 1
PipeA10-A8	0.19	1.72	101.446	101.3 AR&I	R 100 year	, 15 minutes storm, average 139.5 mm/h, Zone 1
PipeD2-D1	0.028	0.4	101.683	101.568 AR&I	R 100 year	, 2 hours storm, average 42.9 mm/h, Zone 1
PipeA10-D1	0.058	0.82	101.516	101.503 AR&I	R 100 year	, 1.5 hours storm, average 51.7 mm/h, Zone 1
PipeF3-F2	0.019	1.14	101.855	101.801 AR&I	R 100 year	, 25 minutes storm, average 108.3 mm/h, Zone 1
PipeF2-F1	0.046	0.78	101.767	101.756 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeF1-A11	0.061	0.87	101.742	101.677 AR&I	R 100 year	, 5 minutes storm, average 218.9 mm/h, Zone 1
PipeN2-N1	0.042	14.35	101.124	100.965 AR&I	R 100 year	, 25 minutes storm, average 108.3 mm/h, Zone 1
PipeN1-A6	0.08	1.13	100.576	100.459 AR&I	R 100 year	, 25 minutes storm, average 108.3 mm/h, Zone 1

CHANNEL DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)			Due to Sto	rm			
OVERFLOW ROU	TE DETAILS								
Name	Max Q U/S	Max Q D/S Safe	Q	Max D	Max DxV	Max Width I	Max V	Due to	Storm
OFD1	0.011	0.011	7.665	0.016	0	5.24	0.27	AR&R	100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
OF OSD	1.442	1.442	7.665	0.101	0.11	24.21	1.06	AR&R	100 year, 1.5 hours storm, average 51.7 mm/h, Zone 1
OFA4	0.219	0.219	7.665	0.047	0.03	13.43	0.62	AR&R	100 year, 1.5 hours storm, average 51.7 mm/h, Zone 1
Bypass1	0.018	0.018	7.665	0.018	0.01	6.14	0.31	AR&R	100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
Bypass2	0.013	0.013	7.665	0.017	0	5.54	0.28	AR&R	100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
BypassTotal	0.129	0.129	7.665	0.038	0.02	11.63	0.54	AR&R	100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
OFB1	0	0	7.665	0	0	0	C)	
OFB7	0.013	0.013	7.665	0.017	0	5.54	0.28	AR&R	100 year, 20 minutes storm, average 121.4 mm/h, Zone 1
OFB6	0.001	0.001	7.665	0.006	0	1.95	0.15	AR&R	100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
OFB5	0	0	7.665	0	0	0	C)	

OFB3	0	0	7.665	0	0	0	0	
Bypass3	0.003	0.003	7.665	0.009	0	3.14	0.21 AR&R	R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
Bypass4	0.016	0.016	7.665	0.018	0.01	5.84	0.32 AR&R	8 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
OFB8	0.034	0.034	7.665	0.024	0.01	7.93	0.36 AR&R	R 100 year, 20 minutes storm, average 121.4 mm/h, Zone 1
Bypass5	0.013	0.013	7.665	0.016	0	5.24	0.3 AR&R	R 100 year, 20 minutes storm, average 121.4 mm/h, Zone 1
OFA5	0	0	7.665	0	0	0	0	
Bypass7	0.006	0.006	7.665	0.012	0	4.04	0.23 AR&R	R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
OFH1	0.005	0.005	7.665	0.011	0	3.74	0.23 AR&R	R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
Bypass6	0.044	0.044	7.665	0.026	0.01	8.53	0.4 AR&R	R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
OFE3	0.024	0.024	7.665	0.021	0.01	7.03	0.33 AR&R	R 100 year, 15 minutes storm, average 139.5 mm/h, Zone 1
OFA8	0.045	0.045	7.665	0.026	0.01	8.83	0.38 AR&R	R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
OFC2	0.038	0.038	7.665	0.025	0.01	8.23	0.38 AR&R	R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
OFA12	0.005	0.005	7.665	0.011	0	3.74	0.25 AR&R	R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
OFA11	0.037	0.037	7.665	0.024	0.01	7.93	0.39 AR&R	R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
OFA10	0.027	0.027	7.665	0.021	0.01	7.03	0.36 AR&R	R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
OFD2	0.007	0.007	7.665	0.013	0	4.34	0.24 AR&R	R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
OFF3	0.005	0.005	7.665	0.011	0	3.74	0.25 AR&R	R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1
OFF2	0	0	7.665	0	0	0	0	
OFF1	0.004	0.004	7.665	0.01	0	3.44	0.21 AR&R	R 100 year, 5 minutes storm, average 218.9 mm/h, Zone 1
OFN1	0	0	7.665	0	0	0	0	· · · · · ·

DETENTION BASIN DETAILS

Name	Max WL	MaxVol	Max Q		Max Q	Max Q
			Total		Low Level	High Level
OSDA4	99.11	989.4		1.645	0.203	1.442
OSDWeir	100.09	2.5		1.2	0.981	0.219

 CONTINUITY CHECK for AR&R 100 year, 25 minutes storm, average 108.3 mm/h, Zone 1

 Node
 Inflow
 Outflow
 Storage Change
 Difference

Node	(((au m)	Dilloronoo
DHC1	(cu.m)	(cu.m)	(cu.m)	× 22
	1492.66	49.72	502.01	2.2
OSDA4	1402.00	009.75	592.91	0
OSDWeir	889.75	888.47	0.48	0.1
PitA3	888.47	887.97	U	0.1
PitA2	887.97	887.58	0	0
PitA1	887.58	886.9	0	0.1
PitA0	886.9	885.96	0	0.1
NOut	885.96	885.96	0	0
NBypass1	14.25	14.25	0	0
NBypass2	9.98	9.98	0	0
NBypassSum	84.22	84.22	0	0
NBypassOut	84.22	84.22	0	0
NRoof5	173.5	172.49	0	0.6
PitB1	443.23	435.11	0	1.8
NRoof4	179.19	179.17	0	0
PitB5	231.17	229.52	0	0.7
PitB4	234.59	233.01	0	0.7
PitB3	240.66	239.02	0	0.7
PitB2	245.64	244.69	0	0.4
NBvpass3	2.37	2.37	0	0 0
NBvpass4	6.65	6.65	0	0
PitB6	46.86	46.71	0	0.3
NBvpass7	9.02	9.02	0	0
NRoof1	122 27	121 69	0	0.5
PitA6	780 78	772.66	0) 1
Pit A5	829.33	815.38	Ő	17
NRoof2	103.16	102.9	0	0.3
NBvpass5	4 37	4 37	0	0.0
NPoof3	160.35	160 51	0	-01
Dit H1	170.33	178 14	0	0.7
DitA7	551.01	547.31	0	0.7
NPupace6	22 71	22 71	0	0.7
DitE /	21 02	21 44	0	10
	21.03	21.44	U	1.0
PILE3	65.69	64.99	U	1.1
	99.10	90.00	U	0.5
PILET	172.88	1/1.8/	U	0.6
PITA8	393.93	391.82	U	0.5
PitC2	14.81	14.78	0	0.2
PitC1	37.37	25.85	0	30.8
PitA12	19.87	19.62	C	1.3
PitA11	120.25	119.47	C	0.7
PitA10	181.01	180.18	0	0.5
PitD2	21.98	21.87	0	0.5
PitD1	42.42	42.09	0	0.8
PitF3	19.87	19.8	0	0.4
PitF2	39.05	38.77	0	0.7
PitF1	54.23	53.85	0	0.7
PitN2	35.4	35.05	0) 1
PitN1	63.52	63.19	0	0.5

Run Log for 368851 2020 run at 09:35:44 on 14/1/2020

The maximum water level in these storages exceeds the maximum elevation you specified: OSDWeir. DRAINS has extrapolated the Elevation vs Storage table to a higher Elevation. Please provide accurate values for higher elevations. Water was lost from the system at: PitC1, PitE3. If this water re-enters the system further downstream you should draw an overflow route from these locations.

Upwelling occurred at: PitC2 Freeboard was less than 0.15m at PitD1, PitA10, PitC1, PitE2, PitE4, PitE3, PitB1 Flows were safe in all overflow routes.

These overflow routes carried water uphill (adding energy): OFA8, OF OSD. These results may be invalid. You should check for water flowing round in circles (e.g. negative flo



Appendix B. Flooding Plan



		Issued for in	ntorma	ation	to d
ate Park	Drawing Tile HEC-RAS Sections				33am Plot
y WORKS					Time - 7.
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