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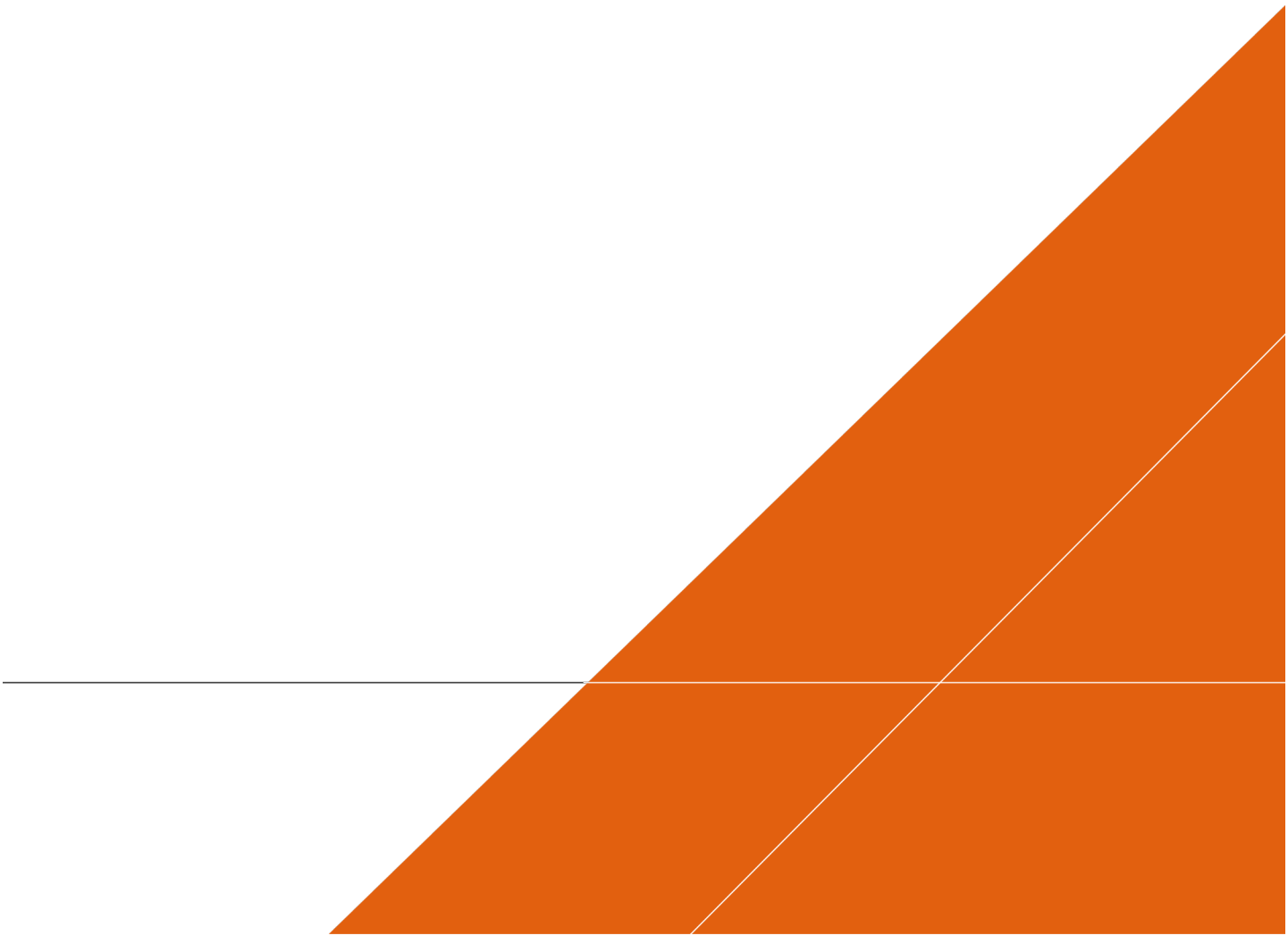
KINGS PARK METAL RECOVERY AND RECYCLING FACILITY EXPANSION

Water Management Report

01 JULY 2021



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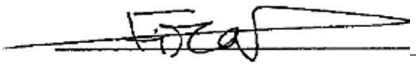
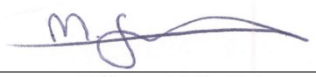
SELL AND PARKER
KINGS PARK METAL RECOVERY AND RECYCLING FACILITY EXPANSION

Water Management Report

Author	Firas Naji	
Checker	Melanie Gostelow	
Approver	Sean Fishwick	

Report No	10037922_Water_Management_Report_R0
Date	1/07/2021
Revision Text	1

REVISIONS

Revision	Date	Description	Prepared by	Approved by
0	13/07/2020	Draft for client comment	FN	WO
1	01/07/2021	Final	FN	SF

CONTENTS

APPENDICES

1 INTRODUCTION

Sell and Parker (the Applicant) currently own and operate a resource recovery facility (RRF) at 23-43 and 45 Tattersall Road, Kings Park (the Proposal site) (Figure 1). The RRF currently operates under approval SSD 5041 and three associated modifications (the Original Approval).

The Proposal involves seeking approval to increase the throughput limit of the existing RRF at the Proposal site from 350,000 to 600,000 tonnes per annum. The existing infrastructure at the Proposal site has the capacity to accommodate the proposed increased throughput and the Proposal would not require any physical works or change to the nature of operations. However, some adjustments to site management practices such as internal traffic flows and scheduling would be required.

This water management report utilises the information included in the approved site's Water Management Plan (prepared by Arcadis 12 September 2019) as well as more updated information provided by Sell & Parker with the aim to:

A. Assess the existing stormwater and wastewater systems and their capacity to manage the proposed operational increase. The current water system is designed so that stormwater runoff from processing areas is treated, stored onsite, and reused to meet production water demand. There is no allowance to discharge stormwater runoff from 'dirty' areas to Breakfast Creek. Any stormwater runoff from these areas exceeding the Proposal site's storage system may be discharged to the sewer in accordance with the Sydney Water trade wastewater agreement. Only stormwater runoff from roof and carpark areas drains to Breakfast Creek.

B. Undertake detailed site water balance assessment including identification of water requirements and measures to ensure water security and to minimise water use on site.

C. Characterise wastewater generated on site and how it is managed in a sustainable way so that its potential impacts on the receiving environment are mitigated.

Figure 1 The Proposal site

2 WATER REGULATIONS

The main regulations related to water management within the Proposal site of relevance to the proposal include:

2.1 Protection of the Environment Operations Act 1997 (POEO Act)

Under this Act, the existing Sell & Parker Kings Park metal recycling facility currently operates under Environment Protection Licence (EPL) 11555, which does not allow discharge of (contaminated) water to Breakfast Creek.

2.2 Sydney Water Trade Wastewater Agreement

Discharge to sewer can occur in accordance with the Sydney Water trade wastewater agreement (Conditional Consent 39940 on 21 December 2020) included in Appendix C.

3 DESCRIPTION OF THE EXISTING WATER MANAGEMENT SYSTEM

A water management system is currently operational at the Proposal site, which was developed to comply with the conditions of approval of SSD 5041 dated 12 November 2015 including three associated modifications. The Water Management Plan (WMP) presented in Appendix G which this report is based on has been approved by the NSW Department of Planning, Industry and Environment (DPIE) on 23 August 2019.

The Proposal site's water management system is principally based on separating "clean" runoff such as roof and paved areas not affected by the industrial use of the Proposal site, from contaminated "dirty" runoff where industrial activities take place such as metal stockpiling and processing. Dirty runoff is collected, treated and reused in a closed loop system so that no discharges – other than runoff from the clean catchment – are directed into Breakfast Creek. During periods of prolonged rainfall events, tertiary treated site runoff is discharged to Sydney Water's sewer based on their conditional consent to discharge industrial trade wastewater to their system. The basis of the site's water management system is shown in Figure 2, while its details are discussed below.

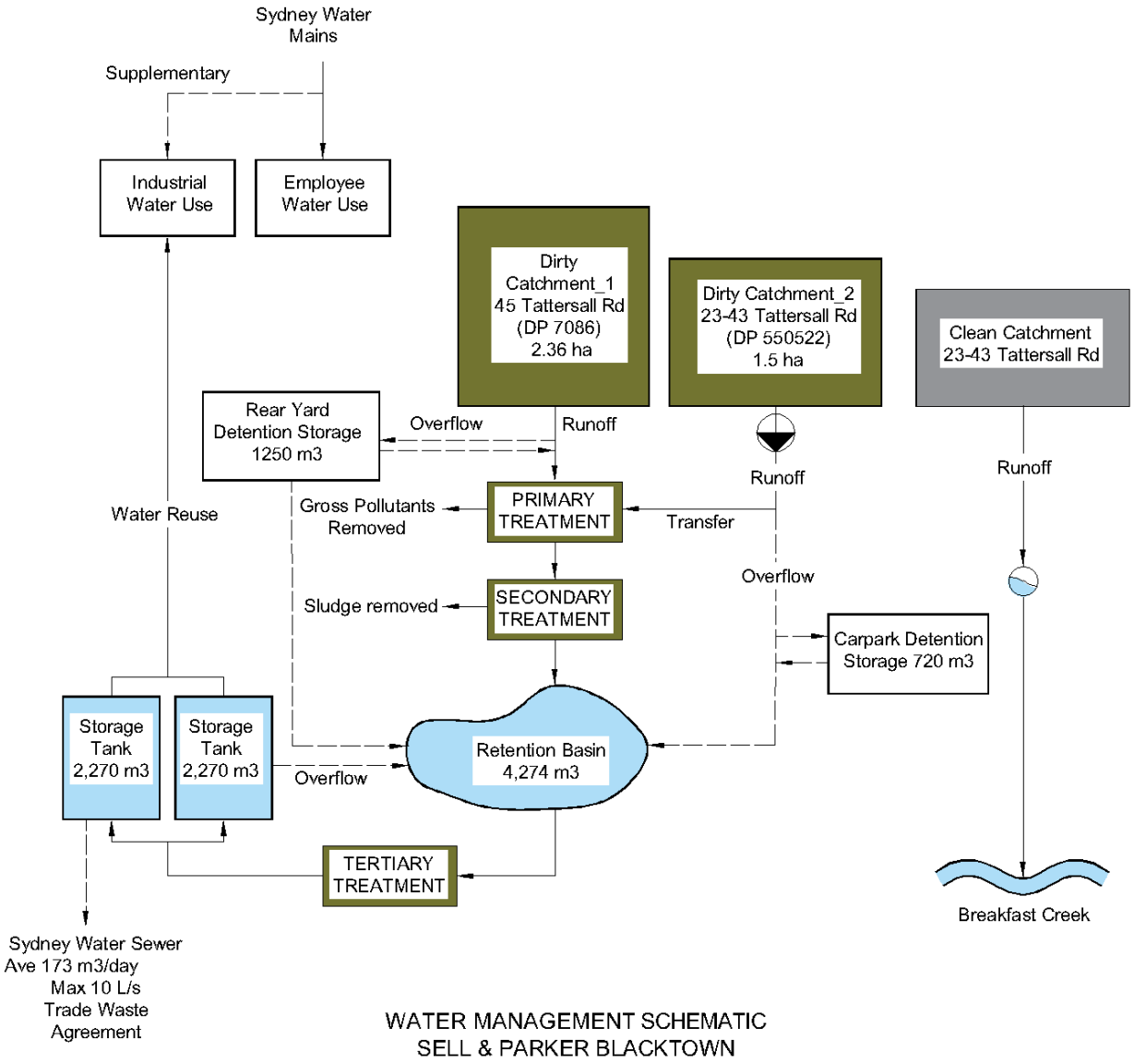


Figure 2 Proposal site water management system

3.1 Water Transfer and Diversion Management

The Catchment Area Plan (Appendix A) details the clean and dirty areas of the Proposal site reflected in Figure 2. Roofed areas and the front carpark in the 23-43 Tattersall Road site are clean water areas and rainfall runoff from these locations flow through a stormwater pit-pipe system to Breakfast Creek. The dirty catchment in 45 Tattersall Road drains directly to the floc pit, while the dirty catchment in 23-43 Tattersall Road drains to an underground concrete buffer tank fitted with a rising main that transfers collected runoff to the floc pit. The Proposal site's stormwater drainage arrangement is detailed in the Site Drainage Plan (Appendix B) prepared by ADW Johnson. No new infrastructure is required for the Proposal.

3.2 Primary Treatment System – Floc Pit

Water from the 45 Tattersall Road site is gravity fed into the floc pit, which comprises of a drive through two-part system that allows coarse gross pollutants to fall out in the first section . A hydrocarbon boom is utilised as required. Water passing through the screens will go into the floc pump pit ready for automatic transfer to the secondary treatment system. The location of the Floc Pit is detailed on the Site Drainage Plan in Appendix B.

Figure 3 Proposal site's Floc Pit

3.3 Secondary Treatment System – Sludge Bags

Water is pumped from the Primary Treatment System's pump pit to the Secondary Treatment System which consists of sludge bags in a bunded area on the retention basin wall. The bund is 15 metres in length, 5 metres wide with a 30 centimetre gutter and constructed from reinforced concrete. The location of the sludge bags is shown on the Site Drainage Plan in Appendix B. The bags will retain the majority of the sediment while filtered water will seep out into the bund and then gravity feed down a sluice pipe into the retention basin. The sludge bags will retain suspended solids including hydrocarbons and metals that adhere to particles in the water. Sludge removal to approved landfill facility takes place as required.

Figure 4 Proposal site's Sludge Bags

3.4 Onsite Retention Basin

The Proposal site's retention basin is used for storage of secondary treated runoff and storage of runoff overflowing from the Proposal site's transfer system during heavy rainfall events. The storage capacity of this retention basin is 4,274 cubic metres, supplemented by two temporary onsite detention systems: 1,250 cubic metres detention storage at the rear yard and 720 cubic metres detention storage at the rear carpark. The details of these storage systems are included in the Proposal site's stormwater management assessment undertaken by ADW Johnson in 2017 and presented as part of the approved WMP in Appendix G.

A validation program to test retention basin integrity has been undertaken in consultation with the EPA. Sell & Parker will continue to undertake yearly validation sampling to ensure ongoing efficacy of the retention basin.

Figure 5 Proposal site's retention basin

3.5 Tertiary Water Treatment System

A Tertiary Water Treatment System (TWTS) comprising of media filtration and chlorine disinfection is being utilised to remove fine suspended particulate material and provide a water quality that meets the requirements for Sydney Water sewer discharge. The commissioning phase of the treatment system was undertaken in 2017 by a suitably qualified and experienced person(s) in consultation with the EPA. Sydney Water also approved this TWTS as suitable to treat site runoff for discharge to its sewer system according to the approved trade wastewater agreement issued on 21 December 2018. Since then, all tested discharges to the sewer have been complying with the water quality

requirements in the trade wastewater agreement. An example of the water quality achieved through this TWTS is shown in Appendix D, which shows the latest testing results of onsite samples taken from the treated effluent.

The TWTS is regularly used to treat site's runoff for storage in one of the aboveground storage tanks, which is then supplied within the site as reuse water or discharged into the sewer before anticipated large rainfall events and during heavy rainfall to maximise available storage capacity. The filtration system is fully automated operating on a set level controls in the tanks and the retention basin. Two back up diesel pumps are available in the event of large rain events.

Figure 6 Proposal site's Tertiary Water Treatment System (TWTS)

3.6 Storage Tanks

Tertiary treated water is stored in the above ground tanks. The water is utilised for site reuse and discharged as trade wastewater if and when required. Water can be released back through all three stages of the filtration system from the tanks if additional water treatment is required. Each tank has a 2,270 kL capacity (i.e total capacity of 4,540 kL). Their locations are shown in the Site Drainage Plan in Appendix B, while their details and elevations are included in the ADW Johnson Stormwater Management report in Appendix G.

Figure 7 Proposal site's Reuse Storage Tanks

3.7 Controlled Discharge to Sewer

According to the "Consent to discharge industrial trade wastewater" agreement (Conditional Consent 39940) signed by both Sydney Water and Sell & Parker, the Proposal site can discharge trade wastewater to the sewer provided that certain flow rate and pollutant concentration levels are met as shown in Appendix C. The maximum instantaneous rate of pumped discharge is 10 L/s, while the average daily discharge is 173 kL. The trade wastewater is discharged via metered pipe from the clean water tank/s to the sewer discharge point. It includes a visual air gap backflow prevention connection from pipe discharge to the Sydney Water sewer connection.

Wastewater from the Proposal site has been discharging to the sewer in accordance with this Sydney Water's trade wastewater agreement since 21 December 2018 after the commissioning and approval of the TWTS. Recently tested (complying) quality of the discharged effluent to the sewer is shown in Appendix D, while discharge volumes to Sydney Water's sewer since activation are shown in Table 1 based on information provided by Sell & Parker. This information shows that the average daily discharge volume to Sydney Water's sewer is 32 kL/day, well below the average 173 kL/day specified by the trade wastewater agreement.

Table 1 Details of site discharges to Sydney Water's sewer

Date	Volume Discharged to Sewer (kL)
15/01/2019	569
16/01/2019	474
12/04/2019	667
19/09/2019	809
20/09/2019	814
21/09/2019	849
22/09/2019	561
23/09/2019	706

Date	Volume Discharged to Sewer (kL)
24/09/2019	848
25/09/2019	170
26/09/2019	161
27/09/2019	4,919
11/12/2019	2
22/01/2020	170
23/01/2020	376
28/01/2020	58
Average (kL/day)	**32**

4 SITE'S WATER BALANCE

A site's water balance is undertaken as part of the assessment for the Proposal to:

- Identify water requirements for the life of the project
- Ensure an adequate and secure water supply is available for the Proposal and ascertain measures to minimise water use at the site
- Demonstrate sustainable management of the Proposal site's water system including no discharge to Breakfast Creek from the onsite retention pond.

4.1 Site's Water Sources and Demands

4.1.1 Current Potable Water Demand

The Proposal site's potable water demand – supplied through Sydney Water's mains – includes water use by the Proposal site's employees such as drinking, laundry, bathroom, toilet flushing and kitchen. Potable water is also infrequently used to supplement the production water use when required. According to Sell & Parker, this supplementary potable water demand for production use is a rare occasion during extended dry periods.

Sell & Parker considers the 2018 mains water use to be representative of typical potable water demand during current production throughput as there was flow meter irregularity in the 2019 data. The total monthly use of water mains in the Proposal site (23-43 and 45 Tattersall Road) for 2018 is presented in Table 2. The daily average of these readings was 25 kL/day (assuming 365 days per year to facilitate water balance modelling using MUSIC software).

Table 2 Total monthly use of water mains for 2018

Month	Potable Water Use (kL)
January	1,760
February	1,462
March	1,356
April	436
May	571
June	434
July	404
August	546
September	388
October	491
November	524
December	752
Total (kL/year)	**9,124**
Average (kL/day)	**25**

4.1.2 Current Production Water Demand

The production water demand for the Proposal site includes the water usage for the shredder as well as for the Proposal site's washdown and dust control.

Based on information provided by Sell & Parker, the site's shredder water use in 2019 for sprays – which does not include any other usage – is shown in Table 3. The daily average of these water volumes was 18 kL/day (assuming 365 days per year).

Table 3 Monthly water use for shredder's spray for 2019

Month	Water Use (kL)
January	740
February	814
March	563
April	599
May	426
June	148
July	246
August	594
September	515
October	626
November	934
December	489
Total (kL/year)	**6,694**
Average (kL/day)	**18**

The remaining production water demands including the shredder's other water uses, Proposal site's washdown and dust control, were estimated using calculations of the Proposal site's operational water balance during August to October 2016 (shown in Appendix F). These are presented in Table 4.

Table 4 Remaining site's production estimated water use (based on the site's operational water balance presented in Appendix F)

Production Use	Aug 2016 (kL)	Sep 2016 (kL)	Oct 2016 (kL)	Average (kL/day)
Other Shredder uses (Shred & Floc)	349	489	184	11
Washdown	390	390	390	13
Dust control	180	200	50	5

Based on the above, the estimated total for the Proposal site's water demands for the current production condition are compiled in Table 5. This shows that the total production water demand representing 350,000 tonnes per year throughput is estimated to be 47 kL/day.

Table 5 Site's estimated production water demand for 350,000 tonnes throughput

Water **Use Type**	**Average Water Use**
Shredder (spray)	18 kL/day
Shredder (Shred & Floc)	11 kL/day
Site washdown	13 kL/day
Site dust control	5 kL/day
Total daily for production	**47 kL/day**
Total yearly for production	**17,155 kL/year**

4.1.3 Onsite Water Reuse

As discussed earlier in Section 3, stormwater runoff generated from rainfall on the "dirty" catchments is treated by primary and secondary treatment before storage in the onsite retention basin. Water from the retention basin is further treated by a tertiary media filtration system and then chlorine disinfected before being stored for onsite reuse in the storage tanks. This reuse is mainly directed to meet the production water demand outlined earlier, while only supplemented by Sydney Water's mains in rare occasions during extended dry period according to Sell & Parker.

The additional tertiary treatment further reduces risks associated with reusing this water for onsite production purposes such as:

- Water spray within the shredder for cooling the hammermill
- Other uses within the shredder such as for shredding and washing floc
- Dust suppression
- Washdown of areas required for pedestrian and truck movements and work areas outside of stockpile locations.

ERM also undertook assessment of the risks associated with stormwater reuse on the site as required by the 2015 development assessment approval conditions for the site. They concluded that such risks were low and acceptable according to their document "45 Tattersall Road, Kings Park - Water Reuse Risk Assessment" of the 22nd March 2016 (presented in Appendix E).

4.1.4 Estimated Future Demand

For this assessment, we have assumed that the increase in production throughput associated with the proposal from 350,000 tonnes per year to 600,000 tonnes per year would proportionally increase the production water demand. This would increase the production water demand from 47 kL/day (17,155 kL/year) to 81 kL/day (29,565 kL/year).

We also note that the number of employees is not expected to change with the proposed increase in production throughput based on information provided by Sell & Parker. The potable water demand for employees is expected to remain at the current level of 25 kL/day (9,124 kL/year).

Therefore, it is estimated that the total water demand for the Proposal would be 106 kL/day (38,689 kL/year).

4.2 Water Balance Calculations

Water balance calculations are aimed to evaluate the security of reuse water supply from the onsite retention pond to meet the site's production water demands for both current and proposed conditions, and to demonstrate that the current trade wastewater agreement with Sydney Water is sustainable over the long term considering the proposed increase in production throughput.

For this purpose, water balance calculations were undertaken using MUSIC (Model for Urban Stormwater Improvement Conceptualisation) software. MUSIC has a typical node for modelling rainwater tanks, which allows for the simulation of stormwater harvesting and reuse for extended rainfall periods.

Following Blacktown City Council's latest guidelines[1], a MUSIC model was developed that used daily rainfall data from Blacktown station (067059) for the years 1963 to 1993, which is considered suitable for all developments within Blacktown LGA. The average annual rainfall for the selected simulation period is 854 mm/year and the average annual evapotranspiration is 1,261 mm/year. The MUSIC model included the "dirty" catchments of 2.36 ha + 1.5 ha = 3.86 ha discharging into the onsite retention basin (4,274 m^3), which is then reused to supply the site's production water demand supplemented by the two aboveground storage tanks (2 x 2,270 m^3 = 4,540 m^3) and the supplementary detention storages at the rear yards (1,250 m^3) and the carpark (720 m^3). The total capacity of the site's storage system is 10,784 m^3.

Two scenarios were modelled:

- Current scenario: assumes the site's storage system captures runoff from the "dirty" catchment for reuse to meet the site's total production water demand of 47 kL/day. This scenario represents the current approved site's throughput of 350,000 tonnes per year.
- Proposed scenario: assumes the site's storage system captures runoff from the "dirty" catchment for reuse to meet the site's total production water demand of 81 kL/day. This scenario represents the proposal's throughput of 600,000 tonnes per year.

The results of the two modelling scenarios are presented in Figure 8 and Figure 9, and summarised in Table 6.

For the current scenario, the results show that the provided onsite storage system would overflow 11,900 kL/year or an average of 33 kL/day into the sewer system. This is comparatively close to the 32 kL/day recorded by Sell & Parker to be discharged to the sewer in 2019 (discussed earlier in Section 3.7 of this report), especially considering the unavoidable imprecision associated with the model when compared to reality and that the model considers 30 years of rainfall data, while the recorded values were only for a single year. The estimated 33 kL/day average discharge to sewer is also less than the 173 kL daily average licenced by Sydney Water to discharge to sewer, which indicates the sustainability of this scheme with no overflows expected from the onsite retention pond to Breakfast Creek. The results for this scenario also show that the site reuse supply almost completely (99.9%) meets the production water demands in the current condition, which is in line with Sell & Parker's advice that potable water top up for production water use only happens in rare occasions.

In the proposed condition scenario, the site's production demand is greater, which results in more reuse demand and eventually less overflow to the sewer (average 8 kL/day). Table 6 also shows that in the proposed scenario, 90% of the site's production demand is met through the onsite reuse water supply. This water reuse equates to a 69% potable water saving of the total water demand of the site (considering the 25 kL/day potable water used by the site's employees). The remainder of the total water demand of the site will be supplied from Sydney Water mains.

[1] WSUD Developer Handbook: MUSIC modelling and design guide DRAFT 2019 by Blacktown City Council

Table 6 Water balance results of the current and the proposed scenarios

Scenario	Stormwater Inflow into Storage (kL/day)	Storage Overflows Discharge to Sewer (kL/day)	Production (Reuse) demand (kL/day)	% Reuse demand satisfied
Current	80	33	47	99.9%
Proposed	80	8	81	90%

These results show that the proposal's water management system and mitigation measures are sustainable in the long-term and incorporate measures that minimise potable water use on the site and achieve significant water savings.

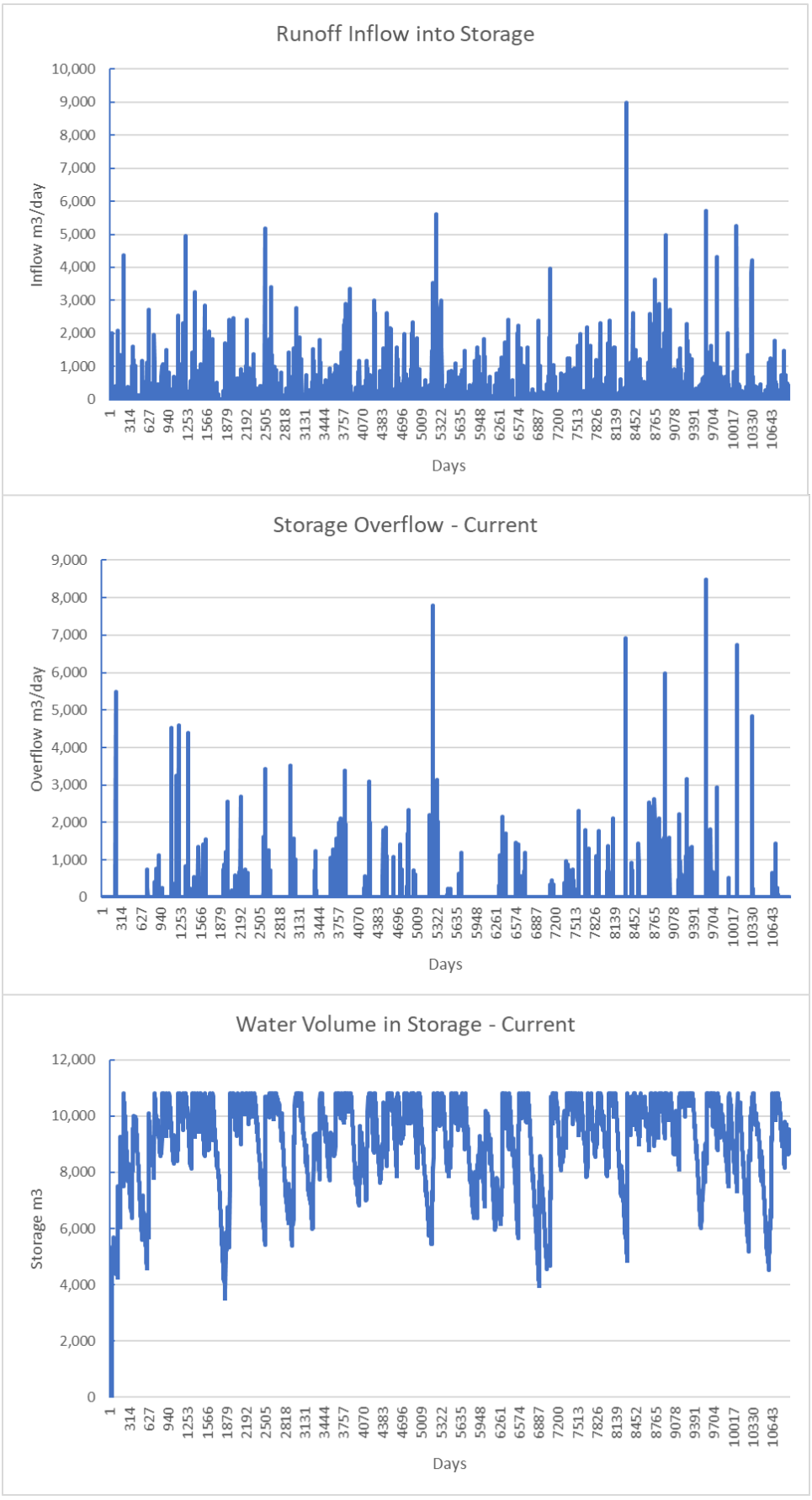


Figure 8 Water balance calculation results for the current scenario

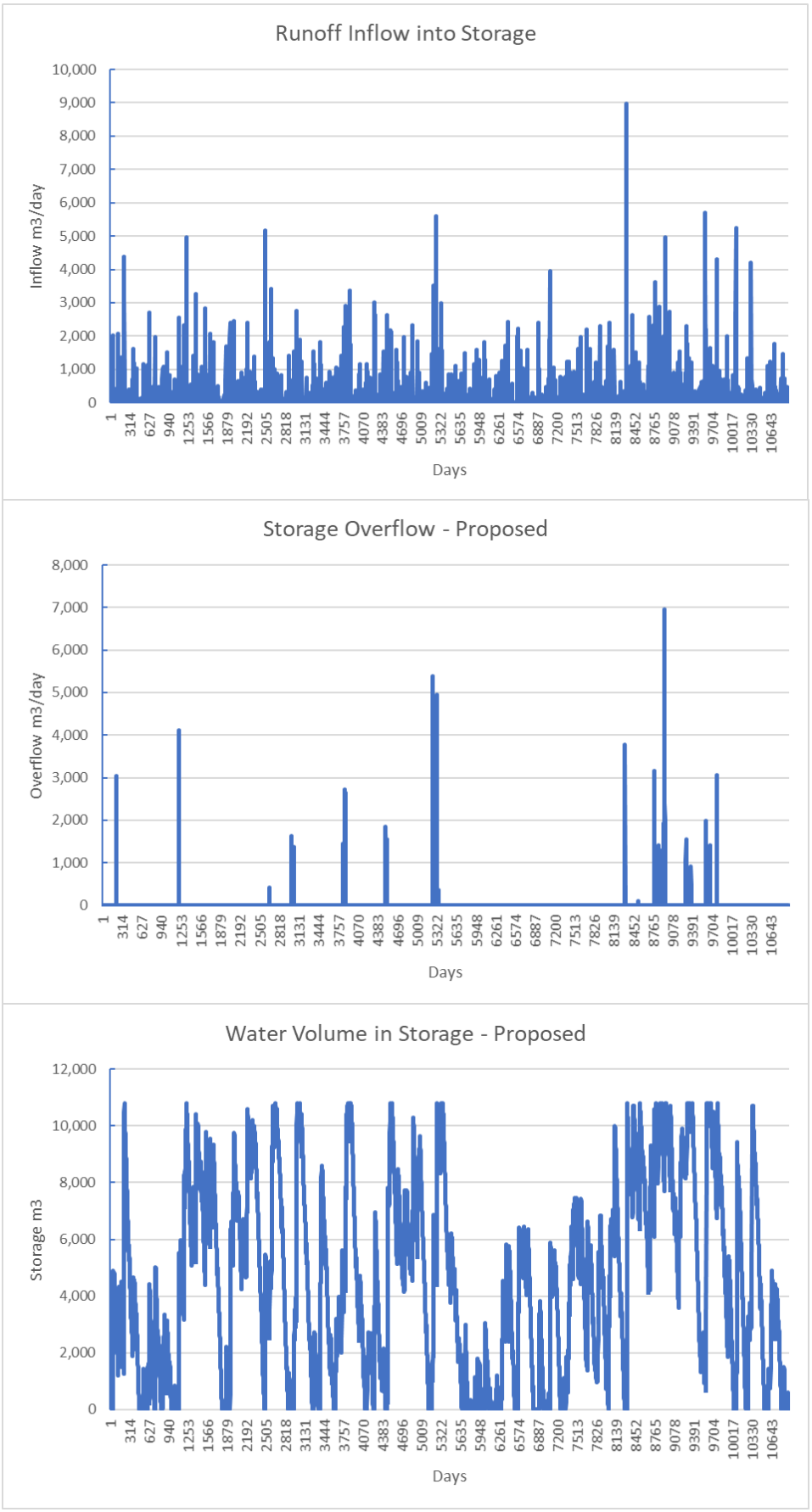


Figure 9 Water balance calculation results for the proposed scenario

5 MANAGEMENT OF POTENTIAL IMPACTS

The approved WMP (presented in Appendix G) provides specific mitigation measures and controls applicable to the current operation of the Proposal site to avoid or minimise negative environmental impacts. The WMP also outlines a monitoring regime to check the adequacy of these controls and corrective actions instigated when monitoring indicates a significant change in the Proposal site's water quality.

The main relevant impact resulting from the Proposal of increasing the throughput limit of the existing RRF from 350,000 to 600,000 tonnes per annum is increasing the Proposal site's production water demand.

In the current condition, production water demand is largely supplied through the Proposal site's reuse water system discussed earlier in Section 3 of this report, supplemented by mains water supply in rare occasions during periods of extended dry weather. On the other hand, the Proposal site would discharge excess stormwater runoff from the dirty catchments to the sewer during extended wet periods. This is reflected in the water balance calculations presented in Section 4 of this report.

In the proposed condition, increasing the production throughput would increase the Proposal site's production water demand, thus would increase the required mains water supplement on one hand and reduce the expected overflow discharges to sewer from the other hand. This is reflected and discussed in the water balance calculations presented in Section 4 of this report.

Reducing the overflow discharges to the sewer is a positive impact as it would improve the safeguard against any potential contaminated discharges from the Proposal site to Breakfast Creek. Thus, the main management measures required to mitigate the potential negative impacts associated with the Proposal are:

A. Ensure the Proposal site's water management system is operated and maintained according to the approved WMP.

B. Ensure the availability of adequate mains water supply from Sydney Water required to supplement the shortfall in the reuse water supply to meet the increased production water demand.

C. Ensure that the Proposal site's reuse water system is adequately designed to meet the expected increase in production water usage.

6 CONCLUSION

The current water management system of the Proposal site is hinged around capturing, treating, storing and then reusing all runoff from dirty catchments to create a closed loop system whereby discharges outside this system are only allowed to the Proposal site's sewer based on the trade wastewater agreement with Sydney Water. This way compliance with the current EPA licence is achieved, which does not allow any contaminated discharges from the Proposal site to Breakfast Creek.

As shown in the water balance assessment presented in Section 4 of this report, the Proposal site's water management system – including the available onsite storage systems – was modelled using MUSIC software and simulated with daily rainfall data for 30 years incorporating the current and the Proposal's estimated water reuse demands.

For the current condition, the results showed that the discharges to sewer required to prevent overflow to Breakfast Creek are well within the current licence to discharge to the sewer based on the trade wastewater agreement with Sydney Water. Furthermore, the ADW Johnson's Stormwater Management Assessment (presented as part of the approved WMP in Appendix G) included a detailed site water balance, which demonstrated that the provided onsite storage systems along with the approved Sydney Water trade wastewater discharge agreement are adequate to comply with the EPA's licence requirement of no discharges to Breakfast Creek. This study was approved by the EPA as part of the NSW DPIA approval of the site's Water Management Plan on 23 August 2019.

The Proposal would increase the Proposal site's production water demand as shown in Section 4 from an estimated 47 kL/day to 81 kL/day. This would reduce the possible discharges to the sewer from 33 kL/day to 8 kL/day, thus improves the sustainability of the Proposal site's water management system. Significant water savings would also be associated with the Proposal through reusing the Proposal site's treated runoff for production purposes, estimated at 69% of the total water use for the Proposal site.

The approved WMP (Appendix G) provides specific mitigation measures and controls applicable to both the current and proposed operation of the Proposal site to avoid or minimise negative environmental impacts. The WMP also outlines a monitoring regime to check the adequacy of these controls and corrective actions instigated when monitoring indicates a significant change in the Proposal site's water quality.

The main management measure required to mitigate the potential negative impacts associated with the Proposal is to ensure the availability of adequate mains water supply from Sydney Water to supplement the reuse water supply in order to meet the increased production water demand.

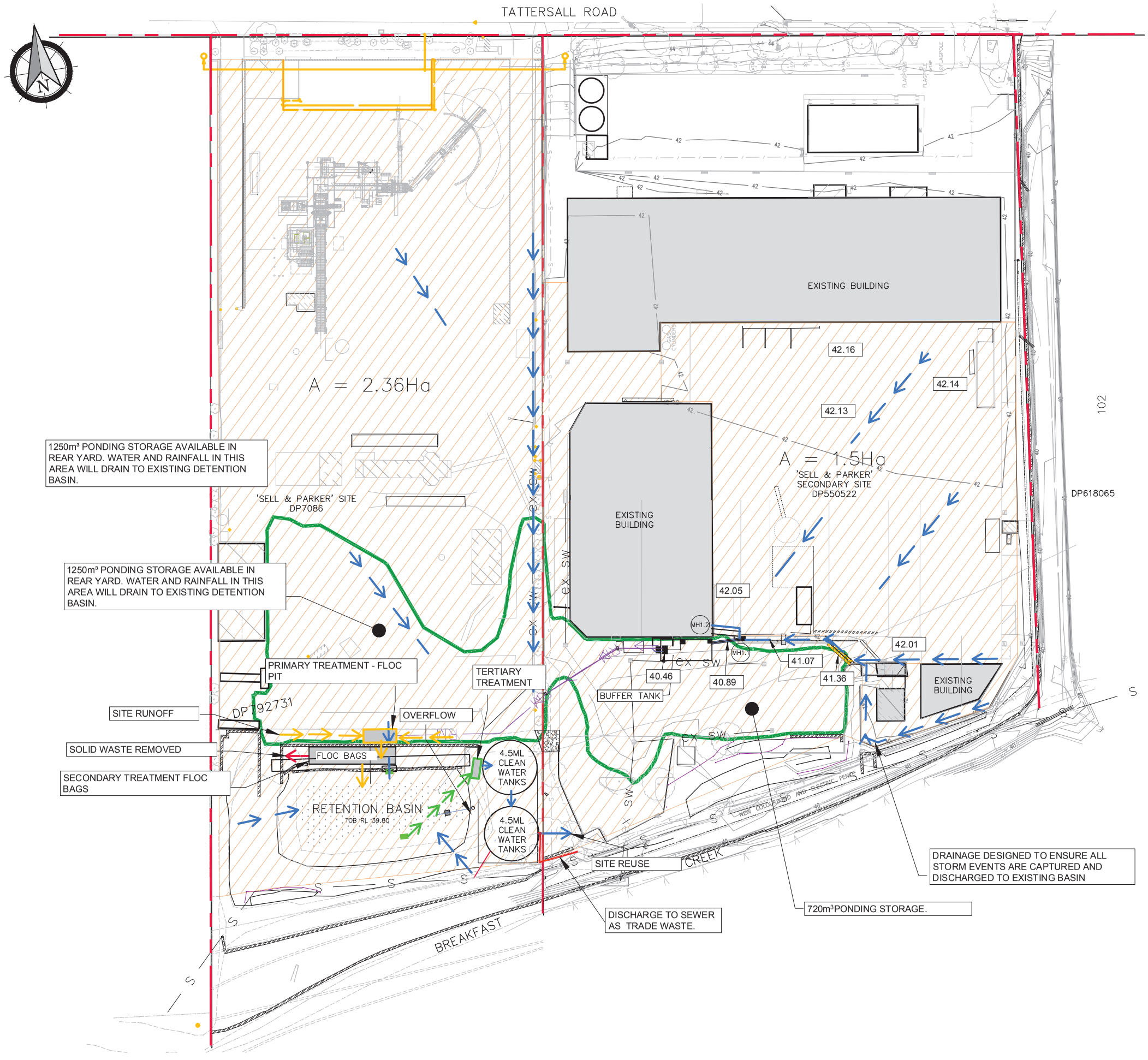
In conclusion, the Proposal's water management system and adopted mitigation measures would have no adverse impact on the receiving environment, would minimise the impact of the increase in production water demand and are sustainable in the long-term. The potential for the Proposal to adversely impact Breakfast Creek due to runoff from dirty catchment overflows is mitigated by the current water management system implemented on site. The Proposal would provide additional safeguard against the potential for such an event to occur.

APPENDIX A SITE'S CATCHMENT AREA PLAN

APPENDIX 4

LEGEND

- 'STORMWATER' CATCHMENT AREAS
- REAR YARD STORAGE CAPACITY
- FLOW ARROWS
- SEWER LINE
- PIPEWORK – SITE RUN–OFF
- PIPEWORK – TREATED WATER
- PUMPS



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drawing title:

STORMWATER CATCHMENT AREAS

location: LOT 2 D.P.550522, LOT 5 D.P.7086 & LOT 100 D.P.792731

council: (AUTHORITY - EPA)

dwg ref: 190337-REP-001

client: SELL AND PARKER

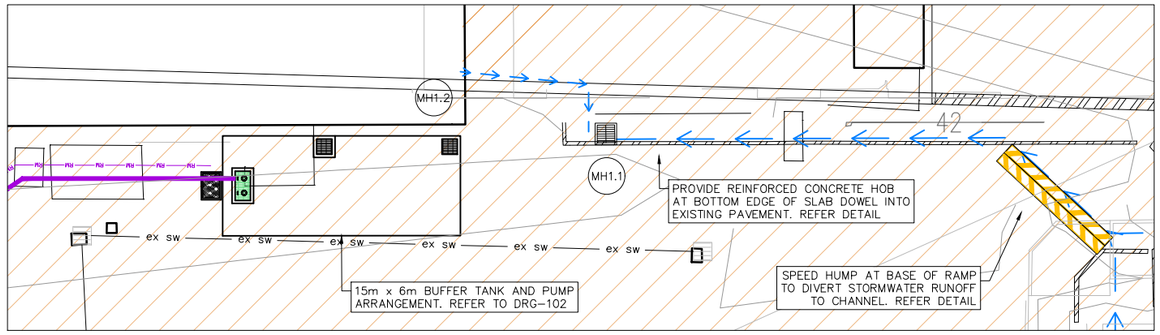
adw johnson
central coast office ph: (02) 4305 4300
hunter office ph: (02) 4978 5100
www.adwjohnson.com.au

working beyond expectations

APPENDIX B SITE DRAINAGE PLAN

190337-ENG-101[J] Appendix 5

APPENDIX 5
DRAINAGE PLANS



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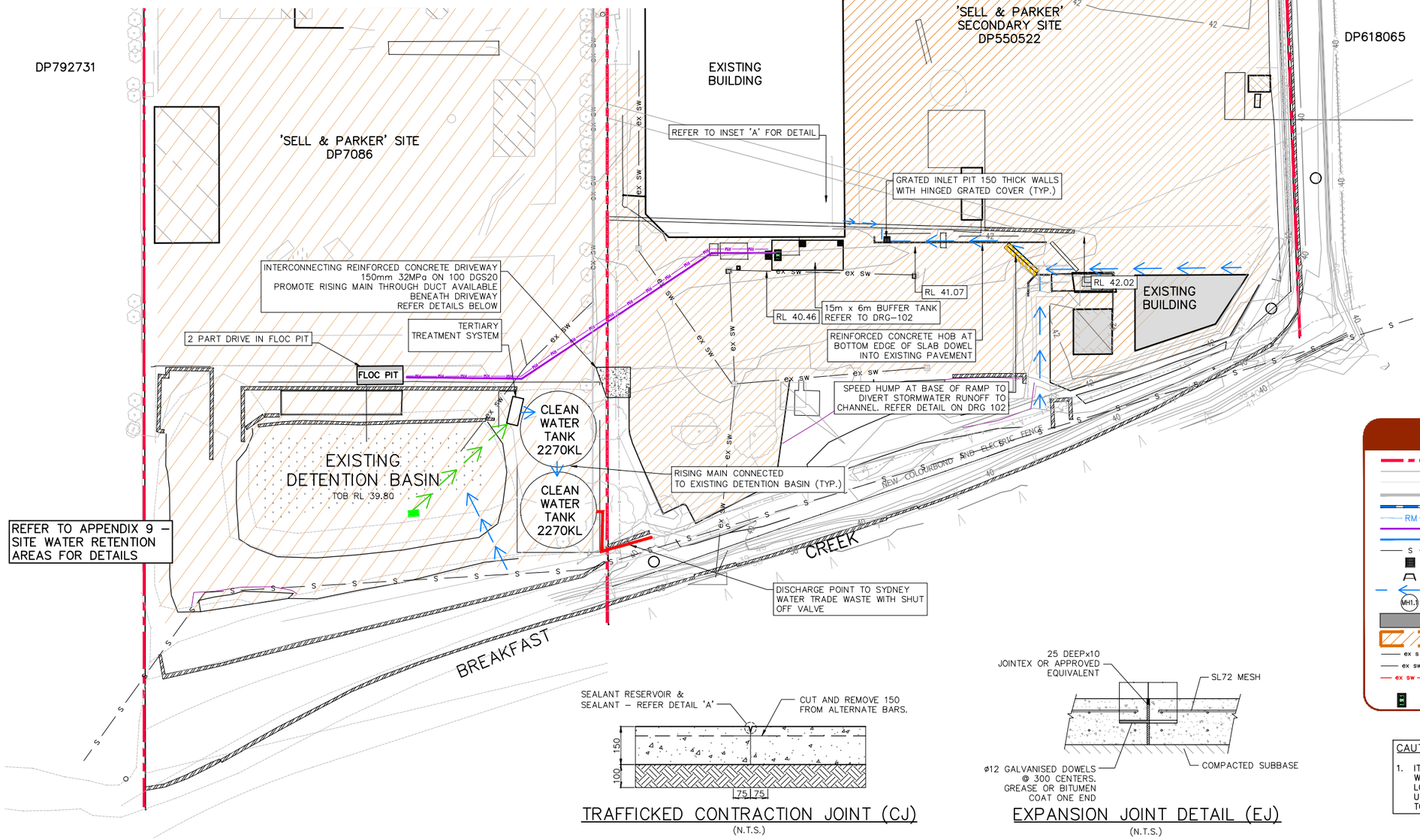


TRAFFICKED CONTRACTION JOINT (CJ)
(N.T.S.)

EXPANSION JOINT DETAIL (EJ)
(N.T.S.)

DIAL 1100 BEFORE YOU DIG

GENERAL NOTES: –

1. SETOUT INFORMATION IS TO BE VERIFIED BY THE CONTRACTOR AGAINST THE PLAN VIEW, LONGITUDINAL SECTIONS AND ELECTRONIC 12D DATA BEFORE BEING USED. IF THERE IS A DISCREPANCY THE SUPERINTENDENT IS TO BE NOTIFIED AND DIRECTION WITH BE PROVIDED IN WRITING BEFORE PROCEEDING.

CONSTRUCTION JOINTING NOTES: –

CJ CONSTRUCTION JOINT EVERY 3m.
EJ EXPANSION JOINT EVERY 9m.

JOINT TO BE MADE AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY THAT IT WILL NOT BE DAMAGED BY SAWING (MAX. 24HRS).

LEGEND

- SITE BOUNDARY
- MAJOR CONTOURS
- MINOR CONTOURS
- CATCHMENT BOUNDARY
- PROPOSED STORMWATER
- RM PROPOSED STORMWATER RISING MAIN
- PROPOSED PIPEWORK – SITE RUN-OFF
- PROPOSED PIPEWORK – TREATED WATER
- S SEWER LINE
- PROPOSED SW PIT
- PROPOSED HEADWALL
- FLOW PATH
- MH1.1 PIT LABEL
- EXISTING BUILDING
- CATCHMENT AREA
- ex s EXISTING SEWER
- ex sw EXISTING STORMWATER
- ex sw EXISTING STORMWATER TO BE REMOVED
- PROPOSED PUMPS

CONTOUR INTERVAL = 0.5m

CAUTIONARY NOTES :

1. IT IS THE RESPONSIBILITY OF THE CIVIL WORKS CONTRACTOR TO DETERMINE THE LOCATION & LEVEL OF EXISTING SERVICES USING NON DESTRUCTIVE METHODS PRIOR TO COMMENCING WORKS ON SITE.

REV.	DATE	AMENDMENT	DRAWN	CHECK	DESIGN	VERIFY
C	10/11/2016	Issued for client review	J.N.	M.L.	R.C.	M.K.
D	18/11/2016	Issued for client review	B.C.	M.L.	M.K.	M.K.
E	22/11/2016	Client amendments	B.C.	M.L.	M.K.	M.K.
F	9/12/2016	Client Amendments	A.M.	M.L.	M.K.	M.K.
G	3/03/2017	General Amendments	M.L.	M.L.	M.K.	M.K.
H	8/03/2017	Sewer Line Added	M.L.	M.L.	M.K.	M.K.
I	22/05/2017	General Amendments	M.L.	M.L.	M.K.	M.K.
J	21/04/2021	General Amendments	C.R.	M.L.	M.K.	M.K.

DESIGN FILE N:\

SCALES: 0 10 20 A1 / A3 1:500 / 1:1000

ALL DIMENSIONS ARE IN METRES. DO NOT SCALE

adw Johnson
Hunter Office
Unit 7/335 Hillsborough Rd
Warners Bay N.S.W. 2282
Phone: (02) 4978 5100
Fax: (02) 4978 5199
email: hunter@adwjohnson.com.au
www.adwjohnson.com.au
ABN 62 129 445 398

CLIENT: SELL & PARKER

PROPERTY DESCRIPTION: LOT 2 D.P.550522 LOT 5 D.P.7086 & LOT 100 D.P.792731

SURVEYED: ADW Johnson
DATUM: A.H.D.

PROJECT: EXISTING RECYCLING CENTRE
PLAN TITLE: DETAIL PLAN 23 TATTERSALL ROAD

PROJECT No. 190337 – DISCIPLINE ENG – NUMBER 101 – REV. J

Plotted By: chrisr Plot Date: 21/04/21 – 15:59 Cad File: S:\190337\Drawings\Engineering\Civil\CC\190337-ENG-101[J] Appendix 5.dwg

100mm AT FULL SIZE

APPENDIX C SYDNEY WATER TRADE WASTEWATER AGREEMENT

Sydney WATER

Conditional consent to discharge industrial trade wastewater

Conditional consent to discharge industrial trade wastewater

Sydney Water Corporation

and

SELL & PARKER PTY LTD

ABN 98 000 101 315

Activity: CONTAMINATED SURFACE WATER (ZJ00)
Risk index: 05
Consent No: 39940
Property Number: 4301536

This **CONSENT** is made on **day:** **month:** **year:**
Executed for and on behalf of
Sydney Water Corporation

By

.....
(Signature)

Caleb Furner
Manager Major Customers

In the presence of:

Witness

.....
(Signature)

.....
(Print name of witness)

Executed for and on behalf of
the Customer:

.....
(Signature)

By

Luke Parker – Director
.....
(Print name and position of person signing)
who warrants s/he has sufficient authority to execute this consent.

In the presence of:

Witness

.....
(Signature)

Morgan Parker
.....
(Print name of witness)

This consent must be executed by the Customer prior to execution by Sydney Water and submitted by the Customer to Sydney Water for its consideration. Submission of a consent executed by the Customer under no circumstances obliges Sydney Water to enter into or complete the consent. Submission of an executed consent by the Customer constitutes an application for a consent which Sydney Water may in its reasonable discretion reject, or with the consent of the Customer modify any of the proposed terms thereto.

Conditional consent to Discharge Industrial Trade Wastewater

SCHEDULE 1
(SUBJECT TO PUBLIC DISCLOSURE)
TRADE WASTEWATER WHICH MAY BE DISCHARGED

1. Trade wastewater substances

(a) The Customer may discharge trade wastewater into the Sewer in a manner whereby the substance characteristics of the trade wastewater are of a type and discharged at a rate, level or concentration equal to or less than that described in this schedule.

(b) The Customer must not discharge trade wastewater into the Sewer in a manner whereby the trade wastewater discharged;

(i) contains, possesses or produces a substance characteristic not provided in, or which may be determined as being contrary to that described in this schedule.

(ii) is at or of a rate, level, or concentration not provided in, or which may be determined as being contrary to, that described in this schedule.

Substance	LTADM (kg/day)	MDM (kg/day)	Standard (mg/L)
Biochemical Oxygen Demand	79.00	518.00	
Suspended Solids	44.00	518.00	600.00
Total Dissolved Solids	86.00	432.00	500.00
Ammonia (as N)	5.00	86.00	100.00
Grease	17.00	172.00	200.00
Sulphate	149.00	1728.00	2000.00
Barium	0.002	1.00	5.00
Copper	0.0005	1.00	5.00
Iron	0.005	1.00	50.00
Lead	0.0002	1.00	2.00
Manganese	0.002	1.00	10.00
Phosphorus	8.00	43.00	50.00
Zinc	0.40	4.30	5.00

RECONCILIATION PROCEDURES:

LONG TERM AVERAGE DAILY MASS:

The Long Term Average Daily Mass is a twelve month arithmetic average of ALL daily mass discharges as calculated for each composite sample. The Daily Mass discharged is to be calculated for each of the above substances, and checked against the above Long Term Average Daily Mass (kg/day) on the basis of average concentrations of substances discharged (mg/L) over any 24 hour period as determined from composite samples, obtained by either the Customer (in accordance with Schedule 2) or Sydney Water, or a combination of sample results by both.

This average concentration (mg/L) is to be multiplied by the total discharge (kL) as recorded by the Customer's discharge flow meter over the 24 hour period in order to calculate the Daily Mass of substances discharged (kg). Exceeding the Long Term Average Daily Mass does not constitute a Breach.

ACCEPTANCE STANDARD:

The Composite Sample Concentration is to be determined for each of the above substances, and checked against the above Acceptance Standard (mg/L) for each sample obtained. Exceeding the Acceptance Standard constitutes a Breach and will also incur an increased Quality Charge as detailed in Schedule 3.

The Discrete Sample Concentration is to be determined for each of the substances identified at Schedule 2, 2 (b) and checked against the above Acceptance Standard (mg/L) for each sample obtained. Exceeding the Acceptance Standard constitutes a Breach.

MAXIMUM DAILY MASS:

This average concentration (mg/L) is to be multiplied by the total discharge (kL) as recorded by the Customer's discharge flow meter over the 24hour period in order to calculate the Daily Mass of substances discharged (kg). Exceeding the Maximum Daily Mass constitutes a Breach.

2. The trade wastewater discharged must at all times have the following properties:

Temperature	-	Not to exceed 38 degrees Celsius.
Colour	-	Determined on a system specific basis
pH	-	Within the range 7.0 to 10.0.
Fibrous material	-	None which could cause an obstruction to Sydney Water's sewerage system.
Gross solids (other than faecal)	-	A maximum linear dimension of less than 20 mm, a maximum cross section dimension of 6 mm, and a quiescent settling velocity of less than 3 m/h.
Flammability	-	Where flammable and/or explosive substances may be present, the Customer must demonstrate to the satisfaction of Sydney Water that there is no possibility of explosions or fires occurring in the sewerage system. The flammability of the discharge must never exceed 5% of the Lower Explosive Limit (LEL) at 25° Celsius.

3. Rate of discharge of waste to sewer:

(a) Instantaneous maximum rate of gravitated discharge 10 litres per second

(b) Maximum daily discharge 864 kilolitres

(c) Average daily discharge 173 kilolitres

RECONCILIATION PROCEDURE:

The data obtained from applying these procedures is to be checked by the interface of a chart recorder to the Customer's flow metering equipment, or by the installation of flow metering equipment by Sydney Water, for a minimum of 7 days.

Conditional consent to Discharge Industrial Trade Wastewater

SCHEDULE 2

(SUBJECT TO PUBLIC DISCLOSURE)

SAMPLING, ANALYSIS, FLOW RATES AND VOLUME DETERMINATION

1. The Customer must provide and make available for the purpose of sampling and analysis;

   (a) Sampling point located at pre-treatment discharge excluding domestic sewage prior to the point of connection to the Sewer.

   (b) Equipment necessary to allow collection of composite automatic samples on either a flow proportional or a time basis.

2. The Customer is to undertake collection and analysis of samples in accordance with the schedule detailed below:

   (a) Composite samples are to be obtained:

      (i) over one full production day by combining equal volumes taken at 5 kilolitre intervals. The volumes are to be such that at least 5,000 millilitres are obtained over the full day. The reading of the Flowmeter meter is to be obtained at the commencement and conclusion of the sampling day.

      (ii) on 11 May 2020 and every 22 days thereafter. If trade wastewater is not discharged on this day, then the sample is to be taken on the next day that trade wastewater is discharged. Trade wastewater includes all non-domestic wastewater discharged to sewer from the premises, including cleaning waste.

   (b) Discrete samples are to be obtained as detailed below, and analysed according to the procedures and methods specified in Sydney Water's published analytical methods, to determine the concentrations or levels of the following substance characteristics:

      pH — at the start and finish of each sample day

   (c) Composite samples are to be analysed according to the procedures and methods specified in Sydney Water's published analytical methods, or methods otherwise agreed to and detailed hereunder, to determine the concentrations or levels of the following substance characteristics

      Biochemical Oxygen Demand

      Suspended Solids

      Total Dissolved Solids

      Ammonia

      Grease

      Sulphate

      Barium

      Copper

      Iron

      Lead

      Manganese

      Phosphorus

      Zinc

   (d) The Customer, or the laboratory contracted by the customer, is to submit results of analyses to Sydney Water within 21 days from the date the sample was taken. All analysis results are to be submitted on the sample analysis report provided as appendices 1 and 2 to this Consent or in such format as may be specified from time to time by Sydney Water.

(e) All data requested on the sample analysis report must be provided.

(f) Sydney Water must be notified in writing within 7 days of;

(i) any failure to obtain samples in accordance with the provisions of Schedule 2; or

(ii) any loss of any analytical data.

Where data is unavailable, lost or not provided, the Quality Charge, as detailed in Schedule 3, will be assessed on the basis of the highest Composite Sample concentration recorded in the 12 months prior to the date of the missing sample data.

3. The volume of wastewater discharged must be obtained from the reading of the total flow on the Customer's flow metering system.

The rate of waste discharged is to be obtained by the reading of the instantaneous flow rate indicator on the Customer's flow metering system, or from any chart recorder interfaced to the Customer's flow metering system.

The flow metering system is to be calibrated at least annually at the Customer's expense, by a person or company approved by Sydney Water and a copy of the calibration certificate supplied to Sydney Water within one month of such certificate being received by the Customer.

If the Customer's flow metering system fails to record data for any period, Sydney Water is to be advised in writing by the Customer within 7 days of any such failure becoming known by the Customer. An estimate of any data not recorded is to be made as follows:

Average of the waste discharged, registered for the four weeks before and/or after the failure to record.

Conditional consent to Discharge Industrial Trade Wastewater

SCHEDULE 3
(SUBJECT TO PUBLIC DISCLOSURE)
PAYMENTS

The charges are effective from 01 April 2020 and will continue until otherwise advised by Sydney Water.

All trade waste fees and charges are subject to CPI adjustments from 1 July each year in accordance with Determination No 1, 2012 made by the Independent Pricing and Regulatory Tribunal (IPART) and are detailed in fact sheets on the Sydney Water website.

1. CHARGES FOR TRADE WASTEWATER DISCHARGE

Sydney Water will conduct a reading of the Customer's discharge meter at approximately 90 day intervals. The volume of trade wastewater discharged for the period since the previous reading will be calculated.

Charges are based on the Daily Mass calculated from composite samples and corresponding meter readings for each sampling day in the billing period, and calculated in accord with (c), (d), (e), and (f) below. The charge for each sampling day is then multiplied by a flow weighting factor to give a flow weighted charge. The total charge for each substance for the billing period is equal to the sum of the flow weighted charges for the billing period.

Total Charge = the sum of the flow weighted charges for the billing period

Flow Weighted Charge = (charge for all sample days) x (flow weighting factor) and:

$$\text{Flow Weighting Factor} = \frac{\text{(total volume discharged during billing period)}}{\text{(sum of volumes discharged during all sample days during billing period)}}$$

In this formula volume discharged refers to the volume of trade wastewater discharged.

(a) Mass Discharged:
For each substance, the Mass Discharged is calculated by multiplying the Composite Sample concentration by the Trade Wastewater discharge for that sample day.

(b) Chargeable Trade Waste Mass:

(i) For the following substances, the Chargeable Trade Waste Mass is equal to the Mass Discharged:

SUBSTANCE
BARIUM
COPPER
IRON
MANGANESE
LEAD
ZINC

(ii) For the following substances, the Chargeable Trade Waste Mass is calculated by subtracting the Equivalent Domestic Mass from the Mass Discharged. The Equivalent Domestic Mass is defined as the Domestic Concentration multiplied by the Trade Wastewater discharge.

SUBSTANCE	DOMESTIC CONCENTRATION mg/L
BIOCHEMICAL OXYGEN DEMAND	230
SUSPENDED SOLIDS	200
TOTAL DISSOLVED SOLIDS	450
AMMONIA (AS N)	35
GREASE	50
SULPHATE	50
PHOSPHORUS	10

If the resulting Chargeable Trade Waste Mass is zero or negative, then no Quality charges will apply for that substance for that sample day.

(c) Quality Charge:

(i) For the following substances, the Quality Charge is determined by multiplying the Chargeable Trade Waste Mass by the Rate for that substance as detailed in the Industrial Customers Acceptance Standards and charging rates for the applicable financial year fact sheet on the Sydney Water website.

SUBSTANCE
SUSPENDED SOLIDS
TOTAL DISSOVED SOLIDS
AMMONIA (AS N)
GREASE
BARIUM
COPPER
IRON
LEAD
MANGANESE
PHOSPHORUS
ZINC

(ii) For the following substances, the Quality Charge is determined by multiplying the Chargeable Trade Waste Mass by the Rate, where the Rate is a function of the composite sample concentration recorded for that sample day.

SUBSTANCE
BIOCHEMICAL OXYGEN DEMAND

(d) Concentration Breach Charge:
Where the Composite Sample concentration is greater than the Acceptance Standards specified in Schedule 1 (with the exception of sulphate), any charges calculated in (c) above will be doubled for that sampling day.

(e) Failure to collect required samples:
Where the Customer fails to collect and analyse samples in accord with this consent the above charges will be assessed on the basis of the highest composite concentrations recorded for any billing period within the previous 12 months and the average daily discharge for the current billing period.

(f) pH and Temperature charges:
Sydney Water regularly assesses its wastewater networks to determine if a system is affected by accelerated odour and corrosion. Where Sydney Water declares a wastewater system to be affected by accelerated odour and corrosion, the temperature and pH charge will only apply if the customer is not committed to or not complying with an effluent improvement program.

2. CHARGES FOR INSPECTIONS

(a) If, in the opinion of Sydney Water, it is necessary for a Business Customer Representative to exercise rights under clause 6.1, the Customer will incur no liability for payment for any such exercise unless the Business Customer Representative has already exercised rights under clause 6.1 on 1 occasions within a period of one year.

(b) If it is necessary, in the opinion of Sydney Water, to carry out more than 1 occasions within a period of one year, the additional inspections will be charged at the current inspection rate.

(c) Any inspection required following up an alleged breach or a default notice will result in a fee payable even if the number of inspections nominated in paragraph 2 (a) has not been exceeded.

(d) For the purposes of 2 (a) and 2 (b), above, one year is defined as the period from 1 July to 30 June the following year.

Conditional consent to Discharge Industrial Trade Wastewater

3. CHARGES FOR ADMINISTRATION OF TRADE WASTE CONSENT

A consent fee per quarter is payable from 1 July 2020.

4. CHARGES FOR VARIATION OR RENEWAL OF TRADE WASTE CONSENT

Where a Variation is made to the Consent a fee will be payable. There will be no charge for renewal.

5. PAYMENT OF FEES AND CHARGES

An account will be issued for all fees and charges. Any fees or charges payable by the Customer must be paid by the Customer within 30 days of the receipt by the Customer of the account detailing those fees and charges.

Conditional consent to Discharge Industrial Trade Wastewater

SCHEDULE 4
ADDITIONAL REQUIREMENTS

1. EFFLUENT IMPROVEMENT PROGRAM

N/A

2. WASTE MANAGEMENT PLAN

The existing pre-treatment will result in the generation of 10 tonne per annum of waste substances in the form of a sludge containing generally liquid. The waste substances are, and will continue to be disposed of, in compliance with the requirements of The Environment Protection Authority.

3. OTHER REQUIREMENTS

a) A Backflow Containment Device must be installed and maintained at the water meter outlet/property boundary in line with Sydney Water's Responsibilities of Connected Customers Policy.

b) Backflow individual/zone protection is required on any tap located within 5m of the trade waste apparatus.

c) The customer may be required to provide Sydney Water with a reading from their trade wastewater discharge flowmeter on the first day of each quarter:

i. January

ii. April

iii. July

iv. October

4. Rain Gauge Controller Specification:

After 1mm of rain the controller will:

- Isolate the power supply to the discharge valve

- Start the 6 hour timer

- Each successive 0.5mm of rainfall resets the 6 hour timer if there is no further rainfall. The power supply to the discharge valve is enabled when the 1 hour delay period has expired. The power to the controller is provided by a 6Ah battery, trickled charged from a mains supply.

5. Tipping Bucket Rain Gauge Maintenance:

The customer must at least every two weeks remove the rain gauge cover and clear any spider webs that may interfere with the operation of the tipping bucket. The customer must ensure that the collector spout and bucket are free of debris. The customer must check that the instrument is level.

The customer must at least every 12 months have the tipping bucket rain gauge calibrated by an instrument technician. The technician must provide a certificate of calibration that must list the manufacturer, the model and serial number of the tipping bucket. The certificate must confirm that the tipping bucket rain gauge and control system conforms to Sydney Water's published specifications. A copy of the certificate of calibration must be supplied to Sydney Water within 2 weeks of the calibration date. Calibration is to be carried out using instrumentation and methods in accordance with National Standards.

Conditional consent to Discharge Industrial Trade Wastewater

SCHEDULE 5
APPARATUS, PLANT AND EQUIPMENT

EXISTING:
1 x Primary Pit
1 x Pump pit
1 x Sludge bag
2 x Tertiary multimedia filters
1 x Retention basin (4.2 ML)
1 x Clean water tank (4.5 ML)
1 x Discharge flow meter
1 x Sampling Point
1 x Actuated flow control valve

PROPOSED: N/A

Conditional consent to Discharge Industrial Trade Wastewater

SCHEDULE 6
SPECIAL CONDITIONS

1. DANGEROUS DISCHARGES

In this Schedule, the term "may pose a danger to the environment, the Sewer or workers at a sewage treatment plant";

(a) means an occurrence whereby matter is discharged to the Sewer which either alone or in conjunction with other matter discharged cannot be adequately treated or may cause corrosion or a blockage, explosion or the production of dangerous gases in the Sewer or may adversely affect the operation of a sewer or sewage treatment plant; and

(b) includes, but not so as to restrict the generality of paragraph (a), matter or substances, which is or are;

(i) toxic or corrosive;
(ii) petroleum hydrocarbons;
(iii) heavy metals;
(iv) volatile solvents;
(v) phenolic compounds;
(vi) organic compounds.

2. UNINTENDED DISCHARGES

(a) For purposes of avoiding unintended discharges to the Sewer or the stormwater drainage system, all matter and substances on the Premises must be processed, handled, moved and stored in a proper and efficient manner.

(b) Any substance on the Premises which, if discharged to the Sewer, may pose a danger to the environment, the Sewer or workers at a sewage treatment plant or may harm any sewage treatment process must be handled, moved and stored in areas where leaks, spillages or overflows cannot drain by gravity or by automated or other mechanical means to the Sewer or the stormwater drainage system

3. NOTIFICATION

In the event of a discharge of matter to the sewer that poses or may pose a danger to the environment, the Sewer or workers at a sewage treatment plant the Customer must immediately notify:

a. Quakers Hill STP Control Room
Tel: (02) 8818 8725
Fax: (02) 9626 6266

b. Sydney Water's 24 hour emergency line 13 20 90.

4. PROVISION OF SAFE ACCESS

The Customer shall provide safe access to Sydney Water employees visiting the site. In the event that unsafe conditions are identified the Customer must take reasonable steps to correct unsafe conditions and create safe access.

Sydney Water employees must also comply with the Customer's safety policies and procedures and any directions from the Customer's staff while on the Customer's site.

5. ELECTRONIC REPORTING OF SAMPLE ANALYSIS RESULTS

Sydney Water reserves the right to vary this consent to specify the option of reporting by electronic mail as outlined in Schedule 2, 2 (d).

Conditional consent to Discharge Industrial Trade Wastewater

6. CONDITIONAL CONSENT

This conditional consent is valid for 12 months from the date specified in Paragraph 4 of Schedule 7. The customer must ensure that a minimum 8 samples are provided within the first four months that the customer discharges trade wastewater to sewer and thereafter the customer must sample in accordance with the frequency identified at Schedule 2.

Five months after the discharge commences, and at least one month before the conditional consent expires Sydney Water shall prepare and provide to the customer a consent based on the sample results and other information collected. If the customer does not enter in to a full consent with Sydney Water prior to the expiration of this conditional consent then the customer will be discharging without the written approval of Sydney Water

Conditional consent to Discharge Industrial Trade Wastewater

SCHEDULE 7

1. Premises for which Consent is granted

   45 – 55 TATTERSALL RD KINGS PARK NSW 2148

2. Industrial or other commercial activities for which Consent is granted

   CONTAMINATED SURFACE WATER (ZJ00)

3. The approved property boundary trap is the only discharge point for which consent is granted.

4. The date for purposes of clause 3.1 is 29 APRIL 2020

5. The period for purposes of clause 3.2 is 12 months

6. The receiving Treatment Plant is QUAKERS HILL Wastewater Treatment Plant / Water Recycling Plant

Conditional consent to Discharge Industrial Trade Wastewater

SCHEDULE 8
NOTICES AND COMMUNICATION ADDRESSES

SYDNEY WATER MANAGER MAJOR CUSTOMERS
PO Box 399
PARRAMATTA 2150

TEL: 13 20 92
A.H: 13 20 90

CUSTOMER: HOWARD RICHARDS
ENVIRONMENTAL MANAGER
SELL & PARKER
45 TATTERSALL RD
KINGS PARK NSW 2148

TEL: (02) 9621 2633

Email: howardr@sellparker.com.au

SCHEDULE 9
AUTHORISED OFFICERS

SYDNEY WATER: MANAGER MAJOR CUSTOMERS
PO Box 399
PARRAMATTA 2150

TEL: 13 20 92
A.H: 13 20 90

Email: businesscustomers@sydneywater.com.au

CUSTOMER: HOWARD RICHARDS
ENVIRONMENTAL MANAGER
SELL & PARKER
45 TATTERSALL RD
KINGS PARK NSW 2148

TEL: (02) 9621 2633

Email: howardr@sellparker.com.au

SCHEDULE 10
NOMINATED REPRESENTATIVES

SYDNEY WATER: MANAGER MAJOR CUSTOMERS
PO Box 399
PARRAMATTA 2150

TEL: 13 20 92
A.H: 13 20 90

CUSTOMER: HOWARD RICHARDS
ENVIRONMENTAL MANAGER
SELL & PARKER
45 TATTERSALL RD
KINGS PARK NSW 2148

TEL: (02) 9621 2633

Email: howardr@sellparker.com.au

Conditional consent to Discharge Industrial Trade Wastewater

APPENDIX 1 (Example)

SAMPLE ANALYSIS REPORT (COMPOSITE) DISCHARGE METER

Consent Number: 39940
Company Name: SELL & PARKER PTY LTD
Company Address: 45 – 55 TATTERSALL RD KINGS PARK 2148

Sample Type:
- ☐ 6 (composite, manual time based)
- ☐ 7 (composite, manual flow proportional)
- ☐ 8 (composite, automatic time based)
- ☐ 9 (composite, automatic flow proportional)

Start date: ___/___/___
Finish date: ___/___/___
Start time: ___:___ am/pm
Finish time: ___:___ am/pm

grabs taken in sample period: _____
sample intervals min/kL _____
mL per grab: _____

Initial meter reading: _____KL
Final Meter reading: _____kL
Volume discharged: _____kL

Laboratory:

Substance	Acceptance Standard (mg/L)	Measured Concentration(mg/L)
BIOCHEMICAL OXYGEN DEMAND		
SUSPENDED SOLIDS	600	
AMMONIA (AS N)	100	
TOTAL DISSOLVED SOLIDS	500	
GREASE	200	
SULPHATE	2000	
BARIUM	5	
COPPER	5	
IRON	50	
LEAD	2	
MANGANESE	10	
PHOSPHORUS	50	
ZINC	5	

COPY OF ORIGINAL ANALYTICAL LABORATORY REPORT TO BE ATTACHED
NOTE: LABORATORY REPORT MUST CERTIFY NATA REGISTRATION FOR EACH ANALYSIS

Comments: _____

Customer Signature: _____ Date:___/___/___

Designation: _____

OFFICE USE ONLY

Sample No: | | | | | |

EMAIL TO: susie.last@sydneywater.com.au

APPENDIX 2 (Example)
SAMPLE ANALYSIS REPORT (DISCRETE SAMPLE)

Consent Number:	39940
Company Name:	SELL & PARKER PTY LTD
Company Address:	45 – 55 TATTERSALL RD KINGS PARK 2148

Sample Type: DISCRETE
Start Date: ___/___/_____ Start time: __:__ am/pm
Finish Date: ___/___/_____ Finish Time: __:__ am/pm

Laboratory:

Substance	Acceptance Standard (units or mg/L)	Measured Units or Concentration
pH AT START	7 – 10	
pH AT FINISH	7 – 10	

COPY OF ORIGINAL ANALYTICAL LABORATORY REPORT TO BE ATTACHED
NOTE: LABORATORY REPORT MUST CERTIFY NATA REGISTRATION FOR EACH ANALYSIS

Comments: _____

Customer Signature: _____ Date: ____/____/____

Designation: _____

OFFICE USE ONLY

Sample No: | | | | | |

EMAIL TO: susie.last@sydneywater.com.au

Conditional consent to Discharge Industrial Trade Wastewater

GENERAL CONDITIONS

Recitals:

A. Under its Operating Licence, Sydney Water provides sewerage services and treats and disposes of trade wastewater. The objectives of Sydney Water include operating as an efficient business, maximising the net worth of the State's investment and exhibiting a sense of social responsibility by having regard to the interests of the community. Sydney Water has special objectives of reducing risks to human health and preventing degradation of the environment.

B. Sydney Water is granted licences by the Environment Protection Authority, which are subject to conditions to discharge pollutants. A change to a licence condition may require that variations be made to a consent granted by Sydney Water.

C. In the conduct of its business operations, Sydney Water must comply with its obligations, duties and responsibilities under the Act and its Operating Licence and the Protection of the Environment Administration Act 1991, the Protection of the Environment Operations Act 1997 and the Protection of the Environment Legislation Amendment Act 2011.

D. The customer requests that Sydney Water grant consent to the customer for purposes of discharge of trade wastewater from the premises to the sewer.

Sydney Water grants to the customer consent to discharge trade wastewater, subject to the terms and conditions specified in this consent. The customer accepts the consent and agrees to be bound by the terms and conditions of this consent:

1. Definitions and interpretation

1.1 In this consent, unless the contrary intention appears;

Acceptance standards means Sydney Water's published concentration limits for certain substances in trade wastewater.

Act means the Sydney Water Act 1994.

Business Customer Representative means an officer of Sydney Water who is authorised to enter land or buildings for purposes of carrying out his or her duties in relation to Sydney Water's trade wastewater service.

Consent means this consent together with its attached schedules and appendices. Any definitions or standards referred to in this consent but not contained in it are deemed to form a part of this consent with necessary changes being made to accommodate their inclusion.

Authorised officer means:

- with respect to Sydney Water, the person from time to time holding the position pertained in schedule 9 or such other person or position as may be nominated by Sydney Water from time to time;
- with respect to the customer, the person identified, and includes the details specified, in schedule 9 or as may be notified to Sydney Water by the customer from time to time.

Breach means any contravention of or non-compliance with a term, condition or provision of this consent or the Act.

Chargeable trade waste mass means the mass of a pollutant subject to quality or critical substance charges.

Composite sample means a sample of trade wastewater obtained by combining equal volumes at either equal time or flow intervals.

Critical mass charge means the charge applied to some critical and over capacity substances as calculated in accordance with the provisions set out in schedule 3.

Critical substance means a substance determined to be critical and notified from time to time by Sydney Water.

Customer means the party or parties (except Sydney Water) who executes or execute this consent.

Daily mass means the mass of a substance discharged during a 24-hour period.

Default notice means a notice issued in accordance with clause 8.1.

Domestic concentration means the concentration of a pollutant deemed by Sydney Water to be equivalent to that found in domestic wastewater.

Domestic wastewater means water which has in it human faecal matter, urine or refuse of any type produced in, and which is permitted to be discharged to a Sydney Water sewer from, any premises used exclusively for residential purposes.

Environment Protection Authority means the statutory authority established under section15 of the Protection of the Environment Administration Act 1991

Equivalent domestic mass means the mass of a substance that would be expected in the trade wastewater if it were at domestic concentration.

Flow weighted charge means the portion of a substance's charge for a billing period that is attributed to any sample collected in accordance with schedule 2 or, if such sample is required but is not collected, then fixed by Sydney Water in accordance with schedule 2.

Flow weighting factor means a factor used to determine charges as described in schedule 3.

Long term average daily mass means, for each pollutant, the figure listed in schedule 1 and used to determine critical mass charges as described in schedule 3.

Lower explosive limit means the minimum concentration of flammable and/or explosive substances that would result in a fire or explosion.

Mass discharged means the mass of a pollutant discharged on a sample day and is measured by

multiplying the composite sample concentration by the trade wastewater discharge for that sample day.

Maximum daily mass means the greatest mass of a substance permitted for discharge within a 24-hour period.

Over capacity means the status of a substance as determined in accordance with Sydney Water's Trade Waste Policy, 2007.

Over capacity substance means a substance determined to be over capacity and notified from time to time by Sydney Water.

Premises means the land, plant and buildings described and specified in paragraph 1 of schedule 7, on or in which the customer carries on industrial or other commercial activities specified in paragraph 2 of schedule 7.

Quality charge means a pollutant charge applied to trade waste discharges based on the mass of each pollutant discharged to sewer.

Regulator means any statutory authority, which may grant permission, authority or licence to Sydney Water to operate the sewer or treat or dispose of sewage treatment by-products.

Residual products means biosolids, re-use water or such other product intended for re-use as may be developed by Sydney Water from time to time.

Risk index means a ranking applied to the consent by Sydney Water to describe the relative risk of accepting the trade wastewater. Determination of the risk index will be based on the methodology determined from time to time by Sydney Water, or as may be necessary in the opinion of Sydney Water to take into account particular circumstances. The risk index is used to determine, among other things, the amount of self-monitoring required, the number of inspections to be performed by Sydney Water, the annual consent fee and the term of the consent.

Sewer means the sewerage service of Sydney Water, including the sewage treatment plant, discharge to which is facilitated by a discharge point situated on the premises and specified in item 3 of schedule 7.

Significant breach means any breach of a nature outlined at clause 15.2. Such breaches may result in immediate suspension or termination of the consent.

Standard mass charging rate means the charge per kilogram for substances as defined in schedule 3.

Sydney Water means Sydney Water Corporation.

Responsibilities of connected customers policy means Sydney Water's policy detailing the conditions under which Sydney Water will agree to accept trade wastewater to sewer.

Trade wastewater means any liquid and any substance in it that is produced in an industrial or commercial activity at the premises and discharged into the sewer, but does not include domestic wastewater.

Trade waste residue means any substance separated and retained, from trade wastewater being discharged into the sewer.

1.2 In this consent, unless the contrary intention appears:

(a) A reference to an Act or any delegated legislation or instrument made under an Act includes any other Act delegated legislation or instrument as may amend or replace any of them.

(b) A reference to a word or expression

(i) in the singular form includes a reference to the word or expression in the plural form; and

(ii) in the plural form includes a reference to the word or expression in the singular form.

(c) A reference to a party or a natural person includes a reference to a corporation.

(d) A word or expression that indicates one or more particular genders is taken to indicate every other gender.

(e) Headings to clauses and paragraphs are included in this consent to assist understanding of its terms and conditions but are not intended to affect the meaning or application of any term or condition.

(f) A reference to a clause, schedule or appendix is a reference to a clause of or schedule or appendix to this consent and any such schedule or appendix is a part of this consent.

1.3 Remedies available to the parties under this consent;

(a) are cumulative; and

(b) do not prejudice or affect any other remedy available to the parties.

1.4 No rule of construction applies to the disadvantage of a party because that party was responsible for the preparation of this consent or any part of it.

2. Application of certain statutes and laws

2.1 This consent is made under and is subject to the provisions of the Act.

2.2 This consent is governed by and will be performed according to the law applicable in the State of New South Wales.

2.3 Subject to the terms and conditions of this consent the customer has lawful authority to dispose of trade wastewater for purposes of;

(i) Section 115 of the Protection of the Environment Operations Act 1997; and

(ii) Section 49 of the Act; and

3. Commencement and term of consent

3.1 This consent commences on the date specified in paragraph 4 of schedule 7.

3.2 This consent will, unless terminated or renewed in accordance with this consent, continue for the period specified in item 5 of schedule 7.

GENERAL CONDITIONS

4. Discharge of trade wastewater into sewer

4.1 The customer may discharge trade wastewater from the premises into the sewer in accordance with the provisions of schedule 1 and schedule 4.

4.2 The customer must not discharge trade wastewater from the premises into the sewer contrary to the provisions of schedule 1 and schedule 4.

4.3 The customer indemnifies Sydney Water against all damages, losses, costs or expenses suffered or incurred by Sydney Water, caused by any unauthorised discharge from the premises in respect of:

(a) injury (including death) or harm to any person; or

(b) damage to property vested in Sydney Water; or

(c) contamination of residual products; or

(d) material harm to any sewage treatment process

provided that the said damages, losses, costs or expenses suffered or incurred by Sydney Water are caused by any unauthorised discharge of trade wastewater or other matter into the sewer by the customer which is in breach of this consent or by any other person from the customer's premises, except to the extent to which the damages, losses, costs or expenses (as the case may be) were caused by either the negligent or wilful act or omission of Sydney Water or a breach of this consent by Sydney Water.

4.4 The customer must take all precautions reasonably practicable to ensure that no person, other than a person acting for or on behalf of or with the consent of the customer, discharges any matter from the premises into the sewer.

4.5 For purposes of this consent, every discharge of matter from the premises into the sewer will be taken to have been a discharge by a person acting for or on behalf of, or with the consent of, the customer.

5. Charges

5.1 The customer must pay Sydney Water charges with respect to trade wastewater discharged to the sewer, the administration of this consent and, when applicable, the processing of grease trap waste determined in accordance with, and within the time and in the manner specified in schedule 3.

5.2 Sydney Water may vary the basis of charges or the charging rates in schedule 3;

(a) as and when determined by the Independent Pricing and Regulatory Tribunal of New South Wales (IPART); or

(b) by written consent with the customer.

6. Inspections

6.1 A Business Customer Representative may enter the premises at any time;

(a) for purposes of inspecting whether the activities of the customer are being conducted in accordance with this consent; or

(b) for the purposes described in Section 38 of the Act or exercising any right or function conferred on Sydney Water under this consent.

This clause does not limit Sydney Water's statutory powers of entry.

6.2 When exercising rights under clause 6.1;

(a) a Business Customer Representative must not cause any delay or inconvenience to the efficient conduct of business activities by the customer which could be reasonably avoided; and

(b) except for any relevant safety precautions, a Business Customer Representative must not be impeded or delayed by any person on the premises.

6.3 If, in the opinion of Sydney Water, it is necessary for a Business Customer Representative to exercise rights under clause 6.1, the customer will make payment in accordance with the provisions of schedule 3.

7. Inquiries

7.1 Sydney Water may convene and determine the terms of reference of a joint inquiry about the circumstances relating to an incident that may have caused a breach.

7.2 An inquiry under clause 7.1 is to be conducted informally and without legal representation for purposes of gathering information about an incident directly from any person who may be expected to know, from his or her own observations, about the circumstances relating to the incident.

7.3 An inquiry under clause 7.1 may be conducted irrespective of whether the incident, the subject of the inquiry, is also the subject of a default notice.

7.4 Before conducting an inquiry under clause 7.1, the customer and Sydney Water may agree about what action, if any (except any action pursuant to a statutory obligation), may be taken with respect to any information that may be gathered during the inquiry.

8. Default procedures

8.1 If, in the opinion of Sydney Water, the customer commits, causes or allows a breach to occur, Sydney Water may issue to the customer a default notice.

8.2 A default notice must;

(a) provide any relevant particular of the breach alleged by Sydney Water, including any particular known to Sydney Water that may assist the customer to ascertain the alleged breach; and

(b) specify that the customer must provide a response in writing to Sydney Water within seven days of receipt of the notice.

8.3 A default notice is not invalid merely because it does not provide a particular that may assist the customer to ascertain the alleged breach.

8.4 Any supply to the customer by Sydney Water of particulars under clause 8.7(a) is taken, for purposes of clause 8.5, to be a default notice under clause 8.1.

8.5 The customer must supply to Sydney Water a written response to a default notice within seven days of receipt of the default notice which must;

(a) request further particulars of the alleged breach; or

(b) describe or explain the circumstances causing;

(i) the event which appeared to Sydney Water to be a breach; or

(ii) the breach to occur; and

(c) describe any action taken with respect to the alleged breach; and

(d) provide a plan of action to be taken by the customer to avoid the occurrence of any incident similar to the alleged breach; or

(e) explain the reasons of the customer for disputing the alleged breach.

8.6 The customer may make one request only for particulars under clause 8.5(a) with respect to a default notice.

8.7 When the customer responds in writing to Sydney Water in accordance with clause 8.5, Sydney Water must within seven days of receipt of that response either;

(a) with respect to clause 8.5(a), provide in writing to the customer any further particulars that it may be able to provide in which case the customer shall be allowed a further seven days from receipt of those particulars to respond as required by clause 8.5(b)

(b) specify to what extent it accepts, rejects or disagrees with the response under 8.5(b) and provide details of any action it proposes to take (including any special requirements it may impose) to deal with the breach.

8.8 The issue by Sydney Water of a default notice is without prejudice to any right or power Sydney Water may have pursuant to this consent or conferred on it by statute or statutory rule.

9. Improvement program

9.1 The customer must, at its own expense, establish and carry out the improvement program specified in, and in accordance with the provisions of, schedule 4.

9.2 If, prior to any failure to comply, the customer notifies Sydney Water that it may not be able to comply with any obligation under clause 9.1, Sydney Water will consider any reasonable proposal of the customer to vary a term or condition of the improvement program.

10. Diligence program

10.1 Within six months of the making of this consent, the customer must give a notice to Sydney Water specifying a current diligence program.

10.2 For purposes of clause 10.1, a diligence program includes a plan, whereby the customer demonstrates that the management of the customer is exercising reasonable care in planning and taking appropriate action, to prevent or minimise the effects of any incident that may constitute a breach.

11. Suspension or termination of consent to discharge trade wastewater

11.1 Sydney Water may suspend the consent granted in clause 4.1 if;

(a) the customer does not comply with clause 8.5, 9.1, 12.1, 12.2 or notice of the suspension is given to the customer; or

(b) Sydney Water is for any reason specified in clause 11.2 unable to accept for treatment trade wastewater that may be discharged by the customer.

11.2 Sydney Water may, by a notice given to the customer, suspend the consent granted in clause 4.1 if, in the reasonable opinion of Sydney Water;

(a) an emergency prevents the sewer from accepting any or certain specified categories of trade wastewater that may be discharged by the customer; or

(b) an event has occurred, which could have an adverse effect on any employee or agent of or contractor to Sydney Water or the sewer, including any biological process.

whether the emergency or event is caused by fire, storm, tempest, flood, malicious damage, act of war, civil disobedience, explosion, earthquake or an act or omission of an employee, or agent of, or contractor to Sydney Water, or an unlawful discharge of matter into the sewer, or some other cause.

11.3 The period of any notice of suspension given under clause 11.2 will be no shorter than any period, which in the opinion of Sydney Water the circumstances dictate.

11.4 The customer must comply with any notice under clause 11.1 or 11.2 subject only to any delay that may be required to safeguard the health or life of any person.

11.5 Any suspension under clause 11.1 or 11.2 must not be for a period longer than, in the opinion of Sydney Water, the circumstances dictate.

11.6 If the customer does not cease discharging trade wastewater in accordance with a notice given under clause 11.1 or 11.2 and Sydney Water is of the opinion that the customer is not taking appropriate measures to stop the discharge, a Business Customer Representative may, with such other persons as he or she may think necessary, enter the premises and take such measures as he or she may think necessary to stop the discharge.

11.7 A suspension under clause 11.1 or 11.2 or any action that may be taken in accordance with clause 11.6 does not give rise to any remedy to the customer against Sydney Water for, or in respect of, the suspension or action.

11.8 Any costs incurred by Sydney Water with regard to taking action under clause 11.6 is a debt payable to

Sydney Water by the customer on demand made by Sydney Water.

11.9 Sydney Water may suspend the consent granted in clause 4.1 if; the discharge of trade wastewater by the customer in accordance with the consent granted under clause 4.1, by itself or in conjunction with the discharges of other persons is likely, in the opinion of Sydney Water, to cause Sydney Water to contravene any legislation, permission, authority or licence granted by a regulator, or any other regulatory authority.

11.10 Any suspension under clause 11.9 must be terminated as soon as Sydney Water is reasonably satisfied that the conditions giving rise to the suspension no longer exist.

11.11 If the customer and Sydney Water cannot agree in accordance with clause 11.10, they will initiate and attend discussions with the regulator to resolve any relevant matter.

11.12 If, after discussions under clause 11.11 the customer and Sydney Water fail to agree in accordance with clause 11.10, the consent granted in clause 4.1 may be terminated by Sydney Water.

11.13 Without limitation of the effect of any other clause in this consent, Sydney Water may terminate or suspend the customer's permission to discharge trade wastewater immediately by written notice to the customer, if in the opinion of Sydney Water the customer's discharge of trade wastewater is in breach of this consent and is likely to cause;

(a) Sydney Water's contravention of the condition of any licence issued to it by the EPA; or

(b) the failure to meet a product specification of

any of Sydney Water's residual products.

(c) Sydney Water to breach or fail to comply with any legislation.

11.14 A suspension under clause 11.9 or 11.13 in accordance with the terms of this consent or a termination under clause 11.12 or 11.13 in accordance with the terms of this consent does not give rise to any remedy to the customer against Sydney Water for or in respect of the suspension or termination.

11.15 Without limitation of the effect on any other clause in this consent, Sydney Water may terminate or suspend the customer's consent to discharge trade wastewater immediately by written notice served on the customer in accordance with Section 100 of the Act, on the occurrence of any one of the following events;

(a) The customer fails to pay to Sydney Water any amount due and payable under this consent within twenty-one days of the due date for payment and such payment is not made within fourteen days of a written request from Sydney Water to do so.

(b) The customer is in breach of the consent and is unable or unwilling to remedy the breach of consent as required by Sydney Water.

The customer acknowledges and agrees that if, following the termination of the consent, it continues to discharge trade wastewater into the sewer, a Business Customer Representative may enter the customer's premises and take all reasonable necessary steps to stop the customer's continued discharge of trade wastewater to the sewer. The right of entry conferred by this clause is in addition to, and not in substitution for, any power of entry conferred on Sydney Water by the Act.

12. Supply of information

12.1 Any information supplied by the customer to Sydney Water for purposes of making this consent or for any purpose of this consent must as far as reasonably possible be a true and complete disclosure by the customer for purposes of enabling Sydney Water to;

(a) determine whether to grant the consent in clause 4.1; and

(b) determine whether there has been any breach of this consent.

12.2 The customer must not, in or in connection with a document supplied to Sydney Water for purposes of making this consent or for any purpose of this consent, furnish information, which is false or misleading in a material particular with regard to the trade wastewater to be discharged to the sewer.

12.3 Sydney Water must not disclose any confidential information obtained in connection with the administration or execution of this consent, unless that disclosure is made;

(a) with the consent in writing of the customer

(b) with other lawful excuse.

13. Sampling

13.1 For purposes of this consent, schedule 2 specifies sampling and analysis criteria, flow rates and volume determinations of trade wastewater to be discharged or discharged under clause 4.1.

13.2 A Business Customer Representative may take as many samples of trade wastewater at any point in any production process or storage facility, or at any other point on the premises, as he or she thinks fit.

13.3 The customer must comply with the provisions of schedule 2.

14. Apparatus, plant and equipment for recording or treating trade wastewater

14.1 The customer must, at its own cost, provide, operate and maintain in an effective and efficient working order, the apparatus, plant and equipment described in schedule 5 for purposes of regulating, treating, determining and measuring the quality, quantity and

rate of discharge of trade wastewater under clause 4.1.

14.2 Sydney Water may require the customer to use its discretion to formulate and take such additional actions as may be appropriate to achieve the objects which, in the opinion of Sydney Water, are necessary for the customer to regulate, treat, determine or measure trade wastewater for purposes of discharge under clause 4.1.

14.3 The customer must, at its own costs, maintain records in such manner as may be required by Sydney Water, of all measurements, sampling and results obtained in the course of treatment and discharge of trade wastewater under clause 4.1.

14.4 The customer must submit to Sydney Water documents containing records of results specified in schedule 2.

14.5 The customer must maintain records of particulars and dates of cleaning and maintaining all apparatus, plant and equipment described in schedule 5 and particulars, dates and method of disposal of trade waste residue from such apparatus, plant and equipment.

14.6 The customer acknowledges that Sydney Water does not approve or warrant that any apparatus, plant or equipment used by the customer is sufficient for purposes of processing or treating trade wastewater for discharge under clause 4.1.

15. Variation and renewal of consent

15.1 Before varying, substituting or adding any process conducted or to be conducted on the premises that may cause the volume, rate or quality of wastewater discharged to change from that agreed under schedule 1 and schedule 4, the customer shall give Sydney Water not less than 14 days written notice of its intention. Any variation, substitution or addition shall only be conducted after receipt of written approval to same and subject to any conditions (including any requirement to vary the terms of this consent) that Sydney Water may impose.

15.2 Sydney Water may vary the terms of this consent where:

(a) Sydney Water alleges a single significant breach or three breaches of the same nature, to have occurred in a six month period; or

(b) in the opinion of Sydney Water, a substantial or material part of any plan of action under clause 8.5(d) may not be completed for a period exceeding 90 days; or

(c) the customer gives Sydney Water notice under clause 15.1.

For the purposes of this clause and without limitation, the following circumstances shall be regarded as being a single significant breach:

(i) an activity or event that could adversely affect; the health and safety of any employee, agent or contractor to Sydney Water, the integrity of Sydney Water assets or the viability of any of Sydney Water's treatment processes or products; or

(ii) failure to achieve effluent improvement program milestone; or

(iii) failure to install pre-treatment; or

(iv) by-pass pre-treatment and/or installation of equipment that facilitates by-pass of pre-treatment; or

(v) flow-meter turned off or bypassed.

15.3 A renewal of this consent may be initiated by the customer:

(a) not less than two months before the date of expiration of this consent, and

(b) not more than six months before the date of expiration of this consent.

15.4 If this consent remains current immediately prior to the expiration of the term detailed in 3.2, or any subsequent terms renewed in accordance with this clause, and:

(a) the customer has not given notice in accordance with clause 20.1 of this consent and;

(b) Sydney Water has not given to the customer at least 30 days' notice prior to the expiration of this consent, of its intention to permit the consent to expire in accordance with clause 3.2

Then this consent shall be deemed to be renewed immediately following its expiration, for a further period of six months.

15.5 Any amended schedules that Sydney Water prepares in response to a variation or renewal will be taken to be incorporated into this consent;

(a) on execution by the customer; or

(b) after 14 days of receipt by the customer of the notice of the variation or renewal.

15.6 The notification of alterations to the critical status of any pollutants does not constitute a variation.

16. Disposal of trade waste residue

The customer must not dispose of any trade waste residue, except in accordance with the requirements of the EPA.

17. Disposal of grease trap wastes

The customer must not dispose of grease trap wastes other than in accordance with Sydney Water's 'Wastesafe' Management System.

18. This consent comprises all applicable terms and conditions

18.1 The provisions of this consent comprise all of the applicable terms and conditions between the parties.

18.2 It is declared by the parties that no further or other promises or provisions are, or will be claimed to be implied, or to arise between the parties by way of collateral or other agreement by reason of any promise, representation, warranty or undertaking given or made by any party (or its agent) to another, on or prior to the

execution of this deed, and the existence of any such implication or collateral or other agreement, is hereby negated by the parties.

18.3 Clauses 18.1 and 18.2 do not prejudice the ability of the parties to vary or amend this consent in accordance with the provisions of this consent or by a further consent in writing.

19. No transfer or assignment

The customer cannot transfer or assign the consent granted in clause 4.1 nor any other right or obligation the customer has or may have under this consent, without the prior consent in writing of Sydney Water.

20. Termination of consent by customer

20.1 Termination of this consent may be effected by the customer upon the giving of at least 30 days' notice in writing to Sydney Water. The notice must state the date on which this consent terminates.

20.2 The customer is bound by the provisions of this consent with regard to any discharge of trade wastewater into the sewer from the premises, including the payment of charges under clause 5.1, from the commencement of this consent until its termination.

20.3 Notwithstanding provisions contained elsewhere in this consent the parties may terminate this consent in writing by mutual agreement provided the parties enter into a further trade waste consent immediately following termination of this consent.

21. Notices and communications

21.1 A notice or communication under this consent must be in writing.

21.2 For purposes of clause 21.1, a notice or communication may;

(a) be left at the address of the addressee; or

(b) be sent by prepaid ordinary post to the address of the addressee; or

(c) sent by facsimile transmission to the facsimile number of the addressee

(d) sent by email to the email address of the addressee

as specified in schedule 8 or such other address as may be notified by the addressee to the other party.

21.3 Unless a later time is specified in it, a notice or communication takes effect from the time it is received.

21.4 Unless the contrary is shown, for purposes of clause 21.3, if a notice or communication is;

(a) a letter sent by pre-paid post, it will be taken to have been received on the third day after posting; or

(b) a facsimile, it will be taken to have been received on receipt by the sender, of the written or oral advice of the addressee that the whole of the facsimile transmission has been received by the addressee in a form that is legible.

22. Miscellaneous

Each party must act in good faith in the implementation of this consent and, without limiting the scope of this obligation, must also seek to resolve any difference or dispute between them as to the consent in good faith.

23. Entire consent

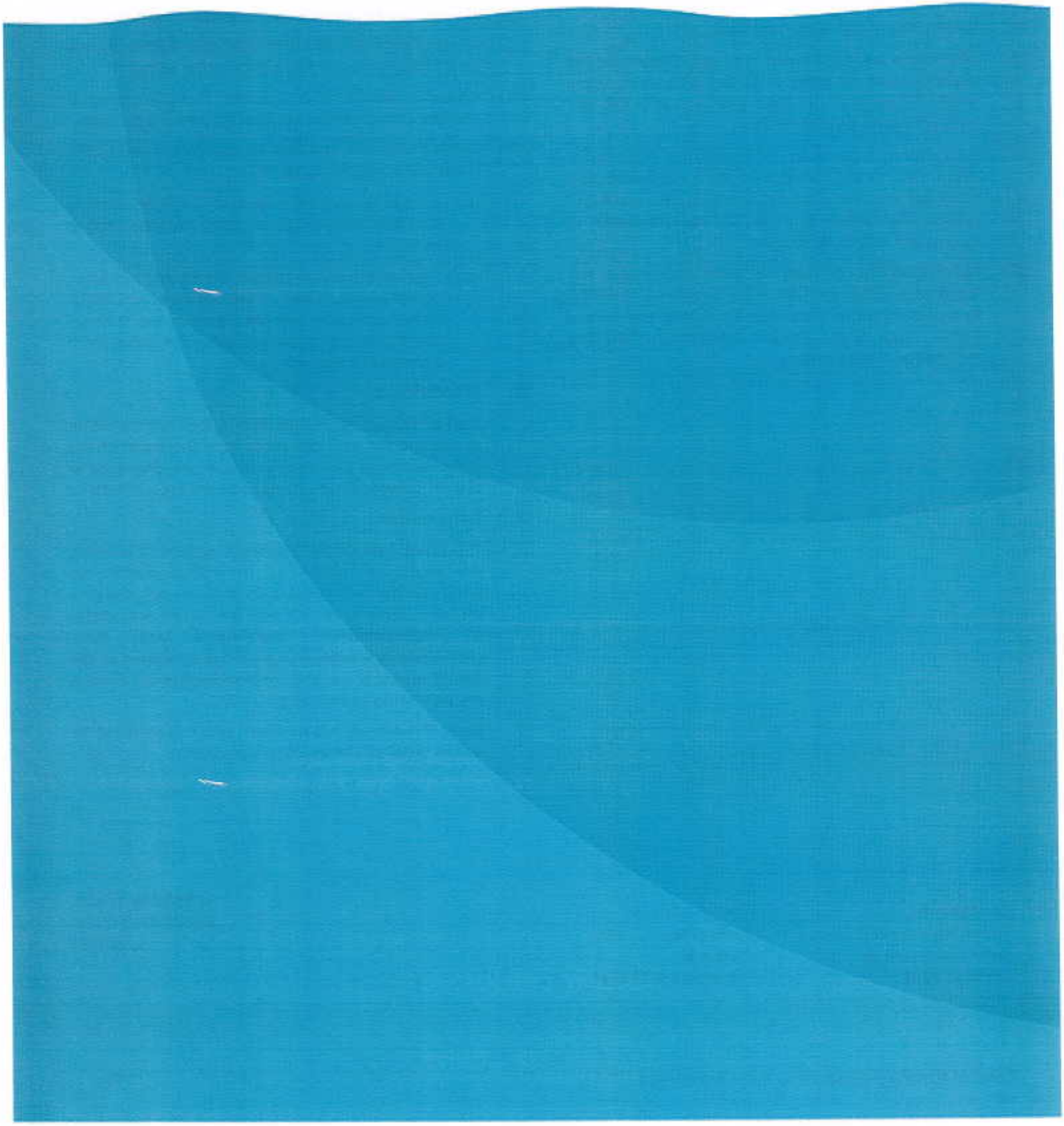
This consent constitutes the entire agreement between the parties in relation to its subject matter. No understanding, arrangement or provision not expressly set out in this consent will bind the parties. Accordingly all correspondence, negotiations and other communications between the parties in relation to the subject matter of this consent that precede this consent are superseded by and merged in it.

Note: This consent has no effect until it is executed for and on behalf of Sydney Water Corporation.

Contact Us
To find out more visit
sydneywater.com.au
or call 13 20 92

Postal address
Sydney Water
PO Box 399
Parramatta NSW 2124

Sydney Water
ABN 49 776 225 038
BCS034



APPENDIX D WATER QUALITY TESTING RESULTS FOR THE TERTIARY WATER TREATMENT SYSTEM EFFLUENT

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2006086**	Page	: 1 of 3
Client	: **SELL AND PARKER**	Laboratory	: Environmental Division Sydney
Contact	: Howard Richards	Contact	: Customer Services ES
Address	: BLACKTOWN NSW, AUSTRALIA	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 96212633	Telephone	: +61-2-8784 8555
Project	: ----	Date Samples Received	: 21-Feb-2020 12:30
Order number	: 954573	Date Analysis Commenced	: 21-Feb-2020
C-O-C number	: ----	Issue Date	: 02-Mar-2020 16:04
Sampler	: Howard Richards		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 5		
No. of samples analysed	: 5		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	BT SD	BT SD	BT SD	BT SD	BT SD
				Client sampling date / time	19-Feb-2020 00:00	18-Feb-2020 00:00	17-Feb-2020 00:00	20-Feb-2020 00:00	21-Feb-2020 00:00
Compound	CAS Number	LOR	Unit		ES2006086-001	ES2006086-002	ES2006086-003	ES2006086-004	ES2006086-005
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.69	7.69	7.62	7.65	7.57
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		----	422	----	----	----
Total Dissolved Solids @180°C	----	10	mg/L		436	----	430	178	472
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L		----	8	----	----	----
Suspended Solids (SS)	----	5	mg/L		10	----	10	7	14
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		149	129	137	37	151
ED093F: SAR and Hardness Calculations									
^ Sodium Adsorption Ratio	----	0.01	-		1.33	1.41	1.38	1.37	1.42
EG020F: Dissolved Metals by ICP-MS									
Barium	7440-39-3	0.001	mg/L		0.094	0.101	0.090	0.098	0.116
Copper	7440-50-8	0.001	mg/L		0.047	0.004	0.058	0.015	0.022
Lead	7439-92-1	0.001	mg/L		0.029	0.005	0.063	0.020	0.027
Manganese	7439-96-5	0.001	mg/L		0.082	0.158	0.193	0.126	0.212
Zinc	7440-66-6	0.005	mg/L		1.38	0.274	1.35	0.514	0.464
Iron	7439-89-6	0.05	mg/L		0.70	0.16	0.76	0.21	0.30
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		0.69	0.32	1.26	0.91	0.29
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		0.02	0.10	<0.01	<0.01	<0.01
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		2.7	1.5	3.4	3.5	3.3
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		2.7	1.6	3.4	3.5	3.3
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		0.04	0.05	0.16	0.11	0.37
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5
EP030: Biochemical Oxygen Demand (BOD)									
Biochemical Oxygen Demand	----	2	mg/L		2	4	5	3	12

APPENDIX E ERM'S WATER REUSE RISK ASSESSMENT

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22 March, 2016

Catherine Maddox
Sell & Parker
11 Meadow Way
BANKSMEADOW, NSW 2019
AUSTRALIA

Our Reference: 0313442_Water Reuse RA.DOCX

Dear Catherine,

RE: 45 TATTERSALL ROAD, KINGS PARK - WATER REUSE RISK ASSESSMENT

This letter report aims to provide clarification regarding the risks associated with water reuse as required by Condition B6(f) of the development approval (DA) dated 12th Nov 2015. The condition states that the site must operate a Water Management System including *"water reuse based on a risk assessment of environment and human health impacts"*.

ERM has adopted risk assessment methodology consistent with current best practice guidance for assessment of health and environmental risks from chemical exposure[1]. This includes 4 key stages as follows:

1. Issues identification - the key issue is whether water reuse on site presents a risk to human or ecological health

2. Hazard assessment - this is achieved by comparison of the chemical analytical results for the water to be reused to published guideline values that are relevant to the exposure scenarios identified (Table 1).

3. Exposure assessment - this is achieved by identification of source - pathway - receptor linkages that exist or may exist when the proposed water reuse occurs

4. Risk characterisation - this is achieved using a qualitative assessment based on Sell & Parker's severity-probability matrix.

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[1] NEPC (2013) National Environmental Protection (Assessment of Site Contamination) Measure 1999, Schedule B4 Site Specific Risk Assessment;

enHealth (2012) Environmental Health Risk Assessment

The proposed water reuse on site is:

- Water from the site stormwater retention basin will be used in the hammermill which requires damping to prevent explosion. Steam is generated, and this will be extracted via the emissions control system (wet scrubber and cyclone) to a stack in the centre of the site. The emissions were modelled in ERM (2015) Air Quality Assessment report and emissions were found to be compliant with the applicable air quality criteria. Atmospheric emissions from this source are therefore not considered as a relevant exposure pathway. Opportunities for site staff to be directly exposed to the retention basin water by this route are considered extremely limited since no people are present inside the hammermill. There is a small amount of run-off of water from this reuse, which Sell & Parker estimates at approximately 5% of the water used. The run-off drains to the site stormwater drainage system back to the retention basin.

- Water from the site stormwater retention basis may be used for damping down to control dust on operational areas. Incidental contact exposure is a potentially complete pathway for site staff. Run off would be directed back to the retention basin via the site stormwater drainage system.

- Water from rainwater collection tanks may be used in the site wheel wash, for dust control, washing down and general outdoor non-potable requirements on site. Incidental direct contact exposure is possible for site staff. Run off would be directed to the retention basin via the stormwater drainage system.

- There is no grey water proposed for reuse on site.

- There is no complete exposure pathway to environmental receptors because there is no discharge of reused water from the site except via the retention basin treatment system. Environmental risk associated with stormwater discharge is not part of the scope of this risk assessment.

The identified potentially complete source-pathway-receptor linkage is therefore only incidental direct contact exposure for site workers related to uses of retention basin water and collected rainwater. Rainwater may be collected in tanks direct from the roofs. No chemical analysis is available, however it is reasonable to assume that it does not contain substances hazardous to health, or potentially harmful pathogens. Therefore, only risks from exposure to retention basin water are considered.

Chemical results from the retention basin samples are presented in Table 1. Analytes that were present at concentrations below the laboratory limit of reporting were considered to pose negligible risk and were not carried forward in this assessment.

For analytes that were detected, screening levels protective of dermal exposure and incidental ingestion were derived by multiplying drinking water guidelines by a factor of 20 (NEPC, 1999)[2]. This approach is commonly used for assessment of direct contact exposure where drinking is not likely, and it is highly conservative (in comparison to the likely possible exposure on site, these screening levels assume much higher exposures than would actually be possible). Drinking water guidelines were taken from the following sources:

- National Health and Medical Research Council (NHMRC) (2011) Australian Drinking Water Guidelines;
- World Health Organization (WHO) (2005) Petroleum Products in Drinking Water (note: where both an aromatic and an aliphatic screening level was available, the lower of the two was used);
- United States Environmental Protection Agency (USEPA) RSLs for Tap Water;
- USEPA (2009) Provisional Health Advisories for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS)

Perfluoroctane sulphonate (PFOS) was the only analyte that exceeded the applicable screening level in the retention basin water , with two of the measured values greater than the screening level of 4 µg/L. This relates to the current operation; following the site redevelopment and clean out of the retention basin PFOS concentrations are likely to drop.

PFOS is an "emerging contaminant" and research into its health effects is ongoing. There is acknowledged significant uncertainty in the toxicological literature on its effects on people at environmental levels. Adopting the precautionary principle, USEPA considers PFOS likely to be carcinogenic to humans, since animal studies have demonstrated hepatic and endocrine effects, as well as reproductive and developmental toxicity (USEPA, 2014)[3].

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[2] National Environment Protection Council (NEPC) (1999) National Environment Protection (Assessment of Site Contamination) Measure.

[3] USEPA, 2014. Emerging Contaminants – Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid. March 2014.

The main exposure pathways for PFOS are consumption of contaminated food, in particular fish, and drinking water (USEPA, 2014). For on-site workers and off-site residents, dermal contact with water from the retention basin is more likely to occur than ingestion.

ERM completed a risk assessment using the severity – probability matrix method resulting in qualitative assessment of risks as high, medium or low.

Exposure to retention basin water with PFOS concentrations exceeding the screening level is possible, but likely to be at very low frequency. The consequence of any on-site PFOS exposure to workers will be insignificant relative to their off-site PFOS exposure via diet or drinking water. This yields a Risk Ranking of Low with a score of 22 for on-site workers.

Given the distance between the site and the nearest homes, it is considered rare that residents would be exposed to PFOS from the site and that the consequences of exposure to trace amounts of PFOS carried on fine water droplets would be insignificant, yielding a Risk Ranking of 25.

In conclusion, the risks associated with the proposed water reuse are low and acceptable.

Yours sincerely,
for Environmental Resources Management Australia Pty Ltd

Sophie Wood
Partner

Attachment A

DATA SCREENING

ERM

			Inorganics										MNA			PFOS and PFOA				Field			Organic	TRH NEPM (1999)					TRH NEPM (2013)					
			Alkalinity (Hydroxide) as CaCO3	Alkalinity (total) as CaCO3	Electrical Conductivity @ 25°C	Carbonate_CaCO3 (Filtered)	Silicon (Filtered)	Sulphur as S	Sulphur as S (Filtered)	Suspended Solids (SS)	TDS	TSS	BOD	COD	Sulphur (Total Oxidised as SO4)	6:2 Fluorotelomer Sulfonate (6:2 FtS)	8:2 Fluorotelomer sulfonate	Perfluorooctanoate	PFOS	pH (Lab)	Dissolved Oxygen	Redox	Oil and Grease	TRH C6-C9 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C34-C40 Fraction
			mg/L	mg/L	µS/cm	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pH units	mg/L	mV	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			1	1	1	1	50	1	1	5	10	5	2	5	1000	0.01	0.01	0.002	0.002	0.01	0.1	0.1	5	20	50	100	50	50	20	20	100	100	100	100
Drinking Water Screening Level																		0.4	0.2											10		100	90	90
Source																		5	5											3		3	3	3
Stormwater Screening Level [1]																		**8**	**4**											**200**		**2000**	**1800**	**1800**
Field ID	**Sampled_Date-Time**	**Area**																																	
Pond 2	1/09/2014	Retention Pond	-	-	-	-	-	-	-	-	-	64	-	-	-	-	-	-	-	-	-	-	-	40	310	1500	290	2100	40	30	540	540	1410	220
POND_1	1/09/2014	Retention Pond	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	40	380	1260	250	1890	40	30	580	580	1110	<100
HOLDING POND	12/12/2014	Retention Pond	<1	161	779	-	6630	-	-	32	-	32	10	101	129,000	0.68	<0.1	0.486	10.4	7.76	7.2	195	8	<20	<50	380	<50	380	<20	<20	<100	<100	380	<100
POND_1	22/04/2015	Retention Pond	-	-	-	223	-	-	-	-	410	19	7	70	148,000	0.34	0.02	0.266	5	-	-	-	6	<20	<50	-	100	550	<20	<20	<100	<100	470	<100
PRE_A_3L./SEC	23/11/2015	Retention Pond	-	-	-	-	-	-	-	-	-	-	14	155	-	7.66	0.09	0.459	3.15	-	-	-	5	40	170	820	<50	990	50	50	360	360	630	<100
PRE_A_6L./SEC	23/11/2015	Retention Pond	-	-	-	-	-	-	-	-	-	-	12	149	-	9.27	0.1	0.365	3.62	-	-	-	6	40	170	1240	60	1470	40	40	460	460	970	<100

1) Drinking water screening levels multiplied by 10 (NEPM, 1999) to generate screening levels for incidental ingestion and dermal contact stormwater
2) NHMRC (2011) Australian Drinking Water Guidelines
3) World Health Organization (2005) Petroleum Products in Drinking Water (note: where both aromatic and a aliphatic screening levels were available, the lower of the two was used)
4) US EPA RSLs for Tap Water
5) EPA (2009) Provisional Health Advisories for Perfluorooctanoic Acid (PFOA) and Perfluorooctyl Sulfonate (PFOS)

ERM

Field ID	Sampled_Date-Time	Area	BTEX							Naphthalene	Metals													
			Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	Naphthalene	Lead	Lead (Filtered)	Aluminium	Aluminium (Filtered)	Arsenic	Arsenic (Filtered)	Cadmium	Cadmium (Filtered)	Chromium	Chromium (Filtered)	Cobalt	Cobalt (Filtered)	Copper	Copper (Filtered)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/l	µg/l	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL			1	2	2	2	2	2	1	1	1	1	10	10	1	1	0.1	0.1	1	1	1	1	1	1
Drinking Water Screening Level			1	800	300			600		0.14		10		20,000		10		2		50				2000
Source												2		4		2		2		2				2
Stormwater Screening Level[1]			**20**	**16,000**	**6000**			**12,000**		**2.8**		**200**		**400,000**		**200**		**40**		**1000**				**40,000**
Pond 2	1/09/2014	Retention Pond	<1	6	<2	3	4	7	13	<1	164	-	-	-	3	-	1.1	-	6	-	-	-	35	-
POND_1	1/09/2014	Retention Pond	<1	6	<2	4	4	8	14	<5 - 1.1	257	-	-	-	4	-	1.7	-	12	-	-	-	57	-
HOLDING POND	12/12/2014	Retention Pond	<1	<2	<2	<2	<2	<2	<1	<2	27	-	360	-	2	-	0.3	-	2	-	<1	-	10	-
POND_1	22/04/2015	Retention Pond	<1	<2	<2	<2	<2	<2	<1	<1	-	<1	-	20	-	<1	-	<0.1	-	1	-	<1	-	<1
PRE_A_3L/SEC	23/11/2015	Retention Pond	<1	<2	<2	<2	<2	<2	<1	<5	-	14	-	40	-	1	-	<0.1	-	1	-	-	-	2
PRE_A_6L/SEC	23/11/2015	Retention Pond	<1	<2	<2	<2	<2	<2	<1	<5	-	13	-	30	-	1	-	<0.1	-	1	-	-	-	1

Field ID	Sampled_Date-Time	Area	Metals																											
			Iron	Iron (Filtered)	Lithium	Lithium (Filtered)	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Phosphorus	Selenium	Selenium (Filtered)	Silver	Silver (Filtered)	Strontium	Strontium (Filtered)	Thallium	Tin	Tin (Filtered)	Titanium	Titanium (Filtered)	Vanadium	Vanadium (Filtered)	Zinc	Zinc (Filtered)
			µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
EQL			50	50	0.001	0.001	1	1	0.1	0.1	1	1	1	1	0.01	10	10	0.001	0.001	0.001	0.001	0.001	1	1	0.01	0.01	0.01	0.01	5	5
Drinking Water Screening Level				14,000				500		1		50		20																3000
Source				4				2		2		2		2																2
Stormwater Screening Level[1]				**280,000**				**10,000**		**20**		**1000**		**400**																**60,000**
Pond 2	1/09/2014	Retention Pond	-	-	-	-	-	-	0.1	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	670	-
POND_1	1/09/2014	Retention Pond	-	-	-	-	-	-	0.2	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	974	-
HOLDING POND	12/12/2014	Retention Pond	1320	-	0.088	-	125	-	<0.1	-	36	-	11	-	0.26	<10	-	<0.001	-	0.419	-	<0.001	<1	-	<0.01	-	<0.01	-	203	-
POND_1	22/04/2015	Retention Pond	-	-	-	0.066	-	206	-	<0.1	-	44	-	<1	-	-	<10	-	<0.001	-	0.492	-	-	<1	-	<0.01	-	<0.01	-	91
PRE_A_3L/SEC	23/11/2015	Retention Pond	-	1180	-	-	-	352	-	<0.1	-	85	-	18	0.16	-	-	-	-	-	0.89	-	-	-	-	-	-	-	-	32
PRE_A_6L/SEC	23/11/2015	Retention Pond	-	1110	-	-	-	326	-	<0.1	-	74	-	18	0.21	-	-	-	-	-	0.808	-	-	-	-	-	-	-	-	43

1) Drinking water screening levels multiplied by 10 (NEPM, 1999) to generate screen
2) NHMRC (2011) Australian Drinking Water Guidelines
3) World Health Organization (2005) Petroleum Products in Drinking Water (note: w
4) US EPA RSLs for Tap Water
5) EPA (2009) Provisional Health Advisories for Perfluorooctanoic Acid (PFOA) and

Attachment B

RISK MATRIX

Severity-Probability Matrix

Step 1 – Consider the consequences of exposure to the hazard

Table 1 – Consequence Descriptors

Severity Level	Injury / Illness	Environment	Commercial/ Brand Exposure	Financial Loss ($AUS)	Plant / Equipment Damage
1 Insignificant	**First Aid Injury (FAI):** Any injuries requiring first aid treatment onsite only. *E.g. Superficial burn; lacerations; abrasions*	• No environmental damage • Environmental hazard identified • On site release of pollutant (less than 20 litres/Kg)	• *Public concern restricted to local complaints.* • Disruption to contract	• *$0 – $1,000*	• No Machine Downtime
2 Minor	***Medical Treatment Injury (MTI):*** E.g. Any injury requiring further treatment from a Medical Practitioner or any administration of a drug requiring the approval of a Medical Practitioner	• Onsite release of pollutant (less than 200 litres / kg) that is immediately contained without causing land or waterways contamination AND does not migrate offsite to land or waterways.	• Reputation loss (local media attention) • Disruption to contract	• $ 1,000 - $5,000	• 1 day Machine Downtime
3 Moderate	**Minor Lost Time Injury (LTI):** Work injury that results in the worker being impaired and unable to return to the workplace for < 2 weeks **Restricted Work Injury (RWI):** Any work injury that results in the worker being deemed unfit to return to full duties by a medical practitioner.	• Onsite release of pollutant (less than 200 litres/kg) that is mostly contained but causes moderate contamination (refer to financial loss) OR offsite release of pollutant (less than 200 litres/kg) to land or waterways.	• Reputation loss (State/National media attention) • Disruption to contract	• $5,000 - $20,000	• 2-5 days Machine Downtime
4 Major	**Serious LTI:** Work injury that results in the worker being impaired and unable to return to work > 2 weeks; Permanent disability < 30% E.g. Total loss of a digit.	• Onsite release of pollutant (200 to 2,000 litres/kg) that causes major contamination (refer to financial loss) OR offsite release of pollutant (200 to 2,000 litres/kg) to land or waterways.	• Reputation loss (National media attention) • Disruption to contract	• $20,000- $100,000	• 5-20 days Machine Downtime
5 Catastrophic	**One or more Fatalities** **Permanent Disability > 30%** E.g. Loss of limb	• Onsite release of pollutant (more than 2,000 litres/kg) that causes catastrophic land or waterways contamination (refer to financial loss) OR offsite release of pollutant (more than 2,000 litres/kg) to land or waterways.	• Reputation loss, (International media attention) • Serious public or media outcry. • Disruption to contract	• more than $100,000	• Machine Unrepairable

Severity-Probability Matrix

Step 2 – Consider the likelihood of the exposure to the hazard occurring

Table 2 – Likelihood Descriptor

Descriptor	Description	Frequency
Almost Certain	The event is expected to occur in most circumstances	Once every week
Likely	The event will probably occur in most circumstances	Once every month
Possible	The event should occur at some time	Once every year
Unlikely	The event could occur at some time	Once every 10 years
Rare	The event may occur in exceptional circumstances	Once every 100 years

Step 3: Using the Two Tier Risk Matrix table below, determine the Risk Rating from the consequence and likelihood descriptors.

To use the Two Tier Risk Matrix:

- Identify the consequence descriptor that best describes the consequences of the exposure to the hazard.
- Identify the likelihood descriptor that best describes the likelihood of exposure to the hazard resulting in the consequence determined in Step 1.
- The Risk Rating is provided in the box where the Likelihood row and Consequence column meet.

Table 3 - Risk Matrix

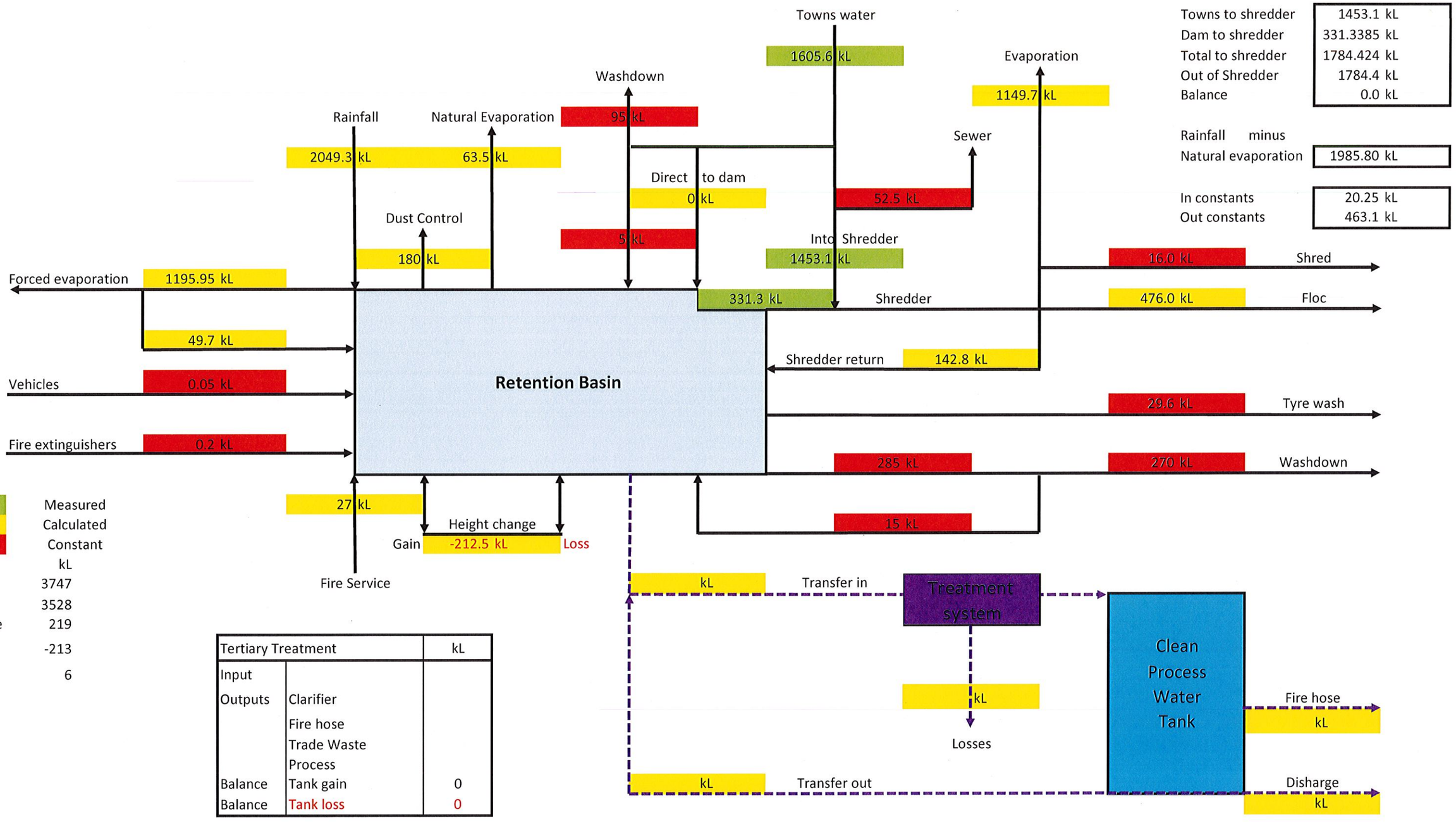
		Likelihood (L)				
Consequences (c)		Almost Certain	Likely	Possible	Unlikely	Rare
	Catastrophic	Extreme 1	Extreme 2	Extreme 4	High 7	Medium 11
	Major	Extreme 3	Extreme 5	High 8	Medium 12	Medium 16
	Moderate	High 6	High 9	Medium 13	Medium 17	Low 20
	Minor	High 10	Medium 14	Medium 18	Low 21	Low 23
	Insignificant	Medium 15	Medium 19	Low 22	Low 24	Low 25

APPENDIX F OPERATIONAL USE WATER BALANCE (2016)

Source: Appendix H of the approved site's Water Management Plan prepared by Arcadis 12 September 2019

Month Aug 2016

Operational Water Balance



Towns to shredder	1453.1 kL
Dam to shredder	331.3385 kL
Total to shredder	1784.424 kL
Out of Shredder	1784.4 kL
Balance	0.0 kL

Rainfall minus Natural evaporation	1985.80 kL

In constants	20.25 kL
Out constants	463.1 kL

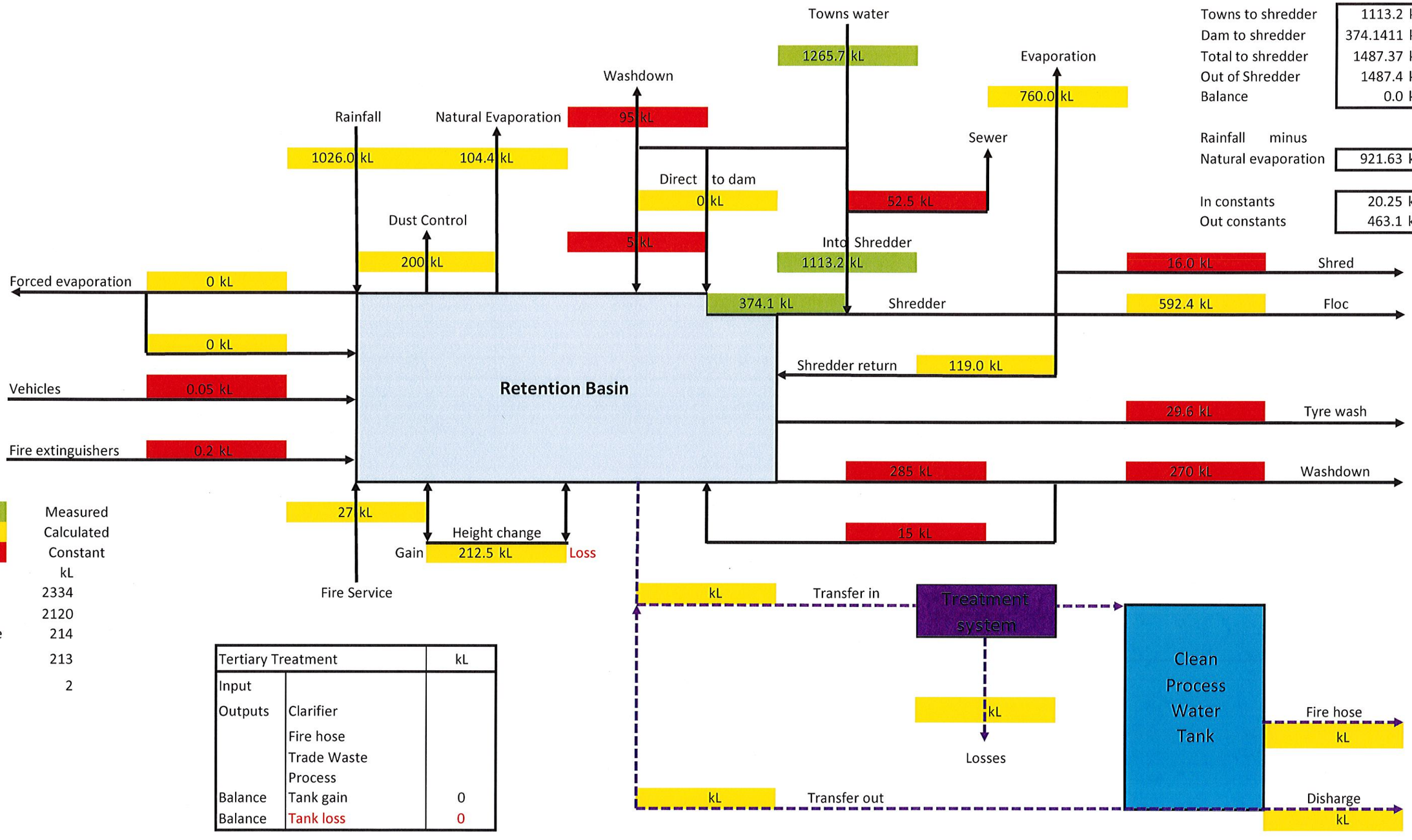
kL	Measured
kL	Calculated
kL	Constant
	kL
Inputs	3747
Outputs	3528
Difference	219
Change	-213
Error	6

Tertiary Treatment		kL
Input		
Outputs	Clarifier	
	Fire hose	
	Trade Waste	
	Process	
Balance	Tank gain	0
Balance	Tank loss	0

BT-ENV-PRO-DWB

Month Sept 2016

Operational Water Balance



Towns to shredder	1113.2 kL
Dam to shredder	374.1411 kL
Total to shredder	1487.37 kL
Out of Shredder	1487.4 kL
Balance	0.0 kL

Rainfall minus Natural evaporation	921.63 kL

In constants	20.25 kL
Out constants	463.1 kL

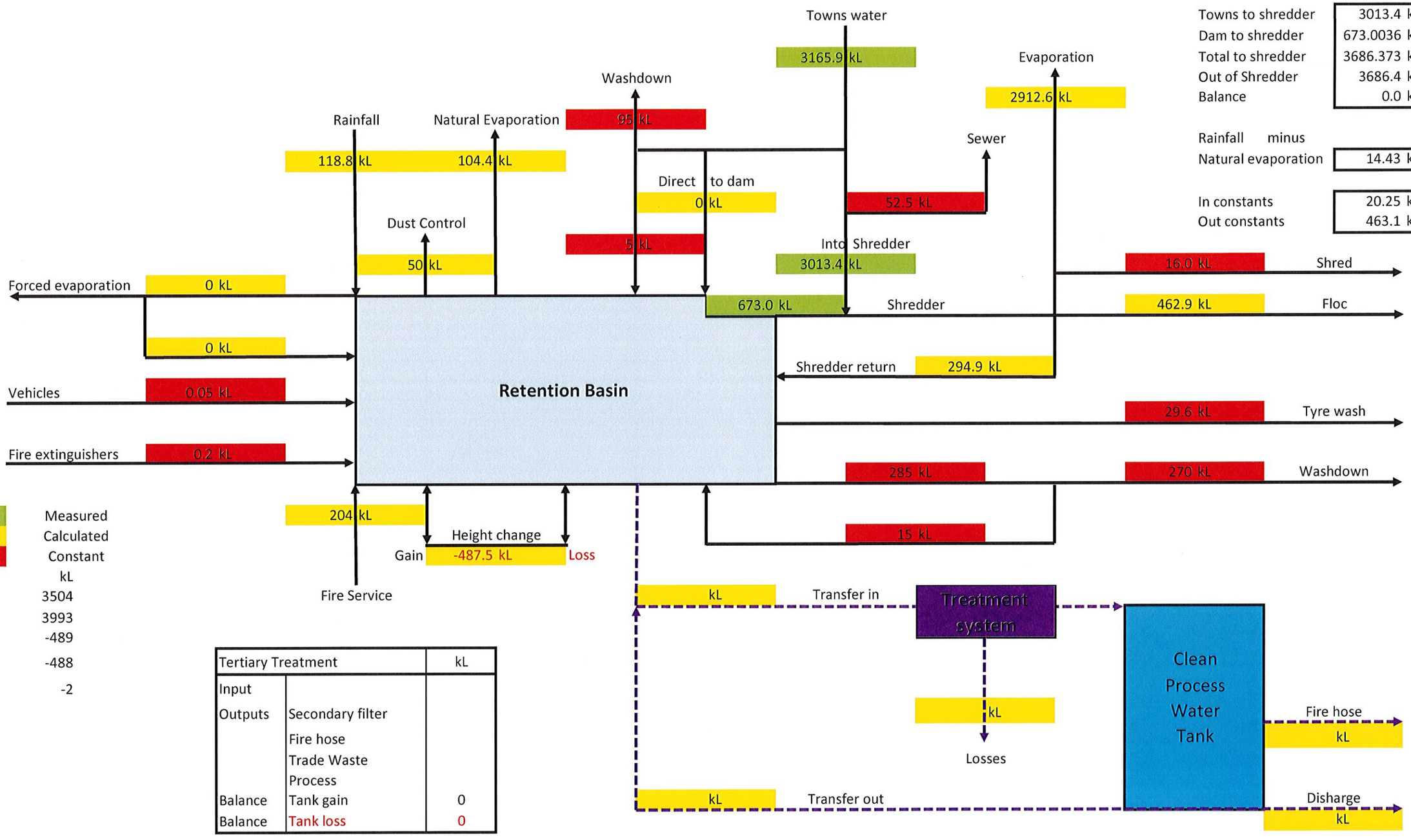
kL	Measured
kL	Calculated
kL	Constant
	kL
Inputs	2334
Outputs	2120
Difference	214
Change	213
Error	2

Tertiary Treatment		kL
Input		
Outputs	Clarifier	
	Fire hose	
	Trade Waste	
	Process	
Balance	Tank gain	0
Balance	Tank loss	0

BT-ENV-PRO-DWB-16B

Month Oct 2016

Operational Water Balance



Towns to shredder	3013.4 kL
Dam to shredder	673.0036 kL
Total to shredder	3686.373 kL
Out of Shredder	3686.4 kL
Balance	0.0 kL

Rainfall minus Natural evaporation	14.43 kL

In constants	20.25 kL
Out constants	463.1 kL

kL	Measured
kL	Calculated
kL	Constant
	kL
Inputs	3504
Outputs	3993
Difference	-489
Change	-488
Error	-2

Tertiary Treatment		kL
Input		
Outputs	Secondary filter	
	Fire hose	
	Trade Waste	
	Process	
Balance	Tank gain	0
Balance	Tank loss	0

BT-ENV-PRO-DWB

375 1811 2186

		Date	1st July	Time	8010	Date	1st August	Time		Date	1st Sept	Time	8:50am	Date	Date	Date
	Month of	June 2016				July 2016				August 2016				September 2016		
		Previous	Current	Volume kL	Total	Previous	Current	Volume kL	Total	Previous	Current	Volume kL	Total	Previous	Current	Volume kL
Towns meter Dexion	Kilolitres	0	7505.723	7505.723	37432.481	7505.723	7681.515	175.792	1405.581	7681.515	7873.056	191.541	1605.585	7873.056	8063.43	190.374
West	Kilolitres	0	29926.758	29926.758		29926.758	2.341	1229.789		2.341	1416.385	1414.044		1416.385	2491.74	1075.355
Forced evaporation	Hours	9079	9625	546	2293.2	9625	9995	370	1320.9	9995	10330	335	1195.95	0	0	0
Dam water - Shredder run	Litres	0	367710	367.71	377.452	367710	501362	133.652	133.8614	501362	832692	331.33	331.3385	832692	1206810	374.118
Total		0	367710			367710	501362	133.652		501362	832692	331.33		832692	1206810	374.118
Dam water - C1 East run	Litres	0	137			137	3104	2.967		3104	3286	0.182		3286	3517	0.231
Total		0	1107			1107	3201	0.2094		3201	3286	0.0085		3286	3517	0.0231
		Total	Days	deduction	Volume kL	Total	Days	deduction	Volume kL	Total	Days	deduction	Volume kL	Total	Days	deduction
Rainfall S&P	mm	299.7	7	211.3	5705.1	72.3	14	14	1574.1	83.9	8	8	2049.3	50	6	12
Rainfall * Dexion				0	0			0	0			0	0			0
					5705.1				1574.1				2049.3			
		Total	Volume kL			Total	Volume kL			Total	Volume kL			Total	Volume kL	
Natural Evaporation	mm	110.5	138.125			43.8	54.75			50.8	63.5			83.5	104.375	
		Previous	Current	Change	Volume kL	Previous	Current	Change	Volume kL	Previous	Current	Change	Volume kL	Previous	Current	Change
Dam height #	mm	0	900	-900	-1125	900	850	50	62.5	850	1020	-170	-212.5	1020	850	170
		Tonnes	Volume kL			Tonnes	Volume kL			Tonnes	Volume kL			Tonnes	Volume kL	
Floc	Kilolitres	5065.8	506.58			5016.3	501.63			4759.5	475.95			5923.9	592.39	

Rainfall calculation

19488 18825 663 Lt

* Only when new shear is operational 4403470 4403980 510

\# Will be + for an increase and - for a decrease

BOM data - prospect reservior

BT-ENV-SPR-DWB-16A

141201 = New meter installed

1024910 = Old meter final

1467389 = Old meter final

Based on Prospect rainfall, therefore inac

East Meter Replacement

East	Old start	old end	Total Lt	Total kL
run	118825	194880	76055	76.055
total	4403470	4403980	510	0.51
	new start	new end	total	
run	15	137	122	0.122
total	985	1107	122	0.122
				0.632

West Meter Total Reset

West	Old start	old end	Total Lt	Total kL
Total	1467389	1476499	9110	9.11
	new start	new end	total	
total	0	367710	367710	367.71
				376.82

Grand total 377.452

West Meter Replacement

West	Old start	Old End	Total kL
Totals	29926.758	31154.206	1227.448
	New Start	New End	total
Total	0	2.341	2.341
			1229.789

Rainfall days

Days < 2.0mm (or equal to)

Rainfall total

Rainfall quantity (<2mm) deductions

Sub total

2mm deductions x qualified rain even

Rainfall volume calculated addition

Evaporation

Date	Date	Date	Date	Date	Date	Time		Date	Time			2016
	October 2016				November 2016			December 2016				TOTALS
Total	Previous	Current	Volume kL	Total	Previous	Current	Volume kL Total	Previous	Current	Volume kL	Total	
		23229.61										
1265.729	7873.056	8309.02	435.964	3165.869	8063.43		-8063.43 -10555.17	0		0	0	31154.206
	1416.385	4146.29	2729.905		2491.74		-2491.74	0		0		
0	0	0	0	0	9041.5		-9041.5 -32278.16	0		0	0	-27468.105
374.1411	832692	1505310	672.618	673.0036	1206810		-1206.81 -1207.162	0		0	0	9.6313
	832692	1505310	672.618		1505310		-1505.31	0		0		
	3286	3941	0.655		3517		-3.517	0		0		
	3286	7142	0.3856		3517		-0.3517	0		0		
Volume kL	Total	Days	deduction	Volume kL	Total	Days	deduction Volume kL	Total	Days	deduction	Volume kL	
1026	14.4	5	10	118.8			0 0			0	0	10354.5
0			0	0			0 0			0	0	0
1026				118.8			0				0	10354.5
	Total	Volume kL			Total	Volume kL		Total	Volume kL			
	139.5	174.375				0			0			360.75
Volume kL	Previous	Current	Change	Volume kL	Previous	Current	Change Volume kL	Previous	Current	Change	Volume kL	
212.5	850	1240	-390	-487.5	850		850 1062.5	0		0	0	0
	Tonnes	Volume kL			Tonnes	Volume kL		Tonnes	Volume kL			
	4628.6	462.86				0			0			2076.55

	Sept	Oct				
	10	7				
	4	5				
	52.8	20.5				
	2.8	6.1				
	50.0	14.4	0.0	0.0	0.0	0.0
t days	12.0	4.0				
(mm)	38.0	10.4	0.0	0.0	0.0	0.0
(mm)	83.5	139.5				

Background Information

Monthly

	Volume kL	
Measured		
Towns water		As per mains meter readings As this includes fire services a special calculation (increased % of return) will have to be factored for in the event of a fire. Particularly the west side meter.
Calculated		
Rainfall		From BOM website. S + P Surface area = 28,600m2 Subtract 1600m2 for landscaped and hill areas. 27,000 lt per mm or 27.0 kL per mm. Subtract 2mm per rainfall event c Dexion Dirty surface area = 6195m2 or 8369m2 including internal driveway 6195lt per mm or 6.2 kL per mm 8369lt per mm or 8.4kL per mm. Subtract 2r
Natural evaporation		From BOM website. 1mm of evaporation is equivalent to 1250 litres or 1.25kL
Forced evaporation		Pump rate of 70 Lt/min Hours as per diesel generator Return rate of 15%
Shredder		Dam water is pumped into the front storage tanks. Two metered pumps transfer this to shredder operations. Shredder pump is the main supply. C1 provides water to final product wash. Evaporation Add both inlets minus sewer, minus washdown evaporation, minus floc, minus wash down return Floc 10% of floc is water. Drying experiments by Howard Richards, February 2016. Will be variations due to stock volumes at start of measuring periods. Return 5% of water use returns to the retention pond
Dam height		Surface area 50 x 25 = 1250m2 1 mm = 1.25 kL add +/- Width*delta height Dam square at height so not to be applied. At lower levels assume 45 degree Length*delta height slope. Also need to deduct for islands at very low levels.
Constant		
Sewer	52.5	Average daily use per person = 35 litres. Average number of people on site per day is 60. 60 x 35 x 25 days per month. 52,500 litres or 52.5 kL Note: personnel there
Fire extinguishers	0.2	Average 30,000 per year. Of these 10% are water type. Of these 10% are charged. Volume is 9 litre. 30,000 /10 =3000. 3000/10 = 300. 300 x 9 = 2700 litres. 2700/12 = 225 litres per month. Evaporat
Vehicles	0.05	9% of vehicles that arrive on site have motors. Of these the majority have been disconneted from the radiator. Therefore 1% have water in them. Average car water content is 5 litres. 1000 x 0.01 = 1(
Tyre wash		Surface area 9.5mtr x 4.0mtr = 38m2 Depth 6cm Volume 38 x 0.06 = 2.28 kL Frequency winter 1 per week, summer 3 times per week Winter month
Wash down	100	Town water Figures calculated from Saturday meter usages when shredder not running. Mains meter minus sewer calculation leaves washdown water and fire service.
	300	Dam water Three times as many dam hoses to town water hoses.

lue to evaporative losses due to differential heat transfer, or rainfall required before runoff begins. Discount rainfall <2mm.
nm per rainfall event due to evaporative losses due to differential heat transfer, or rainfall required before runoff begins.

Note: both measure in litres not kilolitres.

angle for

efore water will increase over time when move to Dexion site.
ive loss is 25 litres.
). 10 x 5 litres = 50 Litres. Assuming other waters in vehicles (rain in wheel wells) is eqivalent to evaporation.
4.33 x 2.28 = 9.87 kL Summer month 4.33 x 6.84 = 29.62 kL Year (9.87 x 6) + (29.62 x 6) = 236.94 kL
Calculation done when fire services not used.

APPENDIX G APPROVED SITE'S WATER MANAGEMENT PLAN

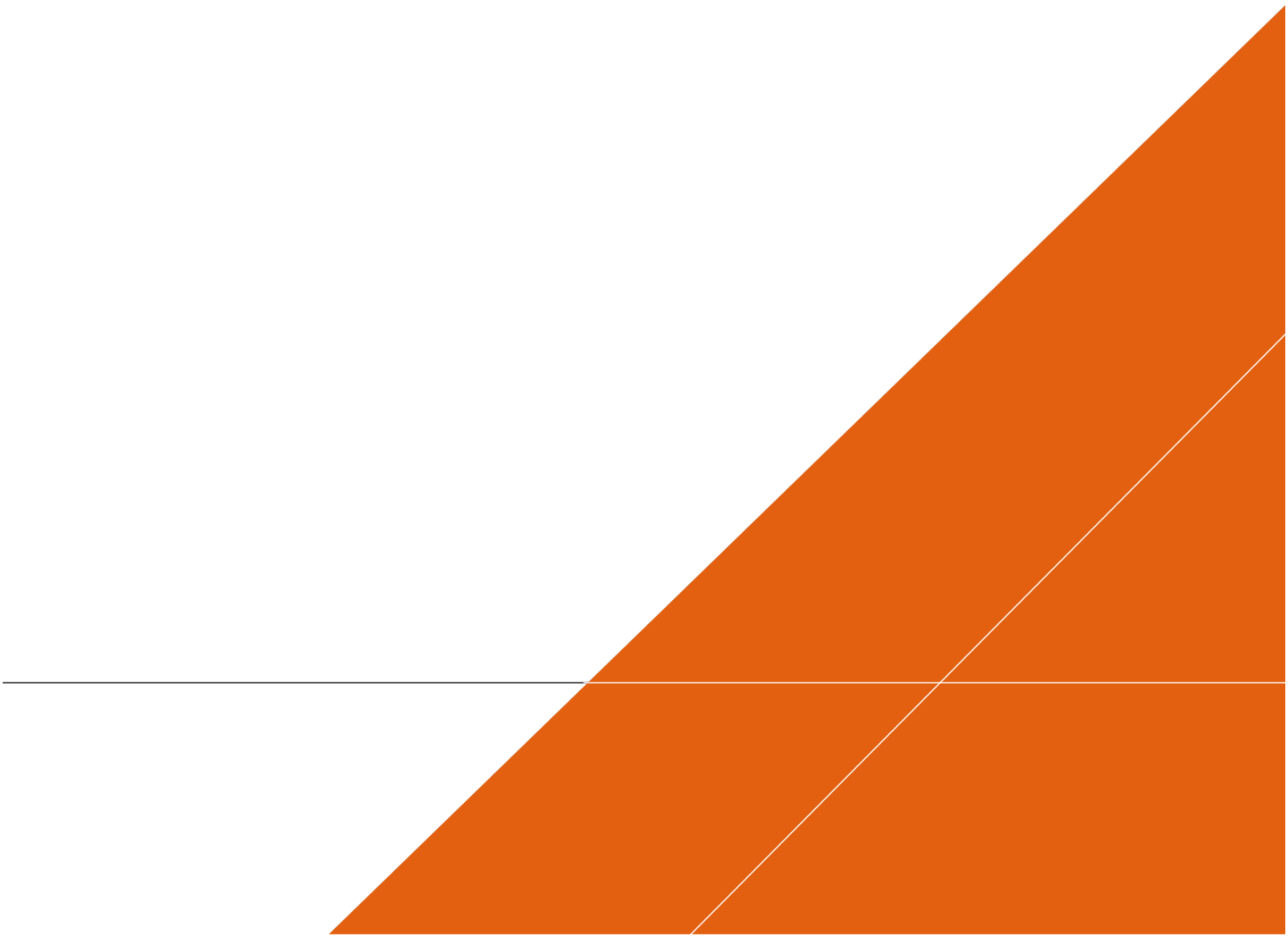
Source: Main body report of the approved site's Water Management Plan prepared by Arcadis 12 September 2019

ARCADIS Design & Consultancy for natural and built assets

WATER MANAGEMENT PLAN

23-43 & 45 Tattersall Road, Kings Park

12 SEPTEMBER 2019



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KINGS PARK
METAL RECOVERY, PROCESSING AND RECYCLING FACILITY

Water Management Plan

Sell & Parker Pty Ltd

Author	Francisco Medina, Sean Fishwick	
Checker	Westley Owers	
Approver	Howard Richards	
Report No	01	
Date	12/09/2019	
Revision Text	H	

REVISIONS

Rev. No	Rev. Date	Revision Description	Prepared By	Approved By	Signed
A	December 2016	New document	MH	CM	MH
B	March 2017	Respond to EPA comments	MH	CM	MH
C	June 2017	Respond to EPA & DP&E comments	MH	CM	MH
D	July 2017	Respond to EPA & DP&E comments	MH	CM	MH
E	August 2017	Respond to EPA & DP&E comments	MH	CM	MH
F	October 2017	Revised Plan and LEC S96 Approval	MH	CM	MH
G	March 2018	Revised Layout	MH	CM	MH
H	September 2019	Changes associated with MOD 3	FM, SF	HR	HR

CONTENTS

APPENDICES

GLOSSARY

Term	Definition
Arcadis	Arcadis Australia Pacific Pty Ltd
BCC	Blacktown City Council
BEMS	Blacktown Environment Management System
CEMP	Construction Environmental Management Plan
DA	Development Application
DECC	Department of Environment and Climate Change
DPIE	Department of Planning, Industry and Environment (from 1 July 2019)
DP&E	(Former) Department of Planning and Environment
ECS	Emissions Collection System
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EPA	Environmental Protection Authority
EPL	Environment Protection Licence
EP&A Act	*Environmental Planning and Assessment Act 1979*
ERM	Environmental Resources Management
The Facility	The Kings Park Metal Recovery, Processing and Recycling Facility
GEM	Group Environmental Manager
GHRM	Group Human Resources Manager
GSM	Group Safety Manager
HP	Higgins Planning
KPI	Key Performance Index
LEC	Land and Environment Court
LMP	Landscape Management Plan
MOD	Modification
MOD 1	The approved modifications to The Original Approval dated 6 July 2017
MOD 2	The approved modifications to The Original Approval and approved MOD 1 dated 26 February 2018

Term	Definition
MOD 3	The approved modifications to The Original Approval and approved MOD 3 dated 29 May 2019
NATA	National Association of Testing Authorities
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
NSW	New South Wales
OEMP	Operational Environmental Management Plan
The Original Approval	The approved Environmental Impact Assessment for SSD 5041 dated 12 November 2015
PIRMP	Pollution Incident Response Management Plan
POEO Act	*Protection of the Environment Operations Act 1997*
The Project	The approved activities under SSD 5041 and MODs 1 - 3
Renzo Tonin	Renzo Tonin & Associates
Sell & Parker	Sell and Parker Pty Ltd
SSD	State Significant Development
The Site	The Sell & Parker Premises at 23-43 and 45 Tattersall Road, Kings Park NSW
WMP	Water Management Plan
WMS	Water Management System
WTS	Water Treatment System

1 INTRODUCTION

1.1 Background

This Water Management Plan (WMP) has been prepared by Higgins Planning (HP) and updated by Arcadis Australia Pacific Pty Ltd (Arcadis) in collaboration with Sell and Parker Pty Ltd (Sell & Parker) for the Kings Park Metal Recovery, Processing and Recycling Facility (the Facility) at 23-43 and 45 Tattersall Road, Kings Park (the Site).

The Facility has been approved by the Department of Environment, Planning and Industry (DPIE) (formerly DP&E) under the State Significant Development (SSD) application No. 5041 dated 12 November 2015 (the Original Approval), including three associated modifications (the Project).

1.2 Purpose of this WMP

This WMP has been prepared on behalf of Sell & Parker in response to conditions A2 and B4 of the Project.

In particular, this WMP:

- Describes the water management of the Project including activities to be undertaken and relative timing;
- Provides specific mitigation measures and controls that can be applied on-site to avoid or minimise negative environmental impacts;
- Provides specific mechanisms for compliance with applicable policies, approvals, licences, permits, consultation agreements and legislation;
- Describes the air quality management related roles and responsibilities of personnel;
- States objectives and targets for issues which are important to the environmental performance of the Project; and
- Outlines a monitoring regime to check the adequacy of controls.

The purpose of this WMP is to provide detail on how Sell & Parker will manage potential water impacts from construction and operation of the Site.

This WMP details the water management procedures which also form part of the Operational Environment Management Plan (OEMP).

The structure of this WMP is based on DPIE's (formerly Department of Infrastructure Planning and Natural Resources) "Guideline for the Preparation of Environmental Management Plans" (2004), as well as the requirements of the Environmental Impact Statement (EIS) and supporting documents. The plan also considers the requirements of DPIE's Environmental Management plan, Post Approval Guidelines (2018).

This WMP has been prepared based on information from the Storm Water Management Plan prepared by ERM dated June 2015, and the revised ADW Johnson Stormwater Management Assessment Report. This forms part of Condition A2 in Schedule 2, Part A of the Original Approval and MODs 1 – 3, which states:

TERMS OF CONSENT

A2. The Applicant shall carry out the Development in accordance with the:

a) EIS prepared by ERM dated July 2014;

b) *Response to Submissions report prepared by ERM dated 7 January 2015;*

c) *Supplementary Response to Submissions prepared by Mecone dated 30 June 2015;*

d) *Supplementary Response to Submissions prepared by Sell & Parker Pty Ltd dated 3 September 2015;*

e) *Site layout plans and drawings (See Appendix A);*

f) *Management and Mitigation Measures (see Appendix B);*

g) *Modification Application SSD 5041 MOD 1 and accompanying document titled Statement of Environmental Effects 23-43 and 45 Tattersall Road, Kings Park dated August 2016 prepared by Higgins Planning, additional information from Higgins Planning dated 22 December 2016, further additional information from Allens and Linklaters dated 9 February 2017 and the Town Planning Report prepared by Ethos Consulting on 29 September 2017;*

h) *Modification SSD 5041 MOD 2 and accompanying document titled Statement of Environmental Effects 23-43 and 45 Tattersall Road, Kings Park dated December 2017 prepared by Higgins Planning; and*

i) *Modification Application SSD 5041 MOD 3 and accompanying document titled Section 4.55(1A) Application (SSD 5041 – Mod 3), 23-43 and 45 Tattersall Road, Kings Park dated 11 February 2019 and Response to Submissions dated 4 April 2019 prepared by Arcadis Australia Pacific Pty Ltd.*

In addition, Sell & Parker have had consultation meetings and discussions with both the Environment Protection Authority (EPA) and DPIE as required to assist with the preparation of this WMP.

1.3 Site Location and Context

The Site is located in the mid-block of Tattersall Road, Kings Park and approximately 2.5 kilometres from the M7. This location is depicted in Figure 1. Kings Park is located within the Local Government Area (LGA) of Blacktown City Council (BCC), and is located approximately 41.2 kilometres from the Sydney Central Business District (CBD).

Figure 1 Site location

1.4 Site Description

The Site is located on the southern side of Tattersall Road, Kings Park (see Figure 1). The Site has a legal description of Lot 2 in DP 550522 and Lot 5 in DP 7086. The Site is significantly lower than the level of Tattersall Road to the north and is relatively flat/level with a fall towards its rear boundary. The Site is largely cleared, with the exception of some trees and screening plants scattered across the perimeter front and rear boundaries.

The existing Facility is screened by mature trees along the Tattersall Road frontage of the land between the property boundary and the existing acoustic wall along the frontage of the portion of the site at 45 Tattersall Road. An open storm water drainage channel, Waller Creek, runs along the eastern boundary. Adjacent to the Site's southern boundary is Breakfast Creek.

1.5 Existing Environment and Sensitive Receptors

The Facility is primarily surrounded by commercial and industrial land uses within a 500 metre radius. The exception to this is where residential land uses back on to Sunnyholt Road around 350 metres to the east of the site.

The nearest watercourse is located along the rear or southern boundary of the Site, known as Breakfast Creek. This is a modified urban waterway that flows through the industrial estate from east to west (refer to Figure 2 below).

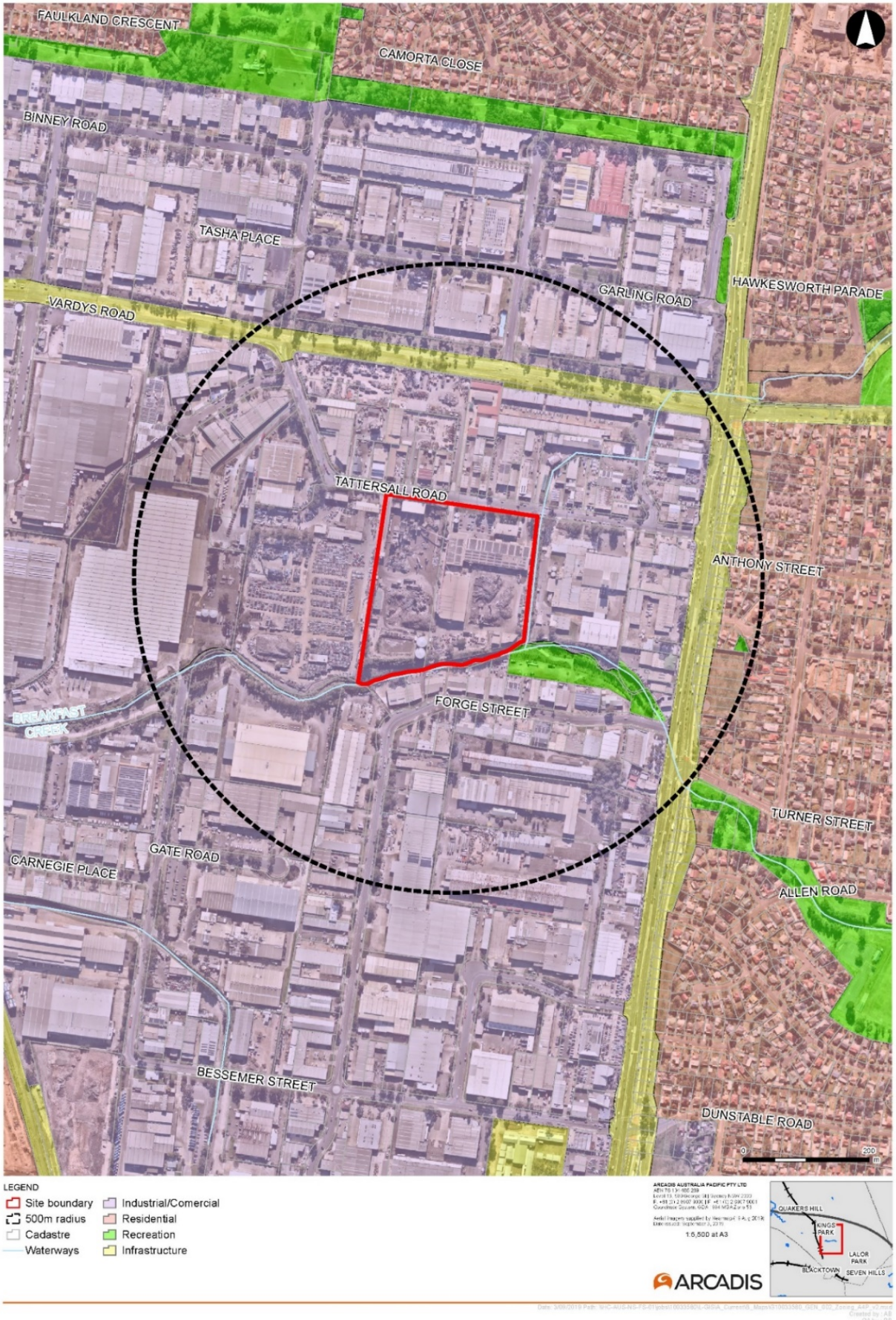

Figure 2 Nearby sensitive receptors

For information on mitigation measures, monitoring, controls and exceedance management measures refer to Sections 6, 7, 8 and 9 of this WMP.

1.6 Scope

The scope of this WMP includes:

- An overview of the potential environmental impacts of the Facility;
- A description of the management measures to protect the environment;
- An overview of the Site operations (refer to the Site Layout Plan in Appendix A);
- Guidance on compliance with the relevant environmental legislation including the Environment Protection Licence (EPL) (copy at Appendix G) and Original Approval (copy at Appendix C);
- Provision of appropriate mitigation measures for the key environmental issues;
- Definitions of the roles and responsibilities of the construction and operational teams; and
- The basis for monitoring, reporting and maintaining compliance with regulatory requirements.

1.7 Environmental Management System Context

Figure 3 below describes the structure of the Environment Management System (EMS) for the Facility and how it relates to this NMP.

Figure 3 Structure of the EMS for the Facility

The EMS establishes management responses and frameworks for each management plan and its implementation at the Facility. The EMS sets the evaluation criteria which will ensure systems and processes are continually reviewed for continuous improvement at the Site

1.8 WMP Objectives and Outcomes

Table 1 below outlines the key objectives of this WMP.

Table 1: WMP Objectives and Outcomes

Objectives	Outcome
To ensure compliance with all applicable regulatory conditions for the Facility.	Compliance is achieved, maintained and verified through independent auditing.

Objectives	Outcome
To minimise non-compliances.	Improved environmental protection.
To implementation of agreed water management mitigation measures.	All agreed water management and mitigation measures are implemented and maintained.
To implement baseline water quality studies.	Create a standard to which variations over time can be measured against.
To use technology when it becomes available to ensure ongoing improvement and environmental protection.	Continuous improvement so compliance is met now and into the future.

1.9 Environmental Policy

Sell & Parker are committed to operating within the principles of continuous improvement and reducing the sites environmental footprint. This is outlined in the Sell & Parker Environment Policy, a copy of which is included at **Appendix B** and available on the Sell & Parker website, www.sellparker.com.au under 'About us', 'links' and 'Environmental Reports'. All employees and contractors undergo an induction which includes familiarisation with the requirements of the Environment Policy.

Sell & Parker is committed to operating to the principles of continuous improvement and reducing the Site's environmental footprint. This is outlined in the Sell & Parker Environment Policy, a copy of which is included at **Appendix B** and available on the Sell & Parker website, www.sellparker.com.au under links and Environmental Reports. All employees and contractors undergo an induction which includes familiarisation with the requirements of the Environment Policy.

The key aspects of the Sell & Parker Environment Policy are:

- Ensure all employees, contractors and associates have an understanding of this Policy, the Environment Management System (EMS), Stormwater Management Plan and Safe Working Procedures;
- Ensure all operations are undertaken in an environmentally responsible manner and in accordance with the relevant environmental legislation, regulations, statutory obligations and relevant voluntary codes of practice;
- Measure, monitor and report on environmental initiatives;
- Regularly review our business operations to identify and implement opportunities for improvement;
- Record, investigate and implement the appropriate corrective action for all environment incidents; and
- Periodically review and revise this Policy and Safe Working Procedures to maintain their relevance.

Sell & Parker is committed to complying with all of its legal obligations. Compliance to applicable regulatory requirements in regard to the operations at the Facility will be achieved through:

- Identifying and assessing statutory requirements that are directly applicable;
- Consulting with relevant government bodies and agencies;
- Internally communicating relevant statutory requirements;
- Providing relevant training;

- Monitoring and reviewing internally and via third parties the Sell & Parker environmental management system;
- Inspections by the Site, Group Safety and Group Environment Managers; and
- Updating EMP's where required should legislation change.

2 LEGAL AND CONSENT REQUIREMENTS

This section details the legislative requirements that relate to the site in terms of air water management.

2.1 Legislation

Legislation relevant to water management:

- National Construction Code (NCC) (Building Code of Australia BCA);
- *Protection of the Environment Operations Act 1997*;
- *Protection of the Environment Operations (General Regulation) 2009*;
- *Water Act 1912*;
- *Water Management Act 2000*;
- *Sydney Water Act 1994*; and
- *Sydney Water Regulation 2006*.

2.2 Consent Conditions

Table 2 below details the WMP Condition B4 and where in this document each component has been addressed:

Table 2: WMP Condition B4 summary and document reference

Consent Condition	Document Reference
***B4.** Prior to the commencement of construction of the Development, the Applicant shall prepare a Water Management Plan to the satisfaction of the Secretary. The plan must:*	
a) be prepared by a suitably qualified and experienced person(s) in consultation with the EPA;	Sections 1.1 & 1.6
b) include a detailed site water balance;	Sections 7.1 & 8.4
c) include details of water management, monitoring and incident response arrangements quality measures;	Sections 6, 7, 8 & 9
d) include the details of the:	
(i) Water Management System for the site (see Condition B6);	Section 6.2
(ii) Water Management System commissioning, including the time frames for each stage of commissioning (see Condition B6);	Section 6.2.9 & 6.2.11
(iii) Water Treatment Plant trial, if required (see Condition B8);	Section 6.2.8
(iv) Erosion and sediment controls (see Condition B9);	Section 6.4

Consent Condition	Document Reference
(v) Bunding (see Condition B10);	Section 6.5
(vi) Flood management (see Condition B11); and	Sections 6.3 & 9.2
(vii) Clean water runoff areas that discharge direct to stormwater without treatment (i.e. carpark and roofs).	Section 6.1

2.3 Consent Conditions Compliance

The Original Approval (refer **Appendix C**) and MOD 1 (refer to **Appendix D**), provide details of all DPIE requirements for the Site's development. In **Table 3** below are the specific air quality control, mitigation and monitoring requirements. The table has a document reference column indicating where the requirement is specifically addressed in the plan and/or other documentation.

Table 3: Development Consent Water Conditions Compliance Table

Section	SSD 5041 Water Conditions	Document Reference
B2	A Section 73 Compliance Certificate under the *Sydney Water Act 1994* must be obtained from Sydney Water prior to the commencement of construction.	Section 2.7
B3	The development shall comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided in the EPL.	Sections 2.7
B4	Prior to the commencement of construction of the Development, the Applicant shall prepare a Water Management Plan to the satisfaction of the Secretary. The plan must;	This plan
B4 a)	Be prepared by a suitably qualified and experienced person(s) in consultation with the EPA;	Section 1.1 & 1.6
B4 b)	Include a detailed site water balance;	Sections 7.1 & 8.4
B4 c)	Include details of water management, monitoring and incident response arrangements quality measures;	Sections 6, 7, 8 & 9
B4 d)	Include the details of the;	
B4 d) i)	Water Management System for the site (see Condition B6);	Section 6.2
B4 d) ii)	Water Management System commissioning, including the time frames for each stage of commissioning (see Condition B6);	Section 6.2.9 & 6.2.11
B4 d) iii)	Water treatment plant trial, if required (see Condition B8);	Section 6.2.8
B4 d) iv)	Erosion and sediment controls (see Condition B8);	Section 6.4

Section	SSD 5041 Water Conditions	Document Reference
B4 d) vi)	Flood management (see Condition B11); and	Sections 6.3 & 9.2
B4 d) vii)	Clean water runoff areas that discharge direct to stormwater without treatment (i.e. carpark and roofs).	Section 6.1
B5	Carry out the Development in accordance with the WMP approved by the Secretary, (as revised and approved by the Secretary from time to time) unless otherwise agreed by the Secretary;	This plan
B6	Operate a Water Management System for the site. The system must:	
B6 a)	Be designed by a suitably qualified and experienced person(s) in consultation with the EPA;	Section 6.2.
B6 b)	Include a treatment system with primary, secondary and tertiary treatment components;	Section 6.2
B6 c)	Be consistent with the guidance in Managing Urban Stormwater – Soils and Construction Vol. 1 (Landcom, 2004);	Section 6.4
B6 d)	Divert clean surface water around operational areas of the site;	Section 6.1 & 7.4.3
B6 e)	Include water quality monitoring that can determine the performance of the water management system against EPL discharge limits;	Section 7.3
B6 f)	Include water reuse based on a risk assessment of environment and health impacts; and	Section 7.2 & Appendix I
B6 g)	Be commissioned in accordance with Condition B7.	Section 6.2
B7	The applicant shall commission the Water Management System prior to discharging any water from site. The commissioning must:	Section 6.2
B7 a)	Be completed within 2 years from the date of this consent, or within such other time agreed in writing by the Secretary;	Section 6.2.11
B7 b)	Be undertaken by a suitably qualified and experienced person(s) in consultation with the EPA;	Section 6.2
B7 c)	Include a program for acquiring baseline data of receiving waters and the establishment of site specific stormwater discharge criteria;	Section 6.2.10
B7 d)	Including testing of the performance of all components of the Water Management System, including the primary, secondary and tertiary treatment systems;	Section 6.2

Section	SSD 5041 Water Conditions	Document Reference
B7 e)	Identify and implement changes to the Water Management System that may be necessary to achieve compliance with the discharge criteria in the EPL; and	Section 6.2 & 7.3
B10	The Applicant shall store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's *Storing and handling liquids: Environmental Protection – Participants manual (DECC) 2007.*	Section 6.5
B11	The Applicant shall ensure that:	-
B11 a)	The finished floor level of any new building is a minimum of 0.5 metres above the 1 in 100 year Average Recurrence Interval flood level;	Section 6.3 & Appendix J
B11 b)	Any part of a new structure below the 1 in 100 year Average Recurrence Interval flood level is designed and constructed to be compatible with flooding; and	Section 6.3
B11 c)	Any perimeter fence or wall does not restrict or impede the flow of overland flow.	Section 6.3
C5	Ensure that the environmental management plans are prepared in accordance with relevant guidelines.	Section 2.5
C5 a)	Environment management plans have detailed baseline data.	Section 6.2.10
C5 b) i)	Environment management plans have a description of relevant statutory requirements.	Section 2
C5 b) ii)	Environment management plans (EMP's) include relevant limits or performance measures.	Sections 5 & 7.3
C5 b) iii)	EMP's include specific performance indicators that are proposed to judge the performance of the development.	Sections 5 & 8
C5 b) iv)	EMP's include the measures to be implemented to comply with statutory requirements, limits, performance measures or criteria.	Section 6
C5 c) i)	Monitoring program to report on the impacts and performance of the development.	Section 8
C5 c) ii)	Monitoring program to report on the effectiveness of management measures.	Sections 9.5 & 12
C5 c) iii)	Monitoring program for contingency to manage unpredicted impacts and their consequences.	Section 9

Section	SSD 5041 Water Conditions	Document Reference
C5 c) iv)	A program to investigate and implement ways to improve environmental performance of the development over time.	Sections 1.8 & 12
C5 d) i)	A protocol for managing and reporting incidents.	Section 9.2
C5 d) ii)	A protocol for managing and reporting complaints.	Section 10
C5 d) iii)	A protocol for managing and reporting non-compliances with statutory requirements.	Section 9
C5 d) iv)	A protocol for managing exceedance of the impact assessment criteria and/or performance criteria.	Section 9.1
C5 d) v)	A protocol for periodic review of the plan.	Section 12
C7	Incident reporting.	Section 9.2
C8	Provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting requirements in any plans or programs approved in the consent.	Section 9.5
C9	Audits.	Section 11
C10	Within 3 months of commissioning the audit, submit a copy of the report to the secretary, together with responses to any recommendations contained in the audit report.	Section 11.2
C11	Annual review.	Section 12
C12	Revision of plans.	Sections 9.1 & 12

2.4 Licence

The Sell & Parker Facility operates under an Environment Protection Licence (EPL) issued by the Environment Protection Authority (EPA). This EPL 11555 has been varied to reflect the Original Approval and the changed operational conditions as part of the Project.

EPL 11555 is available on the EPA website and the Sell & Parker website, www.sellparker.com.au, under links and Environmental Reports. The licence is attached in **Appendix D**.

2.5 Standards and Guidelines

The main standards, policies and guidelines relevant for the development and operation of the Site include:

- National Environment Protection Council's (NEPC) – National Environment Protection Measure (NEPM) for Water Quality Gridlines;
- National water quality management strategy; Australian guidelines for water quality monitoring and reporting ANZECC 2000;
- Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales, DEC, March 2004;
- Managing Urban Stormwater – Soils and Construction Volume 1 (Landcom) 2004;
- *AS/NZS 5667.1:1998 Water quality – Sampling* – Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples;
- National water quality management strategy; Guidelines for groundwater protection in Australia ANZECC 2000;
- Storing and handling liquids: Environmental Protection – Participants manual (DECC) 2007;
- Guideline for the Preparation of Environmental Management Plans: Department of Infrastructure Planning and Natural Resources, 2004; and
- Environmental Management Plans – Post Approval Guidelines, Department of Planning and Environment, 2018.

2.6 Consultation Process

Sell & Parker is committed to meaningful stakeholder engagement and has worked in collaboration with relevant government agencies and local community to work through issues associated with site approvals and operations.

2.6.1 Internal

Discussions with directors, senior managers, key personnel and contractors have been conducted in the development of this WMP.

2.6.2 External

The following authorities have been consulted with in relation to requirements of this WMP;

- Department of Planning, Industry and Environment (DPIE) (formerly DP&E);
- Environment Protection Authority (EPA); and
- Blacktown City Council (BCC).

No issues have been raised by other government authorities.

2.6.3 Community

Feedback from the community was sought during the development application process for the Original Approval. This feedback was considered in the development of this WMP.

The process by which the community was consulted included:

- Community consultation meeting; and
- Mailbox drop.

Community feedback was made available on the DPIE's website.

Prior to the commencement of construction and during the construction process, letter box drops and informal meetings occurred with the closest neighbouring businesses along Tattersall Road.

3 ROLES AND RESPONSIBILITIES

The key positions and their environmental duties around water quality management are outlined in **Table 4** below.

Table 4: WMP Roles and Responsibilities

Company	Role	Responsibility
Sell & Parker	Directors	• Ensure resources and funding is available to perform required tasks; • Ensure managers have required skills and training to fulfil required tasks; • Ensure managers are fulfilling required monitoring and reporting tasks.
Sell & Parker	Site Manager	• Ensure all site personnel have and maintain recommended training; • Ensure any non-conformances are investigated and where required reported.
Sell & Parker	Legal	• Ensure legislative updates are passed though and documents and licences are appropriately updated.
Sell & Parker	Site Supervisors	• Report any known or suspected issues.
Sell & Parker	Group Safety Manger	• Overall Site Safety; • Approve any safety matters that impact site operations; • Ensure there are site specific Safety Plans and Safe Work Method Statements; and • Ensure compliance with Sell & Parker Contractor Management Systems.
Sell & Parker	Group Environmental Manager	• Overall site environmental activities; • Liaise with relevant authorities as required; • Ongoing development of EMP's and revision where required; • Review monitoring reports for compliance; • Brief contractors of environmental requirements for their activities; • Inspect works and when required do sampling; • Ensure monitoring is taking place; • Ensure reporting is taking place; • Where applicable, community consultation is fulfilled.

Company	Role	Responsibility
Sell & Parker	Maintenance Manager	• Ensure all plant and mobile plant is operating to specifications.
Sell & Parker	All Personnel	• Report any known or suspected issues; • Be aware of and minimise fugitive dust generation in their activities.
Contractor	Site Manager	• Fulfilment of applicable Sell & Parker EMP requirements; • Reporting of any known or suspected issues; • Be aware of and where applicable, minimise resource usage in their activities; and • Follow all reasonable directions.

4 TRAINING

All on site employees and contractors will undergo site induction and training which is a combination of Sell and Parkers Learning Management System (LMS), regular toolbox talks/chats, and other on the job training. Training will vary depending on specific duties performed but will include:

- Relevant legislation.
- Consent requirements.
- Licence requirements.
- Monitoring processes.
- Mitigation measures.
- Complaint process.

Training programs are designed by the Group Human Resources Manager (GHRM), Group Safety Manager (GSM) and the Group Environment Manager (GEM) and Legal. The Site Manager is responsible for ensuring training is undertaken, as outlined in Section 4 of this WMP.

5 OPERATIONAL CRITERIA

There are no operational criteria set within SSD 5041 or EPL 11555. There will be no discharge of water to Breakfast Creek.

6 MITIGATION AND IMPLEMENTATION MEASURES

Measures that will be implemented to ensure all reasonable and feasible measures are employed to minimise poor water quality include:

6.1 Water Diversion Management

The Catchment Area Plan (**Appendix M**) details the clean and dirty areas of the site.

Roofed areas at 45 Tattersall Road direct the flow to storm water. All other site flows are diverted to the floc pit prior to being pumped into the retention basin.

The 23 Tattersall Road site is a mixture of clean and dirty water collection areas. Buildings and car parking areas are clean water areas and rainfall in these locations flow to Breakfast Creek. These areas are inspected regularly to maintain housekeeping standards.

Other zones including the 1400T shear area are classified as dirty water and therefore flows are diverted to the retention basin. The design for this diversion is detailed in the Site Drainage Plan (**Appendix H**) prepared by ADW Johnson. The proposed design includes a dirty water transfer buffer tank and a new rising main to the existing retention basin.

6.2 Water Management System

This section details the Water Management System (WMS) design. The development of the WMS has resulted in changes to the initial concept design of the Water Treatment System (WTS) in the Original Approval in order to achieve compliance requirements. The revised design no longer proposes controlled discharge to Breakfast Creek. Any site controlled discharge, other than stormwater flows, is proposed to exit through the Sydney Water trade waste system.

The proposed water treatment system design has been undertaken by ADW Johnson, and consultation with the EPA has occurred.

The proposed design of the WTS is illustrated below in Figure 4. Laboratory trials of different technologies were conducted to determine which are the most appropriate for site requirements to confidently meet Sydney Water trade waste discharge requirements. Successful laboratory trials may result in full scale trials being conducted of full plant or component parts, in all instances Sell & Parker will consult with the EPA.

For full details and modelling of the WMS please refer to the ADW Johnson Storm Water Management Report in **Appendix L**.

The design principle of the WTS is detailed in the below diagram.

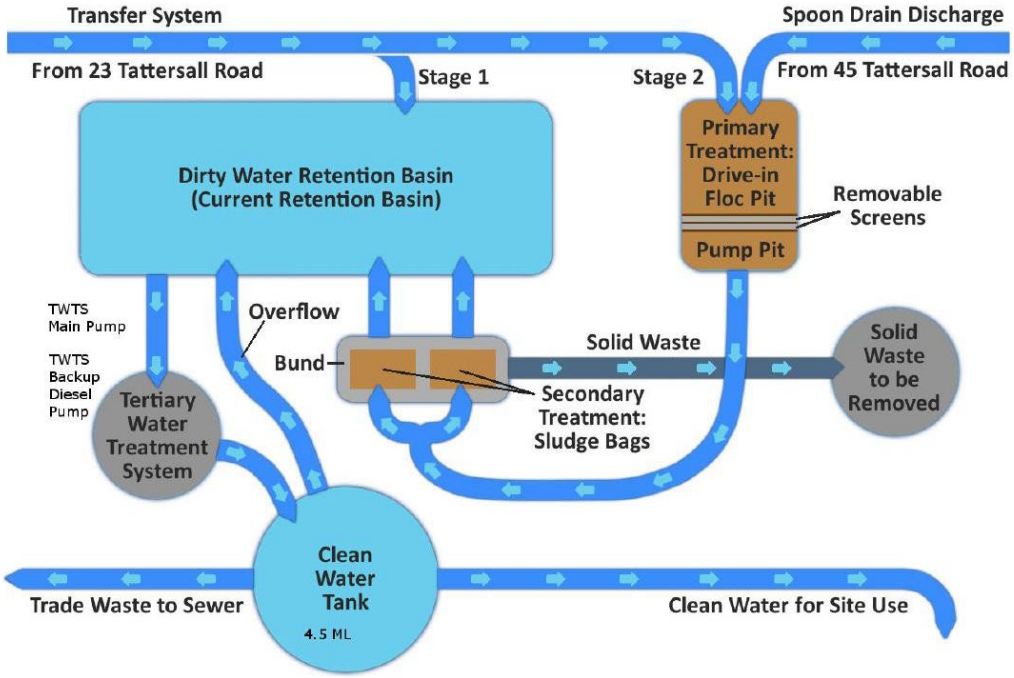

Figure 4: Water Treatment System Design - The detail plan of the Water Treatment System is shown in the Site Drainage Plan in Appendix H

6.2.1 Primary Treatment System – Floc Pit

Water from the 45 Tattersall Road site is gravity fed into the existing floc pit and the coarse gross pollutants drop out ready for collection. Floating materials are removed manually. The transfer pump operates from this pit.

The upgrade will involve the modification of the existing floc pit and road into a drive through two-part system that allows coarse gross pollutants to fall out in the first section and floating materials to be removed via replaceable screens. A hydrocarbon boom will be utilised as required. Water passing through the screens will go into the floc pump pit ready for automatic transfer to the secondary treatment system. The existing Floc-Pit will be re-utilised and is constructed of reinforced concrete and the location is detailed on the Site Drainage Plan in **Appendix H** and **Appendix L**.

6.2.2 Secondary Treatment System – Sludge Bags

- Water is pumped from the Primary Treatment System (pump pit) to the Secondary Treatment System which consists of sludge bags in a bunded area on the retention basin wall. The bund is 15m in length, 5m wide with a 30cm gutter and constructed from reinforced concrete. The location is detailed on the Site Drainage Plan in **Appendix H**. The bags will retain the majority of the sediment while filtered water will seep out into the bund and then gravity feed down a sluice pipe into the retention basin. The sludge bags will retain suspended solids likely being clay but potentially also metals and hydrocarbons.
- Sludge removal takes place as required
- The potential environmental risks of the solid waste to be removed from the proposed water treatment plan include
- The sludge material potentially containing metals and hydrocarbons which may give rise to a risk of contamination
- The steps to mitigate these risks include

- Where practicable remove materials before they reach the retention pond and sludge bags
- When a sludge bag is full it will be replaced
- The full sludge bag will be taken off line and allowed to dry on a concrete bunded area
-
- The semi dried sludge is processed through the floc plant to recover metals
- The Treated Water flow from the Secondary Treatment System goes into the Retention Basin which then goes into the Tertiary Treatment System and is then pumped into the clean water tanks.

6.2.3 Tertiary Water Treatment System

The Tertiary Water Treatment System (TWTS) will remove fine suspended particulate material. This system will be utilised to provide a water quality that meets the requirements for Sydney Water sewer discharge. The TWTS will be utilised as required before anticipated large rainfall events and during heavy rains to maximise available storage capacity and maximise discharge to sewer. This system will have two pumps, one being the main pump and the other being a secondary diesel pump as a back up in the event of the main pump failure.

6.2.4 Existing on site Retention basin

The site retention design utilises the existing retention basin. A validation program to test retention basin integrity has been undertaken in consultation with the EPA and no issues have been identified. Sell and Parker will continue to undertake yearly validation sampling to ensure ongoing efficacy of the retention basin.

6.2.5 Tanks

Treated water will is pumped from the retention basin into the Tertiary Treatment System. Tertiary treated water is stored in above ground tank/s. The water is utilised for site reuse and discharged to trade waste if and when required. In the event of a transfer failure or if required to improve retention basin water quality, overflow from the tank/s will be transferred back to the retention basin. The tank(s) size capacity, details and elevations are included in the ADW Johnson Storm Water Management report in **Appendix L**. The location of the tank(s) are included in the Site Drainage Plan in **Appendix H** and are not located in car parking areas.

6.2.6 Transfer System

The dirty water transfer system from 23 Tattersall Road pumps directly into the primary water treatment pit.

6.2.7 Controlled discharge to sewer

Discharge to sewer will occur in accordance with the Sydney Water Trade Waste Permit (Conditional Consent 39940) included in Appendix N.

The contingency measure to prevent waste water that does not meet the Sydney Water Trade waste water criteria from being discharged is the installation of a shut off valve. The valve can be activated such that no water can enter the trade waste system. This is detailed on the Site Drainage Plan in **Appendix H**.

Should there be an event where the discharge criteria is not met and the discharge of waste water to sewer is prevented by the activation of the shut off valve, the contingency protocol for the disposal of waste water will be:

- The shut off valve will have been activated
- The water is returned to the retention basin and sent back through the WTS again for treatment. At this stage, the continuous filling and emptying of the tanks is effectively a closed loop system with the activation of the shut off valve and will result in an equilibrium transfer with water being discharged from the tanks at the same rate it is being replenished.
- If the re-treated water meets the discharge criteria, it will be discharged to trade waste or utilised for on site processing requirements
- If the re-treated water does not meet the discharge criteria it will be removed via an appropriately licenced contractor for disposal at an appropriately licenced liquid waste facility.

The trade waste discharge will be via metered pipe from the clean water tank/s to the sewer discharge point. It will include a visual air gap backflow prevention connection from pipe discharge to the Sydney Water sewer connection.

The tank/s discharge valve will be automatically operated and allow control of the flowrate based on the inline flow meter. While capability will exist to install a pump, the head pressure shall be sufficient to allow discharge under gravity control.

Controlled Discharge to sewer will occur as required; i.e. in the event of a major storm event or rainfall in excess of the site holding capacity. It is to manage site capacity to address a 1:100 year, 72 hour rain fall event. The system will include an automated control valve at the discharge point and an automatic float switch in the tank(s). This will provide an automatic system to control the discharge rather than a manual system. This is detailed on the Site Drainage Plan in **Appendix H**.

No uncontrolled stormwater discharges off-site are permitted. In the unlikely event the design capacity of the retention systems are exceeded during intensive rainfall events, the rear yards will be utilised as capture basins to minimise off site discharge.

6.2.8 Water Treatment System Trialling

Water Treatment System Trialling has already been carried out. The sample trial results are included in **Appendix N** and are acceptable to Sydney Water. Should further large scale trial work be required it will be conducted by suitably qualified and experienced persons in consultation with the EPA, if required. It is anticipated that such trials will be conducted off-site.

6.2.9 Water Treatment Commissioning

The commissioning phase was undertaken in 2017. The commissioning was undertaken by a suitably qualified and experienced person(s) in consultation with the EPA.. Components of the WMS, primary, secondary and tertiary, were tested in isolation and then in combination to determine the net affect they have on the retention basin water quality. Commissioning was undertaken in accordance with Condition B7 of the Original Approval and included off-site trials. The construction and commissioning of the WTS was conducted in consultation with Sydney Water in relation to the trade waste discharge license. Final approval of the trade waste discharge license was subject to sign off on the built system by Sydney Water.

6.2.10 Water Quality Sampling

Regular sampling of internal and external waters has been conducted to form a baseline study of water qualities. Water quality sampling is regularly undertaken on site to test the quality of water that is being reused in comparison to the established baseline data.

Note: The performance of the WMS against EPL discharge limits is not required as there is no EPA approval for discharge of waters.

6.3 Flood Management

The following actions have been taken to mitigate flooding on site:

- the finished floor level of any new building is a minimum of 0.5 metres above the 1 in 100 year Average Recurrence Interval flood level (**Appendix J);**
- any part of a new structure below the 1 in 100 year Average Recurrence Interval flood level will be designed and constructed to be compatible with flooding; and
- any perimeter fence or wall will not restrict or impeded the flow of overland flow.

6.4 Erosion and Sediment Measures

To mitigate against soil migration Sell & Parker have implemented an erosion and sediment measures on-site in accordance with *Managing Urban Stormwater – Soils and Construction Volume 1 (Landcom) 2004*.

Soil mitigation measures are detailed in the Construction Environment Management Plan (CEMP).

6.5 Bunding

Requirements for chemical storage on site are;

- all chemicals shall be stored in a containment device;
- all containment devices shall meet the requirements of *Storing and handling liquids: Environmental Protection – Participants manual (DECC) 2007*;
- the (GEM) will check all bunds visually during the monthly site inspection; and
- regular bund integrity tests shall be conducted.

6.6 Fire Water Tanks

The approved MOD 1 for this development includes a condition for a fire services system to be to the satisfaction for Fire and Rescue NSW (FRNSW). The approved FRNSW fire services design includes fire water tanks at the front of 23 Tattersall Road. These tanks are required for the fire system to service the buildings on the 23 Tattersall Road site. These tanks are indicated on the site plan in **Appendix A** but are not part of the site Water Treatment System.

7 CONTROL MEASURES

The WMS has been designed to fulfil the requirements of the EIS prepared by ERM dated June 2014, which is part of the Original Approval. It is designed to contain a rainfall event of ARI 1:100, 72 hour duration. Details are available in the ADW Johnson Storm Water Management Report in **Appendix L**.

7.1 Site Design Water Balance

The site has been designed on the ADW Johnson Storm Water Management Report. The design will segregate clean and dirty areas so water can be captured and diverted to maintain separation. Clean water from roofs and the front carpark drains to neighbouring waterways as storm water. Dirty water is captured in the retention basin. Retention basin water is processed for reuse; for details see Section 6.1. The site drainage will be constructed in accordance with the ADW Johnson Site Drainage Plan in **Appendix E**.

A detailed site water balance is included in the ADW Johnson Stormwater Management Report in **Appendix L**.

All recommendations from the AWD Johnson Storm Water Management Report have been adopted.

7.2 Water Reuse

The reuse of water has been assessed and reported by ERM in the document *45 Tattersall Road, Kings Park - Water Reuse Risk Assessment* of the 22nd March 2016 and is attached as **Appendix I**. It has been deemed suitable for reuse within the hammermill.

Site water reuse will undergo re-assessment when there is:

- a significant negative change in water quality test results against baseline data, or
- internal complaints about the water quality, or
- modifications to the water treatment system.

7.3 Water Quality Limits

Sell & Parker do not have a water discharge on their EPL. Dirty water is therefore retained on site and is not discharged to local waterways. Therefore, there are no water quality limits in place. With implementation of the new primary, secondary and tertiary treatment systems, discharge is to trade waste.

7.4 Engineering Controls

7.4.1 Retention basin

The retention basin will remain unchanged from its current storage configuration. Additions to the storage capacity of the system will be done with above ground storage tanks.

Water capture and treatment prior to the retention basin has been upgraded to improve its sediment handling capabilities and to provide a final water quality suitable for sewer discharge. The front floc pit has been redesigned to facilitate easier cleaning and improve gross material retention. Water is being transferred from this pit to a sludge filtration system to remove the majority of suspended particulates. Cleaned water

returns to the retention basin. A tertiary treatment system has been installed to meet Sydney Water sewer discharge requirements. Details can be found in the ADW Johnson Stormwater Management Report in Appendix L.

7.4.2 Drains

The car parks and driveway areas all have filtration systems installed to capture gross particles and hydrocarbons. These are inspected monthly by the GEM and replaced when necessary.

7.4.3 Roof Areas

Discharge from the clean catchment will not be retained. Rainwater will be directed to neighbouring waterways at a rate determined by rainfall intensity.

7.4.4 Wheel Wash

All ferrous and construction vehicles leaving site will exit via a wheel wash to minimise transportation of materials onto roadways.

Regular removal of captured sediment and regular replacement of wash water will improve the efficiency of the wheel wash.

Wash water will be directed through the dirty water catchment system.

7.5 Administrative Controls

The following water management administrative controls are conducted on site. The GEM is responsible for ensuring they are maintained:

- product inspections;
- street sweeping;
- monthly site inspections; and
- enforcement of the WMP.

8 MONITORING MEASURES

8.1 Retention Basin

The GEM is responsible for inspecting the retention basin on a weekly basis. The checks are to monitor the physical state of the basin, the volume of water and to determine if there are any obvious water quality issues. The inspections will incorporate periodic pH testing and inspection of the treatment systems.

The GEM is responsible for undertaking testing of the retention basin water in accordance with the site specific monitoring requirements. The outcomes of monitoring will be recorded in the water analysis spreadsheet. This spreadsheet provides the baseline data for the retention basin water quality.

8.2 Breakfast Creek

Sell & Parker do not have an EPL discharge point into Breakfast Creek. The controlled discharge has been changed from the original concept of utilising local waterways to utilising trade waste.

8.3 Storm Water

The GEM is responsible for monitoring the effectiveness of all environmental measures in place to manage storm water quality. These measures are based on the ADW Johnson Stormwater Management Plan (**Appendix L**). This monitoring includes conducting a monthly inspection. Additional environmental monitoring will be undertaken if it is deemed required.

No uncontrolled stormwater discharges off-site will be permitted as per the EPL. In the unlikely event the design capacity of the retention system is exceeded during intensive rainfall events, the rear yards are utilised as capture basins to avoid off site discharge.

8.4 Operational Water Use Balance

A site water usage spreadsheet is utilised on site on a monthly basis to monitor water usages and validate operational usages. It is useful for monitoring the impact of changes to validate the actual effects against theorised outcomes. It is also useful for identifying unexpected changes which allows early intervention to occur.

This spreadsheet is centralised around the retention basin and its inputs and outputs. It is designed to give a quantifiable indication of water losses due to failures and operational inefficiencies. It is the GEM's responsibility to update this spreadsheet monthly. This spreadsheet is used to indicate potable water use that is a Key Performance Indicator (KPI) for site operations.

This spreadsheet is a site monitoring and issue identification tool. It is not designed to control the overall site water distribution system or the dirty versus clean water distribution.

8.5 Inspections

Each month there is a formal site inspection conducted by the GEM. The inspections, amongst other objectives, are designed to:

- Ensure all reasonable and feasible measures are employed to minimise water pollution;
- Ensure compliance with conditions of the consent;

- Ensure any construction works being carried out are in accordance with the Construction Environment Management Plan; and
- Ensure the development operations are being carried out in accordance to the WMP.

This is achieved by inspecting the areas included but not limited to the following:

- Road surfaces for quality and dirt loading;
- Wheel wash for operational condition and sediment accumulation;
- Landscaped areas for runoff zones;
- Operational areas for poor housekeeping practices
- Retention Basin for water quality; and
- Drains for filter condition.

Results of the inspections are recorded and kept on file.

8.6 Sampling

Sampling of the retention basin will occur on the below basis

- Ph test on a weekly basis and
- Metal analysis as required
- As per Sydney Water requirements when discharging
- Groundwater – yearly

9 CRITERIA EXCEEDANCE PROTOCOL

The GEM checks the retention basin weekly. Observations that suggest there is an issue with the retention basin or the water quality will result in an examination being conducted.

Should there be a confirmed occurrence of an exceedance of a water quality goal then the below corrective actions are initiated.

9.1 Corrective Actions

When monitoring indicates that there has been a significant change in water quality, corrective actions shall be instigated. The corrective actions shall be the responsibility of GEM; it is their task to ensure:

- That the source/s of the exceedance are determined;
- That the issue is promptly addressed (works or measures may be carried outside of operational hours if required);
- Contingency measures, if required, shall be determined and put in place, such as;
  - disinfection of the water system;
  - deodorisation of a system or activity;
  - activity reduction; or
  - activity cessation.
- Directors are notified;
- If required, relevant regulating authorities will be notified;
- Where required operations are reduced or ceased as a result of the issue, legible records of the event shall be kept. These records are to include as a minimum;
  - date and time; and
  - activities reduced.
- Ceased operations shall not recommence until the issue has been resolved.

The GEM is responsible for:

- determining the source/s of the issue;
- improvement processes to mitigate against the issue reoccurring;
- logging the issue so it will be discussed in the yearly review;
- updating, where applicable, the relevant sections of the Blacktown Environment Management System (BEMS);
- providing feedback of the resolution process to a complainant, if applicable; and
- handling the event as per the exceedances process and the communication of the event as per the external audit process, when an exceedance is determined through an external audit.

9.2 Incident Management

All incidents and near misses are documented and recorded by the Group Safety Manager (GSM). All issues with an environmental aspect are recorded by the GEM in the environmental incident and near miss register. This data is presented during the yearly review. Negative trends will be investigated and root causes determined. Changes will be made to reduce determined root causes of incidents.

If an event or activity occurs that has, is likely to, or could potentially cause harm to the environment, whether that harm is on or off the premise, the emergency management procedure will be enacted as set out in Section 9.3 below.

9.3 Emergency Management

Environmental emergencies will enact the Pollution Incident Response Management Plan (PIRMP). The PIRMP has been updated to reflect the expansion of the Facility. It is available on the Sell & Parker web site, www.sellparker.com.au under links and Environmental Reports. If the PIRMP is enacted then the EPA and DPIE will be informed as will other regulatory authorities as outlined in the plan.

9.4 Investigations

Environmental incidents and high potential near misses will be scrutinised by the GEM to determine if an investigation is warranted. All proven exceedances will be investigated. When a formal environmental investigation is to be conducted, the GEM will be the lead investigator. Investigations shall be conducted as per the established procedure.

9.5 Reporting and Publishing of Results

All environmental statutory reporting will be conducted by the GEM in consultation with management. Information will be issued after formal approval from a director. All information is available on the Sell & Parker website www.sellparker.com.au, as per Condition 14 in the Original Approval.

10 COMPLAINTS

Complaints are handled as outlined in the complaints handling procedure and documented on the complaints handling form and recorded on the complaints handling register. The complaints register is available on the Sell & Parker website, www.sellparker.com.au.

Sell & Parker have a complaints phone number (02 8212 9561) as advertised next to the exit gate at 45 Tattersall Road. Complaints can also be registered through the Sell & Parker website www.sellparker.com.au, or by calling the facility at 23-45 Tattersall Road, Kings Park on 02 9621 2633.

If there are any specific water related complaints, they shall be investigated as per the critical exceedance protocol – Section 9.0.

11 AUDITS

11.1 Internal

Sell & Parker will conduct topic specific audits to validate that its systems are tracking and controlling environmental aspects that have a potential to cause non-conformances against its regulatory responsibilities. The GEM shall be responsible for audits.

11.2 External

Sell & Parker as per Condition C9 in the Original Approval, will conduct independent audits, conducted by a suitably qualified auditor, to assess the progress of the development against its consent conditions for the life of the consent. The auditor shall:

- be approved by the Secretary as per condition C9 (a) of the Original Approval;
- meet Condition C9 (b) of the consent; and
- audit against Conditions C9 (c), (d), (e) and (f) of the Original Approval.

The results of the audit will be presented to the Sell & Parker board and be available on the Sell & Parker website.

Within three (3) months of commissioning the audit, a copy of the report with Sell & Parker responses to any recommendations made will be provided to the Secretary.

12 WATER MANAGEMENT PLAN REVIEW

As per condition C12 of the Original Approval, a review of relevant sections of the BEMS will be instigated:

- when conducting an annual review;
- after an incident that results in regulator notification;
- when conducting an external third party audit; and
- when modifying the consent.

A yearly review of the development including the environmental performance of the operations shall be presented at a Board Meeting. Issues to be discussed in the meeting include, but are not limited to, the items listed in Condition C11 of the Original Approval.

As part of Sell & Parkers continuous improvement commitment, to ensure compliance now and in the future, the CEMP will be revised as required to incorporate measures, protocols or procedures to improve the environmental performance of the Facility.

13 REVIEW OF PLANS

As per Condition C13 of the Original Approval, the operation of the Facility will be "undertaken in accordance with all relevant updated and/or amended strategies, management plans and programs approved by the Secretary (or as revised and approved by the Secretary), unless otherwise agreed by the Secretary".

Should a modification to the Original Approval be approved, the relevant management plan/s will be updated and sent to the Secretary for approval.

Rev. No	Rev. Date	Revision Description	Prepared By	Approved By	Signed
A	December 2016	New document	MH	CM	MH
B	March 2017	Respond to EPA comments	MH	CM	MH
C	June 2017	Respond to EPA & DP&E comments	MH	CM	MH
D	July 2017	Respond to EPA & DP&E comments	MH	CM	MH
E	August 2017	Respond to EPA & DP&E comments	MH	CM	MH
F	October 2017	Revised Plan and LEC S96 Approval	MH	CM	MH
G	March 2018	Revised Layout	MH	CM	MH
H	September 2019	Changes associated with MOD 3	FM, SF	HR	HR

14 REFERENCES

Kings Park Metal Recycling Development Consent November 2015

https://majorprojects.affinitylive.com/public/3d00896d6ecd08883cd4e0f2afd6fcb1/02.%20Kings%20Park%20Metal%20Recycling%20Facility%20Consent%20Nov.pdf

Soil and Water Management Environmental Impact Statement March 2014

https://majorprojects.affinitylive.com/public/620b60f71334d0c9867c856c22559b42/Annex%20J_Soil%20&%20Water%20Management.pdf

APPENDIX A AMENDED SITE LAYOUT

APPENDIX B ENVIRONMENTAL POLICY

APPENDIX C ORIGINAL APPROVAL

APPENDIX D MOD 1

APPENDIX E MOD 2

APPENDIX F MOD 3

APPENDIX G EPA LICENCE

APPENDIX H SITE DRAINAGE PLAN

APPENDIX I WATER REUSE RISK ASSESSMENTS

APPENDIX J FINISHED FLOOR LEVELS FOR NEW BUILDINGS

APPENDIX K OPERATIONAL USE WATER BALANCE

APPENDIX L ADW JOHNSON STORMWATER MANAGEMENT REPORT

APPENDIX M CATCHMENT AREA PLAN

APPENDIX N SYDNEY WATER TRADE WASTE APPLICATION, SAMPLE TRIALS AND APPROVAL

APPENDIX O DPIE PLAN APPROVAL

ARCADIS Design & Consultancy for natural and built assets